

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

MCDR INSPECTION REPORT

Gandhinagar regional office

Mine file No : RAJ/UDP/PB-ZN-2

Mine code : 34RAJ26004

- (i) Name of the Inspecting : **G021**) **DATA RAM GURJAR**
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri Radha Raman, Mines Manager & Sh. Sandeep Rajput,
Official with
Designation
- (iv) Date of Inspection : 14-FEB-19
- (v) Prev.inspection date : 20-JUL-18

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **ZAWARMALA**
- (b) **Registration NO.** : **IBM/421/2011**
- (c) **Category** : A Mechanised
- (d) **Type of Working** : Underground
- (e) **Postal address**
- State : RAJASTHAN
- District : UDAIPUR
- Village : ZAWAR
- Taluka : GIRWA
- Post office : ZAWAR MINES
- Pin Code :
- FAX No. : 0294-2726243
- E-mail : Sunil.Duggal@vedanta.co.in
- Phone : 2726611,2726612,2726253,
- (f) **Police Station** : Zawar Mines
- (g) **First opening date** : 01-APR-50
- (h) **Weekly day of rest** : MON
2. **Address for** : VILL-ZAWAR
correspondance POST-ZAWARMALA,P.O=Goverdhanvilash
DISTT-UDAIPUR
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 Ltd.
Yashad Bhavan Udaipur
UDAIPUR RAJASTHAN
Phone:
FAX :

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

Agent : H. P. Kalawat
Zawar Mines , Udaipur
UDAIPUR RAJASTHAN
Phone:
FAX :

Mining Engineer

Name : Vinod Saini, Full Time
Qualification : B Tech (Mining)
Appointment/ : 16-SEP-15
Termination date

6. Date of approval of Mining Plan/Scheme of Mining : PMCP under 23B(1) for Renewal 21-AUG-09

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: 45 nos. of bore holes & 4000m | 2018-19: 62 nos. of bore holes & 5017m (up to jan 2019) | |
| 1c | Exploration Agencies and Expenditure in lakh rupees during the year | 2018-19: HZL Rs. 40 lacks | 2018-19: HZL Rs. 50.17 lacks (up to jan 2019) | |
| 1d | Balance area to be explored to bring Geological axis in 1 or 2 | 4000m with 45 nos. of bore holes (Proposal for 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- 0.538 MT 121- 2.208 MT 122- 0.367 | |
| 1f | General remarks of inspecting officers on geology, exploration etc | | | Exploration has been carried out as per approved proposals. |

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 2500m was proposed. | During the year 2018-19 U/G development of 1559m has been carried out up to Jan 2019. | Violation of rule 11(1) of MCDR 2017 pointed out for shortfall in U/G mine 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. | Not applicable | |
| 2d | Quantity of topsoil generation in m3 | Not applicable as it is U/G mine. | N/A | |

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| 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 49000 tonnes from U/G mine development. | OB generation- Nil Total 18050 tonnes waste generated during the year 2018-19 (up to Jan 2019) from the U/G mine development. | |
| 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 mine 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 | 2018-19: ROM production proposal was 300000 tonnes. | 2018-19: ROM production achieved (up to Dec. 2019) 290495 tonnes. | |
| 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 of 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 | |

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| 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 and 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 jumbo, 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 mine 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. |

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| 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 Hect.) Mining-34.09 Mineral Storage-2.0 Ben. Plant-8.66 Townships-34.4 Tailing pond-119.52 Roads-9.68 Infrastructre-53.66 Waste dump-10.57 Community development-8.71 Others-18.30 Total-299.59 | Violation of rule 45(7) of MCDR 2017 already pointed during the previous inspection regarding discrepancies of land use pattern. |
| 3p | Production of ROM mineral during the last five year period as applicable | 2013-14 300000T 2014-15 300000T 2015-16 250000T 2016-17 320000T 2017-18 325000T 2018-19 300000T | 2013-14 203075T 2014-15 236900T 2015-16 326200T 2016-17 338400T 2017-18 365453T 2018-19 290495T(upto 31.12.2018) | |
| 3q | General remarks of inspecting officers on method of mining etc. | | | Method of mining is suitable to the type of deposit. |

Solid Waste Management - Dumping:

| 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 | No 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 leveling 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. |

Solid Waste Management - Backfilling:

| 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 mined 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 waste generated is being used for fill the stope out voids. |

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 the year 2017-18 and for the year 2018-19 it will be due on 30.06.2019. | PMCP report submitted for the year 2017-18 and for the year 2018-19 it will be due on 30.06.2019. | |
| 6b | Area available for rehabilitation (ha) . | 2018-19: 4 Hect.(For Zawar lease area) | 2018-19 (up to Jan 2019): 75 Hect. gap filling plantation(For Zawar lease area) | |
| 6c | afforestation done (ha). | 4 Hect. | 75 Hect. gap filling plantation | |
| 6d | No. of saplings planted during the year | 4000 saplins | 25000 saplings planted during the year 2018-19. | |
| 6e | Cumulative no .of plants | Not specified | 425625 nos. plants up to Jan 2019. | |

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| 6f | Any other method of rehabilitation | No proposal | None |
| 6g | Cost incurred on watch and care during the year | No proposal | Rs. 705422 (Zawar laase) |
| 6h | Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D | 2018-19: 82000 CuM | 2018-19: 84938 CuM(up to Jan 2019) |
| 6i | Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings | 2018-19: 46000 MT | 2018-19: 18050 MT |
| 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 Hect. with 4000 saplings | 75 hect. gap filling plantation with 25000 plants. |
| 6n | Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha) | 4 hect. | 75 hect. gap filling. |

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| 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. |

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. |

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 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 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 saplings | 2018-19: 25000 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. |

Compliance of Rule 45:

| 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 2019. A.R. submitted for the year 2017-18. | M.R. submitted up to feb 2019. A.R. submitted for the year 2017-18. | |
| 9b | Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager | Detail given(A.R. 017-18) | Found ok | |
| 9c | Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. | Information given | Details not propoerly given | Violation of rule 45(7) of MCDR 2017 has already 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 already been pointed out during the previous inspection. |
| 9f | Scrutiny of Annual return on ROM stock and/or graded ore | Information given | Details 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 already 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. | |

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 :

(DATA RAM GURJAR)

Indian Bureau of Mines