INDIAN BUREAU OF MINES
MINERALS DEVELOPMEMT AND REGULATION DIVISION

MCDR INSPECTION REPORT

Nagpur regional office

Mine file No : MAH/BHD/SLM-2/NGP **Mine code : 55MSH05001**

(i) Name of the Inspecting Officer and ID No. : **M017) ASHISH MISHRA**

(ii) Designation : Sr. Asst. Contrl. Mines

(iii) Accompaning mine Official with Designation : SHRI SAHU, MINES MANGER

(iv) Date of Inspection : 13/04/2017

(v) Prev.inspection date : 06/03/2008

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **POHARA BODKI HILL**

(b) Registration NO. : **IBM/5319/2011**

(c) Category : B Manual

(d) Type of Working : Opencast

(e) Postal address

State : MAHARASHTRA
District : BHANDARA
Village : POHARA
Taluka : LAKHANI
Post office : POHARA
Pin Code : 441809
FAX No. :
E-mail :
Phone : 522875:(M. D.),526419,5331(

(f) Police Station :

(g) First opening date : 01/01/1976

(h) Weekly day of rest : SUN

2. Address for correspondance : 3RD FLOOR, UDYOG BHAVAN,
CIVIL LINES,
NAGPUR-440 001

3. (a) Lease Number : MSH0149
(b) Lease area : 12.15
(c) Period of lease : 20
(d) Date of Expiry : 16/11/2017

4. Mineral worked : SILLIMANITE Main
PYROPHYLLITE Associated

5. Name and Address of the

Lessee	:	M/s Maharashtra State Mining Corporation 5, Abhyankar Nagar Nagpur - 10 NAGPUR MAHARASHTRA Phone: FAX :
Owner	:	SHRI S.A. TAGDE CHANDRAPUR MAHARASHTRA Phone: FAX :
Agent	:	SHRI P.P. SONI NAGPUR MAHARASHTRA Phone: FAX :
Manager		
Name	:	D.S. RANGARI
Qualification	:	
Appointment/ Termination date	:	04/09/2004
Manager		
Name	:	SHRI S.N. TIWARI
Qualification	:	
Appointment/ Termination date	:	19/10/2004
Manager		
Name	:	G.S. PODDAR
Qualification	:	FIRST CLASS MINES MANAGER
Appointment/ Termination date	:	04/09/2004 19/10/2004

6. Date of approval of Mining Plan/Scheme of Mining :

Fresh under rule 22 MCR1960	27/07/2000
Fresh under rule 22 MCR1960	03/04/2001
Mining Scheme rule 12 MCDR1988	03/07/2007
Mining Scheme rule 12 MCDR1988	07/04/2014

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Nil	Nil	The area has been explored in three phases; the mine was opened during initial exploration work. The initial 32 Bore holes were drilled by Directorate Geology and Mining, Govt. of Maharashtra in 1974-1977(20 BH) and 1989 to 1992 (12 BH). In all 32 boreholes were drilled. Last phase of exploration was undertaken in the year 2002-03 to prove the lateral extension of ore body, 4 bore holes were additionally drilled with total drilling of 93.50 m in south south-west part of lease area.
1b	Exploration over lease area for geological axis 1 or 2	G1	G1	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Nil during the year as area is already explored under G1	Nil	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	Complete area has been explored under G1. Top RL of the area is 243 mRL whereas lowest RL is 206 mRL and the area is proved upto 180 mRL.
1e	Balance reserve as on 01/04/20		As on 01/04/2017: 111-136740 T 121- 7273 T Total: 144013 T	

1f	General remarks of inspecting officers on geology, exploration etc		The main orebody, which occurs in the southern part of hillock measures 66.50m in length, 15-17.50m in width and it has 26.50m depth persistence. The area is under active exploitation by MSMC. This Sillimanite ore of the area can be divided into i) High grade- More than 50% Al2O3 ii) Low Grade- 30 to 50% Al2O3 Sillimanite occurs in the form of ribbon like or fibrous aggregate of radial masses with quartz and feldspar. Pyrophyllite is hydrous aluminous silicate and occurs as compact aggregates.	Exploration has been completed for the area.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	One water logged Pit is located in the central part of the lease area which is proposed for dewatering and vertical expansion (deepening).	Nil	Only dump working over small scale has been carried out in the lease area.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Yes	Nil as no in-situ working done in the year.	Old dumps are present in the area which are separate for Overburden/Waste and minerals. Top soil dump is not available as generated top soil has already been used for plantation and no in-situ working has been carried out in the area since long.

2c	Stripping ratio or ore to OB ratio	1:7.6	Nil	Only dump working has been carried out.
2d	Quantity of topsoil generation in m3	Nil	Nil	
2e	Quantity of overburden generation in m3	154125 cuM	Nil	Only dump working has been carried out.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			No particular remarks as presently only dump working is being carried out in the lease area. The ore body has steep westerly dip, so the target would be achieved by expanding the pit in northern side after dewatering.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	One Pit (existing)	Nil	No insitu working has been done.
3b	Quantity of ROM mineral production proposed	20660 T (Sillimanite and Pyrophyllite both) Sillimanite: 8960 T Pyrophyllite: 11700 T	Nil	No insitu working has been done.
3c	Recovery of sailable/usable mineral from ROM production	100%	Nil	All the mineral from in-situ ROM shall be Sillimanite or Pyrophyllite and both are saleable minerals. Hence 100% recovery but no insitu working has been done. Recovery from dump is 18-20% with around 0.3-0.5% Sillimanite and rest Pyrophyllite.

3d	Quantity of mineral reject generation	Nil	Nil	
3e	Grade of mineral rejects generation and threshold value declared.	Not applicable	Nil	
3f	Quantity of sub grade mineral generation.	Not applicable	Nil	
3g	Grade of sub grade mineral generation	Not applicable	Nil	
3h	Manual / Mechanised method adopted for segregating from ROM	Manual Sorting	Nil	Manual sorting from dump working has been done as no in-situ working carried out.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Nil	Nil	
3j	Provision of drilling and blasting in mineral benches	Yes	Nil	No insitu working has been done.
3k	Provision of mining machineries in mineral benches	Yes	Nil	No insitu working has been done.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	6 m bench height is proposed	Nil	No insitu working has been done. In the old pit, 3-6 m bench height is visible.
3m	Total area covered under excavation/pits	8.21 ha	8.21 ha	
3n	Ore to OB ratio for the pit/mine during the year.	1:7.6	Nil	No insitu working has been done.

3o	Total area put in use under different heads at the end of year		Area under: Pits- 8.21 ha Waste Dump-8.02 ha Mineral Storage-0.50 ha Infrastructure-0.02 ha Roads-2.0 ha Green Belt-2.67 ha Total- 21.42 ha	
3p	Production of ROM mineral during the last five year period as applicable	2015-16: 18663 T 2014-15: 4067.58 T 2013-14: 2570.84 2012-13: No proposals 2011-12: 28069 T	2015-16: 1677.04 T (Pyrophyllite only) 2014-15: 1685.88 T 2013-14: 1049.51 T 2012-13: 843.84 T 2011-12: 1279.51 T	All the actual production figures are for Sillimanite and Pyrophyllite both except 2015-16. All production carried out from Dump Working and actual ROM from in-situ is Nil.
3q	General remarks of inspecting officers on method of mining etc.			Method of mining is Category A semi-mechanized which is suitable as per capital investments, mine design and as per proposed development and production. But due to very low demand, working is limited to dump recovery only.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Yes	Nil	No insitu working has been done.

4b	Location of topsoil, OB and mineral reject dumps	5 OB/ Waste dumps are there in the lease area alongwith One mineralized stack. Dumps are located at: WD-1- NW side of the Pit WD-2- NE side of the Pit WD-3- Eastern side of the Pit WD-4 & 5- SW and S side of the Pit	As per the proposals only as no new in-situ working done in the area.
4c	Number of dumps within lease area and outside of lease area	5 OB/ Waste dumps, 1 Mineralized stack, all within lease area.	As per the proposals
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	All dumps are outside pit limits	As per the proposals
4e	Number of active and alive dumps.	All dumps are active	All active dumps
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	Yes
4i	Length of Retaining wall or garland drain all along dumps	Around 1500-2000 m	As per the proposals
4j	Number of settling ponds	Nil	Nil

4k	Specific comments of inspecting officer on waste dump management	There is enough area available besides the mineralized zone and accordingly waste has been dumped. Upon reaching maturity, these dumps shall be stabilized through plantation at conceptual stage.

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 such proposals	Nil	Upon reaching maturity, these dumps shall be stabilized through plantation at conceptual stage and pits are proposed for conversion into water reservoir. No backfilling is proposed till conceptual stage.
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)	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.			Upon reaching maturity, these dumps shall be stabilized through plantation at conceptual stage. No backfilling has been proposed or actually done.

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).	Yes	No	Violation of Rule 26(2) of MCDR'17.
6b	Area available for rehabilitation (ha) .	No such proposals	Nil	
6c	afforestation done (ha).	Total 2.67 ha	2.67 ha area is under plantation	
6d	No. of saplings planted during the year	Nil	Nil	
6e	Cumulative no .of plants	Around 2500	2500 approximately	
6f	Any other method of rehabilitation	No such proposals	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	No such proposals	Nil	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No such proposals	Nil	
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	No such proposals	Nil	
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No such proposals	Nil	Pit available in the area is proposed to be converted into Waster reservoir at conceptual stage.

6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No such proposals	Nil	
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Afforestation done on 2.67 ha area in the non-mining zone of 7.5 m	As per the proposals	
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	2.67 ha	2.67 ha	
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Plantation	Plantation	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Monitoring done	As per the proposals	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			Under PMCP, apart fom environment monitoring and repair of Garland drains and retaining walls no work has been done. No in-situ production has been carried out from the lease area.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade-wise sorting and dispatch	Nil	Only dump working has been carried out and recovered material from the dump has been graded and dispatched.

7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual	Nil	No ROM generated in absence of in-situ working. Sorting from Dumps carried out by Manual means.
7c	Different grade of mineral sorted out at mines.	Sillimanite (41-61% Al2O3), Pyrophyllite (~36% Al2O3), Corundum (65-81% Al2O3) and Tourmaline (~30% Al2O3)	Sillimanite (41-61% Al2O3)	
7d	Any beneficiation process at mines.	Nil	Nil	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			ROM generated is graded to various grades of Sillimanite, Pyrophyllite, Corundum and Tourmaline. Thses are being dispatched from the lease area. Further, old Mineralized dumps are being worked to extract all saleable minerals. therefore, mineral conservation part is satisfactory in the lease.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks

8a	Separate removal and utilization of topsoil (Rule 32)	Yes	Nil	Only dump working carried out. Also, no top soil was proposed to be generated as the existing pit was proposed for further deepening. During earlier workings, generated top soil has been utilized for plantation purpose.
8b	Concurrent use or storage of topsoil	Concurrent use failing which storage.	Nil	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Yes	Yes, available in the area for previous workings but no fresh generation as only dump working has been done.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No such proposals	Nil	Waste dumps are proposed to be stabilized through plantation at conceptual stage.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No such proposals	Nil	Pit is proposed to be converted into water reservoir and dumps are proposed for stabilization at conceptual stage. Waste land within the lease area has been reclaimed through plantation.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Yes	Yes, given in the Mining Plan.	
8g	Survival rate		60-75%	
8h	Water sprinkling on roads to control airborne dust	Yes	Yes	

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Apart from normal degradation due to mine workings, aesthetic beauty in and around the area is good. Working in the mine is on very small scale in form of recovery of mineral from the dumps and hence no serious issues related to any danger to flora or faunna was observed.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns		Monthly and annual returns submitted online and is up to date.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer- No information furnished Geologist- Shri G.G. Wadpalliwar & Shri R. G. Marbate Manager- Shri Toran Lal Sahu	No Mining Engineer has been appointed. Also, Geologists reported had left the organisation and resigned.	Violation of rule 46 and 55 of MCDR'2017.
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	Nil plantation done	Correct information furnished	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil information as no mineral rejects generated	Correct informtation furnished	

9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM: Opening, Closing stocks and Production- Nil Dump Working: Production-110 T Graded Ore: Sillimanite: OS- 142.02 T, Production- 109.71 T, Dispatch-74 T, Closing Stock- 177.73 T	Correct information furnished	Given for Major Mineral Only
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Sale Value: Rs 205910.00/- Ex-Mine Price: Rs 2782.57/- per T Cost of Production: Rs 2718.07/- per T	Correct information furnished	Given for Major Mineral Only
9h	Scrutiny of Annual return on fixed assets	Value of fixed assets: Rs 487794/- Furnished for Land, Buildings and Machinery	Correct information furnished	
9k	Scrutiny of Annual return on mining machineries	1 Dozer of 90 HP 1 Front End Loader of 1.5 cuM capacity 2 Non-electric rock Drill of 100 mm dia 3 Pumps for dewatering having 50 L/minute capacity Air compressor, Jeep & Tractors	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
MCDR17 Rule 11(1)	04/05/2017	31/07/2017			
MCDR17 Rule 11(2)	04/05/2017	31/07/2017			
MCDR17 Rule 26(2)	04/05/2017	31/07/2017			
MCDR17 Rule 46(b)	04/05/2017	31/07/2017			
MCDR17 Rule 55(1)(3)	04/05/2017	31/07/2017			

Date :

(**ASHISH MISHRA**)

Indian Bureau of Mines