INDIAN BUREAU OF MINES MINERALS DEVELOPMENT AND REGULATION DIVISION

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/IRON-MN/SNG/MCDR-12/BBS Mine code : 300RI13012

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

Officer and ID No.

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

(iii) Accompaning mine : Shri N.R. satpathy, Mines manager

Official with

Designation

(iv) Date of Inspection : 11/01/2019

(v) Prev.inspection date : 13/04/2018

PART-I : GENERAL INFORMATION

1. (a) Mine Name : NADIDIH

(b) Registration NO. : IBM/4583?2011 (WB)

(c) Category : A Fully Mechanised

(d) Type of Working : Opencast

(e) Postal address

State : ORISSA
District : SUNDARGARH
Village : NADIDIH
Taluka : BONAI
Post office : GUALI

Pin Code :

FAX No. : 06596-262101

E-mail : bbl.geology@feegrade.com

Phone : 06596-276161

(f) Police Station : KOIRA

(g) First opening date : 10/10/1961

(h) Weekly day of rest : SAT

2. Address for : AT/PO NADIDIH

correspondance DIST. SUNDERGARH, ORISSA

PIN. 770048

3. (a) Lease Number : ORIO128

(b) Lease area : 121.41

(c) Period of lease :

(d) Date of Expiry : 31/03/2020

4. Mineral worked : MANGANESE ORE Associated IRON ORE Main

5. Name and Address of the

Lessee : FEEGRADE &CO.(P)LTD.

AT/PO BARBIL CABLE- RUNGTA

KEONJHAR ORISSA Phone:06767--30221

FAX :

Owner : M D RUSTAGI, NOMINATED OWNER

RUNGTA OFFICE, MAIN ROAD, BARBIL AT/PO- BARBIL, DIST-KEONJHAR SUNDARGARH ORISSA

Phone: FAX:

Agent : A.S.MAHAPATRA

Rungta Office, Main Road, Barbil Keonjhar, Orissa

KEONJHAR ORISSA Phone: 06767-276651 FAX : 06767-276651

Geologist

Name : R K SHARMA, Full Time

Qualification : MSC GEOLOGY Appointment/ : 12/07/2004

Termination date

Manager

Name : Santosh Kumar Choudhary

Qualification : BE(Mining) Appointment/ : 24/12/2013

Termination date

6.	Date of approval of Mining Plan/Scheme of Mining	:	Mining Scheme rule 12 MCDR1988 Modif.approved Mining Scheme Mining Scheme rule 12 MCDR1988 Mining Scheme rule 12 MCDR1988 FMCP under 23C(1) Modif.approved Mining Scheme	06/06/2007 23/02/2010 03/03/2011 17/04/2013 17/04/2015 27/07/2015
			MP modif under MCR 1960	28/03/2016
			MP modif under 17(3) MCR 2016	30/12/2016

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration:

Sl.No.	Item	Proposals	Actual work	Remarks
la	Backlog of previous year	13 nos. of bore holes during 2017- 18.	During 2017-18 total 31 nos. of bore holes have been drileed by lessee.	There is no backlog.
1b	Exploration over lease area for geological axis 1 or 2	G1/G2 Level of exploration.	Total 114.221 ha area is explored under G1/G2 level through 301 no. of bore holes covering a total depth of 15571.90m	mineralised area has been explored by lessee covering
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not specified.	In 2017-18 total total cost incurred in drilling was Rs 3142775/ Exploration agency involved in drilling was M/s Geovision Pvt Ltd & V.K.S Mining services, Joda.	In 2017-18 total total cost incurred in drilling was Rs 5050455/ Exploration agency involved in drilling was M/s Geovision Pvt Ltd & V.K.S Mining services, Joda.
1d	Balance area to be explored to bring Geological axis in 1 or 2	Not specified.	Almost all the mineralised area has been explored by lessee covering 92.583 ha. under G1 level and 21.638 ha. under G2 level.	Almost all the mineralised area has been explored by lessee covering 92.583 ha. under G1 level and 21.638 ha. under G2 level.
1e	Balance reserve as on 01/04/20	Balance reserve as per Modified mining plan approved on 30.12.2016 was 28.02MT under proved (111) category and 2.328 MT was under feasibility resources (211) category.	Balance reserve as on 01/04/2018under 111 category was 23.98 MT of Iron ore and feasibility resources under (211) category was 2.328 MT.	

1f General remarks of inspecting officers on geology, exploration etc

13 nos. of bore holes during 2017-18.

During 2017-18 total 31 During 2017-18 nos. of bore holes have total 31 nos. of been drileed by lessee. bore holes have Almost all the mineralised area has been explored by lessee the mineralised covering 92.583 ha. under G1 level and 21.638 ha. under G2 level.

been drileed by lessee. Almost all area has been explored by lessee covering 92.583 ha. under G1 level and 21.638 ha. under G2 level.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area		The development is concentrated in N-pit (S-1110 to S-1753 and W-700 to W-111) only.	The development as proposed in D-pit and N-pit are not carried out. Shortcomings are pointed out through violation letter.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)		Separate benches in OB and ore are maintained.	Top soil not proposed as the working is concentrated in broken up area.
2c	Stripping ratio or ore to OB ratio	1:0.08T/cu.m	1:0.07T/cu.m	Average stripping ratio varries due to irregular nature of ore deposit .
2d	Quantity of topsoil generation in m3	Not proposed.	Nil.	Top soil not proposed as the working is concentrated in broken up area.
2e	Quantity of overburden generation in m3	416666 cu.m	104843 cu.m	Less OB excavated due less ROM production.

2f General remarks of inspecting officers on pit w.r.t. type Mn pit. of deposit etc

The whole mineralised The development is area is fully exlpored proposed in D- and development is development of pit, N-pit and concentrated in N-pit only.

The development as proposed in D-pit and N-pit are not carried out. Shortcomings are pointed out through violation letter.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production		Working is concentrated in single pit i.e N-pit.	The development as proposed in D-pit and Mn-pit are not carried out. Shortcomings are pointed out through violation letter.
3b	Quantity of ROM mineral production proposed	5.0 million tonnes Iron ore and 3600T Mn ore.	In 2017-18, 2.878 million tonnes Iron ore has been produced.	Less production of iron ore carried out due to want of environmental clearance. No production of manganese ore has been reported due to market constraint of low grade Mn ore.
3c	Recovery of sailable/usable mineral from ROM production		Total ROM has been utilised by lessee for the year 2017-18.	Total ROM has been utilised by lessee for the year 2017-18.
3d	Quantity of mineral reject generation	166666T	No sub grade/mineral reject generation has been reported for the peroid 2017-18.	No sub grade/mineral reject generation has been reported for the peroid 2017-18. D- pit which is mostly contains low grade is not developed. The short coming has been pointed out through violation letter.

3e	Grade of mineral rejects generation and threshold value declared.	-55% to +45% Fe.	No sub grade/mineral reject generation has been reported for the peroid 2017-18.	No sub grade/mineral reject generation has been reported for the peroid 2017-18. D- pit which is mostly contains low grade is not developed. The short coming has been pointed out through violation letter.
3f	Quantity of sub grade mineral generation.	166666T	No sub grade/mineral reject generation has been reported for the peroid 2017-18.	No sub grade/mineral reject generation has been reported for the peroid 2017-18. D- pit which is mostly contains low grade is not developed. The short coming has been pointed out through violation letter.
3g	Grade of sub grade mineral generation	-55% to +45% Fe.	No sub grade/mineral reject generation has been reported for the peroid 2017-18.	No sub grade/mineral reject generation has been reported for the peroid 2017-18. D- pit which is mostly contains low grade is not developed. The short coming has been pointed out through violation letter.
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised.	Mechanised.	Mechanised method is being practiced.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not proposed.	Nil.	Only mobile screen plant is used at mine site.

DTH drilling DTH drilling of 110mm Depth of blasting-3j Provision of 9.5m of 110mm dia. dia. Blast hole with drilling and Burden- 3.2m blasting in Blast hole emulsion/slurry exlposive as coloumn spacing- 4.2m. mineral benches with emulsion/slurr charge and booster as y exlposive as base charge alongwith coloumn charge delay detonator is being and booster practiced for drilling and blasting. alongwith delay detonator. Dozer is also used DTH of 110mm dia. is 3k Provision of Drilling machine- 110 used for drilling blast for road grading mining machineries in mm dia.-1, hole. Ore & OB are and two water mineral benches Excavatorhandled by excavator of sprinkler of 20 1.16/2.3 cu.m- 2.3 cu.m capacity with KL and 12 KL 18, Dumper dumper of 30 T capacity. capacity are used 30T-40, Dozer- The machinaries for water 2 etc. available on the site spraying. were Drilling machine-110 mm dia.-1, Excavator- 1.16/2.3 cu.m-18, Dumper 30T-40, Dozer-2 etc. Bench height is suitably Bench height is 31 Whether height Bench height of benches in matched with the suitably matched 9m. overburden and excavator. with the mineral suitable excavator. for method of mining proposed in MP/SOM 3m Total area 50.105 ha About 42.90 ha. has been About 42.90 ha. covered under excavation has been covered covered under during excavation/pits approved plan pits. under excavation period. pits. 3n Ore to OB ratio 1:0.08 1:0.07 Average stripping for the pit/mine ratio varries due to irregular during the year. nature of ore deposit .

30	Total area put in use under different heads at the end of year	waste dump- 27.889 ha,	Area covered under different heads are Pit-42.90 ha, waste dump-20.45 ha, Plant, residential & building, roads-12.301ha & Mineral storage, plantation & others -14.961 ha.	Area covered under different heads are Pit-42.90 ha, waste dump-20.45 ha, Plant, residential & building, roads-12.301ha & Mineral storage, plantation & others -14.961 ha.
3p	Production of ROM mineral during the last five year period as applicable	2014-15: 4.5MT	Iron ore 2013-14: 2160060T 2014-15: 312384T 2015-16: 1665517T 2016-17: 2543361T 2017-18: 2878463.6801T	Less production of iron ore carried out due to want of environmental clearance. No production of manganese ore has been reported due to market constraint of low grade Mn ore.
3q	General remarks of inspecting officers on method of mining etc.	emulsion/slurr y exlposive as	The ROM production has been carried out from N-pit. DTH drilling of 110mm dia. Blast hole with emulsion/ slurry exlposive alongwith delay detonator is being practiced for drilling and blasting. No production has been reported for manganese ore.	The ROM production has been carried out N-pit. Shortcoming has been pointed out through violation letter.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dumping for overburden on the northern extension of active dump-C.	Overburden is dumped on active dump-C on the northern extension.	There is no top soil generation.

4b	Location of topsoil, OB and mineral reject dumps	grid S290-S360	Overburden is dumped on active dump-C on the northern extension. The location of active dump-C is between grid S290-S360 to W300-W650.	There is no top soil generation. Mineral reject is not reported during 2017-18.
4c	Number of dumps within lease area and outside of lease area	One dump, Dump-C within lease area.	There is two main dump i,e dump AB and dump-C lies within the lease area. The location of active dump-C is between grid S290-S360 to W300-W650.	There is no dump in outside lease area.
4 d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	OB Dump-C on northern and western extension.	The location of dump-C is between grid S270-S754 to W234-W710.	Dump not falls under ultimate pit limit.
4e	Number of active and alive dumps.		There is one active OB Dump-C on northern and western extension.	There is one active OB Dump-C on northern and western extension.
4f	Number of dead dumps.	Not Proposed.	There is one dead dump A-B.	The slope of the dead dump is stabilized by coir mating with plantation.
4 g	Number of dumps established.	Not Proposed.	There is one dead dump A-B. The slope of the dead dump is stabilized by coir mating with plantation.	The slope of the dead dump is stabilized by coir mating with plantation.
4h	Whether Retaining wall or garland drain all along dumps are there.	Not proposed.	Retaining wall and garland drain around dump as proposed earlier has been made.	Retaining wall and garland drain around dump as proposed earlier has been made.
4i	Length of Retaining wall or garland drain all along dumps	Not proposed.	Retaining wall and garland drain around dump as proposed earlier has been made.	Retaining wall and garland drain around dump as proposed earlier has been made.
4j	Number of settling ponds	Not proposed.	Nil.	There is 02 settling ponds exist in the lease area.

4 k Specific comments of inspecting

Separate Separate dumping for

Overburden is dumped on active dump-C on the overburden on northern extension as officer on waste the northern proposed. To avoid the dump management extension of erosion and rain slides active dump-C. application of natural geotextiles such as coir matting has been undertaken. Slope of the dead dump has been stabilised by plantation.

To avoid the erosion and rain slides application of natural geotextiles such as coir matting has been undertaken. Slope of the dead dump has been stabilised by plantation.

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.	Not proposed as pits are not fully exhausted.	Mineralisation is continue and pits are not matured for reclaimation.	Pits are not fully exhausted.
5b	Area under backfilling of mined out area	Not proposed as pits are not fully exhausted.	Mineralisation is continue and pits are not matured for reclaimation.	Pits are not fully exhausted.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not proposed as pits are not fully exhausted.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
5d	Total area fully reclaimed and rehabilitated	Not proposed as pits are not fully exhausted.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	not proposed as pits are	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.

Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks

ба	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	Not spcefied.	Annual return on PMCP has been submitted.	Annual return on PMCP has been submitted.
6b	Area available for rehabilitation (ha) .		Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
6c	afforestation done (ha).	1.5 ha.	In 2017-18, total 1.5 ha area has been covered under afforestation.	In 2017-18, total 1.5 ha area has been covered under afforestation.
6d	No. of saplings planted during the year	8000 saplings.	In 2017-18, total 18100nos. of saplings have been planted by lessee.	In 2017-18, total 18100nos. 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 193148 nos.	Cumulative nos. of saplings planted in the lease area is about 193148 nos.
6f	Any other method of rehabilitation	Not proposed as pits are not fully exhausted.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
6g	Cost incurred on watch and care during the year	Not specified.	Around Rs 94.80 lakh cost incurred on watch and care of green belt in 2017-18.	Around Rs 94.80 lakh cost incurred on watch and care of green belt in 2017-18.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx	Not proposed as pits are not fully exhausted.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.

 $B \times D$

6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not proposed as pits are not fully exhausted.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestati on on backfilled area	Not proposed as pits are not fully exhausted.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not proposed as pits are not fully exhausted.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
61	Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.	Not proposed as pits are not fully exhausted.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not proposed.	Nil.	Slope of the dead dump has been stabilised by plantation.
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	Not proposed.	Nil.	Slope of the dead dump has been stabilised by plantation.
60	Compliance of rehabilitation of waste land within lease (iii) Method of	Not proposed.	Nil.	Slope of the dead dump has been stabilised by plantation.

rehabilitation

бр	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.	total 8000nos.	In 2017-18, total 18100nos. of saplings have been planted by lessee. Area has not been matured for reclamation & rehabilitation and afforestation has been carried out along slope of waste dump & safety zone.	Area has not been matured for reclamation & rehabilitation. Afforestation has been carried out along slope of waste dump & safety zone.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Gradewise sorting.	Gradewise sorting.	ROM produced from the mine sorted out gradewise of +55% Fe.
7b	Method of grade- wise mineral sorting i.e. manual or mechanical.	iron ore and	Mechanised method is adpoted for gradewise sorting of iron ore.	Mechanised method is adpoted for gradewise sorting of iron ore.
7c	Different grade of mineral sorted out at mines.	45% to 55% Fe and +55% Fe.	Different grades of minerals sorted out at mines are 45% to 55% Fe and +55% Fe.	Different grades of minerals sorted out at mines are 45% to 55% Fe and +55% Fe.
7d	Any beneficiation process at mines .	Not proposed.	Nil.	Only mobile screening plant is installed at mine site.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues		Cut off grade of iron ore for the mine is +55%. Different grades of minerals sorted out at mines are -65% Fe, 62 to 58% fe and 58 to 55% Fe.	Cut off grade of iron ore for the mine is +55%. Different grades of minerals sorted out at mines are -65% Fe, 62 to 58% fe and 58 to 55% Fe.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)		There is no top top soil generation as the working is concentrated in broken up area.	There is no top top soil generation as the working is concentrated in broken up area.
8b	Concurrent use or storage of topsoil	Not proposed.	There is no top top soil generation as the working is concentrated in broken up area.	There is no top top soil generation as the working is concentrated in broken up area.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	for overburden on the northern	There is Separate dump for overburden and mineral rejects. Overburden is dumped on active dump-C on the northern extension. The location of active dump-C is between grid \$290-\$360 to \$W300-\$W650.	There is Separate dump for overburden and mineral rejects.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not proposed as pits are not fully exhausted.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not proposed as pits are not fully exhausted.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.	Mineralisation is continue and pit is not matured for reclamation and rehabilitation.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)		Total 18100 nos. saplings have been planted in 2017-18.	Cumulative 193148 nos. saplings have been planted by lessee.
8g	Survival rate	Not specified.	As reported survival rate is 90%.	As reported survival rate is 90%.

8h	Water sprinkling on roads to control airborne dust		Two water sprinkler are used to control air borne dust.	Two water sprinkler are used to control air borne dust.
8i	of inspecting officer on aesthetic beauty	Total 8000 nos. saplings have been proposed in 2017-18.	In 2017-18, total 18100 nos of saplings have been planted by lessee. As reported cumulative no. of trees planted by lessee is about 193148 nos.	Aesthic beauty in and aroun mined 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 Annual return for information on Mining Engineer, Geologist and Manager	Graduate Mining Engineer-2, Diploma mining Engineer-2, Geologist-1, Others-12.	Graduate Mining Engineer-2, Diploma mining Engineer-2, Geologist-1, Others-12.	Graduate Mining Engineer-2, Diploma mining Engineer-2, Geologist-1, Others-12.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	different heads are Pit-42.90 ha,		Area covered under different heads are Pit-42.90 ha, waste dump-20.45 ha, Plant, residential & building, roads-12.301ha & Mineral storage, plantation & others -14.961 ha
9d	Scrutiny of Annual return on afforestation	18100 nos. saplings	18100 nos. saplings	18100 nos. saplings

9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Nil	Nil	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	of 55% Fe: 55% to 58% Fe:	Grdewise stock of 55% Fe: 55% to 58% Fe: 58% to 60% Fe: 60% to 62% Fe: 62% to 65% Fe: 65% & above have been furnished. Average feed grade not furnished. Short coming pointed out through violation letter.	Average feed grade not furnished. Short coming pointed out through violation letter.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	_	In Cost of production exploration cost is not included. Short coming pointed out through violation letter.	In Cost of production exploration cost is not included. Short coming pointed out through violation letter.
9h	Scrutiny of Annual return on fixed assets	Net closing balance is Rs 147794830/-	Summary Net closing balance not furnished. Shortcoming pointed out through violation letter.	Summary Net closing balance not furnished. Shortcoming pointed out through violation letter.
9k	Annual return on mining	LOADER, 1.800 CUM-10,SHOVEL (HYDRAULIC)-	(HYDRAULIC)-09, EXPLOSIVE VAN-1, TIPPER, 12/16 cu.m-32, WATER	FRONT END LOADER, 1.800 CUM- 10, SHOVEL (HYDRAULIC) - 09, EXPLOSIVE VAN-1, TIPPER, 12/16 cu.m-32, WATER TANKER-4.

Details of violations observed during current inspection and compliance position of violation pointed out

n observed	Show couse position		
Issued on Compliance on	Rule NO.	Issued on Compliance on	
25/01/2019			
25/01/2019			
25/01/2019			
25/01/2019			
	Issued on Compliance on 25/01/2019 25/01/2019 25/01/2019	Issued on Compliance on Rule NO. 25/01/2019 25/01/2019 25/01/2019	

Date : 09.04.19

(DAYANAND UPADHYAY)

Indian Bureau of Mines