

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

**MCDR inspection REPORT  
Ranchi regional office**

**Mine file No :** BIH/GML/BX/215/RRO

**Mine code :** 07BHR32001

- (i) Name of the Inspecting : **K005** ) **B.P. KERKETTA**  
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Sri Atanu Kumar Gupta, Geologist., Sri Sanjay Gupta, Sur  
Official with  
Designation
- (iv) Date of Inspection : 04/09/2019
- (v) Prev.inspection date : 09/03/2018

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **AMTIPANI (26.3)**
- (b) **Registration NO.** : **IBM/1237/2011**
- (c) **Category** : **A Other than Fully Mech.**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **JHARKHAND**
- District : **GUMLA**
- Village : **AMTIPANI**
- Taluka : **BISHUNPUR**
- Post office : **JOBHIPAT**
- Pin Code : **835207**
- FAX No. : **N.A.**
- E-mail : **N.A.**
- Phone : **06526-224076**
- (f) **Police Station** : **BISHUNPUR**
- (g) **First opening date** : **17/08/1985**
- (h) **Weekly day of rest** : **THU**
2. **Address for** : **VILL-AMTIPANI**  
**correspondance** : **BISHNPUR**  
: **DIST-GUMLA**
3. (a) **Lease Number** : **BHR0245**
- (b) **Lease area** : **26.3**
- (c) **Period of lease** : **20**
- (d) **Date of Expiry** : **31/07/2005**
4. **Mineral worked** : **BAUXITE** **Main**

## 5. Name and Address of the

Lessee : VISHAL MAHENDRU (LEGAL HEIR)  
 PALMERGANJ, AT & PO -  
 LOHARDAGA LOHARDAGA  
 JHARKHAND  
 Phone:09431118144  
 FAX :

Owner : VISHAL MAHENDRU, LEGAL HEIR  
 PALMERGANJ, AT & PO -  
 LOHARDAGA LOHARDAGA  
 JHARKHAND  
 Phone: 09431118144  
 FAX :

## Mining Engineer

Name : MANOJ KUMAR SINGH, Full Time  
 Qualification : B.TECH(MINING ENGG)  
 Appointment/ : 28/06/2017  
 Termination date

## Geologist

Name : ATANU KUMAR GUPTA, Full Time  
 Qualification : M.Sc.(GEO)  
 Appointment/ : 01/02/2018  
 Termination date

6. Date of approval of Mining	:	Existing rule 11 MCDR1988	25/08/2000
Plan/Scheme of Mining		Renewal under rule 24 MCR1960	18/07/2008
		Modif.of approved Mining Plan	31/01/2013
		Mining Scheme rule 12 MCDR1988	04/04/2013
		MP review under 17(1) MCR 2016	29/09/2016

## PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	NIL	NIL	lessee could not drill 5 boreholes during 2017-18 due to local disturbances and due to land acquisition problem.
1b	Exploration over lease area for geological axis 1 or 2	NIL	G1-3.258ha. G2-3.6 ha	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	NIL	NIL	
1d	Balance area to be explored to bring Geological axis in 1 or 2	NIL	5.3ha.	
1e	Balance reserve as on 01/04/20		PROVED RESERVE 111- 106538MT PROBABLE RESERVE 121- 275800MT	

1f	General remarks of inspecting officers on geology, exploration etc	As per approved Mining Plan, dated 29.09.2016, valid for the plan period 2015-16 to 2019-20 (2015-16 was lapse period), there is proposal for five (05) nos. of Coring boreholes to be given during the current plan period 2017-18, at a grid interval of 50m X 50m with av. depth of 15m and total metrage of 75m.	Bauxite deposit of the area is mostly associated with laterite, occurs as irregular and discontinuous lenses or tabular bodies within the laterite capping. 07 nos. of DTH were given in the lease area. The maximum thickness of Bauxite horizon encountered in the DTH was about 6.0 m followed by lithomargic clay. The proposed exploration of coring boreholes (05 nos.) during 2017-18 could not be drilled by the lessee due to local disturbances. The mine was in operation on the date of inspection.
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## Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	North to N-W Side	North to N-W Side	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Yes Ore -2 OB -1	Yes Ore -2 OB -1	
2c	Stripping ratio or ore to OB ratio	1:0.5	1:0.65	Higher SR due to more O.B.encountered.
2d	Quantity of topsoil generation in m3	NIL	NIL	
2e	Quantity of overburden generation in m3	37497	20525	

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	As per proposal, the development work has been taken up in Quarry no. 3 located on the Northern part of lease and in Quarry no. 5 located on the Eastern part of the lease area. The lessee has altogether developed five (05) quarries within the lease area. The mine was in operation during the inspection. The Bauxite of the area is mixed type with predominantly Gibbsite ( $Al_2O_3 \cdot 3H_2O$ ) in the range of 70-75% and balance 30-25% is Bohemite ( $Al_2O_3 \cdot H_2O$ ).
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## Exploitation:

Sl.No.	Item	Proposals	Actual work	Remarks
3a	Number of pit proposed for production	2	2	
3b	Quantity of ROM mineral production proposed	108680Te	31578Te	
3c	Recovery of sailable/usable mineral from ROM production	108679.2te	31578te	
3d	Quantity of mineral reject generation	22642te	1200te	
3e	Grade of mineral rejects generation and threshold value declared.		29%	
3f	Quantity of sub grade mineral generation.	NIL	NIL	
3g	Grade of sub grade mineral generation	NIL	NIL	

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.	NA	NA
3j	Provision of drilling and blasting in mineral benches	Yes, drilling & blasting proposed.	Yes,drilling & blasting carried out.
3k	Provision of mining machineries in mineral benches	Yes, mining machineries such as Backhoe,Tipper ,Tractor,water tanker proposed.	One 3.5 cum bucket capacity Backhoe,Two10 Te capacity Tippers,One Tractorand one 1000ltrscapacity Water tanker are used.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Yes.Proposed Bench height in Ore & O.B. are 6m & 4.8m respectively.	Actual Bench height in Ore & O.B. are 5m & 3m respectively.
3m	Total area covered under excavation/pits	10.10ha.	4.66 Ha
3n	Ore to OB ratio for the pit/mine during the year.	1:0.50	1:0.65
3o	Total area put in use under different heads at the end of year	Area under mining 10,10ha.,Stora ge for top soil 0.22ha.,Waste dump 0.15ha.( dump area to be rehandled 0.35ha.) roads 0.88ha.	Area exploited and abandoned by opencast mining 3.07ha.,area under current mining 1.59ha.,reclaimed area 1.43ha.,waste disposal area 0.5ha.,Area occupied by roads 0.6ha.

3p	Production of ROM mineral during the last five year period as applicable	2013-14 100358te 2014-15 150658te 2015-16 Lapse period 2016-17 77207te 2017-18 100576te 2018-19 108680te	2013-14 Nill 2014-15 28182te 2015-16 43165te 2016-17 5535te 2017-18 79886te 2018-19 31578te
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3q	General remarks of inspecting officers on method of mining etc.	Lessee could not achieve the targeted production as per approved scheme of mining due to lower demand. Hence the development of quarry & achievement of O.B. is also on the lower side.
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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)	yes, Separate dumping of Top soil,O.B. and mineral rejects proposed.	Separate dumping of Top soil,O.B. and mineral rejects carried out.	
4b	Location of topsoil, OB and mineral reject dumps	N497- N587&W045-W172 N060-N162 &W123-W262 OB/SB/IB-64013 Cum.	Top soil (Outside lease area )-N350-N-425& W180-225W OB(1) -S51-N13&W163-W240 Mineral reject dumps- N594&W330-W393	
4c	Number of dumps within lease area and outside of lease area	4	4	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	N497- N587&W045-W172 N060-N162 &W123-W262 OB/SB/IB-64013 Cum.	DUMP(3 DEAD)-(1) S 150-S210&W60-S96(2) N480-N534&W240-W296(3)N545-N571&W293-W308 DUMP (1) ALIVE) (1)N485-N525&W125-W193	
4e	Number of active and alive dumps.	1	1	
4f	Number of dead dumps.	3	3	

4g	Number of dumps established.	1	1
4h	Whether Retaining wall or garland drain all along dumps are there.	NO	NO
4i	Length of Retaining wall or garland drain all along dumps	Nil	NIL
4j	Number of settling ponds	NA	NA
4k	Specific comments of inspecting officer on waste dump management	Since simultaneous backfilling was proposed hence no such proposal was there on waste dump management in the approved Mining Plan dated 29.09.2016 valid for the plan period 2016-17 to 2019-20 (2015-16 was lapse period).	Four (04) dumps existed within the lease area, one (01) Top Soil dump and three (03) OB/Waste dumps. The height of the dumps were within manageable limit hence there was problem in dump management. There was no Mineral Reject dump within the lease area.

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Solid Waste Management - Backfilling:

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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.	As per approved Mining Plan dated 29.09.2016, there was proposal for part extraction of mineral from mined out area before starting backfilling i.e simultaneous backfilling along with top soil spreading were proposed in the approved document valid for the plan period 2016-17 to 2019-20 (2015-16 was lapse period).	Simultaneous backfilling after full extraction of mineral was in practice in the mine on Northern part of lease area (South of quarry no. 3) and on the Eastern part of lease area (South of quarry no. 5). About 1.43 Ha area was backfilled and reclaimed upto 2018-19.
5b	Area under backfilling of mined out area	1.43 Ha	1.43 Ha
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	yes, concurrent use of topsoil for restoration or rehabilitation of mined out area was proposed.	Concurrent use of topsoil for restoration or rehabilitation of mined out area was practised.
5d	Total area fully reclaimed and rehabilitated	1.49ha	1.43 ha. Reclaimed

5e	General remarks of inspecting officers on backfilling and reclamation etc.	As per approved Mining Plan, there was proposal of backfilling/reclamation of about 4.98 Ha area upto the plan period of 2019-20. During 2016-17 to 2019-20, about 3.55 Ha area was to be backfilled and reclaimed. There was proposal for rehabilitation of 1.49 Ha area through plantation over backfilled area, during the plan period of 2015-16 to 2019-20 (2015-16 was lapse period).	About 1.43Ha area was backfilled and reclaimed upto 2018-19. 0.18ha area was backfilled during 2018-19. As on date of inspection the mine was in operation. There was backlog in backfilling as the mine could not run tom its full capacity due to lack of demand.
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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).	Annual report on PMCP for previous year was to be submitted on or before 1st July,2020.	Annual report on PMCP for previous year was not submitted on or before 1st July,2020. Therefore, violation of Rule 26(2) vide Letter of even no. dated 23/09/2019 was issued to the lessee. However, the lessee submitted and complied it vide thier lettter no.ref. BNM/42/2019-20 dated 31/10/2019.	
6b	Area available for rehabilitation (ha) .	Nil	Nil	

6c	afforestation done (ha).	Nil	Nil
6d	No. of saplings planted during the year	Nil	Nil
6e	Cumulative no .of plants	2800nos.	Cumulative plantation carried as on 01.04.2019 was 2100 plants covering an area 0.72ha and survival rate 70%.
6f	Any other method of rehabilitation	No further proposal was available in the approved Mining Plan dated 29.09.2016, valid for the plan period 2016-17 to 2019-20 (2015-16 was lapse period).	NIL
6g	Cost incurred on watch and care during the year	Nil	Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	Q3-0.47ha.83mx49mx7m.Q5-0.341ha.98mx36mx9m	Q3-0.20ha.63mx40mx5m.Q5-0.11ha.38mx14mx9m
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Nil	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	0.37ha. 925 no of plants	0.18 Ha., 450 no of plants
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Nil	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	300nos. in 0.12ha.	100nos. in 0.04ha.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Nil	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Nil	NA
6p	Compliance of environmental monitoring (core zone and buffer zone)	Proposed with cost Rs.65000/-	Carried out with cost Rs.35000/-
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		Upto the plan period 2018-19, about 6.09 Ha area was covered under excavation out of which1.43Ha was backfilled and about 100 nos. of plantation were done by the lessee along the safety barrier over an area of 0.04 Ha.

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#### Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	There was no such proposal gradewise sorting within lease area.	No gradewise sorting within the lease area ,lower grade ore blended with higher grade ore and despetchd.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual	Manual	

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7c	Different grade of mineral sorted out at mines.	No specific proposal was there in the approved Mining Plan dated 29.09.2016.	Generally two types of ore stacks were made within the mine site, one of (+) 45% Al <sub>2</sub> O <sub>3</sub> content and the other of 40-45% Al <sub>2</sub> O <sub>3</sub> content.
7d	Any beneficiation process at mines .	No proposal of mineral beneficiation at mine site was made in the approved Mining Plan dated 29.09.2016, valid for the plan period 2016-17 to 2019-230 (2015-16 was lapse period).	No mineral beneficiation was done, only blending at mine site.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	It was proposed in the approved Mining Plan that, low grade Bauxite will be hand sorted and suitably blended to meet the metal grade requirement. Mechanical screening of the fraction above 1" size was also proposed.	No mineral beneficiation was carried out at the mine site. For Mineral Conservation aspect, lessee had deployed suitable nos. of workers for sorting to avoid mixing of ore with deleterious material. The year wise employment figure is given below:- i. 2010-11: 13 nos.; ii. 2011-12: 16 nos.; iii. 2012-13: 20 nos.; iv. 2013-14: Nil; v. 2014-15: 12 nos.; vi. 2015-16: 21 nos.; vii. 2016-17: 11 nos.; viii. 2017-18: 20 nos.; ix. 2018-19: 24 nos.

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Environment:

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Sl.No.	Item	Propasals	Actual work	Remarks
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- 8a Separate removal and utilization of topsoil (Rule 32) In the approved Mining Plan dated 29.09.2016, valid for the plan period 2016-17 to 2019-20 (2015-16 was lapse period), there was proposal for separate removal of top soil. The year wise top soil removal proposal was as under:-  
i. 2015-16: Lapse period;  
ii. 2016-17: 13039 cu.m;  
iii. 2017-18: 14395 cu.m;  
iv. 2018-19: 15195 cu.m;  
v. 2019-20: 16941 cu.m.  
The top soil was proposed to be spread over backfilled area.
- The top soil removal figure is not available. The top soil so generated, was initially dumped on the NW part of lease area from where it was used to spread over backfilled area.
- 8b Concurrent use or storage of topsoil As per approved Mining Plan, there was proposal for simultaneous spreading of top soil over backfilled area.
- One top soil dump was present on NW corner of the lease area. Concurrent top soil spreading was done in quarry no. 3 (Northern part of lease area) and quarry no. 5 (Southern part of lease area).

- 8c Separate dumps for overburden, waste rock, rejects and fines (Rule 33) As per approved Mining Plan dated 29.09.2016, valid for the plan period 2016-17 to 2019-20 (2015-16 was lapse period), there was no proposal for dumping of Top soil and OB material. Concurrent backfilling and spreading of top soil over void area was proposed. There was no proposal for Mineral Reject/Fines dump during the plan period. Four (04) nos. of dumps existed in the lease area, one (01) was top soil dump and other three (03) were OB/Waste dumps. There was no Mineral Reject/Fines dump within the lease area.
- 8d Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use There was proposal for 3.55 Ha of backfilling during the valid approved plan period of 2016-17 to 2019-20 (2015-16 was lapse period) by using about 184639 cu.m of OB/Waste material. As on date of inspection about 1.43 Ha area was backfilled and reclaimed. No rehabilitaion of the area was done as it was not proposed during the plan period. The quantum of OB/Waste material used for backfilling/restoration of land was not available.

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Phase wise restoration, reclamation and rehabilitation of land have been proposed in the approved Mining Plan dated 29.09.2016. The year wise proposal is given below:- i. 2016-17: Reclamation- 0.88 Ha & Rehabilitation : 0.40 Ha; ii. 2017-18: Reclamation- 0.92 Ha & Rehabilitation : 0.35 Ha; iii. 2018-19: Reclamation- 0.81 Ha & Rehabilitation : 0.37 Ha; iv. 2019-20: Reclamation- 0.94 Ha & Rehabilitation : 0.37 Ha. Total: Reclamation- 3.55 Ha & Rehabilitation : 1.49 Ha.	As per available record, about 1.43Ha area was backfilled upto 2018-19 and also there was no rehabilitation of backfilled area upto 2016-17. During 2016-17 no Reclamation and Rehabilitation were carried out as the mining operation was discontinued from June, 2016 to March, 2017 for extension of lease. During 2015-16, about 0.88 Ha area was backfilled only. During 2018-19 , 0.31ha area was backfilled and 0.18 ha area was rehabilitated.
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8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	No existing plantation was reported in the approved Mining Plan dated 29.09.2016. It was proposed that 925 nos. of plantation were to be done over an area of 0.37 Ha along the safety barrier during 2018-19 and total 3725 nos. of plantation were to be done over an area of 1.49 Ha of Backfilled area during the plan period 2015-16 to 2019-20.	During the year 2018-19 about 550 nos. of plantations were done by the lessee with survival rate 70%. Upto 2018-19, about 460 nos. of plantation were done by the lessee covering 0.13 Ha area along the 7.5 m safety barrier.
8g	Survival rate	No specific proposal was made regarding survival rate in the approved Mining Plan dated 29.09.2016, valid for the plan period 2016-17 to 2019-20 (2015-16 was lapse period).	70%
8h	Water sprinkling on roads to control airborne dust	There was proposal for water sprinkling on roads .	During Summer and Winter seasons, water sprinkling is done by the lessee on haul road within the lease area and over approach road by hired Water Sprinkler.

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	No such proposal is available in the approved Mining Plan dated 29.09.2016.	The area was almost barren, devoid of thick vegetation. Only sparse vegetation was found within the lease area. About 5.15 Ha area was excavated out of total 17.89 Ha of Non-Forest land (Lease area- 26.30 Ha). The general aesthetic beauty of the lease area was not much disturbed as natural vegetation is available all around the lease 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	Lessee has submitted hard copy of Annual return submitted online ,Lessee has provided information as far as ppossible.	Party had submitted the Annual Return for the year 2018-19. The lessee had also submitted the Monthly returns for the year 2018-19 regularly.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	In Part-I of the Annual Return for the year 2016-17, information regarding Full time Mining Engineer and Full time Geologist are to be submitted under item no. 8 & 9 since it is a 'A'-OTFM category mine.	Mining Engineer/Manager/Geologist appointed as per statute.	

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	The land use pattern given in the Annual Return for the year 2018-19 was as under:- i. Area under excavation: 6.09 Ha; ii. Reclaimed: 1.43 Ha; iii. Dump are: 0.5ha; iv. Road & Infrastructure : 0.6 Ha.	Found correct.	
9d	Scrutiny of Annual return on afforestation	550 plantation done with survival rate 70%.	550 plantation done with survival rate 70%.	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	1200 MT (Grade : 32 % Al2O3)	1200 MT (Grade : < 30 % Al2O3)	The grade should be les than 30% Al2O3
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Annual Return (2018-19), the ROM stock (opening balance) and Closing stock were shown as below:- Opening stock- Metal grade: 12244.877 MT; Closing Stock- Metal grade: 12325.867 MT.	The figure given for Opening stock and Closing stock were in conformable with the figure furnished through Monthly Returns.	

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Sale value per tonne - Rs.521 to Rs. 838 per.M/Tfor different grades. and Ex Mines price per tonne- Rs.521/-& Rs 600/- for Metal Grade and other than metal grade respectively. per.M/T Production cost- Rs.550.87/-	Sale value per tonne - Rs.521 to Rs. 838 per.M/Tfor different grades. and Ex Mines price per tonne-Rs.521/- & Rs 600/- for Metal Grade and other than metal grade respectively. per.M/T Production cost- Rs.550.87/-
9h	Scrutiny of Annual return on fixed assets	Nil	Nil
9k	Scrutiny of Annual return on mining machineries	Water Tanker 1000ltrs.cap.- 1 Tipper9 Te cap.-2 Back hoe 3.5 cum.bucket cap. - 1 Jack hammer-1	Water Tanker 1000ltrs.cap.-1 Tipper9 Te cap.-2 Back hoe 3.5 cum.bucket cap. - 1 Jack hammer-1

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

Violation observed				Show couse position			
Rule NO.		Issued on	Compliance on	Rule NO.		Issued on	Compliance on
MCDR17	Rule 26(2)	23/09/2019	29/11/2019				
MCDR17	Rule 35(2)	23/09/2019	29/11/2019				

**Date :****(B.P. KERKETTA)**

Indian Bureau of Mines