

**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 : **SRM**) **SHRI SUDIP RANJAN MAZUMDAR**
Officer and ID No.
- (ii) Designation : Senior Mining Geologist
- (iii) Accompanying mine : Shri Kailash Kumar Pradhan, Mines Manager
Official with
Designation
- (iv) Date of Inspection : 06/12/2019
- (v) Prev.inspection date : 19/03/2019

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 : SAT
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 : SHI SOUVIK MISHRA,Full Time
 Qualification : B TECH MINING
 Appointment/ : 10/11/2017
 Termination date

Geologist

Name : SHRI BICHITRA NANDA MOHANTY,Full Time
 Qualification : MSC GEOLOGY
 Appointment/ : 26/09/2012
 Termination date

Manager

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

6. Date of approval of Mining Plan/Scheme of Mining	:	Renewal under rule 22 MCR1960	26/05/2005
		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

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	In 2018-19, 3 numbers of boreholes have been proposed to be drilled.	In 2018-19, 3 nos of boreholes have been drilled.	In 2018-19, 3 nos of boreholes have been drilled.
1b	Exploration over lease area for geological axis 1 or 2	In 2018-19, 3 numbers of boreholes have been proposed to be drilled.	In 2018-19, 3 nos of boreholes have been drilled.	In 2018-19, 3 nos of boreholes have been drilled.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not Specified	Exploration Agency: M/s Asia Pacific Drilling Services; Expenditure incurred: Rs. 462560/-	Exploration Agency: M/s Asia Pacific Drilling Services; Expenditure incurred: Rs. 462560/-
1d	Balance area to be explored to bring Geological axis in 1 or 2	In 2018-19, 3 numbers of boreholes have been proposed to be drilled.	In 2018-19, 3 nos of boreholes have been drilled.	Nil
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	In 2018-19, 3 numbers of boreholes have been proposed to be drilled.	In 2018-19, 3 nos of boreholes have been drilled.	In 2018-19, 3 nos of boreholes have been drilled.
----	--	--	---	---

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	In 2018-19, Development proposed in Top-A quarry	In 2018-19, development carried out in Top-A quarry	In 2018-19, development carried out in Top-A quarry
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	In 2018-19, stripping ratio proposed was 1: 0.037 t/m3	In 2018-19, stripping ratio achieved was 1: 0.052 t/m3	In 2018-19, stripping ratio achieved was 1: 0.052 t/m3
2d	Quantity of topsoil generation in m3	In 2018-19, there was no proposal for top soil generation.	There was no generation of top soil.	There was no generation of top soil.
2e	Quantity of overburden generation in m3	In 2018-19, proposal for overburden generation was 18519 m3	In 2018-19, overburden generated was 2609 m3	ROM Proposal was 500000 MT whereas ROM production was 50000 MT. Due to less production the proposed development and OB generation was less

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	In 2018-19, Development proposed in Top A quarry In 2018-19, stripping ratio proposed was 1: 0.037 t/m3	In 2018-19, development carried out in Top-A quarry In 2018-19, stripping ratio achieved was 1: 0.052 t/m3. ROM Proposal was 500000 MT whereas ROM production was 50000 MT. Due to less production the proposed OB generation was less	In 2018-19, development carried out in Top-A quarry In 2018-19, stripping ratio achieved was 1: 0.052 t/m3. ROM Proposal was 500000 MT whereas ROM production was 50000 MT. Due to less production the proposed OB generation was less
----	---	---	--	--

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	In 2018-19, one number of pits proposed for production namely Top A Quarry	In 2018-19, one number of pits put for production namely Top A Quarry	In 2018-19, one number of pits put for production namely Top A Quarry
3b	Quantity of ROM mineral production proposed	In 2018-19, ROM production proposal was 500000 tones	In 2018-19, ROM production was 50000 tones	The mining operation was stopped by DDM Koira vide letter no 26/mines dated 01.01.2018 w.e.f 01.01.2018. The mine was re-opened on 25.02.2019. Hence, ROM production was less. Notice of reopening of mines in Form C has been submitted by lessee.
3c	Recovery of sailable/usable mineral from ROM production	In 2018-19, Recovery of sailable/usable mineral from ROM production proposal was 450000 tones	In 2018-19, Recovery of sailable/usable mineral from ROM production was 50000 tones	In 2018-19, Recovery of sailable/usable mineral from ROM production was less as ROM production was less than proposed

3d	Quantity of mineral reject generation	In 2018-19, Quantity of mineral reject generation proposal was 50000 tones	Nil	Actual ROM production was less than proposed. Hence, mineral reject generation was Nil
3e	Grade of mineral rejects generation and threshold value declared.	45% Fe to below 55% Fe, Threshold value for iron is 45% Fe	Nil	Actual ROM production was less than proposed. Hence, mineral reject generation was Nil
3f	Quantity of sub grade mineral generation.	In 2018-19, quantity of subgrade mineral generation proposal was 50000 tones	Nil	Actual ROM production was less than proposed. Hence, subgrade generation was Nil
3g	Grade of sub grade mineral generation	45% Fe to below 55% Fe	Nil	Actual ROM production was less than proposed. Hence, subgrade generation was Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized	Mechanized	Nil
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not Proposed	Nil	Nil
3j	Provision of drilling and blasting in mineral benches	As the iron ore in this mine is mainly fines in nature, at present only occasional drilling and blasting will be done	Drilling & blasting have been carried as per requirement as proposed.	Drilling & blasting have been carried as per requirement as proposed.

3k	Provision of mining machineries in mineral benches	Excavator will be used for excavation and transportation will be done through dumpers	Excavator and dumper combination have been deployed for mining in mineral benches.	Excavator and dumper combination have been deployed for mining in mineral benches.
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 2018-19 is 19.42 Ha as reported in annual return for 2018-19	Area under mining at the end of 2018-19 is 19.42 Ha as reported in annual return for 2018-19
3n	Ore to OB ratio for the pit/mine during the year.	In 2018-19, stripping ratio proposed was 1: 0.037 t/m3	In 2018-19, stripping ratio achieved was 1: 0.052 t/m3	In 2018-19, stripping ratio achieved was 1: 0.052 t/m3
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 2018-19 is 27.472 Ha	Total area put in use under different heads at the end of 2018-19 is 27.472 Ha
3p	Production of ROM mineral during the last five year period as applicable	2018-19: 500000 tones	2018-19: 50000 tones	Referred: Review of Mining Plan for the period 2018-19 to 2022-23 approved dated 10.11.2017

3q	General remarks of inspecting officers on method of mining etc.	In 2018-19, ROM production proposal was 500000 tones	In 2018-19, ROM production was 50000 tones	The mining operation was stopped by DDM Koira vide letter no 26/mines dated 01.01.2018 w.e.f 01.01.2018. The mine was re-opened on 25.02.2019. Hence, ROM production was less. Notice of reopening of mines in Form C has been submitted by lessee
----	---	--	--	--

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	In 2018-19, there was no proposal for top soil generation. Separate dumping of waste and mineral reject proposed.	In 2018-19, there was no proposal for top soil generation. Separate dumping of waste has been done. There was no generation of mineral reject.	In 2018-19, 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	In 2018-19, there was no proposal for top soil generation. Waste generated have been proposed for dumping in existing waste dump-A. Processed low grade iron ore will be stacked separately	In 2018-19, there was no generation of top soil generation. Waste generated have been dumped in waste dump-A. There was no generation of mineral reject.	In 2018-19, 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	There exists one waste dump	There exists one waste dump	There exists one waste dump

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Dumps are located 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.	Nil	Nil	Nil
4g	Number of dumps established.	Nil	Nil	Nil
4h	Whether Retaining wall or garland drain all along dumps are there.	In 2018-19, there was no proposal for construction of retaining wall or garland drain. Repairing of retaining wall of 50m	Repairing of retaining wall of 120 m has been done	Repairing of retaining wall of 120 m has been done
4i	Length of Retaining wall or garland drain all along dumps	In 2018-19, there was no proposal for construction of retaining wall or garland drain. Repairing of retaining wall of 50m	Repairing of retaining wall of 120 m has been done	Repairing of retaining wall of 120 m has been done
4j	Number of settling ponds	In 2018-19, there was no proposal for construction of settling pond. De-silting of settling pond proposed.	De-silting of settling pond has been done	De-silting of settling pond has been done

4k	Specific comments of inspecting officer on waste dump management	In 2018-19, there was no proposal for top soil generation. Waste generated have been proposed for dumping in existing waste dump-A. Processed low grade iron ore will be stacked separately	In 2018-19, there was no generation of top soil generation. Waste generated have been dumped in waste dump-A. There was no generation of mineral reject	In 2018-19, there was no generation of top soil generation. Waste generated have been dumped in waste dump-A. There was no generation of mineral reject
----	--	---	---	---

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	Nil	The mine is not matured for reclamation and rehabilitation
5b	Area under backfilling of mined out area	Not Proposed	Nil	The mine is not matured for reclamation and rehabilitation
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	In 2018-19, there was no proposal for top soil generation.	In 2018-19, there was no generation of top soil.	In 2018-19, there was no generation of top soil.
5d	Total area fully reclaimed and rehabilitated	Not Proposed	Nil	The mine is not matured for reclamation and rehabilitation
5e	General remarks of inspecting officers on backfilling and reclamation etc.	There was no proposal for reclamation and rehabilitation	There was no reclamation and rehabilitation	The mine is not matured for reclamation and rehabilitation

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).	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) .	Nil	Nil	Nil
6c	afforestation done (ha).	Plantation of 0.3 Ha in Dump-A	Plantation of 0.3 Ha in Dump-A	Nil
6d	No. of saplings planted during the year	800 nos of saplings proposed for plantation for dump-management	1000 nos of saplings have been planted	1000 nos of saplings have been planted
6e	Cumulative no .of plants	Not Specified	46750 nos	Nil
6f	Any other method of rehabilitation	Not proposed	Nil	Nil
6g	Cost incurred on watch and care during the year	0.6 Lakh	2.2 lakhs	Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Not Proposed	Nil	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not Proposed	Nil	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestati on on backfilled area	Not Proposed	Nil	Nil

6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not Proposed	Nil	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not Proposed	Nil	Nil
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)	Proposed	Carried out	Nil
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 2018-19 have been submitted	Annual report on PMCP for the year 2018-19 have been submitted

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 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	Nil
7c	Different grade of mineral sorted out at mines.	45% Fe to 55% Fe and above	-55% +55% Fe	ROM production was less than proposed.
7d	Any beneficiation process at mines	Not Proposed	Nil	Nil
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.	In 2018-19, there was no generation of top soil generation.	In 2018-19, there was no generation of top soil generation.
8b	Concurrent use or storage of topsoil	There is no proposal for top soil generation.	In 2018-19, there was no generation of top soil generation.	In 2018-19, there was no generation of top soil generation.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	In 2018-19, there was no proposal for top soil generation. Separate dumping of waste and mineral reject proposed.	In 2018-19, there was no proposal for top soil generation. Separate dumping of waste has been done. There was no generation of mineral reject.	In 2018-19, 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	Nil	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not Proposed	Nil	Nil
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	800 nos of saplings proposed for plantation for dump-management	1000 nos of saplings have been planted	1000 nos of saplings have been planted
8g	Survival rate	Not specified	Survival rate: 60%	Data as furnished in annual return of 2018-19
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	No comments to offer	Aesthetic beauty in and around mines is maintained	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 for 2018-19 have been submitted.	Monthly returns and annual return for 2018-19 have been submitted.	Monthly returns and annual return for 2018-19 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 for 2018-19	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 (surface area) utilization at the end of the year as furnished in annual return for 2018-19. Covered under current working: 19.42 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 (surface area) utilization at the end of the year as furnished in annual return for 2018-19. Covered under current working: 19.42 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 (surface area) utilization at the end of the year as furnished in annual return for 2018-19. Covered under current working: 19.42 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	1000 nos of sapling planted as furnished in annual return of 2018-19	1000 nos of sapling planted as furnished in annual return of 2018-19	1000 nos of sapling planted as furnished in annual return of 2018-19
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	In 2018-19, Quantity of mineral reject generation proposal was Nil	In 2018-19, Quantity of mineral reject generation proposal was Nil	In 2018-19, Quantity of mineral reject generation proposal was 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: 89385.612 tones 2. 62% to below 65%: 1553.05 B. Fines (Grades % of Fe content) (1) Below 55% Fe: 77879 tones (2) 55% to below 58% Fe: 488295.34 (3) 58% to below 60% Fe: 434755.529 (4) 60% to below 62% Fe: 372894.188 tones (5) 62% to below 65% Fe: 28226.92 tones	Found to be in order	Closing stock of processed ore as furnished in annual return of 2018-19
----	--	---	----------------------	---

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 2703.07; B. Fines : Grades (% of Fe content) (a). 55% to below 58% Fe: Rs 750.00 (b). 58% to below 60% Fe: Rs 1335.00 Production cost: Rs 1587.00 per tonne	Found to be in order	Nil
9h	Scrutiny of Annual return on fixed assets	Rs 146014204 as furnished in annual return of 2018-19	Rs 146014204 as furnished in annual return of 2018-19	Rs 146014204 as furnished in annual return of 2018-19
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
MCDR17 Rule 45(7)(a)	16/12/2019	02/07/2020			

Date :

(SHRI SUDIP RANJAN MAZUMDAR)

Indian Bureau of Mines