

**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 : **P022** ) **PANKAJ KULSHRESTHA**  
Officer and ID No.
- (ii) Designation : Assistant Controller Mine
- (iii) Accompanying mine : Sh. S K Purohit, Mine Manager, Shri Nagesh Kumar Rajp  
Official with  
Designation
- (iv) Date of Inspection : 13/01/2023
- (v) Prev.inspection date : 24/06/2022

**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 : 15/10/1963
- (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 : 31/03/2040
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/ : 04/08/2020  
 Termination date

Mining Engineer  
 Name : Shri S K Purohit, Full Time  
 Qualification : BE (Mining)  
 Appointment/ : 07/11/2012                      04/08/2020  
 Termination date

Geologist  
 Name : Shri Nagesh Kumar Rajpurohit, Full Time  
 Qualification : MSc(Geology)  
 Appointment/ : 08/04/2014  
 Termination date

Manager  
 Name : Shri S. K. Purohit  
 Qualification : BE Mining & FCC(U/R)  
 Appointment/ : 02/07/2020  
 Termination date

Manager  
 Name : Ghanshyam Das Gupta  
 Qualification : B. Tech (Mining)  
 Appointment/ : 06/04/2018                      02/07/2020  
 Termination date

6. Date of approval of Mining : Existing rule 11 MCDR1988                      19/01/1995  
 Plan/Scheme of Mining                      Existing rule 11 MCDR1988                      30/07/2004  
    Mining Scheme rule 12 MCDR1988                      22/10/2008

Modif.approved Mining Scheme	17/08/2012
Renewal under rule 24 MCR1960	20/11/2012
MP review under 17(1) MCR 2016	28/11/2017
MP review under 17(1) MCR 2016	22/01/2020

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

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Proposal for 2021-22:4800 m No. of BH-56	Actual for 2021-22: 3640.50 m No. of BH-37	Drilling decreased by 24% during the F.Y. 2021-22 due to shortage of spares for executing work in underground mines on account of Non-Availability in the market because of COVID-19.
1b	Exploration over lease area for geological axis 1 or 2	Exploration Programme for Geological axis G1 during F.Y. 2021-22: 5900 to 6000 Lat. 180 to 120 mRL, 5800 to 5850 Lat. 120 to 60mRL, 2950 to 2890 Lat. 120 to 60mRL, 3310 to 3250 Lat. 60 to 0mRL	Exploration Programme for Geological axis G1 during F.Y. 2021-22: 5700 to 5750 Lat. 180 to 120 mRL (S-26 & S-27), 5625 to 5700 Lat. 120 to 60mRL (S-21,22,23 &24), 3040 to 2950 Lat. 120 to 60mRL, 3370 to 3310 Lat. 60 to 0mRL	Backlog in Exploration activities due to spread of the COVID-19 and shortage of machinery spares & Skilled Manpower.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	SMS Limited 64.22 Lakh & Asha Engineering Works Rs. 52.32 Lacs (Excluding Taxes)	SMS Limited 65.25 Lakh & Asha Engineering Works Rs. 26.21 Lacs (Excluding Taxes)	Both the drilling agencies SMS & Asha Engineering Works are deployed for exploration.

1d	Balance area to be explored to bring Geological axis in 1 or 2	Balance area to be explore for Geological axis G1 5750 to 6100 Lat. 180 to 120 mRL, 5700 to 5950 Lat. 120 to 60mRL, 5750 to 5850 Lat. 60 to 0mRL, 2950 to 2800 Lat. 120 to 60mRL, 3310 to 3460 Lat. 0 to (-) 60mRL	Balance area are going to explore in current F.Y.2022-23 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	48.16 MT x 1.41%	Balance ore reserve estimated on 01.04.2022 are 48.16 million tones at 1.41 Cu%, between Lat. 1960 and 6000 of Khetri Copper Mine.
1f	General remarks of inspecting officers on geology, exploration etc	NA	The status of geology and exploration may be considered as satisfactory.

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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	180mRL- 120 m 120mRL- 1300 m 60mRL-3020 m 0mRL-1710 m (-)60mRL-600 m Others- 430 m Total-7180 m	180mRL-24.2m 120mRL- 367.27m 60mRL-1660.2m 0mRL-1539.76m (-)60mRL-0 m Others- 0 m Total-3591.43m	Proposed Development in F.Y. 2021-2022 is total 7180m and the actual development in current F.Y. 2021-2022 is total 3591.43m Less development due to shortage of contractor's Hopper Loader, Spare part and supervisory staff.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	NA	NA	

2c	Stripping ratio or ore to OB ratio	NA	NA	
2d	Quantity of topsoil generation in m3	NA	NA	
2e	Quantity of overburden generation in m3	49245 m3	23813 m3	Overburden generation at the surface is nil as it is underground mining operation. The waste material is generating only from UG mine development and stope preparation
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	NA	The status of development may be considered as satisfactory.	

### Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Total no. of Proposed Stopes 18 Nos. in the F.Y. 2021-22	Total no. of running Stopes 15 Nos. in the F.Y. 2021-22 present running stopes 07 Nos	Less numbers of running stopes due to backlog in mine development & stopping permission were not available
3b	Quantity of ROM mineral production proposed	1080000 Tonnes	687873Tonnes	Less ore production reason is contractor's production & development ore shortage due to Manpower Shortage, Trackline Repairing, Loading & Hauling Equipment breakdown etc.
3c	Recovery of sailable/usable mineral from ROM production	NA	The recovery may be considered as 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	18,00,000 t. There is no proposal of mineral reject, however milling of ROM from both the Khetri and Kolihan Mines generate the tailing.	11,18,500 t.
3e	Grade of mineral rejects generation and threshold value declared.	0.10	0.12. The metal recovery is 90% in the concentrate. The mineral rejects from the concentrator plant is disposed at tailing dam.
3f	Quantity of sub grade mineral generation.	NA	No subgrade mineral generation in mine.
3g	Grade of sub grade mineral generation	NA	NA
3h	Manual / Mechanised method adopted for segregating from ROM	NA	The ROM material from underground mine mine is treated in the Concentrator Plant for milling and tailing from the ore beneficiation plant are pumped to tailing dam after thickening to more than 55% solids.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	NA	There is no proposal of mineral reject, however milling of ROM generate the tailing.
3j	Provision of drilling and blasting in mineral benches	Production Drilling: Dia :57mm, 115 mm, 165 mm drilling Development Drilling: Dia: 33mm, 54mm Blasting: PowderFactor: in ore development: 3.57 kg/m3, in Stope: 1.25 kg/m3	Production Drilling: Dia :57mm, 115 mm, 165 mm drilling Development Drilling: Dia: 33mm, 54mm Blasting: PowderFactor: in ore development: 4.08 kg/m3, in Stope: 1.32 kg/m3

3k	Provision of mining machineries in mineral benches	Jackhammer, Drifters, Large Dia drilling machine, Jumbo drill, LHD, LPDT, Locomotive Rocker Shovel etc.	Jackhammer, Drifters, Large Dia drilling machine, Jumbo drill LHD, LPDT, Locomotive Rocker Shovel etc.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	NA	NA, Underground Mine.
3m	Total area covered under excavation/pits	0.0323 Hect	Total 0.0323 Hect. area is put to use under opening of service & production shafts and decline.
3n	Ore to OB ratio for the pit/mine during the year.	NA	NA
3o	Total area put in use under different heads at the end of year	56.23Hect	56.23Hect
3p	Production of ROM mineral during the last five year period as applicable	2017-18 : 1000000 2018-19 : 908000 2019-20 : 908000 2020-21 : 1080000 2021-22 : 1080000	2017-18 : 580107 2018-19 : 778321 2019-20 : 680005 2020-21 : 538463 2021-22 : 687873
3q	General remarks of inspecting officers on method of mining etc.	NA	The overall status of method of mining may be considered as satisfactory.

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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)	No top soil generation is proposed for the F.Y. 2021-22, The proposed waste material generation from UG is to be dump in underground- 28916 m3 At surface- 20329 m3	The waste material is dumped in underground- 21292 m3 At surface- 2521 m3
4b	Location of topsoil, OB and mineral reject dumps	At Surface: 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 material from the underground mine is dumped as proposed locations on the surface as well as in the underground mines.
4c	Number of dumps within lease area and outside of lease area	8 Nos.	Total 08 Numbers of Waste Dumps no. 1 to 8 on surface within Mining leases area.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	NA	NA
4e	Number of active and alive dumps.	3 Nos.	Total 05 Numbers of Waste Dumps no. 5 to 7 on surface are active dumps.
4f	Number of dead dumps.	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.	NA	NA
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes	Yes

4i	Length of Retaining wall or garland drain all along dumps	NA	1364m retaining wall exist
4j	Number of settling ponds	One	One
4k	Specific comments of inspecting officer on waste dump management	NA	The overall status of waste dump management may be considered as satisfactory.

#### 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 is not done;method is open stoping	Backfilling is not done;method is open stoping	
5b	Area under backfilling of mined out area	Backfilling is not done;method is open stoping	Backfilling is not done;method is open stoping	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	NA	Nil	
5d	Total area fully reclaimed and rehabilitated	NA	NA	
5e	General remarks of inspecting officers on backfilling and reclamation etc.	NA	Backfilling is not done as the method adopted is open stoping.	

#### 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).	Yes	Annual report on PMCP is submitted via mail on 10/06/2022 .	

6b	Area available for rehabilitation (ha) .	NA	NA
6c	afforestation done (ha).	0.20 Hects.	0.20 Hects.
6d	No. of saplings planted during the year	600 Nos.	600 Nos. of saplings.
6e	Cumulative no .of plants	NA	10550 Nos. of saplings.
6f	Any other method of rehabilitation	NA	NA
6g	Cost incurred on watch and care during the year	NA	Exact amount not available .
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	NA	NA
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	28916m3	21292 m3
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	NA	NA
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	NA	NA
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	NA	NA

6m	Compliance of rehabilitation of waste land within lease (i)afforestation	NA	NA
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	NA	NA
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	NA	NA
6p	Compliance of environmental monitoring (core zone and buffer zone)	Yes	Yes, monitoring is being done for core and buffer zone.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	NA	The overall status of PMCP compliance may be considered as 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	All ROM to be processed in concentrator plant	All ROM mineral is processed in concentrator plant.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical	Mechanical	
7c	Different grade of mineral sorted out at mines.	No	No	
7d	Any beneficiation process at mines .	NA	Ore material is treated in the Concentrator Plant for milling and plant capacity of 2,00,000 tonnes of copper ore per month.	

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7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	NA	The overall status of mineral conservation and beneficiation may be considered as satisfactory.
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## Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	NA	NA due to Underground Mine.	
8b	Concurrent use or storage of topsoil	NA	NA	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	08 Nos.	08 Nos.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	NA	NA	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	NA	NA	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	600 Nos,	600 Nos, in and around mine site.	
8g	Survival rate	Yes	Exact survival rate not available.	

8h	Water sprinkling on roads to control airborne dust	Yes	Yes, water is sprinkled on roads to control airborne dust.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	NA	The over all status of aesthetic beauty in and around mines area i.e. stock pile area and ore transfer points may be considered as satisfactory.

#### Compliance of Rule 45:

Sl.No.	Item	Proposals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Yes, in time submission.	MR And A.R. Submitted in time for F.Y. 2021-22 . AR submitted on 30.06.2022	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer: Shri N.S.Jangde, Geologist: Shri Nagesh Kumar Rajpurohit and Manager: Shri S.K.Purohit	Mining Engineer: Shri N.S.Jangde, Geologist: Shri Nagesh Kumar Rajpurohit and Manager: Shri S.K.Purohit	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Surface area used for waste disposal =14.690 Hect, Occupied by plant, buildings, residential, welfare buildings & roads=38.308 Hect, Mining Purpose= 0.0323, Other purpose=3.20 Hect	Surface area used for waste disposal =14.690 Hect, Occupied by plant, buildings, residential, welfare buildings & roads=38.308 Hect, Mining Purpose= 0.0323, Other purpose=3.20 Hect	
9d	Scrutiny of Annual return on afforestation	Number of trees planted during the year 2021-22 (i) with in lease area=500 (ii) Outside lease= 100	Number of trees planted during the year 2021-22 (i) with in lease area=500 (ii) Outside lease= 100	

9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	NA	NA
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Closing stock as on 31.03.2022 quantity = 3433 tonnes at 0.882% Cu	Closing stock as on 31.03.2022 quantity = 3433 tonnes at 0.882% Cu
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex-mine price of the copper ore produced during F.Y.2021-22= 2777.23 Rupees/tonnes	Ex-mine price of the copper ore produced during F.Y.2021-22= 2777.23 Rupees/tonnes. Cost of Production is 2777.23 cost per tones (in Rupees) F.Y.2021-22
9h	Scrutiny of Annual return on fixed assets	Value of Fixed Assets F.Y.2021-22(in Rupees) =178147720/-	Value of Fixed Assets F.Y.2021-22(in Rupees) =178147720/-
9k	Scrutiny of Annual return on mining machineries	Total numbers of 13 air compressors, 10 production drilling machines, 02 Conveyors, 19 Cranes, 01 Crusher, 06 Dumpers, 59 Electric motor, 36 rock drills, 25 rocker shovels, 01 Truck, 02 explosive vans, 44 ventilation fans and 03 winding engines are being used in opencast & underground mine operation.	Presently there are total numbers of 13 air compressors, 10 production drilling machines, 02 Conveyors, 19 Cranes, 01 Crusher, 06 Dumpers, 59 Electric motor, 36 rock drills, 25 rocker shovels, 01 Truck, 02 explosive vans, 44 ventilation fans and 03 winding engines are being used in opencast & underground mine operation.

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**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 :**

(PANKAJ KULSHRESTHA)

Indian Bureau of Mines