

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

MCDR INSPECTION REPORT

Ajmer regional office

Mine file No : RAJ/JHN-1/CU- 1

Mine code : 14RAJ17002

- (i) Name of the Inspecting : **K018**) **Dr A Z Khan**
Officer and ID No.
- (ii) Designation : Regional Mining Geologist
- (iii) Accompanying mine : Shri P. D. Bohra, DGM (Mines) & Shri N.K. Rajpurohit,
Official with
Designation
- (iv) Date of Inspection : 08-JUN-23
- (v) Prev.inspection date : 16-MAR-23

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **KHETRI**
- (b) **Registration NO.** : **IBM/6381/2011**
- (c) **Category** : **A Mechanised**
- (d) **Type of Working** : **Underground**
- (e) **Postal address**
- State : **RAJASTHAN**
- District : **JHUNJHUNU**
- Village : **BANWAS**
- Taluka : **KHETRI**
- Post office : **KHETRINAGAR**
- Pin Code : **333504**
- FAX No. : **01593-20002/20038**
- E-mail : **hcl_kcc@hindustancopper.com**
- Phone : **01593-20065/20006**
- (f) **Police Station** : **Khetrinagar**
- (g) **First opening date** : **15-OCT-63**
- (h) **Weekly day of rest** : **SUN**
2. **Address for** : **M/S HINDUSTAN COPPER LTD**
correspondance : **POST KHETRINAGAR 333504**
: **DIST. JHUNJHUNU**
3. (a) **Lease Number** : **RAJ0449**
- (b) **Lease area** : **395.07**
- (c) **Period of lease** :
- (d) **Date of Expiry** : **31-MAR-40**
4. **Mineral worked** : **COPPER ORE** **Main**

5. Name and Address of the

Lessee : HINDUSTAN COPPER LIMITED
 KHETRI COPPER COMPLEX
 KHETRI NAGAR JHUNJHUNU
 RAJASTHAN
 Phone:01593-20065-20006
 FAX :01593-20002

Owner : Shri Sanjay Panjiyar,
 1-Ashutosh Chowdhury Avenue
 M/s Hindustan Copper
 Limited. KOLKATA WEST
 BENGAL
 Phone: 033 22817138
 FAX : 033 22832478

Agent : Shri Sree Kumar
 Khetri Copper Complex, M/s
 Hindustan Copper Limited
 Khetri Nagar, Jhunjhunu
 JHUNJHUNU RAJASTHAN
 Phone: 08279211779
 FAX : 01593 220002

Mining Engineer
 Name : N.S. Jangde, Full Time
 Qualification : BE Mining
 Appointment/ : 04-AUG-20
 Termination date

Mining Engineer
 Name : Shri S K Purohit, Full Time
 Qualification : BE (Mining)
 Appointment/ : 07-NOV-12 04-AUG-20
 Termination date

Geologist
 Name : Shri Nagesh Kumar Rajpurohit, Full Time
 Qualification : MSc(Geology)
 Appointment/ : 08-APR-14
 Termination date

Manager
 Name : Shri S. K. Purohit
 Qualification : BE Mining & FCC(U/R)
 Appointment/ : 02-JUL-20
 Termination date

Manager
 Name : Ghanshyam Das Gupta
 Qualification : B. Tech (Mining)
 Appointment/ : 06-APR-18 02-JUL-20
 Termination date

6. Date of approval of Mining : Existing rule 11 MCDR1988 19-JAN-95
 Plan/Scheme of Mining Existing rule 11 MCDR1988 30-JUL-04
 Mining Scheme rule 12 MCDR1988 22-OCT-08

Modif.approved Mining Scheme	17-AUG-12
Renewal under rule 24 MCR1960	20-NOV-12
MP review under 17(1) MCR 2016	28-NOV-17
MP review under 17(1) MCR 2016	22-JAN-20

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	4800 m with 56 Bore Holes	3640.50 m with 37 Bore Holes	Based on previous inspection violation of MCDR issued vide letter dated 13/07/2022 for shortfall in exploration.
1b	Exploration over lease area for geological axis 1 or 2	4800 m with 62 Bore Holes	4436.10m with 40 Bore Holes	Underground exploration has not been carried out as per approved proposal and there is shortfall in the total exploration also for which violation of Rule 11(1) of MCDR,2017 has been pointed out
1c	Exploration Agencies and Expenditure in lakh rupees during the year	SMS Limited & Asha Engineering Works & Expenditure is not in proposal	SMS Limited 77.20 Lakh & Asha Engineering Works Rs. 69.32 Lacs (Including Taxes)	None
1d	Balance area to be explored to bring Geological axis in 1 or 2	Balance area to be explore for Geological axis G1 5950 to 6050 Lat. 120 to 60 mRL, 5850 to 5950 Lat. 60 to 0 mRL, 2770 to 2710 Lat. 120 to 60 mRL, 3430 to 3370 Lat. 0 to (-) 60mRL Meterage: 4800 No. of BH: 56	Balance area are going to explore in current F.Y.2023-24 for Geological G-1 axis.	As the mining in underground, the exploratory drilling from surface is done previously within the lease area, Presently there is definition drilling is going on different levels at 30m interval for Geological axis G-1 exploration.

1e	Balance reserve as on 01/04/20	44.52 Million Tons	47.46 Million Tons	Balance ore reserve estimated on 01.04.2023 is 47.46 million tones , after depleted production for 2022-23
1f	General remarks of inspecting officers on geology, exploration etc	4800meter with 62 Bore Holes	4436.10 meter with 40 Bore Holes	There is shortfall in exploration for which violation of Rule 11(1) of MCDR, 2017 has been pointed out

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	180mRL-0 m 120mRL- 900m 60mRL-2760m 0mRL-2420 m (-)60mRL-760 m Others- 374 m Total-7214 m	180mRL-14.5m 120mRL- 922.27m 60mRL-1344.75m 0mRL-970.71m (-)60mRL-0 m Others- 0 m Total-3252.23m	Underground development has not been carried out as per approved proposal and there is shortfall in the total development also for which violation of Rule 11(1) of MCDR,2017 has been pointed out
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	No proposal being an underground mine	Not applicable	None
2c	Stripping ratio or ore to OB ratio	No proposal being an underground mine	Not applicable	None
2d	Quantity of topsoil generation in m3	No proposal of top soil generation	Being U/G mine there was no top soil generation	None
2e	Quantity of overburden generation in m3	63139 m3	21648 m3	The waste material is generating only from UG mine development and stope preparation activities. Less quantity of waste generation due to less mine development.

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 development	The method of development proposed is suitable for the type of deposit. Shortfall in UG development has been observed and violation of Rule 11(1) of MCDR,2017 has been issued.
----	---	---	---	---

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Being U/G mine the total no.of Proposed Stopes is 20	Total no. of running Stopes for production is 20	None
3b	Quantity of ROM mineral production proposed	1090000Tonnes	707787Tonnes	Underground production has not been carried out as per approved proposal and there is shortfall of about 35% in the total production also for which violation of Rule 11(1) of MCDR,2017 has been pointed out
3c	Recovery of sailable/usable mineral from ROM production	100%	100%	The ROM material from UG mine is treated in the Concentrator Plant for milling capacity of 2,00,000 tonnes of copper ore per month.
3d	Quantity of mineral reject generation	No proposal of Mineral Reject generation	No Mineral Reject Generation	There is no proposal of mineral reject, however milling of ROM from both the Khetri and Kolihan Mines generate the tailing.
3e	Grade of mineral rejects generation and threshold value declared.	No proposal of Mineral Reject generation	No proposal of Mineral Reject generation hence not applicable	none

3f	Quantity of sub grade mineral generation.	No proposal of sub grade mineral generation	No subgrade mineral generation in mine	None
3g	Grade of sub grade mineral generation	No proposal of sub grade mineral generation	No subgrade mineral generation in mine hence not applicable	None
3h	Manual / Mechanised method adopted for segregating from ROM	No proposal of segregation	Crushing and screening through Mechanical means	ROM is being beneficiated at Khetri beneficiation plant.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal for any fresh beneficiation studies	No beneficiation studies has been carried out during the Reporting year	No beneficiation studies has been carried out during the RY
3j	Provision of drilling and blasting in mineral benches	Provision of drilling & blasting proposed for u/g mine development & for stoping operations	Drilling & blasting as per proposal Production Drilling: Dia :57mm, 115 mm, 165 mm drilling Development Drilling: Dia: 33mm, 54mm Blasting: PowderFactor: in ore development:3.57 kg/m ³ , in Stope: 1.25 kg/m ³	None
3k	Provision of mining machineries in mineral benches	Proposal for mining machineries for U/G production given Jackhammer, Drifters, Large Dia drilling machine, Jumbo drill, LHD, LPDT, Locomotive Rocker Shovel etc.	Being an underground mine Machineries used for U/G mine are Jackhammer, Drifters, Large Dia drilling machine, Jumbo drill LHD, LPDT, Locomotive Rocker Shovel etc.	None
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Being U/G mine there was no proposal	Not applicable being an underground mine	None

3m	Total area covered under excavation/pits	0.0323 Hect.	0.0323 Hect.		Total 0.0323 Hect. area is put to use under opening of service & production shafts , decline .Ventilation raises etc
3n	Ore to OB ratio for the pit/mine during the year.	No proposal	Being U/G mine not applicable		No provision of O.B. generation as the underground mine operation has stoping method.
3o	Total area put in use under different heads at the end of year	56.23Hect.	56.23Hect.		None
3p	Production of ROM mineral during the last five year period as applicable	2018-19 908000 2019-20 908000 2020-21 1080000 2021-22 1080000 2022-23 1090000	2018-19 2019-20 2020-21 2021-22 2022-23	778321 680005 538463 687873 707787	Underground production has not been carried out as per approved proposal and there is shortfall of about 35% in the total production also for which violation of Rule 11(1) has been pointed out
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

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	No proposal for Top Soil. The proposed waste material generation from UG is to be dump in underground- 34726 m3 At surface- 28413 m3	Being U/G mine there is no Top Soil generation. The waste material generated during development is dumped in underground- 16123 m3 & At surface- 1972 m3	Less waste generation due to less mine development.

4b	Location of topsoil, OB and mineral reject dumps	No proposal for Top Soil & Mineral Reject dumps. Waste Dump No. 5 Lat. 3938-4463 Departure 1128-1270 Waste Dump No. 6 Lat. 4458-4924 Departure 1170-1409 , Waste Dump No. 7 Lat. 4008-4316 Departure 1200-1270, In Underground: Old Stope No. P V B 09-13, S VII 02-11 Waste Dump No. 7 Lat. 4008-4316 Departure 1200-1270 In Underground: Old Stope No. P V B 09-13, S VII 02-11	Waste material from the underground mine is dumped as proposed locations on the surface as well as in the underground mines.	None
4c	Number of dumps within lease area and outside of lease area	8 Nos.	8 Nos.	Total 08 Numbers of Waste Dumps. No. 1 to 8 on surface within Mining lease area.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	No Proposal	Not applicable being an underground mine	None
4e	Number of active and alive dumps.	3 Nos.	3 Nos.	Total 03 Numbers of Waste Dumps no. 5 to 7 on surface are active dumps.
4f	Number of dead dumps.	5 Nos.	5 Nos.	Total 05 Numbers of Waste Dumps no. 1 to 4 and 8 on surface are inactive/dead dumps.
4g	Number of dumps established.	No proposal	Stabilization work in 01 dump is under progress	None
4h	Whether Retaining wall or garland drain all along dumps are there.	No proposal of retaining wall and garland drain	Retaining wall and garland drain observed at necessary places	1364m retaining wall & 800m garland drain already exist

4i	Length of Retaining wall or garland drain all along dumps	No specific proposal given during the year	Retaining wall and garland drain observed at necessary places	1364m retaining wall & 800m garland drain already exist
4j	Number of settling ponds	01	01	None
4k	Specific comments of inspecting officer on waste dump management	No proposal of top soil and Mineral reject generation. OB/waste proposed to dump separately	No top soil and Mineral Reject generation. Separate dumping of the waste	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 dumping proposed after full extraction of mineral from Stopes	Waste dumping/backfilling observed in stope out area	None
5b	Area under backfilling of mined out area	12,240 m3	12,240 m3	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposal of top soil generation	No top soil generation	No fresh area has been excavated being an UG mine.
5d	Total area fully reclaimed and rehabilitated	No proposal of full reclamation and rehabilitation	Not applicable as no proposal	None
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Backfilling or dumping proposed after full extraction of mineral from Stopes	Waste dumping/backfilling observed in stope out area	UG stoped out area utilized for waste dumping/backfilling

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	At the time of inspection report for the year 2022-23 was not submitted as the last date for submission is 30th June.	None
6b	Area available for rehabilitation (ha) .	No proposal of rehabilitation	Not applicable as there was no proposal	None
6c	afforestation done (ha).	0.20	0.20	None
6d	No. of saplings planted during the year	600	600	200 inside lease & 400 out side lease
6e	Cumulative no .of plants	No specific proposal given in this reagrd	11,160	6536 within lease & 4624 outside
6f	Any other method of rehabilitation	No proposal other than plantation	Not applicable as there was no proposal	None
6g	Cost incurred on watch and care during the year	No specific proposal given in this reagrd	Rs 2,26,803/-	As repored during mine inspection
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	34x6x60	34x6x60	None
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	U/G voids by 34726 m3	U/G voids filled with 16123 m3	Due to less genreation of waste because of less development
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	No proposal	Being U/G mine not applicable	None
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No Proposal	Being U/G mine not applicable	None

6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No Proposal	Being U/G mine not applicable	None
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	No proposal	Not applicable as there was no proposal	None
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No Proposal	Nt applicable as there was no proposal	None
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No proposal	Not applicable as there was no proposal	None
6p	Compliance of environmental monitoring (core zone and buffer zone)	Proposed for regular monitoring of Air, water, Noise & Vibrations	Regular monitoring of Air, water, Noise & Vibrations is being done	None
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Total of 600 number saplings have been proposed to plant within & outside lease area	Total of 600 number saplings have been planted during the year out of which 200 inside lease & 400 out side lease	No issue observed related to PMCP compliances

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	No grade wise sorting. ROM after crushing and screening proposed to process in existing beneficiation plant of the company	ROM is being beneficiated in beneficiation plant of the company	Beneficiation plant located in Khetri lease area of the company

7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	No proposal for grade wise sorting.	No grade wise sorting. ROM is being processed at captive beneficiation plant of the company	None
7c	Different grade of mineral sorted out at mines.	No proposal	Not applicable. All ROM mineral is processed in the beneficiation plant located at Khetri Copper Complex.	None
7d	Any beneficiation process at mines .	Beneficiation plant having milling capacity of 200000 tons per month is existing in lease area	ROM from both the lease namely Khetri and Kolihan is being treated at existing beneficiation plant of the company	Beneficiation plant located in Khetri Copper Complex of the company
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	ROM proposed to treat at existing beneficiation plant at Khetri Copper Complex	ROM is being treated at Khetri beneficiation plant of the company	No issue observed related 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	No top soil has been generated	None
8b	Concurrent use or storage of topsoil	No proposal of use or storage of soil	Not applicable as no proposal of top soil generation	Being U/G mine, there is no top soil generation
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping of UG waste/OB has been proposed. No proposal for reject and fines generation	UG Waste/OB has been dumped separately. No reject and fines generation	There are 03 active & 05 dead dumps
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Proposal for ise of waste rock for partial filling of mined out stopes	16123 m3 of mined out stope area filled by waste.	None

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposal	Not applicable as there was no proposal	None
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Proposed for plantation of 600 numbers of saplings within and outside lease area	600 numbers of saplings planted within and outside lease area	None
8g	Survival rate	No specific proposal	45% within lease area and 50% outside lease area	As informed during inspection
8h	Water sprinkling on roads to control airborne dust	Proposed for Water sprinkling to control airborne dust	Water sprinkling observed	None
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Total 600 nos of saplings proposed to plant	Total 600 nos of sapling planted	The general aesthetic beauty is satisfactory in and around mine area

Compliance of Rule 45:

Sl.No.	Item	Proposals	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 return upto May 23 and annual returns for 2021-22 have been submitted.	At the time of inspection the AR for 2022-23 was submitted as the date for submission was upto 30th June
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Information on Mining Engineer and Geologist has been furnished	Mining Engineer and Geologist has been appointed	Scrutiny of AR 2021-22

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Covered under current (O/C): 0.032, Used for waste disposal =14.690, Infrastructure : 38.308, Other purpose=3.20	The information furnished on land use appears in order	Scrutiny of AR 2021-22
9d	Scrutiny of Annual return on afforestation	200 no in Lease area & 400 no outside lease area	Found in Order	Scrutiny of AR 2021-22
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	No mineral reject generation during RY	Found in Order	Scrutiny of AR 2021-22
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Closing Stock- 3433.00 tons	The information furnished appears in order	Scrutiny of AR 2021-22
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex mine price and Cost of production: Rs 2777.23 per ton	Information on cost of production and Ex-mine price has been furnished	Scrutiny of AR 2021-22
9h	Scrutiny of Annual return on fixed assets	Value of Fixed Assets: Rs. 178147720	Information on fixed asset has been furnished and appears in order	Scrutiny of AR 2021-22

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)	06-JUL-23	16-OCT-23			
MCDR17	Rule 31(4)	06-JUL-23	16-OCT-23			

Date :

(Dr A Z Khan)

Indian Bureau of Mines