INDIAN BUREAU OF MINES MINERALS DEVELOPMENT AND REGULATION DIVISION

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON/KJR/MCDR-55/BBS Mine code : 300RI08069

(i) Name of the Inspecting : U11) DAYANAND UPADHYAY

Officer and ID No.

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

(iii) Accompaning mine : Shri Vasanthkumar Selvaraj, Mines Manager

Official with Designation

(iv) Date of Inspection : 26/12/2019
(v) Prev.inspection date : 20/12/2018

PART-I : GENERAL INFORMATION

1. (a) Mine Name : DEOJHAR

(b) Registration NO. : IBM/5262/2011

(c) Category : A Fully Mechanised

(d) Type of Working : Opencast

(e) Postal address

State : ORISSA
District : KEONJHAR
Village : DEOJHAR
Taluka : BARBIL
Post office : DEOJHAR
Pin Code : 758038

FAX No. : 06767-272304

E-mail : diom.tmpl@gmail.com
Phone : 06767-272304,273448

(f) Police Station : Joda

(g) First opening date : 04/10/1995

(h) Weekly day of rest : SUN

2. Address for : DEOJHAR IRON MINE, DISTRICT KEONJHAR

correspondance ORISSA, PIN: 758 038.

3. (a) Lease Number : ORIO721
(b) Lease area : 34.37
(c) Period of lease : 50

(d) Date of Expiry : 04/09/2044

4. Mineral worked : IRON ORE Main

5. Name and Address of the

Lessee : TARINI MINERALS (P) LTD.

AT/PO-BONEIKALA JODA KEONJHAR KEONJHAR ORISSA

Phone: FAX:

Owner : TARANI MINERALS(P) LTD

BONEIKALA JODA KEONJHAR

ORISSA

Phone: 72304 FAX : 72304

Mining Engineer

Name : SHRI VASANTHKUMAR SELVARAJ, Full Time

Qualification : B E MINING ENGG

Appointment/ : 25/03/2019

Termination date

Geologist

Name : SHRI YASWANT KUMAR, Full Time

Qualification : M.SC GEOLOGY Appointment/ : 25/03/2019

Termination date

Manager

Name : SHRI VASANTHAKUMAR SELVARAJ

Qualification : B E MINING ENGG

Appointment/ : 01/07/2019

Termination date

6. Date of approval of Mining : Mining Scheme rule 12 MCDR1988 09/04/2002 Plan/Scheme of Mining : Mining Scheme rule 12 MCDR1988 17/03/2008 Modif.approved Mining Scheme 24/10/2008 Modif.approved Mining Scheme 28/10/2010

Renewal under rule 24 MCR1960 05/12/2014 MP review under 17(1) MCR 2016 25/01/2019

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PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual	work	Remarks
1a	Backlog of previous year	No proposal of bore holes for the years 2018-19.	Nil.		There is no backlog.
1b	Exploration over lease area for geological axis 1 or 2	No proposal of bore holes for the years 2018-19.	been e level	28.842 ha area has explored under G1 and 5.523 ha area G2 level.	About 28.842 ha area has been explored under G1 level and 5.523 ha area under G2 level by putting 67 nos. of bore holes of total meterage 1176.10m.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No proposal of bore holes for the years 2018-19.	Nil.		In 2017-18, 19 nos. of bore holes was drilled by lessee. Exploration agency involved in drilling was Thriveni earth movers pvt ltd and expenditure incurred during drilling was Rs 21,63,556.00
1d	Balance area to be explored to bring Geological axis in 1 or 2	No proposal of bore holes for the years 2018-19.	been 6 G1/G2	lease area has explored under level of ration.	About 28.842 ha area has been explored under G1 level and 5.523 ha area under G2 level by putting 67 nos. of bore holes of total meterage 1176.10m. Further 5.523 ha area under G2 level has been proposed to explore under G1 level of exploration.

1e	Balance reserve as on 01/04/20	As per approved SOM dated 05.12.14, Reserve: -5053787.55 MT(111&122) and Resources: 3583104 T	Balance reserve as on 01/04/2019, 2596075.55 MT (111&122).	Balance reserve as on 01/04/2019, 2596075.55 MT (111&122).
1f	General remarks of inspecting officers on geology, exploration etc	No proposal of bore holes for the years 2018-19.	Total lease area has been explored under G1/G2 level of exploration	About 28.842 ha area has been explored under G1 level and 5.523 ha area under G2 level by putting 67 nos. of bore holes of total meterage 1176.10m. Further 5.523 ha area under G2 level has been proposed to explore under G1 level of exploration.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	-	2445200 to 2445480 and E- 341866 to	The development is concentrated in single pit between grid N-2445200 to 2445480 and E-341866 to 342051.	The development is as per proposal.
2b	overburden and	benches in ore	Benches in ore of 10m height have been maintained.	All the proposed benches are in Ore zone.

2c	Stripping ratio or ore to OB ratio	1:0.016 T/cu.m	1:0.005 T/cu.m.	There is no generation of OB proposed in approved scheme of mining except intercalated waste, as all the benches are in ore zone. The generation of intercalated waste for the year 2018-19 is very less as the ROM production is less.
2d	Quantity of topsoil generation in m3	Not proposed.	Not applicable.	There is no top soil generation.
2e	Quantity of overburden generation in m3	Intercalated waste 14915.00 Cum occasionally .	2160 Cum	Intercalated waste occasionally encountered during mining.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	proposed in Northern part	The development is carried out as per proposal and bench height is maintained 10 m as per proposal.	The development is carried out as per proposal and bench height is maintained 10 m as per proposal.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Single pit	Working is concentrated in single pit as proposed.	Working is concentrated in single pit as proposed.
3b	Quantity of ROM mineral production proposed	500398.25 T	ROM production reported in 2018-19 is 400535 T.	ROM production reported in 2018-19 is 400535 T.
3с	Recovery of sailable/usable mineral from ROM production	443721.250 T	400535 T	Total ROM production is saleable after blending low grade with high grade.

3d	Quantity of mineral reject generation	41762 T	Nil	Total ROM production is saleable after blending low grade with high grade.
3e	Grade of mineral rejects generation and threshold value declared.	+45% to 58% Fe	No Mineral reject/sub grade has been reported during 2018-19.	Total ROM production is saleable after blending low grade with high grade.
3f	Quantity of sub grade mineral generation.	41762 Т	Nil.	Total ROM production is saleable after blending low grade with high grade.
3g	Grade of sub grade mineral generation	+45% to 58% Fe	No Mineral reject/sub grade has been reported during 2018-19.	Total ROM production is saleable after blending low grade with high grade.
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised	Mechanised	Mechanised method is adopted.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not proposed.	Only crushing and screening is being carried out at mines site.	Only crushing and screening is being carried out at mines site.
3j	Provision of drilling and blasting in mineral benches	y exlposive as	The benches are in soft in nature hence no drilling and blasting is required. Occasionally in hard mass drilling and blasting is carried out as per proposal.	Occasionally in hard mass drilling and blasting is carried out .

19 is very less as the ROM production

is less.

3k	Provision of mining machineries in mineral benches	Excavator,	Machineries used at mine site are Mobile Crushing & Screening, Excavator, Wheel Loader, Dumper cum ROM Handling, Water tanker, Light vehicle-Bolero	Excavator, Loader and Dumper are equipped to winning out the mineral.
31	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height- 10m	Bench height is suitably matched with the excavator.	Bench height is suitably matched with the excavator.
3m	Total area covered under excavation/pits	6.8 ha proposed during approved plan period.	About 6.8 ha area has been covered under excavation pits.	About 6.8 ha area has been covered under excavation pits.
3n	Ore to OB ratio for the pit/mine during the year.	1:0.016 T/cu.m	1:0.005 T/cu.m	There is no generation of OB proposed in approved scheme of mining except intercalated waste, as all the benches are in ore zone. The generation of intercalated waste for the year 2018-

Remarks

30	Total area put in use under different heads at the end of year	Total area proposed under different heads are Pit-6.8 ha, waste dump-4.855ha, Infrastructure -0.311ha, roads-0.400 ha & Mineral storage, plantation & others -6.844 ha.	Area covered under different heads are Pit-6.8 ha, waste dump-2.855ha, Infrastructure-0.311ha, roads-0.400 ha & Mineral storage, plantation & others -6.844 ha.	Area covered under different heads are Pit-6.8 ha, waste dump-2.855ha, Infrastructure-0.311ha, roads-0.400 ha & Mineral storage, plantation & others -6.844 ha.
3p	Production of ROM mineral during the last five year period as applicable	2013-14:- 1674352 MT 2014-15:- 1013760 MT 2015-16:- 740784 MT 2016-17:- 1499852 MT 2017-18:- 862906 MT 2018-19:- 500398 MT	2013-14:-17445 2014-15:-118282 2015-16:-Nil 2016-17:- 1460095 MT 2017-18:- 862715 MT 2018-19:-400535 MT	ROM Production is less due to low market demand.
3q	General remarks of inspecting officers on method of mining etc.	Mechanized method of opencast mining. Excavation of ROM has been proposed in single pit.	Mechanized method of mining is practiced with excavator dumper combination. Excavation of ROM has been concentrated in single pit as per proposal.	Mechanized method of mining is practiced with excavator dumper combination. Excavation of ROM has been concentrated in single pit as per proposal.

Propasals Actual work

Solid Waste Management - Dumping:

Sl.No. Item

4a About 2160 Cum of Separate dumping Separate There is no top of topsoil, OB dumping for intercalated waste soil generation. and mineral overburden and generated was used in Due to less ROM rejects (Rule mineral preparation of road production 32,33) work. Mineral Reject:intercalated waste reject. Nil , Top soil: - Nil. generated is very less. The mineral reject generated during mining has blended with high grade ore. 4b Location of OB dump: - N-About 2160 Cum of There is no top topsoil, OB and 2444370 to intercalated waste soil generation. mineral reject 2444500 and E- generated was used in Due to less ROM 341646 to preparation of road dumps production 341796 work. Mineral Reject:intercalated waste Mineral Reject Nil , Top soil: - Nil. generated is very dump: - 1) Nless. The mineral 2445180 to reject generated 2445280 and Eduring mining has 341966 to blended with high 342041 grade ore. 2) N-2445180 to 2445280 and E-342051 to 342136 4c Number of dumps One OB dump. About 2160 Cum of There are two within lease intercalated waste active dumps i.e area and outside generated was used in dump-A and dump-H, of lease area preparation of road lies within the work. There is no lease area. generation of Mineral Reject. However 2 nos of OB Dump and 1 no of Mineral reject dump exist within the lease area . 4d Location of One OB dump OB dump is located OB dump is located outside the UPL. outside the UPL. dumps w.r.t. out side the UPL . ultimate pit

limit (Rule 16)

Remarks

4e	Number of active and alive dumps.	and two	About 2160 Cum of intercalated waste generated was used in preparation of road work. There is no generation of Mineral Reject. However 2 nos of OB Dump and 1 no of Mineral reject dump exist within the lease area.	There are 2 nos of OB Dump and 1 no of Mineral reject dump exist within the lease area.
4f	Number of dead dumps.	One dead dump.	The dead dump is rehabilitated by plantation.	The dead dump is rehabilitated by plantation.
4g	Number of dumps established.	One dead dump.	The dead dump is rehabilitated by plantation.	The dead dump is rehabilitated by plantation.
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall	All along the OB and Mineral Reject dump retaining wall and garland drain have been maintained.	All along the OB and Mineral Reject dump retaining wall and garland drain have been maintained.
4i	Length of Retaining wall or garland drain all along dumps	Retaining wall	All along the OB and Mineral Reject dump retaining wall and garland drain have been maintained.	All along the OB and Mineral Reject dump retaining wall and garland drain have been maintained.
4j	Number of settling ponds	Not proposed.	Nil.	Nil.
4k	Specific comments of inspecting officer on waste dump management		About 2160 Cum of intercalated waste generated in 2018-19, was used in preparation of road work. There is no generation of Mineral Reject. However 2 nos of OB Dump and 1 no of Mineral reject dump exist within the lease area.	The dead dump is rehabilitated by plantation.

Solid Waste Management - Backfilling:

Propasals Actual work

Sl.No. Item

5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	pit is not	Pit is not matured for reclamation and rehabilitation.	Pit is not matured for reclamation and rehabilitation.
5b	Area under backfilling of mined out area	pit is not	Pit is not matured for reclamation and rehabilitation.	Pit is not matured for reclamation and rehabilitation.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	pit is not	Pit is not matured for reclamation and rehabilitation.	Pit is not matured for reclamation and rehabilitation.
5d	Total area fully reclaimed and rehabilitated		Pit is not matured for reclamation and rehabilitation.	Pit is not matured for reclamation and rehabilitation.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	No proposal as pit is not exhausted.		Pit is not matured for reclamation and rehabilitation.

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).	Not specified.	Annual return on PMCP has been submitted.	Annual return on PMCP has been submitted.
6b	Area available for rehabilitation (ha) .	pit is not	Pit is not matured for reclamation and rehabilitation.	Pit is not matured for reclamation and rehabilitation.
6c	afforestation done (ha).	0.04 ha.	In 2018-19, total area cover under afforestation is about 0.04 ha.	In 2017-18, total area cover under afforestation is about 4.145 ha along dump and safety zone .

6d	No. of saplings planted during the year	640 nos saplings.	In 2018-19, inside Lease area:-500 nos. and Out side lease area:- 1000nos. of saplings have been planted by lessee.	In 2018-19, inside Lease area:-500 nos. and Out side lease area:- 1000nos. of saplings have been planted by lessee.
6e	Cumulative no .of plants	Not specified.	Cumulative nos. of saplings planted in the lease area is about 24870.	Cumulative nos. of saplings planted in the lease area is about 24870.
6f	Any other method of rehabilitation	No proposal as pit is not exhausted.	Pit is not matured for reclamation and rehabilitation.	Pit is not matured for reclamation and rehabilitation.
6g	Cost incurred on watch and care during the year	Not specified.	Around Rs 24000 cost incurred on watch and care.	Around Rs 24000 cost incurred on watch and care.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	pit is not exhausted.	Pit is not matured for reclamation and rehabilitation.	Pit is not matured for reclamation and rehabilitation.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No proposal as pit is not exhausted.	Pit is not matured for reclamation and rehabilitation.	Pit is not matured for reclamation and rehabilitation.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestati on on backfilled area	No proposal as pit is not exhausted.	Pit is not matured for reclamation and rehabilitation.	Pit is not matured for reclamation and rehabilitation.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposal as pit is not exhausted.	Pit is not matured for reclamation and rehabilitation.	Pit is not matured for reclamation and rehabilitation.

61	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No proposal as pit is not exhausted.	Pit is not matured for reclamation and rehabilitation.	Pit is not matured for reclamation and rehabilitation.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not proposed.	Nil.	Nil.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not proposed.	Nil.	Nil.
60	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not proposed.	Nil.	Nil.
6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly monitoring.	Quarterly monitoring of air, water and noise level are being carried out.	Quarterly monitoring of air, water and noise level are being carried out.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	backfilling,	Pit is not matured for reclamation and rehabilitation. The dead dump is stabilized by plantation.	Pit is not matured for reclamation and rehabilitation.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Gradewise sorting	Gradewise sorting is being practiced.	Gradewise sorting is being practiced.

7b	Method of grade- wise mineral sorting i.e. manual or mechanical.	Mechanized	Mechanized	Mechanized method is practiced.
7c	Different grade of mineral sorted out at mines.		Different grades of minerals sorted out at mines are 45% to 58% Fe and +58% Fe.	Different grades of minerals sorted out at mines are 45% to 58% Fe and +58% Fe.
7d	Any beneficiation process at mines .	Not proposed.	Only crushing and screening Of ROM is being practiced.	Only crushing and screening Of ROM is being practiced.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	sorting. Cut off grade of iron ore is	Cut off grade of iron ore is 58% Fe. Low grade generated during mining has been blended with high grade ore.	Only crushing and screening Of ROM is being practiced at mines.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	Not proposed.	Nil.	No top top soil generation is proposed.
8b	Concurrent use or storage of topsoil	Not proposed.	Nil.	No top top soil generation is proposed.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	overburden and mineral	About 2160 Cum of intercalated waste generated in 2018-19, was used in preparation of road work. There is no generation of Mineral Reject.	Mineral reject generated during mining operation has been blended with high grade ore.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use		Pit is not matured for reclamation and rehabilitation.	Pit is not matured for reclamation and rehabilitation.

8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposal as pit is not exhausted.	Pit is not matured for reclamation and rehabilitation.	Pit is not matured for reclamation and rehabilitation.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	640 nos saplings.	In 2018-19, inside Lease area:-500 nos. and Out side lease area:- 1000nos. of saplings have been planted by lessee.	Cumulative nos. of saplings planted in the lease area is about 24870.
8g	Survival rate	Not specified.	As reported survival rate is 80%.	As reported survival rate is 80%.
8h	Water sprinkling on roads to control airborne dust	Mobile water sprinkler	Mobile water sprinklers are used to control air borne dust.	Mobile water sprinklers are used to control air borne dust.
8i 	General remarks of inspecting officer on aesthetic beauty in and around mines area	640 nos saplings in 2018-19.	In 2018-19, inside Lease area:-500 nos. and Out side lease area:- 1000nos. of saplings have been planted by lessee. Cumulative nos. of saplings planted in the lease area is about 24870.	Aesthic beauty in and around mines area is maintained by plantation.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly & Annual returns are being regularly submitted by lessee.	Monthly & Annual returns are being regularly submitted by lessee.	Monthly & Annual returns are being regularly submitted by lessee.

9b Scrutiny of The employment Mining engineer, Mining engineer, Annual return status of geologist & mine geologist & mine for information mining managers were employed managers were on Mining engineer, in the mine. employed in the Engineer, geologist & mine. Geologist and mine manager Manager have been furnished in the annual return submitted for the year 2018-19. 9c Scrutiny of Area covered Area covered under Area covered under Annual return on under different heads as different heads as land use pattern different furnished in annual furnished in for area under heads as return for 2018-19. annual return for pits, reclaimed furnished in Under current working: 2018-19. Under area, dumps etc. annual return 7.86 Ha, Occupied by current working: plant buildings, 7.86 Ha, Occupied for 2018-19. Under current residential, welfare by plant working: 7.86 buildings & roads: 1.811 buildings, Ha, Other purpose(dump, residential, Ha, Occupied by plant stack yard etc.): 8.416 welfare buildings Ha etc buildings, & roads: 1.811 Ha, residential, Other welfare purpose (dump, buildings & stack yard etc.): roads: 1.811 8.416 Ha etc Ha, Other purpose (dump, stack yard etc.): 8.416 Ha etc Inside Lease area:-500 9d Scrutiny of Inside Lease Inside Lease Annual return on area:-500 nos. nos. and Out side lease area:-500 nos. and afforestation and Out side area: - 1000nos. of Out side lease lease area:saplings have been area:- 1000nos. 1000nos. of planted by lessee. of saplings have saplings have been planted by been planted lessee. by lessee. 9e Scrutiny of Nil Nil Nil Annual return on mineral reject generation (Grade and

quantity)

9f Scrutiny of graded ore

ore.

Lump (62% to below 65% Fe): 29105.840 tones. Fines (55% to below 58% Fe): 31290 tones, Fines (58% to below 60% Fe): 179115 tones, Fines (62% to below 65% Fe): 3603.29 tones.

Closing stock Closing stock of Annual return on at mine head different grade of iron ROM stock and/or of processed ore is maintained.

Closing stock of different grade of iron ore is maintained.

Scrutiny of Annual return on (in Rs per sale value, Ex. Mine price and

9q

production cost Fe to below 4500.83 and Fe is Rs1036.0, Fines 58% Fe to below 60% Fe is Rs 1750.0 and Fines 62% Fe to below 65% is Rs 2177.44. Production Cost per tonne: Rs 1074.98

Ex-Mines price Ex-Mines price (in Rs per tonne) of Lump of tonne) of Lump grade 62 % Fe to below of grade 62 % 65% Fe is Rs. 4500.83 and fines 55% Fe to 65% Fe is Rs. below 58% Fe is Rs1036.0, Fines 58% Fe fines 55% Fe to below 60% Fe is Rs to below 58% 1750.0 and Fines 62% Fe to below 65% is Rs 2177.44. Production Cost per tonne: Rs 1074.98

Ex-Mines price (in Rs per tonne) of Lump of grade 62 % Fe to below 65% Fe is Rs. 4500.83 and fines 55% Fe to below 58% Fe is Rs1036.0, Fines 58% Fe to below 60% Fe is Rs 1750.0 and Fines 62% Fe to below 65% is Rs 2177.44. Production Cost per tonne: Rs 1074.98

9h Scrutiny of fixed assets

Value of Fixed Value of Fixed Assets Annual return on Assets (in Rs (in Rs): 89366/-): 89366/-

Value of Fixed Assets (in Rs): 89366/-

9k Scrutiny of Annual return on (3.9 cum mining machineries

Wheel loader capcity): 2 tonne capacity): 8 nos, Backhoe (2.1 cum)capacity: 2

nos, Backhoe (0.5 cum capacity): 1

no etc.

Wheel loader (3.9 cum capcity): 2 nos, Truck (30 tonne capacity): 8 nos, Truck (30 nos, Backhoe (2.1 cum capacity: 2 nos, Backhoe (0.5 cum capacity): 1 no etc.

Wheel loader (3.9 cum capcity): 2 nos, Truck (30 tonne capacity): 8 nos, Backhoe (2.1 cum capacity: 2 nos, Backhoe (0.5 cum capacity): 1 no etc.

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Details of violations observed during current inspection and compliance position of violation pointed out				
Violation observed			Sho	ow couse position
Rule NO.	Issued on	Compliance on	Rule NO	. Issued on Compliance on

Date : (DAYANAND UPADHYAY)

Indian Bureau of Mines