

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

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/KJR/MCDR-86/BBS

Mine code : 30ORI08115

- (i) Name of the Inspecting : **U11**) **DAYANAND UPADHYAY**
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri Manas kumar Sahu, Mines Manager
Official with
Designation
- (iv) Date of Inspection : 05/01/2021
- (v) Prev.inspection date : 09/03/2020

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **NAYAGARH IRON ORE MINE**
- (b) **Registration NO.** : **IBM/4639/2011**
- (c) Category : A Other than Fully Mech.
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : KEONJHAR
- Village : NAYAGARH
- Taluka : JHUMPURA
- Post office : DABUNA
- Pin Code : 758086
- FAX No. : 0674-2394794
- E-mail : sp@kcp.in
- Phone : 0674-2392078, 2392099
- (f) Police Station : Jhumpra
- (g) First opening date : 17/09/2018
- (h) Weekly day of rest : SUN
2. Address for : Village-Nayagarh
correspondance : Tahasil-Jhumura
Dist-Keonjhar, Odisha
3. (a) Lease Number :
- (b) Lease area :
- (c) Period of lease :
- (d) Date of Expiry :
4. Mineral worked : IRON ORE Main

5. Name and Address of the

Lessee : K. C. PRADHAN
 K.C.PRADHAN, MINES
 OWNER,PLOT NO.1262 ROAD-
 8,UNIT-9 BHUBNESHWAR ORISSA
 Phone:0674-2394794
 FAX :0674-2392078

Owner : K.C.PRADHAN
 K.C.PRADHAN, MINES OWNER
 PLOT NO-1262, ROAD-8 UNIT-9
 BHUBNESHWAR ORISSA
 Phone: 0674-2394794
 FAX : 0674-2392078

Agent : SIDDARTHA PRADHAN
 KHURDA ORISSA
 Phone: 9439066666
 FAX : 0674-2394794

Mining Engineer

Name : Manas Kumar Sahu,Full Time
 Qualification : B Tech in Mining Engg
 Appointment/ : 16/09/2018
 Termination date

Geologist

Name : Sachdananda Giri,Full Time
 Qualification : MSC Geology
 Appointment/ : 11/11/2019
 Termination date

Manager

Name : Manas Kumar Sahu
 Qualification : B Tech Mining Engineer
 Appointment/ : 16/09/2018
 Termination date

6. Date of approval of Mining	:	MP modif under 17(3) MCR 2016	27/03/2018
Plan/Scheme of Mining	:	MP modif under 17(3) MCR 2016	15/07/2020

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	In 2019-20, 6nos. of boreholes have been proposed to be drilled.	In 2019-20, 11 nos. of boreholes have been drilled.	In 2019-20, 11 nos. of boreholes have been drilled.
1b	Exploration over lease area for geological axis 1 or 2	In 2019-20, 6nos. of boreholes have been proposed to be drilled under G1 level.	In 2019-20, 11 nos. of boreholes have been drilled under G1 level.	Entire lease area is explored under G1 Level of exploration.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not specified	Exploration Agency: M/s SPS Geo Mining Solutions Pvt. Ltd. Expenditure: Rs. 36,44,365.00	Exploration Agency: M/s SPS Geo Mining Solutions Pvt. Ltd. Expenditure: Rs. 36,44,365.00
1d	Balance area to be explored to bring Geological axis in 1 or 2	In 2019-20, 6nos. of boreholes have been proposed to be drilled under G1 level.	In 2019-20, 11 nos. of boreholes have been drilled under G1 level.	Entire lease area is explored under G1 Level of exploration.

1e	Balance reserve as on 01/04/20	As per the modification of mining plan approved dated 27.03.2018, Reserve and Resource are as follows: Reserve is 0.926 million tones and Remaining resources is 1.825 million tones. Total reserves & resources is 2.751 million tones	Reserve and Resource as on 01.04.2020 are as follows as furnished in annual return for 2019-20: Reserve is 0.786 million tones.	Reserve and Resource as on 01.04.2020 are as follows as furnished in annual return for 2019-20: Reserve is 0.786 million tones.
1f	General remarks of inspecting officers on geology, exploration etc	In 2019-20, 6nos. of boreholes have been proposed to be drilled under G1 level.	In 2019-20, 11 nos. of boreholes have been drilled under G1 level.	Entire lease area is explored under G1 Level of exploration.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Insitu quarry- 140S to 322S & 9E to 135W Float quarry- 228S to 357S & 81E to 173E	In 2019-20, development done in insitu Quarry as per proposal. Float quarry was not operated.	Float quarry was not operated and violation was pointed out in this regard.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in over burden and mineral proposed	Separate benches in over burden and mineral developed	Separate benches in over burden and mineral developed

2c	Stripping ratio or ore to OB ratio	Insitu quarry- 1:0.20(M3/M3)	Insitu quarry- 1:0.24(M3/M3)	Float quarry was not operated and violation was pointed out in this regard.
2d	Quantity of topsoil generation in m3	812M3	Top soil generation from insitu quarry was 98cu.m	Top soil generation from insitu quarry was 98cu.m
2e	Quantity of overburden generation in m3	Insitu quarry- 4800M3, Float quarry-1163M3	Overburden generated from insitu quarry was 6476 m3 and Float quarry was not operated.	Overburden generated from insitu quarry was 6476 m3 and Float quarry was not operated.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Insitu quarry- 140S to 322S & 9E to 135W Float quarry- 228S to 357S & 81E to 173E	In 2019-20, development done in insitu Quarry as per proposal. Float quarry was not operated.	Float quarry was not operated as proposed and violation was pointed out in this regard.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Two numbers of quarries namely Insitu quarry and Float quarry were proposed for production.	One number of quarry namely Insitu quarry was put for production	Float quarry was not operated as proposed and violation was pointed out in this regard.
3b	Quantity of ROM mineral production proposed	79,998MT in 2019-20	79,280MT in 2019-20	In 2019-20, actual ROM production was 79,280MT
3c	Recovery of sailable/usable mineral from ROM production	90% from in situ quarry and 60% from float quarry.	89% from in situ quarry.	89% from in situ quarry.
3d	Quantity of mineral reject generation	2279MT	5910.00MT	Quantity of mineral reject generated was 5910 tones.

3e	Grade of mineral rejects generation and threshold value declared.	45%-58%. Threshold value declared-45%	45%-58%. Threshold value declared-45%	45%-58%. Threshold value declared-45%
3f	Quantity of sub grade mineral generation.	2279MT	5910.00MT	Quantity of mineral reject generated was 5910 tones.
3g	Grade of sub grade mineral generation	45%-58%. Threshold value declared-45%	45%-58%. Threshold value declared-45%	45%-58%. Threshold value declared-45%
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	Nil	Nil
3j	Provision of drilling and blasting in mineral benches	Hard insitu iron ore will be loosened by drilling and blasting for facilitating the excavation by the excavator.	Drilling & blasting has been carried out as per proposal.	Drilling & blasting has been carried out as per proposal.
3k	Provision of mining machineries in mineral benches	Shovel and dumper combination.	Shovel and dumper combination.	Shovel and dumper combination.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height-3mtr proposed	Bench height is suitable for method of mining proposed.	Bench height is suitable for method of mining proposed.

3m	Total area covered under excavation/pits	Area under excavation at the end of plan period proposed 5.846 Ha	Area under excavation at the end 2019-20 as furnished in annual return submitted for 2019-20 is 3.909Ha Ha	Area under excavation at the end 2019-20 as furnished in annual return submitted for 2019-20 is 3.909Ha Ha
3n	Ore to OB ratio for the pit/mine during the year.	Insitu quarry- 1:0.20(M3/M3)	Insitu quarry- 1:0.24(M3/M3)	Insitu quarry- 1:0.24(M3/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 17.366 Ha	Total area put in use under different heads at the end of 2019-20 as furnished in annual return of 2018-19 is 8.132 Ha	Total area put in use under different heads at the end of 2019-20 as furnished in annual return of 2018-19 is 8.132 Ha
3p	Production of ROM mineral during the last five year period as applicable	2018-19 = 79,998mt 2019-20=79,998mt	2018-19 = 60,640mt 2019-20= 79280mt	ROM production is within approved proposal.
3q	General remarks of inspecting officers on method of mining etc.	Two number of quarries namely Insitu quarry and float quarry.	In 2019-20, development done in insitu Quarry as per proposal. Float quarry was not operated.	Float quarry was not operated as proposed and violation was pointed out in this regard.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dumping of top soil, overburden and mineral reject proposed.	Separate dumping of top soil, overburden and mineral reject done as per proposal.	Separate dumping of top soil, overburden and mineral reject done as per proposal.
4b	Location of topsoil, OB and mineral reject dumps	Overburden to be dumped at waste dumping site located at the south-eastern corner of the M.L area.	Overburden has been dumped at waste dumping site located at the south-eastern corner of the M.L area.	Overburden has been dumped at waste dumping site located at the south-eastern corner of the M.L area.

4c	Number of dumps within lease area and outside of lease area	Number of dumps within lease area is one number. No dumps are outside the lease area.	Number of dumps within lease area is one number. No dumps are outside the lease area.	Number of dumps within lease area is one number. No dumps are outside the lease area.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Dumps are outside the ultimate pit limit.	Dumps are outside the ultimate pit limit.	Dumps are outside the ultimate pit limit.
4e	Number of active and alive dumps.	No of active dump is one number.	No of active dump is one number.	No of active dump is one number.
4f	Number of dead dumps.	Number of dead dumps is nil	Number of dead dumps is nil	Number of dead dumps is nil
4g	Number of dumps established.	Number of dead dumps is nil	Number of dead dumps is nil	Number of dead dumps is nil
4h	Whether Retaining wall or garland drain all along dumps are there.	Maintenance of retaining wall and garland drain	Maintenance of retaining wall and garland drain have been done.	Maintenance of retaining wall and garland drain have been done.
4i	Length of Retaining wall or garland drain all along dumps	Maintenance of retaining wall and garland drain	Maintenance of retaining wall and garland drain have been done.	Maintenance of retaining wall and garland drain have been done.
4j	Number of settling ponds	Maintenance of settling ponds	Maintenance of settling pond has done.	Maintenance of settling pond has done.
4k	Specific comments of inspecting officer on waste dump management	Separate dumping of top soil, overburden and mineral reject proposed. Dumps are outside the ultimate pit limit.	Separate dumping of top soil, overburden and mineral reject done as per proposal. Dumps are outside the ultimate pit limit.	Separate dumping of top soil, overburden and mineral reject done as per proposal. Dumps are outside the ultimate pit limit.

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.	Not Proposed	The mine is not matured for reclamation and rehabilitation.	The mine is not matured for reclamation and rehabilitation.
5b	Area under backfilling of mined out area	Not Proposed	The mine is not matured for reclamation and rehabilitation.	The mine is not matured for reclamation and rehabilitation.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Top soil generated to be stacked at the south western part of M.L area.	Top soil generated has been stacked at the south western part of M.L area.	Top soil generated has been stacked at the south western part of M.L area.
5d	Total area fully reclaimed and rehabilitated	Not Proposed	The mine is not matured for reclamation and rehabilitation.	The mine is not matured for reclamation and rehabilitation.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	There is no proposal for reclamation and rehabilitation	The mine is not matured for 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 has been submitted	Annual report on PMCP has been submitted
6b	Area available for rehabilitation (ha) .	There is no proposal for reclamation and rehabilitation	The mine is not matured for reclamation and rehabilitation.	The mine is not matured for reclamation and rehabilitation.
6c	afforestation done (ha).	Plantation- 0.174Ha	Plantation- 0.174Ha	Plantation- 0.174Ha

6d	No. of saplings planted during the year	435nos. of saplings proposed for plantation	1150 nos. of saplings planted by lessee.	1150 nos. of saplings planted by lessee.
6e	Cumulative no .of plants	Not specified.	Cumulative 2320 no. of saplings planted by lessee.	Cumulative 2320 no. of saplings planted by lessee.
6f	Any other method of rehabilitation	There is no proposal for reclamation and rehabilitation	The mine is not matured for reclamation and rehabilitation.	The mine is not matured for reclamation and rehabilitation.
6g	Cost incurred on watch and care during the year	Not specified.	Cost incurred on watch & care Rs 72000/-	Cost incurred on watch & care Rs 72000/-
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Not Proposed	The mine is not matured for reclamation and subsequent rehabilitation.	The mine is not matured for reclamation and subsequent rehabilitation.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not Proposed	The mine is not matured for reclamation and subsequent rehabilitation.	The mine is not matured for reclamation and subsequent rehabilitation.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Not Proposed	The mine is not matured for reclamation and subsequent rehabilitation.	The mine is not matured for reclamation and subsequent rehabilitation.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not Proposed	The mine is not matured for reclamation and subsequent rehabilitation.	The mine is not matured for reclamation and subsequent rehabilitation.

6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not Proposed	The mine is not matured for reclamation and subsequent rehabilitation.	The mine is not matured for reclamation and subsequent 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. Quarterly environmental monitoring to be done	Annual report on PMCP for the year 2019-20 have been submitted. Environmental Monitoring is done on quarterly basis. The mine is not matured for reclamation and subsequent rehabilitation.	Annual report on PMCP for the year 2019-20 have been submitted. Environmental Monitoring is done on quarterly basis. The mine is not matured for reclamation and subsequent rehabilitation.

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	Grade-wise sorting	Grade-wise sorting
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical	Mechanical	Mechanical
7c	Different grade of mineral sorted out at mines.	45% to 58%Fe and +58%Fe	45% to 58%Fe and +58%Fe	45% to 58%Fe and +58%Fe
7d	Any beneficiation process at mines	Not proposed.	Only dry crushing and screening is practiced.	Only dry crushing and screening is practiced.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Grade-wise sorting.	Grade-wise sorting. Dry processing practiced consisting of crushing and screening of iron ore.	Grade-wise sorting. Dry processing practiced consisting of crushing and screening of iron ore.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Top soil generated to be stacked at the south western part of M.L area.	Top soil generated has been stacked at the south western part of M.L area.	Top soil generated has been stacked at the south western part of M.L area.
8b	Concurrent use or storage of topsoil	Top soil generated to be stacked at the south western part of M.L area.	Top soil generated has been stacked at the south western part of M.L area.	Top soil generated has been stacked at the south western part of M.L area.

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumping of top soil, overburden and mineral reject proposed.	Separate dumping of top soil, overburden and mineral reject done as per proposal.	Separate dumping of top soil, overburden and mineral reject done as per proposal.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not proposed as mine is not matured for reclamation and subsequent rehabilitation	Nil. The mine is not matured for reclamation and subsequent rehabilitation	The mine is not matured for reclamation and subsequent rehabilitation
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not proposed as mine is not matured for reclamation and subsequent rehabilitation	The mine is not matured for reclamation and subsequent rehabilitation	The mine is not matured for reclamation and subsequent rehabilitation
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	In 2019-20, 435nos of saplings proposed for plantation.	In 2019-20, 1150 nos of saplings planted.	In 2019-20, 1150 nos of saplings planted.
8g	Survival rate	Not specified.	Survival rate 82%	Survival rate 82%
8h	Water sprinkling on roads to control airborne dust	Water sprinkling on roads	One water tanker engaged for dust suppression.	One water tanker engaged for dust suppression.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	In 2019-20, 435nos of saplings proposed for plantation.	In 2019-20, 1150 nos of saplings planted. Aesthetic beauty in and around mines maintained.	Aesthetic beauty in and around mines maintained.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
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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 Mining engineer and Manager has been furnished in annual return	Mining Engineer, Geologist and Manager appointed in mines.	Mining Engineer, Geologist and Manager appointed in mines.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Already exploited by mining-3.909ha., Used for waste disposal-0.077ha., Occupied by plant, buildings, roads-3.166ha. Other purpose(mineral storage)-0.980ha.	Already exploited by mining-3.909ha., Used for waste disposal-0.077ha., Occupied by plant, buildings, roads-3.166ha. Other purpose(mineral storage)-0.980ha.	Already exploited by mining-3.909ha., Used for waste disposal-0.077ha., Occupied by plant, buildings, roads-3.166ha. Other purpose(mineral storage)-0.980ha.
9d	Scrutiny of Annual return on afforestation	Plantation-1150nos.	Plantation-1150nos.	Plantation-1150nos.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	5910.00MT, Grade- (45%-58%)	5910.00MT, Grade- (45%-58%)	5910.00MT, Grade- (45%-58%)
9f	Scrutiny of Annual return on ROM stock and/or graded ore	-55% lumps-1630.00MT 62%-65% lumps-69144.00MT -55%Fines-4280.00MT 55%-58% fines-28556.00MT	-55% lumps-1630.00MT 62%-65% lumps-69144.00MT -55%Fines-4280.00MT 55%-58% fines-28556.00MT	-55% lumps-1630.00MT 62%-65% lumps-69144.00MT -55%Fines-4280.00MT 55%-58% fines-28556.00MT

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex-mine price- 60%- 62%lumps=Rs.3150.00 50.00 62%- 65%lumps=Rs.3982.00 82.00 55%-58% fines=Rs.1094.00 00 Production cost- Rs.1541.70	Ex-mine price- 60%-62%lumps=Rs.3150.00 62%-65%lumps=Rs.3982.00 55%-58% fines=Rs.1094.00 Production cost- Rs.1541.70	Ex-mine price- 60%- 62%lumps=Rs.3150.00 0 62%- 65%lumps=Rs.3982.00 0 55%-58% fines=Rs.1094.00 Production cost- Rs.1541.70
9h	Scrutiny of Annual return on fixed assets	Rs.4246458.00	Rs.4246458.00	Rs.4246458.00
9k	Scrutiny of Annual return on mining machineries	Excavator 0.9m3- 01 no., Dumper 18MT- 04Nos., Crusher(30TPH) - 01 No., Loader(1.2m3)- 01no., Generator- 100KVA(1no.)	Excavator 0.9m3- 01 no., Dumper 18MT- 04Nos., Crusher(30TPH)- 01 No., Loader(1.2m3)- 01no., Generator- 100KVA(1no.)	Excavator 0.9m3- 01 no., Dumper 18MT- 04Nos., Crusher(30TPH)- 01 No., Loader(1.2m3)- 01no., Generator- 100KVA(1no.)

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 :

(DAYANAND UPADHYAY)

Indian Bureau of Mines