INDIAN BUREAU OF MINES MINERALS DEVELOPMENT AND REGULATION DIVISION

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/SNG/MCDR-9/BBS Mine code : 300RI13019

(i) Name of the Inspecting: U11) DAYANAND UPADHYAY

Officer and ID No.

(ii) Designation : Sr. Asst. Contrl. Mines

(iii) Accompaning mine : Shri Kailash Kumar Pradhan, Mines Manager

Official with Designation

(iv) Date of Inspection : 19/03/2019
(v) Prev.inspection date : 07/10/2017

PART-I : GENERAL INFORMATION

1. (a) Mine Name : RAIKELA

(b) Registration NO. : IBM/6072/2011

(c) Category : A Other than Fully Mech.

(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 : neraikelamines@yahoo.com

Phone : 06767-275321

(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 : ORIO136 (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:75321 FAX:75631

Owner : NATIONAL ENTERPRISES

PO BOX :44 BARBIL KEONJHAR

ORISSA

Phone: 06767-75321 FAX: 06767-75631

Mining Engineer

Name : SHI SOUVIK MISHRA, Full Time

Qualification : B TECH MINING Appointment/ : 10/11/2017

Termination date

Geologist

Name : SHRI BINOD MOHANTY, Full Time

Qualification : M.Sc.(Geology)
Appointment/ : 18/11/2002

Termination date

Manager

Name : SHRI KAILASH KUMAR PRADHAN

Qualification : Diploma (Mining)

Appointment/ : 02/05/2015

Termination date

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	8 number of bore holes in 2017-18.	Proposed 08 numbers of bore holes have been drilled by lessee in 2018-19 as the mines was temporary closed for part period in 2017-18.	
1b	Exploration over lease area for geological axis 1 or 2	G1 Level of exploration.	Proposed 8 numbers of bore holes have been drilled by lessee under G1 Level of exploration.	Proposed 8 numbers of bore holes have been drilled by lessee under G1 Level of exploration.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Exploration agency not specifed prior to execution of proposed drilling.	Exploration agency involved in drilling was M/s Geo Exploration India. Cost incurred in drilling was Rs 750000/-	drilling was M/s Geo Exploration
1d	Balance area to be explored to bring Geological axis in 1 or 2	11.061 ha during plan period.	About 32.367 ha area has been explored under G1/G2 level by putting 32 nos. of bore holes.	About 32.367 ha area has been explored under G1/G2 level by putting 32 nos. of bore holes.
1e	Balance reserve as on 01/04/20	Balance reserve as per review of mining plan approved on 10/11/2017 was under proved (111)- 24816283T and resources- 8855147T	Balance reserve as on 01/04/2018 under 111 category was was under proved (111)-24670513T and resources-8855147T.	Balance reserve as on 01/04/2018 under 111 category was was under proved (111)-24670513T and resources-8855147T.
1f	General remarks of inspecting officers on geology, exploration etc	8 number of bore holes in 2017-18.	Proposed 08 numbers of bore holes have been drilled by lessee in 2018-19 as the mines was temporary closed for part period in 2017-18.	putting 32 nos. of

Development :

Sl.No.	Item	Propasals	Actual work	Remarks

2a	Location of development w.r.t.lease area	46N and	The development is concentrated in Top-A quarry between grid 2420746N/2420946N and E312501/E312701.	The development is as per proposal.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in OB and ore with 6m height, top soil benchnil.	Separate benches in OB and ore of 6m height have been maintained.	Separate benches in OB and ore of 6m height have been maintained.
2c	Stripping ratio or ore to OB ratio	1:0.127	1:0.87	Stripping ratio is less due to less ROM production than proposed.
2d	Quantity of topsoil generation in m3	Not proposed.	Nil.	There is no top soil generation.
2e	Quantity of overburden generation in m3	21160 cu.m	18230 cu.m	Less quantity of OB generated due to less production of ROM as proposed.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	The development is proposed in single pit, top-A quarry.	The development is carried out in single pit top-A quarry as per proposal.	The development is carried out in single pit top-A quarry as per proposal.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Single pit.	The development is concentrated in single pit Top-A quarry between grid 2420746N/2420946N and E312501/E312701.	Development is as per proposal.
3b	Quantity of ROM mineral production proposed	500040 T	291540 Т	ROM Production is less due to low market demand.
3с	Recovery of sailable/usable mineral from ROM production	500040 MT	291540 Т	Production is less due to low market demand.

3d	Quantity of mineral reject generation	No proposal in 2017-18 as working is proposed in mineralised zone above cut off grade.	After processing of ROM, mineral reject/sub grade reported is 9180T Below 55% Fe.	After processing of ROM, mineral reject/sub grade reported is 9180T Below 55% Fe.
3e	Grade of mineral rejects generation and threshold value declared.	After processing of ROM, mineral reject/sub grade reported is 9180T Below 55% Fe.		After processing of ROM, mineral reject/sub grade reported is 9180T Below 55% Fe.
3f	Quantity of sub grade mineral generation.	After processing of ROM, mineral reject/sub grade reported is 9180T Below 55% Fe.		After processing of ROM, mineral reject/sub grade reported is 9180T Below 55% Fe.
3g	Grade of sub grade mineral generation	After processing of ROM, mineral reject/sub grade reported is 9180T Below 55% Fe.		After processing of ROM, mineral reject/sub grade reported is 9180T Below 55% Fe.
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised.	Mechanised.	Mechanised.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Crushing and screening of ROM	Only crushing and screening of ROM 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 exlposive as coloumn charge and booster alongwith delay detonator.	Blast holes by 100 mm diameter DTH drills. The explosive column is blasted under 'V' type blasting pattern initiated by booster alongwith delay detonator.	Blast holes by 100 mm diameter DTH drills. The explosive column is blasted under 'V' type blasting pattern initiated by booster alongwith delay detonator.
3k	Provision of mining machineries in mineral benches	Excavator 0.9 cum-3, Loader 1.9 cum-2, Dumper 15T-6, Drill machine 100mm dia-1, Water Tanker -	Excavator 0.9 cum-4, Loader 1.9 cum-2, Dumper 15T-6, Drill machine 100mm dia-1, Water Tanker 12KL-1	Excavator 0.9 cum- 4, Loader 1.9 cum- 2, Dumper 15T-6, Drill machine 100mm dia-1, Water Tanker 12KL-1
31	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height- 6m	Bench height is suitably matched with the excavator.	Bench height is suitably matched with the excavator.
3m	Total area covered under excavation/pits	19.670 ha proposed during approved plan period.	About 19.56 ha. ha area has been covered under excavation pits.	About 19.56 ha. ha area has been covered under excavation pits.
3n	Ore to OB ratio for the pit/mine during the year.	1:0.127	1:0.87	Stripping ratio is less due to less ROM production than proposed.
30	Total area put in use under different heads at the end of year	Area proposed under different heads are Pit-19.920 ha, waste dump-1.96 ha, Infrasructure-0.280, roads-0.75 ha & Mineral storage-3.9925 ha & others -1.570 ha.	Area covered under different heads are Pit-19.56 ha, waste dump-1.96, Infrasructure & roads-1.030 ha & Mineral storage & others -5.562 ha.	Area covered under different heads are Pit-19.56 ha, waste dump-1.96, Infrasructure & roads-1.030 ha & Mineral storage & others -5.562 ha.

3p	Production of ROM mineral during the last five year period as applicable		13-14 - 439646T 14-15 - 499770T 15-16 - 499500T 16-17 - 499550T 17-18 - 291540	ROM Production is less due to low market demand.
3q	1 3	ROM has been proposed in	The ROM production has been carried out in single pit. Top-A quarry. DTH drilling of 110mm dia. Blast hole with emulsion/ slurry explosive alongwith delay detonator is being practiced for drilling and blasting.	The ROM production has been carried out in single pit as per proposal.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	dumping for	Separate dumping for overburden and mineral reject are maintatined.	
4b	Location of topsoil, OB and mineral reject dumps	E12690/E12885 to N2420846/N2420		Dumping of OB/waste and mineral reject are as per proposal.
4c	Number of dumps within lease area and outside of lease area	One active OB dump and one MR dump.	There is one active OB dump and one mineral reject present within lease area.	There is one active OB dump and one mineral reject present within lease area.

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	E12690/E12885 to	OB/waste dump- E12690/E12885 to N2420846/N2420966, MR- E312690/E312748 to N2420646/2420696	Locations of dumps are outside UPL.
4e	Number of active and alive dumps.		There is one active OB dump and one mineral reject present within lease area.	There is one active OB dump and one mineral reject present within lease area.
4f	Number of dead dumps.	Present dump is active & there is no dead dump in lease area.	There is one dump in lease area which is active dump.	There is no dead dump.
4g	Number of dumps established.	Present dump is active & there is no dead dump in lease area.	There is one dump in lease area which is active dump.	Present dumps are active in nature.
4h	Whether Retaining wall or garland drain all along dumps are there.	and garland	Along the dumps retaining wall and garland drain are made. It is observed during inspection that retaining wall constructed around dump got damaged and not continuous in nature.	Shortcoming is pointed out through violation letter no. ORI/IRON/SNG/MCDR-9/BBS, dated 29/03/2019.
4i	Length of Retaining wall or garland drain all along dumps	and garland	Along the dumps retaining wall and garland drain are made. It is observed during inspection that retaining wall constructed around dump got damaged and not continuous in nature.	Shortcoming is pointed out through violation letter no. ORI/IRON/SNG/MCDR-9/BBS, dated 29/03/2019.
4 j	Number of settling ponds	No proposal as there is one sttling ponds exist in side of dump.	There is one sttling ponds exist in the lease area.	There is one sttling ponds exist in the lease area.

4k Specific One active OB The comments of dump and one dump and one dump and one officer on waste dump management was stated.

One active OB There is one active OB dump and one dump and one mineral reject present within lease area. Slope of the waste dump has been stabilised by plantation

It is observed during inspection that retaining wall constructed around dump got damaged and not continuous in nature.

Shortcoming is pointed out through violation letter no.

ORI/IRON/SNG/MCDR-9/BBS, dated 29/03/2019.

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 fully exhausted.	Pit is not matured for backfilling and reclamation and rehabilitation.	for	Pit is not matured for backfilling and reclamation and rehabilitation.
5b	Area under backfilling of mined out area	Not proposed as pit is not fully exhausted.	Pit is not matured for backfilling and reclamation and rehabilitation.	for	Pit is not matured for backfilling and reclamation and rehabilitation.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not proposed as pit is not fully exhausted.	Pit is not matured for backfilling and reclamation and rehabilitation.	for	Pit is not matured for backfilling and reclamation and rehabilitation.
5d	Total area fully reclaimed and rehabilitated	Not proposed as pit is not fully exhausted.	Pit is not matured in backfilling and reclamation and rehabilitation.	for	Pit is not matured for backfilling and reclamation and rehabilitation.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	not proposed	Pit is not matured for backfilling and reclamation and rehabilitation.	for	Pit is not matured for backfilling and reclamation and rehabilitation.

Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
ба	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	Annual return on PMCP	Annual return on PMCP has been submitted.	Annual return on PMCP has been submitted.
6b	Area available for rehabilitation (ha) .	Not proposed as pit is not fully exhausted.	Pit is not matured for backfilling and reclamation and rehabilitation.	Pit is not matured for backfilling and reclamation and rehabilitation.
6c	afforestation done (ha).	0.392 ha area.	In 2017-18, 2000 nos. of tree. planted by lessee in 0.40 ha area.	In 2017-18, 2000 nos. of tree. planted by lessee in 0.40 ha area.
6d	No. of saplings planted during the year	627 nos. of saplings.	In 2017-18, 2000 nos. of tree. planted by lessee in 0.40 ha area.	In 2017-18, 2000 nos. of tree. planted by lessee in 0.40 ha area.
6e	Cumulative no .of plants	627 nos. of saplings in 2017-18.	Cumulative nos. of saplings planted in the lease area is about 41750.	Cumulative nos. of saplings planted in the lease area is about 41750.
6f	Any other method of rehabilitation	Not proposed as pit is not fully exhausted.	Pit is not matured for backfilling and reclamation and rehabilitation.	Pit is not matured for backfilling and reclamation and rehabilitation.
6g	Cost incurred on watch and care during the year	Not specified.	Around Rs 75000/-cost incurred on watch and care.	Around Rs 75000/- cost incurred on watch and care.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Not proposed as pit is not fully exhausted.	Pit is not matured for backfilling and reclamation and rehabilitation.	Pit is not matured for backfilling and reclamation and rehabilitation.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not proposed as pit is not fully exhausted.	Pit is not matured for backfilling and reclamation and rehabilitation.	Pit is not matured for backfilling and reclamation and rehabilitation.

6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestati on on backfilled area	Not proposed as pit is not fully exhausted.	Pit is not matured for backfilling and reclamation and rehabilitation.	Pit is not matured for backfilling and reclamation and rehabilitation.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not proposed as pit is not fully exhausted.	Pit is not matured for backfilling and reclamation and rehabilitation.	Pit is not matured for backfilling and reclamation and rehabilitation.
61	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not proposed as pit is not fully exhausted.	Pit is not matured for backfilling and reclamation and rehabilitation.	Pit is not matured for backfilling and reclamation and rehabilitation.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	No proposal as there is no waste land.	There is no waste land in lease area.	There is no waste land in lease area.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No proposal as there is no waste land.	There is no waste land in lease area.	There is no waste land in lease area.
60	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	No proposal as there is no waste land.	There is no waste land in lease area.	There is no waste land in lease area.
бр	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring.	Quarterly monitoring of air, water and noise level are being carried out.	Quarterly monitoring of air, water and noise level are being carried out.

6q	General remarks	Reclamation	Pit is not matured for	Pit is not matured
	of inspecting	and	backfilling and	for backfilling
	officers on PMCP	rehabilitation	reclamation and	and reclamation
	compliance and	not proposed	rehabilitation.	and
	progressive	as pit is not		rehabilitation.
	closure	fully		
	operations etc.	exhausted.		

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Gradewise sorting.	Gradewise sorting is being practiced.	Gradewise sorting is being practiced.
7b	Method of grade- wise mineral sorting i.e. manual or mechanical.	Mechanised.	Mechanised.	Mechanised.
7c	Different grade of mineral sorted out at mines.	45% to 58% Fe and +58% Fe.	Different grades of minerals sorted out at mines are 45% to 58% Fe and +58% Fe.	Different grades of minerals sorted out at mines are 45% to 58% Fe and +58% Fe.
7d	Any beneficiation process at mines .	Not proposed.	Only crushing and screening Of ROM is being practiced.	Only crushing and screening Of ROM is being practiced.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	to 58% Fe and +58% Fe.	Different grades of minerals sorted out at mines are 45% to 58% Fe and +58% Fe. Cut off grade of iron ore for the mine is +58%.	Different grades of minerals sorted out at mines are 45% to 58% Fe and +58% Fe. Cut off grade of iron ore for the mine is +58%.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Not proposed.	Nil.	There is no top soil generation.

8b	Concurrent use or storage of topsoil	Not proposed.	Nil.	There is no top soil generation.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping for overburden and mineral reject.	Separate dumping for overburden and mineral reject are maintained.	Separate dumping for overburden and mineral reject are maintained.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not proposed as pit is not fully exhausted.	Reclamation and rehabilitation not proposed as pit is not fully exhausted.	Pit is not matured for backfilling and reclamation and rehabilitation.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Reclamation and rehabilitation not proposed as pit is not fully exhausted.	Reclamation and rehabilitation not proposed as pit is not fully exhausted.	Reclamation and rehabilitation not proposed as pit is not fully exhausted.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	627 nos. of plantation in 2017-18.	Total 2000 nos. saplings have been planted in 2017-18. Cumulative 41750 nos. have been planted by lessee.	Total 2000 nos. saplings have been planted in 2017-18. Cumulative 41750 nos. have been planted by lessee.
8g	Survival rate	Not specified.	As reported survival rate is 60%.	As reported survival rate is 60%.
8h	Water sprinkling on roads to control airborne dust	One water sprinkler.	One water sprinkler of 12KL is used to control air borne dust.	One water sprinkler of 12KL is used to control air borne dust.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	627 nos. of plantation in 2017-18.	In 2017-18, total 2000nos of saplings have been planted by lessee. As reported cumulative no. of trees planted by lessee is about 41750 nos.	Aesthic beauty in and aroun mined area is maintained plantation.

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly & Annual returns are being regularly submitted by lessee.	Monthly & Annual returns are being regularly submitted by lessee.	Monthly & Annual returns are being regularly submitted by lessee.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	The employment status of mining engineer, geologist & mine manager have been furnished in the annual return submitted for the year 2017-18.	The employment status of mining engineer, geologist & mine manager have been furnished in the annual return submitted for the year 2017-18.	Mining engineer-2, Geologist-1 & Surveyor-1
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	different heads are Pit-19.920 ha,	Area covered under different heads are Pit-19.920 ha, waste dump-1.96 ha, Plant, residential & building, roads-1.030 ha & Mineral storage & others -5.562 ha.	Area covered under different heads are Pit-19.920 ha, waste dump-1.96 ha, Plant, residential & building, roads-1.030 ha & Mineral storage & others -5.562 ha.
9d	Scrutiny of Annual return on afforestation		2000 nos. of tree.	2000 nos. of tree.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	9180T Below 55% Fe.	9180T Below 55% Fe.	9180T Below 55% Fe.

9f	Annual return on	furnished gradewise Below 55%, 55%	Closing stock furnished gradewise Below 55%, 55% to below 58%, 58% to below 60%, 60% to below 62% and 62% to below 65% Fe.	Closing stock furnished gradewise Below 55%, 55% to below 58%, 58% to below 60%, 60% to below 62% and 62% to below 65% Fe.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Lump: 60% to below 62%- Rs	Fines: 58% to below 60%-	Ex mine proce: Lump: 60% to below 62%- Rs 1967.36/- Fines: 58% to below 60%- Rs 1230/-
9h	Scrutiny of Annual return on fixed assets		Value of Fixed Assets Rs 155922925/-	Value of Fixed Assets Rs 155922925/-
9k	Scrutiny of Annual return on mining machineries	cum-4, Loader 1.9 cum-2,	Excavator 0.9 cum-4, Loader 1.9 cum-2, Dumper 15T-6, Drill machine 100mm dia-1, Water Tanker 12KL-1	Excavator 0.9 cum- 4, Loader 1.9 cum- 2, Dumper 15T-6, Drill machine 100mm dia-1, Water Tanker 12KL-1

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Details of violations observed during current inspection and compliance position of violation pointed out

Violatio	n observed	Show couse position	
Rule NO.	Issued on Compliance on	Rule NO.	Issued on Compliance on
MCDR17 Rule 12(1)	29/03/2019		

Date:

(DAYANAND UPADHYAY)

Indian Bureau of Mines