

**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 : Dr.S.B. Shukla, Geologist
Official with
Designation
- (iv) Date of Inspection : 14-NOV-18
- (v) Prev.inspection date : 13-FEB-18

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 : akhilesh.joshi@vedanta.co.:
- 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

Geologist

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

Manager

Name : Nathu Singh Chaudhary
 Qualification : BE(Mining) & FCC(U/R)
 Appointment/ Termination date : 13-DEC-17

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

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	During the year 2016-17 U/G exploration proposed 5500m	During the year 2016-17 U/G exploration carried out 5373m and backlog of 127m drilling.	
1b	Exploration over lease area for geological axis 1 or 2	During the year 2017-18 UG - 7200m drilling Surface - No proposal	During the year 2017-18 UG - 4819m drilling Surface - 6019 drilling	(1) Violation of rule 11(1) of MCDR 2017 issued to the lessee for shortfall of U/G drilling. (2) Notice of sinking of surface drilling in form-I has not been submitted for that violation of rule 47 of MCDR issued. (3) Records of each bore hole in Form J in respect of surface drilling has not been maintained for that violation of rule 48 of MCDR 2017 issued to the lessee.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Hindustan Zinc Ltd. & Transnational Drilling & Mining Associates Pvt. Ltd for UG exploration Transnational Drilling & Mining Associates Pvt. Ltd. for Surface exploration Expenditure not specified in mining plan	Hindustan Zinc Ltd. & Transnational Drilling & Mining Associates Pvt. Ltd for UG exploration Transnational Drilling & Mining Associates Pvt. Ltd. for Surface exploration UG expenditure - 13516277 (INR) Surface expenditure - 27200000 (INR)	

1d	Balance area to be explored to bring Geological axis in 1 or 2	During the year 2017-18 UG - 7200m drilling Surface - No proposal	During the year 2017-18 UG - 4819m drilling Surface - 6019 drilling	It is U/G mine.
1e	Balance reserve as on 01/04/20	Balance reserves as on 01.04.2018 8.094432	Balance reserves as on 01.04.2018 8.094432	
1f	General remarks of inspecting officers on geology, exploration etc			(1) Violation of rule 11(1) of MCDR 2017 issued to the lessee for shortfall of U/G drilling. (2) Notice of sinking of surface drilling in form-I has not been submitted for that violation of rule 47 of MCDR issued. (3) Records of each bore hole in Form J in respect of surface drilling has not been maintained for that violation of rule 48 of MCDR 2017 issued to the lessee.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t. lease area	1. North Lode 2. East Lode 3. Main Lode 4. South Lode	1. North Lode 2. East Lode 3. Main Lode 4. South Lode	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Not proposed	It is U/G mine, hence not applicable.	
2c	Stripping ratio or ore to OB ratio	Not proposed	It is U/G mine, hence not applicable.	
2d	Quantity of topsoil generation in m3	Not proposed.	It is U/G mine, hence not applicable.	

2e	Quantity of overburden generation in m3	Not proposed	It is U/G mine, hence not applicable.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc		During the year 2017-18 shortfall in underground mine development, Violation of rule 11(1) of MCDR 2017 issued to the lessee.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Four lodes in UG 1. North Lode 2. East Lode 3. Main Lode 4. South Lode	Four lodes in UG 1. North Lode 2. East Lode 3. Main Lode 4. South Lode	
3b	Quantity of ROM mineral production proposed	1000000MT	895568MT	
3c	Recovery of sailable/usable mineral from ROM production	As Pb and Zn concentrates Pb recovery - 75.61% Zn recovery - 84.84%	As Pb and Zn concentrates Pb recovery - 68.63% Zn recovery - 83.91%	
3d	Quantity of mineral reject generation	880000MT	920792MT	Mineral reject in the form of tailing
3e	Grade of mineral rejects generation and threshold value declared.	Not specified	Lead 0.23 % Zinc 0.70 %	
3f	Quantity of sub grade mineral generation.	Not proposed	No subgrade mineral generation.	
3g	Grade of sub grade mineral generation	Not proposed	Not applicable	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized method through froth floatation	Mechanized method through froth floatation	

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	Track and trackless U/G mining using dumpers, LHD, LPDT, rock driller etc.	Track and trackless U/G mining using dumpers, LHD, LPDT, rock driller etc.	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Not proposed	U/G mine, hence not applicable.	
3m	Total area covered under excavation/pits	U/G mine, hence not applicable.	U/G mine, hence not applicable.	
3n	Ore to OB ratio for the pit/mine during the year.	U/G mine, hence not applicable.	U/G mine, hence not applicable.	
3o	Total area put in use under different heads at the end of year	At the end of modified mining plan period 2019-20 total area put ot use 362.66 hectare.	In the annaul return 2017-18 area under waste disposal:53 hect, Plant, buildings, residential, welfare buildings & roads: 352.640 hect. Others: 736.56 hect	The descripencies has been pointed out as violation of rule 45(7) of MCDR 2017.
3p	Production of ROM mineral during the last five year period as applicable	2013-14 900000MT 2014-15 900000MT 2015-16 800000MT 2016-17 950000MT 2017-18 1000000MT 2018-19 1200000MT	2013-14 610242MT 2014-15 573284MT 2015-16 668852MT 2016-17 745532MT 2017-18 895568MT 2018-19 569529MT (as on 31st Oct 2018)	

3q General remarks of inspecting officers on method of mining etc.

Method of mining is suitable to the deposit.

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 OB generation.	It is U/G mine, hence there is no top soil and OB generation. The waste generation during the U/G development is being disposed as per approved mining plan.	
4b	Location of topsoil, OB and mineral reject dumps	Topsoil: No proposal OB: No proposal Mineral reject: Tailing dam outside of the lease area.	Topsoil: N/A OB: N/A Mineral reject: Tailing dam outside of the lease area.	
4c	Number of dumps within lease area and outside of lease area	One waste dump within lease area, Tailing dam outside of lease area.	One waste dump within lease area, Tailing dam outside of lease area.	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	It is U/G mine hence it is not applicable.	It is U/G mine hence it is not applicable.	
4e	Number of active and alive dumps.	01 waste dump active	01 waste dump active	
4f	Number of dead dumps.	Nil	None	
4g	Number of dumps established.	None	None	
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	Not specified	N/A	
4j	Number of settling ponds	No proposal	Nil	

4k	Specific comments of inspecting officer on waste dump management	No issue related to waste dump.
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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 proposed after full extraction of mineral from U/G stopes.	Backfilling has been carried after full extraction of mineral from U/G stopes.	
5b	Area under backfilling of mined out area	315000 m3(backfilling of mined out stopes)	269957 m3(backfilling of mined out stopes)	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not proposed	It is U/G mine, hence not applicable.	
5d	Total area fully reclaimed and rehabilitated	N/A	It is U/G mine, hence not applicable.	
5e	General remarks of inspecting officers on backfilling and reclamation etc.			It is U/G mine, backfilling of viods is being carried out after full extratcion 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).	Not submitted	PMCP annual report under rule 26(2) has not been submitted.	PMCP annual report under rule 26(2) of MCDR 2017 has not been submitted by the lessee, violation of rule 26(2) of MCDR 2017 issued to the lessee.

6b	Area available for rehabilitation (ha) .	Not specified	None	Violation of rule 26(2) of MCDR 2017 issued to the lessee for non submission of PMCP report.
6c	afforestation done (ha).	4 Hect	Infill plantation in 5 hectare area.	Plantation has not been carried out on proposed location hence violation of rule 11(1) of MCDR 2017 issued to the lessee.
6d	No. of saplings planted during the year	5000 saplings	10,000 sapling planted	
6e	Cumulative no .of plants	Not specified	1,98,500 nos.	
6f	Any other method of rehabilitation	No proposal	Not applicable.	
6g	Cost incurred on watch and care during the year	Not specified	Not available	Violation of rule 26(2) of MCDR 2017 issued to the lessee for non submission of PMCP report.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	15000m3	392288m3	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	315000m3	269957m3	
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	No proposal	It is U/G mine, not applicable.	

6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposal	It is U/G mine, not applicable.	
6l	Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.	No proposal	It is U/G mine, not applicable.	
6m	Compliance of rehabilitation of waste land within lease (i) afforestation	4 Hectare	5 Hectare infilling plantation.	However plantation has not been carried out on proposed location hence violation of rule 11(1) of MCDR 2017 issued to the lessee.
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	4 hect by plantation	05 hect by infilling plantation	
6o	Compliance of rehabilitation of waste land within lease (iii) Method of rehabilitation	Plantation	Plantation	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Proposal given for regular monitoring of noise, air and water	Regular monitoring of noise, air and water is being carried out.	

Mineral Conservation:

Sl.No.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	All ROM mineral dispatched to captive beneficiation plant.	All ROM mineral dispatched to captive beneficiation plant within the lease area.	

7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	No grade wise sorting proposed.	All ROM mineral dispatched to beneficiation plant.	
7c	Different grade of mineral sorted out at mines.	No proposal	Not applicable.	
7d	Any beneficiation process at mines	Yes, froth floatation process	Yes, froth floatation process	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			No issue related to mineral conservation.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal	It is U/G mine, hence not applicable.	
8b	Concurrent use or storage of topsoil	No proposal	It is U/G mine, hence not applicable.	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dump for waste and tailing	Separate dump for waste and tailing	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal	N/A	

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No specific proposal	It is U/G mine hence not applicable.	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	5000 sapling proposed over 4 hect area.	10000 sapling planted for gap filling.	Plantation has not been carried out on proposed location hence violation of rule 11(1) of MCDR 2017 issued to the lessee.
8g	Survival rate	80-85%	85%	
8h	Water sprinkling on roads to control airborne dust	Proposal given	Water sprinkling on haul roads is being carried out.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Aesthetic beauty is good in and around the mines area.

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 Nov-2018 A.R. Submitted up to FY2017-18	M.R Submitted up to Nov-2018 A.R. Submitted up to FY2017-18	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Detail given	Agent: S.K. Khator, Manager: N.S. Chaudhary, Mining Engineer: N.S. Chaudhary, Geologist: S.B. Shukla	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Detail given	In the annaul return 2017-18 area under waste disposal:53 hect, Plant, buildings, residential, welfare buildings & roads: 352.640 hect. Others: 736.56 hec	The descripiencies has been pointed out as violation of rule 45(7) of MCDR 2017.

9d	Scrutiny of Annual return on afforestation	Detail given	1000 nos. & survival rate 85%
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Detail given	920792 tonnes
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Detail given	54384 tonnes
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Detail given	Detail given, but some discrepancies in ex mine price was observed in form of violation of rule 45(7) of MCDR 2017.
9h	Scrutiny of Annual return on fixed assets	Detail given	Detail given
9k	Scrutiny of Annual return on mining machineries	Detail given	Detail of mine machineries given.

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)	21-DEC-18				
MCDR17 Rule 26(2)	21-DEC-18				
MCDR17 Rule 31(4)	21-DEC-18				
Rule 45(7)(i)	21-DEC-18				
MCDR17 Rule 47(a)	21-DEC-18				
MCDR17 Rule 48	21-DEC-18				

Date :

(DATA RAM GURJAR)

Indian Bureau of Mines