

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

Mining Plan Modification REPORT

Ranchi regional office

Mine file No : BIH/LOH/BX/245/RR0

Mine code : 07JHK12007

- (i) Name of the Inspecting : **K001**) **B.L. KISKU**
Officer and ID No.
- (ii) Designation : Assistant Mining Engineer
- (iii) Accompanying mine : Shri SHIL PRAKASH JHA, Mines Manager
Official with
Designation
- (iv) Date of Inspection : 08/04/2022
- (v) Prev.inspection date : 07/10/2015

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **PAKHAR(115.13HCT[134.33])**
- (b) **Registration NO.** : **IBM/935/2011**
- (c) **Category** : A Fully Mechanised
- (d) **Type of Working** : Opencast
- (e) **Postal address**
- State : JHARKHAND
- District : LOHARDAGA
- Village : PAKHAR
- Taluka : KISK0
- Post office : NARI NAWADIH
- Pin Code :
- FAX No. : 06526-224118
- E-mail : N.A.
- Phone : 06526-224112, 224015, 22311
- (f) **Police Station** : KISK0
- (g) **First opening date** : 23/04/1996
- (h) **Weekly day of rest** : FRI
2. **Address for correspondance** : VILL.- PAKHAR,
P.O.- KISK0 - 835302, DISTT.- LOHARDAGA,
JHARKHAND
3. (a) **Lease Number** : BHR0267
- (b) **Lease area** : 115.08
- (c) **Period of lease** : 50
- (d) **Date of Expiry** : 31/03/2030
4. **Mineral worked** : BAUXITE Main

5. Name and Address of the

Lessee : M/S HINDALCO INDUSTRIES LTD.
 AT - COURT ROAD,
 LOHARDAGA, LOHARDAGA
 JHARKHAND
 Phone:06526-22401112, 224446 & 224016.
 FAX :06526-224112 & 224445

Owner : A.K. AGRAWAL
 M/s HINDAL INDUSTRIES Ltd.,
 PO - RENUKOOT, UTTAR
 PRADESH- 231217 SONBHADRA
 UTTAR PRADESH
 Phone: 05446-252084, 2
 FAX : 05446-252107

Agent : B.K.JHA
 M/s HINDALCO INDUSTRIES
 Ltd. COURT ROAD PO& DIST -
 LOHARDAGA (JHK) LOHARDAGA
 JHARKHAND
 Phone: Mob- 941708929, 06526-224112/224015
 FAX : 06526-224118

Mining Engineer
 Name : Shil Prakash Jha, Full Time
 Qualification : B.Thech (Mining)
 Appointment/ : 01/07/2020
 Termination date

Geologist
 Name : SRI TATHAGATA DAS, Full Time
 Qualification : M.Sc (GEOLOGY)
 Appointment/ : 22/05/2018 02/12/2018
 Termination date

Geologist
 Name : CHANDAN KUMAR, Full Time
 Qualification : MSc(Geo)
 Appointment/ : 03/12/2018
 Termination date

6. Date of approval of Mining	:	Existing rule 11 MCDR1988	13/01/1994
Plan/Scheme of Mining	:	Renewal under rule 24 MCR1960	18/12/1995
	:	Mining Scheme rule 12 MCDR1988	31/01/2001
	:	Mining Scheme rule 12 MCDR1988	08/09/2006
	:	Modif.approved Mining Scheme	26/04/2007
	:	Modif.of approved Mining Plan	31/08/2010
	:	Mining Scheme rule 12 MCDR1988	31/08/2010
	:	Modif.approved Mining Scheme	30/06/2011
	:	MP modif under MCR 1960	26/02/2016
	:	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	120 nos.	81 nos.	During 2019-20: 81 Nos. of BHS done.
1b	Exploration over lease area for geological axis 1 or 2	G1	G1	During 2019-20: Exploration for G1 level carried out in the area.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	N.A.	Southwest Pinnacle Exploration Limited.	Expenditure incurred: Rs. 35,43,540/-
1d	Balance area to be explored to bring Geological axis in 1 or 2	N.A.	N.A.	NIL.
1e	Balance reserve as on 01/04/20	N.A.	111 - 3200151 MT 211 - 822360 MT.	N.A.
1f	General remarks of inspecting officers on geology, exploration etc	N.A.	N.A.	During the 2019-20, 81 nos. of BHS explored.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
2a	Location of development w.r.t.lease area	E 256614.105 - N 2606452.881 E 254663.801 - N 2605481.129	E 256614.105 - N 2606452.881	N.A.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Yes.	Yes. Top soil - 1 bench, O.B. - 1 bench & Ore - 1 bench.	Separate bench in Ore and O.B. is maintained.
2c	Stripping ratio or ore to OB ratio	1:0.35	1:2.01	N.A.
2d	Quantity of topsoil generation in m3	99688 cum.	80532 cum.	N.A.
2e	Quantity of overburden generation in m3	423217 m3	357483 m3	N.A.

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	N.A.	N.A.	Pit development work is not carried out as per approved Review of Mining Plan, therefore, Lessee submitted the modification in approved ROMP for approval.
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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	In Block A two pits - no. 6 & no. 7 and in Block B one pit - no. 4.	2 pits in two blocks.	Development work is not carried out as per approved Review of Mining Plan, therefore, Lessee submitted the modification in approved ROMP for approval.
3b	Quantity of ROM mineral production proposed	299127 MT	195000 MT	Production furnished 195000 MT in Annual Return 2021-22.
3c	Recovery of sailable/usable mineral from ROM production	70%	65.19%	Recovery is low.
3d	Quantity of mineral reject generation	35846 MT	35500 MT	Low grade ore i.e. Al ₂ O ₃ ≤ 30% & SiO ₂ ≥ 7% is blended with high grade ore i.e., Al ₂ O ₃ < 30% & SiO ₂ = < 5%.
3e	Grade of mineral rejects generation and threshold value declared.	Threshold value - Al ₂ O ₃ = < 28% & SiO ₂ = < 7%	Plant feed grade is Al ₂ O ₃ = 38% & SiO ₂ = (-) 5%.	Low grade ore is blended with high grade ore.
3f	Quantity of sub grade mineral generation.	Nil.	Nil.	Nil.
3g	Grade of sub grade mineral generation	Nil	Nil.	Nil.
3h	Manual / Mechanised method adopted for segregating from ROM	Manual.	Manual.	Sorting & sizing is done manually in the lease area.

3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No Sub-grade Generation.	All the excavated ore is dispatched after blending with high grade mineral.	All the excavated ore is dispatched after blending with high grade mineral.
3j	Provision of drilling and blasting in mineral benches	Yes. Spacing - 1.5m, Burden - 1m, Depth - 3.3 m for OB and mineral. Bench height- 3m. It is Proposed to drill by 34-38mm dia, Jack hammer drill. Blasting is done by using ANFO explosives.	Drilling & Blasting are done as per proposal.	Drilling & Blasting are done as per proposal.
3k	Provision of mining machineries in mineral benches	Yes.	Mining machineries deployed are given below: i) Shovel (Hydraulic) - 0.90 cum - 4 nos. (Non Electrical) ii) Dumper - 25.000 tonne - 12 nos. (Non Electrical) iii) Wheel Loader (2.30 cum) - 1no. (Non Electrical) iv) Water Tanker - 8000.00 Litre - 1 no. (Non Electrical) v) Air Compressor - 14.30 cum/min - 2 nos. (Non Electrical) vi) Rock Drill (Non Elec.) - 100.00 mm - 2 nos. (Non Electrical) vii) Pumps (Non Elec.) 350.00 L/min 2 nos. (Non Electrical)	N.A.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes.	Benches are as under:- i) Top soil bench = 1(one) - 1m, ii) O.B. bench = 1(one) - 4-6m, iii) Ore bench =1 (one) - 6m.	N.A.
3m	Total area covered under excavation/pits	21.70 ha.	Area under excavation- 20.87 hec.	Area under excavation-20.87 hec.

3n	Ore to OB ratio for the pit/mine during the year.	1:0.35 (Ore : O.B.)	1:2.01 (Ore : O.B.)	N.A.
3o	Total area put in use under different heads at the end of year	i) Quarries/Bench es=8.31 hecets. ii) Reclaimed area=18.66 hecets. iii) Pond = 2.49 ha. iv) Road = 1.08 ha. Total = 30.54 hecets.	(i) Already exploited & abandoned by opencast (O/C) mining - 44.76 hecets. (ii) Covered under current (O/C) Workings - 20.87 hecets. (iii) Reclaimed/Rehabilitated - 23.89 hecets. (iv) Used for waste disposal - Nil (v) Occupied by plant, buildings, etc. - 0.96 hecets. (vi) Other Purpose (if any)- Nil (vii) Work done under PMCP during the year - 2.57 hecets.	N.A.
3p	Production of ROM mineral during the last five year period as applicable	1) 2016-17 = 298752 MT, 2) 2017-18 = 299656 MT, 3) 2018-19 = 298335 MT, 4) 2019-20 = 298183 MT, 5) 2020-21 = 298453 MT.	i) 2016-17 = 282190 MT, ii) 2017-18 = 264508 MT, iii) 2018-19 = 294000 MT, iv) 2019-20 = 112200 MT, v) 2020-21 = 177500 MT.	Production of last two years were low due to Covid-19 Pandemic Lock down.
3q	General remarks of inspecting officers on method of mining etc.	N.A.	N.A.	Previous two years production were low due to Covid-19 Pandemic Lock down.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Soil & Morrum= 167657 cum, O.B.=399615 cum, Intercalated waste= 63780 cum.	Concurrent backfilling and reclamation is done using O.B./interburden. Top soil are stacked separately for spread over the reclaimed areas.	Concurrent backfilling and reclamation is adopted. Top soil are stacked separately for spread over the reclaimed areas.

4b	Location of topsoil, OB and mineral reject dumps	N.A.	N.A.	Concurrent backfilling/reclamation is done. Top soil are stacked separately for spread over the reclaimed areas.
4c	Number of dumps within lease area and outside of lease area	N.A.	NIL.	Mined out ore are transported to Railway siding at Lohardaga. O.B. are used for concurrent backfilling of void. Top soil are stacked separately for spread over the reclaimed areas.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	N.A.	N.A.	N.A.
4e	Number of active and alive dumps.	N.A.	N.A.	N.A.
4f	Number of dead dumps.	N.A.	NIL.	N.A.
4g	Number of dumps established.	N.A.	NIL.	N.A.
4h	Whether Retaining wall or garland drain all along dumps are there.	N.A.	N.A.	N.A.
4i	Length of Retaining wall or garland drain all along dumps	N.A.	N.A.	N.A.
4j	Number of settling ponds	N.A.	N.A.	N.A.
4k	Specific comments of inspecting officer on waste dump management	N.A.	N.A.	O.B./Waste are used for concurrent backfilling of void.

Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
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5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	Full extraction of mineral from mined out area before starting backfilling.	Before starting backfilling complete extraction of mineral are ensured.	Before starting backfilling complete extraction of mineral are ensured.
5b	Area under backfilling of mined out area	4.20 hecets.	1.36 hecets.	Due to Covid-19 Pandemic lock down, less mining work done.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Top soil to be spread over backfilled/reclaimed areas.	Top soil stacked separately and simultaneously spread over backfilled/reclaimed areas for plantation.	Top soil stacked separately and simultaneously spread over backfilled/reclaimed areas for plantation.
5d	Total area fully reclaimed and rehabilitated	18.66 hecets.	21.32 hecets.	N.A.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	N.A.	N.A.	Simutaneous backfilling and reclamation are practiced.

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).	N.A.	Yes.	Annual Return for 2021-22 submitted within time.
6b	Area available for rehabilitation (ha) .	N.A.	23.89 hecets.	Simultaneous backfilling & reclamation and rehabilitation work are done.
6c	afforestation done (ha).	3040 saplings.	Within lease = 3950 saplings.	Cumulative 22880 saplings.
6d	No. of saplings planted during the year	3040 saplings.	3950 saplings.	Cumulative upto 2021-22= 22880 saplings.
6e	Cumulative no .of plants	Upto 2021-22: 15840 saplings.	22880 Saplings.	Cumulative upto 2021-22= 22880 saplings.

6f	Any other method of rehabilitation	N.A.	N.A.	As per villagers demand water reservoir has been made.
6g	Cost incurred on watch and care during the year	N.A.	Cost incurred Rs. 2388211.48/- (Including Plantation).	N.A.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L x B x D	4.20 ha.	1.36 ha.	N.A.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Simultaneous backfilling.	Voids simutaneously filled by O.B./waste.	Simultaneous backfilling of mined out areas.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	Yes.	Yes.	Backfilled/Reclaimed areas are rehabilitated by afforestation.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	N.A	Pond/Reservoir.	As per villagers demand water pond/reservoir has been made.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	N.A.	NIL.	NIL.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	2.50 ha.	3.08 ha.	N.A.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	4.20 ha.	1.36 ha.	N.A.

6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Plantation of trees.	Plantation of trees.	Plantation of trees.
6p	Compliance of environmental monitoring (core zone and buffer zone)	Environmental monitoring have been envisaged in approved mining plan.	Dust suppression arrangement by sprinkling of water on haul road and during drilling operation have been provided. Quarterly monitoring of Environment are done and report submitted in time.	Air, water & dust monitoring are done Quarterly and report submitted.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	N.A.	Sprinkling of water on haul road and dust suppression arrangement have been provided during drilling & blasting operation to minimise dust.	Dust suppression by sprinkling of water on haul road and during drilling & blasting operation arrangement have been provided.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Yes.	Sorting & sizing of mineral is done manually in the lease area.	Sorting & sizing of mineral is done manually in the lease area.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Yes.	Low grade ore are suitably blended with high grade mineral as per requirement of plant.	Sorting & sizing of mineral is done manually in the lease area.
7c	Different grade of mineral sorted out at mines.	Al2O3=>38% SiO2 = <5%	Feed grade bauxite is Al2O3=>38% and SiO2 = <5%. Ore is blending +30% Al2O3 & -7% SiO2 with +38% Al2O3 & =<5% SiO2 to maintain plant requirement..	Low grade ore are suitably blended with high grade mineral as per requirement of plant.
7d	Any beneficiation process at mines	N.A.	NIL.	N.A.

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	N.A.	Low grade ore are suitably blended with high grade mineral.	No issue has been observed on conservation of mineral.
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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Separate removal of top soil and concurrently spread over back filled areas.	Separate removal of top soil and concurrently spread over back filled areas.	Separate removal of top soil and concurrently spread over back filled areas.
8b	Concurrent use or storage of topsoil	Concurrent use top soil for plantation of trees.	Top soil are spread over backfilled area for afforestation.	Top soil are spread over backfilled area for afforestation.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	N.A.	There is no O.B., waste or reject dump.	O.B., waste or reject are concurrently used for void filling.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	NIL.	No O.B./Waste or reject dump is available.	O.B./Waste or reject are concurrently used in void filling to restore the land in original shape.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Plantation and or making cultivating land.	Concurrent plantation is being done on backfilled areas for restoration of land in original shape.	Concurrent plantation is being done on backfilled areas for restoration of land in original shape.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	4000 trees.	4080 trees.	N.A.
8g	Survival rate	75%	75%.	N.A.

8h	Water sprinkling on roads to control airborne dust	Yes.	Sprinkling of water on haul road and dust suppression arrangement have been provided during drilling & blasting operation to minimise dust.	Regular sprinkling of water on haul road and dust suppression arrangement have been provided during drilling & blasting operation to control airborne dust.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	N.A.	N.A.	Aesthetic beauty in and around mines is average.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly and Annual Return are duly filled up.	Monthly and Annual Return submitted in due time.	Timely submitted.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	1. Mines Manager - Shri Shil Prakash Jha, 2. Mining Engineer - Shri Shil Prakash Jha. 3. Mining Geologist - Shri Chandan Kumar.	During inspection both were present.	N.A.

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	In annual Return Land use pattern are furnished.	Land use pattern as furnished in A.R. 2021-22 are: (i) Already exploited & abandoned by opencast (O/C) mining - 44.76 (ii) Covered under current (O/C) Workings - 20.87 (iii) Reclaimed/Rehabilitated - 23.89 (iv) Used for waste disposal - Nil (v) Occupied by plant, buildings, etc. - 0.96 (vi) Other Purpose (if any)- Nil (vii) Work done under PMCP during the year - 2.57	N.A.
9d	Scrutiny of Annual return on afforestation	Furnished 3950 nos. of saplings.	3950 nos. saplings planted observed to be correct.	Cumulative 22880 saplings.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	N.A.	NIL.	N.A.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Furnished as below: (a) Below 40% Al2O3 - 20.30 MT. (b) 40% to below 45% Al2O3 = 19416.37 MT.	Closing stock furnished seems to be correct.	All mineral produced are transported to Railway siding Lohardaga.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex-mine price = Rs. 1543.97/-	It appears to be correct.	N.A.

9h	Scrutiny of Annual return on fixed assets	Total Value of Fixed Assets = Rs. 49841401/- (i) Land -Rs. 3618241/- (ii) (a) Building - Industrial = Rs. 6882808/- (b) Residential = Rs. 1664/- (iii) Plant and Machinery etc. = Rs. 3148643/- (iv) Capitalised Expenditure = Rs. 36190045/-	Value of Fixed Assets appears to be correct.	N.A.
9k	Scrutiny of Annual return on mining machineries	Type of machineries deployed given are- Shovel (hydraulic) - 0.90 cum - 4 nos. Dumper - 25tonne - 12 nos. Wheel Loader - 2.30 cum - 1 no. Water Tanker - 8000 litre - 1 no. Air Compressor - 14.30 cum/min. - 2 nos. Rock Drills - 100 mm - 2 nos. Pumps - 350 L/min - 2 nos.	Type of machineries deployed given are- Shovel (hydraulic) - 0.90 cum - 4 nos. Dumper -25tonne - 12 nos. Wheel Loader - 2.30 cum - 1 no. Water Tanker - 8000 litre - 1 no. Air Compressor - 14.30 cum/min. - 2 nos. Rock Drills - 100 mm - 2 nos. Pumps - 350 L/min - 2 nos.	N.A.

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

Date :
(B.L. KISKU)

Indian Bureau of Mines