

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

**MCDR INSPECTION REPORT**

**Gandhinagar regional office**

**Mine file No :** RAJ/UDP/LZ-3

**Mine code :** 34RAJ26001

- (i) Name of the Inspecting : **K018** ) **DR A Z KHAN**  
Officer and ID No.
- (ii) Designation : Senior Mining Geologist
- (iii) Accompanying mine : **MITHILESH KUMAR, MINE MANAGER & SANDEEP RAJPUT, HOD( G**  
Official with  
Designation
- (iv) Date of Inspection : 12-FEB-19
- (v) Prev.inspection date : 19-JUL-18

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **BALARIA**
- (b) **Registration NO.** : **421**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Underground
- (e) Postal address
- State : RAJASTHAN
- District : UDAIPUR
- Village : ZAWAR
- Taluka : SARADA/GIRWA
- Post office : ZAWAR MINES
- Pin Code : 313901
- FAX No. : 0294-2726243
- E-mail : sunil.duggal@vedanta.co.in
- Phone : 2726238
- (f) Police Station : ZAWAR
- (g) First opening date : 01-APR-70
- (h) Weekly day of rest : SUN
2. Address for : PO- ZAWAR  
correspondance : DISTT.- UDAIPUR  
RAJASTHAN-313901
3. (a) Lease Number : RAJ1725
- (b) Lease area : 816
- (c) Period of lease :
- (d) Date of Expiry : 29-MAR-10
4. Mineral worked : LEAD & ZINC ORE Main

## 5. Name and Address of the

Lessee : HINDUSTAN ZINC LIMITED  
 YASHAD BHAVAN UDAIPUR  
 RAJASTHAN  
 Phone:(0294) 2342093  
 FAX :(0294) 2342092

Owner : SUNIL DUGGAL  
 YASHAD BHAWAN UDAIPUR  
 UDAIPUR RAJASTHAN  
 Phone: 0294-6604120  
 FAX : 0294-6604120

Agent : Shri Sanjay Kumar Khator  
 Zawar Mines, Udaipur,  
 (Raj.) UDAIPUR RAJASTHAN  
 Phone: 02942726600  
 FAX : 029423430

## Mining Engineer

Name : PRASHANT GUPTA, Full Time  
 Qualification : BE. (MIN.) 2 class cert.  
 Appointment/ : 11-AUG-12  
 Termination date

## Geologist

Name : Dr. Sandeep Kumar Rajput, Full Time  
 Qualification : Ph.D., N.E.T  
 Appointment/ : 22-APR-17  
 Termination date

## Manager

Name : Sh. Mithilesh Kumar  
 Qualification : BE(Mining)  
 Appointment/ : 19-JAN-18  
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining : Modif.of approved Mining Plan 04-OCT-12  
 Mining Scheme rule 12 MCDR1988 31-JUL-15

## PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Nil	Nil	
1b	Exploration over lease area for geological axis 1 or 2	2018-19: 360no.of holes/24000m	2018-19: 332no.of holes/15377.20m	Violation of rule 11(1) of MCDR 2017 has been pointed out for shortfall in exploration.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	2018-19: HZL Rs.262.62(in Rs. lacs)	2018-19: HZL Rs. 235.80(in Rs. lacs)	
1d	Balance area to be explored to bring Geological axis in 1 or 2	29000m with 435 nos. of bore holes( proposal for the year 2019-20)	N/A	
1e	Balance reserve as on 01/04/20	No specific proposal in this regard.	Balance reserves as on 01.04.2018 111-0.472Mt 121-1.072Mt 122-0.613Mt	
1f	General remarks of inspecting officers on geology, exploration etc			Violation of rule 11(1) of MCDR 2017 has been pointed out for shortfall in exploration.

## Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	During the year 2018-19 U/G development of 8500m was proposed.	During the year 2018-19, U/G development of 5268m has been carried out up to Jan. 2019.	Violation of rule 11(1) of MCDR 2017 pointed out for shortfall in U/G development during the year 2018-19.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Not applicable as it is U/G mine.	N/A	
2c	Stripping ratio or ore to OB ratio	Not applicable as it is U/G mine.	N/A	

2d	Quantity of topsoil generation in m3	Not applicable as it is U/G mine.	N/A	
2e	Quantity of overburden generation in m3	Not applicable as it is U/G mine, however total waste generation proposal for the year 2018-19 was 179000 tonnes from the U/G mine deveopment.	OB generation- Nil Total 168289 tonnes waste generated during the year 2018-19 up to Feb 2019 from the U/G mine deveopment.	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			Violation of rule 11(1) of MCDR 2017 pointed out for shortfall in U/G development during the year 2018-19.

#### Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Not proposed	Being U/G mine not applicable.	
3b	Quantity of ROM mineral production proposed	Year 2018-19: ROM production proposal was 750000T	Year 2018-19: ROM production achieved (up to Jan2019) : 485257T	
3c	Recovery of sailable/usable mineral from ROM production	100%	100%	
3d	Quantity of mineral reject generation	Not proposed	Whole ROM is beneficiated. Mineral reject is in the form tailing reject generation.	
3e	Grade of mineral rejects generation and threshold value declared.	Not proposed	Pb-0.26%, Zn-0.87%	
3f	Quantity of sub grade mineral generation.	Not proposed	No subgrade generation.	
3g	Grade of sub grade mineral generation	Not proposed	No subgrade generation.	

3h	Manual / Mechanised method adopted for segregating from ROM	Froth flotation method	Froth flotation method
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	Being U/G mine drilling blasting proposed for U/G mine development and ore production.	Being U/G mine drilling and blasting carried out for U/G mine development and ore production.
3k	Provision of mining machineries in mineral benches	Not proposed	It is U/G mine, the mining machinery used for development and production are - Drill Jumboo, ITH Drill machine, Simba Drill machine, LHD's, LPDT's etc.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Not proposed	Being U/G not applicable.
3m	Total area covered under excavation/pits	Not proposed.	Being U/G mine not applicable.
3n	Ore to OB ratio for the pit/mine during the year.	Not proposed	Being U/G mine not applicable.

3o	Total area put in use under different heads at the end of year	At the end of Mining Plan period i.e. 2019-20 the area put to use under different heads are as follows for Zawar lease area (in Hect.): Mining-34.09 Mineral storage-2.0 Ben. Plant-8.66 Townships-34.4 Tailing dam-81.52 Roads-9.68 Infrastructre-53.66 Waste dump-0.5 Community development-8.71 Others-18.30 Total-251.52 hect.	As per AR 2017-18: Zawar Lease Area (in Ha): Mining-34.09 Mineral storage-2 Ben. Plant-8.66 Township-34.4 Tailing pond-119.52 Roads-9.68 Infrastructure-53.66 Waste dump-10.57 Community Development-8.71 Others-18.30 Total-299.59	For discrepancies of land use pattern.violation of rule 45(7) of MCDR 2017 has already been pointed out during the previous inspection
3p	Production of ROM mineral during the last five year period as applicable	2013-14 350000T 2014-15 350000T 2015-16 340000T 2016-17 455000T 2017-18 550000T 2018-19 750000T	2013-14 273540T 2014-15 221190T 2015-16 318335T 2016-17 421700T 2017-18 471291T 2018-19 485257T(up to Jan 2019)	
3q	General remarks of inspecting officers on method of mining etc.			Method of mining is suitable for the deposit.

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Solid Waste Management - Dumping:

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Sl.No.	Item	Propasals	Actual work	Remarks
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4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Proposal for waste dumping is given	Being U/G mine, there is no top soil, OB. Waste generated during the U/G mine development disposed off as per approved proposal.	
4b	Location of topsoil, OB and mineral reject dumps	Not proposal	The waste generated in U/G, some quantity of waste dumped in mined out stopes and rest are hoisted to surface and used for tailing dam construction and surface levelling work.	
4c	Number of dumps within lease area and outside of lease area	Not proposed	None.	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Not proposed	None	
4e	Number of active and alive dumps.	Not proposed	None	
4f	Number of dead dumps.	Not proposed	None	
4g	Number of dumps established.	Not proposed	None	
4h	Whether Retaining wall or garland drain all along dumps are there.	Not proposed	None	
4i	Length of Retaining wall or garland drain all along dumps	Not proposed	None	
4j	Number of settling ponds	Not proposed	None	
4k	Specific comments of inspecting officer on waste dump management			Waste disposal has been carried out as per approved proposal.

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Solid Waste Management - Backfilling:

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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.	No specific proposal given	Being U/G mine the filling of stopes are being carried out after full extraction of mineral from the stopes.
5b	Area under backfilling of mined out area	No specific proposal.	Some quantity of waste dumped in stope out voids.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not proposed.	Being U/G mine, not applicable. There is no top soil generation.
5d	Total area fully reclaimed and rehabilitated	Not proposed	Being U/G mine not applicable.
5e	General remarks of inspecting officers on backfilling and reclamation etc.		Being U/G mine there is no specific proposal for backfilling of mined out stopes. However some quantity of the waste generated is being used for fill the stope out voids.

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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).	PMCP report Submitted for the year 2017-18 and for 2018-19 it will be due on 30.06.2019.	PMCP report Submitted for the year 2017-18 and for 2018-19 it will be due on 30.06.2019.	
6b	Area available for rehabilitation (ha) .	2018-19: 4Ha( For Zawar lease)	2018-19( up to Jan 2019): 75ha gap filling plantation ( For Zawar lease)	
6c	afforestation done (ha).	4Ha.	75ha gap filling plantation.	
6d	No. of saplings planted during the year	4000 sapling	25000 sapling planted during the year 2018-19.	



6e	Cumulative no .of plants	Not specified	425625 plants( up to Jan 2019)
6f	Any other method of rehabilitation	No proposal	None
6g	Cost incurred on watch and care during the year	No proposal	Rs. 705422/-(Zawar lease)
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	2018-19: 220000m3	2018-19: 142841m3( up to Jan 2019)
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	2018-19: 71667m3	2018-19: 89094m3(up to Jan 19)
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	No proposal	Not applicable.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposal	Not applicable
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No proposal	None
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	4 Ha. with 4000 sapling	75ha gap filling plantation with 25000 plants
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	4 ha.	75 ha. gap filling

6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	By Plantation	By Plantation	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Regular monitoring will be carried out.	Regular monitoring in core and buffer zone is being carried out.	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			PMCP compliance 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 beneficiation given	Whole ROM is being dispatched to captive beneficiation plant.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Not proposed	Whole ROM is being dispatched to captive beneficiation plant.	
7c	Different grade of mineral sorted out at mines.	Not proposed	Whole ROM is being dispatched to captive beneficiation plant.	
7d	Any beneficiation process at mines	Yes, proposed.	Beneficiation plant located within lease area.	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			Whole ROM is beneficiated. There is no generation of subgrade mineral.

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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
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8a	Separate removal and utilization of topsoil (Rule 32)	Not proposed	Being U/G mine, there is no top soil generation.	
8b	Concurrent use or storage of topsoil	Not proposed.	Being U/G mine, there is no top soil generation.	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Proposal given for U/G development waste disposal	Waste generated in U/G mine is being used for U/G void filling as well as construction of tailing dam.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No specific proposal given for OB, reject and fine dumps.	Waste generated in U/G mine is being used for U/G void filling as well as construction of tailing dam.	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No specific proposal given	Being U/G mine not applicable.	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	2018-19: 4000 nos. saplings	2018-19: 25000 nos. saplings( up to Jan 2019)	
8g	Survival rate	80%	80%	
8h	Water sprinkling on roads to control airborne dust	Proposed	Water sprinkling is being carried out for dust suppression.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Lessee is taking care for maintaining of aesthetic beauty in and around the mine area.

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Compliance of Rule 45:

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Sl.No.	Item	Propasals	Actual work	Remarks
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9a	Status of submission of Monthly and Annual returns	M.R Submitted up to Feb-19 A.R. Submitted for 2017-18	M.R Submitted up to Feb-19 A.R. Submitted for 2017-18	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Detail given (AR 2017-18)	Found ok	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Information given	Detail not properly given	Violation of Rule 45(7) of MCDR 2017 has been pointed out during the previous inspection.
9d	Scrutiny of Annual return on afforestation	Information given	Found in order	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Information given	Information in Part V, section 7 is not given.	Violation of Rule 45(7) of MCDR 2017 has been pointed out during the previous inspection.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Information given	Detail given.	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Information given	Information in Part VII( cost of production) not properly given	Violation of Rule 45(7) of MCDR 2017 has been pointed out during the previous inspection.
9h	Scrutiny of Annual return on fixed assets	Information given	Found in order	
9k	Scrutiny of Annual return on mining machineries	Information given	Found in order.	

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**Details of violations observed during current inspection and compliance position of violation pointed out**

Violation observed			Show cause position		
Rule NO.	Issued on	Compliance on	Rule NO.	Issued on	Compliance on
MCDR17	Rule 11(1)	26-MAR-19			
MCDR17	Rule 19(1)	26-MAR-19			
MCDR17	Rule 31(4)	26-MAR-19			

**Date :****(DR A Z KHAN)**

Indian Bureau of Mines