

**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 : **DJ03** ) **DILIP JAIN**  
Officer and ID No.
- (ii) Designation : Senior Mining Geologist
- (iii) Accompanying mine : Sh. Radha Raman, Mine Manger and Sh. Vijendra Kashyap  
Official with  
Designation
- (iv) Date of Inspection : 10-JUN-21
- (v) Prev.inspection date : 11-DEC-20

**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 : Balwant.Rathore@vedanta.co
- 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. Anshul Khandelwal,Full Time  
 Qualification : BE Mining  
 Appointment/ : 29-JUN-20  
 Termination date

## Geologist

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

## Manager

Name : Mr. Anshul Khandelwal  
 Qualification : BE mining  
 Appointment/ : 29-JUN-20  
 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	Total of 120 BHs with 42000 mts of drilling.	Total of 117 BHs with 35728 mts of drilling.	Backlog of drilling mts incorporated in RMP approved on 25/01/2021.
1b	Exploration over lease area for geological axis 1 or 2	Total of 115 BHs with 42000 mts of drilling.	Total of 207 BHs with 44254.05 mts of drilling.	NIL.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No proposal.	The exploration was done by HZL through drilling agency SOILTECH (INDIA) PVT LTD, Plot no 119, subplot no 39, Ramtekdi industrial areaNear sangam press Ramtekdi, Hadapsar, Pune 411013 Expenditure in Rs. 2054.91 Lakh	The expenditure includes Underground, Surface drilling and Exploratory drive development in UG.
1d	Balance area to be explored to bring Geological axis in 1 or 2	60 Hectare area.	60 Hectare area.	NIL.
1e	Balance reserve as on 01/04/20	As on 01/04/2020 as per approved RMP dated 25/01/2021: Reserve- 3.63Mt. Resources- 1.9Mt.	As on 01.04.2021 Reserve-2.455Mt. Resources-1.90Mt.	Total depletion in FY (2020-21) is 1.175Mt.
1f	General remarks of inspecting officers on geology, exploration etc	During the year a total of 115 BH with 42000 mts of drilling has been proposed.	A total of 207 BH with 44254 mts of drilling has been carried out.	Kayad Ore body is lensoidal in shape with pinching and swelling nature.

## Development :

Sl.No.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	Block-3 Main Lens Eastern Fringe K1,S1and K18.	Block-3 Main Lens Eastern Fringe K1and K18	The development in S1 lens could not be done due to COVID-19 situation.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Not applicable as mining operation has been proposed through UG Mining Method.	Not applicable.	NIL.
2c	Stripping ratio or ore to OB ratio	Not applicable as mining operation has been proposed through UG Mining Method.	Not applicable.	NIL.
2d	Quantity of topsoil generation in m3	No proposal of top soil generation.	242 Cubic meter of top soil removed during Civil work.	Concurrently used for garden development.
2e	Quantity of overburden generation in m3	Not applicable as mining operation has been proposed through UG Mining Method.	Not applicable.	NIL.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Development has been proposed through UG mining method.	The UG mechanised method has been adopted for carrying out mining operations in the lease area which is best suited method for the type of deposit.	The UG mechanised method has been adopted for carrying out mining operations in the lease area which is best suited method for the type of deposit.

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**Exploitation:**

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Not applicable as mining operation has been proposed through UG Mining Method.	Not applicable.	NIL.
3b	Quantity of ROM mineral production proposed	1200000 MT	1174824 MT	Less production due to COVID-19 pandemic.
3c	Recovery of sailable/usable mineral from ROM production	1200000 MT	1174824 MT	Less production due to COVID-19 pandemic.

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3d	Quantity of mineral reject generation	No proposals of mineral reject generation.	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	Not applicable as mining operation has been proposed through UG Mining Method.	Not applicable.	NIL.
3k	Provision of mining machineries in mineral benches	Not applicable as mining operation has been proposed through UG Mining Method.	Not applicable.	NIL.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Not applicable as mining operation has been proposed through UG Mining Method.	Not applicable.	NIL.
3m	Total area covered under excavation/pits	0.73 Hectare.	0.73 Hectare.	NIL.
3n	Ore to OB ratio for the pit/mine during the year.	Not applicable as mining operation has been proposed through UG Mining Method.	Not applicable.	NIL.

3o	Total area put in use under different heads at the end of year	As per approved document dated 06/09/2019, an area of 48.50 ha has been proposed to put in use under different heads at the end of year 2020-21.	As per annual return for the year 2020-21, area put in use under different heads at the end of year was 48.50 ha.	NIL
3p	Production of ROM mineral during the last five year period as applicable	2016-17: 1000000 2017-18: 1200000 2018-19: 1200000 2019-20: 1200000 2020-21: 1200000	2016-17: 1000000 2017-18: 1200000 2018-19: 1199592 2019-20: 1139071 2020-21: 1174824	NIL.
3q	General remarks of inspecting officers on method of mining etc.	Underground method of mining has been proposed.	The Method of mining is suitable to the type of deposit.	No issue related mining method.

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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 - NIL OB- NIL Waste Dump-1	Top soil - NIL OB- NIL Waste Dump-1	Top soil generated Was utilized.
4b	Location of topsoil, OB and mineral reject dumps	Top soil: No proposal, Waste dumping: Near diesel filling station and Mineral Reject dump - No proposal.	Top soil generationed has been utilized. Temporary waste dumping observed at marked place. No mineral reject generation.	Top soil generated has been utilized.
4c	Number of dumps within lease area and outside of lease area	Inside lease: 01 and Outside Lease area:NIL.	Inside lease: 01 and Outside Lease area:NIL.	NIL.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Not applicable as it is a underground mine.	Not applicable.	NIL.

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4e	Number of active and alive dumps.	One.	One.	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.	Around 630 meter retaining wall constructed and maintained.	NIL.
4i	Length of Retaining wall or garland drain all along dumps	No proposal for the year 2020-21.	Not applicable.	Around 630 meter retaining wall has already been constructed and maintained around waste dump.
4j	Number of settling ponds	No proposal for the year 2020-21.	Not applicable.	NIL.
4k	Specific comments of inspecting officer on waste dump management	Waste has been proposed to backfill in stope out area.	Waste generated has been backfilled in stope out area.	No issue related to waste dumping.

#### 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 or in stope dumping of the waste was proposed.	Waste was dumped in the stope out area.	NIL.
5b	Area under backfilling of mined out area	750000 MT of waste was proposed to backfill.	724100 MT of waste was backfilled.	In house Geration-290500MT Purchase from Outside: 433600MT
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	Not applicable as it is underground (UG) Mine.	NIL.

5e	General remarks of inspecting officers on backfilling and reclamation etc.	Backfilling or dumping in UG voids has been proposed after full extraction of mineral.	Backfilling of stopes was carried out after full extraction of the mineral.	UG stoped out area was utilized for waste dumping/backfilling.
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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).	As per rule 26(2) of MCDR, 2017, PMCP report to be submitted for previous year by 1st July.	Report for the year 2020-21 submitted.	NIL.
6b	Area available for rehabilitation (ha) .	An area of 3.50 Ha has been proposed for plantation/rehabilitation	An area of 3.50 Ha has been planted.	NIL.
6c	afforestation done (ha).	3.5 Hect.	3.5 Hect.	NIL.
6d	No. of saplings planted during the year	5000 no.	Inside Lease: 4000 plants and Outside lease: 1000 plants.	Violation of MCDR issued vide letter dated 16/07/2021 for less tree plantation within lease area.
6e	Cumulative no .of plants	10000 (for the period 2019-20 to 2020-21).	10500 during the period 2019-20 to 2020-21.	NIL.
6f	Any other method of rehabilitation	No proposal.	Not applicable.	NIL.
6g	Cost incurred on watch and care during the year	No proposal.	Not applicable.	NIL.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	No Proposal.	Rs. 1708800	As reported during mine inspection.

6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	750000 MT of waste was proposed to backfill.	724100 MT of waste was backfilled.	In house Geration-290500MT Purchase from Outside: 433600MT
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	5000 No.	Inside Lease: 4000 and Outside lease:1000	Violation of MCDR issued vide letter dated 16/07/2021 for less tree plantation within lease area.
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	3.5Ha	3.5Ha	NIL.
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.	Monitoring is being done as per proposal. The parameters found within limits.	NIL.

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	A total of 5000 number sapling has been proposed to plant.	A total of 5000 number of saplings has been planted within and outside lease area.	PMCP compliance appears to be 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	Proposed to dispatch entire ROM to RA mine for further processing.	Entire ROM dispatched for further processing to Rampura-Agucha Mine of the company.	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 proposal of beneficiation and generation of mineral reject.	Entire ROM dispatched for further processing to Rampura-Agucha Mine of the company.	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.	242 Cubic meter of top soil removed during Civil work.	Concurrently used for garden development.
8b	Concurrent use or storage of topsoil	No proposal of top soil generation.	242 Cubic meter of top soil removed during Civil work.	Concurrently used for garden development.

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	OB-NIL Waste Dump-1 Reject-NIL	OB-NIL Waste Dump-1 Reject-NIL	NIL.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Waste produced was proposed to backfilled in underground stoped out area.	Waste generated was backfilled in stoped out area of Underground.	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)	A total of 5000 number sapling has been proposed to plant.	Inside Lease: 4000 plants and Outside lease: 1000 plants.	Violation of MCDR issued vide letter dated 16/07/2021 for less tree plantation within lease area.
8g	Survival rate	No proposal.	90%	As per AR 2020-21.
8h	Water sprinkling on roads to control airborne dust	To control the air born dust particle, water sprinkling has been proposed over the roads.	Water sprinkling on roads, Tarpaulin cover on mine truck was observed.	NIL.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	During the reporting year a total of 5000 numbers of saplings has been proposed to plant.	Inside Lease: 4000 plants and Outside lease: 1000 plants.	The aesthetic beauty in and around the mine is satisfactory.

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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	As per rule 45 of MCDR, monthly and annual returns to be submitted.	Monthly and annual returns have been submitted for reporting year.	NIL.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Information on Mining Engineer and Manager has been furnished.	Mine Manger, Mining engineer and Geologist are appointed.	Scrutiny of AR 2020-21.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Total of 48.50 has been furnished under waste disposal, infrastructure and plantation, mineral stock etc.	The land use pattern furnished in the return appears to be correct.	NIL.
9d	Scrutiny of Annual return on afforestation	Within ML 4000 and outside ML 1000 numbers of saplings.	Found in order.	NIL.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Mineral Reject quantity furnished is NIL.	Mineral Reject has not been generated.	NIL.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM Closing stock at Mine head- 10083 MT.	The information found in order.	NIL.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex. Mine Price: Rs 1575.00 per tonne & Cost of Production: Rs. 1575.00 per tonne.	The information furnished appears in order.	Violation of Rule 45 (7) of MCDR, 2017 issued vide letter dated 16/07/2021 for error in cost of production.
9h	Scrutiny of Annual return on fixed assets	Value of fixed asset furnished is Rs. 6017747068 /-	Appears in order.	NIL.

9k	Scrutiny of Annual return on mining machineries	Dumper, Rock Drill, Blast Hole Drill, LPDT, LHD, Air Compressor, Generator, Explosive ven, Ventilation fan etc.	The information furnished on mining machineries appears to be in order.	NIL.
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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)	16-JUL-21			
MCDR17	Rule 45(7)(a)	16-JUL-21			

**Date :****(DILIP JAIN)**

Indian Bureau of Mines