

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

MCDR INSPECTION REPORT

Nagpur regional office

Mine file No : MAH/GAD/FE-2/NGP

Mine code : 30MSH27002

- (i) Name of the Inspecting : M017) ASHISH MISHRA
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : SHRI MANOJ SAHU, GEOLOGIST
Official with
Designation
- (iv) Date of Inspection : 20/10/2018
- (v) Prev.inspection date :

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : SURJAGARH (348.09HA)
- (b) **Registration NO.** : IBM/5067/2011
- (c) **Category** : A Mechanised
- (d) **Type of Working** : Opencast
- (e) **Postal address**
- State : MAHARASHTRA
- District : GADCHIROLI
- Village :
- Taluka :
- Post office :
- Pin Code :
- FAX No. :
- E-mail :
- Phone :
- (f) **Police Station** :
- (g) **First opening date** : 15/06/2007
- (h) **Weekly day of rest** :
2. **Address for** :
- correspondance**
3. (a) **Lease Number** : MSH0370
- (b) **Lease area** : 348.09
- (c) **Period of lease** : 50
- (d) **Date of Expiry** : 02/05/2057
4. **Mineral worked** : IRON ORE Main

5. Name and Address of the

Lessee : M/S LLOYDS METAL & ENGINEERS LTD
A-WING, BLOCK NO.805/806,
8TH FLOOR, LOKMAT BHAVAN,
RAMDASPETH, NAGPUR (MS)
NAGPUR MAHARASHTRA
Phone:
FAX :

6. Date of approval of Mining	:	Fresh under rule 22 MCR1960	03/03/2004
Plan/Scheme of Mining	:	Mining Scheme rule 12 MCDR1988	21/03/2017

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	10 Boreholes as proposed in the approved SOM	Nil	Exploration could not be carried out due to LAw and order problems in the area. Proposed exploration is in the Forest in which, during site inspection tree felling work was being carried out. Violation of Rule 11 (2) of MCDR'2017 due to non compliance of exploration proposals.
1b	Exploration over lease area for geological axis 1 or 2	G-1, G-2 and G-3, Boreholes were proposed to explore the complete area.	Only Eastern Block has been proved under G-1 & G-2 category. Central and Western blocks are under G-3. Exploration was proposed in 2017-18 to 2021-22 in form of 24 boreholes out of which 10 were proposed to be carried out in 2017-18 to 2018-19 period. No exploration has been carried out till date as against the proposals.	Complete area need to be explored in terms of Rule 12 of MCDR'2017.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	M/s Lloyds Metals and Eng. Ltd. i.e., lessee himself shall carry out exploration.	No work carried out.	Earlier, the area was explored by DGM, Maharashtra by drilling 57 boreholes with 4031 meterage during 1965 to 1971. Afterwards, no exploration has been done.

1d	Balance area to be explored to bring Geological axis in 1 or 2	Area has been Explored under G-1, G-2 & G-3 axis. Around 45 ha area is under G-1 mostly covering float ore zone and insitu ore in Eastern block. Rest of the area needs further exploration for which 24 boreholes were proposed for 2017-18 to 2021-22 period.	Approximately 45 ha area has been explored under G-1 axis. Rest of the area needs further detailed exploration.	As per Rule 12 of MCDR'2017, more boreholes are required to prove complete area under G-1 category.
1e	Balance reserve as on 01/04/20		As on 01.04.2017, Balance Reserves/ resources as per approved SOM are: 111- 68.837 MT 122- 4.724 MT (Float ore) 222- 0.0613 MT 333- 16.49 MT Total: 90.1123 MT	Reserves furnished in the Annual return for 2017-18 (as on 31.03.2018) are incorrect and advise letter for the same has been issued to the State Govt.

1f	General remarks of inspecting officers on geology, exploration etc	Area need to be explored in detail but due to law and order problems, the proposed exploration could not be carried out by the lessee. During site inspection, only float ore zone was being worked and it was seen that recovery and quality in the float ore zone was good (recovery reported in the approved SOM as 50%, quality 62-65%). But mining and exploration was not being carried out as per the proposals made in the approved SOM.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	In SE part of the lease area in between local grids S900 to S1400 and E100 to E700.	Actually work is being done in that part, but lessee has excavated 7.5 m non-mining zone also. During inspection, excavation beyong lease area was also observed.	Violation of Rule 11(2) of MCDR'2017 has been issued.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	No, as working is proposed in float ore zone only. After excavation, approximately 50% of ore, 30% of Overburden/was te and 20% of top soil shall be generated while grading.	No. Further, complete excavated material is being dispatched from the lease area without any grading.	Matter has been referred to the State Govt. Also violation of Rule 11(2) of MCDR'2017 has been issued.
2c	Stripping ratio or ore to OB ratio	Approximately 1:0.33 ore to OB ratio	Not known as complete excavated material has been dispatched without any grading.	

2d	Quantity of topsoil generation in m3	80000 cum	Nil	
2e	Quantity of overburden generation in m3	120000 cum	Nil	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			Development in the area is asystematic as ramps and benches were found to be made not as per the norms. The deposit is Iron ore and is occuring in float and insitu both. Present working is in float ore zone only. Mechanization is not as per the approved Review of Mining Plan. Future proposals for backfilling the excavated pit with generated overburden/waste have been made in the approved document whereas complete excavated material is being dispatched outside the lease area without any weighment

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	One	One	Only float ore zone was proposed for working and present working is for float ore only.

3b	Quantity of ROM mineral production proposed	Total excavation in the float ore zone with 400000 cum with recovery of Float ore - 600000 T (50%)	Total excavation 175397.225 T was dispatched (as per Annual Return filed for 2017-18). Recovery not known.	
3c	Recovery of sailable/usable mineral from ROM production	50% of ore recovery from float ore working.	Not known as complete excavated material is being dispatched without grading and without weighment.	State govt. has been informed.
3d	Quantity of mineral reject generation	Nil	Nil	
3e	Grade of mineral rejects generation and threshold value declared.	Nil	Not Applicable	
3f	Quantity of sub grade mineral generation.	Nil	Not Applicable	
3g	Grade of sub grade mineral generation	Nil	Not Applicable	
3h	Manual / Mechanised method adopted for segregating from ROM	Manual Sorting and then Mechanized crushing	No grading/segregation of ROM is being done at mine.	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Nil	Not Applicable	
3j	Provision of drilling and blasting in mineral benches	No, as present working is in float ore zone that is soft. While in-situ working, blasting shall be required.	No drilling and blasting being done presently.	

3k	Provision of mining machineries in mineral benches	Yes, proposals are for Category A mechanized mining and shovel dumper combination shall be used. Proposals are: Excavators- 3 (3.8 cum bucket capacity) Dumpers-9 (35 T)	Actual extent of mechanization as on date of site inspection was not as it is proposed in the approved Review of Mining Plan. More than 6 excavators of lower bucket capacity (~1-2 cum) and more than 100 dumpers with varying capacities were found deployed. Also, as per the proposals, there was no separate ore and waste working.	Violation of Rule 11(2) of MCDR'2017 has been issued.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height in float shall be approximately 3 m.	Method of mining proposed is Category A Mechanized and present working is in Float ore zone only. Benches are made with approximately 3 m height that is safe and suitable for float ore mining.	
3m	Total area covered under excavation/pits	Upto 2021-22, approximately 78 ha area shall be covered under excavation/pits.	Around 12 ha (as per the Annual return for 2017-18)	
3n	Ore to OB ratio for the pit/mine during the year.	1:0.33	Not known	
3o	Total area put in use under different heads at the end of year		Area under: Excavation: 12.0 ha Waste disposal: 0.30 ha Infrastructure: 0.70 ha Total: 13.0 ha	As per the site inspection, no waste dump is there. Area considered is for temporary waste disposed at the site by the backhoe.

3p	Production of ROM mineral during the last five year period as applicable	2017-18: 600000 T 2016-17: 600000 T 2015-16: 600000 T 2014-15: 600000 T 2013-14: 900000 T	2017-18: 175397.225 T 2016-17: 100916.053 T 2015-16: Nil 2014-15: Nil 2013-14: Nil	During 2013-14 to 2015-16 mine was under Temporary Discontinuance (Notice of Temporary Discontinuance submitted on 22/07/2013). In 2016-17 and 2017-18, total excavated material has been dispatched and quantity mentioned is as per Annual Return filed for the year.
3q	General remarks of inspecting officers on method of mining etc.			Method of mining is Category A mechanized that is suitable for the geology of the area and capital investment.

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 overburden/waste and separate stacking of top soil after grading of excavated float ore.	No such practice. Complete excavated material is being dispatched from the lease area without any seggreagation of ore or grading.	
4b	Location of topsoil, OB and mineral reject dumps	Temporary dumps in the SE side of Float ore workings were proposed. This is to be backfilled and reclaimed after exploitation of float ore.	As all the excavated material is dispatched, no overburden or top soil dump is present at the side.	

4c	Number of dumps within lease area and outside of lease area	One dump each for overburden/waste and top soil within lease area.	No dumps are there at mine site.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Dumping was proposed within pit limits as the dumps are temporary and scheduled to be backfilled after exploitation of float ore.	No such practice.
4e	Number of active and alive dumps.	One each for overburden/waste and top soil.	Nil
4f	Number of dead dumps.	Nil	Nil
4g	Number of dumps established.	Not applicable	Nil
4h	Whether Retaining wall or garland drain all along dumps are there.	No such proposals as the dumps are temporary.	Nil
4i	Length of Retaining wall or garland drain all along dumps	Nil	Nil
4j	Number of settling ponds	Nil	Nil
4k	Specific comments of inspecting officer on waste dump management	Waste generated was proposed for backfilling after exploitation, but as the complete excavated material is being dispatched from the lease area, conceptual planning is ambiguous. waste dump management aspect need to be dealt meticulously in the area.	

Sl.No.	Item	Propasals	Actual work	Remarks
5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	No such proposals. Backfilling is proposed after exploitation of float ore zone.	Nil	Even after exploitation of float ore zone, backfilling is not possible as no waste/overburden or top soil is available.
5b	Area under backfilling of mined out area	No such proposals	Nil	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Top soil is proposed for stacking. After exploitation of float ore zone, top soil shall be spread after backfilling the area with waste/overburden.	No top soil stack available.	
5d	Total area fully reclaimed and rehabilitated	Nil	Nil	
5e	General remarks of inspecting officers on backfilling and reclamation etc.			Backfilling after exploitation is not possible and also reclamation of the area as proposed in the approved Review of Mining Plan is not possible as complete excavated material is being dispatched from the lease area.

Progressive Mine Closure Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).		No	Violation of Rule 26(2) of MCDR'2017 issued.
6b	Area available for rehabilitation (ha) .	Nil	Nil	

6c	afforestation done (ha).	Nil	Nil
6d	No. of saplings planted during the year	100 saplings	Nil
6e	Cumulative no .of plants	Nil	Nil
6f	Any other method of rehabilitation	No such proposals	Nil
6g	Cost incurred on watch and care during the year	Rs 1465000/-	Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Nil	Nil
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	Nil	Nil
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

Saplings were proposed to be planted in 7.5 m non-mining zone but no plantation has been carried out.

6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Plantation with 100 saplings in 7.5 m non-mining zone was proposed for the year 2017-18.	Nil	
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	0.01 ha approximately	Nil	
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Nil	Nil	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Yes proposed.	Nil	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			PMCP proposals are violated as no environment monitoring in core and buffer zone is being done. Also, afforestation has not been carried out.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade-wise sorting in the lease area and then dispatch	Complete excavated material from float ore zone is being dispatched without any sorting or grading.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual sorting then mechanized crushing and grading.	No such practice.	

7c	Different grade of mineral sorted out at mines.	62% to below 65% Fe (As per approved Review of Mining Plan)	58% to below 60% Fe and 62% to below 65% Fe (As reported in the AR)	How these grades are reported in the AR is not clear as there was no sampling or weighment facilities available at the mine site. Also, there was variation in grades and quantity dispatched from mine site and received at plant as furnished in Form O (as analysed for 2016-17 and 2017-18). For the purpose, letter has been issued to State govt.
7d	Any beneficiation process at mines .	Manual sorting then mechanical crushing in two stages.	No such practice.	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			Flaot ore zone is being worked and complete excavated mineral is being dispatched from the mine but without any weighment. In this sense, mineral conservation seems good but as on whole, environment aspect and conceptual planning can not be denied for mineral conservation. Also, material and grade dispatched from the mine and received at plant are not matching.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
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8a	Separate removal and utilization of topsoil (Rule 32)	Yes	No such practice.	Violation of Rule 36 (1) & (3) of MCDR'2017 has been issued.
8b	Concurrent use or storage of topsoil	Storage of Top soil for future usage.	No such practice.	Violation of Rule 36 (1) & (3) of MCDR'2017 has been issued.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Yes	No such practice.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Yes, after exploitation of mineral.	No such practice presently. Also as complete excavated material is being dispatched from mine, future restoration of land may not be possible.	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No such proposals.	Nil	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Furnished in Mining Plan.	Furnished in Mining Plan.	
8g	Survival rate		Not applicable as no plantation has been done in the area.	
8h	Water sprinkling on roads to control airborne dust	Yes. For the purpose, 02 Nos water Tankers of 28 kL capacity are proposed under extent of mechanization.	No water sprinkling is being done on mine roads due to which air borne dust was observed at alarming level in the mine.	Violation of Rule 26(1) of MCDR'2017 has been issued.

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Environment concerns have not been taken care of while mining in the area by the lessee. No environment monitoring is being done, mechanization much more than the proposals and no water sprinkling have made the conditions worse in the area. State Govt. was intimated in this regard to initiate suitable actions.
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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 submitted online upto 2017-18 Monthly returns submitted online upto September 2018	In case of delay in submission, State Govt. is immediately intimated for initiating actions under Rule 45 (7) (a) of MCDR'2017.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer: Shri G. K. Binjola Geologist: Dr. Manoj Kumar Sahu Manager: Shri G. K. Binjola	Mining Engineer: - Geologist: Dr. Manoj Kumar Sahu Manager: -	Though there was mechanized working and it was clearly mentioned in the inspection notice, no Mining Engineer or Manager was present at the site. Geologist for the year 2017-18 was present and his details are correct. It was informed and as per records, in the year 2017-18, Shri G. K. Binjola was appointed Mining Engineer and Manager.

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area under: Excavation: 12.0 ha Wsate disposal: 0.30 ha Infrastructure : 0.70 ha Total: 13.0 ha	Area under: Excavation: 12.0 ha Wsate disposal: 0.30 ha Infrastructure: 0.70 ha Total: 13.0 ha	
9d	Scrutiny of Annual return on afforestation	Nil	No plantation carried out in the area.	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil	No mineral rejects available at mine.	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM: Opening and Closing Stocks- Nil, Production- 175397.225 T Graded ore: Lumps: (i) 58% to below 60% Fe: Opening Stock- 30.555 T, Production- 175397.225 T, Dispatch- 175427.780 T, Closing Stock- Nil (ii) 62% to below 65% Fe: Opening Stock- 94.550 T, Production- Nil, Dispatch- Nil, Closing Stock- 94.550 T	Complete Excavated material from the float ore zone is being dispatched without any grading. Therefore, information furnished is incorrect and misleading.	Also verifying from Form O for the lessee, dispatched quantity and grades are not matching. State Govt. has been informed for initiation of suitable actions.

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Graded ore (unit-Rs per T): Lumps: (i) 58% to below 60% Fe: Sale Value-Nil as Captive Consumption, Ex-mine Price-1930.60/-, Production Cost-1749.00/- (ii) 62% to below 65% Fe: Sale Value-Nil as Captive Consumption/No sale, Ex-mine Price-Nil, Production Cost-Nil as no production for the grade.	Sale Value: Correctly mentioned as captive consumption only. Ex-mine Price: It is incorrect as values mentioned here doesn't match with cost of production or ASP Production Cost: Incorrect as DMF & NMET have not been accounted. Also, per T cost considered for Royalty and overheads are not matching with the details furnished in the return.	State Govt. has been informed for initiation of suitable actions as per Rule 45 (7)(a) of MCDR'2017.
9h	Scrutiny of Annual return on fixed assets	Value of Fixed Assets (in Rs) 152603114/- Further, description has been furnished in the return.	Could not be verified, but information has been furnished.	
9k	Scrutiny of Annual return on mining machineries	TIPPER, 2.600 CUM, 3 Nos., Non Electrical Only this information is mentioned in the AR	Incorrect information has been furnished.	State Govt. has been informed for initiation of suitable actions as per Rule 45 (7)(a) of MCDR'2017.

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(2)	06/11/2018				
MCDR17 Rule 26(1)	06/11/2018				
MCDR17 Rule 26(2)	06/11/2018				
MCDR17 Rule 33	06/11/2018				
MCDR17 Rule 36(1)	06/11/2018				
MCDR17 Rule 36(3)	06/11/2018				
MCDR17 Rule 40	06/11/2018				

Date :
(ASHISH MISHRA)

Indian Bureau of Mines