

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

MCDR INSPECTION REPORT

Nagpur regional office

Mine file No : MAH/BHD/KYA-10/NGP

Mine code : 33MSH05020

- (i) Name of the Inspecting : M017) ASHISH MISHRA
Officer and ID No.
- (ii) Designation : Assistant Controller Mine
- (iii) Accompanying mine : SHRI U. R. KHARABE, MINES MANAGER
Official with
Designation
- (iv) Date of Inspection : 07/03/2017
- (v) Prev.inspection date : 11/03/2010

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : NAVARGAON CHOWA
- (b) **Registration NO.** :
- (c) **Category** : B Manual
- (d) **Type of Working** : Opencast
- (e) **Postal address**
- State : MAHARASHTRA
- District : BHANDARA
- Village : NAVARGAON
- Taluka : BHANDARA
- Post office : PAHELA
- Pin Code :
- FAX No. :
- E-mail :
- Phone : 522875(M.D.), 526419, 53310
- (f) **Police Station** :
- (g) **First opening date** : 15/04/1977
- (h) **Weekly day of rest** : SUN
2. **Address for correspondance** : 5, ABHYANKAR NAGAR,
P. B. NO. 351,
DISST. NAGPUR-440010 (M. S.)
3. (a) **Lease Number** : MSH0146
- (b) **Lease area** : 40.61
- (c) **Period of lease** : 20
- (d) **Date of Expiry** : 28/06/2027
4. **Mineral worked** : KYANITE Main

5. Name and Address of the

Lessee : M/s Maharashtra State Mining Corporation
5, Abhyankar Nagar Nagpur -
10 NAGPUR MAHARASHTRA
Phone:
FAX :

Mining Engineer

Name : M.B. TUPEKAR, Full Time
Qualification : DIPLOMA IN MINING & MINE SURVEYING + 2ND
Appointment/ : 20/01/2005
Termination date

6. Date of approval of Mining	:	Existing rule 11 MCDR1988	18/11/2005
Plan/Scheme of Mining	:	Renewal under rule 24 MCR1960	18/01/2013

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	4 Boreholes proposed to be drilled in the Mining Plan approved for 2012-13 to 2016-17	No bore holes drilled	Mining operations remained suspended from 15/11/2011 to 30/01/2013 under Rule 13(2) of MCDR'1988 for carrying out mining operations without a valid or approved document. Again, Mining operations remained suspended from 30/10/2013 to 19/02/2016 under Rule 13(2) of MCDR'1988 due to non-compliance of CCOM Circular 2/2010. Due to this, proposed boreholes could not be drilled in the 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	4 boreholes to be drilled by M/s MSMC Ltd., cost not given.	Nil.	
1d	Balance area to be explored to bring Geological axis in 1 or 2	Nil	Nil	As per the approved mining Plan, major part of the lease area is in the agricultural field where no traces of Kyanite has been observed in the past exploration in form of 10 boreholes by DGM in 1994-95 and 7 boreholes by M/s MSMC Ltd. in 2002-03.

1e	Balance reserve as on 01/04/20	As per approved Mining Plan considering reserves as on 01.04.2012 and production proposals for 2012-13 to 2015-16: 111- 85749 T () + 41115.7 T () = 126594.7 T	111- 102079 T () + 54179.7 T () = 156258.7 T	No production done due to suspension of mining operations.
1f	General remarks of inspecting officers on geology, exploration etc			The area is having mainly agricultural fields, only one small working pit and one water logged pit is there. As per the geological studies of the area, > 48% Al ₂ O ₃ containing Kyanite is very less and Pyrophyllite is occurring in association with it. Thus M/s MSMC has proposed the boreholes to see the future prospect of the area. But due to suspension of mining operations, exploration could not be done. Comments can be made after the exploration results.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Pit-2 located in Chowa East Block	As per the proposals	

2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Yes.	As per proposals	
2c	Stripping ratio or ore to OB ratio	1:0.58 to 1:2.86 as per last approved SOM 1:2.86 for the year 2015-16 and 1:0.58 for 2016-17	1:3.358 for 2015-16 (281.506 T production and 945.3 cuM overburden removal)	
2d	Quantity of topsoil generation in m3	Nil	Nil	
2e	Quantity of overburden generation in m3	2015-16: 28512 cuM 2016-17: 4752 cuM	2015-16: 945.3 cuM 2016-17: Nil	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			The area needs to be explored first so that extent of development can be designed and executed accordingly. At present, development is limited to Chowa block and a systematic development can be achieved only after joining the two pits in the Chowa block and shifting of dumps present within pit limits. Afterwards, backfilling of the exploited area can be done.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	One pit that is Pit 2 in Chowa East Block	As per the proposals	

3b	Quantity of ROM mineral production proposed	2015-16: 9979.2 T 2016-17: 8164.8 T	2015-16: 281.506 T 2016-17: 816 T	
3c	Recovery of sailable/usable mineral from ROM production	50% as clean ore, 40% as sub-grade and 10% mineral rejects Other than clean ore, sub-grade/low grade and rejects are also saleable.	33.56% Kyanite, 37.93% low grade or sub-grade Kyanite, 28.56% Pyrophyllite	
3d	Quantity of mineral reject generation	2015-16: 998 T 2016-17: 817 T	Nil	
3e	Grade of mineral rejects generation and threshold value declared.	Less than 30% Al2O3	Not Applicable as no generation of Mineral Rejects	
3f	Quantity of sub grade mineral generation.	2015-16: 3992 T 2016-17: 3266 T	2015-16: Low grade or sub-grade Kyanite is 106.794 T	
3g	Grade of sub grade mineral generation	+30-40% Al2O3	As per the proposals	
3h	Manual / Mechanised method adopted for segregating from ROM	Manual	Manual	As per the proposals
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No study proposed	No study carried out	

3j	Provision of drilling and blasting in mineral benches	Drilling by Jackhammer (32 mm diameter and 1.5 m depth), 1.25 m spacing, 1.0 m burden. Slurry based explosive with 0.5 kg explosive in each hole approximately. Powder factor in overburden is 7.5 T/kg and in ore 10.5 T/kg	As per the proposals	
3k	Provision of mining machineries in mineral benches	No	As per proposals no machinery deployed	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	3 m	As per the proposals	
3m	Total area covered under excavation/pits	1.0217 ha upto 31.03.2017	0.5699 ha	As mostly the working remained suspended and due to lack of demand, production has been very less from the area (2015-16: 281 T, 2016-17: 816 T approximately), actual area under excavation/pits is quite less than the proposal made in the approved mining plan.
3n	Ore to OB ratio for the pit/mine during the year.	1:2.86 in 2015-16 1:0.58 in 2016-17	1:3.36 in 2015-16	As mostly the working remained suspended and due to lack of demand, production has been very less from the area (2015-16: 281 T, 2016-17: 816 T approximately), accordingly development has been taken up.

30	Total area put in use under different heads at the end of year	At the end of 2016-17, proposals are as follows:- Area under Excavation/Pit : 1.027 ha OB/Dump Area: 1.2215 Mineral Storage Area: 0.03 ha Area under sub-grade/rejects: 0.00022 ha Infrastructure : 0.0250 ha Roads: 0.02 ha Plantation: 0.02 ha Township Area: 0.250 ha Total: 2.7684 ha	At the end of 2016-17, actual area utilization is as follows:- Area under Excavation/Pit: 0.5699 ha OB/Dump Area: 0.7187 ha Infrastructure: 0.0876 ha Roads: 0.6359 ha Total: 2.0121 ha	Plantation has not been done as per the proposals, survival for afforestation is almost NIL. Therefore no area under plantation. Actually area was given under township whereas it should be under infrastructure and roads. Mineral storage is available at the pit and the area under mineral storage has been already counted under pit area.
3p	Production of ROM mineral during the last five year period as applicable	2012-13: 6350.4 T 2013-14: 7561.0 T 2014-15: 8769.6 T 2015-16: 9979.2 T 2016-17: 8164.8 T	2012-13: 0 T 2013-14: 174.390 T 2014-15: 174.390 T 2015-16: 281.506 T 2016-17: 816.0 T	Mining operations remained suspended from 30/10/2013 to 19/02/2016 under Rule 13(2) of MCDR'1988 due to non-compliance of CCOM Circular 2/2010 but still ROM production carried out as reported in the Annual returns therefore, suitable action may be taken.

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

Development and
Production are far
lagging from the
proposals due to
lack in demand.
Method of mining
adopted is manual
and is suitable as
various grades are
being generated
that can only be
sorted manually.
Also, the area is
having major part
under cultivation
where no mineral
occurrence has
been established.
Out of rest of the
part, very small
area is promising
and that too is
nearby influence
zone of a canal
(blocked resources
due to public
structure).

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	No Top soil and mineral rejects. Overburden, waste and sub- grade (Low- grade) are proposed to be stacked separately from the saleable ore. Generation of Mineral rejects proposed as 4083 T which is to be stacked separately.	Nil (for the year) for mineral rejects, Overburden/ waste is being dumped at earmarked locations for wste dumping.	

4b	Location of topsoil, OB and mineral reject dumps	Total 16 dumps: 2 in Nawargaon Block 14 in Chowa Block Stack no.-1 is having mineral Rejects	As per the proposals	Top soil bearing area is under cultivation and hence no top soil has been disturbed. No top soil dump is existing in the area. mineral rejects generated is being stacked at Stack No.-1 (rejects are also saleable), waste is being dumped at nearest waste dump in the Chowa block. Dumps D-2 and D-7 are under shifting for excavation at deeper horizons in Chowa block.
4c	Number of dumps within lease area and outside of lease area	Within lease area.	All of the dumps are within lease area. Present dumping is also being done within lease area only.	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	D-2 and D-7 are within UPL and are proposed for re-handling.	As per the proposals, D-2 and D-7 are being re-handled for shifting outside the pit limits.	
4e	Number of active and alive dumps.	2 dumps in Nawargaon Block are dead dumps, rest 14 dumps in the Chowa Block are active dumps (small).	As per the proposals.	
4f	Number of dead dumps.	2	2 dumps located in Nawargaon block.	
4g	Number of dumps established.	16	As per the proposals.	
4h	Whether Retaining wall or garland drain all along dumps are there.	Nil.	Garland drain is available along some of the dumps but retaining wall is not there for any dump.	
4i	Length of Retaining wall or garland drain all along dumps	Nil	Garland drain of around 75-100 m. No Retaining Wall.	
4j	Number of settling ponds	Nil	Nil	

4k	Specific comments of inspecting officer on waste dump management	Waste dumping in the past has been done on excavation basis. Wherever excavation has been made, waste was dumped along the pit. Now the area is being systematically developed and two dumps near the working pit D-2 and D-7 in the Chowa block are being re-handled for working at deeper horizons for exploitation of mineral. There is another water logged pit which is proposed to be joined in the working pit in Chowa block after which exploited part may be backfilled with waste.
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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.	Part extraction	No backfilling done or proposed.	The area is yet to be explored in detail. Thus backfilling hasn't been proposed or done.
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)	Nil	Nil	Top soil bearing area is under cultivation. Hence no top soil generated.
5d	Total area fully reclaimed and rehabilitated	Nil	Nil	

5e	General remarks of inspecting officers on backfilling and reclamation etc.	No area has been matured for backfilling, reclamation or rehabilitation activities.
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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).		Not submitted.	Violation of Rule 26(2) of MCDR'2017 has been issued.
6b	Area available for rehabilitation (ha) .	Nil	Nil	
6c	afforestation done (ha).	25 trees per year from 2012-13 to 2016-17.	Nil	No saplings found surviving in the area during site visit. Violation of Rule 26(1) of MCDR'2017 has been issued.
6d	No. of saplings planted during the year	25 in 2016-17	Planted 25 saplings as informed by the Mines Manager, but survival is Nil.	
6e	Cumulative no .of plants	125 at the end of 2012-13 to 2016-17 period.	Nil	
6f	Any other method of rehabilitation	No	No	
6g	Cost incurred on watch and care during the year	Rs 177000 in 2016-17	Nil	Cost distribution is : Rs 2000 on afforestation on dumps, Rs 5000 in Green belt, Rs 20000 in Retaining Wall, Rs 150000 on Environment Monitoring. No monitoring report shown during inspection and other activities found 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
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Proposal of 25 trees per annum	Nil
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	Nil

6p	Compliance of environmental monitoring (core zone and buffer zone)	Proposed for air, water noise etc.	Nil	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			The mine is lagging behind in progressive closure as afforestation, environment monitoring is not being done regularly. As the mine remained suspended in most of the period during last 5 years and proposals for next five years have been submitted alongwith Review of Mining Plan under Rule 17(1) of MCR'2016, regular inspections should be done for the area to make sure the compliances of the proposals.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Grade-wise sorting within lease area.	As per the proposals.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual	Manual	
7c	Different grade of mineral sorted out at mines.	6 grades	Total 6 grades are there as per the Annual returns: Kyanite-Grade-III-A, III-B, Low Grade, Unsorted chilly (-50mm + 20mm), Kyanite Rejects and Pyrophyllite	

7d	Any beneficiation process at mines .	No	Nil	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			As per the Annual Retruns, it is observed that various grades are available in the mine with change in the percentage of Al ₂ O ₃ . Kyanite rejects, Low grade and chilly (-50mm + 20mm) are also saleable and can be sold after blending/without blending as per user demand. Apart from Kyanite, Pyrophillite is also associated which is also saleable. Thus mineral conservation part is being followed and beneficiation is not required.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No Proposal.	Not Applicable	
8b	Concurrent use or storage of topsoil	Not Applicable	Not Applicable	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dumps for overburden/waste and rejects, fines	Waste is being dumped separately. Fines/chilly, low grade and rejects are stacked separately as they are also saleable.	

8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No Proposals.	Backfilling shall be proposed after fully exploring the area and after exploitation upto economically feasible depth.	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Plantation proposed on dumps.	No plantation done/ No plant is surviving.	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Existing Plantation: Nil Plantation to be done (2012-13 to 2016-17): 125 saplings	Existing Plantation: Nil Plantation to be done (2012-13 to 2016-17): Nil	
8g	Survival rate	80% at least	No survival.	
8h	Water sprinkling on roads to control airborne dust	Yes	Nil. No sprinkling is being done on the roads.	Violation of Rule 40 of MCDR'2017 is issued.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Environmental aspects have not been adhered to the proposals made in the approved Mining Plan. Thus violation is issued.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns		MR submitted upto MARCH'2017 AR submitted upto 2015-16	

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	No mining engineer reported in the AR. Geologists given are: Dr. G. G. Wadapalliwar and Mr. R. G. Marbate	The Geologists reported in the AR have already resigned from the organisation. Thus there is no mining engineer or geologist appointed in the mine.	Violation of rule 55(3) of MCDR'2017 has been issued alongwith violation of Rule 46 of MCDR'2017 for not submitting required notice for the geologists leaving the employment.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area: Covered under O/C workings: 1.30 ha Used for waste Disposal: 1.22 ha Used for any other purpose: 0.50 ha	Details are correct.	
9d	Scrutiny of Annual return on afforestation	Nil	Actual afforested area is Nil	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Mineral rejects generation reported is Nil.	Actual generation is Nil for 2015-16 and 2016-17.	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM stock reported as Nil	Actual ROM stock is Nil as ROM is sorted and stacking of graded ore is being done at the mine. Grade-wise Closing Stock as per 2015-16 Returns are: Kyanite Grade-III A=25.738 T Kyanite Grade-III-B= 231.880 T Kyanite low grade= 226.094 T Kyanite Unsorted Chilly (-50mm + 20mm)= 15.32 T Kyanite rejects= 47.520 T Pyrophyllite= 123.890 T	

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Grade-wise Ex-mine price as per 2015-16 Returns are (per ton): Kyanite Grade-III A=Rs 2200/- Kyanite Grade-III-B= Rs 2000/- Kyanite low grade= Rs 1700/- Kyanite Unsorted Chilly (-50mm + 20mm)= Rs 1450/- Kyanite rejects= Rs 1250/- Pyrophyllite= Rs 750/- Production Cost is Rs 3154.92 per T	Cost per ton as reported is Rs 3154.92/- whereas Ex-mine price is Rs 750/- to Rs 2200/- per ton as per the grade reported.	Suitable action may be taken for clarifications.
9h	Scrutiny of Annual return on fixed assets	Not given	Not given correctly	State Govt. may be informed for suitable action under rule 45(7)(a)
9k	Scrutiny of Annual return on mining machineries	Nil	Mine is under category 'B' Manual. Hence coreect information.	

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 26(1)	28/04/2017				
MCDR17 Rule 55(1)(3)	28/04/2017				
MCDR17 Rule 26(2)	28/04/2017				
MCDR17 Rule 40	28/04/2017				
MCDR17 Rule 46(b)	28/04/2017				

Date :
(ASHISH MISHRA)

Indian Bureau of Mines