

**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 : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : SHRI P. Y. TEMBHARE, AGENT AND SHRI U. R. KHARABE, MA
Official with
Designation
- (iv) Date of Inspection : 18/03/2019
- (v) Prev.inspection date : 07/03/2017

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **NAVARGAON CHOWA**
- (b) **Registration NO.** : **IBM/5319/2011**
- (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** : 5, ABHYANKAR NAGAR,
correspondance P. B. NO. 351,
DISST. NAGPUR-440010 (M. S.)
3. (a) **Lease Number** : MSH0146
- (b) **Lease area** : 40.61
- (c) **Period of lease** : 40
- (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
		MP review under 17(1) MCR 2016	13/10/2017

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. Further, no exploration was proposed in the year 2017-18 to 2020-21. 2 Boreholes are proposed to be drilled in the year 2021-22.	No bore holes drilled in the last approved proposal period upto 2016-17.	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	G-1 Level exploration	G-1 level exploration has already been done for 40.26 ha area out of 40.61 ha area.	Exploration carried out in the area is in form of 14 core bore holes with 559.75 m drilling meterage, drilled by DGM, Maharashtra during the period 1968-69 to 1977-78. 7 more boreholes were drilled by M/s MSMC Ltd. in the year 2003 that have proved only marginal presence of Kyanite in the lease area.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No such proposals for exploration during the year.	Nil	

1d	Balance area to be explored to bring Geological axis in 1 or 2	Almost complete area has been proved for mineralization. For 0.35 ha of unexplored area, exploration is proposed to be carried out in the year 2021-22.	As per the proposals.	
1e	Balance reserve as on 01/04/20	Given in the actual work details.	Balance reserves as on 01.04.2018 are: 111- 64124 T 211- 34261 T Total: 98385 T	
1f	General remarks of inspecting officers on geology, exploration etc			The area is having mainly agricultural fields, Water reservoir, village etc., 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	Development is proposed within the existing pit at location N2326550 to N2326700 & E360300 to E360400	As per the proposals, though the development was on lower side.	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	There is no top soil available in the area proposed for working. Further, separate benched in Kyanite and OB/waste is proposed to be maintained.	As per the proposals, there are separate benches in Kyanite and OB/Waste. There are 3 benches in OB with 1.5 m height and 3 benches in ore with 3 m height.	
2c	Stripping ratio or ore to OB ratio	1:0.18	1:0.96	More generation of overburden/waste as Kyanite orebody has shown pinching effect and also marginal ore in form of Kyanite is present in the lease area requiring more development.
2d	Quantity of topsoil generation in m3	Nil	Nil as no top soil present in the proposed working area.	
2e	Quantity of overburden generation in m3	2017-18: 265 cuM	2017-18: 2486 T	

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. Further, Kyanite exposed in the lower bench has shown pinching effect thus resulting in more development as compared to the proposals.
----	---	---

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	One Pit	One Pit is being worked	
3b	Quantity of ROM mineral production proposed	2017-18: 4992 T	2017-18: 2574.562 T	
3c	Recovery of sailable/usable mineral from ROM production	Recovery is proposed at 80% of ROM. Rest 20% is minerl rejects.	Recovery achieved was around 95% (Out of 2437.352 T ROM, 2318.112 T was reported as graded ore).	Maximum quantum of ROM was reported to be blended with lower quality generated while excavation and achieve optimum grade that is readily saleable.
3d	Quantity of mineral reject generation	2017-18: 998.4 T (20% of ROM)	2017-18: 119.24 T (5.14% of ROM)	
3e	Grade of mineral rejects generation and threshold value declared.	Less than 30% of Al ₂ O ₃	As per the proposals.	

3f	Quantity of sub grade mineral generation.	No such proposals	Nil
3g	Grade of sub grade mineral generation	No such proposals	Not Applicable.
3h	Manual / Mechanised method adopted for segregating from ROM	Manual sorting of ROM	As per the proposals.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No such proposals	Nil
3j	Provision of drilling and blasting in mineral benches	Drilling is proposed using 32 mm dia Jackhammer drills. Blasting through Ammonium nitrate in small dia cartridged form.	As per the proposals.
3k	Provision of mining machineries in mineral benches	Mining is proposed through manual working.	Apart from drilling machines (jack hammer) and 10 T Tippers, there is no mechanization and working is through manual means without deployment of any heavy earth moving machinery.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Height of overburden bench shall be kept at 1.5 m and height of mineral bench shall be kept at 3 m.	For manual mining in the mine, bench height as proposed for overburden and ore are found suitable.

3m	Total area covered under excavation/pits	Proposed area to be covered under pits by the end of approved proposal period upto 2021-22: 0.7799 ha (as per approved Review of Mining Plan)	Area under pits: 0.439 ha	
3n	Ore to OB ratio for the pit/mine during the year.	1:0.18	1:0.96	
3o	Total area put in use under different heads at the end of year	Furnished in the actual work details.	Area under: Pits: 0.439 ha Mineral Storage: 0.03 ha Township: 0.25 ha Roads: 0.02 ha Infrastructure: 0.01 ha OB/ Waste Dump: 0.868 ha Total: 1.5867 ha	Apart from the above land use, 0.075 ha waste land within 7.5 m non-mining zone in the southern part of D-1 and D-4 between BP-3 to BP-6 is under plantation activities.
3p	Production of ROM mineral during the last five year period as applicable	2016-17: 8164.8 T 2015-16: 9979.2 T 2014-15: 8769.6 T 2013-14: 7561.0 T 2012-13: 6350.4 T	2016-17: 1140.536 T 2015-16: 281.506 T 2014-15: 174.39 T 2013-14: 174.39 T 2012-13: Nil	

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

Development and
Production are
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)	Yes. No top soil is present in the proposed working area. OB/Waste and Mineral Rejects are proposed to be kept separately.	Waste dumps and Mineral reject stacks are separately located.	

4b	Location of topsoil, OB and mineral reject dumps	Top Soil: Nil Waste Dump: Proposed at N2326500 to N2326600 & E360300 to E360400 (One dump proposed for which area already covered in the old dumps D-1 and D-4), apart from several small old dumps Mineral rejects Dump: Proposed at N2326750 to N2326850 & E360400 to E360500	As per the proposals.	
4c	Number of dumps within lease area and outside of lease area	Total 16 dumps: 2 in Nawargaon Block 14 in Chowa Block Stack no.-1 is having mineral Rejects, all within lease area.	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.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Not applicable	Not applicable	

4e	Number of active and alive dumps.	Top Soil: Nil Waste Dump: Proposed at N2326500 to N2326600 & E360300 to E360400 (One dump proposed for which area already covered in the old dumps D-1 and D-4), Mineral rejects Dump: Proposed at N2326750 to N2326850 & E360400 to E360500	As proposed, one dump for waste and one mineral rejects stack is active.	Two dumps are in re-handling stage (D-2 and D-7). One active dump is over old waste dumps D-1 and D-4.
4f	Number of dead dumps.	12 dumps are dead.	Out of total 16 old small dumps and one new dump (area already covered in the old dumps D-1 and D-4), 1 is active and 2 are under re-handling stage. Rest dumps are dead dumps.	
4g	Number of dumps established.	2 dumps located in Nawargaon block.	2 dumps are established.	Rest dumps are in Chowa block that may require shifting for excavation in deeper horizons and development of pit.
4h	Whether Retaining wall or garland drain all along dumps are there.	To control erosion from waste dumps, retaining walls with garland drain will be provided along the periphery of waste dumps. Before onset of monsoon, silt accumulated at retaining walls and garland drains will be cleaned.	Garland draing in the southern part of D-1 and D-4 (old) or newly proposed dump was found but no retaining wall was found at the toe of the dumps.	Violation of Rule 37(2) of MCDR'17 issued.

4i	Length of Retaining wall or garland drain all along dumps	No specific proposals for length of retaining wall or garland drain.	Garland drain for approximately 100 m was seen during site inspection in the southern part of newly proposed dump (old D-1 and D-4 dumps), no retaining wall was seen during inspection.	
4j	Number of settling ponds	No such proposals.	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.

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.	The mineralized ore body extends to a depth of 50m. Due to lease boundary restrictions only 27 m depth will be achieved. The sufficient quantity of ore will be left unmined below 27m depth. Therefore, mined out land will not be reclaimed by backfilling during the ensuing plan period. The pit will be converted to water reservoir.	No backfilling is proposed or carried out during the proposal period or 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.	The mineralized ore body extends to a depth of 50m. Due to lease boundary restrictions only 27 m depth will be achieved. The sufficient quantity of ore will be left unmined below 27m depth. Therefore, mined out land will not be reclaimed by backfilling during the ensuing plan period. The pit will be converted to water reservoir.
----	--	--

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).	The holder of mining lease shall submit to the competent authority a yearly report as per the format specified by the Indian Bureau of Mines, before 1st day of July every year setting forth the extent of protective and rehabilitative works carried out as envisaged in the approved mine closure plan, and if there is any deviation, reasons thereof.	No such report has been submitted.	Violation of rule 26(2) of MCDR'2017 issued.

6b	Area available for rehabilitation (ha) .	Nil	Nil	
6c	afforestation done (ha).	25 plants per year on non-mineralised area in 7.5m barrier in Chowa block over 0.0276 ha	75 saplings have been planted over 0.075 ha area	
6d	No. of saplings planted during the year	25 saplings	75 saplings	
6e	Cumulative no .of plants	Not available	175 saplings	
6f	Any other method of rehabilitation	No such proposals	Nil	
6g	Cost incurred on watch and care during the year	Rs 25000/- over watch and care during 2017-18	Rs 62500/- actual expenditure	
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 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	Rehabilitation by converting the mined out pit into water reservoir is proposed 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 was proposed over waste land within 7.5 m non-mining zone	As per the proposals, 7.5 m non-mining zone in the southern part of the waste dump D-1 and D-4 and roadside plantation has been carried out.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	0.0276 ha	0.075 ha
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Afforestation	Plantation activities
6p	Compliance of environmental monitoring (core zone and buffer zone)	Yes	Environment monitoring was carried out in core zone as the workings were manual and limited to very small area.

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	During last 5 years proposal period of 2012-13 to 2016-17, 25 saplings per year was proposed however, no afforestation was found surviving and lessee was suggested to make up the backlog in future proposals. In the present proposal period, lessee has shown efforts and carried out plantation in form of 75 saplings against proposal for 25 saplings. Progressive closure needs more attention as protective measures need to be constructed in the mine for which violation is issued.
----	---	--

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.	Grade-wise sorting into 6 grades	Total 6 grades are there: Above 40% Al ₂ O ₃ : Kyanite-Grade-III-A, III-B, Low Grade, Unsorted chilly (-50mm +20mm), Below 40% Al ₂ O ₃ : Kyanite Rejects and Pyrophyllite and as per Annual returns, grades are: a) 40% Al ₂ O ₃ and above b) Below 40% Al ₂ O ₃ and Pyrophyllite	Kyanite Grade III-A is scarcely available. Rest grades are being mined/sorted and dispatched. Kyanite Grade-III B: +45-50% Al ₂ O ₃ Kyanite Medium Grade: Lumps +50 mm, free from Tourmaline and Mica, +48% Al ₂ O ₃ Content Kyanite Low Grade: Lumps +50 mm, 40-48% Al ₂ O ₃
7d	Any beneficiation process at mines .	No beneficiation except manual sorting.	No beneficiation proposed or carried out.	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			As per the Annual Returns, 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, Pyrophyllite 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 such proposals.	Nil	

8b	Concurrent use or storage of topsoil	No such proposals.	Nil	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Yes. No top soil is present in the proposed working area. OB/Waste and Mineral Rejects are proposed to be kept separately.	As per the proposals.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No such proposals.	Nil	
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)	Baseline information was furnished in the mining plan. Additional plantation proposals are being given in the Mining Plan documents.	Baseline information has not changed a lot as lessee is having only 3.02 ha area under possession. rest of the area is under active cultivation, habitation etc. Additional plantations were done in past also, but due to intermittent working and suspension of mining operations during 2012-13 to 2016-17 proposal period, presently around 175 saplings are surviving in the lease area.	Proper watch and care could not be done due to disturbances from local habitats and scarcity of water. Lessee was suggested to take proper measures to ensure sustainability of plantation in the area by adoption of fencing etc.

8g	Survival rate	80%	25%	Proper watch and care could not be done due to disturbances from local habitats and scarcity of water. Lessee was suggested to take proper measures to ensure sustainability and survival of plantation in the area by adoption of fencing etc.
8h	Water sprinkling on roads to control airborne dust	Yes	Yes, being carried out through small hired tankers.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Lessee is having only 3.02 ha area under possession out of total 40.61 ha area. Method of working is Manual. Hence, there is not much disturbance to the ecological system and aesthetic beauty of the area due to mining activities. Plantation activity needs more care.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly Return to be submitted on or before 10th day of every month for preceeding month. Annual Return to be submitted on or before 30th June of every year for preceeding year	AR submitted online upto 2017-18 MR submitted online upto May'2019	

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer: Nil Geologist: Nil Manager: Mr. U. R. Kharabe	Mining Engineer: Nil Geologist: Shri Prashant Sonpipare Manager: Shri U. R. Kharabe	Violation of Rule 55 of MCDR'2017 for no appointment of Mining Engineer and violation of Rule 45(7) of MCDR'2017 for incorrect information regarding Geologist has been issued.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Land Use Area- Covered under current (O/C) Workings: 0.439 ha Used for waste disposal: 0.868 ha Occupied by plant, buildings, residential, welfare buildings & roads: 0.28 ha	Area under: Pits: 0.439 ha Mineral Storage: 0.03 ha Township: 0.25 ha Roads: 0.02 ha Infrastructure: 0.01 ha OB/ Waste Dump: 0.868 ha Total: 1.5867 ha	As per the format given in AR, correct information has been furnished.
9d	Scrutiny of Annual return on afforestation	Number of trees planted during the year: 75 (Within Lease Area) Survival rate in percentage: 25	Correct information has been furnished.	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Mineral rejects generated: Nil Grade: Nil	As per the Approved mining plan document as mentioned above, mineral rejects are estimated as 20% of the ROM and proposed to be stacked separately, but the same is not reflected in the Part V of the annual returns for Kyanite.	Violation of Rule 45(7) of MCDR'2017 has been issued for clarifications

9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM: Opening Stock-0, Closing Stock-0, Production-2437.352 T Graded Ore: (a) 40% Al2O3 and above: Opening Stock-569.834 T, Production-2318.112 T, Dispatch-1989.970 T, Closing Stock-897.976 T (b) Below 40% Al2O3: Opening Stock-27.250 T, Production-0 T, Dispatch-0 T, Closing Stock-27.250 T	As per the details furnished under Part-VI for Kyanite, ROM production is 2437.352 T and grade-wise production (only 40% Al2O3 and above has been reported) is 2318.112 T. The difference in both the quantities in the tune of 119.24 T has not been accounted in the returns.	Violation of Rule 45(7) of MCDR'2017 has been issued for clarifications Note: The details are for Kyanite only. Mine is reporting Pyrophyllite also but the same was not analysed as it has been notified as a Minor Mineral.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	For Kyanite: Sale Value: Rs 3518544/- Ex-Mine Price: a) 40% Al2O3 and above- Rs 1768/- per T b) Below 40% Al2O3- Rs 1250/- per T Production Cost: Rs 1125.83/- per T	Sale invoices were checked for sale value/sale price and found correct. Ex-mine price reported is found correct upon computation as per the details furnished for sale/dispatch. Cost of production has been furnished in the AR but could not be verified as separation of Kyanite and Pyrophyllite is not possible. Both minerals are being produced simultaneously.	
9h	Scrutiny of Annual return on fixed assets	Value of Fixed Assets: Rs 1156/- Details have been furnished for Plant/Machinery only.	As per the available mechanization, details are complete. Land value has not been furnished.	As the land is govt land, lessee informed that it was not considered under fixed asset.
9k	Scrutiny of Annual return on mining machineries	Nil	Mechanization is only in form of Jack Hammer Drill and tipper. These are deployed through contractual workings (drilling) or from the buyer (tipper). Thus information furnished is Nil.	

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(2)	24/04/2019				
MCDR17 Rule 33	24/04/2019				
MCDR17 Rule 37(2)	24/04/2019				
MCDR17 Rule 45(7)(a)	24/04/2019				
MCDR17 Rule 45(7)(a)	24/04/2019				
MCDR17 Rule 45(7)(a)	24/04/2019				
MCDR17 Rule 55(1)(3)	24/04/2019				

Date :
(ASHISH MISHRA)

Indian Bureau of Mines