

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

MCDR INSPECTION REPORT

Nagpur regional office

Mine file No : MAH/NAG/MN-306/NGP

Mine code : 40MSH14028

- (i) Name of the Inspecting : **204**) **SNEHANKIT H. CHATTE**
Officer and ID No.
- (ii) Designation : Assistant Mining Engineer
- (iii) Accompanying mine :
Official with
Designation
- (iv) Date of Inspection : 10-Jun-21
- (v) Prev.inspection date : 20-Sep-19

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **NEW SATUK (16.84 HA)**
- (b) **Registration NO.** : **IBM/5711/2011**
- (c) Category : B Manual
- (d) Type of Working : Opencast
- (e) Postal address :
State : MAHARASHTRA
District : NAGPUR
Village : BELDONGRI
Taluka : PRSEONI
Post office : SATUK
Pin Code :
FAX No. :
E-mail :
Phone :
- (f) Police Station :
- (g) First opening date : 01-Jan-84
- (h) Weekly day of rest :
2. Address for :
correspondance
3. (a) Lease Number : MSH0080
- (b) Lease area : 16.84
- (c) Period of lease : 50
- (d) Date of Expiry : 10-Sep-30
4. Mineral worked : MANGANESE ORE Main

5. Name and Address of the

Lessee : M/S MANGANESE ORE (INDIA) LTD.
 3, MOUNT ROAD EXTENSION
 POST BOX NO. 34, NAGPUR
 (MP) NAGPUR MAHARASHTRA
 Phone:
 FAX :

Owner : C.P.N.PATHAK
 3, MOUNT ROAD EXTN. POST
 BOX NO. 34 NAGPUR NAGPUR
 MAHARASHTRA
 Phone: 0712 - 2545703
 FAX : 0712 - 2524996

6. Date of approval of Mining	:	Renewal under rule 22 MCR1960	29-Apr-03
Plan/Scheme of Mining		Mining Scheme rule 12 MCDR1988	13-Oct-06
		Mining Scheme rule 12 MCDR1988	21-Mar-12
		MP review under 17(1) MCR 2016	04-Apr-17
		MP review under 17(1) MCR 2016	01-Apr-20

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	YEAR 2020-21= 02 Bore holes	Year 2020-21=Nil, however, 2015-16: 3 boreholes were drilled in the area at 20-50 m grid interval with 50 m depth for each borehole 2017-18: total 11 boreholes were drilled at 20-50 m grid interval and 608 m drilling meterage	Violation for the deviation was issued to M/s Moil Ltd on 22.06.2021
1b	Exploration over lease area for geological axis 1 or 2	G1	G1	Area has already been explored in detail with 33 nos. of boreholes as mentioned in 1a upto around 260 mRL whereas general RL is 301-304 mRL.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	YEAR 2020-21= 02 Bore holes	Year 2020-21=Nil,	Violation for the deviation was issued to M/s Moil Ltd on 22.06.2021, However, The area was already explored in the year 2017- 18 by MOIL

1d	Balance area to be explored to bring Geological axis in 1 or 2	Almost entire area has been proved upto G-1 level.	The lease area is divided into 3 non-contiguous blocks. The block in the western side is under active mining activities and out of 33 boreholes, 24 boreholes were drilled in this block. Besides this, second block in the eastern side to this block is having 9 boreholes. Extreme eastern block is having size and shape constraints for any mineral development. Entire hangwall side has already been proved through detailed exploration in the potentially mineralized area.
1e	Balance reserve as on 01/04/20	Balance reserves/resources as on 01/04/2020 are 38955 T	111- 18619 T 211- 3885T Total- 22504T
1f	General remarks of inspecting officers on geology, exploration etc		The New Satuk deposit is a part of dumri-nandapuri belt. It is displayed in lensoid form having strike length of 150 m. The general strike of the ore body is N85E and dip varies from 35 - 45 deg due South. Being a lensoid form the deposit is thick at centre and taper at the both ends. Braunite is the principal mineral associated with gondite rock. Geologically the area is not very promising due to which extensive drilling has been done at 20-50 m interval through 11 core boreholes in the year 2017-18 with 608 m drilling meterage. Out of these boreholes, only 2 boreholes, BH-1 & 2 turned out to be positive and rest all have shown no occurrence of orebody.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	It was proposed to develop a decline of 3m X 5m from 276 MRL from surface & ends at 247 MRL & Winze of 2m X 2m for 30m depth	NIL	Violation issued on 22.06.2021
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	proposal of under ground was given, generation of waste 1920 m3 in year 2020-21	NIL	No work of underground development as proposed in Mining Plan was carried out, violation as observed was issued.
2c	Stripping ratio or ore to OB ratio	not applicable as proposals was given for under ground work	Nil	No work of underground development as proposed in Mining Plan was carried out, violation as observed was issued.
2d	Quantity of topsoil generation in m3	proposal of under ground was given, generation of waste 1920 m3 in year 2020-21	Nil	No work of underground development as proposed in Mining Plan was carried out, violation as observed was issued.
2e	Quantity of overburden generation in m3	proposal of under ground was given, generation of waste 1920 m3 in year 2020-21	Nil	No work of underground development as proposed in Mining Plan was carried out, violation as observed was issued.

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	In the approved mining plan dated 10.07.2020, M/s MOIL Ltd has give proposals of under ground working, during inspection it was observed that no development as proposed was carried by the lessee. Violation was issued for the same.
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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Not applicable, under ground proposed	Nil	Nil
3b	Quantity of ROM mineral production proposed	year 2020-21= 1750 Tonnes (Winze = 147 T & 1603 T from graded mineral stock by re-handling)	Year 2020-21= 3523 Tonnes	Violation for deviation in approved mining plan was issued
3c	Recovery of sailable/usable mineral from ROM production	recovery proposed year 2020-21= 1487 T @ 85% from ROM	During inspection it was observed that, no development of under ground was carried out by lessee, ore was produced from graded mineral stock by re-handling and actual production as per annual return year 2020-21 is given as 3523 T.	the recovery of saleable Mn is furnished in Annual Retun 2020-21 is 3523 T, in under ground development. but as per inspection no work of under ground development was seen. Violation of Rule 45 is sent.

3d	Quantity of mineral reject generation	year 2020-21= 263 T (15% of ROM)	ore was produced from graded mineral stock by re-handling	in the annual return 2020-21 rejects was furnished nil, as ore was produced from graded mineral stock by re-handling
3e	Grade of mineral rejects generation and threshold value declared.	Mineral reject considered in the proposal is the material having Mn+10-20% . Threshold value is +10% Mn.	NIL	Nil as only dump working has been done in the area.
3f	Quantity of sub grade mineral generation.	NIL	NIL	NIL
3g	Grade of sub grade mineral generation	NIL	NIL	Nil as only dump working has been done in the area.L
3h	Manual / Mechanised method adopted for segregating from ROM	Manual	Manual	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No such proposals	NIL	

3j	Provision of drilling and blasting in mineral benches	proposals for under ground development was given, following are drilling & blasting poposals = In ore= 1.2 meter length having 20to 24 diameter hole In Rock= 1.2 meter length having 26 to 34 diameter hole S X B X D= 0.6m X 0.05 m x 1.2 m Max no. of holes in round= 34 nos. Charge per hole= 0.25 Kg	Nil, ore produced from old ore stacks	ore was produced from graded mineral stock by re-handling and mainly manual working has been carried out.
3k	Provision of mining machineries in mineral benches	under ground development proposed- air winches for winzing Holman make 7.5 HP, SDL, Low profile dump truck, 30 Hp pumps, compressor	NIL	ore was produced from graded mineral stock by re-handling and mainly manual working has been carried out.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	not proposed	nil	nil

3m	Total area covered under excavation/pits	Existing area nil under the pit- 3.10 ha, only under ground development proposed	ore is produced only from graded mineral stock by re-handling & under ground development was not carried out due to proposed decline & its ancillary work was started but due to adverse geo-mechanical properties of lithology encountered in proposed location the work was stopped due to safety concern.
3n	Ore to OB ratio for the pit/mine during the year.	Not proposed as under ground mining is proposed	Nil
3o	Total area put in use under different heads at the end of year	Covered under current working: 3.10 ha Used for waste disposal: 3.2 ha Occupied by plant, building, residential, welfare, roads: 0.76 ha Others - a) Green belt - 0.1 ha b) Mineral storage - 0.080 ha	Covered under current working: 3.10 ha Used for waste disposal: 3.0 ha Occupied by plant, building, residential, welfare, roads: 0.76 ha Others - a) Green belt - 0.48 ha b) Mineral storage - 0.08 ha

3p	Production of ROM mineral during the last five year period as applicable	2020-21 = 1750 T 2019-20 = 5000 T 2018-19= 5000 T 2017-18 = 8000 T 2016-17 = No proposal	2020-21 = 3523 T 2019-20 = 2344 T 2018-19= 3450 T 2017-18 = 2338 T 2016-17 = No production	violation of production was issued.
3q	General remarks of inspecting officers on method of mining etc.			under ground development proposals were given in approved mining plan, but lesse could not commence the U/G development due to geo-mechanical propoerties of proposed location & the same was stopped, propuction was carried from ore stack. violations as observed was issued on 22.06.2021

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	1) There is no top soil in the area proposed for development. 2) waste rock proposal year 2020-21 = 1920m3 3) rejects = 263T	No work has been done as development of Under ground working was stopped due to adverse geo-mechanical properties of lithology encauntered in proposed location.	

4b	Location of topsoil, OB and mineral reject dumps	Top Soil: Nil OB= N2360900 - E 319900 Mineral Rejects= N 2361100 - E320400	NIL	No work has been done as development of Under ground working was stopped due to adverse geo-mechanical properties of lithology encountered in proposed location.
4c	Number of dumps within lease area and outside of lease area	Top Soil: nil Waste Dumps: 5 Mineral rejects: 1 All dumps are within the lease area located in western block only.	All dumps are located within the lease area as mentioned in 'proposed'.	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	All dumps are located outside the pit limits	As the formation of the orebody is lensoid in the lease area, clear demarcation is being done with ongoing exploration activities. Major boreholes have shown negative results. Waste dumps WD-2 and 3 are located in footwall, WD-1, 4 & 5 are located on non-mineralized land. Black dump (mineral rejects) is in the hangwall however, due to lensoid shape of the deposit and due to lease limitations in the southern part, it is outside the pit limits	
4e	Number of active and alive dumps.	All dumps (WD-1 to 5 and one black dump) are active.	All dumps are active and no dump has been reclaimed and rehabilitated.	
4f	Number of dead dumps.	NIL	NIL	
4g	Number of dumps established.	No such proposals	NIL	

4h	Whether Retaining wall or garland drain all along dumps are there.	Yes	Garland drains and retaining walls are there all along the dumps which are located near the boundary, i.e. in the western boundary (BP-14 to BP-16) and in Northern boundary (BP-23 to BP-26).	
4i	Length of Retaining wall or garland drain all along dumps	No such proposals as garland drain and retaining walls already built.	Only repair and maintenance of existing protective measures is carried out for approximately 250 m.	Total approximate length of garland drain and retaining wall is 400-500 m.
4j	Number of settling ponds	No such proposals	NIL	
4k	Specific comments of inspecting officer on waste dump management			Waste dump management aspect is satisfactorily dealt with at the mine level. The dumps are surrounded by around 200-250 m garland drain and retaining wall to arrest any wash off from the dumps. The dumps are located only in the western block which is under active mining activities and other blocks are under active cultivation. No specific damage was observed due to waste dump to surrounding flora and fauna.

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.	Backfilling is NIL proposed in the void created in stpes due to U/G excavation & year wise proposal of reclamation of old pit having 0.54 hect area. during yr 2020-21 1920 m3 waste rock for reclamation was proposed	In the approved Mining plan document only under ground development proposals were given, during inspection it was found that No under ground development work was carried out due to geomechanical properties of lothology encountered in the proposed location. violation as observed/ applicable was issued to lessee.
5b	Area under backfilling of mined out area	Backfilling is NIL proposed in the void created in stpes due to U/G excavation & year wise proposal of reclamation of old pit having 0.54 hect area.	violation issued
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No such proposals	NIL
5d	Total area fully reclaimed and rehabilitated	No such proposals	Nil

5e	General remarks of inspecting officers on backfilling and reclamation etc.	No backfilling work was carried out in the mine, as only proposal of void filling in stops due to under ground activities were proposed but during inspection no work of under ground development carried out was found. For said deviation violation letter was issued to M/s Moil.
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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).	To be submitted on or before 30th June every year depicting work done under PMCP in the preceeding year	Yes submitted	

6b	Area available for rehabilitation (ha) .	year wise proposal of reclamation of old pit having 0.54 hect area was proposed	Nil	In the approved Mining plan document only under ground development proposals were given, during inspection it was found that No under ground development work was carried out due to geomechanical properties of lithology encountered in the proposed location. violation as observed/ applicable was issued to lessee.
6c	afforestation done (ha).	not proposed	1500 saplings planted over 0.9 ha area	
6d	No. of saplings planted during the year	not proposed	1500 saplings planted over 0.9 ha area	
6e	Cumulative no .of plants	NA	1500 to 1900 nos approx. saplings 1.02 hect area	
6f	Any other method of rehabilitation	No such proposals till conceptual stage	NIL	
6g	Cost incurred on watch and care during the year	Rs 50000/- approximately	Rs. 60,000/- approx	The expenditure was incurred over plantation, environment monitoring in core and buffer zone and repair & maintenace of protective measures.

6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Dimension not proposed	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	it was proposed reclamation of old pit in year wise manner in 0.54 hect area	nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	no proposals	nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	no proposal	nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	nil	nil
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	no proposal	nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	no proposal	nil

6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	no proposal	nil	
6p	Compliance of environmental monitoring (core zone and buffer zone)	environment monitoring for various environmental parameters is proposed for core and buffer zone	Environment monitoring is being done for air, water & noise at 4 locations for quarterly analysis. Ground vibration was not required as no blattting has been done in the area. Ground water quality (drinking water) is also being analyzed quarterly.	All the analysis reports shown values within permissible limits as prescribed by MoEF.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			PMCP operations as per the present level of workings are satisfactory. Further, regular plantation is being carried out in the available area (waste land within the lease). Environment monitoring is being done quarterly at prominent locations for air, water, noise and ground water quality and analysis has shown the values within the permissible limits.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
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7a	ROM Mineral dispatch or grade-wise sorting within lease area	Dispatch of graded mineral after manual sorting of ROM from U/G development i.e. from winze and recovered mineral from graded mineral stock by rehandling	No ROM is produced from U/G development as it has not been carried out however Graded ore is being dispatched from the lease area after manual sorting from graded mineral stock by rehandling	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual Sorting of ROM	Manual Sorting of ROM	
7c	Different grade of mineral sorted out at mines.	Below 25% Mn 25% to below 35% Mn 35% to below 46% Mn	as per details given in 'proposals'	
7d	Any beneficiation process at mines .	No such proposals	nil	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			Mineralized dumps are being exploited and mineral contents are being extracted from the dumps. Thus, mineral conservational aspect is satisfactory. No beneficiation is required as graded mineral is being readily sold.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
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8a	Separate removal and utilization of topsoil (Rule 32)	No such proposals	nil	
8b	Concurrent use or storage of topsoil	No such proposals	nil	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	There is no top soil in the area proposed for development. Further, overburden/waste and minerals (including sub grade/ mineral rejects) are proposed to be kept separately.	No U/G development work was carried out, mineral production was carried out from rehandling of graded ROM from mineral stack. Therefore generation of said aspects are NIL.	In the approved mining plan dated 10.07.2020, M/s MOIL Ltd has give proposals of under ground working, during inspection it was observed that no development as proposed was carried by the lessee. Violation was issued for the same.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	There is no top soil in the area proposed for development. Further, overburden/waste and minerals (including sub grade/ mineral rejects) are proposed to be kept separately.	No U/G development work was carried out, mineral production was carried out from rehandling of graded ROM from mineral stack. Therefore generation of said aspects are NIL.	In the approved mining plan dated 10.07.2020, M/s MOIL Ltd has give proposals of under ground working, during inspection it was observed that no development as proposed was carried by the lessee. Violation was issued for the same.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	it was proposed to reclaim 0.54 hect pit are in year wise manner	no restoration / reclamation of said area has been done	violation for the same was issued

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Baseline information on plantation has been furnished in the EIA/EMP given in the mining plan. Further, no proposal of plantation was proposed in Approved mining plan	Baseline information on existing plantation is given in the mining plan document. Additional plantation over 1500 saplings has been done in the year
8g	Survival rate	not proposed	approx 70 to 80%
8h	Water sprinkling on roads to control airborne dust	water sprinkling is proposed on the haul roads in the working area through water tanker. Additionally, wet drilling is proposed to control air borne dust.	Water sprinkling has been done in the working areas and ocf through small water tankers.

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Working is in form of dump rehandling only in the area. Development of Underground was proposed in the approved mining plan document but same was not carried out by the M/s MOIL Ltd reason stated as " due to adverse geo-mechanical properties of Lithology encountered in the proposed area. Plantation has been done in form of 1500 saplings alongside the road passing through the lease area. Hence, apart from normal degradation due to mining, aesthetic beauty is satisfactory in the area.
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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Annual Returns are required to be submitted online before 1st July of every year for preceding year Monthly Returns are required to be submitted online before 10th of every month for preceding month	AR submitted online upto 2020-21 MR submitted online upto Jan'2022 within stipulated time frame	

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer: SHRI BHUBANESWAR TUNG Geologist: SNEHA TIWARI Manager: SHRI VIKRANT KHEDIKAR	Correct information furnished.	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Covered under current opencast working: 00 ha Used for waste disposal: 3.0 ha Occupied by plant, building, residential, welfare, roads: 0.76 ha Others - a)Green belt - 0.48 ha b)Mineral storage - 0.08 ha Area for under ground working = 3.1 hect PMCP= 0.9 Hect	Covered under current opencast working: 3.1 ha Used for waste disposal: 3.0 ha Occupied by plant, building, residential, welfare, roads: 0.76 ha Others - a)Green belt - 0.48 ha b)Mineral storage - 0.08 ha Under ground working area= nil as not carried out any U/G work PMCP= 0.9 Hect	Since no development work has been done in the mine during the year 2020-21 the land use position is same. further as per the the annual return the figures are furnished in lready exploited & abandoned by opencast (O/C) mining is given as 00 (Nil) and in Under ground development are is given as 3.1 which is wrong as no underground development was carried out in the lease. SCN for said discrepancies as obseved is issued.
9d	Scrutiny of Annual return on afforestation	1500 sapling	Correct information furnished	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	NIL	Correct information furnished	

9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM: (a) Open Cast Workings- Nil (b) Dump Workings: Opening and Closing Stocks- Nil, (c) Under ground :- Production- 3522.953 T Graded Ore: (a) Below 25% Mn: Opening Stock- 447.080 T, Production- 567.470 T, Dispatch- 1014.550T, Closing Stock- 0 T (b) 25% to below 35% Mn: Opening Stock- 177.800 T, Production- 630 T, Dispatch- 701.330 T, Closing Stock- 106.470 T (c) 35% to below 46% Mn: Opening Stock- 279.440 T, Production- 2325.483 T, Dispatch- 2604.780 T, Closing Stock- 0.143T	The production of ROM Mn = 3522.953 T is correct, but showed in under ground head is wrong. during inspection it was observed that, no Underground development was commenced. the ore was excavated/ produced from the graded mineral stack by rehandling.	violation / SCN for the same is issued.
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9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	<p>Sale Value:</p> <p>(a) Below 25% Mn: Rs 2960702/-</p> <p>(b) 25% to below 35% Mn: Rs 3502842/-</p> <p>(c) 35% to below 46% Mn: Rs 31592492/-</p> <p>Ex-mine Price:</p> <p>(a) Below 25% Mn: Rs 2918.24/- per T</p> <p>(b) 25% to below 35% Mn: Rs 4994.57/- per T</p> <p>(c) 35% to below 46% Mn: Rs 12128.66/- per T</p> <p>Cost of production: Rs /- 11953 per T</p>	<p>information related to Sale value & ex-mine price seems correct but cost of production as compaired to previous year which was Rs. 5413.41 per T is contradictory as no under ground development was not commenced.</p>	<p>violation/ SCN for the same is issued.</p>
9h	Scrutiny of Annual return on fixed assets	<p>Land depreciation given Nil</p>	<p>As the land is non-forest revenue land for which lessee has only surface rights and land is not owned by the lessee, no depreciation or fixed asset has been given for land. Correct information has been furnished.</p>	
9k	Scrutiny of Annual return on mining machineries	<p>Water tanker 6000.000 liter = 1 (non electrical)</p> <p>dumper 10.000 tonne = 1 (non electrical)</p> <p>front end loader 0.300 cum = 1 (non electrical)</p>	<p>seems correct</p>	<p>Working machines for dump rehandling are deployed, one pump is there for de-watering purpose</p>

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
MCDR17	Rule 11(1)	22-Jun-21	22-Oct-21				

Date :

(SNEHANKIT H. CHATTE)

Indian Bureau of Mines