

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

**MCDR INSPECTION REPORT  
Hyderabad regional office**

**Mine file No :** AP/SRK/GARNET-1/HYD

**Mine code :** 26APR18001

- (i) Name of the Inspecting : **D013** ) **D.DASH**  
Officer and ID No.
- (ii) Designation : Senior Mining Geologist
- (iii) Accompanying mine :  
Official with  
Designation
- (iv) Date of Inspection : 01/10/2016
- (v) Prev.inspection date : 07/03/2005

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **TGI GARNET MINE**
- (b) **Registration NO.** :
- (c) **Category** : B Manual
- (d) **Type of Working** : Opencast
- (e) **Postal address**
- State : ANDHRA PRADESH
- District : SRIKAKULAM
- Village : MOFAZBANDRU, IPPILI
- Taluka : SRIKAKULAM
- Post office : SRIKAKULAM COLLECTORATE
- Pin Code : 532001
- FAX No. : 91-8942-228404
- E-mail :
- Phone : 91-8942-225771/72
- (f) **Police Station** :
- (g) **First opening date** : 23/05/2003
- (h) **Weekly day of rest** : SUN
2. **Address for  
correspondance** :
3. (a) **Lease Number** : APR2000
- (b) **Lease area** : 95.08
- (c) **Period of lease** : 30
- (d) **Date of Expiry** : 23/06/2032
4. **Mineral worked** : GARNET Main

## 5. Name and Address of the

Lessee : TRANSWORLD GARNET INDIA (P) LTD.  
RAMANIYAM ARCADE III  
FLOOR, E-28, II AVENUE,  
BESANT NAGAR CHENNAI  
CHENNAI CITY TAMIL NADU  
Phone:  
FAX :

Owner : M/S.TRANSWORLD GARNET INDIA PVT LTD  
SRIKAKULAM ANDHRA  
PRADESH  
Phone:  
FAX :

|                               |   |                                |            |
|-------------------------------|---|--------------------------------|------------|
| 6. Date of approval of Mining | : | Modif.of approved Mining Plan  | 14/09/2005 |
| Plan/Scheme of Mining         | : | Mining Scheme rule 12 MCDR1988 | 11/12/2014 |

## PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

## Exploration :

| Sl.No. | Item                                                                | Proposals                                                    | Actual work                 | Remarks                                                                                                   |
|--------|---------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------|-----------------------------------------------------------------------------------------------------------|
| 1a     | Backlog of previous year                                            | 10 boreholes during 2014-15 and 11 boreholes during 2015-16  | nil                         | violation of Rule 13(1) of MCDR, 1988 pointed out.                                                        |
| 1b     | Exploration over lease area for geological axis 1 or 2              | 21 boreholes during the year 2014-15 and 2015-16             | Nil                         | violation of Rule 13(1) of MCDR, 1988 pointed out.                                                        |
| 1c     | Exploration Agencies and Expenditure in lakh rupees during the year | Nil                                                          | Nil                         |                                                                                                           |
| 1d     | Balance area to be explored to bring Geological axis in 1 or 2      | 5.25 ha                                                      | nil                         | violation of rule 13(1) of MCDR, 1988 pointed out.                                                        |
| 1e     | Balance reserve as on 01/04/20                                      |                                                              |                             |                                                                                                           |
| 1f     | General remarks of inspecting officers on geology, exploration etc  | 21 drill holes proposed during the year 2014-15 and 2015-16. | No exploration carried out. | Consequent to violation of Rule 13(1) of MCDR, 1988, the lessee has carried out drilling of 21 boreholes. |

## Development :

| Sl.No. | Item                                                           | Proposals                     | Actual work                                                                                      | Remarks                                                                                                        |
|--------|----------------------------------------------------------------|-------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| 2a     | Location of development w.r.t. lease area                      | area between section 8 and 20 | done as proposed. In addition to that quarry development observed in previously backfilled area. | violation of Rule 13(1) of MCDR, 1988 pointed out. The lessee has reported compliance by backfilling the area. |
| 2b     | Separate benches in topsoil, overburden and minerals (Rule 15) | no separate benches proposed. | done as proposed.                                                                                |                                                                                                                |
| 2c     | Stripping ratio or ore to OB ratio                             | 7.33                          | 0.98                                                                                             |                                                                                                                |

|    |                                                                                         |                                                   |                                                                                                                     |
|----|-----------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| 2d | Quantity of topsoil generation in m3                                                    | nil                                               | nil                                                                                                                 |
| 2e | Quantity of overburden generation in m3                                                 | 632366 tonne                                      | 21918 tonnes                                                                                                        |
| 2f | General remarks of inspecting officers on development of pit w.r.t. type of deposit etc | the proposed development between section 8 and 20 | although development id within the propsoed area, due to some local problem, mining ooperation is on minimum scale. |

### Exploitation:

| Sl.No. | Item                                                              | Propasals                                                                  | Actual work                           | Remarks                                                                   |
|--------|-------------------------------------------------------------------|----------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------|
| 3a     | Number of pit proposed for production                             | single quarry proposed.                                                    | done as per proposal.                 |                                                                           |
| 3b     | Quantity of ROM mineral production proposed                       | 86173 tonnes during the year 2015-16                                       | 23695 tonnes of prodcutioin achieved. | due to some local area rproblem, mining orrations could not be continued. |
| 3c     | Recovery of sailable/usable mineral from ROM production           | about 7% heavies proposed.                                                 | as proposed.                          |                                                                           |
| 3d     | Quantity of mineral reject generation                             | nil                                                                        | nil                                   |                                                                           |
| 3e     | Grade of mineral rejects generation and threshold value declared. | not specific                                                               | not sepcific.                         |                                                                           |
| 3f     | Quantity of sub grade mineral generation.                         | 10347 tonnes during the year 2015-16                                       | 9714 tonnes during the year 2015-16   |                                                                           |
| 3g     | Grade of sub grade mineral generation                             | nil                                                                        | nil                                   |                                                                           |
| 3h     | Manual / Mechanised method adopted for segregating from ROM       | the lessee has beneficiation plant for segregation of run of mine ore ore. | as proposed.                          |                                                                           |

|    |                                                                                                      |                                                              |                                         |                                                              |
|----|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------------|--------------------------------------------------------------|
| 3i | Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.      | nil                                                          | nil                                     |                                                              |
| 3j | Provision of drilling and blasting in mineral benches                                                | nil                                                          | nil                                     |                                                              |
| 3k | Provision of mining machineries in mineral benches                                                   | excavators proposed                                          | used as proposed.                       |                                                              |
| 3l | Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM | 4 m single bench proposed.                                   | as proposed.                            |                                                              |
| 3m | Total area covered under excavation/pits                                                             | area proposed between section 18 and 20                      | quarry development up to section 14     | violation of rule 13(1) of MCDR, 1988 pointed out.           |
| 3n | Ore to OB ratio for the pit/mine during the year.                                                    | 7.33                                                         | 0.98                                    |                                                              |
| 3o | Total area put in use under different heads at the end of year                                       | not specific                                                 | not reported.                           |                                                              |
| 3p | Production of ROM mineral during the last five year period as applicable                             | 86173 tonnes during the year 2015-16                         | 23695 tonnes during the year 2015-16    |                                                              |
| 3q | General remarks of inspecting officers on method of mining etc.                                      | development proposal during the 2015-16 is between 18 to 20. | the work has been done up to section 14 | due to local problem mining operations was on minimum scale. |

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Solid Waste Management - Dumping:

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| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|------|-----------|-------------|---------|
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|----|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| 4a | Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)   | separate stacking of sub-grade in factory premises proposed. tailing were proosed for phase-wse backfilling.          | done as per proposal.                                                                                            |                                                                                                    |
| 4b | Location of topsoil, OB and mineral reject dumps                   | waste taling were proposed for backfilling. Sub-grade was proposed for stacking in benecifiaction plant factory area. | done as proposed.                                                                                                |                                                                                                    |
| 4c | Number of dumps within lease area and outside of lease area        | not proposed since backfilling proposed.                                                                              | done as proposed.                                                                                                |                                                                                                    |
| 4d | Location of dumps w.r.t. ultimate pit limit (Rule 16)              | nil                                                                                                                   | nil                                                                                                              |                                                                                                    |
| 4e | Number of active and alive dumps.                                  | nil                                                                                                                   | nil                                                                                                              |                                                                                                    |
| 4f | Number of dead dumps.                                              | nil                                                                                                                   | nil                                                                                                              |                                                                                                    |
| 4g | Number of dumps established.                                       | nil                                                                                                                   | nil                                                                                                              |                                                                                                    |
| 4h | Whether Retaining wall or garland drain all along dumps are there. | nil                                                                                                                   | nil                                                                                                              |                                                                                                    |
| 4j | Number of settling ponds                                           | nil                                                                                                                   | nil                                                                                                              |                                                                                                    |
| 4k | Specific comments of inspecting officer on waste dump management   | backfilling of tailings proposed.                                                                                     | mostly done as per proposal. a previously reported backfilling area found disturbed during the field inspection. | Violation of rule 13(1) of MCDR, 1988 pointed out and the lessee subsequently backfilled the area. |

#### Solid Waste Management - Backfilling:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|------|-----------|-------------|---------|
|--------|------|-----------|-------------|---------|

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|----|-----------------------------------------------------------------------------------------------|------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 5a | Status of part or full extraction of mineral from mined out area before starting backfilling. | simultaneous backfilling proposed.             | done as per proposal. |                                                                                                                                       |
| 5b | Area under backfilling of mined out area                                                      | 13 ha                                          | 5 ha approximately    |                                                                                                                                       |
| 5c | Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)     | not proposed                                   | nil                   |                                                                                                                                       |
| 5d | Total area fully reclaimed and rehabilitated                                                  | Nil                                            | nil                   |                                                                                                                                       |
| 5e | General remarks of inspecting officers on backfilling and reclamation etc.                    | simultaneous backfilling of tailings proposed. | done as propopsed.    | however, backfilled area is on lower side than proposed since the mining operations are carried out on a smlaler scale than proposed. |

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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). | proposed backfilling | done as per proposasl. |                                              |
| 6b     | Area available for rehabilitation (ha) .                                     | 15 ha                | 5 ha                   | not done due to smaller scale of operations. |
| 6c     | afforestation done (ha).                                                     | not specific         | not reported.          |                                              |
| 6d     | No. of saplings planted during the year                                      | 8700 nos             | 20600 no reported.     |                                              |
| 6e     | Cumulative no .of plants                                                     | nil                  | not reported.          |                                              |
| 6f     | Any other method of rehabilitation                                           | nil                  | nil                    |                                              |

|    |                                                                                                            |                           |                                         |                                                                                           |
|----|------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------------|-------------------------------------------------------------------------------------------|
| 6g | Cost incurred on watch and care during the year                                                            | no proosal                | not reported.                           |                                                                                           |
| 6h | Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D | not specific              | actual backflling work is on lower side | due to small scale mining operation, backfilling asproposed could not be carried out.     |
| 6i | Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings          | 15 ha area                | 5 ha                                    | dueto small scale of mining ooperations backfilling as proposed could not be carried out. |
| 6j | Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area       | 8700                      | 20000                                   |                                                                                           |
| 6k | Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir  | nil                       | nil                                     |                                                                                           |
| 6l | Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.                   | nil                       | nil                                     |                                                                                           |
| 6m | Compliance of rehabilitation of waste land within lease (i)afforestation                                   | 8700                      | 20000                                   |                                                                                           |
| 6n | Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)                       | plantion of 9700 saplings | plantation of 20000 saplings reported.  |                                                                                           |

|    |                                                                                                   |                                            |                        |  |
|----|---------------------------------------------------------------------------------------------------|--------------------------------------------|------------------------|--|
| 6o | Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation             | plantation                                 | done                   |  |
| 6p | Compliance of environmental monitoring (core zone and buffer zone)                                | proposed                                   | done                   |  |
| 6q | General remarks of inspecting officers on PMCP compliance and progressive closure operations etc. | backfilling followed by platation proposed | done as per proposaals |  |

#### Mineral Conservation:

| Sl.No. | Item                                                                                   | Propasals                                              | Actual work            | Remarks                                    |
|--------|----------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------|--------------------------------------------|
| 7a     | ROM Mineral dispatch or grade-wise sorting within lease area                           | entire rom is sent to pre concentration plant          | done as proposed.      |                                            |
| 7b     | Method of grade-wise mineral sorting i.e. manual or mechanical.                        | beneficiation by pre concentration plan                | doen as per proposasl. |                                            |
| 7c     | Different grade of mineral sorted out at mines.                                        | garnet is separated                                    | done as proposed.      |                                            |
| 7d     | Any beneficiation process at mines .                                                   | entire run of mine ores senrt to beneficiation plant.  | done as per proposal.  |                                            |
| 7e     | General remarks of inspecting officer on Mineral conservation and beneficiation issues | entire run of mine ore is sent to beneficia tion plant | done as per proposal.  | beneficiation plant is outside lease area. |

#### Environment:

| Sl.No. | Item | Propasals | Actual work | Remarks |
|--------|------|-----------|-------------|---------|
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|----|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------------------------------------------------------------|
| 8a | Separate removal and utilization of topsoil (Rule 32)                                                       | nil                                                                                                                     | nil                    |                                                                                      |
| 8b | Concurrent use or storage of topsoil                                                                        | nil                                                                                                                     | nil                    |                                                                                      |
| 8c | Separate dumps for overburden, waste rock, rejects and fines (Rule 33)                                      | separate stacking of sub-grade in beneficiation plant proposed. waste tailings is proposed for simultaneous backfilling | done as per proposal.  |                                                                                      |
| 8d | Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use           | waste tailings are simultaneously backfilled                                                                            | done as proposed.      |                                                                                      |
| 8e | Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc) | simultaneous backfilling proposed                                                                                       | done as per proposals  |                                                                                      |
| 8f | Baseline information on existence of plantation and additional plantation done (Rule 41)                    | no previous plantation of 8700 saplings proposed during the year 2015-16                                                | 20000 saplings planted |                                                                                      |
| 8g | Survival rate                                                                                               | 60%                                                                                                                     | 60%                    |                                                                                      |
| 8h | Water sprinkling on roads to control airborne dust                                                          | nil                                                                                                                     | nil                    |                                                                                      |
| 8i | General remarks of inspecting officer on aesthetic beauty in and around mines area                          | simultaneous backfilling followed by plantation proposed                                                                | done as proposed.      | backfilling on lower side due to small scale of operation in comparison to proposal. |

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## Compliance of Rule 45:

| Sl.No. | Item                                                                                          | Propasals                                                                                                                  | Actual work                                                                | Remarks |
|--------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|---------|
| 9a     | Status of submission of Monthly and Annual returns                                            | annual return for the year 2015-16 submitted.                                                                              | submitted                                                                  |         |
| 9b     | Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager           | Mining engineer employed                                                                                                   | Mining engineer employed.                                                  |         |
| 9c     | Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc. | 0.20 ha area have been reported as area under current workings. 0.15 ha have been reported as recalimed and rehabilitated. | the figures above may be incorrect since no recent survey work undertaken. |         |
| 9d     | Scrutiny of Annual return on afforestation                                                    | 20600 sapling plantation reported.                                                                                         | figures appear to be correct.                                              |         |
| 9e     | Scrutiny of Annual return on mineral reject generation (Grade and quantity)                   | 914 tonnes sub-grade ore genartion reported                                                                                | figures appear to be correct.                                              |         |
| 9f     | Scrutiny of Annual return on ROM stock and/or graded ore                                      | opening stock- 1228 tonnes, prodction- 23695 tonnes, dispatch- 20690 tonnes closing stock- 4233 tonnes                     | figures appear to be correct.                                              |         |
| 9g     | Scrutiny of Annual return on sale value, Ex. Mine price and production cost                   | Rs 4375 has been reported as ex-mine price.                                                                                | Rs 3087 is reported as cost of prodction.                                  |         |
| 9h     | Scrutiny of Annual return on fixed assets                                                     | no fixed assets reported.                                                                                                  | no fixed asets withinthe lease area.                                       |         |
| 9k     | Scrutiny of Annual return on mining machineries                                               | four backhoe, three front end loaders, 19 ten tonner tippers, and one crane of 25 tonnes capacity reported.                | figures appear to be correct.                                              |         |

**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 |
| Rule 13(1)         | 04/10/2016 |               |                     |           |               |
| Rule 27(4)         | 04/10/2016 |               |                     |           |               |
| Rule 45(7)(i)(a)   | 04/10/2016 |               |                     |           |               |

**Date :**
**(D.DASH)**

Indian Bureau of Mines