

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

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON-MN/SNG/MCDR-13/BBS

Mine code : 30ORI13036

- (i) Name of the Inspecting : **SRM**) **SHRI SUDIP RANJAN MAZUMDAR**
Officer and ID No.
- (ii) Designation : Senior Mining Geologist
- (iii) Accompanying mine : Shri Satish Mohanty, Geologist
Official with
Designation
- (iv) Date of Inspection : 07/03/2020
- (v) Prev.inspection date : 09/02/2020

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **NARAYANPOSHI**
- (b) **Registration NO.** : **IBM/5865/2011**
- (c) Category : A Other than Fully Mech.
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : SUNDARGARH
- Village : NARAYANPOSHI
- Taluka : BARBIL
- Post office : KOIRA
- Pin Code :
- FAX No. : 03322364602
- E-mail : contact@aryannmining.in
- Phone : 03322364601
- (f) Police Station : KOIRA
- (g) First opening date : 03/02/1945
- (h) Weekly day of rest : SAT
2. Address for : NARAYANPOSI IRON MINE OF A.M.TC.
correspondance AT/PO-KOIRA
DIST-SUNDERGARH
3. (a) Lease Number : ORI0124
- (b) Lease area : 349.25
- (c) Period of lease :
- (d) Date of Expiry : 31/03/2020
4. Mineral worked : MANGANESE ORE Associated
IRON ORE Main

5. Name and Address of the

Lessee : M/S A.M.T.C.(P) Ltd.
61,Strand Road KOLKATA
WEST BENGAL
Phone:
FAX :

Owner : PRADEEP KUMAR SARAF
M/S AMTC LTD KOLKATA, WEST
BENGAL SUNDARGARH ORISSA
Phone: 033 - 2395661
FAX :

Mining Engineer

Name : D.PATEL,Full Time
Qualification : DEGREE IN MINING
Appointment/ : 16/08/2013
Termination date

Geologist

Name : S. C. MOHANTY,Full Time
Qualification : MSC GEOLOGY
Appointment/ : 16/03/2009
Termination date

Manager

Name : D.PATEL
Qualification : DEGREE IN MINING
Appointment/ : 10/10/2007
Termination date

6. Date of approval of Mining	:	Modif.approved Mining Scheme	06/01/2004
Plan/Scheme of Mining		Renewal under rule 22 MCR1960	20/05/2004
		Modif.of approved Mining Plan	23/09/2008
		Modif.of approved Mining Plan	10/07/2009
		Mining Scheme rule 12 MCDR1988	29/04/2010
		Modif.approved Mining Scheme	25/10/2011
		Mining Scheme rule 12 MCDR1988	27/03/2015
		Modif.approved Mining Scheme	02/06/2016
		FMCP under 23C(1)	03/10/2018

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	In 2018-19, there was no proposal for exploration.	4 nos. of boreholes have been drilled.	Entire lease area explored under G1/G2 level of exploration.
1b	Exploration over lease area for geological axis 1 or 2	No proposal for exploration in 2018-19.	Entire lease area has been explored under G1/G2 level of exploration. Area explored under G1-99.387Ha and G2-249.867Ha.	Entire lease area has been explored under G1/G2 level of exploration. Area under G1-99.387Ha and G2-249.867Ha.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No proposal for exploration in 2018-19.	Exploration Agency: Gemco Kati Exploration Pvt. Ltd. Exploration Cost: Rs : 9.29 Lakhs	Exploration cost of 4 nos of boreholes drilled in 2018-19.
1d	Balance area to be explored to bring Geological axis in 1 or 2	No proposal for exploration in 2018-19.	Entire lease area has been explored under G1/G2 level of exploration. Area explored under G1-99.387Ha and G2-249.867Ha.	Entire lease area has been explored under G1/G2 level of exploration. Area explored under G1-99.387Ha and G2-249.867Ha.

1e	Balance reserve as on 01/04/20	Reserve and Resource as per modified schem of mining approved on 02.06.2016 is as follows: As on 01.04.2016 Iron Ore Reserve under 111 category: 24206253.91 tonnes and 122 category: 160797984 tonnes. Iron ore Resources under 211 category : 2158944 tonnes and under 222 category: 10681200 tonnes. Manganese Ore Reserve under 122 category was 534818 tonnes and manganese resources under 222 category was 7880 tonnes.	Reserve and resource as on 01.04.2019 are: Iron ore : Reserve under 111 category: 15216907 and under 122 category: 160797984 tonnes. Resources under 211 category: 2158944 tonnes and 222 category: 10681200 tonnes. Manganese Ore: Reserve under 122 category: 524930 tonnes and Resources under 222 category: 7880 tonnes	Data as furnished in annual return submitted for 2018-19.
1f	General remarks of inspecting officers on geology, exploration etc	No proposal for exploration in 2018-19.	Entire lease area has been explored under G1/G2 level of exploration. Area explored under G1- 99.387Ha and G2- 249.867Ha.	Entire lease area has been explored under G1/G2 level of exploration. Area explored under G1-99.387Ha and G2-249.867Ha.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	Q-3: N-2425986 - 318400-318806; E-318400-318806; Q-4: N2425643-2426068, E-318028-318453; Q-RF: N-2424865-2425362, E-317837-318267; Q-5 Mn: N2424544 - 2424828, E-317202-317433;	Q-3: N-2425975 -2426443, E-318400-318804; Q-4: N 2425643-2426040, E-318028-318450; Q-RF: N-2425013-2425298, E-317875-318265; Q-5Mn: N2424555 - 2424822, E- 317202-317430;	Q-3: N-2425975 - 2426443, E-318400-318804; Q-4: N 2425643-2426040, E-318028-318450; Q-RF: N-2425013-2425298, E-317875-318265; Q-5Mn: N2424555 - 2424822, E-317202-317430;
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in OB and Ore. There is no proposal for separate benches in top soil.	Separate benches in OB and Ore have been maintained. Some of the top benches are mixed with ore and waste.	There is no top soil benches.
2c	Stripping ratio or ore to OB ratio	In 2018-19, the Stripping ratio for iron ore praposed was 1: 0.175 t/t and for manganese ore: 1: 6.997 t/t	In 2018-19, the Stripping ratio for iron ore achieved was 1: 0.192 t/t and for manganese ore: 1: 15.288 t/t	In 2018-19, the Stripping ratio for iron ore achieved was 1: 0.192 t/t and for manganese ore: 1: 15.288 t/t
2d	Quantity of topsoil generation in m3	Not Proposed	Nil. There is no generation of top soil in 2018-19.	There is no generation of top soil in 2018-19.
2e	Quantity of overburden generation in m3	In 2018-19, there was proposal to generate 526124 cum of (OB/SB/IB) from iron ore zone and 114535 cum of (OB/SB/IB) from manganese ore zone.	During the year 2018-19, the actutal gneration of waste from Iron Ore Zone was 288062 cum and from manganese ore zone 13797.27cum.	During the year 2018-19, the actutal gneration of waste from Iron Ore Zone was 288062 cum and from manganese ore zone 13797.27cum.

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	The development is proposed in 04 quarry i.e Q-3,Q-4, Q-RF,Q-5 Mn	Development is carried out within the proposal as the production of iron ore was within the EC limit of 3.0 MTPA as against approved proposal of 6 MTPA.	Development is carried out within the proposal as the production of iron ore was within the EC limit of 3.0 MTPA as against approved proposal of 6 MTPA.
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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	In 2018-19, 04 number of Quarries have been proposed for production namely Q-3, Q-4, Q-RF for iron ore and Q-5(Mn) for manganese ore production.	In 2018-19, 04 Quarries have been put for production namely Q-3, Q-4, Q-RF for iron ore and Q-5(Mn) for manganese ore production.	In 2018-19, 04 number of Quarries have been put for production namely Q-3, Q-4, Q-RF for iron ore and Q-5(Mn) for manganese ore production.
3b	Quantity of ROM mineral production proposed	In 2018-19, production proposed for Iron Ore was 6000150MT and Mn Ore 36012.02MT	In 2018-19, actual production of Iron Ore was 2996966.95MT and Mn Ore was 1985.459 MT	Iron Ore production restricted within 3.0MTPA of approved EC limit.
3c	Recovery of sailable/usable mineral from ROM production	Iron ore- 4534998 MT, Manganese Ore- 32410.818 MT	Iron Ore- 2542429.08 MT, Manganese Ore- 1985.459 MT	Iron Ore production restricted within 3.0MTPA of approved EC limit.
3d	Quantity of mineral reject generation	Iron ore- 1465152 MT, Manganese Ore- 3601.202 MT	Iron ore- 454537.870 MT, Manganese Ore- Nil	Mineral reject generation is low due to less ROM production than proposed.

3e	Grade of mineral rejects generation and threshold value declared.	Grade of Mineral Reject for Iron Ore :+45-58% Fe, Threshold value declared for iron ore 45% Fe	Grade of Mineral Reject generated from Iron Ore :+45-58% Fe,	Grade of Mineral Reject generated from Iron Ore :+45-58% Fe,
3f	Quantity of sub grade mineral generation.	Iron ore- 1465152 MT, Manganese Ore- 3601.202 MT	Iron ore- 454537.870 MT, Manganese Ore- Nil	Subgrade generation was low due to less ROM production than proposed.
3g	Grade of sub grade mineral generation	Grade of subgrade mineral from Iron Ore :+45-58% Fe	Grade of subgrade mineral generated from Iron Ore :+45-58% Fe	Grade of subgrade mineral generated from Iron Ore :+45-58% Fe
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized method for iron ore and manual for manganese ore	Mechanized method for iron ore and manual for manganese ore	Mechanized method for iron ore and manual for manganese ore
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	It has been proposed to establish a beneficiation plant of 2.0 MTPA capacity during the financial year 2017-18 within the lease area to upgrade the iron ore and make it saleable.	Beneficiation plant could not be established due to want of EC during 2018-19. However the lessee has established the plant after receipt of Environment clearance and Consent to establish from SPCB, Odisha during 2019-20. But the beneficiation plant is not operated due to want of Consent to Operate from SPCB.	Beneficiation plant could not be established due to want of EC during 2018-19. However the lessee has established the plant after receipt of Environment clearance and Consent to establish from SPCB, Odisha during 2019-20. But the beneficiation plant is not operated due to want of Consent to Operate from SPCB.

3j	Provision of drilling and blasting in mineral benches	Hard iron ore will be loosened through drilling & blasting & will be fragmented by rock breakers. Drilling will be done for blast hole by 115mm dia DTH in iron ore zone fed by compressed air. High explosives will be loaded by bottom charging or deck charging. The stemming length is proposed to be one third of the hole depth. The explosive column will be blasted under 'V' type blasting pattern initiated by detonator & NONEL and safety fuse.	Drilling and blasting have been carried out with DTH drilling of 115 mm diameter as per proposal.	Drilling and blasting have been carried out with DTH drilling of 115 mm diameter as per proposal.
3k	Provision of mining machineries in mineral benches	Excavation is proposed through shovel and dumper combination.	Excavation is practised through shovel and dumper combination.	Excavator, loader and dumper are deployed for winning of ore.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench Height- 9m in iron ore and 6m in manganese ore zone.	Yes, height of benches is suitable for method of mining proposed in scheme of mining.	Yes, height of benches is suitable for method of mining proposed in scheme of mining.

3m	Total area covered under excavation/pits	Area under excavation/pits : 65.012 Ha proposed during the approved scheme period.	About 55.058 Ha area has been covered under excavation/pits.	About 55.058 Ha area has been covered under excavation/pits.
3n	Ore to OB ratio for the pit/mine during the year.	In 2018-19, the Stripping ratio for iron ore proposed was 1: 0.175 t/t and for manganese ore: 1: 6.997 t/t	In 2018-19, the Stripping ratio for iron ore achieved was 1: 0.192 t/t and for manganese ore: 1: 15.288 t/t	In 2018-19, the Stripping ratio for iron ore achieved was 1: 0.192 t/t and for manganese ore: 1: 15.288 t/t
3o	Total area put in use under different heads at the end of year	191.907 Ha up to end of scheme period	163.199 Ha upto 31.03.2019	163.199 Ha upto 31.03.2019
3p	Production of ROM mineral during the last five year period as applicable	Iron ore: FY-2018-19-6000150MT FY-2017-18-6001080MT FY-2016-17-6000564MT FY-2015-16-5035696MT FY-2014-15-3969330MT Mn ore- FY2018-19-36012.02MT FY2017-18-36006.96MT FY2016-17-35986.72MT FY2015-16-10373MT FY-2014-15-39621MT	Iron Ore : 2018-19 2996966.95 2017-18 2997053.14 2016-17 2995326.70 2015-16 2997270.46 2014-15 833472.667 Manganese Ore 2018-19 1985.459 2017-18 4046.343 2016-17 3856.346 2015-16 Nil 2014-15 Nil	Nil

3q	General remarks of inspecting officers on method of mining etc.	Excavation of ROM has been proposed in 04 quarries, namely Q-3,Q-4, Q-RF, Q-5 (Mn)	The ROM production has been carried out in 04 quarries, namely Q-3,Q-4, Q-RF, Q-5(Mn) within the proposal as the production of iron ore was within the EC limit of 3.0 MTPA as against approved proposal of 6 MTPA for iron ore.	The ROM production has been carried out in 04 quarries, namely Q-3,Q-4, Q-RF, Q-5(Mn) within the proposal as the production of iron ore was within the EC limit of 3.0 MTPA as against approved proposal of 6 MTPA for iron ore.
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Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	There is no proposal for top soil generation. Separate dumping for overburden and mineral reject.	Separate dumping for overburden and mineral reject.	There was no generation of top soil.

4b	Location of topsoil, OB and mineral reject dumps	Waste generated from Iron ore zone shall be dumped at Dump-1 and in the exhausted part of Q-3 for back filling. Waste generated from Mn Quarry shall be dumped at Dump-2 & proposed new dump-3	Waste generated from Iron ore zone has been dumped in Dump-1 & in the exhausted part of Q-3 for back filling. Waste of Mn Quarry has been dumped at Dump-2.	Waste generated from manganese quarries were proposed to be dumped in existing dump-2 and proposed new waste dump-3. During the year 2018-19, the manganese production achieved was only 1985.459 tonnes against proposal of 36008.80 tonnes. Therefore, the actual waste generated from manganese zone was only 13797.27 cum against the proposal of 114535 cum. These wastes generated have been dumped in dump-2 and thus proposed dump-3 have not been created.
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4c	Number of dumps within lease area and outside of lease area	03 dumps within the lease area	There are two active dumps within the lease area. Proposed new dump-3 have not been created.	Waste generated from manganese quarries were proposed to be dumped in existing dump-2 and proposed new waste dump-3. During the year 2018-19, the manganese production achieved was only 1985.459 tonnes against proposal of 36008.80 tonnes. Therefore, the actual waste generated from manganese zone was only 13797.27 cum against the proposal of 114535 cum. These wastes generated have been dumped in dump-2 and thus proposed dump-3 have not been created.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Dumps are proposed to be outside the UPL.	Dumps developed are outside the UPL in accordance with the approved SOM.	Dumps developed are outside the UPL in accordance with the approved SOM.
4e	Number of active and alive dumps.	03 dumps	There are two active dumps, namely Dump-1 and Dump-2 lies within the lease area. Proposed new dump-3 have not been created.	There are two active dumps, namely Dump-1 and Dump-2 lies within the lease area. Proposed new dump-3 have not been created.
4f	Number of dead dumps.	Nil	There is no dead dump.	There is no dead dump.
4g	Number of dumps established.	Nil	There is no dead dump.	There is no dead dump.

- 4h Whether Retaining wall or garland drain all along dumps are there. Proposal for retaining wall around Dump-1 : 133m, Backfilling area in Q-3: 380m, Dump-3: 525m (proposal as approved in FMCP) In 2018-19, Retaining wall constructed around Dump-1 was 125m. No retaining wall was constructed in backfilling area in Q-3 and retaining wall proposed around dump-3 was not constructed as dump-3 has not been created. The balance construction of retaining wall around Dump-1 and in backfilling area in Q-3 have been completed in 2019-20. In 2018-19, Retaining wall constructed around Dump-1 was 125m. No retaining wall was constructed in backfilling area in Q-3 and retaining wall proposed around dump-3 was not constructed as dump-3 has not been created. The balance construction of retaining wall around Dump-1 and in backfilling area in Q-3 have been completed in 2019-20.
- 4i Length of Retaining wall or garland drain all along dumps Proposal for retaining wall around Dump-1 : 133m, Backfilling area in Q-3: 380m, Dump-3: 525m (proposal as approved in FMCP) In 2018-19, Retaining wall constructed around Dump-1 was 125m. No retaining wall was constructed in backfilling area in Q-3 and retaining wall proposed around dump-3 was not constructed as dump-3 has not been created. The balance construction of retaining wall around Dump-1 and in backfilling area in Q-3 have been completed in 2019-20. In 2018-19, Retaining wall constructed around Dump-1 was 125m. No retaining wall was constructed in backfilling area in Q-3 and retaining wall proposed around dump-3 was not constructed as dump-3 has not been created. The balance construction of retaining wall around Dump-1 and in backfilling area in Q-3 have been completed in 2019-20.

4j	Number of settling ponds	In the approved FMCP, there was proposal to construct 3 nos of settling tanks. One no of settling tank around Dump-1, one no in mineral rejects and one no of settling tank around Dump-3	In 2018-19, the proposed settling tanks have not been created. The proposed one no of settling tank around Dump-1 have been created in 2019-20. Settling tank around dump-3 not created as dump-3 itself have not been created. Settling tank aound mineral reject have not been created as mineral rejects have been stored only in one of the proposed locations having existing protective measures.	In 2018-19, the proposed settling tanks have not been created. The proposed one no of settling tank around Dump-1 have been created in 2019-20. Settling tank around dump-3 not created as dump-3 itself have not been created. Settling tank aound mineral reject have not been created as mineral rejects have been stored only in one of the proposed locations having existing protective measures.
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4k	Specific comments of inspecting officer on waste dump management	Waste generated from Iron ore zone shall be dumped at Dump-1 and in the exhausted part of Q-3 for back filling. Waste generated from Mn Quarry shall be dumped at Dump-2 & proposed new dump-3	There are two active dumps within the lease area. Waste generated from manganese quarries were proposed to be dumped in existing dump-2 and proposed new waste dump-3. During the year 2018-19, the manganese production achieved was only 1985.459 tonnes against proposal of 36008.80 tonnes. Therefore, the actual waste generated from manganese zone was only 13797.27 cum against the proposal of 114535 cum. These wastes generated have been dumped in dump-2 and thus proposed dump-3 have not been created.	There are two active dumps within the lease area. Waste generated from manganese quarries were proposed to be dumped in existing dump-2 and proposed new waste dump-3. During the year 2018-19, the manganese production achieved was only 1985.459 tonnes against proposal of 36008.80 tonnes. Therefore, the actual waste generated from manganese zone was only 13797.27 cum against the proposal of 114535 cum. These wastes generated have been dumped in dump-2 and thus proposed dump-3 have not been created.
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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.	Backfilling in exhausted part of Q-3	Backfilling has been done in the exhausted part of Q-3	Backfilling has been done in the exhausted part of Q-3

5b	Area under backfilling of mined out area	In FY 2018-19, an area of 2.21 Ha area have been proposed for backfilling in Q-3	In FY 2018-19, an area of 1.56 Ha area have been backfilled in Q-3	In FY 2018-19, an area of 1.56 Ha area have been backfilled in Q-3
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not Proposed	Nil	There was no generation of top soil during 2018-19.
5d	Total area fully reclaimed and rehabilitated	In FY 2018-19, an area of 2.21 Ha area have been proposed for backfilling in Q-3	In FY 2018-19, an area of 1.56 Ha area have been backfilled in Q-3. Remaining area have been backfilled during 2019-20. Saplings have been planted over backfilled area of 2.21 ha in 2019-20.	In FY 2018-19, an area of 1.56 Ha area have been backfilled in Q-3. Remaining area have been backfilled during 2019-20. Saplings have been planted over backfilled area of 2.21 ha in 2019-20.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Backfilling of 2.21 Ha area of part of Quarry-3.	Back filling at 1.56 Ha area of the exhausted part of Q-3 have been done in 2018-19. Remaining 0.65 Ha as per proposal for 2018-19 have been backfilled in 2019-20 and the entire 2.21 ha area have been rehabilitated during the year 2019-20.	Back filling at 1.56 Ha area of the exhausted part of Q-3 have been done in 2018-19. Remaining 0.65 Ha as per proposal for 2018-19 have been backfilled in 2019-20 and the entire 2.21 ha area have been rehabilitated during the year 2019-20.

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).	As per rule 26 (2) of MCDR 2017, The holder of mining lease shall submit to the competent authority a yearly report as per the format specified by the Indian Bureau of Mines, before 1st day of July every year setting forth the extent of protective and rehabilitative works carried out as envisaged in the approved mine closure plan, and if there is any deviation, reasons thereof:	Annual return on PMCP has been submitted timely.	Annual return on PMCP has been submitted timely.
6b	Area available for rehabilitation (ha) .	Backfilling of 2.21 Ha area as part of Quarry-3.	Back filling at 1.56 Ha area of the exhausted part of Q-3 have been done in 2018-19. Remaining 0.65 Ha as per proposal of 2018-19 have been backfilled in 2019-20 and the entire 2.21 ha area have been rehabilitated during the year 2019-20.	Back filling at 1.56 Ha area of the exhausted part of Q-3 have been done in 2018-19. Remaining 0.65 Ha as per proposal of 2018-19 have been backfilled in 2019-20 and the entire 2.21 ha area have been rehabilitated during the year 2019-20.

6c	afforestation done (ha).	2.21 Ha backfilled area in Q3	Nil	The plantation over 2.21 ha backfilled area have been done in 2019-20.
6d	No. of saplings planted during the year	14505 saplings (As per FMCP)	5000nos	Plantation in the backfilled area have been done in 2019-20.
6e	Cumulative no .of plants	Not Specified	Cumulative nos. of saplings planted in the lease area is about 15880	Cumulative nos. of saplings planted in the lease area is about 15880
6f	Any other method of rehabilitation	Not Proposed	Nil	Nil
6g	Cost incurred on watch and care during the year	Rs 200000	Rs 288000	Cost proposal including watch and care during the year 2018-19 as per approved FMCP.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Backfilling at 2.21Ha area of exhausted part of Q-3	Back filling done at 1.56Ha area of the exhausted part of Q-3.	Back filling done at 1.56Ha area of the exhausted part of Q-3.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Backfilling at 2.21Ha area of exhausted part of Q-3	Back filling done at 1.56Ha area of the exhausted part of Q-3.	Back filling done at 1.56Ha area of the exhausted part of Q-3.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	2.21 Ha in 2018-19	Nil.	Afforestation in backfilled area done in 2019-20.

6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not Proposed during 2018-19.	Nil	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not Specified	Nil	Nil
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not Proposed	Nil	There is no proposal of rehabilitation of waste land.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not Proposed	Nil	There is no proposal of rehabilitation of waste land.
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 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 of inspecting officers on PMCP compliance and progressive closure operations etc.	Reclamation and rehabilitation by backfilling and plantation in 2.21Ha area in exhausted part of Q-3.	Back filling at 1.56 Ha area of the exhausted part of Q-3 have been done in 2018-19. Remaining 0.65 Ha as per proposal of 2018-19 have been backfilled in 2019-20 and the entire 2.21 ha area have been rehabilitated during the year 2019-20.	Back filling at 1.56 Ha area of the exhausted part of Q-3 have been done in 2018-19. Remaining 0.65 Ha as per proposal of 2018-19 have been backfilled in 2019-20 and the entire 2.21 ha area have been rehabilitated during the year 2019-20.
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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.	Manual for Mn ore and mechanised for Iron ore.	Manual for Mn ore and mechanised for Iron ore.	Manual for Mn ore and mechanised for Iron ore.
7c	Different grade of mineral sorted out at mines.	>45% Fe & < 58%Fe , >10% Mn & < 20%Mn.	Different grades of minerals sorted out at mines are >45% Fe & < 58%Fe , >10% Mn & < 20%Mn	Different grades of minerals sorted out at mines are >45% Fe & < 58%Fe , >10% Mn & < 20%Mn

7d	Any beneficiation process at mines .	It has been proposed to establish a beneficiation plant of 2.0 MTPA capacity during the financial year 2017-18 within the lease area to upgrade the iron ore and make it saleable.	Beneficiation plant could not be established due to want of EC during 2018-19. However the lessee has established the plant after receipt of Environment clearance and Consent to establish from SPCB, Odisha during 2019-20. But the beneficiation plant is not operated due to want of Consent to Operate from SPCB.	Beneficiation plant could not be established due to want of EC during 2018-19. However the lessee has established the plant after receipt of Environment clearance and Consent to establish from SPCB, Odisha during 2019-20. But the beneficiation plant is not operated due to want of Consent to Operate from SPCB.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	It has been proposed to establish a beneficiation plant of 2.0 MTPA capacity during the financial year 2017-18 within the lease area to upgrade the iron ore and make it saleable.	Beneficiation plant could not be established due to want of EC during 2018-19. However the lessee has established the plant after receipt of Environment clearance and Consent to establish from SPCB, Odisha during 2019-20. But the beneficiation plant is not operated due to want of Consent to Operate from SPCB.	Beneficiation plant could not be established due to want of EC during 2018-19. However the lessee has established the plant after receipt of Environment clearance and Consent to establish from SPCB, Odisha during 2019-20. But the beneficiation plant is not operated due to want of Consent to Operate from SPCB.

Environment :

Sl.No.	Item	Propasals	Actual work	Remarks
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8a	Separate removal and utilization of topsoil (Rule 32)	Not proposed	Nil	There was no proposal for generation of top soil.
8b	Concurrent use or storage of topsoil	Not proposed	Nil	There was no proposal for generation of top soil.
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.	Separate dumping for overburden and mineral reject.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Waste generated from Iron ore zone shall be dumped at Dump-1 and in the exhausted part of Q-3 for back filling.	About 1.56 Ha area in Quarry-3 have been backfilled as against the proposal of 2.21 ha.	About 1.56 Ha area in Quarry-3 have been backfilled as against the proposal of 2.21 ha.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	2.21 H ain Q-3	About 1.56 Ha area in Quarry-3 have been backfilled as against the proposal of 2.21 ha. Plantation over backfilled area hav ebeen done in 2019-20.	About 1.56 Ha area in Quarry-3 have been backfilled as against the proposal of 2.21 ha. Plantation over backfilled area hav ebeen done in 2019-20.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Not Specified	Total 5000 nos. saplings have been planted within lease in 2018-19. Cumulative 15880 nos. have been planted by lessee .	Total 5000 nos. saplings have been planted within lease in 2018-19. Cumulative 15880 nos. have been planted by lessee .
8g	Survival rate	Not specified.	As reported in annual return for 2018-19 the survival rate is 84.5%.	As reported in annual return for 2018-19 the survival rate is 84.5%.
8h	Water sprinkling on roads to control airborne dust	Water sprinkler	Water sprinkler are used to control air borne dust.	Water sprinkler are used to control air borne dust.

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Not Specified	Aesthetic beauty in and around mines area is maintained. Total 5000 nos. saplings have been planted within lease in 2018-19. Cumulative 15880 nos. have been planted by lessee .	Aesthetic beauty in and around mines area is maintained. Total 5000 nos. saplings have been planted within lease in 2018-19. Cumulative 15880 nos. have been planted by lessee .
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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	As per rule 45 (5)(b), The holder of a mining lease shall submit online returns in respect of each mine.....a monthly return which shall be submitted before the tenth day of every month in respect of the preceding month.....and as per rule 45 (5)(c), an annual return which shall be submitted before the 1st day of July each year for the preceding financial year in.....	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	The employment status of mining engineer, geologist & mine manager have been furnished in the annual return submitted for the year 2018-19.	Mining engineer, geologist & mine managers were employed in the mine.	Mining engineer, geologist & mine managers were employed in the mine.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Covered under current (O/C) Workings : 140.368 Ha, Used for waste disposal: 6.711 Ha, Occupied by plant, buildings, residential, welfare buildings & roads : 16.120 Ha, Other Purpose (Used for Road, Nala Etc): 35.957 Ha	Area under excavation : 55.058 Ha, Storage for Topsoil: 0.16 Ha, Overburden dump: 6.711 Ha, Mineral Storage: 28.198 Ha, Infrastructure (rest shelter, weigh bridge, hutting etc.): 5.0 Ha, Road (NH, village road & Mine road): 16.12 Ha, Mineral Separation Plant: 7.5 Ha, Others (Green belt): 44.452 Ha	Area under excavation : 55.058 Ha, Storage for Topsoil: 0.16 Ha, Overburden dump: 6.711 Ha, Mineral Storage: 28.198 Ha, Infrastructure (rest shelter, weigh bridge, hutting etc.): 5.0 Ha, Road (NH, village road & Mine road): 16.12 Ha, Mineral Separation Plant: 7.5 Ha, Others (Green belt): 44.452 Ha
9d	Scrutiny of Annual return on afforestation	Total 5000 nos. saplings have been planted in 2018-19.	Total 5000 nos. saplings have been planted in 2018-19.	Total 5000 nos. saplings have been planted in 2018-19.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Mineral reject 454537.870MT, Grade: +55- 58 % Fe	Mineral reject 454537.870MT, Grade: +55- 58 % Fe	Mineral reject 454537.870MT, Grade: +55- 58 % Fe

9f	Scrutiny of Annual return on ROM stock and/or graded ore	Closing stock maintained, Below 55%, 55% to below 58%, 58% to below 60%, 60% to below 62%, 62% to below 65%, 65%Fe and above.	Closing stock maintained, Below 55%, 55% to below 58%, 58% to below 60%, 60% to below 62%, 62% to below 65%, 65%Fe and above.	Closing stock maintained, Below 55%, 55% to below 58%, 58% to below 60%, 60% to below 62%, 62% to below 65%, 65%Fe and above.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex-mine prices of Processed ore(IRON ORE (Hematite) (in Rs Per Tonne) Lumps Grades (% of Fe content) : a. 60% to below 62%: Rs 3367.00 Fines Grades (% of Fe content) : (a). Below 55%: Rs 767.00 (b) 55% to below 58% : Rs 988.00 (c) 60% to below 62% : Rs 1993.00 (d) 62% to below 65% : Rs 1850.00 Production cost- Rs 1514.49 per tonne	Ex-mine prices of Processed ore(IRON ORE (Hematite) (in Rs Per Tonne) Lumps Grades (% of Fe content) : a. 60% to below 62%: Rs 3367.00 Fines Grades (% of Fe content) : (a). Below 55%: Rs 767.00 (b) 55% to below 58% : Rs 988.00 (c) 60% to below 62% : Rs 1993.00 (d) 62% to below 65% : Rs 1850.00 Production cost- Rs 1514.49 per tonne	Ex-mine prices of Processed ore(IRON ORE (Hematite) (in Rs Per Tonne) Lumps Grades (% of Fe content) : a. 60% to below 62%: Rs 3367.00 Fines Grades (% of Fe content) : (a). Below 55%: Rs 767.00 (b) 55% to below 58% : Rs 988.00 (c) 60% to below 62% : Rs 1993.00 (d) 62% to below 65% : Rs 1850.00 Production cost- Rs 1514.49 per tonne
9h	Scrutiny of Annual return on fixed assets	Fixed asset as furnished in Annual Return is Rs 66366173/-	Fixed asset as furnished in Annual Return is Rs 66366173/-	Fixed asset as furnished in Annual Return is Rs 66366173/-

9k	Scrutiny of Annual return on mining machineries	Back Hoe 0.900 CUM: 12Nos, Back Hoe 4.100 CUM: 3Nos, Air Compressor 12.740CUM/MN : 2 Nos,Front end loader 300.0 HP: 3 Nos, Dumper 30.0 TONNE: 18Nos, Dumper 10.0 TONNE: 13 Nos etc	Back Hoe 0.900 CUM: 12Nos, Back Hoe 4.100 CUM: 3Nos, Air Compressor 12.740CUM/MN : 2 Nos,Front end loader 1.800CUM: 8 Nos,Dozer 300.0 HP: 3 Nos, Dumper 30.0 TONNE: 18Nos, Dumper 10.0 TONNE: 13 Nos etc	Back Hoe 0.900 CUM: 12Nos, Back Hoe 4.100 CUM: 3Nos, Air Compressor 12.740CUM/MN : 2 Nos,Front end loader 1.800CUM: 8 Nos,Dozer 300.0 HP: 3 Nos, Dumper 30.0 TONNE: 18Nos, Dumper 10.0 TONNE: 13 Nos etc
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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 :

(**SHRI SUDIP RANJAN MAZUMDAR**)

Indian Bureau of Mines