

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

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/GRAPHITE/NUA/09-BBS

Mine code : 28ORI24007

- (i) Name of the Inspecting : **DEY**) **NARENDRA MOHAN DEY**
Officer and ID No.
- (ii) Designation : Assistant Mining Engineer
- (iii) Accompanying mine : S/SHRI R K MISHRA, GENERAL MANAGER, R N TIWARI, MINES
Official with
Designation
- (iv) Date of Inspection : 11/08/2017
- (v) Prev.inspection date : 15/01/2014

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **KIRKITA (31.808 HA)**
- (b) **Registration NO.** : **IBM / 4401 / 2011**
- (c) Category : A Other than Fully Mech.
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : NAWAPARA
- Village : KIRKITA
- Taluka : KHARIAR
- Post office : KIRKITA
- Pin Code :
- FAX No. : 06632533374
- E-mail : pratyush_agi@hotmail.com
- Phone : 06632403251
- (f) Police Station : SINAPALI PIN: 766 118
- (g) First opening date : 21/02/2005
- (h) Weekly day of rest : SUN
2. Address for : SHRI D K AGRAWAL, MINE OWNER
correspondance SHANTIKUNJ, FARM ROAD, P.O: MODIPARA
DISTT: SAMBALPUR, ODISHA, PIN: 768 002
3. (a) Lease Number : ORI0786
- (b) Lease area : 31.81
- (c) Period of lease : 20
- (d) Date of Expiry : 14/02/2025
4. Mineral worked : GRAPHITE Main

5. Name and Address of the

Lessee : D.K.AGRAWAL
NAWAPARA ORISSA
Phone:
FAX :

Owner : D K AGARWALA
NAWAPARA ORISSA
Phone:
FAX :

6. Date of approval of Mining : Mining Scheme rule 12 MCDR1988 28/03/2016
Plan/Scheme of Mining

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	AS PER SCHEME OF MINING APPROVED ON 28.03.2016 FOR THE PERIOD 2016-17 TO 2020-21, THE PROPOSAL FOR EXPLORATION FOR THE YEAR 2016-17 : 8 BOREHOLES	NO BH DRILLED DURING 2016-17	VIOLATION UNDER RULE 11 (1) OF MCDR, 2017 FOR NOT DRILLBOREHOLE AS PER PROPOSAL, HAS BEEN POINTED OUT TO THE PARTY.
1b	Exploration over lease area for geological axis 1 or 2	2016-17: 8 BH, 2017-18: 9 BH & 2018-19: 9 BH = TOTAL 26 BH, AS PER SCHEME OF MINING APPROVED ON 28.03.2016 FOR THE PERIOD 2016-17 TO 2020-21.	LEASE AREA ALREADY EXPLORED 5.145 HA OUT OF TOTAL LEASE AREA 31.808 HA AS PER UNFC NORMS WAS AS FOLLOWS: UNDER G1 LEVEL : NIL UNDER G2 LEVEL : 3.149 HA UNDER G3 LEVEL : G3 LEVEL LIES 5M BELOW G2 LEVEL NO ORE BEARING AREA : 1.996 HA (G2LEVEL OF EXPLORATION) UNEXPLORED LEASE AREA : 26.663 HA	

1c	Exploration Agencies and Expenditure in lakh rupees during the year	2016-17: 8 BH	2016-17: NIL HOWEVER, PREVIOUSLY 5 DTH/NON-CORE VERTICAL DRILL HOLES HAVE BEEN PUT IN THE LEASE AREA BY THE HELP OF 100 MM DIA DRILL UPTO 33 M DEPTH FROM SURFACE LEVEL TOTAL METERAGE DRILLED 118 M. DRILLING HAS BEEN CARRIED OUT BY THE LESSEE CON-CURRENTLY WITH THE MINING OPERATION. KEEPING INVIEW THE UNIT COST OF DRILLING MADE BY THE LESSEE @ Rs.450 /M, TOTAL EXPENDITURE INCURRED ESTIMATED TO BE 118 M X Rs.450/M = Rs. 53100/-.
1d	Balance area to be explored to bring Geological axis in 1 or 2	26.663 HA UN-EXPLORED LEASE AREA.	2016-17: NIL HOWEVER, PREVIOUSLY 5 DTH / NON-CORE DRILL HOLES ALREADY DRILLED . IN ADDITION 4 TRENCHES HAVE BEEN DEVELOPED UPTO 4.5 M DEPTH AND 2 TRIAL PITS UPTO 4.75 M DEPTH FROM SURFACE LEVEL LEASE AREA ALREADY EXPLORED AS PER UNFC NORMS 5.145 HA OUT OF TOTAL LEASE 31.808 HA.

1e	Balance reserve as on 01/04/20	AS PER SCHEME OF MINING APPROVED ON 28.03.2016 FOR THE PERIOD 2016-17 TO 2020-21, THE RESERVES AND RESOURCES ESTIMATED AS PER UNFC NORMS WAS AS FOLLOWS : 122: 32216 TONNE + 332: 733 TONNE + 333: 7458 TONNE = 40407 TONNE DURING 2016-17 PRODUCTION ACHIEVED : 10.00 TONNE BALANCE RESERVE : 40407 TONNE - 10 TONNE= 40397 TONNE RESERVE AS ON 01.04.2017 AS FURNISHED IN THE ANNUAL RETURN 2016-17 AS FOLLOWS : 122 : 32206 TONNE + 332 : 733 TONNE + 333 : 7458 TONNE = 40397 TONNE.
1f	General remarks of inspecting officers on geology, exploration etc	PREVIOUSLY ALREADY 5 DTH BALANCE UNEXPLORED DRILL HOLES HAVE BEEN AREA 26.663 HA TO DRILLED WITH TOTAL BE EXPLORED WITH METERAGE 118 M. IN THIS SCHEME IN ADDITION 4 TRENCHES PERIOD 2016-17 TO AND 2 TRIAL PITS HAVE 2018-19 BY PUTTING BEEN DEVELOPED. 26 BH AS PROPOSED LEASE AREA ALREADY IN THE S O M EXPLORED AS PER UNFC APPROVED ON NORMS 5.145 HA 28.03.2016.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	MIDDLE OF THE LEASE ARE	LENGTH 40 M X WIDTH 23 M X DEPTH 1.5 M AREA OCCUPIED 920 SQ.M, MIDDLE OF THE LEASE.	
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	SEPARATE BENCHES IN OB AND MINERALS	MAINTAINED AS PER PROPOSAL	
2c	Stripping ratio or ore to OB ratio	1 : 6.8	1 : 7	

2d	Quantity of topsoil generation in m3	504 CU.M	NIL VERY SMALL AREA WORKING	
2e	Quantity of overburden generation in m3	5795 CUM	70 TONNE	MINE RE-OPENED ON 24.08.2015, VERY SMALL SCALE MINING.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc		MINE RE-OPENED ON 24.08.2015,	VERY SMALL SCALE WORKING IS GOING ON MIDDLE OF THE LEASE.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	ONE PIT NAMELY QUARRY-1.	ONE PIT NAMELY QUARRY-1.	
3b	Quantity of ROM mineral production proposed	2016-17: 1796 TONNE	2016-17: 10.00 TONNE	
3c	Recovery of sailable/usable mineral from ROM production	2016-17: 1796 TONNE (1197 TONNE BENEFICIABLE ORE + 599 TONNE MINERAL REJECT CONSIDERED AS SUB-GRADE)	2016-17: 10.00 TONNE	
3d	Quantity of mineral reject generation	2016-17: 599 TONNE MINERAL REJECT CONSIDERED AS SUB-GRADE	2016-17: NIL	
3e	Grade of mineral rejects generation and threshold value declared.	+3% TO -5% F C MINERAL REJECT CONSIDERED AS SUB-GRADE THRESHOLDVALUE OF GRAPHITE ORE IS 3% F C	NOT GENERATED.	
3f	Quantity of sub grade mineral generation.	2016-17: 599 TONNE SUB-GRADE	NIL	

3g	Grade of sub grade mineral generation	+3% TO -5% F C	NOT GENERATED
3h	Manual / Mechanised method adopted for segregating from ROM	MANUAL	MANUAL
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	NOT PROPOSED	THRESHOLD VALUE OF GRAPHITE IS 3% F C CUT-OFF GRADE IS 5% F C GRAPHITE ORE OF +5% F C IS BENEFICIABLE GRAPHITE ORE OF +35 TO -5% F C CONSIDERD AS MINERAL REJECT / SUB-GRADE INITIALLY STACKED AND SUBSEQUENTLY BENEFICIATED FOR SEMI-ENRICHMENT IN LEAN PERIOD MOSTLY IN RAINY SEASON.
3j	Provision of drilling and blasting in mineral benches	YES, THERE IS PROVISION FOR DRILLING AND BLASTING	DRILLING AND BLASTING NOT CARRIED OUT DURING 2016-17. GRAPHITE ORE IS AMENABLE TO MINING WITHOUT BLASTING. OB IS MODERATELY SOFT AND WEATHERED.
3k	Provision of mining machineries in mineral benches	JACK-HAMMER DRILL, COMPRESSOR, TIPPER AND WATER TANKER	VERY SMALL SCALE MINING, MACHINERY NOT USED DURING 2016-17
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	HEIGHT 5 M	HEIGHT 5 M, YES, SUITABLE FOR METHOD OF MINING AS PROPOSED IN THE S O M.
3m	Total area covered under excavation/pits	0.092 HA	0.092 HA
3n	Ore to OB ratio for the pit/mine during the year.	2016-17 : 1 : 6.8	2016-17 : 1 : 7

3o	Total area put in use under different heads at the end of year	UNDER O/C WORKING : 0.092 HA, USED FOR WASTE DISPOSAL : 0.030 HA & OCCUPIED BY ROAD ETC : 1.886 HA = 2.008 HA		
3p	Production of ROM mineral during the last five year period as applicable	2016-17 TO 2020-21 : 1796 TONNE EVERY YEAR, AS PER S O M APPROVED ON 28.03.2016.	2016-17: 10 TONNE, 2017-18 : 25 TONNE AS ON DATE OF INSPECTION	DURING LAST SCHEME PERIOD 2011-12 TO 2015-16, THERE WAS NO PRODUCTION AGAINST PROPOSED PRODUCTION 1198 TONNE PER YEAR.
3q	General remarks of inspecting officers on method of mining etc.	MANUAL METHOD OF MINING, DRILLING & BLASTING WHERE HARD ROCK ISENCOUNTERED, OB & RUN-OFF MINE ORE ORE EXCAVATION & LOADING IN THE TIPPER MANUALLY.	MANUAL METHOD OF MINING ADOPTED. ONLY 10.00 TONNE PRODUCED	DURING 2016-17 ONLY 10.00 TONNE GRAPHITE ORE PRODUCED, 70.00 TONNE OB, DRILLING & BLASTING NOT CARRIED OUT, NO MACHINERY USED. VERY SMALL SCALE MINING IS GOING ON AFTER THE MINE RE-OPENED ON 24.08.2015

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 OF TOP SOIL, OB	SEPARATE DUMPING OF OB	
4b	Location of topsoil, OB and mineral reject dumps	TOP SOIL DUMP : MIDDLE OF THE LEASE OB DUMP : SOUTH - WESTERN SIDE OF THE LEASE , MINERAL REJECT DUMP CONSIDERED AS SUB-GRADE : SOUTH SIDE OF THE LEASE.	O B DUMP MAINTAINED AS PER PROPOSED AT SOUTH-WESTERN SIDE OF THE LEASE. TOP SOIL DUMP AT MIDDLE OF THE LEASE.	

4c	Number of dumps within lease area and outside of lease area	ONE DUMP WITHIN LEASE AREA	ONE DUMP WITHIN LEASE AREA NO DUMP OUTSIDE OF LEASE AREA.	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	BEYOND ULTIMATE PIT LIMIT	MAINTAINED AS PER PROPOSAL	
4e	Number of active and alive dumps.	ONE ACTIVE DUMP	ONE ACTIVE DUMP	
4f	Number of dead dumps.	NO DEAD DUMP	NO DEAD DUMP	
4g	Number of dumps established.	ONE	ONE	
4h	Whether Retaining wall or garland drain all along dumps are there.	RETAINING WALL : 100 M X 1.5 M X 1.5 M GARLAND DRAIN : 110 M X 1 M X 1 M	VERY SMALL DUMP ONLY 70 TONNE OB GENERATED & DUMPED	
4i	Length of Retaining wall or garland drain all along dumps	RETAINING WALL : 100 M X 1.5 M X 1.5 M GARLAND DRAIN : 110 M X 1 M X 1 M	VERY SMALL QUANTITY OF WASTE i.e 70 TONNE GENERATED DURING 2016-17 AFTER RE-OPENING OF THE MINE ON 24.08.2015. RETAINING WALL AND GRALAND DRAIN NOT YET CONSTRUCTED.	
4j	Number of settling ponds	ONE	NOT CONSTRUCTED	
4k	Specific comments of inspecting officer on waste dump management	LENGTH 25 M X WIDTH 12 M WITH TERRACE 1 NO	VERY SMALL QUANTITY WASTE i.e 70 TONNE GENERATED DURING 2016-17 AFTER RE-OPENING OF THE MINE ON 24.08.2015.	DUMP IS VERY SMALL, RETAINING WALL & GARLAND DRAIN NOT CONSTRUCTED.

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.	NO PROPOSAL	NIL	

5b	Area under backfilling of mined out area	NO PROPOSAL	NIL	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	TOP SOIL TO BE SCRAPPED & STORED 504 CU.M DURING 2016-17	NIL	
5d	Total area fully reclaimed and rehabilitated	NO PROPOSAL	NIL	
5e	General remarks of inspecting officers on backfilling and reclamation etc.	NO PROPOSAL	VERY SMALL SCALE MINING ONLY 10.00 TONNE GRAPHITE ORE PRODUCED AND 70 TONNE WASTE GENERATED DURING 2016-17.	MINE IS NOT MATURED FOR BACK FILLING AS THE ORE HAS NOT BEEN EXHAUSTED FROM THE MINE.

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).	ANNUAL REPORT ON PMCP FOR THE YEAR 2016-17 NOT RECEIVED.	VERY SMALL SCALE MINING AFTER RE-OPENING OF THE MINE ON 24.08.2015. NO PROTECTIVE MEASURES HAS BEEN CARRIED OUT	VIOLATION UNDER RULE 26 (2) OF MCDR, 2017 FOR NON-SUBMISSION OF ANNUAL REPORT OF PMCP, HAS BEEN POINTED OUT TO THE LESSEE.
6b	Area available for rehabilitation (ha) .	NO PROPOSAL	NIL	
6c	afforestation done (ha).	250 SAPLINGS OVER 1000 SQ.M	NIL	
6d	No. of saplings planted during the year	250 NO. OF SAPLINGS DURING 2016-17	NIL	
6e	Cumulative no .of plants	2016-17 TO 2020-21 : 1250 NO OF SAPLINGS TO BE PLANTED @ 250 NO.PER YEAR	NIL	

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	RETAINING WALL, GARLAND DRAIN & SETTling TANK PROPOSED DURING 2016-17 250 NO SAPLINGS TO BE PLANTED OVER 1000 SQ.M PROPOSED DURING 2016-17	NOT CARRIED OUT	VIOlATION LETTER UNDER RULE 26 (2) OF MCDR, 2017 HAS BEEN SENT TO THE LESSEE FOR NON-COMPLIANCE OF PMCP PROPOSAL.
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Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	2016-17: 1796 TONNE (1197 TONNE BENEFICIABLE ORE + 599 TONNE MINERAL REJECT CONSIDERED AS SUB-GRADE)	2016-17: 10 TONNE ROM PRODUCED NO DISPATCH	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	MANUAL	MANUAL	
7c	Different grade of mineral sorted out at mines.	THRESHOLD VALUE OF GRAPHITE ORE 3% F C. GRAPHITE ORE CONTAINING +5% F C BENEFICIATED DIRECTLY +3% TO -5% F C MINERAL REJECT CONSIDERED AS SUB-GRADE	GRAPHITE ORE OF THIS MINE CONTAINS 9.47% F C ON AN AVERAGE PRODUCED /SORTED OUT AT MINE	

7d	Any beneficiation process at mines .	NO PROPOSAL	+3% TO -5% F C MINERAL REJECT CONSIDERD AS SUB-GRADE INITIALLY STACKED AND SUBSEQUENTLY BENEFICIATED AFTER BLENDING WITH BENEFICIABLE ORE (+ 5% F C) IN LEAN PERIOD MOSTLY IN RAINY SEASON.	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues		TOTAL GRAPHITE ORE PRODUCED 10 TONNE DURING 2016-17 OF GRADE 9.47% FC ON AN AVERAGE	VERY SMALL MINING OPERATION IS GOING ON. MINERAL REJECT +3% TO -5% FC CONSIDERED AS SUB-GRADE INITIALLY STACKED AND SUBSEQUENTLY BENEFICIATED AFTER BLENDING WITH BENEFICIABLE ORE .

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	TOP SOIL REMOVAL & STORAGE PROPOSAL DURING 2016-17: 504 CUM	NIL	
8b	Concurrent use or storage of topsoil	STORAGE PROPOSAL ONLY	NIL	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	SEPARATE DUMP FOR OB AND MINERAL REJECT CONSIDERED AS SUB-GRADE	VERY SMALL DUMP OF OB	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	1250 NO OF SAPLINGS PROPOSED FOR PLANTATION DURING 2016-17 TO 2020-21, @ 250 NO PER YEAR	EXISTENCE OF PLANTATION IS VERY THIN AND NO ADDITIONAL PLANTATION DONE DURING 2016-17	

8h	Water sprinkling on roads to control airborne dust	YES, PROPOSED	VERY SMALL SCALE MINING	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			AESTHETIC BEAUTY IN AND AROUND THE MINES AREA HAS NOT BEEN DESTROYED, AS VERY SMALL SCALE MINING OPERATION IS GOING ON .

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	I HAVE INSPECTED THE MINE ON 11.08.2017. ANNUAL RETURN FOR THE YEAR 2016-17 RECEIVED. MONTHLY RETURN FOR THE MONTH JULY, 2017 RECEIVED.	ANNUAL RETURN FOR THE YEAR 2016-17 RECEIVED	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	MINING ENGINEER, GEOLOGIST AND MANGER NOT APPOINTED.	SHRI ARTARAM MEHER, MINES MANAGER HAS BEEN APPOINTED	VIOLATION UNDER RULE 55.3 OF MCDR, 2017 FOR NOT APPOINTING PART TIME MINING ENGINEER & GEOLOGIST HAS BEEN POINTED OUT TO THE LESSEE.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	AREA UNDER PITS: 0.092 HA, USED FOR WASTE DISPOSAL: 0.030 HA & OCCUPIED BY ROAD & BUILDING : 1.886 HA	SAME AS MENTIONED	
9d	Scrutiny of Annual return on afforestation	NIL	NIL	

9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	NIL	NIL
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM CLOSING STOCK : 19.0 TONNE	CLOSING STOCK : 19.00 TONNE GRADE: 9.47 % F C ON AN AVERAGE
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	PRODUCTION COST : Rs.350.00 /- PRODUCTION DURING 2016-17: 10.00 TONNE NO SALE	PRODUCTION COST : Rs.350.00/- PRODUCTION DURING 2016-17: 10.00 TONNE NO SALE, SALE VALUE : 0, Ex.MINE PRICE: 0
9h	Scrutiny of Annual return on fixed assets	FIXED ASSETS MENTIONED AS ZERO	0
9k	Scrutiny of Annual return on mining machineries	NO MINING MACHINE	NO MINING MACHINE

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)	18/08/2017			
MCDR17	Rule 26(2)	18/08/2017			
MCDR17	Rule 31(1)	18/08/2017			
MCDR17	Rule 33	18/08/2017			
MCDR17	Rule 35(1)	18/08/2017			
MCDR17	Rule 55(1)(3)	18/08/2017			

Date :

(NARENDRA MOHAN DEY)

Indian Bureau of Mines