

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

MCDR inspection REPORT

Ranchi regional office

Mine file No : JHK/PAL/GRP/568/RRO

Mine code : 28JHK14001

- (i) Name of the Inspecting : **S001**) **B K SINGH**
Officer and ID No.
- (ii) Designation : Assistant Mining Geologis
- (iii) Accompanying mine : Sri Rahul Kumar Jha, Geologist
Official with
Designation
- (iv) Date of Inspection : 19/11/2018
- (v) Prev.inspection date : 09/10/2017

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **GAURA (MLA 6.41)**
- (b) **Registration NO.** : **IBM/11373/2012**
- (c) **Category** : **A Other than Fully Mech.**
- (d) **Type of Working** : **Opencast**
- (e) **Postal address**
- State : **JHARKHAND**
- District : **PALAMAU**
- Village : **GAURA**
- Taluka : **SATBARWA**
- Post office : **SATBARWA**
- Pin Code :
- FAX No. : **0651-2300971**
- E-mail : **tccplrnc@gmail.com**
- Phone : **0651-2313292/93**
- (f) **Police Station** :
- (g) **First opening date** : **02/05/2002**
- (h) **Weekly day of rest** : **SUN**
2. **Address for correspondance** : **VILL.- GAURA,**
P.O.- SATBARWA,
DISTT.- PALAMAU (JHK)
3. (a) **Lease Number** : **JHK0147**
- (b) **Lease area** : **4.66**
- (c) **Period of lease** : **20**
- (d) **Date of Expiry** : **11/02/2006**
4. **Mineral worked** : **GRAPHITE** **Main**

5. Name and Address of the

Lessee : SHISHIR KUMAR PODDAR
 3P SHREE GOPAL COMPLEX
 COURT ROAD, RANCHI RANCHI
 JHARKHAND
 Phone:0651-2203789, mob. 9934362408
 FAX :N.A

Owner : SHISHIR KUMAR PODDAR
 C/O M/S CHHOTANAGPUR
 GRAPHITE INDS. 3P, SHREE
 GOPAL COMPLEX, COURT ROAD
 RANCHI - 834001 (JHK)
 RANCHI JHARKHAND
 Phone: 0651-2313292/23
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Agent : AJAY SHANKAR
 3P SHREE GOPAL COMPLEX
 COUR ROAD, RANCHI JHARKHAND
 RANCHI JHARKHAND
 Phone: 9771403710
 FAX : 0651-2300971

Geologist

Name : RAHUL KUMAR JHA, Full Time
 Qualification : M. Sc. (GEOLOGY)
 Appointment/ : 07/06/2014
 Termination date

6. Date of approval of Mining	:	Fresh under rule 22 MCR1960	24/07/1996
Plan/Scheme of Mining		FMCP under 23C(1)	18/02/2013
		Modif.of approved Mining Plan	20/03/2013
		Mining Scheme rule 12 MCDR1988	12/07/2013
		MP modif under MCR 1960	07/06/2016

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Two nos. of coring typr boreholes were proposed to be given during the year 2013-14 as per the approved scheme of mining dated 12/07/2013 for the period from 2012-13 to 2016-17.	No backlog of previous year exploration. Proposed boreholes were given during the year 2014-15.	Lessee has submitted Notice of sinking boreholes in Form-J under Rule 47 of MCDR,1988 vide letter no. Nil dated 21/02/2015.
1b	Exploration over lease area for geological axis 1 or 2	There was no proposal of exploration during the year 2017-18.	The area has already been explored. The boreholes proposed (2 nos) during the year 2013-14 were given during the year 2014-15. There is single quarry with dimension 221x130m.	2.87 ha ,the dimesion of the quarry is mineralised.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No such proposal was given in the Modification in aproved minning plan approved on 07/06/2016.	N A.	No exploration required as entire lease area is fully exposed and explored.
1d	Balance area to be explored to bring Geological axis in 1 or 2	No such proposal in the approved document.	No exploration required as entire lease area is fully exposed and explored.	

1e	Balance reserve as on 01/04/20	As per the approved modification in approved mining plan dated 07/06/2016 for the period from 2016-17 to 2020-21 the reserve as on 01/04/2016 is : Proved (111)-523806 MT, FC 10.2%, Probable (122) - Nil, Remaining resources (221)- 129361 MT.	As per the approved modification in approved mining plan dated 07/06/2016 for the period from 2016-17 to 2020-21 the reserve / resource position as on 01/04/2016 is : Proved (111)-523806 MT, FC 10.2%, Probable (122) - Nil, Remaining resources (221)- 129361 MT FC 10.2%.	
1f	General remarks of inspecting officers on geology, exploration etc	Not applicable.	Exploration has been carried out by the lessee by giving 2 boreholes during 2014-15. The Graphite schist is exposed within the quarry along with Pegmatite. Granite gneiss and Calc Silicate are there on the Western and Eastern side of the quarry. The graphite bearing body shows a general trend of NNE-SSW with dip of about 70 degree towards WNW. The Graphite content (FC content) in the host rock varies from 15-30% which can be upgraded upto 85-90% FC by proper beneficiation	No exploration required as entire lease area is fully exposed and explored.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	As per approved Document dated 07/06/2016 for the period 2016-17 to 2020-21 , it was proposed to develop Northern part of Quarry nol during 2017-18and 2018-19.	The development was carried out in quarry no. 1 as proposed.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	It was proposed to develop separate benches for OB and Mineral in the approved scheme of mining. It was proposed to develop 1 bench in OB, 5 benches in interburden and 5 benches in graphite & intercalated waste during	As proposed, seprate benches in OB and Graphite are maintained.
2c	Stripping ratio or ore to OB ratio	As per approved document proposed ROM/OB ratio was 1:0.9 during 2017-18.	The production during the year 2017-18 was 14090 MT and the OB removed was 19528MT.The stripping ratio or ore to OB ratio was 1: 1.39 during the year 2017-18.
2d	Quantity of topsoil generation in m3	As per approved document there was no proposal for top soil generation during the year 2017-18. The area contains gritty soil and Schistose rock as overburden.	No top soil generation reported during the year.

2e	Quantity of overburden generation in m3	Proposal for generation of OB during the year 2017-18 OB was 6861cum and wastel961cum.	During the year 2017-18 total OB removed 19528 MT
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Not applicable.	The mine has been developed by a single quarry as proposed in the approved scheme of mining. The size of the quarry is approx. 221mx130m x 20m.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	The Quarry No. 1 was proposed during the year 2017-18 as envisaged in the modification in approved mining plan for the plan period 2016-17 to 2020-21.	The quarry no. 1 is being developed to work out graphite vein.	
3b	Quantity of ROM mineral production proposed	It was proposed to produced 7846cum ore during the year 2017-18 as envisaged in the nodification in approved MP.	The actual production achieved during the year 2017-18 was 14090MT.	
3c	Recovery of sailable/usable mineral from ROM production	Average recovery was proposed to be around 80% during the year 2017-18.	Average recovery was around 47% due to high intercalated waste.	
3d	Quantity of mineral reject generation	There was no proposal for mineral reject generation in the approved Scheme of Mining.	No mineral reject generation has been reported during the year.	

3e	Grade of mineral rejects generation and threshold value declared.	Not applicable as there was no proposal of mineral reject generation as per approved document.	No Mineral Reject generation reported during the year. The threshold value of flaky Graphite is 2%(Min) Fixed Carbon(FC) content.
3f	Quantity of sub grade mineral generation.	There was no proposal for Sub-grade mineral generation.	No sub-grade mineral production has been reported from the mine.
3g	Grade of sub grade mineral generation	No proposal for sub-grade mineral generation during the year 2017-18.	Not applicable as there was no sub-grade generation reported from the mine during the year 2017-18.
3h	Manual / Mechanised method adopted for segregating from ROM	Manual method was proposed for segregating from ROM.	The graphite ore was segregated manually from ROM after loosening the ore body by excavator.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	There was no proposal for analysis or beneficiation study to be carried out for sub-grade mineral and reject in the last approved document.	Not applicable as there is no sub-grade and mineral reject generation reported from the mine during the year.
3j	Provision of drilling and blasting in mineral benches	There was no proposal for drilling and blasting in mineral bench made in the last approved Scheme of Mining.	No drilling and blasting were carried out in the mine. The removal of OB and ore body is done by the use of excavator.
3k	Provision of mining machineries in mineral benches	There was proposal to use Hydraulic Excavator, Tipper, Diesel Generator set and Water pump in the last approved document.	During 2017-18, the machinery used in the mine were Hydraulic Excavator- 02 nos. (0.6 cu.m & 0.3 cu.m), Hydraulic Excavator with Rock Breaker- 01 no. (0.9 cu.m), Dumper- 03 nos. of 10 Tonnes capacity and Water sprinkler- 01 no. (5000 lts).

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	As per last approved document, the height and width of the benches proposed to be kept within 6m.	The height and width of the benches in OB and mineral are kept within 6 mt and found to be suitable for the method of mining proposed.
3m	Total area covered under excavation/pits	Proposal to excavate 1.88 ha area up to 2016-17.	Up to 2017-18, about 2.87 ha area had been covered under excavation as reported.
3n	Ore to OB ratio for the pit/mine during the year.	As per approved document, the proposed ore to OB ratio for the year 2017-18 was 1:0.9	During 2017-18 production was 14090MT and OB removed was 19528MT ,Ore : OB ratio 1.39.
3o	Total area put in use under different heads at the end of year	As per approved document total proposed area put to use after 2017-18 is: Quarry-1.88ha, Road-0.26ha, Green belt-0.60, Dump-0.99ha, Parapet wall-0.04ha, Hutment-0.03ha. Total area put to be used-4.464ha.	Up to 2017-18, total area put to use was: Quarry-2.87ha, Road-0.26ha, Green belt-0.30, Dump-0.99ha, Parapet wall-0.04ha, Hutment-0.03ha.
3p	Production of ROM mineral during the last five year period as applicable	The proposed production during last five years was: 2016-17:16902MT 2017-18:19143 MT 2018-19:20051 MT 2019-20:22015MT 2020-21:24049MT	The actual production during last five years was: 2012-13-4101.904MT , 2013-14-9260.05MT ,2014-15-12178.637MT, 2015-16-11305.00MT, 2016-17-10343MT 2017-18:14090MT

3q	General remarks of inspecting officers on method of mining etc.	Not applicable.	OTFM method of mining is adopted in the mine deploying hydraulic excavator, hydraulic excavator with rock breaker, dumper etc. Height and width of the benches are maintained within stipulated dimension.
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Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	As per modification in approved mining plan, proposed for seprate dumping of OB and waste on the earmarked area for dumping. The entire Overburden consisting of gritty soil and schistose rock are proposed to be dumped on the SW part of the lease area.	Presently the entire Overburden material was being dumped on a single dump located on the SW part of the lease area. There was no separate dump for top soil and mineral reject as no generation was reported for the same. The dimension of dump is 243 m x 100m x 10m.	
4b	Location of topsoil, OB and mineral reject dumps	Dumping proposed towards South Western side of lease boundary.	Dumping yard located towards South Western side as proposed.	
4c	Number of dumps within lease area and outside of lease area	There was proposal for only one dump on the SW part of the lease area. During second year 0.353 Ha area was proposed to be used for dumping of waste. No dump was proposed outside the lease area.	The only dump was situated within the lease area covering about 0.99 Ha area and attaing a gradual height upto 5-6m	

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Proposed to keep in South Western part of the lease area.	The dump has been created in South western part of the lease area outside ultimate pit limit.
4e	Number of active and alive dumps.	The only existing dump was proposed to be active as no backfilling was proposed during the plan period 2016-17 to 2020-21.	There was only one (01) OB/Waste dump present within the lease area which was active dump having dimension of 102m X 60m X 5-6m located on the SW part of the lease.
4f	Number of dead dumps.	There was no proposal for dead dump within the lease area.	There was no dead dump within the lease area.
4g	Number of dumps established.	There was no proposal for establishment of dump during the plan period 2016-17 to 2020-21 modification in approved Mining plan.	Not applicable.
4h	Whether Retaining wall or garland drain all along dumps are there.	Garland drain along the dump was proposed .	Garland drain and parapet wall was constructed along the dump. length of the retaining wall was 174m.
4i	Length of Retaining wall or garland drain all along dumps	Retaining wall was proposed.	174m retaining wall was constructed during the plan period.
4j	Number of settling ponds	No proposal.	No such settling pond was there.

4k	Specific comments of inspecting officer on waste dump management	Not applicable.	Lessee had created 01 no. of OB/Waste dump within the lease area which was active. The active Dump was of moderate height (5-6m). The parapet/retainig wall all along the toe of the dump was constructed. There was no problem in dump management as the active dump was of moderate height. The mine management was advised to make terrace over the dump for stability.
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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 for backfilling as mine is not going to exhaust during the plan period.	No Backfilling was done as it was not proposed. The backfilling process will innitiate after complete extraction of mineral.	
5b	Area under backfilling of mined out area	Backfilling was not proposed during the plan period 2016-17 to 2020-21.	NA	No scope of backfilling is there as there is only one quarry with dimension 221mX130m.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No such proposal available. The area contains gritty soil hence concurrent use of top soil is not feasible. Further, there was no proposal of backfilling.	Since there was no proposal of backfilling hence concurrent use of top soil is not applicable. Further, the area contains gritty soil hence concurrent use of top soil is not feasible.	
5d	Total area fully reclaimed and rehabilitated	No proposal.	Not applicable	

5e	General remarks of inspecting officers on backfilling and reclamation etc.	Not applicable.	There was no proposal for backfilling and Reclamation within the lease area as such no area has been Backfilled/Reclaimed. Hence no remark on the item can be offered. Moreover, the area is not matured for backfilling and reclamation.	There is no soil and only one quarry not yet exhausted for reclamation.
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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).	No proposal.	Lessee is regularly submitting annual report on PMCP.	
6b	Area available for rehabilitation (ha) .	NA	NA	
6c	afforestation done (ha).	0.07hect proposed for afforestation during 2017-18.	300 no. of trees were planted in a 0.15 hect area 01.04.2018. The survival rate is around 73%	
6d	No. of saplings planted during the year	175 spplings were proposed to be planted during 2017-18.	300 plants were planted during 2016-17.	It was reported that Mine closed by MOEF as lease area lies within 10km from the boundary of sanctuary.
6e	Cumulative no .of plants	Proposed cumulative plantation is 475 plants during the plan period 2016-17 to 2020-21.	As on 01.04.2018 300 no. of trees were plantated.	
6f	Any other method of rehabilitation	NA	NA	
6g	Cost incurred on watch and care during the year	NA	Lessee has not reported cost incurred on watch and care of trees planted.	

6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	No proposal for reclamation andrehabilitation	area not matured for reclamation andrehabilitation
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	NA	NA
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	NA	NA
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	NA	NA
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	NA	NA
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	NA	Waste land is being used for afforestation.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	NA	No proposal.
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	NA	NA

6p	Compliance of environmental monitoring (core zone and buffer zone)	NA	Air, water and noise monitoring is carried out.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Not applicable	The report on PMCP 2016-17, for this violation has been issued.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	No proposal.	ROM mineral despatched during 2017-18 was 13630MT without gradewise sorting.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	NA	NA	
7c	Different grade of mineral sorted out at mines.	NA	ROM is diectly sent to Processing plant at Rajderwa.	
7d	Any beneficiation process at mines	NA	No	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	NA	Whatever ROM produced from the mine, is diectly sent to processing plant at Rajderwa. As such there is no problem of mineral conservation.	

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No such proposal.	Not applicable.	

8b	Concurrent use or storage of topsoil	No proposal	No top soil generation.
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	proposed in the approved document for the plan period 2016-17 to 2020 -21.	There is no generation of top soil or sub grade. Waste materials are dumped at southwestern part of the leasehold area.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No backfilling has been proposed in the approved document for the plan period 2016-17 to 2020-21.	Backfilling has not been proposed for restoration of the land to its original use. .
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not proposed.	Not applicable.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	As per approved document, 475 plants over an area of 0.19 ha has been proposed to be planted during the plan period 2016-17 to 2020-21 .	Cummulative plantaion as on 01.04.2017 was 380 plants on 0.15 hect area within ML area and 120 plants out side lease area of 0.1hect. Reported survival rate is 73% and 65% respectively.
8g	Survival rate	Not proposed.	Reported survival rate is 73% and 65% respectively.
8h	Water sprinkling on roads to control airborne dust	Proposed	Water sprinkler is used to control airborne dust.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Not applicable.	The lessee is planting treess within and outside lease area to maintain aesthetic beauty around the area.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Lessee has submitted Monthly and annual Returns.	Lessee is regularly submitting Monthly and annual Returns within time frame.	
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mr Rahul Kumar Jha is working as Geologist and Sri Mangal Hansda as Manager cum Mining Engineer.	Mr Rahul Kumar Jha is working as Geologist and Sri Mangal Hansda has left the organisation recently. Violation has been issued under rule 55(3) of MCDR, 2017.	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Under current working, 0.55 hect, Waste disposal - 0.28 hect and for office building - 0.29 Hect.	up to 2017-18, current working -1.241ha, road-0.26ha, OB dump-1.27 ha, total area put on use -2.77ha.	
9d	Scrutiny of Annual return on afforestation	300 plants within and 170 outside lease during 2017-18 with 75% survival rate.	As on 01.04.2018- 300 plants within and 170 outside lease during 2017-18 with 75% & 70% survival rate.	
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	NA	No mineral reject generation.	
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Opening stock-017.653, Production - 14090.0 MT, Closing stock-567.65 MT. Grade-8-10% carbon	Opening stock-017.653, Production -14090.0 MT, Closing stock-567.65 MT. Grade-8-10% carbon seems to be correct.	
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Cost of production-Rs 937/MT	The cost of operation appears to be correct.	
9h	Scrutiny of Annual return on fixed assets	Not mentioned	NA	
9k	Scrutiny of Annual return on mining machineries	Excavator 0.5cum-01 and 0.32cum-01 Dumper-10T-03no.	During inspection, it was observed that one Excavator and one dumper was deployed in the mine.	

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)	09/01/2019			
MCDR17	Rule 33	09/01/2019			
MCDR17	Rule 55(1)(3)	09/01/2019			

Date :

(B K SINGH)

Indian Bureau of Mines