

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

MCDR INSPECTION REPORT

Bhubaneshwar regional office

Mine file No : ORI/CR/JJP/MCDR-13/BBS

Mine code : 11ORI19013

- (i) Name of the Inspecting : **U11**) **DAYANAND UPADHYAY**
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri Tarni Mohanty, Agent, Shri Amarnath Dhar, Mines
Official with
Designation
- (iv) Date of Inspection : 06/01/2018
- (v) Prev.inspection date : 29/09/2016

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **KALIAPANI**
- (b) **Registration NO.** : **62**
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : JAJPUR
- Village : KALIAPANI
- Taluka : SUKINDA
- Post office : KALIAPANI
- Pin Code : 755047
- FAX No. : 06726-224384
- E-mail : ialmines@yahoo.com
- Phone : 06726-268297,98,224274
- (f) Police Station :
- (g) First opening date : 14/09/2000
- (h) Weekly day of rest : SUN
2. Address for : VILL & PO: KALIAPANI
correspondance POLICE STATION : TOMKA
DIST: JAJPUR, PIN: 755 047, ORISSA
3. (a) Lease Number : ORI0745
- (b) Lease area : 64.46
- (c) Period of lease : 30
- (d) Date of Expiry : 16/07/2030
4. Mineral worked : CHROMITE Main

5. Name and Address of the

Lessee : M/S BALASORE ALLOYS LTD.
BALAGOPALPUR - 756020
BALASORE ORISSA BALASORE
ORISSA
Phone:06782-275780
FAX :06782-27524, 275786

Owner : SANTANU MOHAPATRA
C-66 ,PALASAPALLI
BHUBANESWAR-20 BHUBNESHWAR
ORISSA
Phone:
FAX :

Agent : Tarini Prasad Mohanty
At/ po-kaliapani Teh-
sukinda Dist-Jajpur JAJPUR
ORISSA
Phone: 06782275781
FAX : 06782275781

Mining Engineer

Name : S.GANGOPADHYAY,Full Time
Qualification : DIPLOMA IN MINING
Appointment/ : 07/10/2003
Termination date

Mining Engineer

Name : P K Mohapatra,Full Time
Qualification : B.E (mining)
Appointment/ : 16/01/2004
Termination date

Geologist

Name : PREM PRAKASH,Part Time
Qualification : M.Sc (GEOLOGY)
Appointment/ : 14/09/2000
Termination date

Manager

Name : Amarnath Dhar
Qualification : Diploma in Mining & 1st class Manager Ce
Appointment/ : 16/05/2016
Termination date

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| 6. Date of approval of Mining | : | Fresh under rule 22 MCR1960 | 20/04/2000 |
| Plan/Scheme of Mining | : | Modif.of approved Mining Plan | 10/09/2004 |
| | : | Mining Scheme rule 12 MCDR1988 | 15/12/2005 |
| | : | Modif.approved Mining Scheme | 25/11/2008 |
| | : | Mining Scheme rule 12 MCDR1988 | 18/05/2010 |
| | : | Modif.approved Mining Scheme | 25/07/2014 |
| | : | Mining Scheme rule 12 MCDR1988 | 27/03/2015 |

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

| Sl.No. | Item | Proposals | Actual work | Remarks |
|--------|---|--|--|--|
| 1a | Backlog of previous year | Not Proposed. | Not applicable. | Potentially mineralised area has been explored under G1 level for opencast mining. Only definition drilling has been proposed for the period of 2018-19 & 2019-20 to prove the ore body limit after development of underground drives. |
| 1b | Exploration over lease area for geological axis 1 or 2 | Proposal not furnished in approved scheme of mining. | Nil. | Potentially mineralised area has been explored under G1 level for opencast mining. Only definition drilling has been proposed for the period of 2018-19 & 2019-20 to prove the ore body limit after development of underground drives. |
| 1c | Exploration Agencies and Expenditure in lakh rupees during the year | Proposal not furnished in approved scheme of mining. | Nil. | Potentially mineralised area has been explored under G1 level for opencast mining. |
| 1d | Balance area to be explored to bring Geological axis in 1 or 2 | Proposal not furnished in approved scheme of mining. | Potentially mineralised area has been explored under G1 level for opencast mining. Only definition drilling has been proposed for the period of 2018-19 & 2019-20 to prove the ore body limit after development of underground drives. | Potentially mineralised area has been explored under G1 level for opencast mining. Only definition drilling has been proposed for the period of 2018-19 & 2019-20 to prove the ore body limit after development of underground drives. |

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| 1e | Balance reserve as on 01/04/20 | Balance reserve as per Scheme of mining approved on 15.03.2015 was 22.13MT under 111 category and 8.53 MT was under 121 & 122 category. | Balance reserve as on 01.04.2017 was 21.443MT under 111 category and 8.53 MT was under 121 & 122 category. | Balance reserve as per Scheme of mining approved on 15.03.2015 was 22.13MT under 111 category and 8.53 MT was under 121 & 122 category. |
| 1f | General remarks of inspecting officers on geology, exploration etc | | Total potentially mineralised area has been explored under G1 level for opencast mining. Only definition drilling has been proposed for the period of 2018-19 & 2019-20 to define the ore body for underground development. | Total potentially mineralised area has been explored under G1 level for opencast mining. Only definition drilling has been proposed for the period of 2018-19 & 2019-20 to define the ore body for underground development. |

Development :

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|--|--|--|--|
| 2a | Location of development w.r.t.lease area | Open pit between co-ordinate E-1000/1400 & N-406/907 & U/g development between -660mRL to +0mRL. | Opencast mining is concentrated in single pit between co-ordinate E-1000/1400 & N-406/907. U/g development as proposed in Scheme of mining has not been started. | The development and winning of ore is presentally through single open pit. U/g development as proposed in Scheme of mining has not been started. Deviation has been pointed out to the lessee through violation letter dated 12/01/2018. |

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| 2b | Separate benches in topsoil, overburden and minerals (Rule 15) | Separate benches in OB and ore with 8m height. No top soil benches has been proposed. | Separate benches have been made in OB and ore with 8m height. However in eastern and western part between grid 500N to 800N of pit bench height is about 12-14m & width has been found less than 8m. | During inspection it has been observed that in eastern and western part between grid 500N to 800N of pit bench height is about 12-14m & width has been found less than 8m which is pointed to the lessee through violation letter dated 12.01.2018. |
| 2c | Stripping ratio or ore to OB ratio | 1:2.20 T/ cu.m | 1:1.56 T/ cu.m | Stripping ratio is less due to common boundary working with M/s JSL not got statutory clearance. |
| 2d | Quantity of topsoil generation in m3 | Not proposed. | Nil. | No top soil generation is proposed in approved scheme of mining. |
| 2e | Quantity of overburden generation in m3 | 1716031 cu.m of OB. | 438060 cu.m. of OB. | Overburden is less than proposed due to common boundary working with M/s JSL not got statutory clearance. |
| 2f | General remarks of inspecting officers on development of pit w.r.t. type of deposit etc | | The development and excavation of ore is presentally concentrated in single open pit. The development of u/g mining has not been started till date of inspection. The deviation of u/g development has been pointed out through violation letter dated 12/01/2018. | The potentially mineralised area is fully explored and development and excavation of ore is presentally through single open pit. The development of u/g mining has not been started till date of inspection. |

Exploitation:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---|--|--|---|
| 3a | Number of pit proposed for production | Opencast through single pit & U/g development between - 660mRL to +0mRL. | Opencast mining is concentrated in single pit. U/g development as proposed in Scheme of mining has not been started. | Opencast mining is concentrated in single pit. U/g development as proposed in Scheme of mining has not been started. The deviation of u/g development has been pointed out through violation letter dated 12/01/2018. |
| 3b | Quantity of ROM mineral production proposed | 504469T in 2016-17. | ROM produced in 2016-17 is 280376T. | ROM production is less than proposed due to common boundary working with M/s JSL not got statutory clearance. |
| 3c | Recovery of sailable/usable mineral from ROM production | 100% | 100% | It is a captive mine and 100% utilisation through mineral beneficiation plant. |
| 3d | Quantity of mineral reject generation | 53574 in 2016-17. | 97337T in 2016-17. | Mineral reject stacked separately. Mineral reject generation is more due to serpentine intrusion and less development work |
| 3e | Grade of mineral rejects generation and threshold value declared. | +10% cr2o3 to -40% Cr2o3. | +10% cr2o3 to -40% Cr2o3. | Average grade of mineral reject is 27% Cr2o3. |
| 3f | Quantity of sub grade mineral generation. | 53574 in 2016-17. | 97337T in 2016-17. | Mineral reject/sub grade stacked separately. Mineral reject/sub grade generation is more due to serpentine intrusion and less development work |

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| 3g | Grade of sub grade mineral generation | +10% cr2o3 to -40% Cr2o3. | +10% cr2o3 to -40% Cr2o3. | Average grade of mineral reject/ sub grade is 27% Cr2o3. |
| 3h | Manual / Mechanised method adopted for segregating from ROM | Mechanised. | Mechanised. | It is a captive mine and low grade of ROM processed through beneficiation plant. |
| 3i | Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects. | Less than 40% cr2o3 proposed for beneficiation. | The ROM +40% cr2o3 produced from the mine is being consumed in the captive plant of the lessee situated at Balasore in Odisha for production of ferro chrome. Whatever ore having less than 40% cr2o3 produced is being kept as sub grade mineral stock for beneficiation and regularly fed to COBP of the company located in the lease area. The capacity of the COBP is 20 tph. | ROM having less than 40% cr2o3 produced is being kept as sub grade mineral stock for beneficiation and regularly fed to COBP of the company located in the lease area. The capacity of the COBP is 20 tph. |
| 3j | Provision of drilling and blasting in mineral benches | 100mm DTH dia. drilling of blast hole with deep hole blasting. | DTH drilling of 100mm dia. Blast hole with non-cap sensitive slurry explosive of 83mm dia alongwith delay detonator is being practiced for drilling and blasting. | Controlled blasting with 'V' pattern firing sequence with delay detonator is practiced. |
| 3k | Provision of mining machineries in mineral benches | Drilling machine, Excavator, Dumper etc. | DTH of 100mm dia. is used for drilling blast hole. Ore & OB are handled by excavator of 2.4cu.m & 2.8 cu.m capacity with dumper of 25T capacity. | Dozer is also used for road grading and two water sprinkler of 12KL & 14KL capacity are used for water spraying. |
| 3l | Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM | Bench height 8m. | Excavator of 2.4 cu.m and 2.8 cu.m capacity are used of loading the tripper of 25T capacity. | Bench height is suitably matched with the loading excavator. |

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| 3m | Total area covered under excavation/pits | 22.022 ha during schemem period. | At present about 19.12 ha covered under pit. | Working is concentrated in single pit. |
| 3n | Ore to OB ratio for the pit/mine during the year. | 1:3.39 T/ cu.m | 1:1.56 T/ cu.m | Stripping ratio is less due to common boundary working with M/s JSL not got statutory clearance. |
| 3o | Total area put in use under different heads at the end of year | 64.463 ha during scheme period under different heads. Total area proposed includes pit-22.022 ha , dump -34.17 ha, road-0.686 ha, infrastructure , ETP-0.24 ha, & beneficiation plant0.702ha, pond-0.02 ha. | Total area covered includes pit-19.12 ha , dump -34.17 ha, road-0.686 ha, infrastructure, ETP-0.24 ha, & beneficiation plant0.702ha, pond-0.02 ha. | Total area covered includes pit-19.12 ha , dump -34.17 ha, road-0.686 ha, infrastructure, ETP-0.24 ha, & beneficiation plant0.702ha, pond-0.02 ha. |
| 3p | Production of ROM mineral during the last five year period as applicable | 2011-12: 3.6 Lakh Tonnes 2012-13: 2.223 Lakh Tonnes 2013-14: 2.764 Lakh Tonnes 2014-15: 5.650 Lakh Tonnes 2015-16: 6.06 Lakh Tonnes 2016-17: 5.04 Lakh Tonnes | 2011-12: 1.665 Lakh Tonnes 2012-13: 1.429 Lakh Tonnes 2013-14: 2.079 Lakh Tonnes 2015-16: 4.16 Lakh Tonnes 2016-17: 2.80 Lakh Tonnes | Proposed production is less due non commencement of joint mining and u/g mining operation. Deviation has been pointed out to the lessee through violation letter dated 12/01/2018. |

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| 3q | General remarks of inspecting officers on method of mining etc. | DTH drilling of 100mm dia. Blast hole with non-cap sensitive slurry explosive of 83mm dia alongwith delay detonator is being practiced for drilling and blasting. Controlled blasting with 'V' pattern firing sequence with delay detonator is practiced. | The ROM production has been proposed from regular opencast mining and common boundary mining with M/s JSL. The common boundary working with M/s JSL not got statutory clearance. The underground mining operation has not been started till date of inspection. |
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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) | Separate dump for OB & mineral reject. | Separate dump for OB & mineral reject. | There is no top soil dump. |
| 4b | Location of topsoil, OB and mineral reject dumps | Location of Mineral reject: 950N-1016N/1300E-1400E Dump-1: North western side, E400-1000 & N1000-1400. Dump-2: North western side of pit, E 1000-1300 & N 940-1050. Dump-3: South eastern side, E 1000-1400 & N 00-350. | Location of Mineral reject: 950N-1016N/1300E-1400E Dump-1: North western side, E400-1000 & N1000-1400. Dump-2: North western side of pit, E 1000-1300 & N 940-1050. Dump-3: South eastern side, E 1000-1400 & N 00-350. | An agreement & MOU has been signed with the adjacent lessee M/s IMFA for commomn boundary waste dumping. |

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| 4c | Number of dumps within lease area and outside of lease area | 03 Dumps within lease area. | 03 Dumps within lease area. | All three dumps are active. An agreement & MOU has been signed with the adjacent lessee M/s IMFA for common boundary waste dumping. |
| 4d | Location of dumps w.r.t. ultimate pit limit (Rule 16) | Location of Mineral reject: 950N-1016N/1300E-1400E Dump-1: North western side, E400-1000 & N1000-1400. Dump-2: North western side of pit, E 1000-1300 & N 940-1050. Dump-3: South eastern side, E 1000-1400 & N 00-350. | Location of Mineral reject: 950N-1016N/1300E-1400E Dump-1: North western side, E400-1000 & N1000-1400. Dump-2: North western side of pit, E 1000-1300 & N 940-1050. Dump-3: South eastern side, E 1000-1400 & N 00-350. | All three dumps are active and within ultimate pit limit. |
| 4e | Number of active and alive dumps. | 03 dumps. | Three dumps are active. | Three dumps are active. |
| 4f | Number of dead dumps. | Not proposed. | Not applicable. | There is no dead dump. |
| 4g | Number of dumps established. | Not proposed. | Slope of the waste dump has been established by coir matting and plantation. | Slope of the waste dump has been established by coir matting and plantation. |
| 4h | Whether Retaining wall or garland drain all along dumps are there. | Retaining wall & Garland drain of 1000m . | Around the waste dump retaining wall & garland drain of 1000m long has been made. | Around the waste dump retaining wall & garland drain has been made. |
| 4i | Length of Retaining wall or garland drain all along dumps | Retaining wall & garland drain of 1000mX1mX1m. | Retaining wall & garland drain of 1000mX1mX1m. | Around the waste dump retaining wall & garland drain has been made. |
| 4j | Number of settling ponds | Not proposed. | Not applicable. | There are 04 nos. of settling pond in lease area. |

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| 4k | Specific comments of inspecting officer on waste dump management | A study for dump slope failure & stabilization has been carried out by IIT, Kharagpur and CIMFR. Slope of the waste dump has stabilised by coir matting & plantation. | Due non availability of space for dumping an agreement & MOU has been made from the adjacent lessee for common boundary waste dumping. |
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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. | Not proposed. | Pit is not matured for reclamation. | Mineralisation is continue and pit is not matured for reclamation. |
| 5b | Area under backfilling of mined out area | Not proposed. | Pit is not matured for backfilling. | Mineralisation is continue and pit is not matured for reclamation. |
| 5c | Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32) | Not proposed. | There is not top soil generation. | Mineralisation is continue and pit is not matured for reclamation. |
| 5d | Total area fully reclaimed and rehabilitated | Not proposed. | Not applicable. | Mineralisation is continue and pit is not matured for reclamation. |
| 5e | General remarks of inspecting officers on backfilling and reclamation etc. | | Mineralisation is continue and pit is not matured for reclamation. | Mineralisation is continue and pit is not matured for reclamation. |

Progressive Mine Clousre Plan:

| Sl.No. | Item | Propasals | Actual work | Remarks |
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| 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) . | Not proposed. | Mineralisation is continue and pit is not matured for reclamation & rehabilitation. Slope of the waste dump has been established by coir mating and plantation. | Mineralisation is continue and pit is not matured for reclamation & rehabilitation. Slope of the waste dump has been established by coir mating and plantation. |
| 6c | afforestation done (ha). | Not specified. | In 2016-17,2000 trees are planted by lessee in the lease area about 1.0 ha along slope of waste dump. | |
| 6d | No. of saplings planted during the year | Not specified. | In 2016-17,2000 trees are planted by lessee in the lease area about 1.0 ha along slope of waste dump. | |
| 6e | Cumulative no .of plants | Not specified. | As reported cumulative no. of trees planted by lessee is about 78540 nos. | Total area cover under plantation is about 21.06 ha. |
| 6f | Any other method of rehabilitation | Not proposed. | Not applicable. | Mineralisation is continue and pit is not matured for reclamation & ehabilitation. |
| 6g | Cost incurred on watch and care during the year | Not specified. | Expenditure incurred in Environment management during 2016-17 is Rs 390000/-. | Area has not been matured for reclamation & rehabilitation and afforestation proposed along slope of waste dump. |

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| 6h | Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D | Not proposed. | Not applicable. | Mineralisation is continue and pit is not matured for reclamation & ehabilitation. |
| 6i | Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings | Not proposed. | Not applicable. | Mineralisation is continue and pit is not matured for reclamation & ehabilitation. |
| 6j | Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area | Not proposed. | Not applicable. | Mineralisation is continue and pit is not matured for reclamation & ehabilitation. |
| 6k | Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir | Not proposed. | Not applicable. | Mineralisation is continue and pit is not matured for reclamation & ehabilitation. |
| 6l | Compliance on reclamation and rehabilitation by backfilling (v)any other specific means. | Not proposed. | Not applicable. | Mineralisation is continue and pit is not matured for reclamation & ehabilitation. |
| 6m | Compliance of rehabilitation of waste land within lease (i)afforestation | Not proposed. | Not applicable. | Mineralisation is continue and pit is not matured for reclamation & ehabilitation. |
| 6n | Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha) | Not proposed. | Not applicable. | Mineralisation is continue and pit is not matured for reclamation & ehabilitation. |

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| 6o | Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation | Not proposed. | Not applicable. | Mineralisation is continue and pit is not matured for reclamation & ehabilitation. |
| 6p | Compliance of environmental monitoring (core zone and buffer zone) | Quarterly monitoring of air, water and noise level are being carried out. | 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. | | Mine is not matured for reclamation & rehabilitation. All the surface run-off water from mines is channelised & treated to the ETP plant. In ETP plant online monitoring system has been installed and real time data of inlet & outlet water is being transferred to OSPCB server. Regular data of quarterly monitoring of air, water and noise level has been submitted to this office . | Regular data of quarterly monitoring of air, water and noise level has been submitted to this office . |

Mineral Conservation:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---|--|---|--|
| 7a | ROM Mineral dispatch or grade-wise sorting within lease area | Gradewise soting of +10% Cr203-40% Cr203 & +40% Cr203. | Gradewise soting of +10% Cr203-40% Cr203 & +40% Cr203 is being prcaticed within lease hold artea. | The Sub grade ROM produced from the mine is processed thorough its COBP located in the lease area. |
| 7b | Method of grade-wise mineral sorting i.e. manual or mechanical. | Mechanised. | Mechanised. | |

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| 7c | Different grade of mineral sorted out at mines. | Above 40% cr ₂ o ₃ and below 40%cr ₂ o ₃ to +10% cr ₂ o ₃ . | Above 40% cr ₂ o ₃ and below 40%cr ₂ o ₃ to +10% cr ₂ o ₃ . | The Sub grade ROM produced from the mine is processed thorough its COBP located in the lease area. |
| 7d | Any beneficiation process at mines . | Process of low/sub grade ore through beneficiation plant. | ROM having less than 40% cr ₂ o ₃ produced is being kept as sub grade mineral stock for beneficiation and regularly fed to COBP of the company located in the lease area. | The ROM +40% cr ₂ o ₃ produced from the mine is being consumed in the captive plant of the lessee situtated at Balasore in Odisha for production of ferro chrome. Whatever ore having less than 40% cr ₂ o ₃ produced is being kept as sub grade mineral stock for beneficiation and regularly fed to COBP of the company located in the lease area. The capacity of the COBP is 20 tph. |

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| 7e | General remarks of inspecting officer on Mineral conservation and beneficiation issues | This is a captive mine and the ore is produced is utilised for its own plant. | The ROM +40% cr2o3 produced from the mine is being consumed in the captive plant of the lessee situated at Balasore in Odisha for production of ferro chrome. Whatever ore having less than 40% cr2o3 produced is being kept as sub grade mineral stock for beneficiation and regularly fed to COBP of the company located in the lease area. The capacity of the COBP is 20 tph. |
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Environment:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|--|--------------------------------|--------------------------------|---|
| 8a | Separate removal and utilization of topsoil (Rule 32) | Not proposed. | Not applicable. | There is no top soil generation as proposed in approved scheme of mining. |
| 8b | Concurrent use or storage of topsoil | Not proposed. | Not applicable. | There is no top soil generation as proposed in approved scheme of mining. |
| 8c | Separate dumps for overburden, waste rock, rejects and fines (Rule 33) | Separate dump for OB & reject. | Separate dump for OB & reject. | There is separate dump for OB & reject. |

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| 8d | Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use | Not proposed. | Not applicable. | Mineralisation is continue and pit is not matured for reclamation. |
| 8e | Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc) | Not proposed. | Not applicable. | Mineralisation is continue and pit is not matured for reclamation. |
| 8f | Baseline information on existence of plantation and additional plantation done (Rule 41) | Plantation along the slope of waste dump. | Trees has been planted along the slope & toe of waste dump. | As reported cumulative no. of trees planted by lessee is about 78540 nos. Total area cover under plantation is about 21.06 ha. |
| 8g | Survival rate | Not specfied. | As reported survival rate is 90%. | |
| 8h | Water sprinkling on roads to control airborne dust | 03 Water sprinkler. | There is 03 water sprinkler, one is 12KL capacity Two are 14KL capacity. | Water sprinklling on road side to control the dust is being practiced. |
| 8i | General remarks of inspecting officer on aesthetic beauty in and around mines area | | As reported cumulative no. of trees planted by lessee is about 78540 nos. Total area cover under plantation is about 21.06 ha. | Aesthic beauty in and aroun mined area is maintained. Cumulative no. of trees planted by lessee is about 78540 nos. Total area cover under plantation is about 21.06 ha. |

Compliance of Rule 45:

| Sl.No. | Item | Propasals | Actual work | Remarks |
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| 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-7, Diploma mining Engineer-8, Geologist-7, Surveyor-2. | Graduate Mining Engineer-7, Diploma mining Engineer-8, Geologist-7, Surveyor-2. | Graduate Mining Engineer-7, Diploma mining Engineer-8, Geologist-7, Surveyor-2. |
| 9c | Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. | Pit-18.57ha, waste dump-33.95ha, Plant, building-2.15ha, Haul road, COB plant, Tailings-9.79ha. | Pit-18.57ha, waste dump-33.95ha, Plant, building-2.15ha, Haul road, COB plant, Tailings-9.79ha. | Pit-18.57ha, waste dump-33.95ha, Plant, building-2.15ha, Haul road, COB plant, Tailings-9.79ha. |
| 9d | Scrutiny of Annual return on afforestation | 2000 nos. of tree. | 2000 nos. of tree. | 2000 nos. of tree. |
| 9e | Scrutiny of Annual return on mineral reject generation (Grade and quantity) | 97337.29T, +10% cr2o3 to 40% cr2o3. | 97337.29T, +10% cr2o3 to 40% cr2o3. | 97337.29T, +10% cr2o3 to 40% cr2o3. |
| 9f | Scrutiny of Annual return on ROM stock and/or graded ore | ROM in 2015-16: 3824.7T below 40% cr2o3 (Lump) Fines: 162316.9T, below 40% cr2o3 60515T, 40% to 52% cr2o3 189360T, 52% cr2o3 & above | ROM in 2015-16: 3083.16T below 40% cr2o3 (Lump) Fines: 92242.04T, below 40% cr2o3 54471.91T, 40% to 52% cr2o3 128566.79T, 52% cr2o3 & above Concentrates-26242.42T, 50.9% Cr2O3 | Gradewise stock has been maintained. |
| 9g | Scrutiny of Annual return on sale value, Ex. Mine price and production cost | PMV (Rs/T)- 1071.15 | As per AR 2016-17, PMV (Rs/T)- 3614.64 | As per AR 2016-17, PMV (Rs/T)- 3614.64 |

| | | | | |
|----|---|--|--|--|
| 9h | Scrutiny of Annual return on fixed assets | Fixed asset- 460364.36 (Rs in thousand) | As per AR 2016-17, Fixed asset- 460364.36 (Rs in thousand) | As per AR 2016-17, Fixed asset- 460364.36 (Rs in thousand) |
| 9k | Scrutiny of Annual return on mining machineries | DTH of 100mm dia. is used for drilling blast hole. Ore & OB are handled by excavator of 2.4cu.m & 2.8 cu.m capacity with dumper of 25T capacity. | DTH of 100mm dia. is used for drilling blast hole. Ore & OB are handled by excavator of 2.4cu.m & 2.8 cu.m capacity with dumper of 25T capacity. | DTH of 100mm dia. is used for drilling blast hole. Ore & OB are handled by excavator of 2.4cu.m & 2.8 cu.m capacity with dumper of 25T capacity. |

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) | 12/01/2018 | | | |

Date :

(DAYANAND UPADHYAY)

Indian Bureau of Mines