

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

MCDR INSPECTION REPORT

Kolkata regional office

Mine file No : CAL/BH/SB/CU-3

Mine code : 14BHR27005

- (i) Name of the Inspecting : **E025**) **NAMAN EKKA**
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : Mr. Amit Sarkar, AGM, Geology and Shri Parvez Alam, M
Official with
Designation
- (iv) Date of Inspection : 14/12/2017
- (v) Prev.inspection date : 20/02/2014

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **SURDA**
- (b) **Registration NO.** :
- (c) Category : A Mechanised
- (d) Type of Working : Underground
- (e) Postal address
State : JHARKHAND
District : SINGHBHUM (EAST)
Village : SURDA & MOSABANI
Taluka : GHATSILA
Post office : SURDA-MOSABANI
Pin Code : 832104
FAX No. : 06585-225806
E-mail : hclicc@sify.com/ hcliccmat@
Phone : 06585-225878/225862
- (f) Police Station :
- (g) First opening date : 01/01/1956
- (h) Weekly day of rest : SUN
2. Address for : PO: MOSABONI .
correspondance : DIST: EAST SINGHBHUM .
JHARKHAND .
3. (a) Lease Number : JHK0025
(b) Lease area : 388.68
(c) Period of lease : 10
(d) Date of Expiry : 15/03/2014
4. Mineral worked : COPPER ORE Main

5. Name and Address of the

Lessee : HINDUSTHAN COPPER LTD.
 1,ASHUTOSH CHOUDHURY AVENUE
 TAMRA BHAWAN KOLKATA-700019
 KOLKATA WEST BENGAL
 Phone:033-2283-2832/2529
 FAX :033-2283-2623

Owner : SETH PURTI
 INDIAN COPPER COMPLEX, P.O.
 GHATSIL A, DIST. SINGHBHUM,
 EAST, JHARKHAND 832 303
 RANCHI JHARKHAND
 Phone: 06585-225878
 FAX : 06585-225806

Agent : S.S. SETHI
 Indian Copper
 Complex,Ghatsila, Distt.-
 Singhbhum(East) Jharkhand-
 832303 SINGHBHUM (EAST)
 JHARKHAND
 Phone: 9162627105
 FAX :

| | | | |
|-------------------------------|---|--------------------------------|------------|
| 6. Date of approval of Mining | : | Renewal under rule 24 MCR1960 | 04/10/2007 |
| Plan/Scheme of Mining | : | Mining Scheme rule 12 MCDR1988 | 21/01/2013 |

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

| Sl.No. | Item | Proposals | Actual work | Remarks |
|--------|---------------------------------------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 1a | Backlog of previous year | NO PROPOSAL FOR EXPOLRATION IN PREVIOUS YEAR | NO EXPLORATION WORK DONE IN PREVIOUS YEAR AS REPORTED. | |
| 1b | Exploration over lease area for geological axis 1 or 2 | No proposal | The area was explored by Cape Copper Company in early 1930 by opening adit. Indian Copper Corporation started a Systematic Prospecting in the area from year 1955. Since then a total of 91 surface bore holes totalling of 29393.96m and 3058 nos. UG BH's totelling 50,953 m ha sbeen drilled till date. The deepest Surface BH's in the area drille is upto 1035 m with inclination of 52 Deg. | |
| 1c | Exploration Agencies and Expenditure in lakh rupees during the year | No proposal. | No BH drilled in 2016-17. | |
| 1d | Balance area to be explored to bring Geological axis in 1 or 2 | No Proposal | Area Explored in G1 - 60.0 Ha Area Explored in G2 - 48.0 Ha. | |

| | | | |
|----|-----------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1e | Balance reserve as on 01/04/20 | No proposal | Sl. No. Reserve Category(as per UNFC) Qty (in tones) Grade (cu%) 1 Proved Mineral Reserve (111) 1192010 1.08 2 Probable Mineral Reserve (122) 1746572 1.03 3 Feasibility Mineral Resource (211) 7020389 1.02 4 Pre-feasibility- Mineral Resource (222) 1441572 1.17 5 Measured Mineral Resource (331) 3819621 1.26 6 Indicated Mineral Resource (332) 6978014 0.99 7 Inferred Mineral Resource (333) 6770587 0.95 |
|----|-----------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| | | |
|----|--------------------------------------------------------------------------------|-------------|
| 1f | General remarks of inspecting officers on geology, exploration etc | No Proposal |
|----|--------------------------------------------------------------------------------|-------------|

The area was explored by Cape Copper Company in early 1930 by opening adit. Indian Copper Corporation started a Systematic Prospecting in the area from year 1955. Since then a total of 91 surface bore holes totalling of 29393.96m and 3058 nos. UG BH's totalling 50,953 m ha sbeen drilled till date. The deepest Surface BH's in the area drille is upto 1035 m with inclination of 52 Deg. Area Explored in G1 - 60.0 Ha, Area Explored in G2 - 48.0 Ha.

Development :

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| 2a | Location of development w.r.t.lease area | In 2016-17 - 8th Level to 14th Level in HW & FW of the Stopes were Proposed. Raises inbetween 6th Level to 12th Level were also proposed. | During the time of inspection Stopes and Raisses were in development Stage, incidental ore was also reported during the development stages. | |
| 2b | Separate benches in topsoil, overburden and minerals (Rule 15) | No proposal | No work Done | |
| 2d | Quantity of topsoil generation in m3 | No Proposal | The Mine being UG Mine no Topsoil generation reported. | |
| 2e | Quantity of overburden generation in m3 | No Proposal | The Mine being UG Mine no Overburden generation reported. | |
| 2f | General remarks of inspecting officers on development of pit w.r.t. type of deposit etc | | | The Mine is an UG mine and has been developed over a strike length of 2.2 Km and a depth of 474m i.,e upto 13th level. |

Exploitation:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------------|---------|
| 3a | Number of pit proposed for production | 7 Stopes were proposed for production. | Production has been made from these 7 Stopes. | |
| 3b | Quantity of ROM mineral production proposed | In 2016-17 - 471285 tons of 0.95 Grade. | In 2016-17 - 210506 tones of aprox. 0.90 grade of Copper ore has been reported to be produced. | |
| 3c | Recovery of sailable/usable mineral from ROM production | No proposal | None was reported during inspection. | |
| 3d | Quantity of mineral reject generation | No proposal | No Minerals Reject generation Reported during Inspection. | |

| | | | |
|----|------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 3e | Grade of mineral rejects generation and threshold value declared. | No Propoal for minerals rejects. | No mineral Rejects generated. |
| 3f | Quantity of sub grade mineral generation. | No proposal | No Subgrade Generation reported. |
| 3g | Grade of sub grade mineral generation | No proposal | No subgrade Generation Reported. |
| 3h | Manual / Mechanised method adopted for segregating from ROM | No proposal | Mechanised method adoped for segeration of ROM. |
| 3i | Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects. | No Proposal | NO analysis or beneficiation study carried out for subgrade minerals and rejects. |
| 3j | Provision of drilling and blasting in mineral benches | Drilling & Blasting within the Stopes are proposed | Drilling & Blasting within the Stopes done. |
| 3k | Provision of mining machineries in mineral benches | Proposal for Mining Machineries in the Stopes. | Mining Machineries in the Stopes present during inspection. |
| 3l | Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM | No proposal | No work Done. |
| 3m | Total area covered under excavation/pits | No proposal | The Mine beinga UG Mine. |
| 3n | Ore to OB ratio for the pit/mine during the year. | No OB Generation Proposed | The Mine being a UG Mine |
| 3q | General remarks of inspecting officers on method of mining etc. | | The mine is a Underground mine and the ore is being mined out from the different stopes as proposed in the approved mining plan. |

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, OB, mineral rejects. | No mineral rejects as such. | |
| 4b | Location of topsoil, OB and mineral reject dumps | Not proposed. | Not proposed. | |
| 4c | Number of dumps within lease area and outside of lease area | There is no waste dump as such. | Not applicable | |
| 4d | Location of dumps w.r.t. ultimate pit limit (Rule 16) | The u/g workings are related to the ore body and the surface structures are protected and planning will be made accordingly. | Yes, as per the approved document regarding the propuction & development plan and sections will be carried out in the respective blocks. | |
| 4e | Number of active and alive dumps. | No waste dump, | Not applicable | |
| 4f | Number of dead dumps. | NO dead dumps | Not applicable | |
| 4g | Number of dumps established. | No Dumps | Not Appliacble | |
| 4h | Whether Retaining wall or garland drain all along dumps are there. | NO proposal for dumps | Not applicable. | |
| 4i | Length of Retaining wall or garland drain all along dumps | Not applicable. | Not applicable. | |
| 4j | Number of settling ponds | No Proposal | Not applicable. | |
| 4k | Specific comments of inspecting officer on waste dump management | | | No proposal for waste dump & their management. |

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. | No proposals as such it is underground mine | Yes, the mine is working through shafts, winze, levels, stoping with open stoping and partly supported with the pillars in between | |
| 5b | Area under backfilling of mined out area | Not proposed | No back filling as such in this mine, since the method of working and the proposal for open stoping does not require back filling as supports. | |
| 5c | Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32) | Not applicable, since this is an u/g mine. | Not applicable | |
| 5d | Total area fully reclaimed and rehabilitated | Not applicable | The mine is u/g method, open stoping, with pillar supports and such reclamation & rehabilitations. | |
| 5e | General remarks of inspecting officers on backfilling and reclamation etc. | | | Purely underground mine, hence such activities are not practiced. |

Progressive Mine Clousre Plan:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------|---------|
| 6b | Area available for rehabilitation (ha) . | No proposal made inthe approved document, since it is a u/g mine. | No rehabilitation possible in this u/g mine. | |
| 6c | afforestation done (ha). | 2.60 Ha. | 2.60 Ha. | |
| 6d | No. of saplings planted during the year | 500 | 500 | |
| 6e | Cumulative no .of plants | Replacement of dead saplings in green belt of 18.79 ha. | Replacement of dead saplings in green belt of 18.79 ha. | |

| | | | |
|----|------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------|
| 6f | Any other method of rehabilitation | No other proposals | Not Applicable |
| 6g | Cost incurred on watch and care during the year | Not proposed | Not reported. |
| 6h | Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D | Not proposed | No such reclamation & rehabilitation by back filling |
| 6i | Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings | Not proposed | Not applicable |
| 6j | Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area | Not proposed as such. | No proposals made. |
| 6k | Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir | No proposals made. | No work undertaken. |
| 6l | Compliance on reclamation and rehabilitation by backfilling (v)any other specific means. | No such proposals. | No such proposals. |
| 6m | Compliance of rehabilitation of waste land within lease (i)afforestation | No proposals | Whatever the land available near by the office, residential areas are used and developed for making aesthetic beauty. |
| 6n | Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha) | No proposals | Not Applicable |

| | | | | |
|----|---------------------------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| 6o | Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation | No proposals. | No work as such. | |
| 6p | Compliance of environmental monitoring (core zone and buffer zone) | Yes proposal are made in the approved document | The Environmental Monitoring work is being carried out in core zone and buffer zone of the mine | The report is yet to be submitted by the lessee company. |
| 6q | General remarks of inspecting officers on PMCP compliance and progressive closure operations etc. | | | This is an u/g mine and the PMCP work is possible in the later period. |

Mineral Conservation:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 7a | ROM Mineral dispatch or grade-wise sorting within lease area | All the ROM produced from the mine is need to be transported to the Common Beneficiation plant | Yes, as per the proposals, the ROM are sent to the common Beneficiation plant for extraction of Copper metal from the ROM. | |
| 7b | Method of grade-wise mineral sorting i.e. manual or mechanical. | No sorting in the mine underground, whatever the ROM from the different stopes are sent to the Beneficiation plant for crushing and for other process | Directly the ROM is sent for crushing and follwed with other process to extract the Copper metal. No any manual or mechanical sorting is under taken as such. | |
| 7c | Different grade of mineral sorted out at mines. | Not proposed | Not proposed, whatever the ROM produced are sent to the Beneficiation plant, segrgating the ROM & waste at the bottom. | |

| | | | | |
|----|----------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 7d | Any beneficiation process at mines . | No beneficiation process available at mines site. | Common Beneficiation plant available at Mosabani ML area, belongs to the common lessee company. | |
| 7e | General remarks of inspecting officer on Mineral conservation and beneficiation issues | | | Precaution is taken care by the company to avoid any loss of ores in the planning part tself. |

Environment:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|-------------------------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|---------|
| 8a | Separate removal and utilization of topsoil (Rule 32) | No proposals | The mine is operating in u/g method, no any such excvation, execept at the initial stage of the mine opening. | |
| 8b | Concurrent use or storage of topsoil | No proposals | Not Applicable | |
| 8c | Separate dumps for overburden, waste rock, rejects and fines (Rule 33) | Yes proposals given for OB, waste rock, fines. | Whatever the materials that are operating inside the mine, which are hoisted to the surface and kept & used accordingly. | |
| 8d | Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use | Not proposed. | If at all any such situation arises, which will be kept in the respective places. | |
| 8e | Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc) | Not as such proposals. | It is a u/g mine, no such activiities are present in the mine, if at all anything comes will be taken care. | |

| | | | | |
|----|------------------------------------------------------------------------------------------|---------------|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| 8f | Baseline information on existence of plantation and additional plantation done (Rule 41) | No proposals. | | The ML area presently workings reveals very thin vegetations, and the company taking care to plant in the acquired area as indicated above. |
| 8g | Survival rate | No proposals. | 70 % | |
| 8h | Water sprinkling on roads to control airborne dust | Yes proposed | Yes water sprinkling is being done regularly | |
| 8i | General remarks of inspecting officer on aesthetic beauty in and around mines area | | | Taking care to maintain the aesthetic beauty, still additional effort is required. |

Compliance of Rule 45:

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

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 :

(NAMAN EKKA)

Indian Bureau of Mines