

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

MCDR INSPECTION REPORT

Nagpur regional office

Mine file No : MAH/BHD/CR-1/NGP

Mine code : 11MSH05001

- (i) Name of the Inspecting : **M017**) **ASHISH MISHRA**
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri B.K.Shukla, Mine Owner
Official with
Designation
- (iv) Date of Inspection : 04/06/2018
- (v) Prev.inspection date : 19/08/2017

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **PAUNI**
- (b) **Registration NO.** : **IBM/10039/2012**
- (c) **Category** : **B Manual**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **MAHARASHTRA**
- District : **BHANDARA**
- Village : **PAUNI**
- Taluka : **PAUNI**
- Post office : **PAUNI**
- Pin Code :
- FAX No. :
- E-mail :
- Phone :
- (f) **Police Station** :
- (g) **First opening date** : **09/08/1979**
- (h) **Weekly day of rest** : **SAT**
2. **Address for correspondance** : **301, A- WING, LOKMAT BHAVAN,**
RAMDASPETH,
DISST. NAGPUR-10 (M. S.)
3. (a) **Lease Number** : **MSH0122**
- (b) **Lease area** : **16.22**
- (c) **Period of lease** : **20**
- (d) **Date of Expiry** : **31/03/2020**
4. **Mineral worked** : **CHROMITE** **Main**

5. Name and Address of the

Lessee : Shri S.C.Shukla
301,A-Wing,Lokmat Bhavan,
Pt.J.N.Marg,Ramdaspeth,
Nagpur (MS) NAGPUR
MAHARASHTRA
Phone:
FAX :

Owner : SHRI S.C.SHUKLA
301, A- WING, LOKMAT BHAV
RAMDASPETH, DISST. NAGPUR-
10 (M. S.) NAGPUR
MAHARASHTRA
Phone:
FAX :

6. Date of approval of Mining : Renewal under rule 24 MCR1960 19/09/2005
Plan/Scheme of Mining Mining Scheme rule 12 MCDR1988 09/04/2015

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	6 boreholes were proposed to be drilled in 2013-14 to 2017-18 period.	6 Boreholes drilled in 2017-18 with total meterage of around 100 m. Apart from boreholes, exploration carried out is as below: Pits: 2013-14: 09, 2014-15: 11, 2016-17: 8 Trenches: 2015-16: 5 , 2016-17: 3	Size of pits being around 1-1.25 m (Length) X 1 m (Width) X 1.5-2 m (depth) Size of trenches being around 1 m (Length) X 1 m (Width) X 1.5-2 m (depth)
1b	Exploration over lease area for geological axis 1 or 2	G-2	G-2	As the mineral is occurring in pods, though detailed exploration has been done in the area, reserves have been considered under G-2 only.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Lessee himself	Lessee himself has completed the exploration work with Rs 79,250 expenditure.	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	Chromite is occurring in the form of 'Pod'. Small lenses occur in the area for which prospecting was done in the year 1961. As per the recommendations of the prospecting report, there is no promising ore zone is available in the area. Pitting, trenching has been recommended for identifying occurrence and wherever found, it was suggested to follow the trend till the mineral exhausts.

1e	Balance reserve as on 01/04/20	As on 01.04.2018, Balance reserves as per the approved Review of Mining Plan are: 122-5040 T Total- 5040 T	
1f	General remarks of inspecting officers on geology, exploration etc	Geological occurrence of Chromite in the lease area is in form of small lenses. 7 boreholes drilled by the lessee hasn't encountered any ore. As per the recommendations of the earlier prospecting done in the area in 1961 through 49 boreholes, pitting and trenching to be done in the area for identifying lenses and accordingly mining to be carried out. Accordingly, lessee has done exploration through 31 pits in 1996-2003 period apart from exploration done in the last SOM period.	Lease area has been reduced substantially while renewal and original area of 52.91 ha is reduced to 16.22 ha area in 8 non- contiguous blocks and out of 49 bore holes drilled in 1961, 15 fall in the present area. Several blocks are in blocked zone due to Canal, Nala, Roads and Electric Line. Therefore, actual available reserves are quite less in the area and lessee is following the lenses obtained in the pitting and trenching which is limited to Block VIII only.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	In Block III & Nil VIII		Borehole done in the continuity of ore body proved barren in Block- III. Hence no development done in the area. Development in Block-VIII will start after acquisition of land as the land type is PRL.

2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Yes, wherever required/wherever occurring.	Nil	At earlier stages, top soil has been excavated and utilized for plantation but in last SOM period, no development has been done. Mine has operated for only 71 days in 2016-17 and 55 days in 2017-18 due to heavy rains, non-availability of manpower and low demand. Mineral recovered is in form of collected material from the surface only and no excavations made.
2c	Stripping ratio or ore to OB ratio	1:1.43	Nil	Production reported for the year 2016-17 is 1 T & 17 T in the year 2017-18. Both productions as reported are mostly from the material collected from surface in Block-VIII lying as float and left during the mining activities prior to 1990 in the area. Therefore, no development has been carried out in the area except exploration activities to find out mineralization in the area.
2d	Quantity of topsoil generation in m3	Nil	Nil	
2e	Quantity of overburden generation in m3	4621 cuM in 2016-17	Nil	

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	In the last scheme period, as per the recommendations of the earlier prospecting report, pitting and trenching were done alongwith 6 boreholes in 2017-18 which proved only small mineralized zone in Block-VIII.	With reference to the occurrence of orebody in the area, no systematic development is possible in the area. Small pits wherever ore found has been made and lenses have been followed till the exhaustion. Further, most part of the lease area is under blocked zone due to road, canal etc.
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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	2 Pits: 1 in Block-III & 1 in Block VIII	Nil	
3b	Quantity of ROM mineral production proposed	2016-17: 4108 T 2017-18: 5310 T	2016-17: 1 T 2017-18: 17 T	Actually both the quantities are not ROM but recovery of mineral from the Mineral rejects available in the area in form of either collection of material available at surface due to mining operations in the area prior to 1990 or recovery from the old mineral stack. For 2017-18, 7 M/T of Chromite ore generated during March 2018 (from block number VIII) plus 10 M/T of old stock generated from sorting of low grade chromite ore.

3c	Recovery of sailable/usable mineral from ROM production	90%	Not Applicable	
3d	Quantity of mineral reject generation	2016-17: 410.8 T 2017-18: 531 T	Nil	
3e	Grade of mineral rejects generation and threshold value declared.	Cr2O3 30% and below	Cr2O3 30% and below having size of -3 mm	
3f	Quantity of sub grade mineral generation.	Nil	Nil	
3g	Grade of sub grade mineral generation	Not Applicable	Not Applicable	
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/ Not applicable	No	
3j	Provision of drilling and blasting in mineral benches	No	No blasting is required	
3k	Provision of mining machineries in mineral benches	Nil	Nil	Manual working proposed and actually done.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	1.5 m maximum	No development work carried out in the year. Previously, work done is as per the proposals.	Bench height is suitable for manual method of working.

3m	Total area covered under excavation/pits	0.7447 ha	Pit-1: 0.067466 ha Pit-2: 0.04297 ha Pit-3: 0.615295 ha Pit-4: 0.018936 ha Total: 0.7447 ha	Except Pit 3 all pits are very small. In the approved Mining Plan and SOM, the pits were proposed for rehabilitation through conversion of mined out pits into water reservoir for irrigation purpose. Pit-1 is located in Block-VIII and is proposed for further expansion as ore is found occurring in the pit. Rest all pits are already converted into water reservoir and are rehabilitated.
3n	Ore to OB ratio for the pit/mine during the year.	1:1.36	Nil	
3o	Total area put in use under different heads at the end of year	Area under: Excavation: 1.3312 ha Top Soil storage: 0.1025 ha Overburden Dumps: 2.0954 ha Mineral rejects stacks: 0.4643 ha Infrastructure : 0.0205 ha Green Belt: 0.06 ha Total: 4.399 ha	Area under: Excavation: 0.7447 ha (reclaimed and rehabilitated area is approximately 0.6772 ha) Waste disposal: 1.58 ha (All dumps are old and reclaimed & rehabilitated through plantation) Green Belt: 0.075 ha Total: 2.3997 ha	
3p	Production of ROM mineral during the last five year period as applicable	2017-18: 5310 T 2016-17: 4108 T 2015-16: 5262 T 2014-15: 5186 T 2013-14: Nil	2017-18: 17 T 2016-17: 1 T 2015-16: 90 T 2014-15: 26 T 2013-14: 4 T	

3q General remarks of inspecting officers on method of mining etc.

Method of mining is proposed as manual. Ore shall be extracted manually and sorted at the face, then transported at the stack site manually or by engaging tractor trolleys. As per the geological set up of the area, method of mining is suitable for the mining operations in the area.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Yes	Not applicable	
4b	Location of topsoil, OB and mineral reject dumps	In the Western side of Block-III and Eastern side of Block-VIII for respective developments in those blocks.	Nil	As mentioned in item 4a
4c	Number of dumps within lease area and outside of lease area	4 old waste dumps already available in the lease area and 4 additional dumps proposed for overburden and mineral rejects (1 dump each in two blocks)	4 old dumps available, no fresh dumping or stacking of mineral rejects carried out	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside Pit Limits	As per the proposals	Old dumps are as per the original lease area at the time of grant.

4e	Number of active and alive dumps.	4 additional dumps proposed for overburden and mineral rejects (1 dump each in two blocks)	Nil	
4f	Number of dead dumps.	4 Old Waste Dumps	4 Old Waste Dumps	
4g	Number of dumps established.	4 Old Waste Dumps	4 Old Waste Dumps	
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes	Yes	Old dumps are having garland drains and retaining walls. No fresh dump made.
4i	Length of Retaining wall or garland drain all along dumps	Proposal not available, as dumps are very old	Around 400 m	
4j	Number of settling ponds	Nil	Nil	
4k	Specific comments of inspecting officer on waste dump management		D1: 0.09877 ha- 1 m Height, 587.14 cuM Vol D2: 0.1106 ha- 4 m Height, 2658.18 cuM Vol D3: 0.2136 ha-4 m Height, 6071.22 cuM Vol D4: 1.0807 ha-8 m Height, 47095.16 cuM Vol D5: 0.0749 ha-3 m Height, 1770.43 cuM Vol Total: 1.58 ha, 58182.13 cuM Vol (as per approved MP)	All old dumps present at the site have been stabilized, reclaimed and rehabilitated through plantation.

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.	No Backfilling is proposed.	Nil	
5b	Area under backfilling of mined out area	Nil	Nil	

5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Concurrent usage of top soil done earlier for plantation. Also storage was proposed for fresh development area.	No fresh developments made. Hence Nil.	
5d	Total area fully reclaimed and rehabilitated	Nil	Nil	No area has been reclaimed or rehabilitated by backfilling.
5e	General remarks of inspecting officers on backfilling and reclamation etc.			No backfilling has been proposed or done. Hence no comments.

Progressive Mine Closure Plan:

Sl.No.	Item	Proposals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	Yes	Yes	
6b	Area available for rehabilitation (ha) .	Nil	Nil	
6c	afforestation done (ha).	No proposals	0.06 ha (last SOM period)	Actual total afforestation done area is approximately 1.5788 ha which comprises of waste dump rehabilitation area as well as 0.075 ha green belt plantations.
6d	No. of saplings planted during the year	No proposals	25 saplings within lease area	

6e	Cumulative no .of plants	Not available	115	Lease is operationg since 1957 and lease area has been reduced several times. Therefore, complete data is not available.
6f	Any other method of rehabilitation	Conversion of pits into water reservoirs and stabilization of dumps through plantation.	As per the proposals.	
6g	Cost incurred on watch and care during the year	Nil	Nil	As the mine worked for only 71 days in 2016-17 and 55 days in 2017-18, no expenditure has been made towards on watch and care.
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	Not Applicable	Not Applicable	
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Pits are proposed for rehabilitation by converting them into water reservoir	0.6772 ha area covered under Pit 2, 3 & 4 has been converted into water reservoir.	Local habitants are utilizing the water accumulated in the pits for irrigation purpose.

6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No	No	
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Nil	Nil	No waste land available within lease area. The land type is PRL and most of the area is covered under agricultural activities.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not Applicable	Not Applicable	
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not Applicable	Not Applicable	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Nil	Nil	

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Future development and production proposals are limited to Block-VIII only. Except Pit-1 that is proposed to be expanded in future program of excavation, all other pits are reclaimed and rehabilitated by converting them into water reservoir. All the old dumps have also been rehabilitated through plantation. Due to minimal working in the past 5 years, environment monitoring has not been carried out which was advised to the lessee during inspection to be taken care of.
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Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade-wise sorting	As per the proposals.	Mineral found at the surface is being picked up and collected at stack. The material may contain Chromium less than threshold value. Thereafter, at the stack, collected material is being sorted manually to make a saleable grade.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual	Manual	

7c	Different grade of mineral sorted out at mines.	Below 40% Cr2O3	Below 40% Cr2O3	
7d	Any beneficiation process at mines	No	No	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			Mining in the area is in form of surface collections only (manually). All the collected material is then sorted for forming dispatch grade mineral stack. Hence, no mineral is being left at site.

Environment:

Sl.No.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No such proposals	Nil	
8b	Concurrent use or storage of topsoil	Nil	Nil	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Yes	Yes	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No such proposals	It was proposed to convert the mined out area into water reservoir and backfilling of waste or rejects or fines was not proposed.	Work has been done as per the proposals.

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Mined out pits were proposed for conversion into water reservoir and waste dumps were proposed for reclamation and rehabilitation through plantation.	Out of 0.7447 ha of area under Pits, 0.677 ha area has been converted into water reservoir and all the dumps have been reclaimed and rehabilitated through plantation.	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Yes	Yes	
8g	Survival rate		25%	Due to less number of working days (55 during 2017-18), proper care could not be done. It was advised during inspection to take proper measures to attain higher survival rate (at least 80%).
8h	Water sprinkling on roads to control airborne dust	Yes	Yes	One water tanker is deployed for the purpose.

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	As the working is at minimal level, no environmental issues observed during the inspection. It was suggested to get water analysis done to ensure absence of hexavalent Chromium in the water accumulated in the pits as well as ground water. Lessee has analysed the samples through M/s Anacon which proved absence of hexavalent Chromium in the water. Aesthetic beauty of the area is satisfactory.
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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 on date AR has been submitted upto 2016-17 online & 2017-18 in G-1 offilne (offline as G-1 form is not available online) MR for May'2018 onwards not received for which advise letter has been sent to DGM, Maharashtra as per Letter No. 795/45/16/2012/NGP dated 19/07/2018.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Manager: Rahul Maskey Mining Engineer: Manohar Waghmare Geologist: Nil	It was informed that production from the mine is 'Nil' since March'18 and mine worked for only 55 days. At the time of working, Part time geologist shall be appointed as per MCDR'77.	

9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.		Correct information furnished.	
9d	Scrutiny of Annual return on afforestation	25 trees	Correct information furnished.	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	182.5 T generated from unprocessed ore	The quantity mentioned is having average grade less than Threshold value and is the material picked from surface from which the saleable grade shall be sorted.	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM stock Nil	The returns are pending for correction.	As per field visit, very less quantity of stock (4-5 T) was available at the site.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	No sale has occurred and thus sale value has been mentioned as Ex-Mine price (ASP published by IBM). In the cost of Mining, amount mentioned is Rs 201447	Cost mentioned is actual cost and not per tonne for which lessee was suggested to make necessary corrections. Further, the cost is on higher side due to exploration (Rs 79250/-).	
9h	Scrutiny of Annual return on fixed assets		Correct information furnished.	
9k	Scrutiny of Annual return on mining machineries	Only one tracktor mounted water tanker has been mentioned.	Correct information furnished.	

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

Date :

(ASHISH MISHRA)

Indian Bureau of Mines