

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

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/SNG/MCDR-9/BBS

Mine code : 30ORI13019

- (i) Name of the Inspecting : **K013**) **KEWAL KRISHAN**
Officer and ID No.
- (ii) Designation : Regional Mining Geologist
- (iii) Accompanying mine : Kailash Kumar Pradhan (DGM cum Mines Manager)
Official with
Designation
- (iv) Date of Inspection : 08/07/2022
- (v) Prev.inspection date : 23/09/2021

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **RAIKELA**
- (b) **Registration NO.** : **IBM/6072/2011**
- (c) Category : A Fully Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : SUNDARGARH
- Village : RAIKELA
- Taluka : BONAI
- Post office : DENGULA
- Pin Code :
- FAX No. : 06767-275631
- E-mail : gapl_sponge@yahoo.co.in
- Phone : 06767-275686
- (f) Police Station : Koira
- (g) First opening date : 21/12/1983
- (h) Weekly day of rest : SUN
2. Address for : VILL. RAIKELA, PO. DENGULA
correspondance VIA. KOIRA, DIST. SUNDARGARH
ORISSA, PIN-770048
3. (a) Lease Number : ORI0136
- (b) Lease area : 45.93
- (c) Period of lease : 50
- (d) Date of Expiry : 20/12/2033
4. Mineral worked : IRON ORE Main

5. Name and Address of the

Lessee : M/S NATIONAL ENTERPRISES
 PO.BOX 44 BARBIL- 758035
 KEONJHAR ORISSA
 Phone:06767-275686
 FAX :06767-275631

Owner : NATIONAL ENTERPRISES
 PO BOX :44 BARBIL KEONJHAR
 ORISSA
 Phone: 06767-275686
 FAX : 06767-275631

Mining Engineer

Name : SHRI RUDRA MOHAN NAYAK,Full Time
 Qualification : DEGREE IN MINING (AMIE)
 Appointment/ : 14/08/2021
 Termination date

Geologist

Name : SHRI ADITYA KUMAR MOHANTA,Full Time
 Qualification : M TECH APPLIED GEOLOGY
 Appointment/ : 18/10/2020
 Termination date

Manager

Name : SHRI KAILASH KUMAR PRADHAN
 Qualification : AMIE (MINING) & FCC
 Appointment/ : 01/09/2014
 Termination date

6. Date of approval of Mining	:	Renewal under rule 22 MCR1960	26/05/2005
Plan/Scheme of Mining		Modif.of approved Mining Plan	15/02/2008
		Mining Scheme rule 12 MCDR1988	04/01/2010
		Mining Scheme rule 12 MCDR1988	12/04/2013
		Modif.approved Mining Scheme	02/06/2015
		MP review under 17(1) MCR 2016	10/11/2017
		Modif.approved Mining Scheme	07/01/2020

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	proposal during the year 2020-21 03 nos	drilled as proposed	no backlog
1b	Exploration over lease area for geological axis 1 or 2	no boreholes proposed during the year 2021-22 for geological axis 1 or 2	not applicable	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	not applicable as no boreholes drilled during the year 2021-22	not applicable as no boreholes drilled during the year 2021-22	
1d	Balance area to be explored to bring Geological axis in 1 or 2	no such proposal	no such proposal	About 15 ha area out of 45 ha is yet to be explored and is presently occupied by adjacent lessee .The matter is subjudiced at Highcourt Cuttack, as informed by the party.
1e	Balance reserve as on 01/04/20		balance reserves/resources as on 1/4/2022 under 111 8865068 T under 211 3592002 T	

1f	General remarks of inspecting officers on geology, exploration etc	Raikela Iron Ore Mine deposit forms a part of Precambrian sedimentary formation known as the Iron-ore series developed in Singhbhum-Keonjhar-Bonai area as bedded, stratiform and tabular deposit of regular habit. In this lease area, Iron ore occurs as massive, laminated, powdery and float ore. The ore body strikes NNE-SSW and dips towards west. The dip amount varies from 40 to 50 degree. The entire area is yet to be explored under G1 level .
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Top A quarry and Bottom-B quarry	Top A quarry and Bottom-B quarry	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in overburden and minerals are proposed	Separate overburden and minerals	no top soil generation
2c	Stripping ratio or ore to OB ratio	1:0.11	1:0.043	
2d	Quantity of topsoil generation in m3	no such proposal	no such proposal	

2e	Quantity of overburden generation in m3	119444 m3	186449 T	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc		mine development is carried out by opencast mining methods.	mine development is carried out by opencast mining methods.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Two pit - Top A - Quarry & Bottom-B quarry	broadly as per proposal	
3b	Quantity of ROM mineral production proposed	10,00,000 MT	427050 MT	issued violation under rule 11(1) of MCDR 2017
3c	Recovery of sailable/usable mineral from ROM production	9,00,000MT	MT 157610 MT	
3d	Quantity of mineral reject generation	1,00,000 MT	269440MT	issued violation under rule 11(1) of MCDR 2017
3e	Grade of mineral rejects generation and threshold value declared.	Grade of Mineral Reject:45 to 55% Fe, threshold value: + 45% Fe	Grade of Mineral Reject:45 to 55% Fe, threshold value: + 45% Fe	
3f	Quantity of sub grade mineral generation.	1,00,000 MT	269440MT	
3g	Grade of sub grade mineral generation	45 to 55% Fe,	45 to 55% Fe,	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized	Mechanized	

3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	no such proposal	no such proposal	
3j	Provision of drilling and blasting in mineral benches	Drilling and blasting proposed	Drilling and blasting being carried	
3k	Provision of mining machineries in mineral benches	Back Hoe with Dumper	Back Hoe with Dumper	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Height-6m Width -8m	Maintained , but at places in the Top quarry pit , it is not maintained as per proposal.	issued violation under rule 11(1) of MCDR 2017
3m	Total area covered under excavation/pits	approved MRMP total area covered under excavaion/pits is 21.42ha	broadly as per proposal	
3n	Ore to OB ratio for the pit/mine during the year.	1:0.11	1:0.043	

3o	Total area put in use under different heads at the end of year	as per last approved document area put to use under different activities under mining 21.420 ha under waste dump 2.81 ha Mineral storage 4.00 ha Infrastructure ,workshop etc 0.280 ha Road 0.780 ha Others 1.260 ha	Broadly as per the proposal	
3p	Production of ROM mineral during the last five year period as applicable	2017-18: 500040 MT 2018-19: 500000 MT 2019-20: 500000 MT 2020-21: 1000000 MT 2021-22: 1000000 MT	2017-18: 291540 MT 2018-19: 50000 MT 2019-20: 499961 MT 2020-21: 499260 MT 2021-22: 427050 MT	
3q	General remarks of inspecting officers on method of mining etc.	The method of mining is A category and is fully mechanised. The ROM production is carried out by open cast mining method.	The method of mining is A category and is fully mechanised. The ROM production is carried out by open cast mining method.	

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
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4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	seperate dumping of OB and mineral reject is Proposed no proposal for general of top soil	as per proposal	
4b	Location of topsoil, OB and mineral reject dumps	E312682 to E312901 N2420836 to E2420971	broadly as per proposal	waste dump location. no top soil is produced. MR is blended with high grade.
4c	Number of dumps within lease area and outside of lease area	01 no within lease	01 no within lease	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	outside Ultimate Pit Limit	outside Ultimate Pit Limit	
4e	Number of active and alive dumps.	01 no	01 no	
4f	Number of dead dumps.	no such proposal	no such proposal	
4g	Number of dumps established.	no such proposal	no such proposal	
4h	Whether Retaining wall or garland drain all along dumps are there.	proposed	not constructed completely	
4i	Length of Retaining wall or garland drain all along dumps	266 m	not constructed completely as proposed	issued violation under rule 11(1) of MCDR 2017
4j	Number of settling ponds	no such proposal	no such proposal	1 no of settling pond is maintained with check dams with periodically desiltation.

4k	Specific comments of inspecting officer on waste dump management			The retaining wall around the waste dump is not constructed as proposed, hence issued violation under rule 11(1) of MCDR 2017
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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 such proposal	no such proposal	
5b	Area under backfilling of mined out area	no such proposal	no such proposal	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	no such proposal	no such proposal	
5d	Total area fully reclaimed and rehabilitated	no such proposal	no such proposal	
5e	General remarks of inspecting officers on backfilling and reclamation etc.		area not matured for backfilling hence the same is not implemented yet	area not matured for backfilling hence the same is not implemented yet

Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
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6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	To be submitted on Ist july	submitted	
6b	Area available for rehabilitation (ha) .	no such proposal	not applicable	
6c	afforestation done (ha).	0.5Ha	broadly as proposed	
6d	No. of saplings planted during the year	625	not as per the proposal	issued violation under rule 11(1) of MCDR 2017
6e	Cumulative no .of plants		58100	58100
6f	Any other method of rehabilitation	no such proposal	no such proposal	
6g	Cost incurred on watch and care during the year		2 lakhs	2 lakhs
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	no such proposal	no such proposal	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	no such proposal	no such proposal	
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	no such proposal	no such proposal	

6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	no such proposal	no such proposal
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	no such proposal	no such proposal
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	no such proposal	no such proposal
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	no such proposal	no such proposal
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	no such proposal	no such proposal
6p	Compliance of environmental monitoring (core zone and buffer zone)	periodical monitoring of environmental parameters are proposed in core and buffer zone	carried out
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		no specific PMCP work is carried out except the monitoring of environmental parameters

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	grade wise sorting within lease	grade wise sorting within lease	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	mechanised	mechanised	
7c	Different grade of mineral sorted out at mines.	45 to 55 % Fe & +55% Fe	45 to 55 % Fe & +55% Fe	
7d	Any beneficiation process at mines	Screening/ Crushing	Screening/ Crushing	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			Grade wise sorting is carriedout out. No other beneficiation process is adopted except screening/crushing and crushing.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	no top soil generation during the proposed peroid	no top soil generation during the proposed peroid	
8b	Concurrent use or storage of topsoil	no such proposal	not applicable	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumps for Overburden, waste rock	Separate dumps for Overburden/ waste rock.	

8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	no such proposal	no such proposal	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	no such proposal	no such proposal	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	no top soil generation during the proposed period	no top soil generated	
8g	Survival rate	not specified	60%	
8h	Water sprinkling on roads to control airborne dust	Water Sprinkling is proposed on haul road to control airborne dust	Water Sprinkling is carried out on haul road to control airborne dust.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Aesthetic beauty in and around the mines is good because of regular sprinkling of water on mine roads to control the dust.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
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9a	Status of submission of Monthly and Annual returns	as per MCDR2017, the monthly return are to be submitted before the 10th day of every month in respect of the preceding month and AR shall be submitted before the 1st day of July each year for the preceding financial year.	submitted	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Graduate Mining Engineer-02 Diploma Mining Engineer-2 Geologist-1 Surveyor- 1	Graduate Mining Engineer-02 Diploma Mining Engineer-2 Geologist-1 Surveyor- 1	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Covered under current (O/C) Workings- 20.120 Ha. Used for waste disposal- 1.960 Ha. Occupied by plant, buildings, residential, welfare buildings & roads-1.030 Ha. Other Purpose (sorting of mineral/ore)- 5.562 Ha	broadly in order	
9d	Scrutiny of Annual return on afforestation	625 nos	not carried out fully	issued violation under rule 45 of MCDR 2017

9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	no information furnished	no information furnished	issued violation under rule 45(7) off MCDR 2017
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Closing ROM stock at mine -head is zero	Closing ROM stock at mine -head is zero	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	as reported by party the ex-mine price Lumps: (Fe%) below 55%- 4045.89	as reported by party Lumps: (Fe%) below 55%- 4045.89 55 to 58% :5154.37 58%-60%: 6970.93 60% to 62% :8110.75 Fines : (Fe%) below 55%- 1360.69 to 58% :6788.33 58%-60%: 4523.0 to 62% 2972.74	production cost not reported correctly, issued violation under rule 45 of MCDR 2017
		55 to 58% :5154.37	58%-60%: 6970.93	55
		60% to 62% :8110.75	to 58% :6788.33	
		Fines : (Fe%) below 55%- 1360.69	58%-60%: 4523.0	60
		to 62% 2972.74		
		55 to 58% :6788.33		
		58%- 60%: 4523.0		
		60 to 62% 2972.74		
9h	Scrutiny of Annual return on fixed assets	as reported by party Fixed Value of Assets- Rs. 1277021814	as reported by party Fixed Value of Assets- Rs. 1277021814	

9k	Scrutiny of Annual return on mining machineries	as per the details furnished BACK HOE 04 DUMPER 09 CRUSHER 01 DOZER 01 WATER TANKER 01 Front Loader 02 Generator 01 Rock Drill 01 tractor/jeep 01 air compressor 01	as per the details furnished BACK HOE 04 DUMPER 09 CRUSHER 01 DOZER 01 WATER TANKER 01 Front Loader 02 Generator 01 Rock Drill 01 tractor/jeep 01 air compressor 01	01
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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
MCDR17	Rule 11(1)	16/07/2022			
	Rule 45(7)	16/07/2022			

Date :

(KEWAL KRISHAN)

Indian Bureau of Mines