

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

**MCDR INSPECTION REPORT**

**Ajmer regional office**

**Mine file No :** RAJ/AJM-315/Pb.Zn-1

**Mine code :** 34RAJ01001

- (i) Name of the Inspecting : **J003** ) **Jangid G.K.**  
Officer and ID No.
- (ii) Designation : Regional Controller Mines
- (iii) Accompanying mine : Mr. Siyaram Meena, Manager and Mr. Vijendra Kashyap, Ge  
Official with  
Designation
- (iv) Date of Inspection : 14-OCT-22
- (v) Prev.inspection date : 17-DEC-21

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **KAYAR**
- (b) **Registration NO.** : **IBM/421/2011**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Underground
- (e) Postal address  
State : RAJASTHAN  
District : AJMER  
Village : KAYAR  
Taluka : AJMER  
Post office : KAYAR  
Pin Code : 305023  
FAX No. : 0145-6626266  
E-mail : kastoor.meena@vedanta.co.in  
Phone : 0145-6626232
- (f) Police Station : Gegal
- (g) First opening date : 12-JAN-98
- (h) Weekly day of rest : SUN
2. Address for : M/S Hindustan Zinc Limited  
correspondance Kayad Lead -Zinc Mine  
Village: Kayad, Dist & Teshil : Ajmer
3. (a) Lease Number : RAJ1765  
(b) Lease area : 480.45  
(c) Period of lease : 50  
(d) Date of Expiry : 27-FEB-48
4. Mineral worked : LEAD & ZINC ORE Main

## 5. Name and Address of the

Lessee : HINDUSTAN ZINC LTD.  
 HINDUSTAN ZINC LTD. YASHAD  
 BHAWAN YASHADGARH, UDAIPUR  
 UDAIPUR RAJASTHAN  
 Phone:01483-23331, 23332  
 FAX :01483-23073

Owner : Mr. Arun Mishra  
 M/s Hindustan Zinc Ltd.  
 Yeshad Bhawan,yashadgarh,  
 P.O.Udaipur, UDAIPUR  
 RAJASTHAN  
 Phone: 0294-2427734  
 FAX : 0294-2427734

Agent : Mr. Kastoor Meena  
 Kayad Lead -Zinc Mine M/S  
 Hindustan Zinc Limited ,  
 Village: Kayad, Dist &  
 Teshil : AJM AJMER  
 RAJASTHAN  
 Phone: 0145-6626230,  
 FAX : 0145-6626230,

## Mining Engineer

Name : Mr. Chinni Ravi,Full Time  
 Qualification : B.Tech- Mining  
 Appointment/ : 20-SEP-22  
 Termination date

## Geologist

Name : Sri Vijendra Kashyap,Full Time  
 Qualification : M.Sc. Geology  
 Appointment/ : 12-JUN-18  
 Termination date

## Manager

Name : Mr. Siyaram Meena  
 Qualification :  
 Appointment/ : 26-SEP-22  
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining	:	Modif.of approved Mining Plan	05-DEC-06
		Modif.of approved Mining Plan	07-MAY-13
		MP modif under MCR 1960	20-MAY-16
		MP modif under 17(3) MCR 2016	18-OCT-16
		MP modif under 17(3) MCR 2016	03-NOV-17
		MP modif under 17(3) MCR 2016	06-SEP-19
		MP review under 17(1) MCR 2016	25-JAN-21

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	No proposal.	No backlog of previous year 2020-21.	Nil
1b	Exploration over lease area for geological axis 1 or 2	A total of 120 BHs with 42000 mts of drilling was proposed during the year 2021-22.	A total of 171 BHs with 74460 mts of drilling was carried out during the year 2021-22.	Nil
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No proposal	Agency:MAPL Expenditure: Rs. 51228200	Nil
1d	Balance area to be explored to bring Geological axis in 1 or 2	142.61 Ha	142.61 Ha	Nil
1e	Balance reserve as on 01/04/20	As per approved RMP dated 25/01/2021: Reserve-3.63 million tonnes, Resources-1.9 million tonnes. Total-5.54 million tonnes.	As on 01.04.2022: Reserve-1.93 million tonnes, Resources-5.01million tonnes. Total-6.93 million tonnes.	Nil
1f	General remarks of inspecting officers on geology, exploration etc			Kayad ore body is lensoildal in shape with pinching and swelling in nature. During the year 2021-22,exploration has been carried out more than proposals.

## Development :

Sl.No.	Item	Proposals	Actual work	Remarks
--------	------	-----------	-------------	---------

2a	Location of development w.r.t.lease area	Block-3 Main Lens Eastern Fringe K1, Sland K18.	Block-3 Main Lens Eastern Fringe K1 and K18	The development in S1 lens is postponed due to COVID-19 situation.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Not applicable as mining operation has been proposed through U/G Mining Method	Not applicable	Nil
2c	Stripping ratio or ore to OB ratio	Not applicable as mining operation has been proposed through U/G Mining Method.	Not applicable	Nil
2d	Quantity of topsoil generation in m3	No proposal of top generation	Not applicable.	Nil
2e	Quantity of overburden generation in m3	650000t waste generation was planned during development for mining operation through U/G Mining Method.	648800t waste was generated during development and used for backfilling of the mined out stopes.	Nil
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Development has been proposed through u/g mining method.	Development has been carried out through u/g mining method.	The underground development has been carried out at different levels and the mechanism adopted for carrying out the mining operation in the lease area is best suited method for the type of deposit.

---

### Exploitation:

---

Sl.No.	Item	Propasals	Actual work	Remarks
--------	------	-----------	-------------	---------

---

3a	Number of pit proposed for production	U/g Mining operation has been proposed by developing stopes with sub-level method.	The mine is divided into two sections namely North and South section. The sequence of stoping is in Primary & Secondary in transverse stopes and lateral retrieve in longitudinal stopes and mining & backfilling is a sequential activity.	Nil
3b	Quantity of ROM mineral production proposed	1200000 MT	933951 MT	Less production due to Covid-19 Pandemic.
3c	Recovery of sailable/usable mineral from ROM production	100% recovery was proposed without any dilution.	More than 100% recovery was achieved from the stopes mining during the year.	Entire ROM was despatched to Rampura-Agucha Lead-zinc mine of M/s HZL situated in Bhilwara for beneficiation.
3d	Quantity of mineral reject generation	No proposal.	Not applicable.	Nil
3e	Grade of mineral rejects generation and threshold value declared.	No proposal.	Not applicable.	Nil
3f	Quantity of sub grade mineral generation.	No proposal.	Not applicable.	Nil.
3g	Grade of sub grade mineral generation	No proposal.	Not applicable.	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	No proposal.	Not applicable.	Nil
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal.	Not applicable.	Nil.

- |    |   |   |   |      |
|----|---|---|---|------|
| 3j | Provision of drilling and blasting in mineral benches | Parallel holes drilling for the slot raise with 76mm / 89mm /115mm dia. holes was proposed with blasting in lifts of 1.5 to 5.0 m by drop raising method in single shot. With slot raise as the initial free face, the parallel holes in slot will be blasted to full width of ore body to create the free face for the ring blasting. ANFO & Emulsion explosives with electronic detonators shall be used for blasting of holes. | Proposed method is adopted for drilling & blasting for development and stopes mining.   | Nil. |
| 3k | Provision of mining machineries in mineral benches    | After blasting, the broken ore was proposed to drawn using 17T / 21T capacity diesel LHDs. The drawn ore will be directly loaded into 30t / 50t / 60t / 65t LPDT. Transportation for beneficiation at Rampura Agucha Mine is through trucks.  | Proposed method is in use without any change. Remote control operation of the LHD is also in use to recover the left out ore from the stopes. | Nil. |

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Level difference of 20 to 30m and stopes dimension of 25-30m along strike are proposed.	Proposed method is in use.	Nil.
3m	Total area covered under excavation/pits	Decline, ventilation shafts, infrastructure etc developed on surface and U/g mining operations are adopted.	No change in use of surface area after the approval of previous document.	
3n	Ore to OB ratio for the pit/mine during the year.	Mining operation was proposed through UG Mining Method. Planned Ore to waste ratio was 1.84	Mining operation are through UG Mining Method and achieved Ore to waste ratio is 1.46	Nil.
3o	Total area put in use under different heads at the end of year	Used for waste disposal 1.0ha, Occupied by plant, buildings, residential, welfare buildings & roads 5.40ha, Other Purpose (Top soil, mineral stock, green belt, solar panel, open spaces)) 42.10ha.	Used for waste disposal 1.0ha, Occupied by plant, buildings, residential, welfare buildings & roads 5.40ha, Other Purpose (Top soil, mineral stock, green belt, solar panel, open spaces)) 42.10ha.	Nil
3p	Production of ROM mineral during the last five year period as applicable	2017-18 : 1200000t, 2018-19 : 1200000t, 2019-20: 1200000t, 2020-21:1200000t and 2021-22: 1200000t	2017-18 : 1200000t, 2018-19 : 1199592t, 2019-20 : 1139071t, 2020-21 : 1174824t and 2021-22 : 931951t	Nil

3q General remarks of inspecting officers on method of mining etc. U/G Method of Mining has been proposed. The method of mining is suitable for type of deposit. Nil

---

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Top soil - No proposal, OB- Waste Dump-1. Waste dump was created for the purchased waste for backfilling in U/g stopes. Waste generation from U/g development is proposed for backfilling.	Top soil-Nil, OB-Nil, Waste dump-1. Waste dump was created for the purchased waste for backfilling in U/g stopes. Presently, waste generated from U/g development is used for backfilling and so no dumping proposal.	Nil
4b	Location of topsoil, OB and mineral reject dumps	No proposal.	Not applicable.	Nil
4c	Number of dumps within lease area and outside of lease area	One waste dump was proposed within lease area for purchased waste to backfill in u/g stopes.	One waste dump is there within lease area for purchased waste to backfill in u/g stopes. This practice is under process of discontinuation and new waste is not purchased during the year.	Nil
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Not applicable as mining operation has been proposed through U/G Mining Method.	Not applicable.	Nil.
4e	Number of active and alive dumps.	Waste Dump-1 for purchased quantity of waste on surface.	Waste Dump-1	Nil
4f	Number of dead dumps.	No proposal.	Not applicable.	Nil.
4g	Number of dumps established.	No proposal.	Not applicable.	Nil.



4h	Whether Retaining wall or garland drain all along dumps are there.	No proposal.	Retaining wall or garland drain all along dump was observed.	630 meter retaining wall constructed and maintained.
4i	Length of Retaining wall or garland drain all along dumps	No proposal.	Not applicable.	Nil.
4j	Number of settling ponds	No proposal.	No proposal.	Nil.
4k	Specific comments of inspecting officer on waste dump management	Waste has been proposed to backfilling in mined out stoped.	Waste dump on surface is temporary and the complete waste generated from UG mining is utilised for backfilling in mined out stopes.	

#### 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 in stope after full extraction of mineral was proposed.	Waste backfilling was observed after full extraction of mineral In stope during the year 2021-22.	Nil.
5b	Area under backfilling of mined out area	No specific proposal on area of backfilling. A quantity of 650000 MT of waste was proposed to dispose in UG stopes.	Waste quantity of 648800 MT has been disposed in UG stopes.	Nil.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposal.	Not applicable.	Nil.
5d	Total area fully reclaimed and rehabilitated	No proposal of full reclamation and or rehabilitation during reporting year 2021-22.	Not applicable.	Nil.

5e	General remarks of inspecting officers on backfilling and reclamation etc.	Backfilling in stope after full extraction of mineral was proposed.	Waste backfilling was observed after full extraction of mineral In stope during the year 2021-22.	No issue was observed related to backfilling or waste disposal.
----	--	---	---	---

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).	As per rule 26(2) of MCDR,2017, PMCP report to be submitted for previous year by 1st July.	Annual PMCP report for the year i.e. 2021-22 was submitted on 31.05.2022.	Nil.
6b	Area available for rehabilitation (ha) .	Nil	Nil	No additional area available for plantation and only Gap Filling plantation.
6c	afforestation done (ha).	Nil	Nil	No additional area available for plantation and only Gap Filling plantation
6d	No. of saplings planted during the year	1500 nos.	4000 nos.	Nil
6e	Cumulative no .of plants	No specific proposal on cumulative number of plants.	Cumulatively 47100 number of saplings were planted as on 01/04/2022.	Nil.
6f	Any other method of rehabilitation	No proposal.	Not applicable.	Nil.
6g	Cost incurred on watch and care during the year	No Proposal.	Rs. 285000	Nil.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	Backfilling of 650000t	Backfilling of 648800t in mined out stopes.	Nil.

6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	650000 MT	648800 MT	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.	Not applicable.	Nil.
6m	Compliance of rehabilitation of waste land within lease (i) afforestation	1500 number of saplings.	4000 number of saplings.	Gap filing.
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	3.5Ha	3.5Ha	Gap Filling.
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)	Air, Noise, vibration and water quality testing to be done quarterly in proposed location.	Testing is being done as per proposal.	Nil

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	No issue was observed regarding PMCP compliance and progressive closure operations etc.
----	---	---

---

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Proposed to dispatch entire ROM to Rampura Agucha Mine for further processing.	Entire ROM dispatched to Rampura Agucha Mine for further processing.	Nil.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	No proposal.	Not applicable.	Nil.
7c	Different grade of mineral sorted out at mines.	No proposal.	Not applicable.	Nil.
7d	Any beneficiation process at mines .	No Proposal.	Not Applicable.	Nil.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			No issues related to mineral conservation and beneficiation.

---

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal of top soil generation.	Not applicable.	Nil.
8b	Concurrent use or storage of topsoil	Not applicable as no proposal of top soil generation.	Top soil has not been generated during the RY i.e. 2021-22.	Nil

---

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	OB Dump-Nil, Waste Dump-01, Reject-Nil.	OB Dump-Nil, Waste Dump-01 for purchased waste, Reject-Nil.	Nil
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Waste produced is proposed to dispose in stopped out area.	Waste Produced is backfilled in Underground stopped out area.	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposal.	Not applicable.	Nil
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	1500 No of saplings have been proposed during the RY 2021-22.	1500 No of saplings have been done during the RY 2021-22.	Nil.
8g	Survival rate	90% survival rate was proposed.	Survival rate was 90%.	Nil.
8h	Water sprinkling on roads to control airborne dust	To control the air born dust particle,water sprinkling has been proposed on the roads.	Water sprinkling has been observed on haul roads to control airborne dust.	Nil
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area		Complete mine working area is having boundary wall and Kayad village is adjoining to the lease area with normal life and without any disturbances from u/g mining activities.	The aesthetic beauty in and 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	As per rule 45 of MCDR 2017, monthly and annual returns to be submitted.	Monthly and annual returns have been submitted for reporting year on time.	Nil
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Information on Mining Engineer, Manager and geologist have been furnished.	Mines Manager, Mining engineer and Geologist have been appointed and their names & appointment are found correct during inspection of the mine.	Nil
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Used for waste disposal-1.0 Ha., Occupied by plant, buildings, residential, welfare buildings & roads-5.4 Ha., Other Purpose (Top soil, mineral stock, green belt, solar panel, open spaces))-42.100 Ha.	Furnished details found to be in order.	Nil
9d	Scrutiny of Annual return on afforestation	4000 number of plants within lease area.	Found to be correct.	Nil
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil information has been furnished under head of Mineral Reject.	Mineral Reject has not been generated.	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Opening and Closing Stock of ROM under the mine head are given as 10083 and 7476 tonnes respectively.	Found to be correct.	Nil.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Sale Value-0 Rs./t, Ex. Mine Price-4654.00 Rs./t, Cost of Production-4654.00 Rs./t	All above details found to be in order.	Nil

9h	Scrutiny of Annual return on fixed assets	Value of fixed asset is furnished as Rs.1908708468 /-	Found to be correct.	Nil
9k	Scrutiny of Annual return on mining machineries	Mining Machineries details have been furnish in A/R 2021-22.	The information furnished on mining machineries appears to be in order.	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

**Date :****(Jangid G.K.)**

Indian Bureau of Mines