

**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 : **S012**) **H C SHARMA**
Officer and ID No.
- (ii) Designation : Assistant Controller Mine
- (iii) Accompanying mine : Sh. S.B. Shukla, Geologist
Official with
Designation
- (iv) Date of Inspection : 18-JUN-19
- (v) Prev.inspection date : 15-MAR-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 : arun.mishra@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** : 60
- (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 : Sri Arun Mishra
 Yashad Bhavan, Udaipur
 Rajasthan UDAIPUR
 RAJASTHAN
 Phone:
 FAX : 0294-2412545

Agent : Sanjay Khator
 Rajpura Dariba Mines
 Tehsil- Railmagra Rajsamand
 UDAIPUR RAJASTHAN
 Phone:
 FAX :

Mining Engineer

Name : Pushpendra Singh Dhabhai, Full Time
 Qualification : B Tech Mining & FCC-UR
 Appointment/ : 06-JUN-19 07-APR-21
 Termination date

Mining Engineer

Name : Abhimanyu Singh Ogra, Full Time
 Qualification : BE Mining
 Appointment/ : 07-APR-21
 Termination date

Geologist

Name : Dr. Sandeep Kumar Rajput, Full Time
 Qualification : Ph.D., N.E.T
 Appointment/ : 15-JUN-20
 Termination date

Manager

Name : Pushpendra Singh Dhaibhai
 Qualification : B Tech Mining & FCC UR
 Appointment/ : 06-JUN-19 07-APR-21
 Termination date

Manager

Name : Abhimanyu Singh Ogra
 Qualification : BE Mining.
 Appointment/ : 07-APR-21
 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	UG- 12600 Surface- No proposal	UG- 10928.4m Surface- 21502.2m	1671.60m backlog
1b	Exploration over lease area for geological axis 1 or 2	Not specified	Not applicable	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	HZL, SMS Ltd. & Transnational Drilling & Mining Associates Pvt. Ltd for UG exploration Transnational Drilling & Mining Associates Pvt. Ltd. for Surface exploration Expenditure not shown in mining plan	HZL, SMS Ltd. & Transnational Drilling & Mining Associates Pvt. Ltd for UG exploration Transnational Drilling & Mining Associates Pvt. Ltd. for Surface exploration UG expenditure - 27919919 (INR) Surface expenditure - 90400000 (INR)	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	All area in G1
1e	Balance reserve as on 01/04/20	8.99 million tons as on 01.04.2017	11.6 million tons as on 01.04.2019	
1f	General remarks of inspecting officers on geology, exploration etc	Not applicable	The area has extensively explored from Surface & there is backlog of 1671.60m from U/G.	

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	As per approved modified mine plan, North Lode, East Lode, Main Lode, South Lode	North Lode, East Lode, Main Lode, South Lode
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.
2c	Stripping ratio or ore to OB ratio	Not applicable as it is U/G Mine.	Not applicable as it is U/G Mine.
2d	Quantity of topsoil generation in m3	Not applicable as it is U/G Mine.	Not applicable as it is U/G Mine.
2e	Quantity of overburden generation in m3	119600 Cu M	81528 Cu M
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Not applicable	The mine had been developed by Underground method which is best suited to the type of deposit.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Four lodes in U/G workings.	Four lodes in U/G workings.	
3b	Quantity of ROM mineral production proposed	1200000MT	179955MT	
3c	Recovery of sailable/usable mineral from ROM production	As Pb and Zn concentrates	As Pb and Zn concentrates Pb recovery - 68.40% Zn recovery - 83.81%	
3d	Quantity of mineral reject generation	880000MT	941671MT	

3e	Grade of mineral rejects generation and threshold value declared.	Not specified	Pb-0.25% Zn-0.76%
3f	Quantity of sub grade mineral generation.	Not applicable	Not applicable
3g	Grade of sub grade mineral generation	Not applicable	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.	Nil	Nil
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	As per approved modified mining plan.	As per approved modified mining plan.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Not applicable as it is U/G Mine.	Not applicable as it is U/G Mine.
3m	Total area covered under excavation/pits	5.94ha	5.94ha
3n	Ore to OB ratio for the pit/mine during the year.	Not applicable as it is U/G Mine.	Not applicable as it is U/G Mine.
3o	Total area put in use under different heads at the end of year	219.55ha	219.55ha

3p	Production of ROM mineral during the last five year period as applicable	2014-15-- 900000MT, 2015-16-- 800000MT, 2016-17-- 950000MT, 2017-18-- 1000000MT, 2018-19-- 1200000MT	2014-15-- 573284MT, 2015-16-- 668852MT, 2016-17-- 745532MT, 2017-18-- 895568MT, 2018-19-- 1079955MT.
3q	General remarks of inspecting officers on method of mining etc.	Not applicable	The mine had been developed by Underground method which is best suited to the type of deposit.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dumping of mineral reject as tailing	Separate dumping of mineral reject as tailing	
4b	Location of topsoil, OB and mineral reject dumps	Not applicable	Not applicable	
4c	Number of dumps within lease area and outside of lease area	One waste dump within lease	One waste dump within lease	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Not applicable	Not applicable	
4e	Number of active and alive dumps.	One	One	
4f	Number of dead dumps.	Nil	Nil	
4g	Number of dumps established.	Nil	Nil	
4h	Whether Retaining wall or garland drain all along dumps are there.	No proposal	Not applicable	
4i	Length of Retaining wall or garland drain all along dumps	No proposal	Not applicable	
4j	Number of settling ponds	No proposal	Not applicable	

4k	Specific comments of inspecting officer on waste dump management	Not applicable	The underecutting was observed in the lower terrace of Dump & these were not secured by retaining wall.
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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.	Full extraction of mineral from stope	Full extraction of mineral from stope	
5b	Area under backfilling of mined out area	315000 m3 (2017-18) 375000 m3 (2018-19)	269957m3 (2017-18) 386067m3 (2018-19)	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not applicable	Not applicable	
5d	Total area fully reclaimed and rehabilitated	No proposal	5 ha under plantation.	
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Not applicable	The waste is backfilled in the voids created after extraction of mineral from the stopes in primary secondary sequence.	

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).	Yes as per Rule	Submitted	
6b	Area available for rehabilitation (ha) .	No proposal	Not applicable	

6c	afforestation done (ha).	5000 saplings with 80-85% survival rate	19000 nos. with 80% survival rate
6d	No. of saplings planted during the year	Not specified	19000 nos.
6e	Cumulative no .of plants	Not specified	217500 nos
6f	Any other method of rehabilitation	No proposal	Not applicable
6g	Cost incurred on watch and care during the year	Not specified	8500000 during the year 2018-19.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	475000 m3	482316 m3
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	375000 m3	386067 m3
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	Not applicable as it is U/G mine.	Not applicable as it is U/G mine.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not applicable as it is U/G mine.	Not applicable as it is U/G mine.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No proposal	Not applicable.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	4 ha	5 ha

6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not applicable as it is U/G mine.	Not applicable as it is U/G mine.
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not applicable as it is U/G mine.	Not applicable as it is U/G mine.
6p	Compliance of environmental monitoring (core zone and buffer zone)	Regular monitoring of Air, Water & noise	Regular monitoring of Air, Water & noise is being carried out.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Not applicable	There is no issue regarding implementation of progressive mine closure plan in the mine.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	No proposal	Not applicable	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Not applicable	Not applicable	
7c	Different grade of mineral sorted out at mines.	Not applicable	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	Not applicable	There is no issue regarding conservation of mineral.	

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Not applicable as it is U/G Mine	Not applicable	
8b	Concurrent use or storage of topsoil	Not applicable	Not applicable	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dump for waste and tailing	Waste dumped in waste dump Tailing dumped in tailing pond	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal	Not applicable	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposal as it is U/G mine	Not applicable	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Not specified	5 ha area of acquired land under plantation	
8g	Survival rate	80%	80%	
8h	Water sprinkling on roads to control airborne dust	Yes	Yes	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Not applicable	The general aestatic beauty in & 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	Not applicable	The Monthly return Submitted up to June 2019. The Annual return submitted for 2018-19.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Sh. Nathu Singh Chaudhry appointed as Manager & Mining Engineer. Sh. Shashi Bhushan Shukla as Geologist.	Sh. Nathu Singh Chaudhry appointed as Manager & Mining Engineer. Sh. Shashi Bhushan Shukla as Geologist.	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Covered under O/C Working 0.00 ha, Used for Waste Dumping 3.0 ha, Occupied by plant, Building etc. 219.550 ha & others- 991.660 ha.	Covered under O/C Working 0.00 ha, Used for Waste Dumping 3.0 ha, Occupied by plant, Building etc. 219.550 ha & others- 991.660 ha.	
9d	Scrutiny of Annual return on afforestation	A total of 4000 nos of trees shown planted within lease area with Survival rate of 80%.	A total of 4000 nos of trees had been planted within lease area with Survival rate of 80%.	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	941671 T of Reject generation had been shown.	941671 T of Reject generated during 2018-19.	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	A total of 1079955 T of mineral had been stated as production from U/G mining operations comprising of 120488 T from Development & 959467 from stoping operations.	A total of 1079955 T of mineral had been produced from U/G mining operations comprising of 120488 T from Development & 959467 from stoping operations.	

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	The Ex-Mine price stated as Rs. 2680/- per T & cost of Production stated as 4755/- Rs per T.	The Ex-Mine price stated as Rs. 2680/- per T & cost of Production stated as 4755/- Rs per T.
9h	Scrutiny of Annual return on fixed assets	The value of Fixed assets stated as Rs. 3005735912/- of land, building, plant & machineries etc. with its depreciation stated as 126382315 during the year.	The value of Fixed assets stated as Rs. 3005735912/- of land, building, plant & machineries etc. with its depreciation stated as 126382315 during the year 2018-19.
9k	Scrutiny of Annual return on mining machineries	The list of Machienry depoloyed furnished with detailed parameters.	Found O. K.

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 :

(H C SHARMA)

Indian Bureau of Mines