

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

MCDR INSPECTION REPORT

Bangalore regional office

Mine file No : KNT/CTD/MN/135/BNG

Mine code : 40KAR07059

- (i) Name of the Inspecting : **A101**) **ARUN KUMAR**
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : 1)Gururaja- Mine Manager
Official with
Designation
- (iv) Date of Inspection : 13/10/2017
- (v) Prev.inspection date : 11/08/2015

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **SHIVAGANGA ML 2453**
- (b) **Registration NO.** : **IBM/5318/2011**
- (c) Category : A Other than Fully Mech.
- (d) Type of Working : Opencast
- (e) Postal address :
State : KARNATAKA
District : CHITRADURGA
Village :
Taluka :
Post office :
Pin Code :
FAX No. : 080-22440795 (F)
E-mail : mail@ermgroup.in; ermgroup
Phone : 080-26655930, 9449842341
- (f) Police Station : Holalkere
- (g) First opening date : 16/12/1977
- (h) Weekly day of rest : SUN
2. Address for : M/s Alfa Minerals
correspondance : No.-59, 12th Main, Banashankari 1st stage
1st Block, Srinagar, Bangalore--560 050
3. (a) Lease Number : KAR0386
- (b) Lease area : 23.47
- (c) Period of lease :
- (d) Date of Expiry :
4. Mineral worked : MANGANESE ORE Main

5. Name and Address of the

Lessee : ALFA MINERALS.
 NO-59, 12TH MAIN
 Banashankari 1st stage, 1st
 block Srinagar-560 050
 BANGALORE KARNATAKA
 Phone:080-26655930
 FAX :080-22440795

Owner : R.PRAVEEN CHANDRA, MD
 M/s ALFA MINERALS, NO-59,
 12TH MAIN BANASHANKARI, 1ST
 STAGE, 1ST BLOCK, SRINAGAR
 560 050 BANGALORE KARNATAKA
 Phone: 080-26655930
 FAX : 080-22440795

Mining Engineer

Name : DHANANJAYA . G.REDDY, Full Time
 Qualification : B.E (MINING), GM MINES
 Appointment/ : 01/04/2008
 Termination date

Manager

Name : GURURAJ
 Qualification : Diploma in Mining with 2nd Class MM
 Appointment/ : 01/04/2014
 Termination date

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| 6. Date of approval of Mining | : | Mining Scheme rule 12 MCDR1988 | 11/09/2012 |
| Plan/Scheme of Mining | : | MP review under 17(1) MCR 2016 | 31/03/2017 |

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

| Sl.No. | Item | Proposals | Actual work | Remarks |
|--------|---|-----------------------------|---------------------------|--|
| 1a | Backlog of previous year | No proposal for exploration | Nil | No Proposal of exploration as per approved Scheme of Mining. |
| 1b | Exploration over lease area for geological axis 1 or 2 | G1 & G2 | G1 & G2 | Total mineralized area is 1.48 Ha only. |
| 1c | Exploration Agencies and Expenditure in lakh rupees during the year | Nil | Nil | Exploration was carried out In-house. An amount of Rs.12.84 lakhs has been spent on exploration. |
| 1d | Balance area to be explored to bring Geological axis in 1 or 2 | Nil | Nil | Extent of the area to be explored is all agricultural lands with no sign of outcrops or reef exposures. |
| 1e | Balance reserve as on 01/04/20 | | Cat. 111: 19676 tonnes | Mn% 22.6 to 27.7 |
| 1f | General remarks of inspecting officers on geology, exploration etc | | | No proposal of exploration. Total mineralized area is only 1.48 Ha. & the same is explored by the lessee with G1 stage exploration during 2012-13. |

Development :

| Sl.No. | Item | Proposals | Actual work | Remarks |
|--------|--|--|--|----------|
| 2a | Location of development w.r.t.lease area | From N5000-5180 to E4900-5020 RL794-782m | From N5000-5180 to E4900-5020 RL794-782m | |
| 2b | Separate benches in topsoil, overburden and minerals (Rule 15) | Top Soil -Nil Over Burden Benches to be maintained Separately | Working Pit area is devoid of top soil. Over Burden Benches - Separate maintained | Complied |

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|----|---|-------------|------------|--|
| 2c | Stripping ratio or ore to OB ratio | 1:3.74 | 1:3.10 | There is no significant change in ratio.Higher recovery. |
| 2d | Quantity of topsoil generation in m3 | No proposal | Nil | Mining area is devoid of any topsoil |
| 2e | Quantity of overburden generation in m3 | 19023 Tons | 15501 Tons | |
| 2f | General remarks of inspecting officers on development of pit w.r.t. type of deposit etc | | | Development work was carried out as per proposal with stripping ratio of 1:3.10. |

Exploitation:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---|------------------------|---------------------------|--|
| 3a | Number of pit proposed for production | Single Pit | Single Pit 150X120X18m | Complied |
| 3b | Quantity of ROM mineral production proposed | 20350 tons | 19980 tons | |
| 3c | Recovery of sailable/usable mineral from ROM production | 5088 tons(25%) | 4992tons(28% recovery) | Subgrade is blended with higher grade material & sold. |
| 3d | Quantity of mineral reject generation | No Proposal | Not Applicable | |
| 3e | Grade of mineral rejects generation and threshold value declared. | Threshold value 10% Mn | Nil | No mineral reject generation during 2016-17. |
| 3f | Quantity of sub grade mineral generation. | 250 tons | 250 tons | Low grade Manganese Fines of <10-12 % blended and Sold |
| 3g | Grade of sub grade mineral generation | 10- 15 % Mn | 10-12 % Mn | |
| 3h | Manual / Mechanised method adopted for segregating from ROM | Manual | Manual | |

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| 3i | Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects. | No Proposal | NA | |
| 3j | Provision of drilling and blasting in mineral benches | No Proposal | NA | Manual Mining is done |
| 3k | Provision of mining machineries in mineral benches | 10 tonner trucks engaged for transportation of waste materials | Waste loaded into trucks manually & transported to the dumping sites. | As per proposal |
| 3l | Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM | Bench Height- 3meters in Ore and Waste | Regular benches of height 2 to 3m & width 4 to 5m | |
| 3m | Total area covered under excavation/pits | 1.55 ha | 1.55 ha | complied |
| 3n | Ore to OB ratio for the pit/mine during the year. | 1: 3.74 | 1:3.10 | No significant change.Higher recovery |
| 3o | Total area put in use under different heads at the end of year | Mining Area- 1.55 ha Dumps- 1.42 ha Infrastructure , building: 0.510 Ha Other purposes; 19.99 Ha | As per proposal | |
| 3p | Production of ROM mineral during the last five year period as applicable | 2012-13-5088 tons 2013-14-5033 tons 2014-15-5088 tons 2015-16-5060 tons 2016-17-5088 tons | 2012-13-3725 tons 2013-14-4784 tons 2014-15-4960 tons 2015-16-4864 tons 2016-17-4992 tons | Production was within the proposed limits |

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| 3q | General remarks of inspecting officers on method of mining etc. | No deviation w.r.t Exploitation is observed during the course of MCDR inspection dated 13.10.2017 |
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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) | Top Soil- No Proposal OB- Dumping of waste separately | Separate dump of OB available | Complied |
| 4b | Location of topsoil, OB and mineral reject dumps | OB dump- N5180-5280 E5040-5170 | OB dump- N5100-5190 E5040-5080 RL791-804 | Dumping area is not as per the proposal. Violation pointed out |
| 4c | Number of dumps within lease area and outside of lease area | 3 dumps Within lease. Outside lease- Nil | 3 dumps Within lease. Outside lease- Nil | |
| 4d | Location of dumps w.r.t. ultimate pit limit (Rule 16) | Active Dump is outside UPL | Active Dump is outside UPL | |
| 4e | Number of active and alive dumps. | Active-1 dump | Active-1 dump | |
| 4f | Number of dead dumps. | No Proposal | Two dumps | There are 2 in-active dumps which have been planted with native species and protection measures like retaining wall and earthen garland drain (trenches) has been made all around the dump. |
| 4g | Number of dumps established. | No Proposal | Two dumps stabilized | 2 old dumps have been stabilized. |
| 4h | Whether Retaining wall or garland drain all along dumps are there. | No Proposal | Yes, constructed | Yes. Retaining wall and Garland drain has been made. Retaining wall-262 meters, Earthen Garland drain-418 meters |

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|----|--|-------------|--|---|
| 4i | Length of Retaining wall or garland drain all along dumps | No Proposal | 70 meters of retaining wall and 300 meters of earthen drain (trenches) has been made | Retaining wall-262 meters. Earthen drain-418 meters |
| 4j | Number of settling ponds | No Proposal | Nil | |
| 4k | Specific comments of inspecting officer on waste dump management | | | The location of the OB dump is not as per the proposal. Two old inactive dumps have been stabilized. Retaining walls with Earthen Garland drain have been 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 | Not applicable | |
| 5b | Area under backfilling of mined out area | No Proposal | NA | |
| 5c | Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32) | No Proposal | NA | |
| 5d | Total area fully reclaimed and rehabilitated | No Proposal | Not applicable | |
| 5e | General remarks of inspecting officers on backfilling and reclamation etc. | | | None of the areas of mined out pits were matured for backfilling due to occurrence of mineral at depth. |

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). | Yes. | Annual report of PMCP submitted on time. | complied |
| 6b | Area available for rehabilitation (ha) . | No Proposal | NA | Single mine pit, no benches are available for rehabilitation |
| 6h | Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L x B x D | No proposal | Not applicable | No area is available for backfilling as the mineral persist at depth |
| 6m | Compliance of rehabilitation of waste land within lease (i)afforestation | Gap Plantation within lease area-210 numbers | 615 saplings planted on dumps. And 1265 Saplings planted in existing a green cover. | Plantation as Gap plantation within existing vegetated dump and green belt area. |
| 6p | Compliance of environmental monitoring (core zone and buffer zone) | AAQM, Surface, Ground water and Noise to be Monitored in core & buffer zone | One Season AAQM Ground Water Quality of Core Zone has been carried out and Inhouse Noise Monitoring carried Out. | complied |
| 6q | General remarks of inspecting officers on PMCP compliance and progressive closure operations etc. | | | Plantation as Gap plantation within existing vegetated dump and green belt area was done within the Mining Lease area. PMCP activities were carried out as per the approved plan and plantation done. |

Mineral Conservation:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|--|-----------------------------|--|----------|
| 7a | ROM Mineral dispatch or grade-wise sorting within lease area | Yes,manual sorting proposed | 4992 MT Manganese ore produced. Dispatches - 9884 tonnes inclusive of previous year closing balance. | complied |

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|----|--|-------------------------------|---|--|
| 7b | Method of grade-wise mineral sorting i.e. manual or mechanical. | Manual | Manual Method of grade-wise mineral sorting | |
| 7c | Different grade of mineral sorted out at mines. | Grade wise stocking proposed. | < 25% of Manganese ore produced and sold. Avg grade of manganese ore produced during the year is 16-17% Mn. | |
| 7d | Any beneficiation process at mines | No proposal | Manual Sorting, breaking and Screening. | complied |
| 7e | General remarks of inspecting officer on Mineral conservation and beneficiation issues | | | Conservation of mineral is done. No beneficiation is done as it is not found to be necessary. Sizing & Sorting is done manually. |

Environment :

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|---|--|-------------------------------|--|
| 8a | Separate removal and utilization of topsoil (Rule 32) | No Proposal | Not applicable | |
| 8b | Concurrent use or storage of topsoil | No Proposal | Not applicable | |
| 8c | Separate dumps for overburden, waste rock, rejects and fines (Rule 33) | OB to be stacked separately | overburden stacked separately | complied |
| 8d | Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use | OB will be used during Final Mine Closure for back filling | Not applicable | Mineral is not found exhausted in the working pits |

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| 8e | Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc) | Will be complied during Final Mine Closure | Not applicable | |
| 8f | Baseline information on existence of plantation and additional plantation done (Rule 41) | Baseline information mentioned about existence of dry deciduous shrubs, bushes & occasional tree growth in the ML area. 210 saplings were proposed within ML area | 615 saplings planted on dumps as gap plantation and 1265 saplings of native species planted within existing green belt but, survival rate is very low due to deficit rainfall. | Green Belt area- 7.49 Ha Plantations on dumps-0.8 ha |
| 8g | Survival rate | Not specified | 40% | |
| 8h | Water sprinkling on roads to control airborne dust | No proposal | Dust suppression carried out by deploying water tanker on haul road. | complied |
| 8i | General remarks of inspecting officer on aesthetic beauty in and around mines area | | | Entire ML is non forest revenue land with thin to moderate vegetation. Aesthetic environment is not affected by this small scale manual mining operation. The greenery around the mine is maintained. Plantation have been done with 40% survival rate. Gap plantation on dumps covering 0.8 Ha. |

Compliance of Rule 45:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|--|-----------|---|---------|
| 9a | Status of submission of Monthly and Annual returns | | M.R. Submitted up to - September-2017 A.R. Submitted up to FY 2016-17. | |

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| 9b | Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager | Manager- Gururaja, Mining Engineer- Dhananjaya G. Reddy, (Prt Time) Geologist - Deepak C.A(Part Time) | Mining Engineer, Geologist and Manager as per the given details |
| 9c | Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. | Mining Area- 1.55 ha Dumps- 1.42 ha Infrastructure , building: 0.510 Ha Other purposes; 19.99 Ha | Appeared to be correct |
| 9d | Scrutiny of Annual return on afforestation | 1880 saplings planted within lease area with 40% Survival Rate. Outside lease area: 1855 saplings with 35% Survival Rate | Appeared to be correct |
| 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 | Opening Stock: Nil, Production :4992 Tons, Closing Stock: Nil | Appeared to be correct |
| 9g | Scrutiny of Annual return on sale value, Ex. Mine price and production cost | Rs.1952.52/ton - Avg Sale Value for the FY. Rs.783.87/ton- Cost of Production | Appeared to be correct |
| 9h | Scrutiny of Annual return on fixed assets | Rs. 1219638 | Appeared to be correct |

9k Scrutiny of Annual return on mining machineries Not Applicable Manual 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 11(1) | 10/11/2017 | 02/01/2018 | | | | |
| MCDR17 | Rule 14(2) | 10/11/2017 | 02/01/2018 | | | | |

Date :

(ARUN KUMAR)

Indian Bureau of Mines