

**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 : **U11**) **DAYANAND UPADHYAY**
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : M. B. Singh, Mines Manager
Official with
Designation
- (iv) Date of Inspection : 01/01/2021
- (v) Prev.inspection date : 06/12/2019

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	Not proposed in 2019-20.	Nil	Nil,
1b	Exploration over lease area for geological axis 1 or 2	Not proposed.	Nil	Potentially mineralised area has been explored under G1 level of exploration.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not proposed.	Nil.	Nil.
1d	Balance area to be explored to bring Geological axis in 1 or 2	Not proposed.	Potentially mineralised area has been explored under G1 level of exploration.	Potentially mineralised area has been explored under G1 level of exploration.
1e	Balance reserve as on 01/04/20	As per the review of mining plan approved dated 10.11.2017, the reserve and resource as on 01.09.2017 is as follows. Reserve is 24816283 tones and remaining resources is 8855147 tones. Total Reserve and Resource is 33671430 tones.	Summary of iron ore resources as on 01.11.2019 as approved in modification of review of mining plan dated 07.01.2020 is as follows: Reserve is 10114108 and remaining resources at 3592002 tones. Total reserve and resource is 13706110 tones	Summary of iron ore resources as on 01.11.2019 as approved in modification of review of mining plan dated 07.01.2020 is as follows: Reserve is 10114108 and remaining resources at 3592002 tones. Total reserve and resource is 13706110 tones
1f	General remarks of inspecting officers on geology, exploration etc	No proposal of bore holes in 2019-20.	Potentially mineralised area has been explored under G1 level of exploration.	Potentially mineralised area has been explored under G1 level of exploration.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Development proposed in Top-A quarry	Development carried out in Top-A quarry	Development carried out in Top-A quarry as per proposal.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in overburden and mineral proposed.	Separate benches in overburden and mineral maintained.	Separate benches in overburden and mineral maintained.
2c	Stripping ratio or ore to OB ratio	1:0.11	1:0.10	Average stripping ratio varies due to irregular nature of ore deposit.
2d	Quantity of topsoil generation in m3	Not proposed.	Nil.	There is no top soil generation.
2e	Quantity of overburden generation in m3	18518cu.m	17420 cu.m.	In 2019-20, overburden/waste generated was 17240 m3
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	In 2019-20, Development proposed in Top A quarry	Development carried out in Top-A quarry as per proposal.	Development carried out in Top-A quarry as per proposal.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	one number of pits proposed	One number of pits put for production	One number of pits put for production
3b	Quantity of ROM mineral production proposed	ROM production proposal was 500000 tones	In 2019-20, ROM production was 499961tones	ROM production is within approved limit.
3c	Recovery of salable/usable mineral from ROM production	Recovery of salable/usable mineral 450000 tones and mineral reject 50000T	Recovery of salable/usable mineral from ROM production was 499961 tones. Mineral reject is blended with high grade to make it usable.	Recovery of salable/usable mineral from ROM production was 499961 tones. Mineral reject is blended with high grade to make it usable.

3d	Quantity of mineral reject generation	50,000	Nil.	Mineral reject is simultaneously blended with high grade ore to make it usable.
3e	Grade of mineral rejects generation and threshold value declared.	45% Fe to below 55% Fe, Threshold value for iron is 45% Fe	Nil.	Mineral reject is simultaneously blended with high grade ore to make it usable.
3f	Quantity of sub grade mineral generation.	50000T	Nil.	Mineral reject is simultaneously blended with high grade ore to make it usable.
3g	Grade of sub grade mineral generation	45% Fe to below 55% Fe, Threshold value for iron is 45% Fe	Nil	Mineral reject is simultaneously blended with high grade ore to make it usable.
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized	Mechanized	Mechanized
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not proposed.	Only crushing and screening is being carried out at mines site	Only crushing and screening is being carried out at mines site
3j	Provision of drilling and blasting in mineral benches	DTH drilling of 100mm dia. Blast hole with emulsion/slurry explosive as column charge.	Drilling and blasting is carried out with DTH drilling of 100mm dia. Blast hole with emulsion/slurry explosive as column charge .	Drilling and blasting is carried out with DTH drilling of 100mm dia. Blast hole with emulsion/slurry explosive as column charge .
3k	Provision of mining machineries in mineral benches	Excavator and dumper combination	Excavator and dumper combination have been deployed for mining in mineral benches.	Excavator, Loader and Dumper are equipped to winning out the mineral.

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Height of the benches proposed is 6m	Height of benches in overburden and mineral is suitable for method of mining proposed in mining plan.	Height of benches in overburden and mineral is suitable for method of mining proposed in mining plan.
3m	Total area covered under excavation/pits	Area under mining at the end of plan period will be 21.420 Ha	Area under mining at the end of 2019-20 is 19.82 Ha	Area under mining at the end of 2019-20 is 19.82 Ha.
3n	Ore to OB ratio for the pit/mine during the year.	1:0.11	1:0.10	Average stripping ratio varies due to irregular nature of ore deposit .
3o	Total area put in use under different heads at the end of year	Total area put in use under different heads at the end of plan period will be 30.55 Ha	Total area put in use under different heads at the end of 2019-20 is 28.372 Ha	Total area put in use under different heads at the end of 2019-20 is 28.372 Ha
3p	Production of ROM mineral during the last five year period as applicable	2015-16: 500040 tones 2016-17: 500049 tones 2017-18: 500049 tones 2018-19: 500000 tones 2019-20: 500000 tones	2015-16: 49500 tones 2016-17: 499550 tones 2017-18: 291540 tones 2018-19: 50000 tones 2019-20: 499961 tones	ROM production is within approved limit.
3q	General remarks of inspecting officers on method of mining etc.	Excavation of ROM has been proposed in one quarry.	The ROM production has been carried out in one quarry i.e Top-A Quarry as per proposal.	The ROM production has been carried out in one quarry i.e Top-A Quarry as per proposal.

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)	There was no proposal for top soil generation. Separate dumping of waste and mineral reject proposed.	There was no proposal for top soil generation. Separate dumping of waste has been done. There was no generation of mineral reject.	There was no proposal for top soil generation. Separate dumping of waste has been done. There was no generation of mineral reject.
4b	Location of topsoil, OB and mineral reject dumps	There was no proposal for top soil generation. Waste generated have been proposed for dumping in existing waste dump-A in north eastern part of the lease.	There was no generation of top soil generation. Waste generated have been dumped in waste dump-A. There was no generation of mineral reject.	There was no generation of top soil generation. Waste generated have been dumped in waste dump-A. There was no generation of mineral reject.
4c	Number of dumps within lease area and outside of lease area	one waste dump	There exists one waste dump within lease area..	There exists one waste dump.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	outside the UPL	Dumps are located outside the UPL	Dumps are located outside the UPL
4e	Number of active and alive dumps.	One waste dump	One waste dump	One waste dump
4f	Number of dead dumps.	Not proposed.	Nil.	Nil.
4g	Number of dumps established.	Not proposed.	Nil.	Nil.
4h	Whether Retaining wall or garland drain all along dumps are there.	Repairing/Main tainance of retaining wall	Repairing/Maintainance of retaining wall have been done.	Repairing/Maintainance of retaining wall have been done.
4i	Length of Retaining wall or garland drain all along dumps	Repairing/Main tainance of retaining wall	Repairing/Maintainance of retaining wall have been done.	Maintainance of retaining wall have been done.
4j	Number of settling ponds	De-silting of settling pond	De-silting of settling pond has carried out.	One settling pond exist in the lease area.

4k	Specific comments of inspecting officer on waste dump management	There was no proposal for top soil generation. Waste generated have been proposed for dumping in existing waste dump-A.	There was no generation of top soil generation. Waste generated have been dumped in waste dump-A. There was no generation of mineral reject	There was no generation of top soil generation. Waste generated have been dumped in waste dump-A. There was no generation of mineral reject.
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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.	Not proposed as pit is not exhausted.	Nil.	The pit is not matured for reclamation and rehabilitation
5b	Area under backfilling of mined out area	Not proposed as pit is not exhausted.	Nil.	The pit is not matured for reclamation and rehabilitation
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not proposed as pit is not exhausted.	Nil	The pit is not matured for reclamation and rehabilitation
5d	Total area fully reclaimed and rehabilitated	Not proposed as pit is not exhausted.	Nil	The pit is not matured for reclamation and rehabilitation
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Not proposed as pit is not exhausted.	Nil	The pit is not matured for reclamation and rehabilitation

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).	Annual report on PMCP to be submitted as per Rule 26 (2) of MCDR, 2017	Annual report on PMCP for the year 2018-19 have been submitted.	Annual report on PMCP for the year 2018-19 have been submitted.
6b	Area available for rehabilitation (ha) .	Not proposed as pit is not exhausted.	Nil.	The pit is not matured for reclamation and rehabilitation
6c	afforestation done (ha).	Plantation of 0.3 Ha in Dump-A	Plantation of 0.3 Ha in Dump-A	Plantation of 0.3 Ha in Dump-A
6d	No. of saplings planted during the year	1250 nos. of saplings.	5000 nos. of saplings.	5000 nos. of saplings planted during the year.
6e	Cumulative no .of plants	Not specified.	Cumulative 41750 nos. of saplings planted by lessee.	Cumulative 41750 nos. of saplings planted by lessee.
6f	Any other method of rehabilitation	Not proposed as pit is not exhausted.	Nil.	The pit is not matured for reclamation and rehabilitation
6g	Cost incurred on watch and care during the year	Not specified.	Cost incurred Rs 2.0 Lakh	Cost incurred Rs 2.0 Lakh
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Not proposed as pit is not exhausted.	Nil.	The pit is not matured for reclamation and rehabilitation
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not proposed as pit is not exhausted.	Nil.	The pit is not matured for reclamation and rehabilitation
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Not proposed as pit is not exhausted.	Nil.	The pit is not matured for reclamation and rehabilitation

6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not proposed as pit is not exhausted.	Nil.	The pit is not matured for reclamation and rehabilitation
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not proposed as pit is not exhausted.	Nil.	The pit is not matured for reclamation and rehabilitation
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not proposed	Nil.	Nil.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not proposed	Nil	Nil.
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not proposed	Nil	Nil.
6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring.	Quarterly monitoring.	Quarterly monitoring.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Annual report on PMCP to be submitted as per Rule 26 (2) of MCDR, 2017	Annual report on PMCP for the year 2019-20 have been submitted	Annual report on PMCP for the year 2019-20 have been submitted.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
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7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade wise sorting within lease area.	Grade wise sorting within lease area.	Grade wise sorting within lease area.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical	Mechanical	Mechanical sorting.
7c	Different grade of mineral sorted out at mines.	45% Fe to -55% Fe and above 55% Fe	45% Fe to -55% Fe and above 55% Fe	Mineral reject generated has been blended with high grade ore.
7d	Any beneficiation process at mines	Not proposed.	Only crushing and screening is practiced.	Only crushing and screening is practiced.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Grade wise sorting within lease area.	Grade wise sorting within lease area.	Grade wise sorting within lease area.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	There is no proposal for top soil generation.	There was no generation of top soil.	There was no generation of top soil.
8b	Concurrent use or storage of topsoil	Not proposed.	There was no generation of top soil.	There was no generation of top soil.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	There was no proposal for top soil generation. Separate dumping of waste and mineral reject proposed.	There was no proposal for top soil generation. Separate dumping of waste has been done. There was no generation of mineral reject.	There was no proposal for top soil generation. Separate dumping of waste has been done. There was no generation of mineral reject.

8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not proposed as pit is not exhausted.	Nil.	The pit is not matured for reclamation and rehabilitation
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	1250 nos. of sapling proposed.	5000 nos of saplings have been planted.	5000 nos of saplings have been planted.
8g	Survival rate	Not specified.	Survival rate 60%.	Survival rate 60%.
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on roads to control airborne dust proposed	Water sprinkling carried out	Water sprinkling carried out
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	1250 nos. of sapling proposed.	5000 nos of saplings have been planted.	Aesthetic beauty in and around mines is maintained

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly returns and annual return have been submitted.	Monthly returns and annual return have been submitted.	Monthly returns and annual return have been submitted.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Information on Manager, Mining Engineer and Geologist furnished in annual return	Manager, Mining Engineer and Geologist have been appointed in mines.	Manager, Mining Engineer and Geologist have been appointed in mines.

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Lease area utilization at the end of the year as furnished in annual return for 2019-20. Covered under current working: 19.82 ha, Used for waste disposal: 1.96 Ha, Occupied by plant buildings, residential, welfare buildings & roads: 1.03 Ha, other purposes: 5.062 Ha	Lease area utilization at the end of the year as furnished in annual return for 2019-20. Covered under current working: 19.82 ha, Used for waste disposal: 1.96 Ha, Occupied by plant buildings, residential, welfare buildings & roads: 1.03 Ha, other purposes: 5.062 Ha	Lease area utilization at the end of the year as furnished in annual return for 2019-20. Covered under current working: 19.82 ha, Used for waste disposal: 1.96 Ha, Occupied by plant buildings, residential, welfare buildings & roads: 1.03 Ha, other purposes: 5.062 Ha
9d	Scrutiny of Annual return on afforestation	5000 nos of sapling	5000 nos of sapling	5000 nos of sapling
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil.	Nil.	Nil.

9f	Scrutiny of Annual return on ROM stock and/or graded ore	Closing stock of processed ore at mine head A. Lump (Grades: % of Fe content) 1. 60% to below 62% Fe:43993.182 tones 2. 62% to below 65%: 6872.05 tones B. Fines (Grades % of Fe content) (1) Below 55% Fe: 51006.21 tones (2) 55% to below 58% Fe: 623589.58 (3) 58% to below 60% Fe: 429296.559 (4) 60% to below 62% Fe: 180265.968 tones (5) 62% to below 65% Fe: 35495.52 tones	Closing stock of processed ore at mine head A. Lump (Grades: % of Fe content) 1. 60% to below 62% Fe:43993.182 tones 2. 62% to below 65%: 6872.05 tones B. Fines (Grades % of Fe content) (1) Below 55% Fe: 51006.21 tones (2) 55% to below 58% Fe: 623589.58 (3) 58% to below 60% Fe: 429296.559 (4) 60% to below 62% Fe: 180265.968 tones (5) 62% to below 65% Fe: 35495.52 tones	Closing stock of processed ore at mine head A. Lump (Grades: % of Fe content) 1. 60% to below 62% Fe:43993.182 tones 2. 62% to below 65%: 6872.05 tones B. Fines (Grades % of Fe content) (1) Below 55% Fe: 51006.21 tones (2) 55% to below 58% Fe: 623589.58 (3) 58% to below 60% Fe: 429296.559 (4) 60% to below 62% Fe: 180265.968 tones (5) 62% to below 65% Fe: 35495.52 tones
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex-mine price in Rs per tonne A. Lumps : Grades (% of Fe content): (1) 60% to below 62%: Rs 2660.19 B. Fines : Grades (% of Fe content) (a). 55% to below 58% Fe: Rs 727.9 (b). 58% to below 60% Fe: Rs 882.59	Ex-mine price in Rs per tonne A. Lumps : Grades (% of Fe content): (1) 60% to below 62%: Rs 2660.19 B. Fines : Grades (% of Fe content) (a). 55% to below 58% Fe: Rs 727.9 (b). 58% to below 60% Fe: Rs 882.59	Ex-mine price in Rs per tonne A. Lumps : Grades (% of Fe content): (1) 60% to below 62%: Rs 2660.19 B. Fines : Grades (% of Fe content) (a). 55% to below 58% Fe: Rs 727.9 (b). 58% to below 60% Fe: Rs 882.59

9h	Scrutiny of Annual return on fixed assets	Rs 158769190/- as furnished in annual return	Rs 158769190/- as furnished in annual return	Rs 158769190/- as furnished in annual return
9k	Scrutiny of Annual return on mining machineries	Backhoe (0.9 cum capacity): 4 nos; Dumper (25 tonne capacity): 6 nos; Front end loader (1.9 cum capacity): 2 nos; Rock drill (non electric): 1 no etc	Backhoe (0.9 cum capacity): 4 nos; Dumper (25 tonne capacity): 6 nos; Front end loader (1.9 cum capacity): 2 nos; Rock drill (non electric): 1 no etc	Backhoe (0.9 cum capacity): 4 nos; Dumper (25 tonne capacity): 6 nos; Front end loader (1.9 cum capacity): 2 nos; Rock drill (non electric): 1 no etc

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 :

(DAYANAND UPADHYAY)

Indian Bureau of Mines