

Draft

INDIAN BUREAU OF MINES
MINERALS DEVELOPEMMENT AND REGULATION DIVISION

MCDR INSPECTION REPORT
Nagpur regional office

Mine file No : MAH/NAG/MN-321/NGP

Mine code : 40MSH14053

- (i) Name of the Inspecting : K02) Kalmata.M.K.
Officer and ID No.
- (ii) Designation : Regional Mining Geologist
- (iii) Accompanying mine : Shri. Debnath Mahanta, Sr. Manager (Geology)
Official with
Designation
- (iv) Date of Inspection : 17-SEP-21
- (v) Prev.inspection date : 27-AUG-21

PART-I : GENERAL INFORMATION

1. (a) Mine Name : PARSODA (53.75 HA)
- (b) Registration NO. : IBM/5711/2011
- (c) Category : A Other than Fully Mech.
- (d) Type of Working : Opencast
- (e) Postal address :
State : MAHARASHTRA
District : NAGPUR
Village : *parsoda*
Taluka : *Ramtek*
Post office : *K.K. Nagar*
Pin Code : *441106*
FAX No. :
E-mail : mm.ms@moil.nic.in
Phone : 07114-202127
- (f) Police Station : RAMTEK
- (g) First opening date : 01-MAR-19
- (h) Weekly day of rest : THU
2. Address for : PARSODA MANGANESE MINE
correspondance : AT & PO- KHAIRI BIJEWADA, TAH- RAMTEK
DISTT.- NAGPUR (MAHARASHTRA)
3. (a) Lease Number : *NA*
- (b) Lease area : *53.75 Ha*
- (c) Period of lease : *50 year*
- (d) Date of Expiry : *21.04.2066*
4. Mineral worked : MANGANESE ORE Main

5. Name and Address of the

Lessee : M/S MOIL LIMITED
 MOIL BHAWAN, 1-A, KATOL
 ROAD CHHAONI NAGPUR NAGPUR
 MAHARASHTRA
 Phone:
 FAX :

Owner : DEEPANKAR SHOME
 1-A, MOIL BHAVAN KATOL ROAD
 NAGPUR NAGPUR MAHARASHTRA
 Phone:
 FAX :

Agent : A. V. MASADE
 MUNSAR MINE RAMTEK NAGPUR
 NAGPUR MAHARASHTRA
 Phone:
 FAX :

6. Date of approval of Mining Plan/Scheme of Mining : Fresh under rule 22 MCR1960
 MP review under 17(1) MCR 2016

06-JUL-09
 01-MAR-21

Details of Mining Engr & Geologists

Mining Engineer

Shri V. Bhatia. B.E. Mining.

Geologist

Shri Anil S Patil.

MSc, Geology.

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	During the last plan period (2016-17 to 2020-21) There was a proposal to drill 12 boreholes to a total depth of 900 mtr.	During the last plan period, (2016-17 to 2020-21) Lessee has drilled 13 boreholes to a total depth of 1779.50mtrs.	In the present plan period, (2021-22 to 2025-26) there is a proposal to drill 15 boreholes in the year 2021-22,
1b	Exploration over lease area for geological axis 1 or 2	During last plan period proposal was given to explore under G-2 level. The exploration proposal was not given in the regular grid pattern.	During the last plan period exploration was carried out under G-1 and G-2 level. Total 13 boreholes were drilled during the last plan period.	In the present plan period (2021-22 to 2025-26) proposal is given to explore entire mineralized area under G-1 level.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	BY M/s MOIL Ltd.	Exploration was carried out by M/s MOIL Ltd. and expenditure incurred on exploration was about 1.42 crores	Expenditure includes cost of analysis also.
1d	Balance area to be explored to bring Geological axis in 1 or 2	About 12 ha was prosed expore under G-1 level.	Durig the last plan period about 7.50ha was explored under G-1 level and 9.20Ha under G-2.	Total mineralized area is 25.60Ha, out of this about 7.50ha is already explored under G-1 level. Further, in the present plan period, i.e. from 2021-22 to 2025-26, proposal is given to explore entire mineralized area under G-1 level.

1e	Balance reserve as on 01/04/20	Reserves/ resources as per the approved document, dated 01.03.2021. Proved Mineral Reserves (111) - 893111 tonnes Probable M Reserves (122) - 166670 tonnes Inferred M Resources (333) - 286561 tonnes Total :	Reserve/ resources as on 01-04-2021 Proved Mineral Reserves (111) - 8,68,972 tonnes Probable M Reserves (122) - 1,66,670 tonnes Inferred M Resources (333) - 2,86,561 tonnes Total : 13,22,203 tonnes	In the approved document dated 01.03.2021, reserves/resources were estimated as on 01.04.2020, so reserves/resources were updated by depleting 24139 tonnes of ROM production carried out during the year 2020-21.
		1346342 tonnes		

1f	General remarks of inspecting officers on geology, exploration etc	The mine is is located adjoining to the munsar mine of M/sMOIL. The extreme North-western portion of the ore band is called as Mansar extension deposit, its continuation lying to the south of the Ramtek road is called parsoda deposit. During the last plan period lessee has drilled 13 boreholes, covering on area of 7.5Ha under G-1 level and 9.20Ha under G-2 level. Further in the present plan period proposal is given to explore entire mineralized area under G-1 level.
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Development :

Sl.No.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	In the year 2021-22 working is proposed between the co-ordinates N 12610 to N 12960 & E 17050 to E 17290.	In the year 2021-22, working has been carried out between the co-ordinates. N 12810 to N 12880 & E 16940 to E 17010.	The working has been not carried out as per the proposal and violation is pointed out for the same under Rule 11(1) of MCDR 2017. Further, the actual pit position shown on plans are not matching with the field.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Yes, separate benches were proposed for ore and OB.	Yes, separate benches were made for ore and OB.	Total 3 benches were made, one in ore and two in OB.
2c	Stripping ratio or ore to OB ratio	1:7.8 during the year 2021-22.	1:4.5 upto august 2021.	From April to August 2021, working has been mainly carried out in ore bench only. Lessee has to move the top OB benches to expose the ore body,so, at the end of proposed year 2021-22, striping ratio will be achieved as per the proposal.
2d	Quantity of topsoil generation in m3	10,800, in the year 2021-22.	No topsoil was removed upto August 2021.	Total topsoil removed so far is 13926 m3.
2e	Quantity of overburden generation in m3	85,678 in the year 2021-22.	5595 m3 up to August-2021.	

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	The working has been carried out along the strike of the ore body. The working was not carried out as per the proposal for the year 2021-22, so violation is pointed out for the same under Rule 11(1) of MCDR 2017. Total 3 benches were made two benches in OB and one in ore. The height of the bench was approximately 2.00 to 4.00 mtrs. and benche parametrs were kept within the proposed limit.
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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Proposed one pit during the year 2021-22.	working was going in one pit only.	Total 04 pits are existing within the lease area. Dimension of each pit is as follows i) Old pit:- 170m(L) x 80m (w) , Pit 2 (present working pit: 70m(L) x 65m(w), Pit no-3: 25m(L) x 28m(w)., Pit no-4 , 10m(l) x 10m(w). Since the pits were water logged depth of the pit is not know.
3b	Quantity of ROM mineral production proposed	40,000 tonnes in the year 2021-22.	Production achieved upto Aug-2021 was 3700 tonnes.	Production is lagging, due to covid pandemic restrictions and heavy rain in the month of July and August.

3c	Recovery of sailable/usable mineral from ROM production	Recovery is shown 95%.	Recovery is shown 88%.	As per the monthly returns submitted to this office for the month Apr 21 to Aug-21, the recovery of saleable ore is shown as 88%. The generation of fines is more so recovery is slightly decreased than the proposal.
3d	Quantity of mineral reject generation	2000 tonnes proposed in the year 2021-22.	About 439 tonnes of mineral reject was generated upto August 2021.	
3e	Grade of mineral rejects generation and threshold value declared.	10 to 15% Mn.	Ore having size of below 10mm was shown as mineral reject.	Chemical analysis for the same was not available.
3f	Quantity of sub grade mineral generation.	No such proposal was given.	Nil.	
3g	Grade of sub grade mineral generation	Not applicable.	Not applicable.	
3h	Manual / Mechanised method adopted for segregating from ROM	Manual sorting.	Manual sorting.	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not proposed.	Nil.	

3j	Provision of drilling and blasting in mineral benches	Not proposed.	Nil.	Upto 30 mtr, the strata is soft to medium in nature and which can be handled by excavators itself . In the present plan period, working is proposed within 30 mtrs depth from the surface, which is soft to medium hard in nature. So no drilling and blasting is proposed and carried out in the present plan period. Drilling and blasting will be proposed once working reaches 30 mtrs and above below the surface.
3k	Provision of mining machineries in mineral benches	Proposed combination of hydraulic shovels of 2.2 to 2.4 cum capacity and tippers	Working has been carried out by the combination of Hydraulic Shovel of 1.00cum capacity and tippers of 10 T capacity.	On the day of inspection working was stopped due to heavy rain, so no machineries were observed in the mine site, except core drilling machine.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	6.00mtr bench height was proposed.	Bench height was maintained 3.00 to 4.00 mtr.	Bench height is maintained within the proposed limit.
3m	Total area covered under excavation/pits	5.25 Ha up to end of the present plan period(31.03.2026).	Total area covered under excavation of pits is 1.75Ha.	About 0.99ha was worked in the year 2020-21.

3n	Ore to OB ratio for the pit/mine during the year.	1:7.8 in the year 2021-22.	1:4.5 upto august 2021.	From April to August 2021, working has been mainly carried out in ore bench only. Lessee has to move the top OB benches to expose the ore body, so, at the end of proposed year 2021-22, striping ratio will be achieved as per the proposal.
3o	Total area put in use under different heads at the end of year	Proposed land use pattern upto the end of plan period. Mining-5.25Ha, Waste dump-2.50Ha, Infrastructure -0.25Ha, Mineral storage-0.5Ha, Topsoil storage-0.5Ha.	Under pits-1.75Ha, Waste dump-1.25Ha, Infrastructure-0.25Ha, Topsoil storage-0.25Ha, Mineral stack-0.25Ha.	Proposed land use pattern is not given year wise.
3p	Production of ROM mineral during the last five year period as applicable	2021-22 40,000T 2020-21 66,666T 2019-20 66,666T 2018-19 63,333T 2017-18 53,333T.	2021-22 3700T (upto August 21) 2020-21 24,139T 2019-20 35039T 2018-19 5817T 2017-18 Nil.	In the year 2021-22 (upto Aug-21), the production is lagging due to covid restrictions.
3q	General remarks of inspecting officers on method of mining etc.	Opencast working has been adopted with fully mechanized method. The benches were formed along the strike of the formation. Benches height was kept 3.00 to 4.00 mtrs which is within the proposed limit. In the present plan period, working is proposed within 30 mtrs depth from the surface, which is soft to medium hard in nature. So no drilling nad blasting is proposed and carried out in the present plan period.		

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 was proposed for topsoil,OB and Mineral reject.	Yes, dumping was made separately for topsoil, OB and Mineral.	
4b	Location of topsoil, OB and mineral reject dumps	Topsoil: N12956 to N13046 & E16740 to E 16830, Waste dump: N13080 to N13160 & E 16810 to E16910, Mineral dump: N12990 to N13026 & E 17090 to E 17140.	Waste dump: N-12930 to N 13005 & E 16860 to E 16965. Mineral stock - N12995 to 13010 & E 17085 to E 17110 Topsoil:- N12910 to N 12955 & E 16835 to E 16890	The waste dump and topsoil dump was not made as per the proposal and Violation is pointed out for the same under Rule 11(1) of MCDR-2017.
4c	Number of dumps within lease area and outside of lease area	Three dumps.	Three dumps.	One waste dump, one topsoil dump and one mineral dump is existing within the lease area.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Outside the UPL	Outside the UPL	Presently the dumping was made outside the UPL. However, exploration is going in the said lease area, based on the exploration results UPL may be changed in future.
4e	Number of active and alive dumps.	Three	Three	
4f	Number of dead dumps.	Not proposed.	Nil	
4g	Number of dumps established.	Not proposed.	Nil	Waste dump is active.
4h	Whether Retaining wall or garland drain all along dumps are there.	Not proposed in the year 2021-22.	No, retaining wall and garland drains were made in the year 2021-22 upto August 2021.	Garland drain is made along the toe of the existing waste dump.
4i	Length of Retaining wall or garland drain all along dumps	Not proposed in the year 2021-22.	Nil.	Previously, garland drain measuring approximatley 40 to 50 mtr is made along the toe of the waste dump.

4j	Number of settling ponds	Not proposed.	Though there were no proposals, One settling tank with 3 compartments having dimensions 10 m L X 4 m W X 2 m D has been constructed to check and arrest siltation in the mine water prior to discharge.
4k	Specific comments of inspecting officer on waste dump management		The waste dumping and topsoil dumping was not made as per the proposal so violation is pointed out for the same under Rule 11(1) of MCDR-2017. Garland drains are being constructed along the toe of the dump after which retaining wall shall be erected to avoid any wash off. Lessee has also constructed one settling tank to arrest the siltation in discharged water from the lease area.

Solid Waste Management - Backfilling:

Sl.No.	Item	Proposals	Actual work	Remarks
5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	No backfilling was proposed in the the year 2021-22.	No back filling was made in the year 2021-22.	The mine is started recently and Mineral is not extracted upto the proved depth and exploration is still under progress, so no backfilling is proposed in the present plan period.
5b	Area under backfilling of mined out area	Not proposed.	Nil.	

5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not proposed.	Nil.	No topsoil was removed in the year 2021-22 up to Aug-21. The topsoil removed earlier was stored separately for future use and some quantity utilized for plantation within the lease area.
5d	Total area fully reclaimed and rehabilitated	Not proposed.	Nil.	
5e	General remarks of inspecting officers on backfilling and reclamation etc.			The mine is started recently and Present working is not reached upto the proved depth and no proposals were made for reclamation and rehabilitation in the present plan period.

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).	Before 1st july of every year.	Submitted yearly report on PMCP within the time limit.	
6b	Area available for rehabilitation (ha) .	Not proposed.	Nil	
6c	afforestation done (ha).	0.9Ha was proposed in the year 2021-22.	Due to heavy rain and covid restrictions plantation was not started for the year 2021-22.	So far, total area coverd under plantation is 1.80Ha.
6d	No. of saplings planted during the year	Proposed 2000 saplings in the year 2021-22.	Due to heavy rain and covid restrictions plantation was not started for the year 2021-22.	Total 7000 saplings were planted so far.
6e	Cumulative no .of plants	2250 saplings were proposed up to 2021-22.	7000 saplings were planted so far.	Plantation was made morethan the proposal.

6f	Any other method of rehabilitation	Not proposed.	Nil..
6g	Cost incurred on watch and care during the year	Not proposed.	Watch and care is done by the workers only and cost is not available.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L x B x D	Not proposed.	Nil.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not proposed.	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on backfilled area	Not proposed.	Nil.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not proposed.	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.	Not proposed.	Nil
6m	Compliance of rehabilitation of waste land within lease (i) afforestation	Not proposed.	Nil.
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	Not proposed.	Nil.

6o	Compliance of rehabilitation of waste land within lease (iii) Method of rehabilitation	Not proposed.	Nil.	
6p	Compliance of environmental monitoring (core zone and buffer zone)	Monitoring in core and buffer zone proposed	Environment monitoring was done for air, water, noise and ground vibrations in the core and buffer zone. Reports were seen during site inspection and all the parameters were within the permissible limits.	Submitted report of Environmental monitoring carried out for the Quarter Apr to June-21 by MITCON Consultancy and Engineering Services Ltd, Pune.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		The plantation was made more than the proposal. Lessee is regularly monitoring Air, water and noise in the core and buffer zone and results are within the permissible limits.	

Mineral Conservation:

Sl.No.	Item	Proposals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Gradewise sorting within the lease.	Gradewise sorting within the lease area as per the proposal.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Manual sorting	Manual.	
7c	Different grade of mineral sorted out at mines.	No such proposals.	Below 25% Mn ore and 25% to below 35% Mn ore.	
7d	Any beneficiation process at mines	Not proposed.	Nil.	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues		Lessee is consuming entire ROM, by grade wise sorting and blending low grade ore and mineral reject with high grade ore as per the requirement of the buyer.	

Environment:

Sl.No.	Item	Proposals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Yes, proposed.	The topsoil removed is utilized for plantation within the lease area.	Total topsoil removed so far is 13926 m3. In that about 3500m3 is utilized making plantation within the lease area and remaining quantity is stocked separately for future use.
8b	Concurrent use or storage of topsoil	Both, concurrent use and storage.	Some quantity of topsoil was utilized for plantation and remaining quantity stocked separately for future use.	Total topsoil removed so far is 13926 m3. In that about 3500m3 is utilized making plantation within the lease area and remaining quantity is stocked separately for future use.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Proposed separate dumps for OB and Mineral.	Dumping of waste and Mineral was made separately.	
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not proposed.	Nil.	No backfilling is proposed in the present plan period.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not proposed.	Nil.	

8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Proposed 2000 saplings in the year 2021-22.	Due to heavy rain and covid restrictions plantation was not started for the year 2021-22.	Total 7000 saplings were planted so far.
8g	Survival rate	Not proposed.	75 to 80%.	Lessee is taking care of plantation by regular watering.
8h	Water sprinkling on roads to control airborne dust	Yes, proposed.	Water sprinkling has been done by using 10kl water tanker over the working area from adjacent mine of the same lessee.	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area		Aesthetic beauty in and around the area is satisfactory as working has commenced over very small scale, about 1.75 ha is broken up for mining. 3.0 ha of natural plantation exist in the area in South and West part of the lease area. Additional about 7000 saplings were planted within the lease area covering an area of about 1.80Ha.	

Compliance of Rule 45:

Sl.No.	Item	Proposals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	A monthly return shall be submitted before the tenth day of every month in respect of the preceding month and an annual return shall be submitted before the 1st day of July each year for the preceding financial year.	Lessee is regularly submitted Monthly and annual returns within time limit as prescribed under Rule 45 of MCDR-2017.	Submitted Annual Returns for the year 2020-21 and Monthly returns upto August-2021.

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer:- Shri U Bothra, Geologist:- Shri Anil S Rajput and Manager: Shri U M Bhujade.	The information given on Mining Engineer, Geologist and Manager is found correct. But Shri U Bothra is shown as Mining Engineer for Munsar mine also. As per Rule 55 (C) (i) of MCDR-2017, In category 'A' mines, a whole-time mining engineer and a geologist should be appointed. However, Shri U Bothra is shown as Mining Engineer for two separate leases and both are Category A Mines.	Violation is pointed out for the same under Rule 55(C) (i) of MCDR-2017.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Current working:- 1.75Ha, Waste disposal: 1.25Ha, Plantation 1.80Ha, Infrastructure -0.25Ha, Topsoil-0.25Ha and Mineral stock-0.25Ha.	The information given in the annual returns with respect to land use pattern was found correct.	
9d	Scrutiny of Annual return on afforestation	4000 saplings and survival rate 79%.	The information given on plantation was found correct.	Plantation was observed in South and SW part of the lease area.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil.	At part VI (1) production of ROM from open cast working is shown as 24139T and closing stock for ROM was shown as Zero, but under grade wise production only 22,370 tones production is shown and nothing is shown for remaining 1769T. Generation of mineral reject is also shown as zero.	Violation is pointed out for the same under Rule 45(7) of MCDR-2017.

9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM Opening stock; Nil, Production: 24139T and Closing Stock- Nil Grade wise details, Below 25% Mn : OS-4775.820T, Production- 5644T ,Dispatch- 10172T, CS- 247.820T & 25% to below 35% Mn , OS- 3682.250T, Production- 16726T, Dispatch- 19670.900 T and CS-737.350 T.	On the day of inspection only small quantity of below 25% Mn ore approximately 10T and 45 to 50T of 25 to below 35%Mn ore was observed.	Based on the production and dispatch done upto Aug 2021, the details of ROM stock/grded ore given in the annual returns is found correct.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Sale value/exmine price of below 25% Mn ore- Rs- 3227.96/T and for 25 to below 35%Mn ore- Rs- 4883.96/T, and cost of production Rs- 1717.23 /T	The information given on sale value is found correct. However, for cost of production the depreciation amount should be corrected as per the comments given at item 9h.	
9h	Scrutiny of Annual return on fixed assets	In the annual returns submitted for the year 2020-21, Value of Fixed Assets was shown as Rs- 7,98,57,691	In the annual returns submitted for the year 2019-20, Closing balance under Industrial and plant and Machinery was shown as zero, however in the annual returns submitted for the year 2020-21, Opening balance for Industrial is shown as Rs 5,74,800 and Under plant and machinery opening balance is shown as Rs 75,23,174.	Violation is pointed out for the same under Rule 45(7) of MCDR-2017.
9k	Scrutiny of Annual return on mining machineries	SHOVEL (HYDRAULIC): 1Cum capacity -01, One tipper of 4.00CUM,)1 water Tanker.	The said machineries were available in the minesite.	

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)	12-NOV-21				
Rule 45(7)	12-NOV-21				
MCDR17 Rule 55(1) (3)	12-NOV-21				

Date :

(Kalmata.M.K.)

Indian Bureau of Mines