

# SCHEME OF MINING

Submitted under Rule 12(2) of MCDR 1988

Period from 2016-17 to 2020-21

Expiry of the Lease: 22.05.2021

'A' CATEGORY, FULLY MECHANISED, NON-CAPTIVE, OPEN-CAST MINE

of

**RAJA KRISHNA DEVA RAYA**

**(RKDR) IRON ORE MINE,**

**M.L. No. 2584**

Total Extent: 31.00 Ha. as per ML Deed, [32.05 Ha. as per CEC Survey] - Forest Land  
Location: North-East Block Range, Kallahalli Village, Hospet Taluka, Bellary Dist., Karnataka State

OF

**M/s. AURO MINERALS**



Prepared By  
Shri. Gopalakrishna V. Gaonkar  
Reg. No. RQP/BNG/333/2014/A.

January/May-2016

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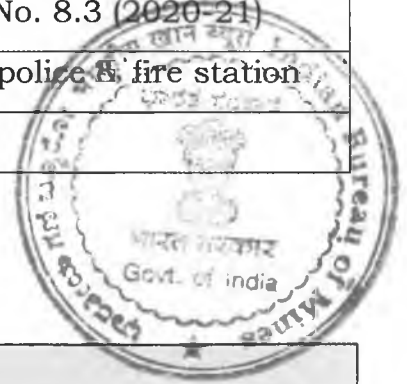
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**SCHEME OF MINING OF  
RAJA KRISHNA DEVA RAYA (RKDR)  
IRON ORE MINE, M.L. No. 2584  
OF M/s. AURO MINERALS**  
(Submitted under Rule 12(2) of MCDR 1988)

**INTRODUCTION:**

M/s. AURO MINERALS, a partnership firm possess a mining lease by name Raja Krishna Deva Raya (RKDR) Iron Ore Mine, M.L. No. 2584 over an extent of 31.00 Ha. as per Mining Lease Deed(32.05 Ha. as per Central Empowered Committee Survey) located at Kallahalli Village, Hospet Taluka, Bellary District, Karnataka State which is valid upto 22.05.2021.

**Table-1:** Details of Mining Lease of Auro Minerals is as follows;

Sl. No.	Lease Ref. No. & date	Area (Ha.)	Postal Address	Type of Minera l/s	Working / Non-working	Status of approval of Mining Plan	Date of execution and date of expiry	Remarks
1.	2584	31.00 as per ML Deed & 32.05 as per CEC Survey	Kallahalli Village, Hospet Taluka, Bellary District	Iron Ore	Non Working	Approval Letter No.279/157 /90/BNG dated 30/04/2002	13.06.2008 (w.e.f. 23.05.2001 to 22.05.2021)	Category R&R Implementation under progress

RKDR Iron Ore Mining Lease was originally granted in favour of Sri Krishna Deva Raya on 24.07.1956, over an extent of 188.66 Ha in forest land, for a period of 20 years. The lease was renewed in favour of Smt. Rani Lalkumari (Queen of Anegundi) for 5 years, i.e. from 24.07.1976 to 23.07.1981. Subsequently, the lease was transferred to M/s. Auro Minerals of Achyuta Deva Raya as the successor to Smt. Rani Lalkumari, from 24.07.1981 to 23.07.2001. The lease was renewed for the third time in the name of M/s. Auro Minerals for 20 years on 13.06.2008, w.e.f. 23.05.2001 and valid upto 22.05.2021 over an extent of 31.00 Ha. Copy of the executed Mining Lease Deed is enclosed vide **Annexure-I**. An area of 157.66 Ha. out of 188.66 Ha. was surrendered to the Karnataka Forest Department on 14.06.2006.

*[Handwritten Signature]*  
30/05/2016

Scheme of mining is approved subject to conditions laid down in letter No. 279/157/ 90/BNG.  
Dt. 17/06/2016

*[Handwritten Signature]*  
17-06-16  
क्षेत्रीय खान नियंत्रक  
Regional Controller of Mines  
भारतीय खान भूरा  
Indian Bureau of Mines  
बेंगलूर Bangalore-56002

Approval under Section 2 of Forest (Conservation) Act 1980 for diversion of 31.00 Ha of Forest Land for Renewal of Mining Lease was accorded from the Ministry of Environment and Forests, F.C. Division, Government of India for 20 years co-terminus with the lease period vide letter F.No. 8-52/94-FC dated 13<sup>th</sup> May 1999. Copy of the approval letter is enclosed vide **Annexure-II**.

Environmental Clearance was accorded by the State Level Environment Impact Assessment Authority, Karnataka (constituted by the Ministry of Environment and Forests, Government of India) for extraction of 4.20 LTPA Iron Ore from an area of 31.00 Ha at NEB Range, Kallahalli Village, Hospet Taluka, Bellary District vide letter No. SEIAA:114:MIN:2008 dated 16<sup>th</sup> September 2008. Copy of the Environmental Clearance letter is enclosed vide **Annexure-III**.

Mining operations are temporarily stopped due to blanket ban on iron ore mining in Karnataka (Bellary, Tumkur & Chitradurga District) by Hon'ble Supreme court since 29<sup>th</sup> July 2011. After the Joint Survey by CEC, the subject mine was placed under 'B' Category. The Indian Council of Forestry Research and Education (ICFRE), Dehradun has prepared the Reclamation & Rehabilitation (R&R) Plan for the subject mine and assessed the production of iron ore at the rate of 0.114 mtpa, 0.084 mtpa & 0.34 mtpa based on the total reserves, dumping and road/infrastructure capacity. Finally the annual feasible production of 0.084 mtpa is fixed based on the dump capacity available in the mining lease area which is least among the three criteria. The Executive Summary of Approved Reclamation & Rehabilitation Plan is enclosed vide **Annexure-IV**.

CEC has given its concurrence to the R&R Plan and conveyed to Chief Secretary, Government of Karnataka vide letter No. File No.2-61/CEC/SC/2012-Pt.I dated 4<sup>th</sup> March 2013 and the same is conveyed from the Director, Department of Mines & Geology regarding CEC concurrence & implementation of Reclamation & Rehabilitation Plan vide letter No.DMG/R&R/2012-13/50. Copy of the notice is enclosed vide **Annexure-V**.

Now this Scheme of Mining is being submitted for approval under Rule 12(2) of MCDR 1988 for the subsequent period i.e., from 2016-17 to 2020-21 with iron ore production capacity of 84,000 tonnes per annum.

**1.0 GENERAL:**

- a) **Name of applicant/lessee** : M/s. Auro Minerals.  
**Rule 45 Registration No.** : IBM/156/2011.  
**Address** : #322/3, Second Floor,  
Sree Sapthagiri Enclave,  
College Road, Hospet.  
**District** : Bellary, **State** : Karnataka, **Pin code** : 583 201.  
**Phone** : 08394 224998, Fax: 0832-2460580,  
**Mobile No.** : +91-98221 23262, **Email id** : auro.hspt@gmail.com

- b) **Status of applicant/lessee:** Partnership Firm. Copy of Registration of Firm is enclosed vide **Annexure-VI**. Copy of Partnership Deed is enclosed vide **Annexure-VII**.

**Table - 2:** Partners of the Firm and other details are as follows;

Sl. No.	Name of Partner
1.	Smt. Chandrakantha
2.	Sri. Krishna Devaraya
3.	Goa Ore Transport Private Limited
4.	Babuso Agro Marine Company Private Limited

The contact details are same as mentioned above. Shri. Subramany, General Manager of the Firm is Authorized Person and Authorization Letter signed by all the partners is enclosed vide **Annexure-VIII**. Copy of Identity Card of Election Commission of India towards Photo ID and Permanent & Present address proof of Shri. Subramany is enclosed vide **Annexure-IX**. An undertaking on NJ Rs. 200/- in the requisite format has been enclosed vide **Annexure-X**.

- c) **Mineral(s) which is/are included in the prospecting license (For Fresh grant):** Not Applicable.

- d) **Mineral(s) which is/are included in the letter of Intent/lease deed:** Iron Ore.
- e) **Mineral(s) which is the applicant/lessee intends to mine:** Iron Ore.
- f) **Name of Recognized Person under rule 22C of MCR,1960er-a Person employed under clause (c) of Sub Rule (1) of Rule 42 of MCDR, 1988(Applicable for Scheme of Mining only)preparing Mining Plan/Scheme of Mining:**

**Name** : Gopalakrishna V. Gaonkar,  
**Address** : "HM Larochella", # 302,  
No. 6, Benson Cross Road,  
Bangalore - 560 046, KARNATAKA.

**Phone** : +91-9448303821/9158505030.

**Email** : gaonkargv@gmail.com

**Registration No.** : RQP/BNG/333/2014/A.

**Date of Grant/Renewal:** 26.02.2014.

**Valid upto** : 25.02.2024.

Copy of RQP Certificate is enclosed vide **Annexure-XI**.

## 2.0 LOCATION AND ACCESSIBILITY:

Plan showing the location and accessibility is enclosed vide **Plate No. 1** as Key Plan. Location of the lease area is marked on District Map and enclosed vide **Plate No. 1A** as Location Map.

### a) Lease Details (Existing Mine):

**Name of mine:** Raja Krishna Deva Raya (RKDR) Iron Ore Mine, M.L. No. 2584.

**Lat/long of any boundary point:** Raja Krishna Deva Raya Iron Ore Mine is bounded between Latitude 15° 12' 41.8"N to 15° 13' 08.6"N and Longitude 76° 25' 36.7"E to 76° 26' 15.7"E (Datum: WGS 84).



**Date of grant of lease** : 24.07.1956,  
**Period/Expiry Date** : 22.05.2021.  
**Name of leaseholder** : M/s. Auro Minerals.  
**Postal Address** : # 322/3, Sree Sapthagiri Enclave,  
 College Road, Hospet – 583 201,  
 Bellary District, Karnataka.  
**Telephone** : 08394-224998,  
**Mobile No.** : +91-9822123262.  
**email id** : auro.hspt@gmail.com.

**b) Details of applied/lease area with location map (fresh area-mine):**

**Table - 3:** Details of land type of Mining Lease Area;

Forest	Area (ha)	Non-forest	Area (ha)
Forest (specify)	31.0 as per	(i) waste land	-
North-East	ML Deed &	(ii) grazing land	
Block Range	32.05 as per	(iii) Agriculture land	
Forest	CEC Survey	(iv) others (specify)	

**Total lease area** : 31.0 Ha as per M.L. Deed  
 (32.05 Ha as per CEC Survey)  
**District & State** : Bellary District & Karnataka State.  
**Taluka & Village** : Hospet Taluka & Kallahalli Village.

**Whether the area falls under Coastal Regulation Zone (CRZ)? If yes, details thereof:** No.

**Existence of public road/railway line, if any nearby and approximate distance:** This Mine is at about 11 km (by road) South-East of Hospet connected by an all weather road. Hospet-Sandur Road passes at about 3.50 km distance towards SW from the lease area. Kariganur is the nearest rail head located at about 12 km distance from the M.L. Area on Ranjitpur-Toranagallu Broad Gauge Line of South Western Railway.



**Toposheet No. with latitude & longitude of all corner boundary point/pillar:** Raja Krishna Deva Raya Iron Ore Mine falls on Survey of India Toposheet No. 57 A/8 (New Toposheet No. D43 E8). GPS co-ordinates of the lease area corner boundary pillars as per the survey and demarcation carried-out by the authorities (Officers from Department of Mines & Geology, Surveyors from Karnataka Forest Department and NITK/CEC Joint Team in the presence of lessee's representative) are given below;

**Table - 4:** GPS Co-ordinates of the Mining Lease Boundary Pillars; (Datum: WGS 84)

Pillar No.	Northing	Easting	mRL
LBC-2	15° 13' 02.6"	76° 25' 50.3"	807m
LBC-A	15° 13' 08.6"	76° 25' 46.7"	823m
LBC-B	15° 12' 47.9"	76° 26' 15.7"	828m
LBC-C	15° 12' 41.8"	76° 26' 00.9"	710m
LBC-D	15° 13' 05.7"	76° 25' 36.7"	713m

Copy of the Mahajar Report is enclosed vide **Annexure - XII**. Copy of Mining Lease area sketch approved by Director of Mines and Geology, Government of Karnataka after the CEC Survey is enclosed vide **Plate No. 2**.

- c) **Attach a general location map showing area and access routes.** Mining lease area is marked on a Survey of India Toposheet and the features within 10 km radius are shown (refer **Plate No. 1**).

**3.0 DETAILS OF APPROVED MINING PLAN / SCHEME OF MINING (if any):**

**3.1 Date and reference of earlier approved MP/SOM:**

**Table - 5:** Details of the approved Mining Plan/Scheme of Mining are as follows;

Particular	Period of approval	Approval Letter No. & Date
Mining Plan	2001-02 to 2005-06	Letter No. 279/157/90/BNG dated 30.04.2002
Scheme of Mining	2006-07 to 2010-11	Letter No. MS/BLR/Fe-76-SZ dated 18.09.2006
Scheme of Mining	2011-12 to 2015-16	Letter No. KNT/BLR/MS/Fe-119-SZ dated 13.09.2013



Copy of the approval letter of earlier approved Scheme of Mining document is enclosed vide **Annexure-XIII**.

**3.2 Details of last modifications if any (for the previous approved period) of approved MP/SOM, indicating date of approval, reason for modification: Nil.**

**3.3 Give review of earlier approved proposal (if any) in respect of exploration, excavation, reclamation etc:**


**Exploration:**

It was proposed to drill 10 core boreholes during the Scheme period of 2013-14 and 2014-15. Against which no exploration was carried-out as the mining operations were not resumed as the R&R work is in progress as per the approved R&R Plan.

**Excavation:**

Mining operations are confined on the hill top. The method of mining is opencast mechanized. There is only one pit in the mining lease area with 800m length x 190m width x 117m depth. Bench height of 8m and width of 9.5m in accordance with the provision of MMR-1961.

**Table - 6:** The details/review of production and development from 2011-12 to till date are as follows;



Year	Production in tons			Development in tons		
	Proposed	Achieved	Deviation	Proposed	Achieved	Deviation
2011-12	No proposals in the approved Scheme of Mining					
2012-13						
2013-14	84,000	Nil	-100%	202,000	Nil	-100%
2014-15	84,000	Nil	-100%	94,525	Nil	-100%
2015-16	84,000	Nil	-100%	143,875	Nil	-100%

**Reasons for deviation:** Mine was not under operation during the scheme period because of blanket ban of Iron Ore Mining in Bellary, Tumkur & Chitradurga Districts of Karnataka State by the Hon'ble Supreme Court and further for implementation of Reclamation & Rehabilitation works.

**Afforestation:**

In the approved Scheme of Mining, it was proposed to afforest encroached area, green-belt and along the road totaling over an area of 9.95 Ha. as mentioned in the approved R&R Plan. Accordingly, plantation was carried-out as per the approved R&R Plan.

**Backfilling:**

In the approved Scheme of Mining, it was proposed to backfill 1.66 Ha. of the iron ore exhausted pit. Backfilling was not done as the mining operations were not resumed as the R&R work is under progress as per the approved R&R Plan.

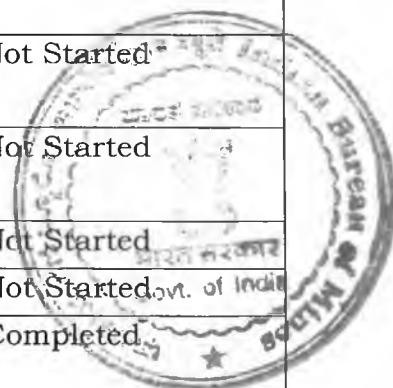
**Reclamation & Rehabilitation Plan:**

Brief details of measures suggested in approved R & R Plan and as on date status of implementation is tabulated below;

**Table - 7:** Details of approved Reclamation & Rehabilitation Measures proposed outside the Mining Lease Area

Sl. No.	Item	Dimension (L*T*B*H)	Status as on 01-May-2016
1)	Gulley Plugs (Small LBCD) (20 Nos)	4*1*2*1.5	5 Completed.
2)	Toe Wall-1RR Dry- (1nos)	1003*1*2*3	Completed.
3)	Toe Wall-5RR Masonry (1 No)	162*1*3*2	Not Started
4)	Stone Masonry Check Dam - 1 (1No.)	15*1*2*2	Completed.
5)	Stone Masonry Check Dam - 2 (1No.)	15*1*2*2	Completed.
6)	Stone Masonry Check Dam - 3 (1No.)	15*1*2*2	Started
7)	Stone Masonry Check Dam - 4 (1No.)	20*1*2*2	Completed.
8)	Stone Masonry Check Dam - 5 (1No.)	20*1*2*2	Completed

9)	Gabion Check Dam-GCD-1 (1No.)	10*2*3*2	Not Started
10)	Gabion Check Dam-GCD-2 (1No.)	10*2*3*2	Not Started
11)	Gabion Check Dam-GCD-3 (1No.)	10*2*3*2	Not Started
12)	Gabion Check Dam-GCD-4 (1No.)	15*2*3*2	Not Started
13)	Gabion Check Dam-GCD-5 (1No.)	15*2*3*2	Not Started
14)	Garland Drains (1Nos)	960*1.5*1	Not Started
15)	Silt Settling Tank-SST-1 (1Nos)	20*10*3	Completed
16)	Silt Settling Tank-SST-2 (1Nos)	20*10*3	Not Started
17)	Silt Settling Tank-SST-3 (1Nos)	20*10*3	Not Started
18)	Silt Settling Tank-SST-4 (1Nos)	20*10*3	Not Started
19)	Silt Settling Tank-SST-5 (1Nos)	20*10*3	Not Started
20)	Silt Trap-ST-1(1Nos)	10*5*2.0	Not Started
21)	Silt Trap-ST-2(1Nos)	10*5*2.0	Not Started
22)	Loose Boulder Check Dam-1 (1Nos)	15*2*3*2	Completed
23)	Loose Boulder Check Dam-2 (1Nos)	12*2*3*2	Not Started
24)	Loose Boulder Check Dam-3 (1Nos)	10*2*3*2	Completed
25)	Loose Boulder Check Dam-4 (1Nos)	12*2*3*2	Not Started
26)	Loose Boulder Check Dam-5 (1Nos)	12*2*3*2	Not Started



**Table - 8:** Details of approved Reclamation & Rehabilitation Measures proposed inside the Mining Lease Area:

Sl. No.	Item	Dimension (L*T*B*H)	Status as on 01-May-2016
1)	Gulley Plugs (Small LBCD) (80 Nos)	4*1*2*1.5	Not Started
2)	Toe Wall-1 (1nos)	531*1*2*3	Started
3)	Toe Wall-2 (1nos)	628*1*2*1.5	Completed
4)	Toe Wall-3 (1nos)	551*1*2*1.5	Completed
5)	Toe Wall-4 (1nos)	290*1*3*2	Started
6)	Garland Drain (1nos)	1480*1.5*1	Started, 664m completed.
7)	Garland Drain along approach road (1nos)	3000*1.5*1	Started
8)	Brush wood Check dam (30 Nos)	3*1.5*2.0	Not Started
9)	Brush wood Check dam (40Nos)	4*1.5*2.0	Not Started
10)	Brush wood Check dam (50Nos)	5*1.5*2.0	Not Started
11)	Log Wood Check Dams (20Nos)	5*2.0*1.0	Not Started
12)	Log Wood Check Dams (15Nos)	6*2.0*1.0	Not Started
13)	Log Wood Check Dams (12Nos)	7*2.0*1.0	Not Started
14)	Log Wood Check Dams (10 Nos)	8*2.0*1.0	Not Started



Other Measures;

1)	Afforestation along haul Road	2.0 km	Started
2)	Afforestation of mined-out pit	27.41 Ha.	No mined out pit for afforestation
3)	Geo-coir matting on slopes of inactive dumps	-	Completed

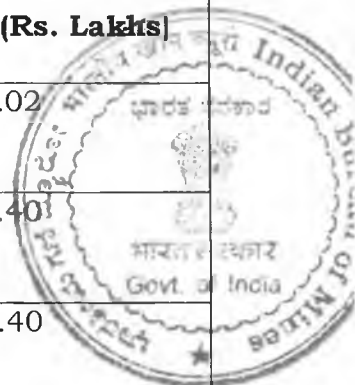
Photographs of mine workings, boundary pillars, R&R work etc is enclosed vide **Annexure-XIV**.

**Reasons for delay in implementation of approved R&R Plan:**

R&R works were delayed because of financial constraints due to delay in release of Iron ore sale proceedings by the Monitoring Committee.

**Table-9:** The breakup of the indicative cost is given below;

Sl. No.	Items	Total Cost (Rs. Lakhs)
1.	Cost for rehabilitation of encroachment area	76.02
2.	Engineering structures for OB dump management	98.40
3.	Engineering structures for surface water management	22.40
4.	Afforestation of area under haul road	1.60
5.	Afforestation of area (mining area including backfilling area & infrastructure + area for inactive dumping + virgin area)	47.70
6.	Afforestation of area under green belt	3.70



7.	Social Management Plan (SMP), Biodiversity Management Plan (BMP), Monitoring and implementation of R&R plan, capacity building, infrastructure etc.	15% of the annual sale proceeds from the mines, in respect of "Category-B" mine, may be transferred to SPV for the purpose of taking-up various ameliorative and mitigative measures in district Bellary or as decided by task force to be constituted as per the recommendation of Macro-level EIA report and the direction of honorable Supreme Court of India for implementation of R&R plan and EMP.
GRAND TOTAL		Rs. 249.82 Lakh, Excluding the cost of SMP, BMP, Monitoring, etc. as mentioned at Item No.7 above

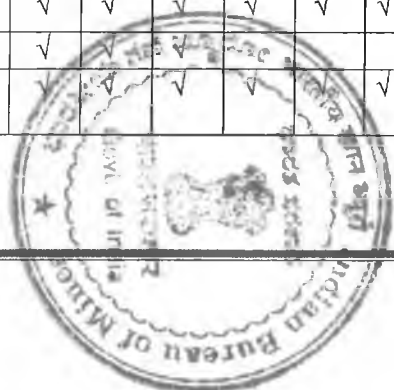
Note: The cost proposed of R&R is indicative and may vary based on actual dimensions of the proposed engineering structures, common schedule rate of Karnataka.





**Table-10:** Tentative implementation schedule of mitigation/engineering measures are tabulated below;

Type	Particulars of work	Years																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
<b>Dump Management</b>																					
<b>Inactive</b>	Toe wall at the toe of waste dump	√																			
	Garland drain	√																			
	Silt settling tank	√																			
	Silt trap	√																			
<b>Plantation on Encroached area as per CEC</b>		√	√	√																	
<b>Surface water management</b>																					
<b>Gully plugs</b>	Brush wood	√																			
	Log wood	√																			
<b>Check dams</b>	Loose boulder check dams	√																			
	Gabion/wire crate check dam	√																			
	Stone masonry check dam cement sand mortar (1:6)	√																			
<b>Greenbelt development</b>		√	√	√																	
<b>Afforestation</b>		√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
<b>Avenue plantation on roads</b>		√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
<b>Environmental monitoring &amp; watch -ward</b>		√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√



**3.4 Give status of compliance of violations pointed out by IBM:**

- a) Violation of Rule 45 of MCDR (Amendment) 2011 for non-submission of Annual Returns-online/offline was issued vide Letter No.281/58/2011/BNG/1990 dated 21/09/2015.

Annual Returns were submitted vide our letter No. Auro/IBM/AR/2015-16 dated 01.10.2015 and also online.

Copy of the above violation letter and acknowledgment towards compliance of the same are enclosed vide **Annexure-XV**.

**3.5 Indicate and give details of any suspension/closure/prohibitory order issued by any Government agency under any rule or Court of law:**

The Hon'ble Supreme Court of India imposed blanket ban on iron ore mining and transportation in Bellary, Tumkur and Chitradurga districts of Karnataka State on 29-July-2011. Accordingly mining operations were stopped.

**3.6 In case the MP/SOM is submitted under rules 9 and 10 of the MCDR'88 or under rule 22(6) of the MCR'1960 for approval of modification, specify reason and justification for modification under these rules:**

Not Applicable.



## **PART-A**

### **1.0 GEOLOGY AND EXPLORATION:**

- a) **Briefly describe the topography, drainage pattern, vegetation, climate, rainfall data of the area-applied/mining lease area:**

#### **Topography of Buffer zone:**

The buffer zone area is rugged hilly terrain with alternate spurs & valleys and attains an altitude between 450 to 972 m above M.S.L. The lease area is approachable from Hospet. Hospet is located at about 11 kms away (by road) from the lease boundary. The hills contain erosion resistant rocks like Banded Hematite Quartzite (BHQ), Banded Hematite Jasper (BHJ), Phyllites and Argillites etc. The area has sub-dendritic pattern of drainage.

#### **Topography of Core zone:**

The mining lease area is on the hill top in NEB Range, near Kallahalli Village, Hospet Taluka, Bellary District. The highest elevation is towards North-East part of the lease having 853m and the lowest is 705m towards South-West part of the lease area above MSL.

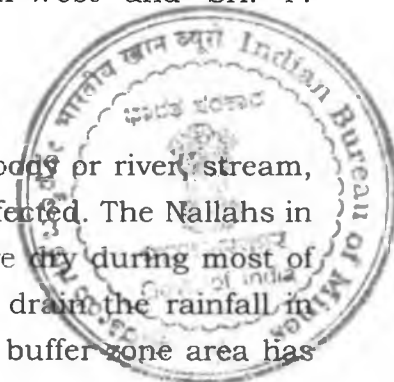
The lease area is surrounded by forest and other mining leases leased to Sri. K.R. Kaviraj towards North-West and Sri. P. Venganna Setty & Bros. towards South-East.

#### **Drainage Pattern:**

Lease area does not have any natural water body or river, stream, etc. hence surface water regime remains unaffected. The Nallahs in the lease area are seasonal in nature and are dry during most of the time. In other words, these nallahs will drain the rainfall in and around the area, only during rains. The buffer zone area has sub-dendritic pattern of drainage.

#### **Climatic Conditions:**

Bellary district is a part of the Northern maiden region with an extensive undulating plateau. The climate of the mine lease area is mainly semi-arid type with dry and hot summer. The climate is influenced by South-West and North-East monsoons. The district is known for hot summer and very dry weather for a major part of



the year, and the temperature varies between 13° C and 43° C. The predominant wind direction is from South-West to North-East. The relative humidity of the region varies from 38% to 95%.

**Rainfall:**

The annual rainfall in Sandur varied from 443 mm to 1,420 mm with an average rainfall of 870.7mm. The rainfall is mostly (60.22%) confined to the period from June to September. During South-West monsoon, October to November receives 22.21% of the annual rainfall and another 17.57% of rainfall occurs as sporadic in other months of the year.

**b) Brief descriptions of Regional Geology with reference to location of lease/applied area:**

The Bellary-Hospet region forms a part of the 'Sandur Schist Belt'. These rock formations belonging to Iron ore stage of Dharwar group of Precambrian schistose rock. The lithological units include green stones which are the metamorphosed basic igneous rocks occupying the valley regions, with Phyllite - quartzite's forming the canoe-shaped amphitheater of hills, trending NNW-SSE and enclosing Sandur. The Phyllites are locally Shaly and the Quartzite's are of the nature of Banded Hematite Jaspers, and Banded Hematite Quartzite's, inter banded with each other.

The Banded Hematite Jaspers, the important source rocks for the iron ores in the area are prominent in the Northern and Western part of the ranges, where as the associated Shales become prominent in the Southern and Eastern parts of the area. The iron ores form a capping over the quartzite's and Shales and overlie a sequence of Manganiferous Phyllitic rocks. Lateritisation is widespread in most of the flat topped ridges.

Structurally, the Sandur hills form a tightly folded synclinorium, plunging gently to NNW and the hill ranges broadly delineate the folded limbs of synclines, with close repetition of strata due to minor folds. The strike of the ore bodies is generally parallel to the trend of the hill ranges and dips are often steep, being vertical at number of places. Opposing dips towards NE and SW are found in the Ramandurg and NEB ranges respectively.

The iron ore deposits of NEB range form a part of the Bellary-Hospet group of iron ore deposits and occupy the Northern tip of Sandur Synclonorium. These deposits lie on the Northern flanks of Sandur basin.

**c) Detailed description of geology of the lease area such as shape and size of the mineral/ore deposit, disposition various litho-units indicating structural features if any etc:**

The Mining block is located in the NEB range of Sandur schist belt. The Iron ore formations are due to leaching process of BHQ. Iron ore formation is irregular habit. Both hanging wall and foot wall are generally ferruginous shale but towards footwall side is followed by Banded Hematite Quartzite. The strike direction of ore body as well as litho units is NW- SE, dipping towards SW by 70° to 75°.

Four reefs occur in the lease area. First reef is located towards Western side with strike length of 450m and average width of 20m, nature of ore is lumpy with phyllitic intrusions. The second reef is located towards Northern side of first reef with strike length of 160m and average width of 15m. Third reef is in the central part of South-East with strike length of 260m and average width of 10m. Fourth reef is towards North of third reef exposed in patches with total strike length of 60m and average width of 10m, type of ore body occurs as lumpy and powdery. Contacts of ore with the associated formation, repetition of beds and local folding is noticed in the lease area. The wall rocks of this area are phyllites and structural controls are BHQ's, which stands along the ridge of the eastern part of the lease area. The average grade of iron ore available from this mine is 58-60% Fe and lumps to fines ratio is about 1:3.

**d) (i) Name of prospecting /exploration agency:**

M/s. Auro Minerals.

**(ii) Address:**

# 322/3,2nd Floor,  
Sree Sapthagiri Enclave,  
College Road, Hospet 583 201,  
Bellary District, KARNATAKA.

**(iii) E mail address and Phone No.:**

E-mail: auro.hspt@gmail.com

Phone No.: 08394 – 224998.

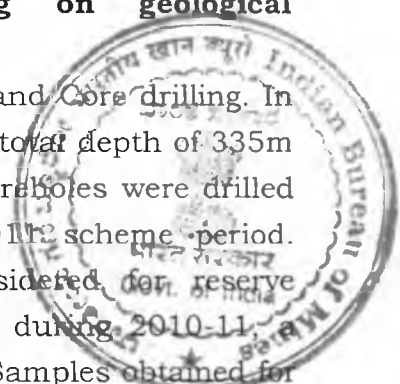
**e) Details of prospecting/exploration already carried-out :**

**i) Number of pits and trenches indicating dimensions, spacing etc along and across the strike/ foliation with reference to geological plan:**

Mining operations are carried-out on hill top and along the hill slope in the mining lease area and only one pit has been developed. Present dimension of the pit is 800m length and 190m width. A total of 15 benches were developed along & across the strike with top RL of about 853m and the bottom RL of 736m. Iron ore is exposed at places in the pit shown on Geological Plan. Geological Plan is enclosed vide **Plate No. 4**.

**ii) Number of boreholes indicating type (Core/RC/DTH), diameter, spacing, inclination, Collar level, depth etc with standard borehole logs duly marking on geological plan/sections:**

The mine has been proved by extensive DTH and Core drilling. In the past, 10 DTH boreholes were drilled for a total depth of 335m during 2001-2006 plan period and 5 DTH boreholes were drilled for a total depth of 260m during 2006-2011 scheme period. However, these DTH holes were not considered for reserve estimation as per UNFC guidelines. Further during 2010-11, total of 15 core bore holes have been drilled. Samples obtained for every 2 meters depending upon the formation. The samples drawn are analyzed for Fe, Mn, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, P, combine water (LOI) and specific gravity. About 2.18 million tons of mineral reserves/resources are estimated. The details of core drill holes are given below;



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**Table - 11:** Details of drilled bore holes;

Drill hole No.	Type of Drill	Location	Collar Level in RL's	Depth (m)
BH-2	Core	653451E,1682964N	777.6m	53.5m
BH-3	Core	653516E,1682997N	803.6m	40m
BH-4	Core	653574E,1682954N	817.4m	40m
BH-5	Core	653555E,1682901N	794m	66.7m
BH-7	Core	653570E,1682789N	760m	77.9m
BH-8	Core	653588E,1682805N	787m	50m
BH-9	Core	653639E,1682856N	822m	40m
BH-10	Core	653702E,1682792N	826.9m	40m
BH-11	Core	653655E,1682738N	785m	87m
BH-12	Core	653693E,1682718N	783m	39m
BH-13	Core	653862E,1682658N	841m	40m
BH-15	Core	653938E,1682577N	828m	50m
BH-16	Core	653875E,1682542N	786.3m	40m
BH-17	Core	653999E,1682526N	824.1m	40m
BH-18	Core	654003E,1682513N	804.4m	70m

All the above said core boreholes are inclined at 60°. Locations of the core drill holes are marked on Geological Plan enclosed vide **Plate No. 4** and Geological Sections vide **Plate No. 5**. Photographs in support of the core drilling is enclosed vide **Annexure-XVI**. Bore hole logs are enclosed vide **Annexure-XVII**.

**iii) Details of samples analysis indicating type of sample:**

A total of 15 core boreholes have been drilled for a total meterage of 774.10m and samples obtained for every 2 meters depending upon the formation. The samples drawn are analyzed for Fe, Mn, SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, P, combine water (LOI) and specific gravity. Copy of the analysis reports from NABL accredited laboratory is enclosed vide **Annexure-XVIII**.

**iv) Expenditure incurred in various prospecting operations:**

About Rs. 3,500/meter incurred towards core drill. Thus Rs.27.10 Lakhs towards drilling. In addition to this, Rs. 925/sample for chemical analysis i.e. about 350 samples were analysed and expenditure is Rs. 3.24 Lakhs (Note: Expenditures are assumed).



- f) **The surface plan of the lease area may be prepared on a scale of 1: 1000 or 1: 2000 with contour interval of maximum of 10 m depending upon the topography and size of the area duly marked by grid lines showing all features indicated under Rule 28(1)(a) of MCDR 1988:**

The Surface Plan of the lease area is prepared in 1:2,000 scale with 5m contour interval and enclosed vide **Plate No. 3** as Surface plan.

- g) **For preparation of geological plan, surface plan prepared on a scale of 1: 1000 or 1: 2000 scale specified under para 1.0 (f) of Part A of the format may be taken as the base plan:**

Based on the exploration data and face mapping, Geological Plan is prepared in 1:2,000 scale and enclosed vide **Plate No. 4**. For preparation of Geological Plan, Surface Plan prepared on a scale of 1:2,000 scale is taken as the base plan. The locations of exploratory boreholes drilled are marked on the Geological Plan along with other features.

- h) **Geological sections may be prepared on natural scale of geological plan at suitable interval across the lease area from boundary to boundary:**

Geological sections at 30m interval across the lease area from boundary to boundary are prepared in 1:2,000 scale and enclosed vide **Plate No. 5**.

- i) **Broadly indicate the future programme of exploration with due justification taking into consideration the future tentative excavation programme planned in next five years as in table below:**

The G1 level of exploration is considered where the drilled boreholes spacing in grid pattern is not exceeding 100m, G2 level of exploration where the drilled boreholes spacing in grid pattern is more than 100m & not exceeding 200m whereas G3 level of exploration is considered where in the spacing in grid pattern is exceeding 200m & upto 300m. Lateral extension is considered

depending on the geological considerations supported by the geological continuity by surface geological mapping upto 50% of grid interval from the core drill hole. Total mineralized area within the mining lease area is about 15 Ha.

At present, about 2.18 million tons of iron ore reserves/resources are estimated. Considering the annual production of 0.084mtpa (84,000 tons per year) fixed by the ICFRE, only 0.50 million tons of iron ore i.e. 23% can be producible upto 22.05.2021 (i.e. end of the lease period). However, it is proposed to continue the exploration to upgrade the level of exploration as well as to confirm the non-mineralized area for backfilling.

**Table-12:** The details of future tentative exploration programme planned in next scheme period are tabled below;

Year	No. of boreholes (Core/RC/DTH)	Grid Interval	Total Meterage	No. of Pits, dimensions and volume	No. of Trenches, dimensions and volume
2016-17	5 RC	100	290m	Nil	Nil
2017-18	3 Core	100	180m	Nil	Nil
2018-19	2 Core	100	120m	Nil	Nil

**Table-13:** Locations of proposed boreholes are tabled below;

Year	Borehole ID	Location	Meterage
2016-17	PBH-1	1682470N / 653980E	50m
	PBH-2	1682515N / 653930E	60m
	PBH-3	1682605N / 653910E	60m
	PBH-4	1682570N / 653850E	60m
	PBH-5	1682650N / 653790E	60m
2017-18	PBH-6	1682695N / 653715E	60m
	PBH-7	1682830N / 653565E	60m
	PBH-8	1682890N / 653595E	60m
2018-19	PBH-9	1682915N / 653470E	60m
	PBH-10	1683005N / 653430E	60m

(Datum: WGS 84)

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The above proposed boreholes are inclined at 60° and against the dip direction. Depth of the borehole is subject to formation at the location and capacity of drilling machine. Locations of the proposed boreholes are marked on the Geological Plan vide **Plate No. 4**.

**Proposed Expenditure:** Average Rs. 2,500/meter will be incurred towards core/RC drill. Thus Rs. 15 Lakhs towards drilling. In addition to this, Rs. 1,000/sample for chemical analysis i.e. about 300 samples will be analysed and expenditure will be Rs. 3 Lakhs.

**j) Reserves and Resources as per UNFC with respect to the threshold value notified by IBM may be furnished in a tabular form as given below:**

The latest Scheme of Mining was approved on 13.09.2013. (Approval Letter No.KNT/BLR/MS/Fe-119-SZ).

**Table-14:** Reserves and resources as per last approved Scheme of Mining are as follows;

Classification	UNFC Code	Quantity (Tonnes)	Fe Grade
<b>Mineral Reserve</b>			
1) Proved Mineral Reserve	111	536,792	+45%
2) Probable Mineral Reserve	121 and 122		
<b>Total Mineral Reserves</b>		<b>536,792</b>	
<b>B. Remaining Resources</b>			
3) Feasibility Mineral Resource	211		
4) Pre-feasibility Mineral Resource	221 and 222		
5) Measured Mineral Resource	331	153,058	+35%
6) Indicated Mineral Resource	332		
7) Inferred Mineral Resource	333	1,847,186	+45%
8) Reconnaissance Mineral Resource	334		
<b>Total Mineral Resources</b>		<b>2,000,244</b>	
<b>TOTAL MINERAL RESERVES/RESOURCES (A+B)</b>		<b>2,537,036</b>	

Area explored under different level of exploration are marked on the Geological Plan and enclosed as **Plate No. 4**. UNFC code for area considered for different categories of reserve/resources estimation is marked on Geological cross sections enclosed as **Plate No. 5**.

In case of Proved Mineral Reserves, mineralized area has been demarcated based on the results of sub-surface exploration data in grid pattern not exceeding 100m spacing and upto the bottom of core drill holes (G1 level of Exploration). Lateral extension is considered depending on the geological considerations supported by the geological continuity by surface geological mapping upto 50% of grid interval from the core drill hole. Iron ore considered under this category can be completely mineable by open cast mechanized method of operation and chemical analysis of the samples indicates the grade is also feasible for marketing.

Probable Mineral Reserves are considered based on the depth projection upto depth of existing pit and lateral extension upto 100m. Whereas Inferred Mineral Resources are considered where in the spacing in grid pattern is exceeding 200m & upto 300m and feasibility depends on conformity of ore zone.

Section-wise, level-wise quantity details of Ore, sub-grade ore, siliceous ore and waste in tabular form are enclosed vide **Annexure-XIX**.

Justifications for assigning the UNFC code is enclosed vide **Annexure-XX**. Feasibility Report is enclosed vide **Annexure-XXI**. Cut-off grade for iron ore is +45% Fe as per the threshold value of iron ore notified by IBM. Grade of the iron ore varies from +45% to 64% Fe. The end-use grade is +55% Fe. BHQ/Siliceous ore generated will be stacked separately. Grade of BHQ varies from +30% to 40% Fe.

**k) Furnish detailed calculation of reserves/resources section wise:**

Reserves/resources are re-estimated using the cross sectional area method considering UNFC Guidelines and as per Minerals (Evidence of Mineral Contents) Rules, 2015. The geological cross sections are prepared at an interval of 30mts, across the strike of the ore body. Experiences gained in this type of deposits, borehole data, actual mining etc., are considered for preparation of the Geological cross sections. The area of individual litho-units in each cross section under each category is measured separately &



multiplied with sectional interval and tonnage is arrived by multiplying with its in-situ density. The in-situ density considered as 3.20t/m<sup>3</sup> for ore, 2.50t/m<sup>3</sup> for BHQ and 2.0t/m<sup>3</sup> for waste. Recovery of the iron ore is considered as 80% and balance 10% is sub-grade & 10% is mineral reject based on the previous working experience in this mine. Grade of the sub-grade mineral is considered from 45-50% Fe. The mineral rejects are intercalated waste in the ore zone. Cut-off grade for iron ore is +45% Fe as per the threshold value of iron ore notified by IBM. The Tonnage is calculated using the following formula;

$$\text{Tonnage} = \text{Volume (V)} \times \text{In-situ Density} \times \text{Recovery \%}$$

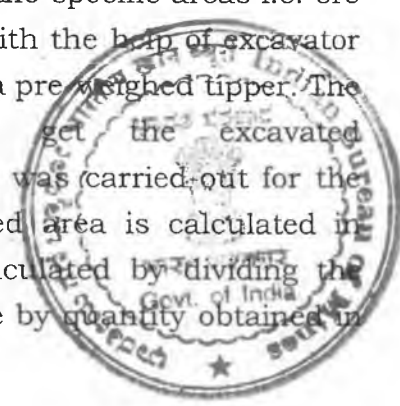
Where V = A x L

Here A = Area of the cross section

L= Sectional influence on both sides of the section

In-situ Density in tons/m<sup>3</sup>

(In-situ density is considered based on the test carried-out in the field. Pre-level survey was carried-out for the specific areas i.e. ore zone, waste area. The area is excavated with the help of excavator and the excavated material is loaded into a pre weighed tipper. The tipper is weighed once again to get the excavated quantity/tonnage. Then post-level survey was carried-out for the same area and the quantity of excavated area is calculated in cubic meters. The in-situ density is calculated by dividing the quantity obtained in tons at Weigh Bridge by quantity obtained in cubic meter).



1) **Mineral Reserves/Resources:**

**Table - 15:** Reserves/Resources as per level of exploration;

Level of Exploration	Iron Ore (million tons)	BHQ (million tons)
G1 - Detailed exploration	0.35 (Grade: +45% Fe)	0.21 (Grade: 35% Fe)
G2 - General Exploration	0.26 (Grade: +45% Fe)	0.26 (Grade: 35% Fe)
G3 - Prospecting	1.57	0.71
G4 - Reconnaissance	-	-

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**Resources and Reserves within the lease are arrived after applying results feasibility/pre-feasibility study and economic evaluation of deposit based on various factors such as:**

- a) **Mining method, Recovery factor, mining losses, processing loss etc:** Open cast – Mechanized Method, 80% recovery of ore is considered from ore zone considering the mining/handling loss.
- b) **Cut-off grade, Ultimate pit depth proposed:** Cut-off grade for iron ore is considered as 45% Fe and ultimate pit dimension will be 800m length, 200m width and 117m depth. Workings are expected to reach upto 736m above MSL.
- c) **Mineral/ore blocked due to benches, barriers, pillars, road, railway, river, nala, reservoir, electric line and other statutory barriers etc, under forest, sanctuaries etc where necessary permissions are not available:** Part of the reserves blocked due to boundary barrier zone/safety zone and systematic pit slope maintenance etc are considered under the resource category.

The category-wise reserves and resources re-assessed as per the UNFC guidelines and as per the Minerals (Evidence of Mineral Contents) Rules, 2015 is tabulated below:



**Table – 16:** Reserves/Resources Classification as on 01-04-2016;

Classification	UNFC Code	Fe: +45%	
		Iron Ore Quantity (Tonnes)	BHQ (Avg. Quantity (Tonnes))
<b>Mineral Reserve</b>			
1) Proved Mineral Reserve	111	347,328	--
2) Probable Mineral Reserve	121 and 122	258,163	--
<b>Total Mineral Reserves</b>		<b>605,491</b>	<b>--</b>

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<b>B. Remaining Resources</b>			
3) Feasibility Mineral Resource	211	--	--
4) Pre-feasibility Mineral Resource	221 and 222	--	--
5) Measured Mineral Resource	331	--	205,875
6) Indicated Mineral Resource	332	--	256,050
7) Inferred Mineral Resource	333	1,570,234	714,450
8) Reconnaissance Mineral Resource	334	--	--
<b>Total Mineral Resources</b>		<b>1,570,234</b>	<b>1,176,375</b>
<b>TOTAL MINERAL RESERVES/RESOURCES (A+B)</b>		<b>2,175,725</b>	<b>1,176,375</b>

**Note:** It may not be possible to quantify grade wise reserves, as normally there is considerable variation in size and grade distribution within the ore zone, which results variable recovery factor and bulk density. Thus tonnages arrived are tentative.

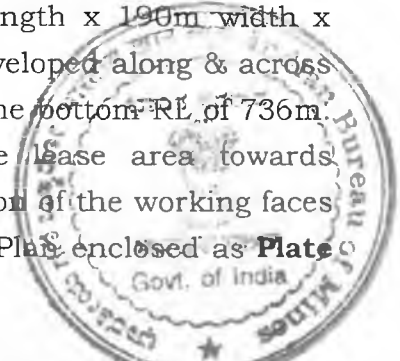
## 2.0 MINING:

### A. OPEN CAST MINING:

- a) Briefly describe the existing as well as proposed method for excavation with all design parameters indicating on plans /sections:

Presently, the subject mine is not under operation. Mine was worked by open cast mechanized method using drilling and blasting. The entire ore body has been opened. There is only one pit in the mining lease area with 800m length x 190m width x 117m depth. A total of 15 benches were developed along & across the strike with top RL of about 853m and the bottom RL of 736m. Waste generated was dumped inside the lease area towards Western part in terraces. The present position of the working faces are shown on Surface Plan and Geological Plan enclosed as **Plate No. 3 & Plate No. 4** respectively.

It is proposed to work the iron ore deposit in depth at the existing workings, by open cast mechanized method of mining. Drilling and blasting will be carried-out. The benches will be worked across and along the strike in benches of 8m maximum height and width is more than the height (about 9.5m) where as working bench width will be maintained about 10m.





The mine is proposed to achieve maximum production level of 0.084 mtpa during the scheme period. Iron ore extracted will be stacked at the designated place. Waste generated will be loaded into 10/16 ton tippers and carried to the pre-designated area. Waste generated will be backfilled temporarily in continuation to the existing active dump towards North-East to a maximum height of 30m. Over all stripping ratio is 1:1.68 and for scheme period 1:1.10. The road gradients of 1 in 16 will be maintained as per MMR 1961. It is proposed to work in general shift of 8hrs. Occasionally working will be extended upto day light hours.

**b) Indicate year-wise tentative Excavation in Cubic Meters indicating development, ROM, pit wise as in table below:**

**I. In-situ Tentative Excavation:**

**Table - 17:** Details of in-situ Excavation;

Year	Pit No.	Total tentative Excavation (cum)	Top Soil (m <sup>3</sup> )	OB/SB/IB (m <sup>3</sup> )	ROM (m <sup>3</sup> )		BHQ (m <sup>3</sup> )	ROM/Waste Ratio
					Iron Ore*	Sub-grade		
2016-17	1	56,167	-	26,407	26,250	-	3,510	1: 1.1
2017-18	1	75,937	-	35,977	26,250	-	13,710	1: 1.9
2018-19	1	50,407	-	17,287	26,250	-	6,870	1: 0.9
2019-20	1	38,497	-	10,477	26,250	-	1,770	1: 0.5
2020-21	1	55,864	-	25,804	26,250	-	13,810	1: 1.1
TOTAL		276,872	-	115,952	131,250	-	29,670	1: 1.1

\* Tentative tonnage of the ore may be arrived by computing approximate bulk density and recovery factor as these data are variable and may be established on time series.

**Table - 18:** Details of year-wise Excavation in tons;

Year	OB/SB/IB (Tons)	Iron Ore (Tons)	BHQ (tons)	Total Handling (tons)
2016-17	52,814	84,000	8,775	145,589
2017-18	71,954	84,000	34,275	190,229
2018-19	34,574	84,000	17,175	135,749
2019-20	20,954	84,000	4,425	109,379
2020-21	51,608	84,000	9,525	145,133
TOTAL	231,904	420,000	74,175	726,079

Detailed calculation of year-wise, level-wise, section-wise excavation plan is enclosed vide **Annexure-XXII**.

**II. Dump rehandling (for the purpose of recovery of mineral):**

**Estimated available material (m<sup>3</sup>):** Not Planned at this stage.

**Table - 19:** Details of dump handling;

Dump identification No	Year-wise handling (cum)	Estimated recovery of saleable material (cum)*	Reject (cum)
Nil	Nil	Nil	Nil

\* Tentative tonnage of the saleable material may be arrived by computing approximate bulk density and recovery factor as these data are variable and may be established on time series.

- c) Enclose Individual year wise development plans and sections showing pit layouts, dumps, stacks of mineral reject, if any, etc in case of 'A' category mines. Composite development plans showing pit layouts, dumps, stacks of mineral reject, if any, etc. and year wise sections in case of 'B' category mines:

Individual year-wise development plans and sections showing workings are enclosed vide **Plate Nos. 6A to 6E & 7** respectively.

- d) Describe briefly giving salient features of the proposed method of working indicating Category of mine:

This mine comes under 'A' Category, Open-Cast, Mechanized. It is proposed to achieve maximum production level of 0.084mtpa during the scheme period. It is proposed to work the iron ore deposit in depth at the existing workings, by open cast mechanized method of mining. Drilling and blasting will be carried-out. It is proposed to work in general shift of 8hrs. Occasionally working will be extended upto day light hours.

- e) Describe briefly the layout of mine workings, pit road layout, the layout of faces and sites for disposal of overburden/waste along with ground preparation prior to disposal of waste, reject etc. A reference to the plans and sections may be given.

**UPL or ultimate size of the pit is to be shown for identification of the suitable dumping site:**

The benches will be worked across and along the strike in benches of 8m maximum height and width is more than the height (about 9.5m) where as working bench width will be maintained about 10m. Iron ore extracted will be stacked at the designated place. During the first 2 years of the scheme period, workings will be carried-out towards Eastern side of the pit to exhaust iron ore and facilitate backfilling as per the approved R&R Plan. Later from the third year of the scheme period, workings are proposed in the central part of the pit.

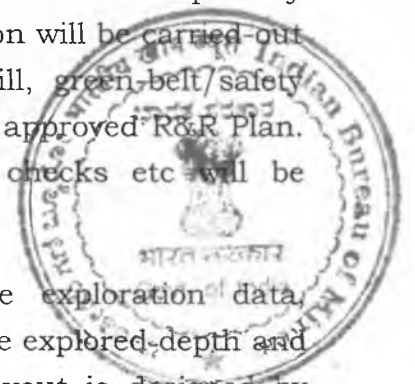
Waste generated will be loaded into 10/16 ton tippers and carried to the pre-designated area for temporary backfilling towards SEE between the co-ordinates 1682430N to 1682620N and 653870E to 654120E. About 2.40Ha. area is earmarked for temporary backfilling in-continuation to the existing dump within the lease area. The area selected for temporary backfilling is as per the approved R&R Plan due to constrains of suitable space of disposal, as unbroken/virgin forest area cannot be utilized. Maximum height of the temporary backfilling will be 30m during this scheme period. Terraces at 10m height will be made with berm of 8m width & inward slope of berms to avoid the speedy run-off during monsoon with over all slope of 28°. Toe wall and garland drains will be provided to arrest the surface run-off and wash-off from the dumps. Grass seedlings will be spread on the slopes during monsoon. Plantation will be carried-out on the inactive slopes with plant species suggested in the approved R&R Plan. Dump parameters & other protective measures in the approved R&R Plan will be strictly implemented. Over all stripping ratio is 1:1.68 and for scheme period 1:1.1. The road gradients of 1 in 16 will be maintained as per MMR 1961. Plans showing pit layout at the end of every year and sectional views showing production plan for 5 years is enclosed vide **Plate No. 6A to 6E** and **Plate No. 7** respectively.

**f) Conceptual Mine planning upto the end of lease period taking into consideration the present available reserves and resources describing the excavation, recovery of ROM, Disposal of waste, backfilling of voids, reclamation and rehabilitation showing on a plan with few relevant sections:**

Mining Lease Period ends on 22.05.2021 as per MMDR (Amendment) Act 2015. At present, about 2.18 million tons of iron ore reserves/resources are estimated. Considering the annual production of 0.084mtpa (84,000 tons per year) fixed by the ICFRE, only 0.50 million tons of iron ore i.e. 23% can be producible upto 22.05.2021 (i.e. end of the lease period). Recovery of the iron ore is considered as 80% and balance 10% is sub-grade & 10% is mineral reject based on the previous working experience in this mine. Over all stripping ratio is 1:1.68.

Existing pit will be worked further depth across and along the strike direction with benches of 8m maximum height and width is more than the height (about 9.5m) where as working bench width will be maintained about 10m. About 0.84 million tons of waste will be generated for entire life. Waste generated will be temporarily backfilled in the pre-designated area. Plantation will be carried out on the inactive slopes of the dumps/backfill, green-belt/safety zone area, along the road side etc as per the approved R&R Plan. Toe-wall, garland drain, check-dam, gully checks etc will be provided as per the approved R&R Plan.

Taking into consideration of the available exploration data, structural parameters of the ore body upto the explored depth and the updated geological mapping, final pit layout is designed by maintaining 35° pit slope and individual bench slope of 76° will be maintained. The ultimate pit dimension will be 800m length, 200m width and 117m depth. Conceptual Plan and Section showing the excavation, disposal of waste, reclamation and rehabilitation is enclosed vide **Plate No. 8**.



**Table - 20:** The total area put to use for various mining and associated activities are as follows.

Unit: Area in Ha.

Particulars	Present	Scheme Period	Conce- -ptual
Area for Mining	13.74	11.62	11.02
Storage for top-soil	--	--	--
Overburden dump	10.95	10.95	10.95
Backfilling	--	2.40	3.00
Mineral Storage/SGMD	0.56	0.56	0.56
Infrastructure (mobile office, canteen, weigh bridge, first aid room, rest shelter etc.,)	0.01	0.01	0.01
Roads	0.25	0.80	0.80
Drainage/Seasonal Nallah	--	--	--
Green-belt/boundary barrier	1.44	1.44	1.44
Environmental Protective Measures	--	0.60	0.60
Bio-diversity conservation area	--	1.00	1.00
Virgin area includes retaining wall	4.05	1.62	1.62
<b>Sub-Total</b>	<b>31.00</b>	<b>31.00</b>	<b>31.00</b>
Additional Area	1.05	1.05	1.05
<b>GRAND TOTAL</b>	<b>32.05</b>	<b>32.05</b>	<b>32.05</b>

**g) Extent of mechanization :**

**Table - 21:** A comprehensive list of mining machineries proposed to be deployed to achieve the proposed production is as follows;

Type of Machinery Make & Model	Capacity	Units	H.P.	Rate/Hr
<b>A. Drilling</b>				
Wagon Drill / Jack Hammer, Atlas Capco	115mm/ 37mm	1	-	16m/hr
Compressor, CP-300	300cfm	1	-	-
<b>B. Loading</b>				
Hydraulic Excavator, Tata Hitachi	0.9m <sup>3</sup>	2	210	120 t
Wheel Loader, Tata	1.2m <sup>3</sup>	2	150	150 t
<b>C. Haulage and Transport</b>				
Tippers, TATA	10/16 tons	11	100	-
Jeep, Tata Sumo	6+1	2	-	-

<b>D. Others/Miscellaneous</b>				
Water Tanker, TATA Truck	8,000Ltrs	1	120	
Mobile Crushing & Screening, Finely/Parker	150 TPH	1	-	-
Rock Breaker	-	1	-	-
Road Grader	-	1	-	-

The adequacy of the machineries is dealt below in detail.

**(i) Drilling Machines:**

Wagon Drill and truck mounted diesel driven compressor will be used for drilling.

The broad parameters for drilling and blasting are as follows;

- Size of the blast hole : 115mm diameter,
- Total depth of the blast hole : 9m including the sub-drilling of 1m,
- Spacing : 3m, Burden : 3m,
- Average In-situ density of ore and waste: 2.5tonnes/m<sup>3</sup>
- Powder Factor: 7 tonnes / Kg.
- Type of explosives: 83mm slurry explosive booster in conjunction with ANFO.
- Charge per hole : 25 Kg.
- Blasting Pattern : Staggered holes in two rows.



Maximum quantity of ore, BHQ and waste to be handled per annum during the scheme period = 84,000 + 34,275 + 71,954 = 190,229 tons.

About 50% of total handling may requires drilling & blasting i.e. 95,115 tons say about 100,000 tons per annum.

The amount of Drilling required is calculated as under.

The quantity of rock broken for hole of 9 m depth (including sub-drilling of 1m depth) = 3m x 3m x 8 m x 2.5 t/m<sup>3</sup> = 180 tons (Average Bulk density for both Waste and Ore is taken as 2.5tonnes/m<sup>3</sup>).

Therefore, Rock broken / Mtr = 180 t / 9 m = 20 tons/m.

Total meterage required for 100,000 tons = 100,000/20=5,000 m.

Normal capacity of Drilling Machine, in a shift of 8 hrs. with effective working hours of 7 hrs./day is found to be 100 m.

Therefore, for 300 working days/annum =  $300 \times 100 = 30,000$  m.

Hence, one drilling unit will be more than adequate. Additional availability of drilling machinery will be used in the sister concerned mines.

**(ii) Loading Equipments:**

Maximum quantity to be handled in a year =  $84,000 + 34,275 + 71,954 = 190,229$  tons.

Therefore, hourly production and development = 9 tons/hour.

Effective working hours = 7 hours/day and 300 days in a year.

Number of buckets required to load each 16 ton tipper =  $16 \text{ tons} \div 1.0 \text{m}^3 \times 2.0 \text{ t/m}^3 = 8$  buckets,

Considering bucket cycle time of 45 seconds, average time taken to load a tipper = 6 minutes.

Thus, capacity of Excavator =  $60 \text{min.} / 6 \text{ min.} \times 16 \text{ tons} = 160$  tons/hour. Thus, one Excavator is more than adequate. Additional availability of the Excavator will be used for rehandling the screened ore. Wheel loader will be used to spread the dump.

**(iii) Haulage and transport equipments:**

Dump plot/ore stockyard will be about 2 km away.

Number of trips = 2 trips per hour.

Effective working hours = 7 hours per day and 300 days in a year.

Tonnage transported per trip = 16 tons.

Capacity of each tipper per annum =  $32 \text{ tonnes} \times 7 \text{ hr/day} \times 300 \text{ days/year} = 67,200$  tons.

Max. no. of tippers required =  $190,229 / 67,200 = 2.83$  tippers say 3 tippers.

Hence, the proposed tippers in the mining site are adequate.

**(iv) Transport from mine-head to the destination:**

At present, entire sector is practicing e-auction and the buyer will arrange the transport from mine-head to the destination. However, in future, if the e-auction is withdrawn, Iron ore produced from the mines will be processed on dry screening plant on site and transported by hired tippers of 10 tons capacity to the destination which is likely to vary depending on the buyer. Number of hired tippers required will be decided as per the quantity & schedule to be delivered, time available and distance to be covered.

**(v) Miscellaneous:**

**(1) Operations:** Other activities related to mining are crushing & screening, dust suppression by water spraying etc.

**(2) Machineries deployed:** The following machineries are to be deployed for miscellaneous operations (**Table -22**).

Type of Machinery, Make & Model	Capacity	Units
Water Tanker, TATA Truck	8,000 Ltrs	1
Mobile Crushing & Screening Unit	150 t/hr	1
Rock Breaker	-	1
Road Grader	-	-

**C. UNDERGROUND MINING:** Not Applicable.

**3.0 MINE DRAINAGE:**

**a) Minimum and maximum depth of water table based on observations from nearby wells and water bodies:**

There is no well or surface water body within the mining lease area or nearby. In the buffer zone ground water is tapped for irrigation and drinking purpose. Ground water table is about 550m above MSL i.e. about 50m below the general ground level during summer.

**b) Indicate maximum and minimum depth of Workings:**

Presently a total of 15 benches were developed with top RL of about 853m and the bottom RL of 736m. Workings are expected to reach upto 736m above MSL only upto end of lease period.



**c) Quantity and quality of water likely to be encountered, the pumping arrangements and places where the mine water is finally proposed to be discharged:**

Mining lease is on the hill slope and mining operations were not intersecting the ground water table. Mining Lease area does not have any natural streams or river, etc. hence surface water regime remains unaffected. During monsoon, most of the rainwater from the mining lease will be channelized through proper drainage system. The entire mining operations are confined at the hill slope, which are above the ground water table. Hence, no ground water is likely to be encountered through-out the life of the mine.

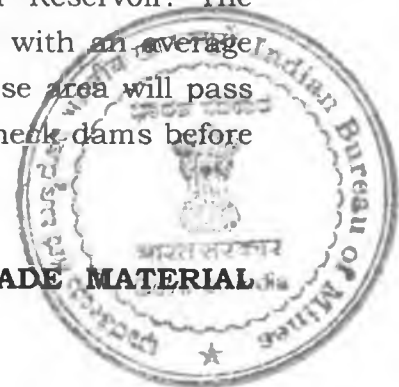
**d) Describe regional and local drainage pattern. Also indicate annual rain fall, catchments area, and likely quantity of rain water to flow through the lease area, arrangement for arresting solid wash off etc:**

The drainage pattern of the area is sub-dendritic in nature. During monsoon the rain water from the lease area is drained through the natural valleys and finally joins Tungabhadra Reservoir. The annual rainfall varied from 443mm to 1,420mm with an average rainfall of 870.7mm. The rain water from the lease area will pass through several gully plugs, settling tanks and check dams before joining the main stream outside the lease area.

**4.0 STACKING OF MINERAL REJECT /SUB GRADE MATERIAL AND DISPOSAL OF WASTE:**

**a) Indicate briefly the nature and quantity of top soil, overburden / waste and Mineral Reject to be disposed-off:**

It is proposed to work the iron ore deposit in depth at the existing workings, by open cast mechanized method of mining. Hence, there will not be any top-soil generation. The waste rock consists of laterite, shale, phyllite, siliceous clay, dyke clay, silica and altered intrusive etc.



**Table - 23:** Details of top-soil and waste handling;

Year	Top soil (cum)		Mineral Rejects/Waste (cum)			
	Reuse/spreading	Storage	Back-filling	Storage/Dump	Blending	BHQ Storage
2016-17	-	-	26,407	-	2,917	3,510
2017-18	-	-	35,977	-	2,917	13,710
2018-19	-	-	17,287	-	2,917	6,870
2019-20	-	-	10,477	-	2,917	1,770
2020-21	-	-	25,804	-	2,917	3,810
<b>TOTAL</b>	-	-	<b>115,952</b>	-	<b>14,585</b>	<b>29,670</b>

The average grade of BHQ generated will be about 35% Fe. BHQ generated during the normal production will be stacked separately at the area earmarked for the purpose and locations are shown on the enclosed year-wise Production and Development Plans vide **Plate No.6A to 6E**.

**Table - 24:** Location of dumping/temporary backfilling;

Year	Location of temporary backfilling	Location of BHQ Storage
2016-17	1682438N to 1682526N 654025E to 654114E	1682688N to 1682802N 653559E to 653656E
2017-18	1682452N to 1682547N 653974E to 654065E	1682677N to 1682722N 653623E to 653671E
2018-19	1682474N to 1682571N 653955E to 654052E	1682670N to 1682714N 653637E to 653680E
2019-20	1682490N to 1682590N 653915E to 654033E	1682663N to 1682709N 653647E to 653693E
2020-21	1682518N to 1682619N 653876E to 654012E	1682648N to 1682704N 653658E to 653695E

- b) The proposed dumping ground within the lease area be proved for presence or absence of mineral and be outside the UPL unless simultaneous backfilling is proposed or purely temporary dumping for a short period is proposed in mineralized area with technical constraints & justification:**

Waste generated will be backfilled temporarily towards SEE between the co-ordinates 1682430N to 1682620N and 653870E to 654120E within the mining lease area earmarked for the purpose upto a maximum height of 30m. About 2.40 Ha. area is earmarked

for temporary backfilling in-continuation to the existing dump within the lease area. The area selected for temporary backfilling is as per the approved R&R Plan due to constraints of suitable space of disposal, as unbroken/virgin forest area cannot be utilized. This area can accommodate about 4.5 Lakhs cubic meters which is more than adequate during the scheme period.

**c) Attach a note indicating the manner of disposal of waste, configuration and sequence of year wise build-up of dumps along with the proposals for protective measures:**

Waste generated at the mine will be transported to temporary backfilling site by 10/16 tonnes capacity tippers. A wheel loader will continuously be provided to level waste material unloaded by dumpers and spread laterally in the area earmarked. Continuous movements of tippers while unloading consolidate the ground. Clays will be covered with laterite before monsoon. Water will regularly be sprinkled in rounds over the temporarily backfill/dumps to control the blowing dust. Thus, with dozing/leveling, end tipping and consolidation, temporary backfill/dump will be built-up in stages.

While building-up temporary backfill/dumps are properly graded and terraced. Each stage of dumping will be maintained 10m height and natural angle of repose will be maintained to avoid sliding of slopes. Plantation will be carried-out on the inactive slopes of the waste dumps with local plant species. Retaining wall and garland drain will be provided along the toe of the temporary backfill to minimize the flow of silt during monsoon. Temporary backfill/dump slopes will be suitably protected from any environmental damages, by providing all the protective measures. The year-wise build-up of temporary backfill/dump is marked on year-wise production and development plan which is enclosed as **Plate No. 6A to 6E.**

**5.0 USE OF MINERAL AND MINERAL REJECT:**

**a) Describe briefly the requirement of end-use industry specifically in terms of physical and chemical composition:**

Nature of iron ore to be extracted from this mine is more suitable for steel making. The physical and chemical composition required by different industries is as follows;

**Table - 25:** Physical and Chemical Specifications;

Particulars	Physical	Chemical	Buyers
Calibrated Lumpy Ore	+10 to -30mm	Fe: 55-61%; SiO <sub>2</sub> : <7.5%, Al <sub>2</sub> O <sub>3</sub> : <3.5%; P: <0.10%, S: <0.05%; Mn: <0.50%.	Pig Iron Plants, Steel Plants.
Fines	-10mm	Fe: 55-62%; SiO <sub>2</sub> : <4%, Al <sub>2</sub> O <sub>3</sub> : <2.5%; P: <0.10%, S: <0.05%; Mn: <0.50%.	Steel Plants.
Low grade	-30mm	Fe: 45-55%; SiO <sub>2</sub> : <6.50%, Al <sub>2</sub> O <sub>3</sub> : <7.50%; P: <0.05%, S: <0.05%; Mn: <0.50%.	Beneficiation Plants

**b) Give brief requirement of intermediate industries involved in upgradation of mineral before its end-use:**

Upgrade the low grade iron ore to meet the above mentioned specifications of Steel Plants.

**c) Give detail requirements for other industries, captive consumption, export, associated industrial use etc:** At present iron ore dispatch through e-auction as per Monitoring Committee.

**d) Indicate precise physical and chemical specification stipulated by buyers:** Please refer above **Table - 25**.

**e) Give details of processes adopted to upgrade the ROM to suit the user requirements:**

There is no mineral processing other than dry crushing and screening. Dry crushing and screening will be done at the mine site using mobile plants to suit the buyer's requirement.



**6.0 PROCESSING OF ROM AND MINERAL REJECT:**

**a) If processing / beneficiation of the ROM or Mineral Reject is planned to be conducted, briefly describe nature of processing / beneficiation:** There is no processing / beneficiation of the ROM or Mineral Reject except dry crushing and screening. ROM produced will be processed in the mobile dry crushing and screening plant at mine site to make suitable for buyers.

In processing, the ROM will be fed by excavator to screen hopper through grizzly (70mm), the undersize from grizzly will be screened on a double duck screen to produce finished products (-10mm, +10mm). The over size (+70mm) from grizzly will be fed to Jaw crusher, the crushed ore will fed again to mobile screening plant to produce saleable products i.e. Fines -10mm, C-Ore +10mm to -40mm.

- b) Give a material balance chart with a flow sheet or schematic diagram of the processing procedure indicating feed, product, recovery, and its grade at each stage of processing:** Not Applicable.
- c) Explain the disposal method for tailings or reject from the processing plant:** Not Applicable.
- d) Quantity and quality of tailings /reject proposed to be disposed, size and capacity of tailing pond, toxic effect of such tailings, if any, with process adopted to neutralize any such effect before their disposal and dealing of excess water from the tailings dam:** Not Applicable. Waste generated during the production of iron ore will be dumped within the mining lease.
- e) Specify quantity and type of chemicals if any to be used in the processing plant:** Not Applicable.
- f) Specify quantity and type of chemicals to be stored on site / plant:** Not Applicable.



- g) **Indicate quantity (cum per day) of water required for mining and processing and sources of supply of water, disposal of water and extent of recycling. Water balance chart may be given:** Not Applicable.

**7.0 OTHER: Describe briefly the following:**

- a) **Site services:** The mine is well connected to the district and taluka headquarters by all weather roads and State Highways. The approach road is good and approachable in all seasons. Mine will be equipped with office, stores, first aid service, garage, canteen, weighbridge, rest shelter etc.

**b) Employment potential:**

**Table - 26:**Category-wise break-up of the man-power/employees is given below;

Category	Particulars	No. of employees
Highly Skilled	Manager cum Mining Engineer, Geologist	02
Skilled	Foreman, Mate, Machinery Operators, Supervisors	24
Semi-Skilled	Assistants/Helpers	06
Unskilled	Cleaners, Attenders	08
<b>Total</b>		<b>40</b>

Note: Employment potential is in accordance with Rule No. 42 (1) (c) (i) of MCDR 1988.

**8.0 PROGRESSIVE MINE CLOSURE PLAN UNDER RULE 23 OF MCDR'1988:**

**8.1 Environment Base line information:**

- a) **Existing land use pattern indicating the area already degraded due to mining, roads, processing plant, workshop, township etc in a tabular form:**

Entire Mining Lease area is in forest land and majority of the area in buffer zone is covered under forest. Maximum lease area is under mining & related activities (broken-up) and part i.e. about 4.05 Ha. of the lease area was kept untouched. The lease area is surrounded by forest and other mining leases leased to Sri.

K.R.Kaviraj towards North-West and Sri.P.VengannaSetty& Bros. towards South-East.The locations of the leases, surrounding villages, forest & revenue lands, roads, water body are shown on Key Plan enclosed vide **Plate No. 1**.

**Table - 27:** Detail of present land use is furnished in the below table:

<b>Particulars</b>	<b>Area in Ha.</b>
Area for Mining	13.74
Storage for top-soil	-
Overburden dump	10.95
Backfilling	-
Mineral Storage/SGMD	0.56
Infrastructure (mobile office, canteen, weigh bridge, first aid room, rest shelter etc.,)	0.01
Roads	0.25
Drainage/Seasonal Nallah	-
Green-belt/boundary barrier	1.44
Environmental Protective Measures	
Tailing Pond	
Effluent Treatment Plant	
Mineral Separation Plant	
Township Area	
Bio-diversity conservation area	
Virgin area includes retaining wall	4.05
<b>Sub-Total</b>	<b>31.00</b>
Additional Area	1.05
<b>GRAND TOTAL</b>	<b>32.05</b>

Environment Plan in 1: 5,000 scale showing details of mining lease area and surrounding upto 500m is enclosed vide **Plate No. 9**.

**b) water regime, quality of air, ambient noise level, flora, climatic conditions:**

**WATER REGIME:**

Surface Water Regime: There is no perennial water body, spring, river etc within the lease area.

Ground Water Regime: The expected depth of working during the scheme period is 736m above MSL. Mining will be carried-out on hill top and along the hill slope, expected to reach upto 736m above MSL only upto the end of the lease period. Mining will not touch/intersect the ground water table. The water table is about 50 m below the general ground level i.e. water table is at 550m above MSL. As such, water regime is not disturbed.

**WATER QUALITY:**

Ground Water Quality has been monitored during the mining operational period at 4 locations at Kallahalli borewell water, Rajapur borewell water, Kariganur borewell water, Mine borewell water. The analysis results shows all the parameters are within the permissible limits. Analysis results are enclosed vide **Annexure-XXIII**.

**QUALITY OF AIR:**

The major air pollution sources are:

- 1) Fugitive dust generated during drilling & blasting, excavation, loading & unloading, haulage of ore & rejection.
- 2) Gaseous emissions from combustion of fuel in haulage vehicles & earth moving machineries.
- 3) Screening & crushing operations.

Mine produces 0.084mtpa iron ore with average ore to overburden ratio of about 1:1.10. Rejection will be dumped on surface within the mining lease area.

For air quality monitoring, 4 stations (Mine area, Haulage Road, Crushing & Screening area, Drilling & Loading area) in core zone & 4 stations (Vadrahalli, Jaisingapura, Papinayakanahalli and Siddapuravillages) in buffer zone are selected taking into consideration the topography of the area & predominant wind direction and SPM, RPM, SO<sub>2</sub>&NO<sub>x</sub> are monitored during the mining operational period.

The general ambient air quality in the region is within the permissible limits. The air quality analysis results are given in **Annexure-XXIII**.





**AMBIENT NOISE LEVEL:**

Source of Noise in mine are heavy earth moving machineries & haulage tippers. Mining operations are carried out in general shift, i.e. from 8 am to 5 pm. To check out noise level generated due to machineries, noise monitoring carried-out at Mines Office, Crushing & Screening Area, Drilling Area, Loading Area, and Haulage Area.

Buffer Zone is quiet and peaceful except intermittent generation of noise by traffic of private vehicles and ore carrying vehicles of active mines of the region. To assess the noise level in the buffer zone, noise level was monitored continuously for 24hrs at 3 locations (Kallahalli, Rajapura and Kariganur villages) during the mining operational period. The observations made at the villages in the buffer zone show normal and are within the permissible limits. Details are enclosed vide **Annexure-XXIII**.

**FLORA:**

There is no forest or agricultural activity within the lease area. Being almost the entire lease area is broken; natural green cover does not exist in lease area except the plantation carried out by the lessee i.e. on waste dump, along the roadside. All these years, along with fast growing species such as *Accacia*, other local varieties have been planted.

Some of the tree species observed in and around the mining lease area are *Azadirachtaindica*, *Buteamonosperma*, *Cassia siamea*, *Chloroxylonsweitenia*, *Ficusbenghalensis*, *Hardwickiabinata* and *Morindapubescens*. Major shrub species noticed are *Cassia auriculata*, *Chromolaenaodorata*, *Dodonaeaviscosa*, *Lantana camara* and *Maytenusemarginata*. Common herbs found in the area include *Achyranthusaspera*, *Cassia occidentalis*, *Croton boplandianum*, *Lavandulapinnatifida*, *Tephrosiapurpurea*, *Vernoniacinerea*. Plants with climbing habit are represented by species like *Cocculushirsutus*, *Ipomoea staphylina* and *Passiflorafoetida*. Grasses found in the area in open places are *Aristidaadscensionis*, *Bothriochloapertusa*, *Brachiariareptans* and *Setariapumila*. Commonly found weeds are *Lantana camara* and *Partheniumhysterophorus*.



**FAUNA:**

In the core zone, birds like crows, insects, and butterflies can be sporadically sighted.

Some of the fauna observed in and around the mining lease area are Butterfly (*Atrophaneura hector*, *Castaliusrosimon*, *Ceporanerissa*, *Paranticaaglea*, *Euploea core*, *Hypolimnasmisippus*, *Lampidesboeticus*, *Megisba Malaya*), Herpetofauna (*Crosodyluspalustris*, *Lissemyspunctata*, *Python molurus*, *Ahaetullanasuta*, *Coelognathus Helena*, *Lycodanaulicus*, *BungaruscaeruleusNajanaaja*, *Ramphotyplopsbraminus*, *Chamaeleozeylanicus*, *Varanusbengalensis*, *Geocheloneelegans*), Birds (*Pavocristatus*), Mammals (*Macaca radiate*, *Semnopithecus entellus*, *Muntiacusmuntjak*, *Tetracerusquardicornis*, *Susscrofa*, *Pantherapardus*, *Felischaus*, *Lepusnigricollis*, *Hystrixindica*, *Funambuluspalmarum*).

**CLIMATIC CONDITIONS:**

Bellary district is a part of the northern maiden region with an extensive undulating plateau. The climate of the mine lease area is mainly semi-arid type with dry and hot summer. The climate is influenced by southwest and northeast monsoons. The district is known for hot summer and very dry weather for a major part of the year, and the temperature varies between 15°C and 43°C. The predominant wind direction is from South West to North East. The relative humidity of the region varies from 38% to 95%.

The annual rainfall in Sandur varied from 443 mm to 1420 mm with an average rainfall of 870.7mm. The rainfall is mostly (60.22%) confined to the period from June to September. During south west monsoon, October to November receives 22.21% of the annual rainfall, and another 17.57% of rainfall occurs as sporadic in other months of the year.

**c) human settlements:**

No villages/human settlements are situated within the lease area. Workmen and staff will come from the villages outside the leasehold. So there is no displacement involved.

**Table – 28:** The buffer zone consists of Hospet town and other 23 villages, along with attached hamlets. The details are as follows;

Sl.	Village	Population	Distance	Direction
01.	Ingaligi	1,948	4.70 km	N
02.	Kondanayakanahalli	--	7.00 km	N
03.	Malappanagudi	8,255	7.35 km	N
04.	MallappanagudiTanda	--	8.70 km	N
05.	NagenahalliTanda	--	8.90 km	N
06.	Benakapura	--	9.20 km	N
07.	Galammanagudi	--	9.00 km	N
08.	Vadrahalli	988	4.60 km	NE
09.	Papinayakanahalli	4,795	6.10 km	NE
10.	Siddapur	1,118	7.35 km	SSE
11.	Jaisingpur	1,814	3.20 km	S
12.	Venkatagiri	1,314	1.60 km	SSW
13.	Gunda	--	8.50 km	SSW
14.	GundaTanda	--	9.00 km	SSW
15.	Hanumnahalli	--	7.50 km	SW
16.	Dhanapura	5,083	8.00 km	SW
17.	Kallahalli	1,459	2.17 km	W
18.	Vyasanakere	2,228	8.00 km	W
19.	Rajapura	754	4.25 km	NWW
20.	Hospet	221,450	7.10 km	NW
21.	Kariganur	4,514	4.00 km	NNW
22.	Sankalapura	5,768	5.00 km	NNW
23.	Anantasayanagudi	3,654	6.90 km	NNW
24.	Bhattarahalli	--	7.80 km	NNW

The nearest habitation is at Venkatagiri village, which is situated at a distance of about 1.60kms towards South. All the population centers are provided with basic amenities like power, tapped drinking water, educational institutes, sport grounds etc & all the villages are connected by tar/metal road to each other. Facilities such as banking, primary health care & Post Office are available at Hospet, at a distance of about 11Km.

**d) Public buildings, places of worship and monuments:**

No public buildings, roads etc., no public places of worship exist within the leasehold. However, local temples/places of worship are located in the buffer zone villages.

**e) Indicate any sanctuary is located in the vicinity of leasehold:**

No sanctuary is located within the lease area or in the vicinity of leasehold.

**8.2 Impact Assessment:**

**i) Land area indicating the area likely to be degraded due to quarrying, dumping, roads, workshop, processing plant, tailing pond/dam, township etc:**

**Table - 29:** The total area put to use for various mining and associated activities are as follows.

Unit: Area in Ha.

Particulars	Present	Scheme Period
Area for Mining	13.74	11.62
Storage for top-soil	--	--
Overburden dump	10.95	10.95
Backfilling	--	2.40
Mineral Storage/SGMD	0.56	0.56
Infrastructure (mobile office, canteen, weigh bridge, first aid room, rest shelter etc.,)	0.01	0.01
Roads	0.25	0.80
Drainage/Seasonal Nallah	--	--
Green-belt/boundary barrier	1.44	1.44
Environmental Protective Measures	--	0.60
Bio-diversity conservation area	--	1.00
Virgin area includes retaining wall	4.05	1.62
<b>Sub-Total</b>	<b>31.00</b>	<b>31.00</b>
Additional Area	1.05	1.05
<b>GRAND TOTAL</b>	<b>32.05</b>	<b>32.05</b>

**ii) Air quality:**

Only pollution to the air is due to dust, which gets airborne due to vehicular movement and drilling, breaking of iron ore and waste and while loading iron ore and dumping of waste, crushing and screening of ore etc. Therefore the SPM count in the air will increase to some extent. Mining activity does not cause any major impacts on the climate of the region. Based on the existing scenario, it can be predicted that air quality will not get much disturbed in future.

**iii) Water quality:**

There are no toxic or poisonous discharges into the drains from mining operations. So quality of surface water shall not be affected. But in the surface water quality might slightly be affected during monsoon due to dump run-off. However effective control measures such as systematic dumping followed by erection of toe protection barrier and garland drain. During the proposed mining scheme period no changes are predicted than the existing.

The ground water will not be affected, as the elevation of working is much above the water table level.

**iv) Noise levels:**

Noise level monitoring was carried-out both in core and buffer zones and all the values are within prescribed limit specified under the Noise Pollution (Regulation & Control) Rules 2000 for industrial area. Hence, there is no significant impact of mining activities on the noise levels within & outside the lease area.

Since the rate of iron ore production is only 84,000 tons per annum which is much lower than the earlier approved production no changes in noise level are predicted in core & buffer zone. Hence, the impact due to noise levels will be negligible.

**v) Vibration levels (due to blasting):**

Blasting is an important and vital aspect of mining. However, the quantity of charge used in the mine at any point is very small. Further except for the essentials like rest shelter, canteen, mines office, Weigh Bridge, first aid room, no other infrastructure is within the mining area.

Further, the mining area is located at about 1.60 km away from the nearest village Venkatagiri and at a level difference of about 135m, the terrain will not propagate the vibrations. Hence, the predicted impact will be negligible.

**vi) Water regime:**

There is no surface water regime within the lease area other than rain water. The chemical analysis of Iron ore does not show any hazardous parameters. Hence, the rain water passing through the mine workings does not make any major affect. However, during monsoon there is every possibility of transportation of the silt and sedimentation into the surrounding area, which may cause pollution to the natural drainage system. During mining activity a part of the dust generated by the vehicular movement get mixed with the rain water and carried as solid suspension along with it, causing siltation in the seasonal nallah.

The ground water table is about 50m below the general ground level. Hence, the ground water will not be affected, as the mining operations are conducted at hill slope, which is at much higher level (about 770m above MSL) than ground water level. Thus the predicted impact is negligible.

**vii) Acid mine drainage:**

Not Applicable.

**viii) Surface subsidence:**

The formation is hard and benches will be developed in systematic and scientific manner. Thus surface subsidence is not predicted.

**ix) Socio-economics:**

There are 24 villages and one town falling within the buffer zone. They all depend upon agriculture and mining related activities. Proposed mining operations in the locality will improve the living standards of the local people i.e., mining operations will boost the employment opportunities of the area. Hence, the beneficial effect on the economy of the habitants in the nearby villages, by the mining operations is very significant.



Regarding safety, mine management will take all precautionary measures such as providing Personal Protective Equipment (PPE) such as goggles, respirators, earmuffs, safety belts and ropes, helmets and safety shoes etc. In addition to this, the mine will be provided with first aid station.

Due to proposed production, the Government will also be benefited financially through revenues amounting to Crores of Rupees by way of royalty, sales taxes, road tax etc.,

**x) Historical Monuments etc:**

No historical monuments etc are located within the lease area or in the vicinity and hence there shall not be any effect.

**8.3 Progressive Reclamation Plan:**

**8.3.1 Mined-Out Land:**

Reclamation and Rehabilitation will be carried-out as per the approved Reclamation & Rehabilitation Plan by ICFRE. Brief details are mentioned under **Para 3.3** of Introduction part. There is some mined-out area within the mining lease towards SEE. Waste generated will be backfilled temporarily towards SEE between the co-ordinates 1682430N to 1682620N and 653870E to 654120E within the mining lease area earmarked for the purpose upto a maximum height of 30m. About 2.40 Ha. area is earmarked for temporary backfilling in-continuation to the existing dump within the lease area. The area selected for temporary backfilling is as per the approved R&R Plan due to constrains of suitable space of disposal, as unbroken/virgin forest area cannot be utilized. Year-wise proposals are marked on the Pit Layout Plan enclosed vide **Plate No. 6A to 6E**. Reclamation Plan is enclosed vide **Plate No. 10**.

**8.3.2 Topsoil Management:**

There is no top soil handling as the proposed mine workings are in the broken-up area.



**8.3.3 Tailings Dam Management:**

Not Applicable.

**8.3.4 Acid mine drainage, if any and its mitigative measures:**

Not Applicable.

**8.3.5 Surface subsidence mitigation measures through backfilling of mine voids or by any other means and its monitoring mechanism: -**





*Scheme of Mining of Raja Krishna Deva Raya Iron Ore Mine, M.L. No. 2584*

**Table - 30: SUMMARY OF YEARWISE PROPOSAL FOR ITEM NO. 8.3 (2016-17)**

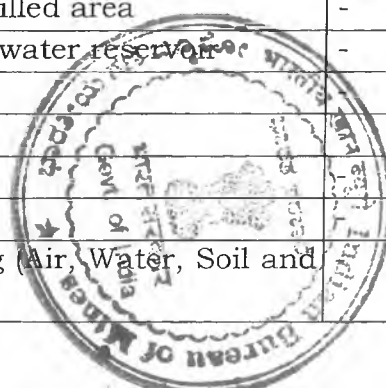
Items	Details	Actual (as on 01.04.2016)	Proposed	Remarks
Dump management	Area afforested (ha)	4.00	1.0	Dump, Green-belt
	No of saplings planted	8,000	2,000	Local species
	Cumulative no of plants	8,000	10,000	-
	Cost including watch and care during the year	-	200,000	-
Management of worked out benches	Area available for rehabilitation (ha)	-	-	-
	Afforestation done (ha)	-	-	-
	No of saplings planted in the year	-	-	-
	Cumulative no of plants	-	-	-
	Any other method of rehabilitation (specify)	-	-	-
	Cost including watch and care during the year	Rs. 100,000	Rs. 200,000	-
Reclamation and Rehabilitation by backfilling	Void available for Backfilling (L x B x D) pit wise /slope-wise	1.0 Ha.	1.0 Ha.	Temporary backfilling
	Void filled by waste /tailings		26,407 m <sup>3</sup>	-
	Afforestation on the backfilled area		-	Temporary nature
	Rehabilitation by making water reservoir		-	-
	Any other means (specify)		-	-
Rehabilitation of waste land within lease	Area available (ha)		-	-
	Area rehabilitated		-	-
	Method of rehabilitation		-	-
Others (specify)	Environmental Monitoring (Air, Water, Soil and Noise)		-	Season-wise as per MoEF guidelines.

Note: All remaining proposed engineering measures within the lease area as per the approved R & R Plan will be completed as shown in Plate No.10.

*Scheme of Mining of Raja Krishna Deva Raya Iron Ore Mine, M.L. No. 2584*

**Table - 31: SUMMARY OF YEARWISE PROPOSAL FOR ITEM NO. 8.3 (2017-18)**

Items	Details	Actual (as on 01.04.2017)	Proposed	Remarks
Dump management	Area afforested (ha)	5.00	1.0	Dump, Green-belt
	No of saplings planted	10,000	2,000	Local species
	Cumulative no of plants	10,000	12,000	-
	Cost including watch and care during the year	-	200,000	-
Management of worked out benches	Area available for rehabilitation (ha)	-	-	-
	Afforestation done (ha)	-	-	-
	No of saplings planted in the year	-	-	-
	Cumulative no of plants	-	-	-
	Any other method of rehabilitation (specify)	-	-	-
	Cost including watch and care during the year	Rs. 200,000	Rs. 200,000	-
Reclamation and Rehabilitation by backfilling	Void available for Backfilling (L x B x D) pit wise /stope-wise	2.0 Ha.	1.0 Ha.	Temporary backfilling
	Void filled by waste /tailings	26,407 m <sup>3</sup>	35,977 m <sup>3</sup>	-
	Afforestation on the backfilled area	-	-	Temporary nature
	Rehabilitation by making water reservoir	-	-	-
	Any other means (specify)	-	-	-
Rehabilitation of waste land within lease	Area available (ha)	-	-	-
	Area rehabilitated	-	-	-
	Method of rehabilitation	-	-	-
Others (specify)	Environmental Monitoring (Air, Water, Soil and Noise)	-	-	Season-wise as per MoEF guidelines.



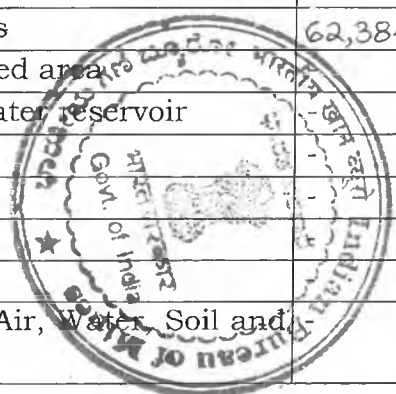
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*Scheme of Mining of Raja Krishna Deva Raya Iron Ore Mine, M.L. No. 2584*

**Table - 32: SUMMARY OF YEARWISE PROPOSAL FOR ITEM NO. 8.3 (2018-19)**

Items	Details	Actual (as on 01.04.2018)	Proposed	Remarks
Dump management	Area afforested (ha)	6.00	1.0	Avenue, Green-belt
	No of saplings planted	12,000	2,000	Local species
	Cumulative no of plants	12,000	14,000	-
	Cost including watch and care during the year	-	200,000	-
Management of worked out benches	Area available for rehabilitation (ha)	-	-	-
	Afforestation done (ha)	-	-	-
	No of saplings planted in the year	-	-	-
	Cumulative no of plants	-	-	-
	Any other method of rehabilitation (specify)	-	-	-
	Cost including watch and care during the year	Rs. 200,000	Rs. 200,000	-
Reclamation and Rehabilitation by backfilling	Void available for Backfilling (L x B x D) pit wise / <del>stope</del> -wise	3.0 Ha.	-	Temporary backfilling
	Void filled by waste /tailings	62,384 m <sup>3</sup>	17,287 m <sup>3</sup>	-
	Afforestation on the backfilled area	-	-	Temporary nature
	Rehabilitation by making water reservoir	-	-	-
	Any other means (specify)	-	-	-
Rehabilitation of waste land within lease	Area available (ha)	-	-	-
	Area rehabilitated	-	-	-
	Method of rehabilitation	-	-	-
Others (specify)	Environmental Monitoring (Air, Water, Soil and Noise)	-	-	Season-wise as per MoEF guidelines.



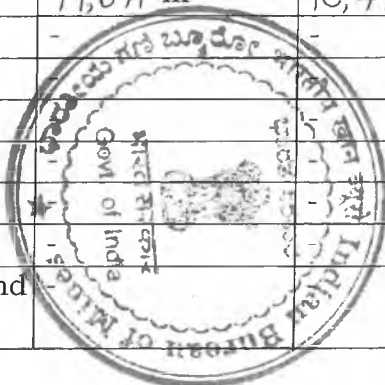
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*Scheme of Mining of Raja Krishna Deva Raya Iron Ore Mine, M.L. No. 2584*

**Table - 33: SUMMARY OF YEARWISE PROPOSAL FOR ITEM NO. 8.3 (2019-20)**

Items	Details	Actual (as on 01.04.2019)	Proposed	Remarks
Dump management	Area afforested (ha)	7.00	1.0	Avenue, Green-belt
	No of saplings planted	14,000	2,000	Local species
	Cumulative no of plants	14,000	16,000	-
	Cost including watch and care during the year	-	200,000	-
Management of worked out benches	Area available for rehabilitation (ha)	-	-	-
	Afforestation done (ha)	-	-	-
	No of saplings planted in the year	-	-	-
	Cumulative no of plants	-	-	-
	Any other method of rehabilitation (specify)	-	-	-
	Cost including watch and care during the year	Rs. 200,000	Rs. 200,000	-
Reclamation and Rehabilitation by backfilling	Void available for Backfilling (L x B x D) pit wise / <del>stope</del> -wise	3.0 Ha.	-	Temporary backfilling
	Void filled by waste / <del>tailings</del>	79,671 m <sup>3</sup>	10,477 m <sup>3</sup>	-
	Afforestation on the backfilled area	-	-	Temporary nature
	Rehabilitation by making water reservoir	-	-	-
	Any other means (specify)	-	-	-
Rehabilitation of waste land within lease	Area available (ha)	-	-	-
	Area rehabilitated	-	-	-
	Method of rehabilitation	-	-	-
Others (specify)	Environmental Monitoring (Air, Water, Soil and Noise)	-	-	Season-wise as per MoEF guidelines.



*Dr. M. M. M.*

*Dr. M. M. M.*

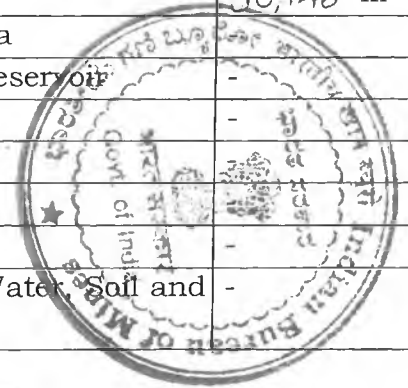
*Scheme of Mining of Raja Krishna Deva Raya Iron Ore Mine, M.L. No. 2584*

**Table - 34: SUMMARY OF YEARWISE PROPOSAL FOR ITEM NO. 8.3 (2020-21)**

Items	Details	Actual (as on 01.04.2020)	Proposed	Remarks
Dump management	Area afforested (ha)	8.00	1.0	Avenue, Green-belt
	No of saplings planted	16,000	2,000	Local species
	Cumulative no of plants	16,000	18,000	-
	Cost including watch and care during the year	-	200,000	-
Management of worked out benches	Area available for rehabilitation (ha)	-	-	-
	Afforestation done (ha)	-	-	-
	No of saplings planted in the year	-	-	-
	Cumulative no of plants	-	-	-
	Any other method of rehabilitation (specify)	-	-	-
	Cost including watch and care during the year	Rs. 200,000	Rs. 200,000	-
Reclamation and Rehabilitation by backfilling	Void available for Backfilling (L x B x D) pit wise /slope-wise	3.0 Ha.	-	Temporary backfilling
	Void filled by waste /tailings	90,148 m <sup>3</sup>	25,804m <sup>3</sup>	-
	Afforestation on the backfilled area	-	-	Temporary nature
	Rehabilitation by making water reservoir	-	-	-
	Any other means (specify)	-	-	-
Rehabilitation of waste land within lease	Area available (ha)	-	-	-
	Area rehabilitated	-	-	-
	Method of rehabilitation	-	-	-
Others (specify)	Environmental Monitoring (Air, Water, Soil and Noise)	-	-	Season-wise as per MoEF guidelines.

*Qummm*

*Qummm*



#### **8.4 Disaster Management and Risk Assessment:**

The aim of disaster management is to identify potential dangers associated with the mining operations like:

- a) Loading & Hauling,
- b) Drilling & Blasting,
- c) Dumping/backfilling,
- d) Storage and use of HSD, explosives, industrial gases, electricity etc and other associated problems like,
  - 1) Slope stability/slides of benches/dumps,
  - 2) Fire of forest/HSD-lubricants/ Electricals,
  - 3) Major accident.

An important element of mitigation is emergency planning i.e. recognizing that accidents are possible, assessing the consequences of such possible accidents and deciding on the emergency procedures, in advance, both on-site and off-site, that would need to be implemented in the event of an emergency, systematically and without delays and confusion.

Maintenance of proper bench geometry, observing safety precautions for transport, proper storage, safe handling and use of fuel etc., good maintenance of roads and transport units, fire prevention measures, good dump management, shall go a long way in preventing accidents/ disasters.

Mining will be carried-out strictly as per MMR 1961 and all other rules and regulations. All the supervisory staff and shift in-charges will have mobile communication system for quick passing of information if need arises. Proper training will also be given to the work persons periodically at Group Vocational Training Center, Hospet, as per Mine Vocational Training Rules 1966.

The management is committed to identify possible causes for the potential disasters and draw a code of emergency measures and procedures to deal with such disasters, which is otherwise also advised by DGMS through their periodic circulars.

Mines Manager is the person responsible for the disaster management and he needs to be contacted in case of any disaster. Name and contact number of the mines manager shall be displayed on the Notice Board. However, the below person can be contacted in case of emergency;

- (i) Name : Shri. Subramany
- (ii) Phone No. : +91 98221 23262.

At mine level first aid will be provided and person(s) shall be shifted to nearby hospital by ambulance/departmental vehicle at Hospet having all basic amenities at a distance of 11kms from the mine. The financial allocation for the above jobs will be reviewed periodically.

**Table - 35:** The distance and contact numbers of nearest hospital, police and fire station are as follows;

Particular	Location	Distance	Contact No.
Government Hospital, 100 beds	Hospet	11 km	08394-231099 08394-231888
Fire Station	Hospet	11 km	08394-230555
Police Station	Hospet	11 km	08394-241240

#### **8.5 Care and maintenance during temporary discontinuance:**

An emergency plan to deal with the situation of temporary discontinuance or incomplete program due to Court order/due to statutory requirements or any other unforeseen circumstances will be drawn by the technical & managerial personnel to suit the specific situation of this mine. This will be reviewed & modified to suit changing conditions and needs. This would take care of preventing of access to dangerous places, pits and preventing accident like fall of animals & men into the pit. Security is also to be looked into the safety measures placed at various places like firefighting equipment and switch gear etc.

The following specific measures are taken,

- (i) Proper and adequate security at the entrance/exit to the mine to prevent entry of unauthorized person with proper gates under lock.

- (ii) Entrance to the toe of dumps will be blocked.
- iii) Security and fire preventing measures will be taken at dangerous places/oil storage etc.
- iv) All the above will be examined by mines manager once in a week to ensure that they are in order.

**8.6 Financial Assurance:**

Details of present land use and land use at the end of Scheme period are tabulated below. Based on the proposed land use pattern at the end of Scheme period, the financial assurance is calculated.

**Table - 36:** Table indicating the break-up of areas in the Mining Lease for calculation of Financial Assurance;

Sl. No.	Head	Area of land use (in Ha)			The area considered as fully reclaimed & rehabilitated (in Ha.)	Net area considered for calculation (In Ha.)
		Area put on use at start of Scheme (in Ha.)	Additional requirement during scheme period (in Ha.)	Total (in Ha.)		
		A	B	C=(A+B)	D	E=(C-D)
1	Area under Mining	13.74	(-2.12)	11.62		11.62
2	Storage for top soil	--	--	--		--
3	Waste dump site	10.95	--	10.95		10.95
4	Backfilling	--	2.40	2.40		2.40
5	Mineral Storage	0.56	--	0.56		0.56
6	Infrastructure Workshop, administrative building etc.	0.01	--	0.01		0.01
7	Roads	0.25	0.55	0.80		0.80
8	Safety zone for public Roads, Railways etc.	--	--	--		--
9	Green belt/boundary barrier zone	1.44	--	1.44		1.44
10	Drainage/Nallah	--	--	--		--
11	Tailing pond	--	--	--		--
12	Effluent treatment plant	--	--	--		--
13	Mineral separation plant	--	--	--		--
14	Township area	--	--	--		--
15	Protective Measures	--	0.60	0.60		0.60
16	Biodiversity conservation	--	1.00	1.00		1.00
17	Virgin Area	4.05	--	1.62		--
	<b>Sub-Total</b>	<b>31.00</b>	<b>2.43</b>	<b>31.00</b>		<b>29.38</b>
18	Additional Area	1.05	--	1.05		--
	<b>Grand Total</b>	<b>32.05</b>	<b>--</b>	<b>32.05</b>		<b>--</b>



A Financial Area Assurance Plan is enclosed vide **Plate No. 11**. Certificate to the above effect is enclosed. Area put to use till 31st March-2021 is 29.38 Ha. At specified rate of Rs. 25,000/- per Ha. for "A" category mines, the financial assurance is Rs. 734,500/-. Financial assurance in the form of Bank Guarantee for Rs. 752,500/- under Rule 23(F) of MCDR 1988 was submitted to the Regional Controller of Mines, Indian Bureau of Mines, Bangalore and same is renewed upto 31.05.2021. Copy of the Bank Guarantee and Addendum to the Guarantee are enclosed **vide Annexure-XXIV**.

Place :Panaji, GOA.

Date : 30.05.2016

(GOPALAKRISHNA V. GAONKAR)

Recognised Qualified Person

Reg. No.RQP/BNG/333/2014/A

Date: 30-05-2016

Place: Panaji, GOA.

(Subramany)

Authorized Person

AURO MINERALS

scheme of mining is approved  
subject to conditions laid down  
in letter No. 279/157/90/BNG.

Dt. 17/06/2016

*Krishna*  
17.06.16

क्षेत्रीय खान निबंधक  
Regional Controller of Mines

भारतीय खान ब्यूरो  
Indian Bureau of Mines  
बैंगलूर Bangalore-560022



**PART B**

**9.0 Certificates / Undertakings/ Consents (As detailed below)**

Consent letter, undertaking, certificates from the lessee & RQP are enclosed below;

**01.** The Scheme of Mining in respect of **Raja Krishna Deva Raya (RKDR) Iron Ore Mine** over an area of **31.00 Ha.** as per ML Deed (**32.05 Ha.** as per CEC Survey), in **Kallahalli** Village, **Hospet** Taluka, District **Bellary, Karnataka** State under Rule 12(2) of MCDR, 1988 has been prepared by **RQP Gopalakrishna V. Gaonkar** (Reg. No. RQP/BNG/333/2014/A).

This is to request the Regional Controller of Mines, Indian Bureau of Mines, Bangalore, to make any further correspondence regarding any correction of the Scheme of Mining with the said recognized person at his address below :-

Gopalakrishna V. Gaonkar,  
"HM Larochella", # 302,  
No. 6, Benson Cross Road,  
Bangalore - 560 046, KARNATAKA.

We hereby undertake that all modifications / updating as made in the said Scheme of Mining by the said recognized person be deemed to have been made with our knowledge and consent and shall be acceptable on us and binding in all respects.

**02.** It is certified that the **CCOM Circular No-2/2010** will be implemented and complied with when an authorized agency is approved by the State Government.

**03.** It is certified that the **Progressive Mine Closure Plan** of **Raja Krishna Deva Raya (RKDR) Iron Ore Mine** of M/s. **Auro Minerals** over an area of **31.00 Ha.** as per ML Deed (**32.05 Ha.** as per CEC Survey) complies with all statutory rules, Regulations, Orders Made by the Central or State Government, Statutory organization, Court etc which have been taken into consideration and wherever any specific permission is required the lessee will approach the concerned authorities.

The information furnished in the **Progressive Mine Closure plan** is true and correct to the best of our knowledge and records.

**04.**“The provisions of **Mines Act, Rules and Regulations** made there under have been observed in the Scheme of Mining over an area of **31.00Ha.** as per ML Deed (**32.05 Ha.** as per CEC Survey) in Bellary District in Karnataka State belonging to **Raja Krishna Deva Raya (RKDR) Iron Ore Mine,** and where specific permissions are required, the applicant will approach the **D.G.M.S.** Further, standards prescribed by **D.G.M.S.** in respect of **miners’ health** will be strictly implemented”.

**05.** I/We hereby undertake that all the proposals made in the Reclamation & Rehabilitation Plan prepared by the Indian Council of Forestry Research & Education (ICFRE) duly approved by the Central Empowered Committee (CEC) will be strictly implemented in a time bound period and maintained already implemented protective measures as given in the approved Reclamation & Rehabilitation Plan of **Raja Krishna Deva Raya (RKDR) Iron Ore Mine** of M/s. **Auro Minerals.**

Date: 30-05-2016

Place: Panaji, GOA.

(Subramany)

Authorized Person

AURO MINERALS



**CERTIFICATE FROM RQP**

The provisions of the **Mineral Conservation and Development Rules 1988** have been observed in the preparation of the Scheme of Mining for **Raja Krishna Deva Raya (RKDR) Iron Ore Mine** over an area of **31.00Ha.** as per ML Deed (**32.05Ha.** as per CEC Survey), of **M/s Auro Minerals**, in **Kallahalli** Village, **Hospet** Taluka, **Bellary** District of **Karnataka** State and whenever specific permissions are required, the applicant will approach the concerned authorities of **Indian Bureau of Mines.**

The information furnished in the Scheme of Mining is true and correct to the best of my knowledge.



Place : Panaji, GOA.

Date :30.05.2016

(GOPALAKRISHNA V. GAONKAR)

Recognised Qualified Person

Reg. No.RQP/BNG/333/2014/A



ORIGINAL

ಈ ಪತ್ರವು ಸರ್ಕಾರದ ಅಧಿಕಾರವನ್ನು ಹೊಂದಿದೆ.  
ಇದು 1708 ಸಂಖ್ಯೆಯಲ್ಲಿ 13-06-2008 ರಂದು  
ಈ ಪತ್ರವು ಸರ್ಕಾರದ ಅಧಿಕಾರವನ್ನು ಹೊಂದಿದೆ.

ANNEXURE - I

ಸುವರ್ಣ ಕರ್ನಾಟಕ - 2006



ಕರ್ನಾಟಕ ಸರ್ಕಾರ  
GOVERNMENT OF KARNATAKA

ಗಣಿ ಮತ್ತು ಭೂವಿಜ್ಞಾನ ಇಲಾಖೆ  
Department of Mines and Geology

1708  
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# ಗಣಿ ಸುತ್ತಿಗೆ MINING LEASE



Registered No. 2584

Name of Lessee/s M/s Auro Minerals

Date of Grant Renewal 13-06-2008

Period Twenty (20) years. N. e. f. - 23-05-20

*[Signature]*  
30/05/2016



MINING LEASE

ಅಧಿಕಾರವಹಿಸಿದವರು

The indenture made this 13<sup>th</sup> day of June 2008, between the Governor of Karnataka, (Hereinafter referred to as the "State Government" which expression shall, where the context so admits be deemed to include his successors in office and assigns) of the one part and when the lessee/licensee is an individual.

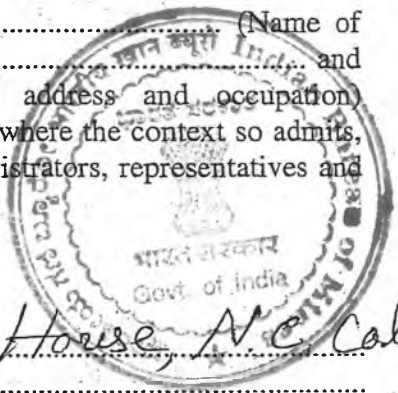
(1)-(1) When the lessee in an individual :

.....  
.....  
.....

(Name of person with address and occupation) (hereinafter referred as "the lessee" which expression shall, where the context so admits, be deemed to include his heirs, executors, administrators, representative and permitted assigns).

(2)-(2) When the lessees are more than one individual :

..... (Name of person with address and occupation) and  
..... (Name of person with address and occupation)  
(hereinafter referred to as "the lessee" which expression shall, where the context so admits, be deemed to include their respective heirs, executors, administrators, representatives and other permitted assigns).



(3)-(3) When the lessees is a registered firm :

M/s. Anura Minerals, Anegody House, A.C. Colony, Haspet - 588203

(Name and address of Partner) son of .....  
of ..... son of ..... all carrying on business in partnership under the firm name and style of .....  
(Name of the firm) registered under Indian Partnership Act 1932 (9 of 1932) and having their registered office at ..... in the town of ..... hereinafter referred to as "the lessee" which expression where the context so admits be deemed to include all the partners of the said firm their representatives, heirs, executors, administrators and permitted assigns).

When the lessee is a registered company :

.....  
..... (Name of Company)

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ಈ ದಸ್ತಾವೇಜಿನಲ್ಲಿ ೨೭ ಪ್ರತಿಗಳು ಇವೆ  
 ಇದರಲ್ಲಿ ಒಂದು ಸೇರಿಸಿ ಉಳಿದವುಗಳನ್ನು  
 ಡಿ. ದಸ್ತಾವೇಜಿನಲ್ಲಿ ಸೇರಿಸಿ  
 ಉಳಿದವುಗಳನ್ನು ಡಿ. ದಸ್ತಾವೇಜಿನಲ್ಲಿ

a company registered under ..... (Act under which incorporated) having its registered office at ..... (Address) (hereinafter referred to as "The lessee" which expression shall where the context so admits be deemed to include its successors and permitted assigns) of the other part.

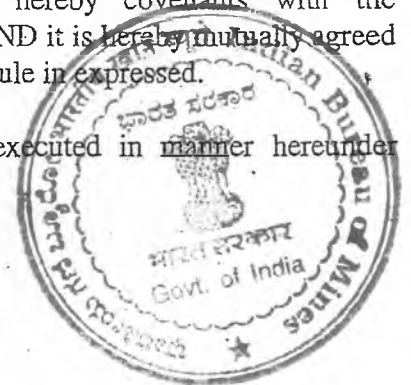
WHEREAS "the lessee/lessees has/have applied to State Government in accordance with the Mineral Concession Rules 1960 (hereinafter referred to as the said Rule) for a mining lease for Iron ore in respect of the lands described in PART I of the Schedule hereunder written and has/have deposited with the State Government the sum of Rs 10,000/- as security and the sum of Rs 500/- for meeting the preliminary expenses for a mining lease and whereas the lessee is in possession of a valid certificate of approval Income tax clearance certificate (and, WHEREAS the Central Government has approved the grant of this lease\*).

WITNESSETH that in consideration of the rents and royalties, covenants and agreements by and in these presents and the schedule hereunder written reserved and contained and on the part of "the lessee / lessees" to be paid, observed and performed, the State Government (with the approval of the Central Government)\* hereby grants and demises upto the lessee/lessees.

All those the mines beds veins, seems of Iron ore (here state the mineral or minerals) (hereinafter and in the scheduled refers to as the said minerals) situated, lying and being in or under the lands which are referred to in Part I of the said schedule, together with the liberties, powers and privileges to be exercised or (enjoyed in connection herewith which are mentioned in PART II of the schedule subject to restrictions and conditions as to the exercise and enjoyment of such liberties, powers and privileges which are mentioned in PART III of the said schedule EXCEPT and reserving out are the demise up to the State Government the liberties, powers and privileges mentioned in PART IV of the said Schedule TO HOLD the premises hereby granted and demised up to "the lessees/licenses from the May 2003 for the term of Twenty (20) years hence next ensure YIELDING AND PAYING of up to the State Government the several rents and royalties mentioned in PART V of the said Schedule at the respective times herein specified subject to the provisions contained in PART VI of the Schedule and the lessee/lessees hereby/covenant/covenants with the State Government as in PART VII of the said Schedule expressed and the State Government hereby covenants with the lessee/lessees in PART VIII of the Schedule is expressed AND it is hereby mutually agreed between the parties here to as in PART IX of the said Schedule in expressed.

IN WITNESS WHERE OF these presents have been executed in manner hereunder appearing the day and year first above written.

The Schedule above referred to.



Kishordeva Raju

PART I  
THE AREA OF THIS LEASE

Handwritten notes and stamps in Kannada, including a circular stamp from the Sub-Registrar's Office and a date stamp '29'.

LOCATION AND AREA OF THE LEASE :

All that tract of lands situated at Kallahalli, (NEB Range) description of area of areas) ..... in (Pargana) in ..... the Registration District of Bellary Sub district ..... and District ..... bearing Cadastral Survey Nos 01 as per sketch containing an area of 31.00 Ha or thereabouts delineated in plan hereto annexed and there on coloured Red and bounded as follows:

- On the North by — Forest, E. M.L. area of S.B. Minerals
- On the South by — Part of Kallahalli & Sandur Forest as
- On the East by — Sandur State Forest,
- and
- On the West by — Part of Kallahalli & Sandur Forest

hereinafter referred to 'the said lands'



PART II  
LIBERTIES, POWERS AND PRIVILEGES TO BE EXERCISED AND ENJOYED  
BY  
THE LESSEE/LESSEES SUBJECT TO THE RESTRICTIONS AND CONDITIONS  
IN PART III

1. To enter upon land and search for mine work etc.,

Liberty and power at all times during the term demised to enter upon said lands and to search for, mine, bore, dig, drill for win, work, dress, process, convert, carry away and dispose of the said mineral/minerals.

2. To sink, drive and make pits shafts and inclines etc.,

Liberty and power for or in connection with any of the purposes mentioned in this part to sink, drive, make, maintain and use in the said lands any pits, shafts, inclines, drifts, levels, water ways, airways and other works. (and to use, maintain, deepen or extend any existing works of the like nature in the said lands).

*Kishor Devraj*



3. To bring and use machinery, equipment, etc.,

Liberty and power for or in connection with any of the purposes mentioned in this part to erect, construct and maintain and use on or under the said lands and engines, machinery and plant dressing-floors, furnaces, coke ovens, brick-kilns work-shops, store-houses, bangalows, godowns, sheds and other buildings and other works and conveniences of the like nature on or under said lands.

4. To make roads and ways etc., and use existing roads and ways.

Liberty and power for or in connection with any of the purposes mentioned in this part to make any tramways, railways, roads and other ways in or over the said lands and to use, maintain and go and repass with or without horses, cattle wagons, locomotives or other vehicles over the same (or any existing tramways, railways road and other ways in or over the said lands) on such conditions may be agreed to.

5. To get building and road materials etc.,

5. Liberty and powers for or in connection with any of the purposes mentioned in this part to quarry and get, ordinary building stone and gravel and other building and road materials (except that of specified minor minerals) and ordinary clay and to use and employ the same and to manufacture such ordinary clay into bricks or tiles and to use such bricks or tiles not to sell any such material, bricks or tiles.

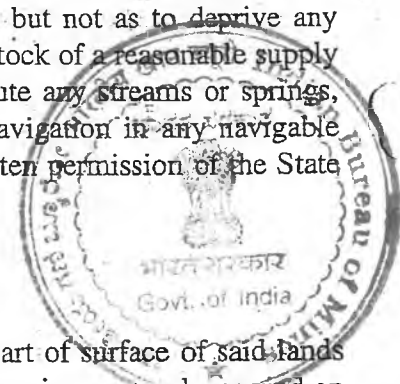
6. To use waters from streams etc.,

Liberty and power for or in connection with any of the purposes mentioned in this part but subject to the rights of any existing or future lessees and with the written permission of the Deputy Commissioner to appropriate and use water from any streams, water-courses, springs or other sources in or upon the said lands and divert, set up or dam any such stream or water-course, culverts, drains or reservoirs but not as to deprive any cultivated lands, villages, buildings, or watering places for livestock of a reasonable supply of water as before accustomed nor in any way to foul or pollute any streams or springs. Provided that the lessee/lessees shall not interfere with the navigation in any navigable streams nor shall divert such stream with out the previous written permission of the State Government.

7. To use and for stacking, heaping or depositing purposes.

Liberty and Power to enter upon and use a sufficient part of surface of said lands for the purpose of stocking, heaping, thereon any produce of the mines or works carried on and any equipment, earth and materials and substances dug or raised under the liberties and powers mentioned in this part.

Kishore Devaboy



Handwritten notes in Hindi and English, including the word 'Bureau' and some illegible scribbles.

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 ಇದೇ 2 ನೇ ಪುಸ್ತಕ 100/10/45  
 ಶಿವಮೊಗ್ಗ ಜಿಲ್ಲಾ ಪಂಚಾಯತ್  
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**8. Beneficiation and carrying away.**

a) Liberty and power to enter upon and use a surface of the said lands to beneficiate any ore produced from the said lands and to carry away such beneficiated ore.

b) **To make coke (to be used in case of coal only):**

Liberty and power upon the said lands to convert into coke any coal dust produced from the said lands and to carry away such coke.

**9. To clear brushwood and to fell and utilise trees, etc.,**

Liberty and power for or in connection with any of the purpose mentioned in this part and subject to the existing rights of others and save as provided in clause 3 of part III of this Schedule to clear undergrowth and brushwood and to fell and utilise any trees or timber standing or found on the said lands provided that the State Government may ask the lessee/lessees to pay for any trees or timber felled and utilised by him/them at the rates specified by the Deputy Commissioner or the State Government.

**PART III**

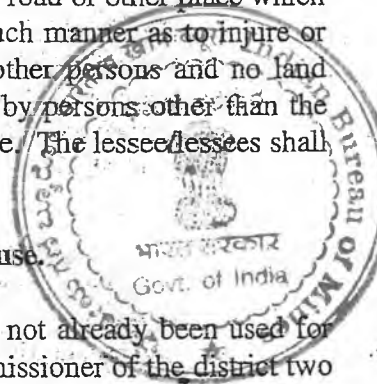
**RESTRICTIONS AND CONDITIONS AS TO THE EXERCISE OF THE LIBERTIES, POWERS AND PRIVILEGES IN PART II.**

**1. No building etc. upon certain places.**

No building or thing shall be erected, set up, placed and no surface operations shall be carried on in or upon any public pleasure ground, burning or burial ground or place held sacred by any class of persons or any house or village site, public road or other place which the State Government may determine as public ground nor in such manner as to injure or prejudicially affect any buildings, work, property or rights of other persons and no land shall be used for surface operations which is already occupied by persons other than the State Government for works or purposes not included in this lease. The lessee/lessees shall not also interfere with any right of way, well or tank.

**2. Permission for surface operations in a land not already in use.**

Before using for surface operations any land which has not already been used for such operations the lessee/lessees shall give to the Deputy Commissioner of the district two calendar months previous notice in writing specifying the name or other description of the situation and the extent of the land proposed to be so used and the purpose for which the same is required and the said land shall not be so used if objection is issued by the Deputy Commissioner within two months after the receipt by him of such notice unless the objections so stated shall on reference to the State Government be annulled or waived.



*Heehadevalaye*

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ಇದು .....ನೇ ಪುಸ್ತಕದ .....ನೇ ಪುಟ  
ಈ ಮಾಹಿತಿಗಳನ್ನು .....ನೇ ಪುಟ

3. To cut tress in unreserved lands.

The lessee/lessees shall not without the express sanction of the Deputy Commissioner cut down or injure any timber or trees on the said lands but may without such sanction clear away any brushwood or undergrowth which interferes with any operations authorised by these presents. The Deputy Commissioner or the State Government may require the lessee/lessees to pay for any trees or timber felled and utilised by him at the rates specified by the Deputy Commissioner or the State Government.

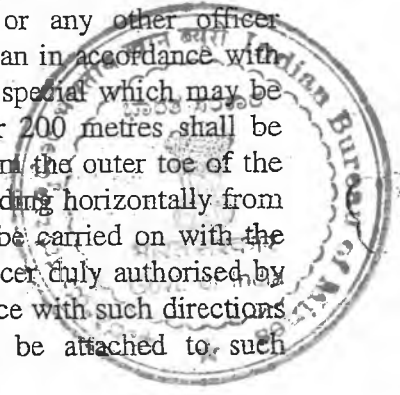
4. To enter upon reserved forest:

Notwithstanding anything in this Schedule contained the lessee/lessees shall not enter upon any reserved forest included in the said lands without Previous sanction in writing of the District Forest Officer nor fell, cut and use any timber or trees without obtaining the sanction in writing of that Officer nor otherwise than in accordance with such conditions as the State Government may prescribe.

(4A) The lessee/lessees shall not fell any trees in any forest area converted by this lease without reasonable notice to the Forest Officer and except in accordance with the provisions of the law relating to forests for the time being in force.

5. No mining operations within 50 meters of public works etc.,

The lessee/lessees shall not work or carry no or allow to be worked or carried on any mining operations at or to any point within a distance of 50 metres any railways line except with the previous written permission of the Railway Administration concerned or under or beneath any ropeway or any ropeway trestle or station except under and in accordance with the permission of the authority owning the rope way or from any reservoir, canal or other public works such as public roads and buildings or inhabited site except with the previous written permission of the Deputy Commissioner or any other officer authorised by the State Government in this behalf and otherwise than in accordance with such instructions, restrictions and conditions and either general or special which may be attached to such permission. The said distances of 50 metres or 200 metres shall be measured in the case of railway, reservoir or canal horizontally from the outer toe of the bank of the outer edge of the cutting as the case may be and of building horizontally from the plinth thereof. In the case of village roads no working shall be carried on with the previous permission of the Deputy Commissioner or any other officer duly authorised by the State Government in this behalf and otherwise than in accordance with such directions, restrictions and additions either general or special which may be attached to such permission [No.1(51)/65-MII dated.26-2-62]



**Explanation:** For the purposes of this clause, the expression 'Railway Administration' shall have the same meaning as it is defined to have in the Indian Railway Act, 1890, by Clause 6 of Section 3 of that Act, 'Public Road,' shall mean a road which has been constructed by artificially surfaced as district from a trace resulting from repeated use. Village road will include any trace shown in the revenue records as village road.

*Krishna Devalay*

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ನೀಡಲಾಗುವ  
1902-03-04  
ನೀತಿ

6. Facilities for adjoining Government licenses and leases.

The lessee/lessees shall allow existing and future holders of Government licenses or leases over any land which is comprised in or adjoins ~~any land~~ land held by the lessee/lessees reasonable facilities of access thereto.

PROVIDED THAT no substantial hindrance or interference shall be caused by such holder of licenses or leases to the operations of the lessee/lessees under these presents and the lessee/lessees shall be entitled to compensation as may be mutually agreed upon between the lessee/lessees under these presents and fair compensation (as may be mutually agreed upon or in the event of disagreement as may be decided by the State Government) shall be made to the lessee/lessees by reason of the exercise of this liberty.

The lessee/lessees shall not appoint / let any child labourers to work in the mines, failing which action will be initiated to cancell / determined the mining lease.

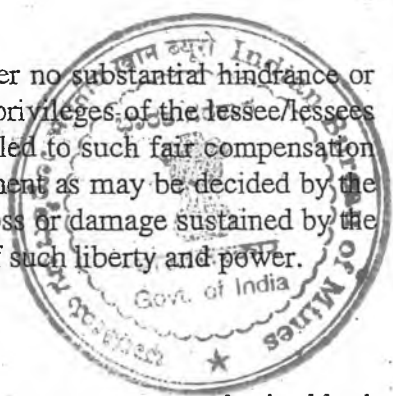
PART IV

LIBERTIES, POWERS AND PRIVILEGES RESERVED TO THE STATE GOVERNMENT

1. To work other minerals.

Liberty and power for the State Government or any lessee/licensee or persons authorised by it in that behalf to enter into and upon the said lands and to search for, win, work, dig, get, raise, dress, process, convert and carry away any minerals other than the said minerals and any other substances, and for the those purposes to sink, drive, make, erect, construct, maintain and use such pits, shafts inclines, drifts, levels and other lines, waterways, airways, water courses, drains, reservoirs, engines, machinery, plant buildings, canals, tramways, railways and other work and conveniences as may be deemed necessary or convenient;

Provided that in the exercise of such liberty and power no substantial hindrance or interference shall be caused to with the liberties powers and privileges of the lessee/lessees under these presents and that the lessee/lessees shall be entitled to such fair compensation as may be mutually agreed upon or in the event or disagreement as may be decided by the State Government shall be made to the lessee/lessee for all loss or damage sustained by the lessee/lessees by reason or in consequences, of the exercise of such liberty and power.



2. To make railways and roads.

Liberty and power to the State Government or any lessee or person authorised by it in that behalf to enter into and upon the said lands and to make upon over or through the same any railways, tramways or pipelines for any purpose other than those mentioned in Part-II of these presents and to get from the said lands stones, gravel, earth and other

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materials for making, maintaining and repairing such railways, tramways, and roads or any existing railways and roads and to go and re-pass at all times with or without horses, cattle, or other animals carts, wagons, carriage, locomotives, or other vehicles over or along any such railways, tramways, roads, lines, and other ways for all purposes and as occasions may require provided that in the exercise of such liberty and power by such other lessee or person, no substantial hindrance or interference shall be caused to or with the liberties, powers and privileges with the lessee/lessees under these presents and that fair compensation (as may be mutually agreed upon or in the event of disagreement as may be decided by the State Government) shall be made to the lessee/lessees for all loss or damage by substantial hindrance or interference shall be caused to or with the exercise by such lessee or person of such liberty and power.

**PART V  
 RENTS AND ROYALTIES RESERVED BY THIS LEASE**

**1. To pay dead rent or royalty whichever is greater:**

That lessee shall pay for every year except the first year of the lease dead rent as specified in clause 2 of the part. Provided that where the holder of such mining lease becomes liable under section 9 of the Act, to pay royalty for any mineral removed or consumed by him or by his agent, manager, employee, contractor sub-lease from the leased area, he shall be liable to pay either such royalty or the dead rent in respect of the area, whichever is higher.

**2. Rate and mode of payment of dead rent:**

Subject to the provision of Clause 1 of the Part, during the subsistence of the lease the lessee/lessees shall pay to the State Government annual dead rent for the lands demised and described in part-I of this Schedule, the rate for the time being specified in the third schedule to the Act in such manner, as may be, specified in this behalf by the State Government.

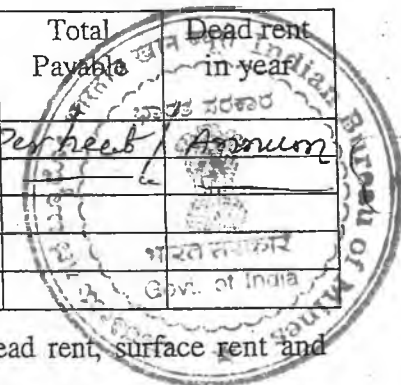
Sl. No.	Name of the Mineral	Dead rent fixed per hectare	Area of demised land	Dead rent payable	Total Payable	Dead rent in year
1.	Iron ore	T. & II	year	Rs - 100/- Per hec	Per hec	Annun
2.		3 <sup>rd</sup> year &	forwards	Rs - 400/-		
3.						
4.						
5.						

(Here insert the manner in which and the time at which the dead rent, surface rent and water rate should be paid)

**3. Rate and mode of Payment of royalty :**

Subject to the provision of Clause 1 of this part, the lessee/lessees shall during the subsistence of this lease pay to the State Government at such times and in such manner as

Kishoredeva Jay





ಕರ್ನಾಟಕ ಸರ್ಕಾರ  
ಮಂತ್ರಿ ಮಂಡಳಿ  
10/02/2019

the State Government may prescribe royalty in respect of any mineral/minerals removed by him/them from the leased area at the rate for the time being specified in the Second Schedule to the Mines and Mineral (Regulation and Development) Act, 1957.

(3-A). The lessee/lessees shall not remove any ores of minerals from the leased area except under and in accordance with the conditions or a permit issued by the Director of Mines and Geology in Karnataka in payment by the lessee/lessees of the royalty due on the ores or minerals.

**4. Payment of surface rent and water rate :**

The lessee/lessees shall pay rent and water rate the State Government in respect of all part of the surface of the said lands which shall from time to time be occupied or used by the lessee/lessees under the authority of these present at the rate of Rs. 2.50/- respectively per annum per hectare of the area so occupied or used and so in proportion for any area less than a hectare during the period from the commencement of such occupation or use until the area shall cease to be so occupied or used and shall as far as possible restore the surface land so used to its original condition. Surface rent and water rate shall be paid as herein before detailed in Clause (2), PROVIDED THAT no such rent/water rate shall be payable in respect of the occupation and use of the area comprised in any roads or ways to which the public have full right of access.

5. Local and other cesses and taxes as prevalent in Bellary District.

**PART VI**

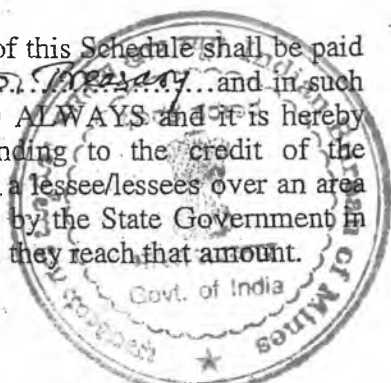
**PROVISIONS RELATING TO THE RENTS AND ROYALTIES**

**Rent and royalties to be free from deduction etc.,**

1. The rent water rate and royalties mentioned in Part V of this Schedule shall be paid free from any deductions to the State Government at Govt. Treasury and in such manner as the State Government may prescribe PROVIDED ALWAYS and it is hereby agreed that Rs. .... the balance standing to the credit of the lessee/lessees on account of the deposit made by him/them as a lessee/lessees over an area which included the said lands shall be retained and accepted by the State Government in satisfaction of the rents and royalties mentioned in Part V until they reach that amount.

**2. Mode of computation of royalty.**

For the purpose of computing the said royalties the lessee/lessees shall keep a correct account of the mineral/minerals produced and dispatched the account as well as the weight of the mineral/minerals in stock or in the process of export may be checked by any Officer authorised by the Central or a State Government.



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Kishor Devraj

(Here specify the mode of arriving at sale price/prices at pits mouth of mineral/minerals)

**3. Course of action if rents and royalties are not paid in time.**

Should any rent, royalty or other sums due to the State Government under the terms and conditions of these presents be not paid by the lessee/lessees within the prescribed time, the same may be recovered together with simple interest due there on at the rate of twenty four percent per annum on a certificate of such officer as may be specified by the State Government by general or special order in the same manner as an arrear of land revenue.

**PART VII**

**THE COVENANTS OF THE LESSEE/LESSEES**

**1. Lessees to pay rents, royalties, Taxes, etc.**

The lessee/lessees shall pay the rents and royalties reserved by this lease at such time and in the manner provided in PART V and VI of these presents and also may and discharge all taxes, rates assessments and impositions whatsoever being in the nature of public demands which shall from time to time be charged, assessed or imposed by the authority of the Central and State Government upon or in respect of the premises and works of the lessee/lessees in common with other premises and works of alike nature except demands for land revenues.

**2. To maintain and keep boundary marks in good order.**

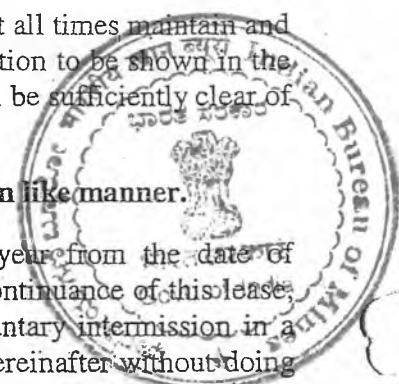
The lessee/lessees shall at his/their own expenses erect and at all times maintain and keep in repair boundary marks and pillars according to the demarcation to be shown in the plan annexed to this lease/lessees. Such marks and pillars shall be sufficiently clear of the shrubs and other obstructions as to allow easy identifications.

**3. To commence operations within a year and work in a workman like manner.**

The lessee/licensee shall commence operation within a year from the date of execution of the lease and shall thereafter at all times during the continuance of this lease search for, win, work and develop the said minerals without voluntary intermission in a skilful and workman like manner and prescribed under clause 12 hereinafter without doing or permitting to be done any unnecessary or avoidable damage to the surface of the said lands or the drops, buildings, structures, or other property for the purposes of this clause, operation shall include the erection of machinery laying of a tramway or construction of a road in connection with the mine.

**4. To indemnify Government against all claims.**

The lessee/lessees shall make and pay such reasonable Satisfaction & compensation as may be assessed by lawful authority in accordance with the law in force on the subject



*Kishor Dasgupta*

ಇದರ ಪ್ರತಿ ಪರಿಶೀಲನೆ 29 ಫೆಬ್ರವರಿ 2019 ರಂದು  
ಆಯ್ಕೆ ಸಮಿತಿಯ ಅಧ್ಯಕ್ಷರು ಮಾಡಿರುವುದು  
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ಇದನ್ನು ಸಿದ್ಧಪಡಿಸಿ ಸಲ್ಲಿಸುವುದು.

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ವಸ್ತುವೇದನೆಯ 29 ಪ್ರಕಾರ 1908 ರ 12 ನೇ ಪ್ರತಿ

for all damage, injury or disturbance which may be done by him/them in exercise of the powers granted by this lease and shall indemnify and keep indemnified fully and completely State Government against all claims which may be made by any person or persons in respect of any damage, injury or disturbance and all costs and expenses in connection therewith.

**5. To secure and keep in good condition pits shafts etc.,**

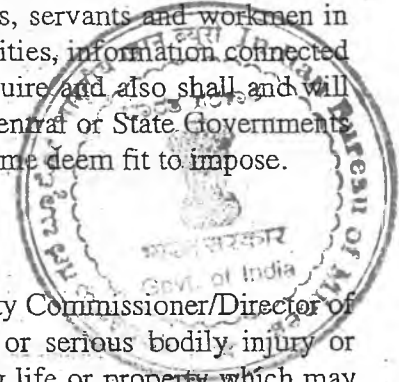
The lessee/lessees shall during the subsistence of this lease well and sufficiently secure and keep open with timber or other durable means all pits shafts and that may be made or used on the said land make and maintain sufficient fences to the satisfaction of the State Government round every such pit, shaft or working whether the same is abandoned or not & shall during the same period keep all working in the said lands, except such as may be abandoned assessable free from water and foul air as far as possible.

**6. To strengthen and support the Mines to necessary extent.**

The lessee/lessees shall strengthen and support to the satisfaction of the Railway administration concerned or the State Government, as the case may be, any part of the mine which in its opinion requires such strengthening or support for the safety of any railway, reservoirs, canal, road and any other public works or structures.

**7. To allow inspection of working.**

The lessee/lessees shall allow any officer authorised by the Central Government or the State Government in that behalf to enter upon the premises including any buildings, excavation or land comprised in the lease for the purpose of inspecting, examining, surveying prospecting and making plans there of sampling and collecting any data and the lessee/lessees shall with proper person employed by the lessee/lessees and acquainted with the mines and works effectually assist such officer, agents, servants and workmen in conducting every such inspection and shall afford them all facilities, information connected with the working of the mines which they may reasonably require and also shall and will conform to and observe all orders and regulations which the Central or State Government as the result of such inspection of otherwise may from time to time deem fit to impose.



**8. To report accidents.**

The lessee/lessees shall without delay send to the Deputy Commissioner/Director of Mines and Geology a report of any accident causing death or serious bodily injury or serious injury to property or seriously affection or endangering life or property which may occur in the course of the operation under this lease.

**9. To report discovery of other minerals.**

The lessee/lessees shall report to the State Government, the discovery in the leased area of any mineral not specified in the lease within sixty days of such discovery along with full particulars of the nature and position of each such find. If any mineral not

*Kishor Deva Raye*



specified in the lease is discovered in the leased area the lessee/lessees shall not win and dispose of such mineral unless such mineral included in the lease or a separate lease is obtained therefore.

**10. To Keep records and account regarding production and employees etc:**

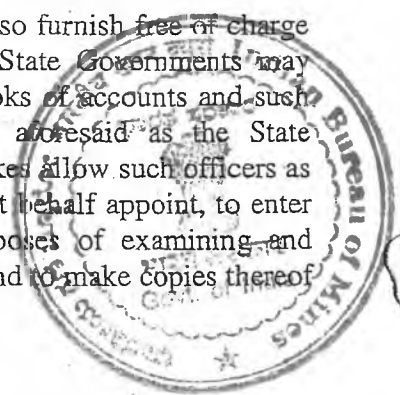
The lessee/lessees shall at all times during the said term keep or cause to be kept at an office to be situated upon or near the said lands correct and intelligible books of accounts which shall contain accurate entries showing from time to time.

- (1) Quantity and quality of the said mineral/ minerals realised from the said lands;
- (2) Quantity of the various qualities of the ores beneficiated or converted. (for example coal converted into coke)
- (3) Quantities of the various qualities of the said mineral/minerals sold and exported separately.
- (4) Quantities of the various qualities of the said mineral/,minerals otherwise disposed of in the manner and purpose of such disposal.
- (5) The prices and all other particulars of all sales of the said mineral/minerals.
- (6) The number of persons employed in the mines of works or upon the said lands specifying nationality, qualifications and pay of the technical personnel.
- (7) Such other facts, particulars and circumstances as the Central or the State Governments may from time to time required and shall also furnish free of charge to such officers and at such times as the Central and State Governments may appoints, true and correct abstracts of all or any such books of accounts and such information and returns to all or any of the matters aforesaid as the State Governments may prescribed and shall at all reasonable times allow such officers as the Central Government or State Government shall in that behalf appoint, to enter into and have access to the said officers for the purposes of examining and inspecting the said books of accounts, plans and records and to make copies thereof and make extracts there from.

**11. To maintain plans etc.,**

The lessee/lessees shall at all times during the said term maintain at the mine office correct, intelligible, up to-date complete plans sections of the mines in the said lands. They shall show all the operations workings, and all the trenches, pits and drillings made by the him/them in the course of operations carried on by him/them under the lease, faults and other disturbances encountered and geological data and all such plans and sections shall be amended and filled up by and from actual surveys to be made for that purposes at the end of

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twelve months or nay period specified from time to time and the lessee/lessees shall furnish free of charge to the Central and State Governments ~~the following~~ copies of such plans and section whenever required. Accurate records of all trenches, pits and drillings shall show:-

- (a) The sub-soil and strata through which they pass.
- (b) Any minerals encountered.
- (c) Any other matter of interest and all data required by the Central and State Government from time to time.

The lessee/lessees shall allow any officer of the Central or the State Governments authorised in this behalf by the Central Government, to inspect the same at all reasonable times, He/they shall also supply when asked for by the State Government/ the Coal Controller/ the Director/General Geological Survey of India/the Controller Indian Bureau of Mines, a composite plan of the area showing thickness dip, inclination, etc., of all the seams as also the quantity of reserves quality wise.

- 11A. The lessee shall pay a wage not less than the minimum wage prescribed by the Central or State Government from time to time.
- 11B. The lessee shall comply with provisions of the Mines Act, 1952 and rules made the-under.)
- 11C. The lessee shall take measures for the protection of environment like planting of trees, reclamation of land, use of pollution control devices; and such other measures as may be prescribed by the Central or state Government from time to time at his own expenses.
- 11D. The lessees shall pay compensation to the occupier of the land on the date and in the manner laid down in these rules.
- 11E. The lessee shall in the matter of employment give preference to the tribals and to the persons who become displaced because of the taking up of mining operations.



12. Act 67 of 1957 :

The lessee/lessees shall be bound by such rules may be issued from time to time by the Government of India under Section 18 of the Mines and Minerals (Regulations and Development) Act, 1957 (Act 67 of 1957) and shall not carry on mining or other operation under the said lease in any way other than as prescribed under these rules.

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13. To provide weighing machine:

Unless specifically exempted by the State Government the lessee/lessees shall provide and at all time keep at or near the pit head or each of the pit heads at which the said minerals shall be brought to bank a properly constructed and efficient weighing machine and shall weigh or cause to be weighed thereon all the said minerals from time to time brought to bank sold exported and converted and also the converted products shall at the close of each day cause the total weights. ascertained by such means of the said minerals, ores products raised, sold, exported and converted during the previous twenty-four hours to be entered in the aforesaid books of accounts, The lessee/lessees shall permit the State Government at all times during the said term to employ and persons or persons to be present at the weighing of the said minerals as aforesaid and to keep accounts thereof and to check the accounts kept by the lessee/lessees. The lessee/lessees shall give fifteen days previous notice in writing to the Director of Mines and Geology of every such measuring or weighing in order that he or some officer in his behalf may be present thereat.

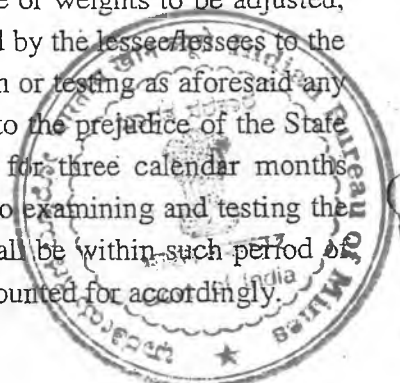
14. To allow test of weighing machine :

The lessee/lessees/shall allow any person or persons appointed in that behalf by the State Government at any time or times during the said term to examine and test every weighing machine to be provided and kept as afore-said and the weights used there with in order to ascertain whether the same respectively are correct and in good repair and order if upon any such examination or testing any such weighing machine of weights shall be found incorrect or out of repair or order the State Government may require that the same be adjusted, repaired and put in order by and at the expenses of the lessee/lessees and if such requisition be not complied with within fourteen days after the same shall have been made, the State Government may cause such weighing machine or weights to be adjusted, repair and put in order and the expense of so doing shall be paid by the lessee/lessees to the State Government on demand and if upon any such examination or testing as aforesaid any error shall be discovered in any weighing machine or weights to the prejudice of the State Government such error shall be regarded as having existed for three calendar months previous to the discovery thereof or from the last occasion of so examining and testing the same weighing machine and weights in case such occasion shall be within such period of three months and the said rent and royalty shall be paid and accounted for accordingly.

15. To pay compensation for injury to third parties :

The lessee/ lessees shall make any pay reasonable satisfaction and compensation for all damage, injury or disturbance of person or property which may be done by or on these

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part of the lessee/lessees in exercise of the liberties and power granted by presents and shall at all times have harmless and keep indemnified the State Government from and against all suits, claims and demands which may be brought made by any person in respect of any such damage, injury or disturbance.

#### 16. Not to obstruct working of other minerals.

The lessee/lessees will exercise the liberties and powers hereby granted in such a matter as to offer no unnecessary or reasonable avoidable obstructions or interruption to the development and working within the said lands of any minerals not included in this lease and shall at all times afford to the Central and State Government and to the holders of prospecting licence or mining leases in respect of any such minerals or any such minerals within any land adjacent to the said lands as the case may be reasonable means of access and safe and convenient passage upon and across the said lands to such minerals for the purpose of getting working, developing and carrying away the same provided that the lessee/lessees shall receive reasonable compensation for any damage or injury which he/they may sustain by reason or in consequence of the use of such passage by such lessee/lessees or holders of prospecting licences.

#### 17. Transfers of lease :

1. The lessee/lessees shall not, without the previous consent in writing of the State Government, which in the case of a mining lease in respect of any mineral specified in the first Schedule to the Act shall not be given except after previous approval of the Central Government:

- a) assign, subject, mortgage or in any other manner, transfer the mining lease or any right, title or interest therein or
- b) enter into or make any arrangement, contract or understanding whereby the lessee/lessees will or may be directly or indirectly financed to a substantial extent by or under which the lessee's operations or undertakings will or may be substantially controlled by any person or body of persons other than the lessee/lessees.

Provided that the State Government shall not give its written consent unless:

- a) the lessee has furnished an affidavit along with his application for transfer of the mining lease specifying therein the amount that he has already taken or proposes to take as consideration from the transferee.
- b) the transfer of the mining lease is to be made to a person or body directly undertaking mining operations.

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(2) Without prejudice to the above provisions, the lessee/lessees may subject to the condition specified in the proviso to Rule 35 of said Rules, transfer this lease or any right, title or interest therein, to a person who has filed and affidavit stating that he has filed upto date income tax returns, paid income tax assessed in him and paid the income tax on the basis of self assessment as provided in the Income tax Act 1961 (43 of 1961) on payment of five hundred rupees to the State Government.

Provided that the lessee/lessees shall make available to the transferee the original or certified copies of all plans of abandoned workings in the area and in a belt meters wide surrounding it.

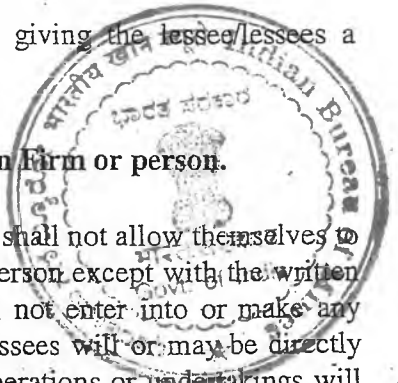
Provide further that where the Mortgage is an institution or a Bank or a Corporation specified in Schedule V it shall not be necessary for any such institution Bank of Corporation to meet with the requirement relating income tax.

(3) The State Government may by order in writing, determine the least at any time if the lessee/lessees has/have in the opinion of the State Government committed a breach of any of the above provisions or has/have transferred the lease or any right, title or interest therein otherwise than in accordance with clause(2):

Provided that no such order shall be made without giving the lessee/lessees a reasonable opportunity stating his/their case.

**18. Not to be financed or controlled by a Trust, Corporation Firm or person.**

The lease shall not be controlled and the lessee/lessees shall not allow themselves to be controlled by any Trust, Syndicate, Corporation, Firm or person except with the written consent of the Central Government. The lessee/lessees shall not enter into or make any arrangement compact or understanding whereby the lessee/lessees will or may be directly or indirectly financed by or under which the lessee/lessees operations or undertakings will or may be carried on directly or indirectly by or for the benefit of or subject to the control of any Trust, Syndicate, Corporation, Firm of person unless with the written sanction given prior to such arrangement compact or understanding being entered into or made of the Central Government and any or every such arrangement compact or understanding as aforesaid entered into or made with such sanction as aforesaid) shall only be entered into or made and shall always be subject to an express condition binding upon the other party of parties thereto that on the occasion of state of emergency of which the President of India in his discretion shall be the sole judge it shall be terminable if so required in writing, by the State Government and shall in the event of any such requisition being made be forthwith thereafter determined by the lessee/lessees accordingly.



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19. Lessee shall deposit any additional amount necessary:

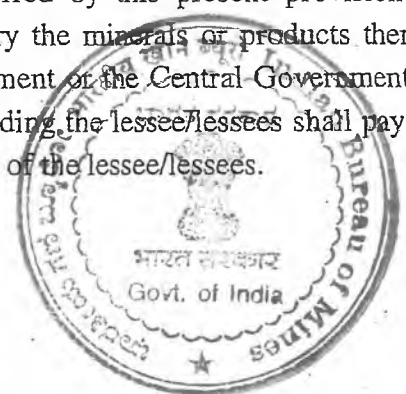
Whenever the security deposit of Rs. 10,000/- ~~any further sum~~ any further sum hereafter deposited with the State Government in replenishment thereof shall be forfeited or applied by the Central or State Government pursuant to the power hereinafter declared in that behalf the lessee/lessees shall deposit with the State Government such further sum as may be sufficient with the unappropriated part hereof to bring the amount in deposit with the State Government up to the sum of Rs. 10,000/-

20. Delivery of working in good order to State Government after determination of lease.

The lessee/lessees shall at the expiration or sooner determination of the said term or as renewal thereof deliver up to the State Government all mines, pits shafts, inclines drifts levels, waterways, airways, and other works now existing or hereafter to be sunk or made on or under the said lands except such as have been abandoned with the sanction of the Government and in an ordinary and fair course of working all engines machines plant, buildings. structures. other works and convenience which at the commencement of the said term were upon or under the said lands and all such machinery set up by the lessee/lessees below ground which cannot be removed without causing injury to the mines or works under the said lands (except such of the same as may with the sanction of the State Government have become discussed) and all buildings and structures of bricks or stone erected by the lessee/lessees above ground level in good repair order and condition and fit in all respects for further working of the said mines and the said minerals.

21. Right of pre-emption

- a) The State Government shall from time to time and all times during the said term have the right (to be exercised by notice in writing to the lessee/lessees) of pre-emption of the said minerals (and all products thereof) lying in or upon the said lands hereby demised or elsewhere under the control of the lessee/lessees and the lessee/lessees shall with all possible expedition deliver all mineral or products or minerals purchased by the State Government under the power conferred by this provision in the quantities at the times in the manner and at the place specified in the notice exercising the said right.
- b) Should the right of pre-emption conferred by this present provision be exercised and a vessel chartered to carry the minerals or products thereof procured on behalf of the State Government or the Central Government be detained on demurrage at the port of loading the lessee/lessees shall pay the amount due to causes beyond the control of the lessee/lessees.



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- c) The price to be paid for all minerals or products of minerals taken in pre-emption by the State Government in exercise of the rights hereby conferred shall be the fair market price prevailing at the time of pre-emption PROVIDED THAT in order to assist in arriving at the said fair market price the lessee/lessees shall if so required furnish to the State Government for the confidential information of the Government particulars of the quantities, descriptions and prices of the said minerals or products thereof sold to other customers and of charters entered into for freight carriage of the same and shall produce to such officer or officers as maybe directed by the State Government original or authenticated copies of contracts and charter parties entered into for the sale of freightage of such minerals or products.
- d) In the event of the existence of a state or war of emergency (of which existence of President of India shall be the sole judge and a notification to this effect in the Gazette of India shall be conclusive proof) the State Government with the consent of the Central Government shall from time to time and all times during the said term have the right (to be exercised by a notice in writing to the lessee/lessees) forthwith take possession and control of the works, plant, machinery and premises of the lessee/lessees on or in connection with the said lands or operations under this lease and during such possession or control the lessee/lessees shall conform to and obey all direction given by or on behalf of the Central Government or State Government regarding to use of employment of such works, plants, premises and minerals. PROVIDED THAT fair compensation which shall be determined in default of agreement by the State Government shall be paid to the lessee/lessees for all loss or damage sustained by him/them by reason or in consequence of the exercise of the powers conferred by this clause and PROVIDED ALSO that the exercise of such powers shall not determine the said term hereby granted or effect the terms and provisions of these presents further that may be necessary to give effect to the provisions of this clause.

**22. Employment of Foreign National**

The lessee/lessees shall not employ, in connection with the mining operations any person who is not an Indian national except with the previous approval of Central Government.



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**23. Recovery of expenses incurred by the State Government**

If any of the works or matters which in accordance with the covenants in that behalf hereinbefore contained are to be carried or performed by the lessee/lessees be not so carried out or performed within the time specified in that behalf, the State Government, may cause the same to be carried out or performed and the lessee/lessees shall pay the State Government on demand all expenses which shall be incurred in such carrying out or performance of the same and the decision of the State Government as to such expenses shall be final.

**24. Furnishing of Geophysical data**

The lessee/lessees shall furnish-(a) all geophysical data relating to mining fields or engineering and ground water surveys, such as anomaly maps, sections, plans, structures, contour maps, logging, collected by him/ them during the course or mining operations to the Director General, Geological Survey of India, Calcutta.

(b) all information pertaining to investigations of radio active minerals collected by him/them during the course of mining operations to the Secretary, Department of Atomic Energy, New Delhi.

Data or information referred to above shall be furnished every year reckoned from the date of commencement of the period of the mining lease.

**PART VIII**

**The Covenants of the State Government**

**1. Lessee/Lessees may hold and enjoy rights quietly**

The lessee/lessees paying the rents, water rate and royalties here by reserve and observing and performing all the covenants and agreements herein contained and on the part of the lessee/lessees to be observed and performed shall and may quietly hold and enjoy the rights and premises hereby demised for and during the term hereby granted without any unlawful interruption from the State Government or any person rightfully claiming underit.



**2. Acquisition of lands of third parties and compensation thereof**

If in accordance with the provision of Clause 4 of Part VII of this Schedule, the lessee/lessees shall offer to pay to an occupier of the surface of any part of the said lands compensation for and damage or injury which may arise from the proposed operations of the lessee/lessees and the said occupier shall refuse his consent to be exercise of the right and powers reserved to the State Government and demised to the lessee/lessees by these presents and the lessee/lessees shall report the matter to the State Government and shall

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deposits with it the amount offered as compensating ans if the Central/State Government are satisfied that the amount of compensation offered is fair and reasonable or if it is not so satisfied and the lessee/lessees shall have deposited with it such further amount as the State and Central Governments shall consider fair and reasonable, the State Government shall order the occupier to allow the lessee/lessees to enter the land and to carry out such operations as may be necessary for the purpose of this lease. In assassin the amount of such compensation the State Government shall be guided by the principles of the Land Acquisition Act.

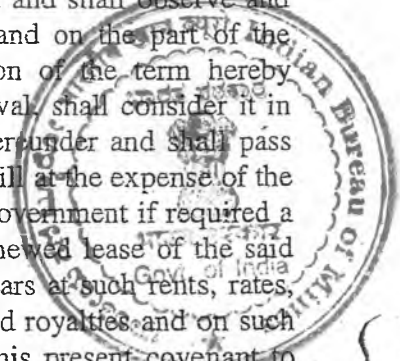
3. To renew :

The mining lease is renewable in terms of the Provisions of the Act and the rules made there under.

Provided that the State Government may for reasons to be recorded in writing reduce the area applied for.

If the lease is in respect of minerals specified in the First Schedule to the Act, renewal will be subject to the prior approval of the Central Government.

If the lessee/lessees be desirous of taking a renewal lease of the premises hereby demised or of any part or parts of them for a further term from the expiration of the term hereby granted and is otherwise eligible, he/ they shall prior to the expiration of the last mentioned term give to the State Government 12 calendar months previous notice in writing and shall pay the rents, rates and royalties hereby reserved and shall observe and perform the several covenants and agreements herein contained and on the part of the lessee/lessees to be observed and performed up to the expiration of the term hereby granted. The State Government on receipt of application for renewal shall consider it in accordance with the provisions of the Act and the rules made thereunder and shall pass orders as it deems fit. If renewal is granted the State Government will at the expense of the lessee/lessees and upon his executing and delivering to the State Government if required a counter part thereof execute and deliver to the lessee/lessees a renewed lease of the said premises or part thereof for the further term of 20 years at such rents, rates, and royalties and on such terms and subject to such rents, rates and royalties and on such terms and subject to such covenants and agreements, including this present covenant to renew as shall be accordance with the Mineral Concession Rules, 1960, applicable to Iron Ore (Name of Mineral on the day next following the Expiration of the terms hereby granted).



4. Liberty to determine the lease:

The lessee/lessees may at any time determine this lease by giving not less than 12 calendar months notice in writing to the State Government or to such officer, or authority as the State Government may specify in this behalf and upon the expiration of such notice provided that the lessee/lessees shall upon such expiration render and pay all rents, water rates, royalties compensation for damages and other moneys which may then be due and

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payable under these presents to the lessor or other person or persons and shall deliver up these presents to the State Government the lease and the said term and the liberties, powers and privileges hereby granted shall absolutely cease and determine but without prejudice to any right or remedy of the lessor in respect of any breach of any of the covenants of agreements contained in these presents.

- a. The State Government may on an application made by the lessee permit him to surrender one or more minerals from his lease which is for a group of minerals on the ground that deposits of that mineral have since exhausted or depleted to such an extent that it is no longer possible to work the mineral economically, subject to the condition that the lessee-
- b. Makes an application for such surrender of mineral at least six months before the intended date of surrender; and
- c. Gives an undertaking that he will not cause any hindrance in the working of the mineral so surrendered by any other person who is subsequently granted a mining lease for that mineral.

#### 5. Refund of security deposit

On such date as the State Government may elect within twelve calendar months after the determination of this lease or of any renewal thereof, the amount of the security deposit paid in respect of this lease and then remaining in deposit with the State Government and not required to be applied to any of the purposes mentioned in this lease shall be refunded to the lessee/lessees. No interest shall run on the security deposit.

### PART IX

#### General Provisions

##### 1. Obstructions to Inspection

In case the lessee/lessees or his/their transferee/assignee does/do not allow entry or inspection by the Officers authorised by the Central or State Government under clauses (i), (j) or (1) of sub-rule (1) rule 27 of said Rules, the State Government shall give notice in writing to the lessee/lessees requiring him/them to show cause within such time as may be specified in the notice why the lease should not be determined and his/their security deposit forfeited; and if the lessee/lessees fails/fail to show cause within the aforesaid time to the satisfaction of the State Government, the State Government may determine the lease and forfeit the whole or part of the security deposit.

##### 2. Penalty In case of default in payment of royalty and breach covenants:

If the lessee/lessees or his/their transferee or assignee makes/make any default in payment of rent or water rate or royalty as required by Section 9 of the Act of rent or

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ಇವುಗಳನ್ನು ಪೂರೈಸುವ ಕೆಲಸ ಮಾಡಬೇಕು  
ನೀ ಮಾತು ಮೇಲಿನಂತೆ ಸಂಪೂರ್ಣವಾಗಿ ನೀಡುವುದು.

commits a breach of any of the conditions and covenants other than those referred to in covenant (1) above, the State Government shall give notice to the lessee/lessees requiring him/them to pay the rent water rate, royalty or remedy the breach, as the case may be, within sixty days from the date of receipt of the notice and if the rent, water and royalty are not paid or the breach is not remedied within such period, the State Government may without prejudice to any proceedings that may be taken against him/them, determine the lease and forfeit the whole or part of the security deposit.

**3. Penalty for repeated breaches of covenants**

In cases of repeated breaches of covenants and agreements by the lessee/lessees for which notice has been given by the State Government in accordance with clauses (1) and (2) forementioned on earlier occasion, the State Government without giving any further notice may impose such penalty not exceeding twice the amount of annual dead rent specified in Clause 2, Part V.

**4. Failure to fulfill the terms of leases due to "Force Majeure"**

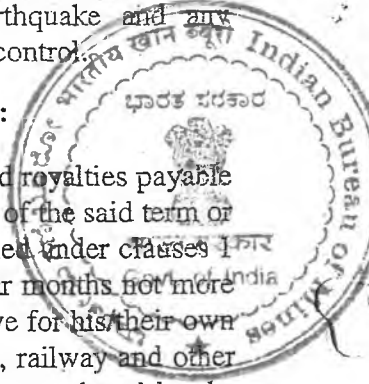
Failure on the part of the lessee/lessees to fulfill any of the terms and conditions of this lease shall not give the Central or State Government any claim against the lessee/lessees or be deemed a breach of this lease, In so far as such failure is considered by the said Government to arise from force majeure, and if through force majeure the fulfillment by the lessee/lessees of any of the terms and conditions of this lease be delayed, the periods and such delay shall be added to the period fixed by this lease. In this clause the expression "Force Majeure" means Act of God, war, insurrection, riot, civil commotion, strike, tide, storm, tidal wave flood, lightning, explosion, fire, earthquake and any other happening which the lessee/lessees could not reasonably prevent or control.

**5. Lessee/Lessees to remove his/their properties on the expiry of lease:**

The lessee/lessees having first paid and discharged rents, rates and royalties payable by virtue of these Presents may at the expiration or sooner determination of the said term or within six calendar months thereafter (unless the lease shall be determined under clauses 1 and 2 of this Part and in this case at any time not less than three calendar months not more than six calendar months after such determination) take down and remove for his/their own benefit or any engines, machinery plant, buildings, structures, tramways, railway and other works, erections and conveniences which may have been erected/set up or placed by the lessee/lessees in or upon the said lands and which the lessee/lessees is/are not bound to deliver to the State Government under clause 20 of Part VII of this Schedule and which the State Government shall not desire to purchase.

**6. Forfeiture of property left more than six months after determination of lease**

If at the end of six calendar months after the expiration or sooner determination of the said term under the provision contained in clause 4 of Part VIII of this Schedule become effective there shall remain in or upon the said land any engines machinery plant,



Kishor Devdas

ಅಧಿಕಾರ ವಹಿಸಿದ 29 ಫೆಬ್ರವರಿ 1968  
 ಸಂಖ್ಯೆ - 25 ಸಿ ಸಿ 25/68  
 1208/68-09

buildings, structures tramway, railway and other work erections and conveniences or other properly which are not required by the lessee/lessees in connection with operations in any other lands held by him/them under prospecting licence or mining lease the same shall if not removed by the lessee/lessees within one calendar months after notice in writing requiring their removal has been given to the lessee/lessees by the State Government be deemed to become the property of the State Government and may be sold or disposal of in such manner as the State Government shall deem fit without liability to pay any compensation or to account to the lessee/lessees in respect thereof.

**7. Notices**

Every notice by these presents required to be given to the lessee/lessees shall be given in writing to such, person resident on the said lands as the lessee/lessees may appoint for the purpose of receiving such notice and if there shall have been no such appointment then every such notice shall be sent to be lessee/lessees by registered post addressed to the lessee/lessees at the address recorded in the lease or at such other address in India at the lessee/lessees may from time to time in writing to the State Government designate for the receipt of notice and every such service shall be deemed to the proper and valid service upon the lessee/lessees and shall not questioned or challenged by him.

**8. Immunity of State Government from liability to pay compensation**

If in any event of the orders of the State Government are revised, reviewed or cancelled by the Central Government in pursuance of proceedings under Chapter VII of Mineral Concession Rules, 1960, the lessee/lessees shall not be entitled to compensation for any loss sustained by the lessee/lessees In exercise of the powers and privileges conferred upon him/them by these presents.

"(8A) The lease is executed at Bangalore..... the Capital town of the state of Kernataka..... (Name of the State) and subject to the provision of Article 226 of the Constitution of India it is hereby agreed upon by the lessee and the lessor that in the event of any dispute in relation to the area under lease, condition of lease, the dues realiable under the lease and in respect of all matters touching the relationship of the lessee and the lessor, the suits (or appeals) shall be filed in the Civil Courts at Bellary.....(Name of the city) and it is hereby expressly agreed that neither party shall be competent to file and petition at any place other than the courts named above."

9. For the purpose of stamp duty the anticipated royalty from the demised land is Rs. 23,43,000/- per year.

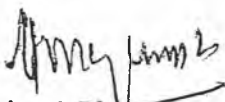


*Kishor Narayan*


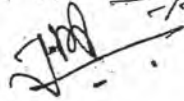
ಇದರಲ್ಲಿ ಉಲ್ಲೇಖಿಸಿದ ವಿಷಯಗಳನ್ನು ಸರಿಪಡಿಸಿ  
ಇದನ್ನು ಸರಿಪಡಿಸಿ ಸಬ್ ಜಿ.ಒ.ಎಂ.  
ಇದನ್ನು ಸರಿಪಡಿಸಿ ಸಬ್ ಜಿ.ಒ.ಎಂ.

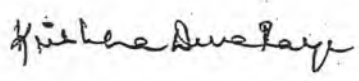
WITNESS WHEREOF these presents have been executed in the manner hereunder appearing the day and year first above written.

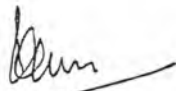
In the presence of

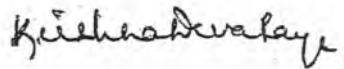
Signed by   
Additional Director (Mineral)  
Department of Mines & Geology  
BANGALORE.  
for and on behalf of

In the presence of



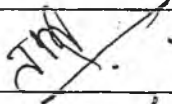
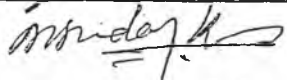
Signed by   
DIRECTOR  
DEPT. OF MINES & GEOLOGY  
for and on behalf of the  
Governor of Karnataka

  
KRISHNA DEVARAYA  
Partner  
AURO MINERALS  
Anegady House, N. C. Colony,  
HOSPET-583 203.

\*\*\*




ಗುರುತಿಸುವವರು


ಕ್ರಮ ಸಂಖ್ಯೆ	ಹೆಸರು ಮತ್ತು ವಿಳಾಸ	ಸಹಿ
1	K.Jambunath S/o. K.Siddappa. Hospet	
2	Madhu Sudan.K.T. S/o.K.Thimmaiah, Hospet	

ಈ ವ್ಯಾಜೀದಿನಲ್ಲಿ 29 ಪ್ರತಿಗಳು ಇವೆ  
ಇವು 1-1-2008 ರಲ್ಲಿ ಸಿದ್ಧಪಡಿಸಿದವು  
ಈ ವ್ಯಾಜೀದಿನಲ್ಲಿ 29 ಪ್ರತಿಗಳು ಇವೆ.

ಲಾಭ-ನೋಂದಣಾಧಿಕಾರಿಗಳು

4-8-08  
ವಿಜಯಲಕ್ಷ್ಮಿ ಎಸ್. ಜಿ.  
ಒಳಿತಿ ಉಪ ನೋಂದಣಾಧಿಕಾರಿಗಳು  
ಮೊಸರೇಟಿ

  
1 ನೇ ಪುಸ್ತಕದ ದಸ್ತಾವೇಜು  
ನಂಬರ HSP-1-01708-2008-09 ಅಗಿ  
ಸಿ.ಡಿ. ನಂಬರ HSPD32 ನೇ ಧರಲ್ಲಿ  
ದಿನಾಂಕ 04-08-2008 ರಂದು ನೋಂದಾಯಿಸಲಾಗಿದೆ

 4-8-08  
ವಿಜಯಲಕ್ಷ್ಮಿ ಎಸ್. ಜಿ.  
ಒಳಿತಿ ಉಪ ನೋಂದಣಾಧಿಕಾರಿಗಳು



Designed and Developed by C-DAC, ACTS, Pune

ಮೊಸರೇಟಿ



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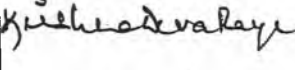
ದಸ್ತಾವೇಜು ಸಂಖ್ಯೆ : 1708

ಸಬ್ ರಜಿಸ್ಟ್ರಾರ್ ಹೊಸವೇಟೆ ರವರ ಕಚೇರಿಯಲ್ಲಿ ದಿನಾಂಕ 04-08-2008 ರಂದು 12:30:17 PM ಗಂಟೆಗೆ ಈ ಕೆಳಗೆ ವಿವರಿಸಿದ ಶುಲ್ಕದೊಂದಿಗೆ

ಕ್ರಮ ಸಂಖ್ಯೆ	ವಿವರ	ರೂ. ಪೈ
1	ನೋಂದಣಿ ಶುಲ್ಕ	267080.00
2	ಸ್ಯಾನಿಂಗ್ ಫೀ	1740.00
3	ದ್ವಿಪ್ರತಿ ಶುಲ್ಕ	100.00
4	ನಕ್ಷೆ ಫೈಲಿಂಗ್ ಶುಲ್ಕ	100.00
5	ಪರಿವರ್ತನಾ ಶುಲ್ಕ	70.00
	ಒಟ್ಟು :	269090.00

ಈ ದಸ್ತಾವೇಜಿನಲ್ಲಿ 29 ಪ್ರತಿಗಳು ಇವೆ  
ಇದರಲ್ಲಿ 29 ಸೇರಿ ಪುಸ್ತಕವು ಸಿದ್ಧವಾಗಿದೆ  
ಈ ದಸ್ತಾವೇಜಿನಲ್ಲಿ 29 ಸೇರಿ ಪ್ರತಿ,  
ಕಾನೂನುಬಾಹಿರವಾಗಿರುವುದಿಲ್ಲ

ಶ್ರೀ Krishna Devaraya, Partner, AURO Minerals, Anegondy House, N.C.Colony, Hospet - 583 203 ಇವರಿಂದ ಹಾಜರ ಮಾಡಲ್ಪಟ್ಟಿದೆ

ಹೆಸರು	ಫೋಟೊ	ಹೆಚ್ಚಿಟ್ಟ ಗುರುತು	ಸಹಿ
ಶ್ರೀ Krishna Devaraya, Partner, AURO Minerals, Anegondy House, N.C.Colony, Hospet - 583 203			

4.8.08  
ವಿಜಯಲಕ್ಷ್ಮಿ ಎಮ್.ಜಿ.  
ಹಿರಿಯ ಉಪ ನಿರೀಕ್ಷಕನಾದಿಗಳ  
ಜಿಲ್ಲಾಕಚೇರಿ

ರಜಿಸ್ಟ್ರೇಷನ್ ಕಾಯ್ದೆ ಕಲಂ 88(i) ಪ್ರಕಾರ ಹಾಜರಾಗಲು ವಿನಾಯ್ತಿಯಿರುವ Director, Dept. of Mines and Geology, Bangalore . ಇವರು ದಸ್ತಾವೇಜನ್ನು ಬರೆದುಕೊಟ್ಟಿರುವುದನ್ನು ನಾನು ಒಪ್ಪಿರುತ್ತೇನೆ.



4.8.08  
ವಿಜಯಲಕ್ಷ್ಮಿ ಎಮ್.ಜಿ.  
ಹಿರಿಯ ಉಪ ನಿರೀಕ್ಷಕನಾದಿಗಳ  
ಜಿಲ್ಲಾಕಚೇರಿ



ಕರ್ನಾಟಕ ಸರ್ಕಾರ  
ನೋಂದಣಿ ಹಾಗೂ ಮುದ್ರಾಂಕ ಇಲಾಖೆ  
Department of Stamps and Registration


ಪ್ರಮಾಣ ಪತ್ರ

1957 ರ ಕರ್ನಾಟಕ ಮುದ್ರಾಂಕ ಕಾಯ್ದೆಯ ಕೆಲಂ 10 ಎ ಅಡಿಯಲ್ಲಿಯ ಪ್ರಮಾಣ ಪತ್ರ


ಶ್ರೀ Krishna Devaraya, Partner, AURO Minerals, Anegondy House, N.C.Colony, Hospet - 583 203 , ಇವರು 2003200.00 ರೂಪಾಯಿಗಳನ್ನು ನಿಗದಿತ ಮುದ್ರಾಂಕ ಶುಲ್ಕವಾಗಿ ಪಾವತಿಸಿರುವುದನ್ನು ದೃಢೀಕರಿಸಲಾಗಿದೆ

ಪ್ರಕಾರ	ಮೊತ್ತ (ರೂ.)	ಹಣದ ಪಾವತಿಯ ವಿವರ
ಚೆಲನ್	2003200.00	Challan No.01, Date:02.08.2008, State Bank of Mysore, Hospet
ಒಟ್ಟು :	2003200.00	

ಸ್ಥಳ : ಹೊಸಪೇಟೆ  
ದಿನಾಂಕ : 04/08/2008

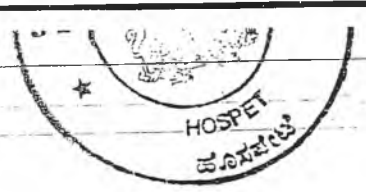
 4-8-08  
ವಿಜಯಲಕ್ಷ್ಮಿ ಎಮ್.ಜಿ.  
ಉಪ-ನೋಂದಣಿ ಮತ್ತು ಮುದ್ರಾಂಕ ಅಧಿಕಾರಿ  
ಹೊಸಪೇಟೆ ನೋಂದಣಿ ಮತ್ತು ಮುದ್ರಾಂಕ ಇಲಾಖೆ  
(ಹೊಸಪೇಟೆ)  
ಕರ್ನಾಟಕ

Designed and Developed by C- DAC ,ACTS Pune.

ಈ ದಸ್ತಾವೇಜಿನಲ್ಲಿ 209 ಪ್ರತಿಗಳು ಇವೆ  
ಇದು .....ನೇ ಪ್ರಸ್ತುತವಾದ 1702/08 ಎಳೆ  
ಈ ದಸ್ತಾವೇಜಿನ .....ನೇ ಪ್ರತಿ.  
  
ಉಪ-ನೋಂದಣಿ ಮತ್ತು ಮುದ್ರಾಂಕ ಅಧಿಕಾರಿ







ಕರ್ನಾಟಕ ಸರ್ಕಾರ  
 ನೋಂದಣಿ ಹಾಗೂ ಮುದ್ರಾಂಕ ಇಲಾಖೆ  
 Department of Stamps and Registration

ಪ್ರಮಾಣ ಪತ್ರ

1957 ರ ಕರ್ನಾಟಕ ಮುದ್ರಾಂಕ ಕಾಯ್ದೆಯ ಕಲಂ 10 ಎ ಅಡಿಯಲ್ಲಿಯ ಪ್ರಮಾಣ ಪತ್ರ

ಶ್ರೀ Krishna Devaraya, Partner, AURO Minerals, Anegondy House, N.C.Colony, Hospet - 583 203 , ಇವರು 2003200.00 ರೂಪಾಯಿಗಳನ್ನು ನಿಗದಿತ ಮುದ್ರಾಂಕ ಶುಲ್ಕವಾಗಿ ಪಾವತಿಸಿರುವುದನ್ನು ದೃಢೀಕರಿಸಲಾಗಿದೆ

ಪ್ರಕಾರ	ಮೊತ್ತ (ರೂ.)	ಹಣದ ಪಾವತಿಯ ವಿವರ
ಚೆಲನ್	2003200.00	Challan No.01, Date:02.08.2008, State Bank of Mysore, Hospet
ಒಟ್ಟು :	2003200.00	

ಸ್ಥಳ : ಹೊಸಪೇಟೆ  
 ದಿನಾಂಕ : 04/08/2008

*(Handwritten signature)*  
 4-8-08  
 ವಿಜಯಲಕ್ಷ್ಮಿ ವಿವಾಹ ಸಂಸ್ಥೆ  
 ಅಧಿಕಾರವಹಿಸಿರುವ ಮತ್ತು ಯುಕ್ತ ಅಧಿಕಾರಿ  
 ಅಂತರರಾಜ್ಯ ಕರಕುಶಲ ನೋಂದಣಿ ದಳಾಂಗಣ  
 (ಹೊಸಪೇಟೆ)  
 ಹೊಸಪೇಟೆ

Designed and Developed by C- DAC ,ACTS Pune.

ಈ ದಸ್ತಾವೇಜಿನಲ್ಲಿ 27 ಪ್ರತಿಗಳು ಇವೆ  
 ಇದು 27ನೇ ಪುಸ್ತಕವು 27ನೇ ಪ್ರತಿ  
 ನೀ ದಸ್ತಾವೇಜಿನ 27ನೇ ಪ್ರತಿ.  
 ಉಪ-ನೋಂದಣಿ ಕಾರ್ಯಾಲಯ



Print Date & Time : 04-08-2008 12:38:36 PM

ದಸ್ತಾವೇಜು ಸಂಖ್ಯೆ : 1708



ಸಬ್ ರಜಿಸ್ಟ್ರಾರ್ ಹೊಸವೇಟೆ ರವರ ಕಛೇರಿಯಲ್ಲಿ ದಿನಾಂಕ 04-08-2008 ರಂದು 12:30:17 PM

ಗಂಟೆಗೆ ಈ ಕೆಳಗೆ ವಿವರಿಸಿದ ಶುಲ್ಕದೊಂದಿಗೆ

ಕ್ರಮ ಸಂಖ್ಯೆ	ವಿವರ	ರೂ. ಪೈ
1	ನೋಂದಣಿ ಶುಲ್ಕ	267080.00
2	ಸ್ಟ್ಯಾನ್ಸಿಂಗ್ ಫೀ	1740.00
3	ದ್ವಿ ಪ್ರತಿ ಶುಲ್ಕ	100.00
4	ನಕ್ಸೆ ಫೈಲಿಂಗ್ ಶುಲ್ಕ	100.00
5	ಪರಿವರ್ತನಾ ಶುಲ್ಕ	70.00
	ಒಟ್ಟು :	269090.00

ಈ ದಸ್ತಾವೇಜಿನಲ್ಲಿ 29 ಟುಟಗಲು ಇವೆ  
ಇದು 29ನೇ ಫಸ್ಟ್ ಕಲೆ 1708/08  
ಈ ದಸ್ತಾವೇಜಿನ 29 ನೇ ಟುಟ.  
ಇದನ್ನು ಸೂಚಿಸಲಾಗಿದೆ

ಶ್ರೀ Krishna Devaraya, Partner, AURO Minerals, Anegondy House, N.C.Colony, Hospet - 583 203 ಇವರಿಂದ ಹಾಜರ ಮಾಡಲ್ಪಟ್ಟಿದೆ

ಹೆಸರು	ಫೋಟೋ	ಹೆಚ್ಚೆಟ್ಟಿನ ಗುರುತು	ಸಹಿ
ಶ್ರೀ Krishna Devaraya, Partner, AURO Minerals, Anegondy House, N.C.Colony, Hospet - 583 203			Krishna Devaraya

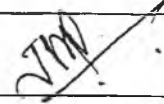
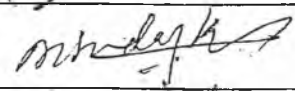
ರಜಿಸ್ಟ್ರೇಷನ್ ಕಾಯ್ದೆ ಕಲಂ 88(i) ಪ್ರಕಾರ ಹಾಜರಾಗಲು ವಿನಾಯ್ತಿಯಿರುವ Director, Dept.of Mines and Geology, Bangalore , ಇವರು ದಸ್ತಾವೇಜನ್ನು ಬರೆದುಕೊಟ್ಟಿರುವುದನ್ನು ನಾನು ಒಪ್ಪುತ್ತೇನೆ.


4.8.08  
ವಿಜಯಲಕ್ಷ್ಮಿ ರಜಿಸ್ಟ್ರಾರ್, ಜಿ.  
ಹತ್ತಿಯ ಉಪ ನಿರೀಂದಣಾಧಿಕಾರಿಗಳು  
ಹೊಸವೇಟೆ





4.8.08  
ವಿಜಯಲಕ್ಷ್ಮಿ ರಜಿಸ್ಟ್ರಾರ್, ಜಿ.  
ಹತ್ತಿಯ ಉಪ ನಿರೀಂದಣಾಧಿಕಾರಿಗಳು  
ಹೊಸವೇಟೆ

ಗುರುತಿಸುವವರು


ಕ್ರಮ ಸಂಖ್ಯೆ	ಹೆಸರು ಮತ್ತು ವಿಳಾಸ	ಸಹಿ
1	K.Jambunath S/o. K.Siddappa, Hospet	
2	Madhu-Sudan.K.T. S/o.K.Thimmaiah, Hospet	


ಈ ದಸ್ತಾವೇಜಿನಲ್ಲಿ 29 ಪ್ರತಿಗಳು ಇವು  
ಇದು 1 ನೇ ಪ್ರಸ್ತುತದ 1993/08-04  
ನೀ ದಸ್ತಾವೇಜಿನ 29 ನೇ ಪ್ರತಿ.  
  
ಲಾಹ-ಕೊಂಟ್ರಾಕ್ಟಾಡಿಸಿಟಿ

 4.8.08  
ವಿಜಯಲಕ್ಷ್ಮಿ ಎಮ್.ಜಿ.  
ಪುನರ್ವಿಚಾರಣೆ  
ಕೃತಿಯ ಉಪ ನಿರೀಕ್ಷಾಧಿಕಾರಿಗಳು  
ಹೊಸಪೇಟೆ



1 ನೇ ಪ್ರಸ್ತುತದ ದಸ್ತಾವೇಜು  
ನಂಬರ HSP-1-01708-2008-09 ಆಗಿ  
ಸಿ.ಡಿ. ನಂಬರ HSPD32 ನೇ ಧರಲ್ಲಿ  
ದಿನಾಂಕ 04-08-2008 ರಂದು ನೋಂದಾಯಿಸಲಾಗಿದೆ

 4.8.08  
ವಿಜಯಲಕ್ಷ್ಮಿ ಎಮ್.ಜಿ.  
ಪುನರ್ವಿಚಾರಣೆ  
ಕೃತಿಯ ಉಪ ನಿರೀಕ್ಷಾಧಿಕಾರಿಗಳು



ಉಪ ನಿರೀಕ್ಷಾಧಿಕಾರಿಗಳ ಮೊಹರು  
The Seal of the Sub-Registrar  
HOSPET  
ಹೊಸಪೇಟೆ

Designed and Developed by C-DAC, ACTS, Pune



ANNEXURE - II

F.No.8-52/94-FC  
Government of India  
Ministry of Environment and Forests  
F.C. Division

Fax: 4361773, 4363232

Paryavaran Bhawan,  
CGO Complex, Lodhi Road,  
New Delhi - 110 003.

Dated: 13 May, 1999

To,  
The Secretary (Forest),  
Govt. of Karnataka,  
Bangalore.

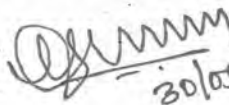
Subject: Renewal of mining lease in favour of M/S Auro Minerals, Hospet over an area of 31.00 ha. in Kallahally-Hospet Taluk, Bellary district.

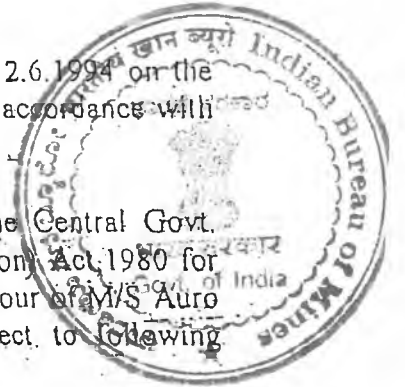
Sir,

I am directed to refer to your letter no. FEE 81 FFM 90 dated 2.6.1994 on the above mentioned subject seeking prior approval of the Central Govt. in accordance with section-2 of Forest(Conservation) Act, 1980.

After careful consideration of the proposal of State Govt., the Central Govt. hereby, conveys its approval under section-2 of the Forest(Conservation) Act, 1980 for diversion of 31.00 ha. of forest land for renewal of mining lease in favour of M/S Auro Minerals, Hospet in Kallahally Hospet Taluk, Bellary district subject to following conditions:

1. Legal status of forest land shall remain unchanged.
2. Compensatory afforestation shall be done over 13.23 ha. of non-forest land at the cost of user agency.
3. ~~Penal Compensatory Afforestation shall be carried over twice the area of already broken up i.e. over 2x17.772 = 35.544 ha. over degraded forest land at the cost of user agency.~~
4. The forest area being diverted shall be demarcated in ground by RCC Pillars at the cost of user agency.

  
30/05/2016



No. SEIAA: 114 : MIN: 2008  
**STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT  
 AUTHORITY, KARNATAKA**

(Constituted by Ministry of Environment and Forests, Government of India)

Department of Ecology and Environment,  
 Room No. 710, 7<sup>th</sup> Floor, IV - Gate,  
 M.S. Building, Bangalore - 560 001.

Date: 16<sup>th</sup> September 2008.

To,

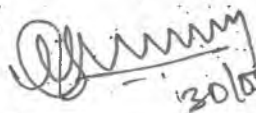
M/s. Auro Minerals Pvt. Ltd.,  
 "Raja Krishna Devaraya Iron Ore Mines",  
 #322/3, 2<sup>nd</sup> Floor, Sree Saptagiri Enclave,  
 College Road, Hospet-583 201.  
 Bellary District.

Sir,

**Sub: Extraction of 4.20 LTPA Iron Ore in an area of 31.00  
 Ha at Kallahalli Village, Hospet Taluk, Bellary  
 District (ML No. 1751) of M/s. Auro Minerals Pvt.  
 Ltd.,- Issue of Environment Clearance- reg.**

\* \* \* \*

This has reference to your letter No. AURO/HPT/06-07/30 dated: 05.12.2006 addressed to Ministry of Environment & Forests, Government of India on the subject mentioned above. It has been noted that the proposal is for grant of environmental clearance under the provisions of EIA Notification, 2006, for extraction of 4.20 LTPA iron ore. The total mine lease area of the project is 31.00 ha, which is a forestland. Out of 31.00 ha of ML area, 17.838 ha area is for mining, 8.240 ha is for dumping, 1.450 ha is for Top soil & Sub-grade mineral dumps, 2.472 ha is for statutory building, 1.000 ha is for roads. Working will be opencast by mechanized method involving blasting. The water requirement for the project is estimated at 47.5 m<sup>3</sup>/day, which will be obtained from Bore wells. During the life of mine about 8.38 million tons of OB will be handled. The Indian Bureau of Mines has approved mining plan on 18.09.2006 for lease area of 31.00 ha. Ministry of Environment and Forests, Government of India has issued Forest Clearance vide letter No. F.No. 8-52/94-FC dated: 13.05.1999. The State Government vide Government Order FEE 81 FFM 90 dated: 17.08.1999 has also issued Notification for diversion of 31 ha of forest land in Kallahalli Village of Hospet Taluk in favour of M/s. Auro Minerals for renewal of mining lease. Capital cost of the project is about Rs. 89.5 Lakhs. The Public Hearing for the project was held on 14.12.2007.

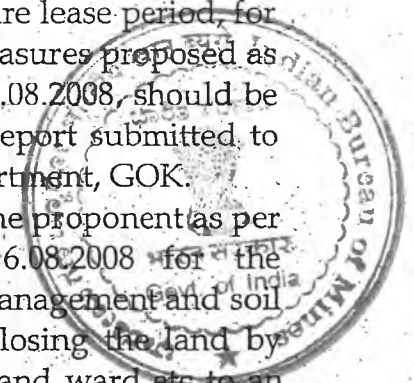
  
 30/05/2016



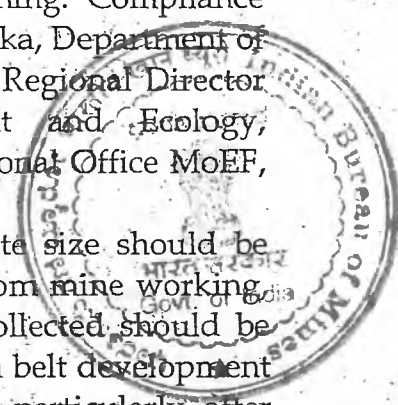
2. This file was transferred to SELAA, Karnataka by Ministry of Environment & Forests after its constitution as per requirement of EIA 2006 Notification. The SEAC appraised the project in its meeting held on 19<sup>th</sup> July 2008 and recommended for issue of environmental clearance. The State Environment Impact Assessment Authority, Karnataka State has examined the application in its meeting held on 19<sup>th</sup> August 2008 in accordance with the EIA Notification 2006 and hereby accords environmental clearance under the provisions thereof to the above mentioned M/s. Auro Minerals Pvt. Ltd., for an annual production capacity of 4.20 LTPA of Iron ore by opencast mechanized method involving mining lease area of 31.00 ha. subject to implementation of the following conditions and environmental safeguards.

**A. SPECIFIC CONDITIONS:**

- i. IBM approved mining plan shall be strictly implemented and shall not be operated beyond the validity period of the approved mining plan.
- ii. PAs should get the health checkup done for the mines workers and the nearby villagers once in six months and submit report periodically.
- iii. Management Plan for the Core Zone for the entire lease period, for planting and soil and moisture conservation measures proposed as per letter No. RKDR/EC/2008-09/1544 dated 6.08.2008, should be strictly implemented and periodical progress report submitted to the Authority/ Ecology and Environment Department, GOK.
- iv. The Management plan proposal submitted by the proponent as per letter No. RKDR/EC/2008-09/1544 dated 6.08.2008 for the surrounding/near by Forestland for wild life management and soil and moisture conservation works including closing the land by fencing, fire protection, engagement of watch and ward etc to an extent of 5 times the mine area. Also development of at least 50 meter wide thick Green Belt between the nearby natural water course and the lease boundary to preserve the natural flow of the water course and prevent it from getting polluted and planting 3 kms of approach road sides to the mine should be implemented strictly and periodical report submitted to the Authority/ Ecology and Environment Department, GOK.
- v. The environmental clearance is subject to any policy change by the State Government as may be applicable to this project.
- vi. This Environmental Clearance is co-terminus with the lease granted under F(C) Act 1980 or mining lease under MM (D & R) Act 1957 which ever is earlier.

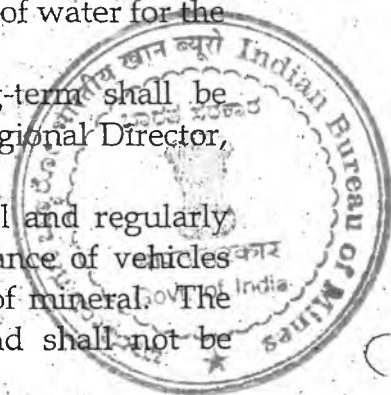


- vii. Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No. 460 of 2004, as may be applicable to this project.
- viii. All the conditions stipulated in the Consent for establishment issued by Karnataka State Pollution Control Board should be effectively implemented.
- ix. The mining operations shall not intersect ground water table. Prior approval of the SEIAA / Ministry of Environment & Forests and Central Ground Water Authority shall be obtained for mining below water table.
- x. The project proponent shall ensure that no natural watercourse and / or water resources shall be obtained for mining below water table.
- xi. The topsoil should be stacked at earmarked site only and should not be kept unutilized for a period more than 3 years. The topsoil should be used for reclamation and plantation.
- xii. Over burden shall be stacked at earmarked site (s) only and should not be kept active for long period. The maximum height of the dump should not exceed 30m having 3 terraces of 10m each. The overall slope of the dump shall not exceed 27°. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas use of geo textiles shall be undertaken for stabilization of the dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the SEIAA Karnataka, Department of Environment and Ecology, Govt. of Karnataka, Regional Director (Environment), Department of Environment and Ecology, Government of Karnataka, Bellary and the Regional Office MoEF, Bangalore on six monthly basis.
- xiii. Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine working, soil, OB and mineral dumps. The water so collected should be utilized for watering the mine area, roads, green belt development etc., the drains should be regularly de-silted particularly after monsoon and maintained properly.
- xiv. Garland drain (size, gradient and length) shall be constructed for mine pit, soil, OB and mineral dumps and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and de-silted at regular intervals.

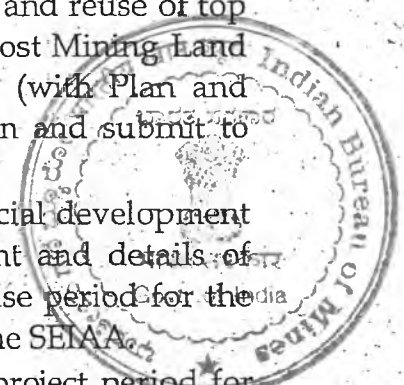




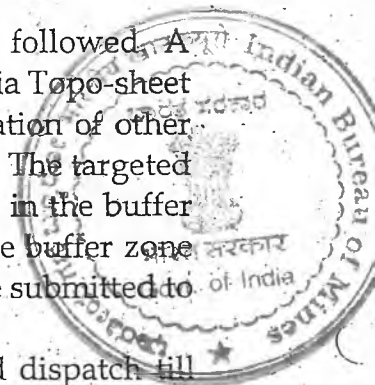
- xv. Dimension of the retaining wall at the toe of dumps and OB benches within the mine to check run-off and siltation should be based on the rainfall data.
- xvi. The project authority should implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.
- xvii. Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and constructing new peizometers during the mining operation. The monitoring should be carried out four times in a year. Pre-monsoon (April - May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to Department of Environment and Ecology, Govt. of Karnataka, Regional Director (Environment), Department of Environment and Ecology, Government of Karnataka, Bellary and the Regional office MoEF, Bangalore Central Ground Water Authority and Regional Director, Central Ground Water Board.
- xviii. Appropriate mitigation measures should be taken to prevent pollution of nearby water bodies in consultation with the State Pollution Control Board.
- xix. The project proponent shall submit commitment from the competent authority for drawl of requisite quantity of water for the project before starting work on the project.
- xx. Suitable rainwater harvesting measures on long-term shall be planned and implemented in consultation with Regional Director, Central Ground Water Board.
- xxi. Vehicular emissions should be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The vehicles should be covered with a tarpaulin and shall not be overloaded.
- xxii. Blasting operation should be carried out only during the daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.
- xxiii. Drills shall either be operated with dust extractors or equipped with water injection system.
- xxiv. Digital processing of the entire lease area using remote sensing technique should be done regularly once in three years for monitoring land use pattern and report submitted to SEIAA Karnataka, Department of Environment and Ecology, Govt. of Karnataka and the Regional Office, MoEF, Bangalore.



- xxv. The project authorities should undertake sample survey to generate data on pre-project community health status within a radius of 1 km from proposed mine.
- xxvi. Consent to operate should be obtained from State Pollution Control Board prior to start of production from the mine.
- xxvii. Proper sanitary facilities should be installed for the colony. Domestic waste generated should be disposed in a scientific manner. Proper first aid facilities and health care facilities should be provided for the labourers.
- xxviii. The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. The proponent shall contribute towards the cost of implementation of the plan and / or Regional Wildlife Management Plan for conservation of wild life. The amount so contributed shall be included in the project cost. A copy of the action plan may be submitted to the SEIAA, Department of Environment and Ecology, Govt. of Karnataka, the Regional Office, MoEF, Bangalore and the Regional Director (ENV), Bellary within 3 months.
- xxix. The project proponent shall delineate Mining Closure Plan/ exit protocol to rehabilitate the mined out land to match its surrounding land use including removal, storage and reuse of top soil from mining area to cover reclaimed area. Post Mining Land Use Plan with rehabilitation of mined out area (with Plan and Section) provided Flora Fauna Conservation Plan and submit to SEIAA.
- xxx. A master plan indicating clearly the details of social development proposed by the PAs with year wise investment and details of proposed works to be taken up for the entire lease period for the local villages shall be submitted immediately to the SEIAA.
- xxxi. Plantation monitoring programme during post project period for ensuring survival and growth rate of plantation in reclaimed area.
- xxxii. A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the SEIAA Karnataka, Department of Environment and Ecology, Govt. of Karnataka, Regional Director (Environment), Department of Environment and Ecology, Government of Karnataka, Bellary and the Regional Office, MoEF, Bangalore 5 years in advance of final mine closure for approval.



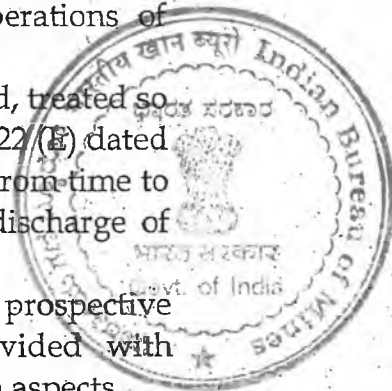
- xxxiii. Retention walls should be increased from 1.5 to 2.5 mtr height with base of 3 mtr.
- xxxiv. The OB (over burden) is being dumped/deposited from the higher side towards the slopes. It should be dumped in the earmarked area from lower side towards the higher side, maintaining the prescribed dump slope of  $28^{\circ}$  with stages of 15 mtrs height and total dump height not exceeding 60 mtrs. At present the dump slope in some places is more than  $45^{\circ}$  which needs to be worked properly.
- xxxv. The toe-walls should to be strengthened. The location of these structures/activities should be marked on the Environment Management Map of 1:2000 scale, as per the provision of Mineral Concession and Development Rules 1988. para 28.1(a) S(a) &(b) and submitted.
- xxxvi. Check dams and gully plugs along the smaller streamlets in the area, should ~~to~~ be constructed to arrest the loose soil flow from the mine area.
- xxxvii. Ground water augmenting measures, should be undertaken immediately and detailed report submitted within 3 months time.
- xxxviii. The sub-grade ore and mineral rejects dump slopes should be brought down to around  $25^{\circ}$  slopes and toe-walls should be provided at the bottom of the dumps.
- xxxix. The provisions of FC Act 1980-para 2 need to be followed. A location map of the mine on a 1:50,000 scale Sy. of India Topo-sheet should be provided. This map should depict the location of other mines (existing and proposed) in the buffer zone area. The targeted production levels of the existing and proposed mines in the buffer zone need to be provided. The land use pattern of the buffer zone also needs to be provided. This information should be submitted to the Authority immediately.
- xl. Particulars of ore and sub-grade ore production and dispatch till date should be provided by the mine owner and yearly report in future.
- xli. The infrastructure of transport roads should be improved collectively by the mine owners of the area.
- xlii. *Link road from mining site to main road shall be maintained by the mine owners.*
- xliii. *The proponent to fulfill all the social commitment that has been submitted to Authority vide letter dated: 05.09.2008 and the same shall be executed before 2011 completely and the cost of the execution shall not be less than agreed budget of Rs. 9.15 lakhs.*



**B. GENERAL CONDITIONS:**

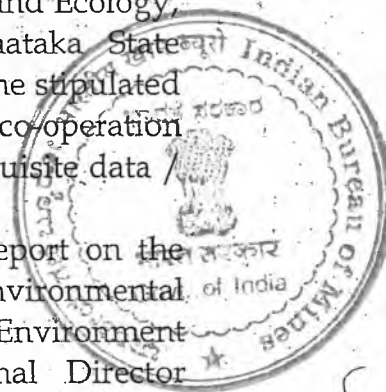
- i. No change in mining technology and scope of working should be made without prior approval of the SEIAA Karnataka
- ii. No change in the calendar plan including excavation, quantum of mineral and waste should be made.
- iii. Four ambient air quality-monitoring stations shall be established in the core zone as well as in the buffer zone for RPM, SPM, SO<sub>2</sub>, NOX monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.
- iv. Data on ambient air quality (RPM, SPM, SO<sub>2</sub>, NOX) should be regularly submitted to the SEIAA Karnataka, Department of Environment and Ecology, Govt. of Karnataka, Regional Director (Environment), Department of Environment and Ecology, Government of Karnataka, Bellary and the Regional Office, MoEF, Bangalore and the State Pollution Control Board / Central Pollution Control Board once in six months.
- v. Fugitive dust emission from all the sources should be controlled regularly. Water spray arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.
- vi. Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc should be provided with earplugs / muffs.
- vii. Waste water from the mine should be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19<sup>th</sup> may 1993 and 31<sup>st</sup> December, 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of effluents.
- viii. Personnel working in dusty areas should wear prospective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.

Occupational health surveillance program of the workers should be undertaken periodically i.e. once in 3 months to observe any contractions due to exposure to dust and take corrective measures, if needed. Quarterly report in this regard should be submitted to the Department of Environment and Ecology, Govt. of Karnataka, Regional Director (Environment), Department of Environment and Ecology, Government of Karnataka, Bellary, the Karnataka State Pollution Control Board and the Regional Office, MoEF, Bangalore.





- ix. A separate environmental management cell with suitable qualified personnel shall be set-up under the control of a Senior Executive, who will report directly to the Head of the organization. The Environment management committee should be constituted with one of the member representing nearby village.
- x. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the SEIAA Karnataka, the Department of Environment and Ecology, Govt. of Karnataka, Regional Director (Environment), Department of Environment and Ecology, Government of Karnataka, Bellary and the Regional Office, MoEF, Bangalore.
- xi. The project authorities should inform the SEIAA Karnataka, Department of Environment and Ecology, Govt. of Karnataka, Regional Director (Environment), Department of Environment and Ecology, Government of Karnataka, Bellary and the Regional Office, MoEF, Bangalore regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
- xii. The Regional Office of MoEF, Bangalore; the Department of Environment and Ecology, Govt. of Karnataka; the Regional Director (Environment), Department of Environment and Ecology, Government of Karnataka, Bellary and the Karnataka State Pollution Control Board shall monitor compliance of the stipulated conditions. The project authorities should extend full co-operation to the Officer (S) of these offices by furnishing the requisite data / information / monitoring reports.
- xiii. The project proponent shall submit six monthly report on the status of the implementation of the stipulated environmental safeguards to the SEIAA Karnataka, Department of Environment and Ecology, Government of Karnataka, Regional Director (Environment), Department of Environment and Ecology, Government of Karnataka, Bellary, the Regional Office, MoEF, Bangalore; the Central Pollution Control Board and the Karnataka State Pollution Control Board.
- xiv. As agreed the proponents should implement the proposed social commitment plan. They should submit a detailed year wise programme for the entire lease period to the SEIAA, Karnataka, the Department of Environment and Ecology, Government of Karnataka within 3 months and strictly implement as per the plan. Six monthly progress report should be submitted in this regard.
- xv. A copy of the clearance letter will be marked to the concerned Panchayat. Local NGO, if any, from whom suggestion / representation has been received while processing the proposal.



- xvi. The project proponent should display the conditions prominently at the entrance of the project on a big panel board for the information of the public.
- xvii. The Karnataka State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office/ Tehsildar's office for 30 days.
- xviii. The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned; within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at website of the Ministry of Environment and Forests at <http://www.parisara.kar.nic.in> and a copy of the same should be forwarded to the Department of Environment and Ecology, Government of Karnataka; the Regional Director (Environment), Department of Environment and Ecology, Government of Karnataka, Bellary and the Regional Office, MoEF, Bangalore.

(3) The SEIAA or any other competent authority may alter / modify the above conditions or stipulate any further condition in the interest of environment protection.

(4) Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

(5) Nearby local village representative should be included as a member in the local management committee.

(6) The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under.

Yours faithfully,

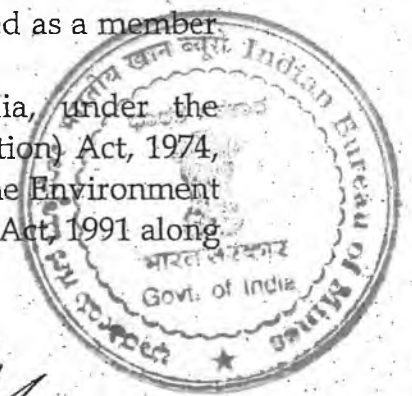
(KANWERPAL)

Member Secretary

State Level Environment Impact Assessment  
Authority

Copy to:

1. The Secretary, Ministry of Environment & Forests, Government of India, Paryavaran Bhavan, CGO Complex, Lodi Road, New Delhi - 110 003.



16/9/2008

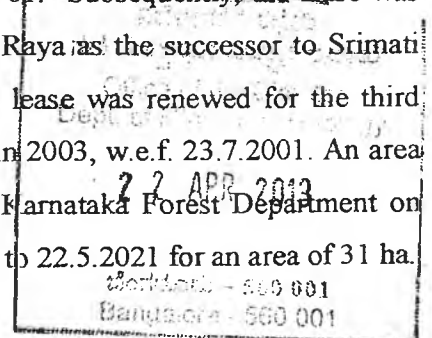
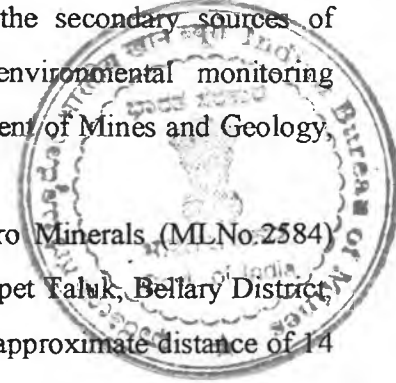
2. The Secretary, Department of Environment & Ecology, Government of Karnataka, Bangalore.
3. The Member Secretary, Karnataka State Pollution Control Board, Bangalore.
4. The CCF, Regional Office, Ministry of Environment & Forests (SZ), Kendriya Sadan, IVth Floor, E & F Wings, 17<sup>th</sup> Main Road, Koramangala II Block, Bangalore - 560 034.
5. Regional Director (Environment), Ecology and Environment Department, Dr.Salim Building, Radio Park, Bellary.
6. Guard File.





## EXECUTIVE SUMMARY

1. The Hon'ble Supreme Court of India has directed the Government of Karnataka to formulate Reclamation and Rehabilitation Plan (R&R) for the mine affected districts viz., Bellary, Chitradurga and Tumkur. The Government of Karnataka, keeping in view the National Environmental Standards and the commitment for sustainable management of environment has awarded Indian Council of Forestry Research and Education (ICFRE), Dehra Dun, the study to formulate R&R plan, vide letter No. DMS/MLS/R&R/2011-12 dated 27.12.2011. In this context, Rajakrishnadevaraya (RKDR) Iron Ore Mine of M/s. Auro Minerals (MLNo.2584) was visited on 3.11.2012.
2. The scope of the study included collection and assessment of the existing scenario and environment status data such as topography, production technology, overburden dump, top soil, soil conservation measures and environmental quality, to assess impacts and formulation of site specific R&R plan.
3. Considering the time limit and constraints in collection of baseline data on the existing environmental status, the study had to mainly rely on the secondary sources of information viz., EIA/EMP reports, Mining Scheme, environmental monitoring conducted by external agencies such as the SPCB, Department of Mines and Geology, and the mine owner.
4. Rajakrishnadevaraya (RKDR) Iron Ore Mine of M/s. Auro Minerals (MLNo.2584) with a lease area of 31ha is located in N. E. B. Range, Hospet Taluk, Bellary District, Karnataka. The mine is located in Kallhalli village, at an approximate distance of 14 km from Hospet Town.
5. Initial lease of RKDR Iron Ore Mine of M/s. Auro Minerals (MLNo.2584) was granted in favour of Sri Krishna Deva Raya on 24.7.1956, for 188.66 ha of forest land, for a period of 20 years. The lease was renewed in favour of Smt. Rani Lalkumari (Queen of Anegundi) for 5 years, i.e. from 24.4.1976 to 23.7.1981. Subsequently, the lease was transferred to M/s. Auro Minerals of Achyuta Deva Raya as the successor to Srimati Rani Lalkumari, from 24.7.1981 to 23.7.2001. The lease was renewed for the third time in the name of M/s. Auro Minerals for 20 years in 2003, w.e.f. 23.7.2001. An area of 157.66 ha, out of 188.66 ha was surrendered to Karnataka Forest Department on 14.6.2006. The current lease period is from 23.5.2001 to 22.5.2021 for an area of 31 ha.

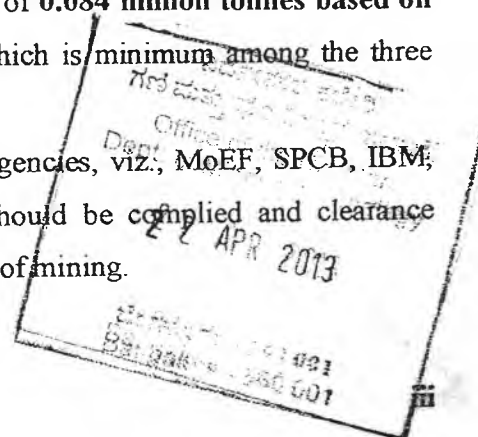
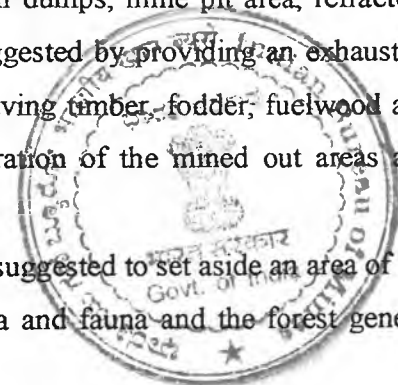


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30/05/2016

6. Environmental clearance was obtained from SEIAA *vide* order No. SEIAA:114: MIN: 2008 Dated 16<sup>th</sup> Sept 2008 for production capacity of 0.42 million tons per annum. Forest clearance under section 2 of FC act was obtained, *vide* order no. F.No.8-52/94-FC dated 13.05.1999. The mining scheme (including progressive mine closer plan) was approved *vide* letter no. MS/BLR/FE-76-SZ dated 18.09.2006. Second Scheme of Mining (2011-12 to 2015-16) submitted to IBM for approval, but IBM has not processed it due to Joint Survey by CEC was underway by this time.
7. The area under lease deed is 31.00 ha. But, the area as per lease deed sketch (after digitalizing) is 32.05 ha. As per the recommendations of CEC Joint Survey Team, an area of 3.97 ha has been identified as encroachment area, comprising of mine pit (1.43ha), mine dump (2.21ha) and others (0.33ha)
8. The mine is being operated by open cast mechanized method. The striking of the ore body is NW-SE direction and dipping is SW with an angle of 75° and 80° which is nearly vertical. The Mine has only one pit with a length of 800m, width of 190m (average) and depth of 80m. The total area of the pit is 10ha. The top and bottom RL of the pit are 807m and 736m respectively. There are 14 working benches. The ultimate pit depth is 100m and the slope of the pit is 40-45 degrees.
9. After the approval of the last Scheme of Mining, no production was achieved during first two years. The total production in the remaining period obtained was 7,57,231 tonnes. The maximum production of 4, 15,116 tonnes and the minimum production of 95, 670 tonnes was obtained in the year 2010-11 and 2008-09 respectively. Exploration and estimation of ore reserves were made through DTH, RC & Core drills.
10. The process of mining has changed the physical, biological and sociological environment in terms of land degradation and large unscientific overburdens dumps. The proposed R and R plan has been aimed for topographic reconstruction with engineering and biological measures for erosion control.
11. The EIA/EMP Reports showed that the ambient air quality observed during the study period was well within the prescribed National Ambient Air Quality Standards. It was also reported that the noise levels in and around the mine lease was also within the prescribed limits. The seasonal nallahs originating from the ML area joins the Tungabhadra reservoir, situated at a distance of 5km from the ML area, which

underscores the importance of implementing measures for proper surface water management, so as to arrest erosion from the lease area.

12. The vegetation occurring in the area belongs to Southern tropical dry deciduous forests according to Champion and Seth's 'Revised Classification of Forest Types of India' (1968).
13. The Mine has 11 Inactive Dumps (ID) (including 7 Encroached Inactive Dumps -EID) and 1 Active Dump (AD). The heights of the inactive dumps vary and in some cases it is 60m. The area of these dumps range from 0.05 ha to 7.23 ha. No terracing and construction of garland drain at the waste dump has been done. The angle of the slope of the dump is also found to be very steep. The top and bottom RL of the Active Dump is 746 m and 705 m respectively.
14. Engineering measures have been proposed based on the hydrological condition on the micro watershed basis and compatibility of the surrounding area, stability and drainage density. The plan includes the enlisting of the existing and proposed engineering structures within and outside the ML along with indicative cost.
15. Biological measures for management of overburden dumps, mine pit area, refractory sites, mine drainage, haul roads etc., have been suggested by providing an exhaustive list of indigenous species. Suitable plant species having timber, fodder, fuelwood and medicinal uses have been recommended for restoration of the mined out areas and overall ecosystem development.
16. As a biodiversity conservation measure, it has been suggested to set aside an area of 1.0 ha within the ML, so as to preserve the local flora and fauna and the forest genetic resources to some extent.
17. The Production capacity based on reserves, dump and road capacity has been estimated as 0.114, 0.084 and 0.34 million tonnes, respectively. Considering the present available information or facilities, the annual production limit of **0.084 million tonnes based on dump /backfilling capacity** may be considered, which is minimum among the three criteria.
18. All the conditions stipulated by various statutory agencies, viz., MoEF, SPCB, IBM, DMGS, DMG, etc. in their various approvals should be complied and clearance accorded, if required, accordingly before commence of mining.



19. Rehabilitation and Reclamation plan will be useful in providing a framework and process to various target groups, the Industry, Regulatory Agencies, the Mine Companies and others interested in Iron Ore Mining for undertaking scientific rehabilitation and reclamation of mined out areas. This will also provide the essential insight in environmentally safe planning of mining activities in future. The estimated cost of the Reclamation and Rehabilitation plan proposed has been worked out to be **Rs. 249.82 lakhs (Rupees two hundred forty nine lakhs and eighty two thousand only)** excluding the cost for Biodiversity Management Plan, Monitoring and Evaluation, Capacity Building, development of common infrastructure etc.
20. The rehabilitation and reclamation programme aims at developing an ecosystem with floral, faunal and soil characteristics to a certain extent similar to that of the pre-mining stage. The success of the R and R plan depends on proper implementation and rigorous monitoring, which can be ensured only through a specialized institution that has the requisite competence, composite scientific expertise and professional skills. Regular monitoring of the R and R programme has twin objectives. First, to obtain valuable reference data for authorities to ensure and demonstrate compliance with regulatory requirements. Second, to assist in decision-making on operational parameters essential for site specific land use for sustainable management. The capacity building of the personnel involved in implementation of this plan by an expert scientific organization is also an essential input required for the successful implementation of this plan.

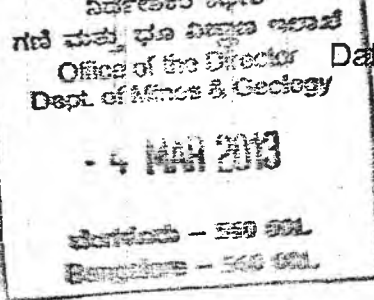
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**CENTRAL EMPOWERED COMMITTEE**  
(CONSTITUTED BY THE HON'BLE SUPREME COURT OF INDIA  
IN WRIT PETITION (CIVIL) No. 202/95 & 171/96)

11nd Floor, Chankya Bhawan, Chankyapuri, New Delhi-110002; Tel. 26064921, 26884923, 24101926, FAX No. 24101925

File No. 2-61/CEC/SC/2012-Pt.II



Dated: 4<sup>th</sup> March, 2013

To

The Chief Secretary  
Government of Karnataka  
Bangalore

**Sub: Preparation and implementation of the R&R Plans of the mining leases falling in Districts Bellary, Chitradurga and Tumkur.**

Sir,

The CEC hereby gives its concurrence to the R&R Plans of the following four mining leases prepared, through the ICFRE, by the State of Karnataka:

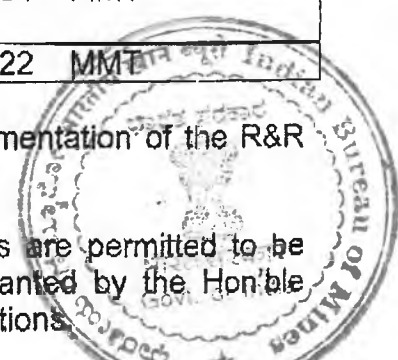
S.No.	Name of the Mining Lease	ML No.	Permissible annual production of iron ore
1.	M/s Auro Minerals	2584	0.084 MMT
2.	M/s Lakshmi Minerals	2545	0.010 MMT
3.	M/s Tungabhadra Minerals Private Limited	2595	0.084 MMT
4.	M/s Sree Marketing Corporation	1611	0.022 MMT

It is requested that immediate action for the implementation of the R&R Plans may please be undertaken.

It may please be ensured that the mining activities are permitted to be undertaken only after the permission for the same is granted by the Hon'ble Supreme Court and in accordance with the stipulated conditions.

Yours faithfully,

(M.K. Dwrajka)  
Member Secretary



R&R  
24/3

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30/05/2016

GOVERNMENT OF KARNATAKA

No.DMGR/R&R/2012-13/50

Office of the Director,  
Department of Mines and Geology,  
Khanija Bhavan, Race Course Road,  
Bangalore-1, dated.

Notice

Sub : Implementation of Reclamation & Rehabilitation Plan in  
respect of ML No.2584 -reg.

Ref: Letter of CEC No.2-61/CEC/SC/2012 Dt.04.03.2013.

\*\*\*\*\*

Please take notice that the ICFRE has submitted the Reclamation & Rehabilitation Plan of your mine recommending the annual production of iron ore at 0.114, 0.084 and 0.34 MMT based on the total reserves, dump capacity and Infrastructure facilities respectively. The annual production of iron ore is fixed at 0.084 MMT based on dump capacity. The Central Empowered Committee vide its letter dated 04.03.2013 referred to above has approved the Reclamation & Rehabilitation Plan submitted by the ICFRE. You are hereby directed to submit approved Mining Plan/Scheme, Environmental Clearance, the approval under the Forest (Conservation) Act, 1980 and other statutory clearances on or before 12.04.2013 for annual production of iron ore at 0.084 MMT, so as to upload the same on to Integrated Lease Management System (ILMS) for generating e-permits.

To,  
M/s. Auro Minerals,  
Anegody House,  
N.C. Colony,  
Hospet-583203



Copy to,

1. Regional Controller of Mines, IBM, No.29, Industrial Suburb, IInd Stage, Tumkur Road, Goruguntepalya, Yeswanthpur, Bangalore for information.
2. Principal Chief Conservator of Forests, Aranya Bhavana, Malleshwaram, 18<sup>th</sup> Cross, Bangalore for information.
3. Member Secretary, KSPCB, No.49, Parisara Bhavan, Church Street, Bangalore-560001 for information.
4. Deputy Director General, Department of Mines Safety, No.5, 17<sup>th</sup> Main, 100 Feet Road, Koramangala 4<sup>th</sup> 'B' Block, Bangalore-560034 for information.
5. Deputy Commissioner, Bellary District for information.
6. Deputy Conservator of Forest, Bellary District for information.
7. Deputy Director, L (G), Hospet, for immediate action.
8. Guard File



ANNEXURE - VI

ಪ್ರಕಟ ಸಂಖ್ಯೆ F. 11 M C  
 [10 (ಎ) ನಿಯಮ ಸೇರಿಸಿ] [1932-Rule 10 (a)]

ವ್ಯಾಪಾರ ಸಂಸ್ಥೆಯ ನೋಂದಣಿಯ ಸ್ವೀಕೃತಿ ಪತ್ರ  
 ACKNOWLEDGEMENT OF REGISTRATION OF FIRM

ಕರ್ನಾಟಕ ರಾಜ್ಯದ ವ್ಯಾಪಾರ ಸಂಸ್ಥೆಯ ರಿಜಿಸ್ಟ್ರಾರರು ೧೯೩೨ ನೇ ಇಸವಿಯ ಭಾರತದ ಪಾಲಿಪಾರ್ಟಿ ಅಧಿನಿಯಮದ ೫೮ (೧) ನೇ ಪ್ರಕರಣದ ವಿಧಿಸಲ್ಪಟ್ಟ ನಿರೂಪಣೆಯ ತಮ್ಮ ಕೈಯಿಂದ ಈ ಮೂಲಕ ತಿಳಿಸುತ್ತಾರೆ. ನಿರೂಪಣೆಯನ್ನು ಫೈಲ್ ಮಾಡಿದೆ. ವ್ಯಾಪಾರ ಸಂಸ್ಥೆಯ ಹೆಸರನ್ನು ದಾಖಲಾಗಿದೆ- ವ್ಯಾಪಾರ ಸಂಸ್ಥೆಯ ಹೆಸರು

೧೯೮೪ ನೆಯ

ಕ್ರಮಾಂಕವಾಗಿ ಬರೆದಿದೆ.

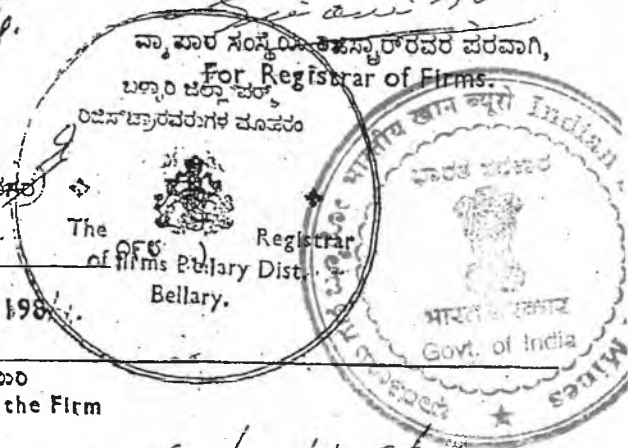
The Registrar of Firms, Karnataka, hereby acknowledges the receipt of the statement prescribed by section 58 (1) of the Indian Partnership Act, 1932. The statement has been filed and the name of Firm M/S Auro Minerals Hospet has been entered in the Register of firms as No.

209  
 1984

Seal

Bellary  
 Bangalore City

Dated the ದಿನಾಂಕ (ತಿಂಗಳಿಗೂ)  
 day of ೯.೮.1984



\* ವ್ಯಾಪಾರ ಸಂಸ್ಥೆಯ ಹೆಸರನ್ನು ಬರೆಯಿರಿ  
 Here enter the name of the Firm

M/S Auro Minerals Hospet

30/05/2016



TRUE COPY

ANNEXURE - VII

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Government of Karnataka  
Registration & Stamps Department

MPLD50/07-08 No. 780050  
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Sri/Smt. Auro Minerals

s/d/w/o \_\_\_\_\_ residing at \_\_\_\_\_

HOSPET-40116

Br. Name:

Date: 9 JUN 2008

STATE BANK OF MYSORE

Authorized Agent to collect stamp duty on  
behalf of Government of Karnataka

HOSPET BRANCH

DEED OF PARTNERSHIP

THIS DEED OF PARTNERSHIP of the partnership firm of AURO MINERALS is signed on the 9<sup>th</sup> day of June, 2008, BETWEEN

Smt. Chandrakantha, aged appx 62 years, wife of Late Sri Achuta Devaraya, having her address at Anegudi House, N C Colony, Hospet, Karnataka.583203 and;

Sri Krishna Devaraya, aged appx. 37 years, son of Late Sri Achuta Devaraya, having his address at Anegudi House, N C Colony, Hospet, Karnataka 583203.

Hereinafter jointly referred to as "the Continuing Partners" on the ONE PART

AND

Babusu Agro Marine Company Private Limited, a Company registered under the Indian Companies Act, having it's registered office at Salgaocar Chambers, Margao, Goa 403601 and;

Goa Ore Transport Private Limited, a Company registered under the Indian Companies Act, having it's registered office at Salgaocar Chambers, Margao, Goa 403601.

Hereinafter jointly referred to as "the Incoming Partners" on the SECOND PART

WHEREAS upto the 2<sup>nd</sup> day of June, 2008 both the Continuing Partners herein alongwith Late Sri Achuta Devaraya, carried on business in partnership in the firm name and style of AURO MINERALS (hereinafter referred to as the "said firm") from Anegudi, House, N C Colony, Hospet, Karnataka 583203 on the terms and conditions recorded in the Deed of Partnership dated June 3<sup>rd</sup>, 2008. The Deed

FOR BABUSO AGRO MARINE COMPANY PVT. LTD.

Ch. K. Raya  
Ch. K. Raya

S. S. Salgaocar

DIRECTOR

S. S. Salgaocar



Ch. K. Raya  
30/05/2016

Goa Ore Transport Private Limited

S. S. Salgaocar

Director

Goa Ore Transport Private Limited

Government of Karnataka  
Registration & Stamps Department

MPL/D50/07-08 No. 780051  
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HOSPET-40116

Br. Name

Date 9 JUN 2008

AGENT STATE BANK OF MYSORE

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behalf of Government of Karnataka  
MYSORE, HOSPET BRANCH

of Partnership dated June 3<sup>rd</sup>, 2008 signed between the two continuing partners is annexed hereto and marked Annexure-A.

WHEREAS on 5<sup>th</sup> May, 2008, Sri Achuta Devaraya, passed away. The death certificate is annexed hereto and marked Annexure-B.

WHEREAS with effect from the June 4<sup>th</sup>, 2008, the Continuing Partners and the Incoming Partners have taken over the assets and liabilities of the said firm and furthermore have reconstituted the said firm and furthermore agreed to continue the existing business of the said firm on the terms and conditions as per this Deed of Partnership.

WHEREAS it is necessary to execute this Deed of Partnership as the said firm has been reconstituted after the death of Late Sri Achuta Devaraya as aforesaid and furthermore for the purpose of recording the new terms and conditions governing the said firm and the relationship of the Continuing partners and the Incoming Partners *inter-se*.

NOW IT IS HEREBY AGREED DECLARED AND RECORDED BY AND BETWEEN THE PARTIES HERETO AS UNDER: -

- The Incoming Partners and both the Continuing Partners are continuing the business of the said firm and have taken over all the tangible and intangible assets and liabilities of the said firm with effect from June 4<sup>th</sup>, 2008.

FOR BABUSO A...

CK Raja  
CK Raja

Kishan Devalaya

Kishan Devalaya



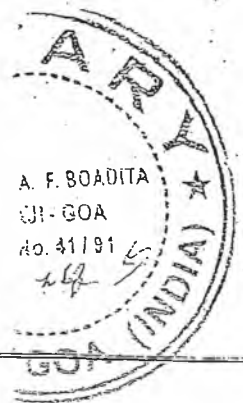
Handwritten initials/signature

Saunderjya  
DIRECTOR

Saunderjya

Goa Ore Export Pvt. Ltd.

Saunderjya  
Director



Government of Karnataka  
Registration & Stamps Department

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Sri/Smt: Auro Minerals

s/d/w/o \_\_\_\_\_ residing at \_\_\_\_\_

HOSPET-40116

Br. Name:

Date: 7<sup>th</sup> JUN 2008

STATE BANK OF MYSORE

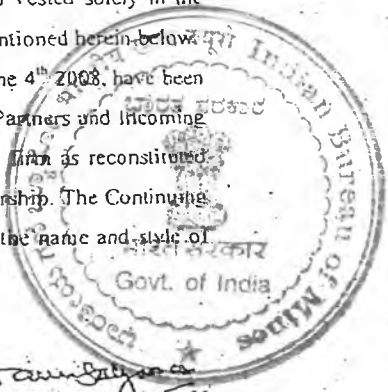
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behalf of Government of Karnataka  
MANAGER, HOSPET BRANCH

2. The assets of the said firm taken over by the Incoming Partners and the Continuing Partners include inter-alia a mining lease in the State of Karnataka. The area details of this mining lease are as follows.

District & State	Bellary, Karnataka
Village & Taluka	Kallahalli Village, Hospet Taluka
Mine Lease Area	Appx 31 hectares
Mining Lease Number	1751

3. The Continuing Partners have represented to the Incoming Partners that Late Sri Achuta Devaraya has died on 5<sup>th</sup> May, 2008 inter-state and that there is no person who has any will of the Late Sri Achuta Devaraya which could create any right, title and/or interest in the assets or liabilities of the said firm and that the same are taken over and stand vested solely in the Continuing Partners and Incoming Partners in the proportion inter-se mentioned herein below.

4. The Continuing Partners and the Incoming Partners, with effect from June 4<sup>th</sup> 2008, have been carrying on in partnership the business of the said firm as Continuing Partners and Incoming Partners and they have taken over the assets and liabilities of the said firm as reconstituted herein as per the terms and conditions herein under this Deed of Partnership. The Continuing Partners have decided to continue the business of the said firm under the name and style of "AURO MINERALS".



C.K. Raya  
C.K. Raya

Hishadivale

Hishadivale



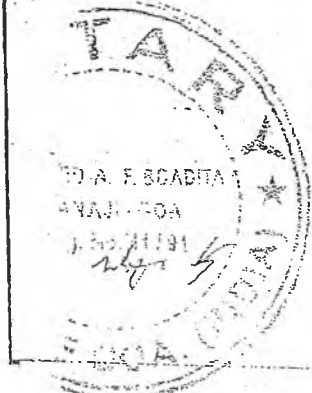
Sambharya

Sambharya

Sambharya

Director

Sambharya





409 (27)

Government of Karnataka  
Registration & Stamps Department

MPL/D50/07-08 No. 780053  
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Sri/Smt. Auro Minerals

s/d/w/o \_\_\_\_\_ residing at \_\_\_\_\_

HOSPET-40116

Br. Name:

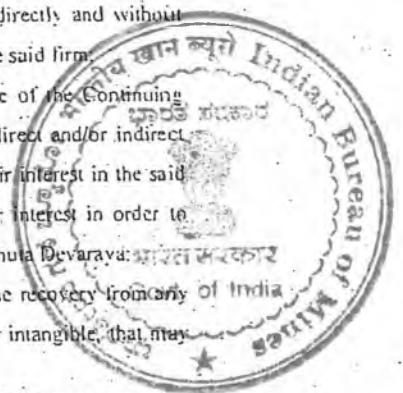
Date: 9 JUN 2008

STATE BANK OF MYSORE

Authorised Agent to collect stamp duty on  
behalf of Government of Karnataka

CAMBERY BRANCH

5. The Continuing Partners declare, undertake and acknowledge the following:
- that the Incoming Partners have been induced into the said firm together with its continuing goodwill and all its tangible and intangible assets as prevailing at close of business hours on June 4<sup>th</sup>, 2008;
  - that the Continuing Partners are fully entitled to carry on the business of said the firm under the name and style of "AURO MINERALS" together with all the assets (tangible and intangible) and goodwill of the said firm and are not barred from inducing the Incoming Partners as partners in the said firm as per the terms and conditions herein;
  - that there is no claim on the said firm or any of the Continuing Partners from any relative, person or firm that has claimed to be a beneficiary of any will of Late Sri Achuta Devaraya;
  - that any claim made in the future by any person (whether a relative of the Continuing Partners or not) on any part of the estate of Late Sri Achuta Devaraya under any Act in law shall be settled solely and wholly by the Continuing Partners directly and without affecting any of assets (tangible and/or intangible) and goodwill of the said firm;
  - that if any Court passes any Order that could result in any relative of the Continuing Partners and/or descendant of Late Sri Achuta Devaraya having a direct and/or indirect interest in the said firm, then the Continuing Partners shall dilute their interest in the said firm and the Incoming Partners shall not be required to dilute their interest in order to settle the claim of any such relative and/or descendant of Late Sri Achuta Devaraya;
  - that all the profits, whether past or future, of the said firm and all the recovery from any existing and/or future asset of the said firm, whether tangible and/or intangible, that may



FOR BABUSO AGRO MARINE COMPANY PVT. LTD.

CK Raja  
CK Raja

*Saumyaja*

DIRECTOR

Kishor Devaraya

*Saumyaja*

Kishor Devaraya

Goa, India

*Saumyaja*

Director

*Saumyaja*



Government of Karnataka  
 Registration & Stamps Department  
 MPL/D50/07-08 No. 780137  
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 Sri/Smt. Auro Minerals  
 s/d/w/o \_\_\_\_\_ residing at \_\_\_\_\_

HOSPET-40116

Br. Name: \_\_\_\_\_  
 Date: 09 JUN 2008

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STATE BANK OF MYSORE  
 Authorized Agent to collect stamp duty on  
 KARABENGI MYSORE DISTRICT

7. The profits and losses and assets and liabilities of the said firm shall be apportioned or divided as under: -

Name of Partner/s	Percentage
Bahuse Agro Marine Company Private Limited	32% (Thirty Two)
Goa Ore Transport Private Limited	33% (Thirty Three)
Smt. Chandrakantha	20% (Twenty)
Sri Krishna Devaraya	15% (Fifteen)
Total	100% (Hundred)

8. The Capital of the said Firm shall be Rs. 10,00,000/- (Rupees Ten Lakhs) which shall be contributed by the Continuing Partners and Incoming Partners as under: -

Name of Continuing Partner	Amount in Rs.
Bahuse Agro Marine Company Private Limited	3,20,000/-
Goa Ore Transport Private Limited	3,30,000/-
Smt. Chandrakantha	2,00,000/-
Sri Krishna Devaraya	1,50,000
Total	10,00,000/-

CK Raja  
 CK Raja



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*[Handwritten signature]*



*[Handwritten signature]*  
*[Handwritten signature]*

Goa (C)

*[Handwritten signature]*  
 Director  
*[Handwritten signature]*

Government of Karnataka  
Registration & Stamps Department

MPL/DSU/07-08 No. 780138  
Issued by  
State Bank of Mysore:

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Sri/Smt. Auro Minerals

s/d/w/o \_\_\_\_\_ residing at \_\_\_\_\_

HOSPET-40116

Br. Name: \_\_\_\_\_  
Date: 9 JUN 2008

STATE BANK OF MYSORE

Authorised Agent to collect stamp duty on  
Government of Karnataka  
MANAGER, HOSPET BRANCH

9. Borrowings & Loans:

- a) The said firm may borrow any sum of money from any person, Bank, partner or financial institution at a annual rate of interest which shall be equal to the Prime Lending Rate (PLR) of any nationalized Bank + 5%;
- b) If any loan given by any Partner to the said firm has not been repaid within the time period specified, then that Partner shall be fully entitled to file appropriate proceedings against the said firm in the appropriate legal forum;
- c) Overdue and unpaid interest on any loan provided by any Partner of the said firm shall be cumulatively added to the capital account of the Partner.

10. The Internal Auditor (if required) and the Statutory Auditor of the said firm shall be appointed by the Incoming Partners.

11. Management, Bank Accounts & Representation:

- a). The Incoming Partners herein shall nominate a Manager ("Manager") for the said firm.
- b). None of the Continuing Partners shall have any rights for day-to-day management of the said firm;
- c). The Bank Accounts of the said firm shall be only be operated by the Manager and/or any Director of the Incoming Partners;
- d). The Manager shall be responsible for sending the annual accounts to all the Partners;
- e). All Directors of the Incoming Partners shall be entitled to represent the said firm;

FOR BABUSO AGRO MARINE COMPANY PVT. LTD

CR. Raya  
CR. P. ...



Sau. Salgaocar  
DIRECTOR

Sau. Salgaocar

Gov. Dir. ... Pvt. Ltd

Sau. Salgaocar

Sau. Salgaocar





Government of Karnataka  
Registration & Stamps Department

MPL/D50/07-08 No. 780139  
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Sri/Smt. Auro Minerals

s/d/w/o \_\_\_\_\_ residing at \_\_\_\_\_

HOSPET-40116

Br. Name:

Date: 09 JUN 2008

STATE BANK OF MYSORE

Authorized Agent to collect stamp duty on behalf of Government of Karnataka  
HOSUR BRANCH

f). Only the Manager and/or a Director of the Incoming Partners is hereby authorized to represent the said firm before:

- i). Any court and/or tribunal;
- ii). Any government department and/or quasi government department.

g). Only the Manager and/or a Director of the Incoming Partners is hereby authorized to represent the said firm and/or sign the following for and on behalf of the said firm:

- i). Any Power of Attorney, whether General or Specific;
- ii). The annual accounts of the said firm;
- iii). The income-tax return of the said firm;
- iv). Advance tax, Service Tax, Profession Tax and other returns as required under law;
- v). Mining Plans and/or any reports before any government and/or quasi government authority;
- vi). Returns, Applications and Acceptance of permits and/or passes from and before any government and/or quasi-government department;
- vii). Employment and/or Consultancy Contracts with any person, firm and Company.



12. Dissolution:

- a). The death and/or retirement of one or more partners shall not result in the dissolution of the said firm;
- b). The said Firm can be dissolved only by written consent of all the partners;
- c). Any partner may retire by sending a written notice by registered AD to the other partners of the said firm;

FOR BABUSG AGLD M...



C.R. Ruya  
C.R. Ruya



Kishor Devraj  
Kishor Devraj

Sau Balyasa  
DIRECTOR

Sau Balyasa

GOA (1)

Sau Balyasa  
8

Director

Sau Balyasa



Government of Karnataka  
Registration & Stamps Department

MPL/D50/07-08 No. 780140  
Issued by  
State Bank of Mysore

Certified that a sum of Rs. 50/- (Rupees Fifty only) has been paid towards Karnataka Stamp duty by

Sri/Smt. Aruna Menon  
s/dw/o \_\_\_\_\_ residing at \_\_\_\_\_

HOSPET-40116

Br Name

Date

9 JUN 2008

STATE BANK OF MYSORE

Authorised Agent to collect stamp duty on  
KARNATAKA  
HOSPET BRANCH

- d). Upon sending the notice of retirement by registered AD to the other partners, the partner sending the notice of retirement shall be deemed to have retired from the said firm;
- e) The partner/s giving the notice of retirement shall cease to be a partner of the partnership firm with effect from the date of the notice. Upon the death of any partner, the deceased partner shall cease to be a partner from the date of death and the partnership share of such deceased partner shall be passed onto the legal heirs of the deceased partner;
- f). Notwithstanding the death and/or retirement of one or more partner/s, the operations and management of the said firm shall continue without any interruption;
- g). The retiring partner shall be paid the amount standing in the credit balance of the said retiring partner and/or deceased partner, as the case maybe, within 30 (thirty) days from the date of death and/or retirement. It is clarified that the remaining partners shall continue the business of the said firm.

Arbitration & Jurisdiction:

- a). In case of any dispute between the Continuing Partners, any Continuing Partner shall have the right to file an application in the Hon. High Court of Karnataka (Bangalore Bench) to seek the appointment of a Sole Arbitrator to adjudicate the dispute. The arbitration proceedings shall be in Bangalore, Karnataka;
- b). Only the High Court of Karnataka, Bangalore Bench shall have jurisdiction.

IN WITNESS WHEREOF, the parties hereto have hereunto set and subscribed their respective hands the day and year first hereinabove written. FOR PARTIES

C.K. Raja

C.K. Raja

Kishoredeva Raja

Kishore Deva Raja

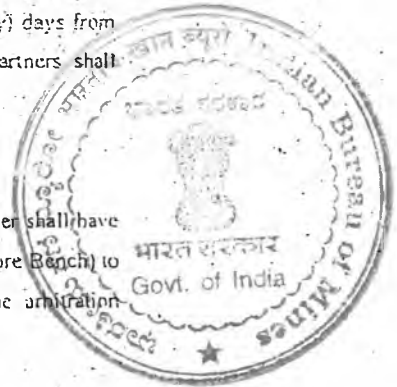


Saunderjya

Saunderjya

Saunderjya

Saunderjya



Government of Karnataka  
Registration & Stamps Department

MPL/D50/07-08 No. 780141  
Issued by  
State Bank of Mysore

Certified that a sum of Rs. 50/- (Rupees Fifty only) has been paid towards Karnataka Stamp duty by

Sri/Smt. Auro Minerals

Sd/w/o \_\_\_\_\_ residing at \_\_\_\_\_

HOSPET-40116

Br. Name:

Date: 9 JUN 2008

REG. STATE BANK OF MYSORE

Authorised Agent to collect stamp duty on  
REVENUE RECEIPT PAPER

SIGNED AND DELIVERED by the within named CONTINUING PARTNERS

C.R. Raja C.R. Raja  
Smt. Chandrakantha

Krishna Devaraya Krishna Devaraya

Sri Krishna Devaraya

SIGNED AND DELIVERED by the within named INCOMING PARTNERS

For Babuso Agro Marine Company Private Limited,

BABUSO AGRO MARINE COMPANY PVT. LTD.

Saujanya  
Director.  
DIRECTOR  
For Goa Ore Transport Private Limited

Saujanya  
Director.  
In the presence of:

Jayara Singh  
Jayara Singh.

Saujanya

Saujanya

J.B. Jayant Singh  
Sri BALASI SADAN  
Banavaranwara Badavara  
Kolaga Road  
Hospet

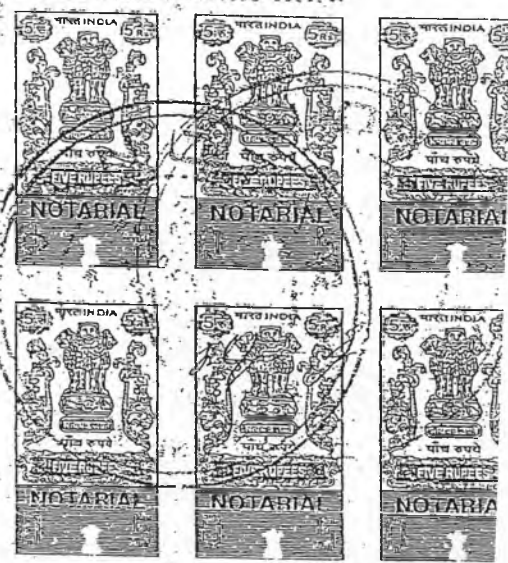
G. Janardhan  
C.M.R. JANARDHANAN  
NO 1 MAMUNDI PILLAI STREET  
SIVAN CHETTY GARDEN  
BANGALORE 560042

TRUE COPY

WILFRED A. F. BOADITA  
NOTARY  
PANAJI  
TERRITORY OF GOA, INDIA



15/226/2014  
2010-09-2014



**AURO MINERALS**

Sri Sapthagiri Enclave, 2<sup>nd</sup> Floor, No. 322/3, College Road,  
Hospete - 583201, Bellary District

TO WHOMSOEVER IT MAY CONCERN

I do and hereby authorize Mr. Subramany, General Manager of the firm to prepare, sign, file and submit and obtain necessary papers and documents, statutory approvals from the Indian Bureau of Mines, Directorate General of Mines Safety, Karnataka Forest Department, Karnataka State Pollution Control Board, Department of Mines and Geology, Government of Karnataka and any other Central and State Government authority for and on behalf of the firm and also to do all the necessary and incidental acts in this connection.

AURO MINERALS

*Krishna Devaraya*  
(Sri Krishna Devaraya)  
Partner



For AURO MINERALS

*C. K. Raje*



GOA ORE TRANSPORT PVT. LTD.

*Alal*  
DIRECTOR


Goa Ore Transport Pvt. Ltd.

*Rajesh*  
Director




*Subramany*  
30/05/2016

## ANNEXURE - IX

  
सत्यमेव जयते  
भारतीय वेंचपूक आयोग  
वळख पत्र  
ELECTION COMMISSION OF INDIA  
IDENTITY CARD

WBZ0071811

  
GOVT OF GOA

मतदाराचे नांव :  
Elector's name : Subramany

बापाचे नांव : गोपालप्पा -  
Father's Name : Gopalappa -

लिंग / Sex : पुरुष / Male

जन्म दिनांक : १९६२  
Date of Birth : 1962

WBZ0071811

पत्तो - Bi-१, सुप्रीम पार्क-बी, पवर हाउस आक्वेम,  
मडगांव,  
शहर-मडगांव  
ता-साळ्हेटी,  
जि-दक्षिण गोवा-४०३२६०१  
Address - H No.:Bi-1, Supreme Park-B,  
Power House Aquem, Margao,  
TWN-Margao  
TAL-Salcate,  
DIST-South Goa-403601

31-मडगांव मतदारसंघाच्या मतदार नोंदणी  
अधिका-शाची सय.

Signature of the Electoral Registration Officer for  
31-Margao - Constituency

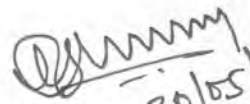
नामा : मडगांव तारीख: १९/०१/२०१२  
Place : Margao Date : 19/01/2012

वेगवेगळ्या सरकारी यंत्रणांच्या खातीर ह्या कार्डाचो वळखपत्र  
स्वरूप उपेग करूं येता. 1/600

This Card may be used as an Identity Card  
under different Government Schemes.

पत्तो बदलतकीच, नव्या पत्त्याचेर आपलें नांव मतदार वळेरीत  
घालपाक तशेंच ह्या पत्त्याचेर ह्याच क्रमांकाचें कार्ड घेवपा  
खातीर संबंदीत तसुल्यात ह्यो कार्ड क्रमांक नमूद करचो. F08



  
30/05/2016





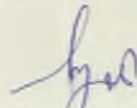
गोवा GOA



Manoj R. Joshi Opp. Secretariate  
Panaji - Goa Lic No. 511992

Serial No. 564 Places of Vend. Panaji, Date 25/5/16  
Value of Stamp Paper 100-  
Name of Purchaser Auro Minerals  
Residence Panaji Name of Father \_\_\_\_\_  
Purpose \_\_\_\_\_

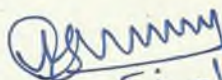
583249

  
Sign of Vendor

**AFFIDAVIT**

I, Subramany, General Manager of Auro Minerals, the Mining Lease - Raja Krishna Deva Raya (RKDR) Iron Ore Mine (M.L.No.2584) in Village Kallahalli, Taluk/Mandal Hospet, District Bellary, State Karnataka over an extent of 31.0 hectares as per Mining Lease Deed (32.05 Hectares as per CEC Survey) for Iron Ore mineral, hereby undertake that no matter is pending against the lease area on the following issues.

- 1) Issues relating to illegal mining with the State Government.
- 2) Royalty and Revision matters with the State Government.
- 3) Safety and Environment issues of General Public Concern.
- 4) Public Interest Litigation (PIL) and other Court cases etc.

  
30/05/2016







गोवा GOA



Manoj R. Joshi Opp. Secretariate  
Panaji - Goa Lic. No. 5/1992

Serial No. 565 Places of Vend. Panaji, Goa 25/5/16 583250

Value of Stamp Paper 100

Name of Purchaser Auto Minerals

Residence Panaji Name of Father \_\_\_\_\_

Purpose \_\_\_\_\_

*[Handwritten Signature]*

Sign. of Vendor



If anything found wrong in the declaration and found incorrect during the period of document, suitable action may be initiated including withdrawal of the approval of the document.

Place: Panaji, Goa.

Date: 25/05/2016

*[Handwritten Signature]*  
(SUBRAMANY)

GENERAL MANAGER

Solemnly affirmed before me by the Deponent, who is identified to me by *[Handwritten Signature]*



**SHRI JAIPRAKASH V. NAIK  
ADVOCATE & NOTARY**

167/1 31st January Road  
Opp. Hotel Venite, Panaji-Goa  
Reg. No. 215

Notarial Registration No. *5100/16*

*25.05.2016*





खनन योजना तैयार करने के लिए अर्हता प्राप्त व्यक्ति के रूप में मान्यता  
प्रमाण पत्र

CERTIFICATE OF RECOGNITION AS QUALIFIED PERSON TO PREPARE MINING PLAN  
( खनिज रियायत नियमावली 1960 के नियम 22सी के अंतर्गत )  
(Under Rule 22C of Mineral Concession Rules, 1960)



श्री गोपलाकृष्णा विश्वेश्वर गोवंकर पुत्र श्री विश्वेश्वर रामकृष्णा गोवंकर, निवासी - एच एम लारोचेल्ले, # 302, 6, बेनसन क्रॉस रोड, बेंगलूर, जिला - बेंगलूर 46, राज्य कर्नाटक, जिनका फोटो एवं हस्ताक्षर दिया गया है उनकी योग्यता तथा अनुभवों के संतोषजनक प्रमाण पत्र देने के एवज में एतद द्वारा खनिज रियायत नियमावली 1960 के नियम 22 सी के अंतर्गत खनन योजना / खनन अभियोजना / उत्तरोत्तर खान बंद/ अंतिम खान बंद करने की योजना तैयार करने के लिये अर्हता प्राप्त व्यक्ति के रूप में मान्यता दी जाती है।

**Shri Gopalakrishna Vishweshwar Gaonkar son of Shri Vishweshwar Ramakrishna-Gaonkar, resident of :- HM Larochelle ,# 302, 6 Benson Cross Road, Bangalore District-Bangalore 46, State- Karnataka** whose Photograph and Signature is appended herewith having given satisfactory evidence of his qualifications & experience is hereby granted RECOGNITION under Rule 22C of the Mineral Concession Rules, 1960 as a Qualified Person to prepare Mining Plan/ Scheme of Mining/ Progressive Mine Closure-Plan/ Final Mine closure plan.

उनका पंजीकरण क्रमांक / His Registration Number is

आर.क्यू.पी./बेंग/333/2014/ए

/

RQP/BNG/333/2014/A

यह मान्यता दस वर्ष की अवधि के लिए वैध है जो दिनांक 25.02.2024 को समाप्त होगी।

The recognition is valid for a period of Ten Years ending on 25.02.2024.

खनन योजना / खनन अभियोजना / उत्तरोत्तर खान बंद/ अंतिम खान बंद करने की योजना में यदि कोई गलत/झूठ सूचनाएँ दी गई हो तो उनका यह प्रमाण पत्र वापस ले लिया जाएगा.

Furnishing any wrong/false information in the Mining Plan/Scheme of Mining / PMCP/ FMCP may lead to withdrawal of this certificate.

आर.क्यू. पी. के हस्ताक्षर / Signature of RQP

*[Handwritten Signature]*

स्थान/Place: बेंगलूर/Bangalore

दिनांक/Date: 26.02.2014

*[Handwritten Signature]*  
क्षेत्रीय खान नियंत्रक/

Regional Controller Of Mines

*[Handwritten Signature]*  
30/05/2016

क्षेत्रीय खान नियंत्रक  
Regional Controller of Mines  
भारतीय खान ब्यूरो  
Indian Bureau of Mines  
बेंगलूर / BANGALORE

Mahazar

The joint survey of boundary demarcation work of M.L. No. 2584 of M/S AURO MINERALS granted over an extent of 32.05 HECTS. in Part of

Sy. No. 1 of Kalabaki village Halget Taluk, Dist. of Sy. No. 1 of Vengalgeri village of Sandur Taluk, N.E. Range forest Bellary District.

/ have been carried out by NITK Suratkal team in presence of Lessee /

~~Representative and the officials of Mines and Geology Department on / from~~

15-06-2012 To 16-06-2012.

The joint survey and demarcation work of said lease has been carried out as per the Hon'ble Supreme Court approved sketch.

∴ The detail of the survey and demarcation is as follows:

Sl. NO	Referenc/ M.L. corner points	Total Station Readings		Corresponding G.P.S. Co-ordinates GPS Co-ordinates-WGS-84 taken by using Hand held G.P.S		Remarks
		X	Y	LATITUDE	LONGITUDE	
1	LBC - A	5384.279	4430.314	15°-13'-08.6"	76°-25'-46.7"	
2	LBC - 2	5488.281	4247.328	15°-15'-02.6"	76°-25'-50.3"	
3	LBC - B	6236.012	3776.650	15°-12'-47.9"	76°-26'-15.7"	
4	LBC - C	5789.522	3595.744	15°-12'-47.8"	76°-26'-00.9"	
5	LBC - D	5085.742	4347.662	15°-15'-05.7"	76°-25'-36.7"	



NOTE: (1) Some portion between points 'A & B' of ML No. 2584 is overlapping on adjoining ML No. 2561 of M/s. Lakshmi Minerals is noticed.

(2) Some portion between points '2, B & C' of ML No. 2584 are overlapping on the adjoining enjoyment pillars of ML No. 2587 of Sri D. Venganna Shetty is noticed.

(3) LBC-2 point was on the vertical wall of Bench. The point is shown on the wall and show 5 mt's below on the ground.

Y. Narasimha Murthy  
Asst. Engineer  
D.M.S.

Dr. H. S. Murthy  
Asst. Drawing Officer  
NITK

Prasad  
S. K. Iron Ore Mine  
Auro Minerals

30/05/2016

RS - fixing

Mahazar

The joint survey and demarcation work of demarcation work of ML No. 751/2584 of Sri/M/s RANILAKHUMBARAI/MK GURU Re-fixing the boundary corner points A & D of ML No. 751/2584 MINERALS has been carried out by NITK Sursthal team in the presence of Lessee/Representative and the adjacent ML NO: \_\_\_\_\_ of Sri/M/s \_\_\_\_\_ officials of Mines and Geology department, Forest Department on 23-7-2017

The joint survey and demarcation of Re-fixing of the corner points of A & D of ML No. 751/2584 has been carried out as per the instructions given by the Director, Department of Mines and Geology, Bangalore

The joint survey and demarcation of Re-fixing of the corner points of A & D is taken up for correction of overlapping in the region.

The detail of the survey and demarcation is as follows:



Sl No	ML Corner Points	Total Station Readings		Corresponding Co-ordinates taken by using handled GPS	
		X	Y	Latitude	Longitude
1	A	5369.893	4414.584	N-15°-13'-08.0"	E-76°-25'-46.3"
2	D	5137.599	4362.019	N-15°-13'-06.0"	E-76°-25'-38.6"

1) Z. A. Srinandan  
 AS  
 Dept of Mines & Geology

2) Vijayashankar B S  
Haryashankar B S  
 (Asst. Surveyor, NITK)

(Signature of the Lessee)

3) D. Srinivas  
 (D. Srinivas)  
 Forest Surveyor

REGISTERED PARCEL

GOVERNMENT OF INDIA  
MINISTRY OF MINES  
INDIAN BUREAU OF MINES

## OFFICE OF THE CONTROLLER OF MINES (SOUTH ZONE)

FAX: (080) 23373287  
Tel: (080) 23375365/ 23375366-67  
E-mail: zo.bangalore@ibm.gov.in  
No. KNT/BLR/MS/Fe--219-SZ/1486

29, Industrial Suburb, II Stage,  
Tumkur Road, Goraguntapalaya,  
Yeswanthpur,  
Bangalore- 560 022  
Date: 13.09.2013

✓ To M/s Auro Minerals,  
H.M. Larochema  
Flat No. 302, #6 Benson Cross Road,  
Bangalore - 560 046, Karnataka State

Sub: Approval of Scheme of Mining including Progressive Mine Closure Plan in respect of RKDR Iron Ore Mine (ML No. 2584) over an extent of 31.00 Ha as per lease deed (32.05 Ha. as per CEC sketch) in Kallahalli Village, Hospet Taluk, Bellary District of Karnataka State, of M/s Auro Minerals submitted under Rule 12 (3) of MCDR, 1988.

Ref: Your letter No. Auro/IBM/MS/2013-14/3 dated 29.08.2013 submitting five bound copies of the Scheme of Mining including Progressive Mine Closure Plan

Sirs,

1. The Scheme of Mining (including Progressive Mine Closure Plan) is approved without prejudice to any other law applicable to the area from time to time whether made by the Central Government, State Government or any other authority.
2. The Scheme of Mining (including Progressive Mine Closure Plan) is approved without prejudice to any order or direction from any court of competent jurisdiction.
3. It is also clarified that the approval of your aforesaid Scheme of Mining (including Progressive Mine Closure Plan) does not in any way imply the approval of the Government in terms of any other provision of the Mines and Minerals (Development & Regulation) Act, 1957, or the rules framed there under and any other law.
4. It is further clarified that the approval of Scheme of Mining (including Progressive Mine Closure Plan) is subject to the provision of Forest (Conservation) Act, 1980, Forest Conservation Rules, 2003 and other relevant statutes, orders and guidelines as may be applicable to the lease area from time to time.
5. Provisions of the Mines Act, 1952 and Rule & Regulations made there under including submission of notice of opening, appointment of manager and other statutory officials as required by the Mines Act, 1952 shall be complied with.
6. Your attention is invited to the Hon'ble Supreme Court's Interim Order on WP(C) No.202 dated 12.12.1996 for compliance. The approval of the Scheme of Mining (including Progressive Mine Closure Plan) is therefore, issued without prejudice to and is subject to the said direction of the Hon'ble Supreme Court as applicable in your case.



*[Handwritten Signature]*  
30/05/2016

Contd.....2

No. KNT/BLR/MS/Fe--219-SZ

7. Approval of the Scheme of Mining (including Progressive Mine Closure Plan) is without prejudice to the Hon'ble Supreme Court final order dt. 18/04/2013 in the W.P. No. 562/2009.
8. Approval of the Scheme of Mining (including Progressive Mine Closure Plan) is subject to the condition that mining operations and other allied activities shall not be extended in unbroken forest area in compliance of the Hon'ble Supreme Court final order dt. 18/04/2013 in the W.P. No. 562/2009.
9. The execution of the Scheme of Mining (including Progressive Mine Closure Plan) shall be subjected to vacation of prohibitory orders/ notices, if any.
10. A copy of EIA/EMP report approved by the MOEF, New Delhi in terms of the interim order passed by the Hon'ble Supreme Court vide its order dated 20.4.2012 shall be submitted to this office and also to the Regional Controller of Mines, IBM, Bangalore within a month of approval along with a copy of their letter of approval.
11. Environment monitoring Cell of the Company shall continue monitoring ambient air quality, dust fall rate, water quality, soil sample analysis and noise level measurements on various stations established for the purpose both in the core zone and buffer zone as per Department of Environment guidelines and keeping in view CCOM's Circular No. 3/ 92 season-wise every year by engaging the services, preferably of an Environmental laboratory approved by MOEF/ CPCB. The data so generated shall be maintained in a bound paged register kept for the purpose and the same shall be made available to the inspecting officer on demand.
12. The validity period of the financial assurance should be renewed before the expiry of the same and should be submitted to the Regional Controller of Mines, Indian Bureau of Mines, Bangalore, under intimation to this office.
13. In case the mining lease falls within a radius of 10 kms of National Park sanctuary, recommendations of NBWL have to be obtained as per the Order of Hon'ble Supreme Court in I.A.No 460/2004.
14. This department does not undertake any responsibility regarding fixing of boundary pillars on the ground & correctness of the boundaries of the lease area shown on the ground with reference to lease map & other plans furnished by the applicant/lessee.
15. A yearly report should be submitted Regional. Controller of Mines, Indian Bureau of Mines, Bangalore, before 1st July of every year setting forth the extent of protective and rehabilitative works carried out as envisaged in the approved Mine Closure Plan.
16. The contents of Circular No 2/2010 issued by the Chief Controller of Mines, Indian Bureau of Mines, Nagpur vide his letter No- 11013/3/MP/90-CCOM VOL-VII dated 06.04.2010 shall be complied with, within a period of six months from the date of approval of this document failing which the approval shall be deemed to have been withdrawn ✓
17. Approval is strictly confined to the proposals contained within the mining leasehold demarcated as per lease sketch given by the joint survey team constituted by the CEC and duly authenticated by the State DMG. It does not convey approval to the proposals falling outside the Mining Lease boundary.



No. KNT/BLR/MS/Fe--219-SZ

18. If anything is found to be concealed as required by the Mines Act in the contents of the Mining Plan and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect, further at any stage, if it is observed that the information furnished in the document are incorrect or misrepresent facts, the approval of the document shall be revoked with immediate effect.

Yours faithfully,

Encl: One copy of the approved Scheme of Mining  
Including progressive Mine Closure Plan

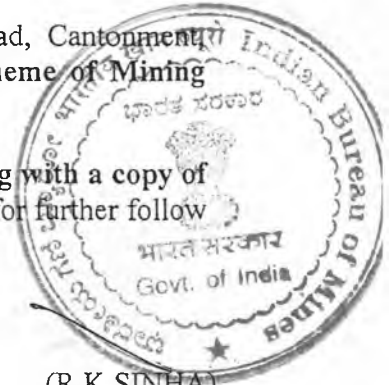
*R.K. Sinha*  
13/9/13  
(R.K.SINHA)

Controller of Mines (SZ)

Copy for kind information to:

1. Sri B. Ramasubba Reddy, H.M. Larochella, Flat No. 302, #6<sup>th</sup> Benson Cross Road, Bangalore - 560 048, Karnataka State
2. The Chief Controller of Mines, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur-440 001.
3. The Director, Department of Mines & Geology, Government of Karnataka, Khanija Bhavan, Race Course Road, Bangalore-560 0011, Karnataka State along with a copy of approved Scheme of Mining (including Progressive Mine Closure Plan).
4. The Dy. Director of Mines Safety, Bellary sub-Region, 31, Infantry Road, Cantonment Bellary - 584 104, Karnataka state along with a copy of approved Scheme of Mining (including Progressive Mine Closure Plan).
5. The Regional Controller of Mines, Indian Bureau of Mines, Bangalore, along with a copy of approved Scheme of Mining (including Progressive Mine Closure Plan) for further follow up.

Encl: As above.



(R.K.SINHA)  
Controller of Mines (SZ)



**ANNEXURE-XIV**

**PHOTOGRAPHS**



**SYSTEMATIC BENCHES AND ROADS**



**STEP DUMPING AND GULLY CHECK**



*[Handwritten signature]*  
30/05/2016

**ANNEXURE-XIV**

**PHOTOGRAPHS**



**SYSTEMATIC BENCHES AND ROADS**



**STEP DUMPING AND GULLY CHECK**



*[Handwritten signature]*  
30/05/2016





GEO-TEXTILE COIR MATTING



RETAINING WALL







LOOSE BOULDER TOE WALL AND GARLAND DRAIN



TOE WALL TW-1 (In progress)







LOOSE BOULDER CHECK DAM & TOE WALL TW-1 In progress



STONE MASONRY CHECK DAM - SMCD







AFFORESTATION



AFFORESTATION







LEASE BOUNDARY CORNER PILLAR



LEASE BOUNDARY CORNER PILLAR



**AURO MINERALS**

# 322/3, 2nd Floor, Sree Saphagiri Enclave,  
College Road, Hospet - 583 201, Bellary Dist., Karnataka.

No. Auro/IBM/AR/2015-16

Date: 01.10.2015

To,  
The Regional Controller of Mines,  
Indian Bureau of Mines,  
29, Industrial Suburb, II Stage,  
Tumkur Road, Goraguntapalya,  
Yeshwanthpur, BANGALORE - 560 022.

BY REGISTERED A/D

Sir,

Subject: Submission of Annual Returns - reg.


Reference: Your show-cause letter No. 281/58/2011/BNG/1990 dated 21/23.09.2015.

With respect to the above subject, we are herewith submitting Annual Returns for the years 2013-14 and 2014-15 in respect of Raja Krishna Deva Raya (RKDR) Iron Ore Mine, ML No. 2584 over an extent of 31.0 Ha. as per ML Deed (32.05 Ha. as per CEC Survey) situated in North East Block Range, Kallahalli Village, Hospet Taluka, Bellary District, Karnataka State.

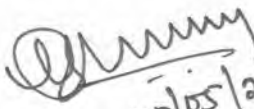
Since the mine was not under operation and only a-auction dispatches were done, we have not submitted the returns. Kindly regret for the delay in submitting the Annual Returns.

Thanking you,

Yours faithfully,  
AURO MINERALS

  
Subramany  
General Manager

Copy to;  
The Deputy Director,  
Department of Mines & Geology,  
College Road, Hospet - 583 201.

  
30/05/2016

आवश्यक नसेल ते खोडावे  
जो आवश्यक न हो उसे काट दे।  
Strike out if not required

नॉन्प्रीकृत फॉर्म / पार्सल फिलाले / रिजिस्ट्री - फॉर्म / पार्सल प्राप्त हुआ / Received Registered Letter/Parcel

आर. पी. - 54  
R. P. - 54

भारतीय टपाल खाते  
भारतीय डाक विभाग  
भारतीय डाक विभाग  
DEPARTMENT OF POSTS, INDIA  
पंक्ति स्वीकृति / ACKNOWLEDGEMENT

क्रमांक / सं. / No. तारीख / दिनांक / Dated वे / का / व

भारतीय रकम स्वयंसाधन/बीमे का मूल्य रूपों में / Insured for Rupees

भारतीय डाक विभाग / पार्सल / Addressed to

गोदावृन्ता पोस्टा, B'lore - 22

DEPT. OF MINES  
INDIAN BUREAU OF MINES  
BANGALORE

RM478214194IN

Pubo/AR - 2013-14-15 / 1-10-15



GOVERNMENT OF INDIA  
MINISTRY OF MINES  
INDIAN BUREAU OF MINES  
OFFICE OF REGIONAL CONTROLLER OF MINES

FAX : 080- 23371027 / 23373287  
Tel : 080-23371027 / 23375366 / 67  
Email ID: ro.bangalore@ibm.gov.in  
rcombng@rediffmail.com

No. 281/58/2011/BNG

To  
Auro Minerals,  
Anegody House, N.C. Colony,  
Hospet-583203



29, Industrial Suburb, II Stage,  
Tumkur Road, Gorguntapalya,  
Yeshwantpur,  
Bangalore- 560 022.  
Date: 21 /09/2015

Sub: Violation of Rule 45 of Mineral Conservation and Development Rules (Amendment) 2011 – Non submission of Annual Return for the year 2014-15 – online/offline – reg.  
Sir,

It is observed that the Annual Return for the year 2014-15 in respect of your mine as mentioned below has not been received in this office so far. The Monthly and Annual return formats have been revised in February 2011 and the same can be downloaded from the website: [www.ibm.gov.in](http://www.ibm.gov.in).

Thus, the following provisions of the Mineral Conservation and Development Rules (Amendment) 2011, is found violated.

**Rule 45(5)(b)** : The owner, agent, mining engineer of every mine, shall submit the Annual Return in respect of each mine in the relevant Form to the Regional Controller of Mines in the Indian Bureau of Mines or any other authorized official of the Indian Bureau of Mines, before 1<sup>st</sup> July each year for the preceding financial year.

**Rule 45(10)** : In case of temporary discontinuance of mining or suspension of mining, the owner, agent, mining engineer or manager of mine shall submit return in the specified form for the mineral for which the return had been submitted earlier, furnishing relevant particulars, inclusive of "Nil" information.

Non submission of the returns or submission of wrong information would attract the breach of provisions under Rule 45(7) (i) of Mineral Conservation and Development Rules (Amendment) 2011. The extract of the Rule 45(7) (i) is given below:

- Order suspension of all mining operations in the mine and may revoke the order of suspension only after ensuring proper compliance;
- Take action to initiate prosecution under these rules;
- Recommend termination of the mining lease, in case such suppression or misrepresentation of information indicates abetment or connivance of illegal mining.

Further, the despatches of ore/mineral from your mine in any form shall be only to those trader(s), stockiest(s), exporter(s), end user(s) etc, who has valid registration number under Rule 45 of Mineral Conservation and Development (Amendment) Rules 2011.

You are, therefore, hereby directed to SHOW-CAUSE within a period of 30 days from the date of issue of this letter, as to why you should not be prosecuted and/or mining operations be suspended for the above offence.

Please note that no further notice will be given to you in this regard.

Name of Mine / Mine Code: RKDR / 30KAR03049



( B RAM MOHAN )  
Regional Controller of Mines

Copy for kind information to:

- The Deputy Director General (Statistics), MMS Division, IBM, Nagpur.
- The Controller of Mines (SZ), IBM, Bangalore.
- The Director, Department of Mines & Geology, No. 49, Khanij Bhavan, Bangalore – 560001
- Mine File

( B RAM MOHAN )  
Regional Controller of Mines



**ANNEXURE-XVI**

**PHOTOGRAPHS OF EXPLORATION & CORE SAMPLES**



*Handwritten signature*  
30/05/2016





















2010/11/27



2010/11/27



# ANNEXURE-XVII

## BOREHOLE LOGS

SHEET - 1

**Borehole No. B-2**

R.L. : 777.6  
 Date of Commencement : 21.10.2010  
 Date of Completion : 26.10.2010  
 Azimuth : 45°  
 Total Depth : 53.5  
 Inclination : -60°



**Borehole No. B-3**

R.L. : 803.6  
 Date of Commencement : 16.11.2010  
 Date of Completion : 16.11.2010  
 Azimuth : 45°  
 Total Depth : 40.0  
 Inclination : -60°



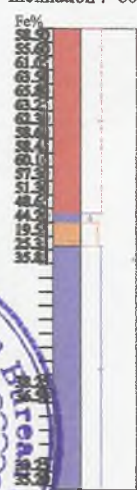
**Borehole No. B-4**

R.L. : 817.4  
 Date of Commencement : 14.11.2010  
 Date of Completion : 14.11.2010  
 Azimuth : 45°  
 Total Depth : 40.0  
 Inclination : -60°



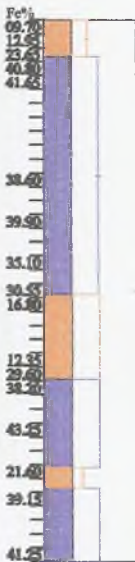
**Borehole No. B-5**

R.L. : 794.0  
 Date of Commencement :  
 Date of Completion :  
 Azimuth : 45°  
 Total Depth : 66.7  
 Inclination : -60°



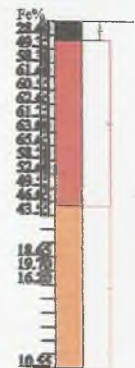
**Borehole No. B-7**

R.L. : 765.5  
 Date of Commencement :  
 Date of Completion :  
 Azimuth : 45°  
 Total Depth : 78.0  
 Inclination : -60°



**Borehole No. B-8**

R.L. : 787.0  
 Date of Commencement : 15.10.2010  
 Date of Completion : 19.10.2010  
 Azimuth : 45°  
 Total Depth : 50.0  
 Inclination : -60°



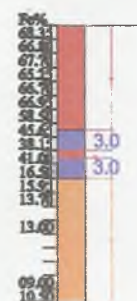
**Borehole No. B-9**

R.L. : 832.0  
 Date of Commencement : 10.11.2010  
 Date of Completion : 11.11.2010  
 Azimuth : 45°  
 Total Depth : 40.0  
 Inclination : -60°



**Borehole No. B-10**

R.L. : 827.4  
 Date of Commencement : 04.11.2010  
 Date of Completion : 06.11.2010  
 Azimuth : 45°  
 Total Depth : 40.0  
 Inclination : -60°



**GEOLOGY**

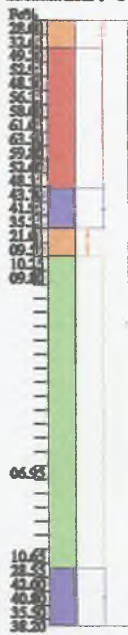
- SOIL COVER
- SHALE / PHYLLITIC CLAY
- BANDED HEMATITE QUARTZITE
- META BASIC ROCK
- IRON ORE ZONE



# BOREHOLE LOGS

SHEET - 2

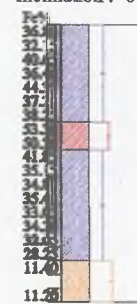
**Borehole No. B-11**  
 R.L. : 785.0  
 Date of Commencement : 29.10.2010  
 Date of Completion : 09.11.2010  
 Azimuth : 45°  
 Total Depth : 87.0  
 Inclination : -60°



**Borehole No. B-12**  
 R.L. : 783.0  
 Date of Commencement :  
 Date of Completion :  
 Azimuth : 45°  
 Total Depth : 39.0  
 Inclination : -60°



**Borehole No. B-13**  
 R.L. : 841.0  
 Commencement : 29.10.2010  
 Completion : 31.10.2010  
 Azimuth : 45°  
 Total Depth : 40.0  
 Inclination : -60°



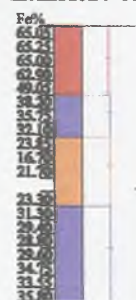
**Borehole No. B-15**  
 R.L. : 828.0  
 Commencement : 26.10.2010  
 Completion : 28.10.2010  
 Azimuth : 45°  
 Total Depth : 50.0  
 Inclination : -60°



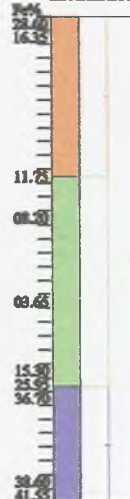
**Borehole No. B-16**  
 R.L. : 786.3  
 Date of Commencement : 18.11.2010  
 Date of Completion : 21.11.2010  
 Azimuth : 45°  
 Total Depth : 40.0  
 Inclination : -60°



**Borehole No. B-17**  
 R.L. : 824.0  
 Commencement : 23.10.2010  
 Completion : 24.10.2010  
 Azimuth : 45°  
 Total Depth : 40.0  
 Inclination : -60°



**Borehole No. B-18**  
 R.L. : 804.0  
 Date of Commencement :  
 Date of Completion :  
 Azimuth : 45°  
 Total Depth : 70.0  
 Inclination : -60°



**GEOLOGY**

- SOIL COVER
- SHALE / PHYLLITIC CLAY
- BANDED HEMATITE QUARTZITE
- META BASIC ROCK
- IRON ORE ZONE



*[Handwritten signature]*

### TEST REPORT

JOE No. : HO10-02252

Report Control No.:HO10-02252.001-039



SAMPLE NOT DRAWN BY LABORATORY

SAMPLE SUBMITTED AND IDENTIFIED BY CUSTOMER AS : IRON ORE EXPLORATION SAMPLE

CUSTOMER NAME AURO Minerals.,  
 ADDRESS # 322/3, 2nd Floor, Sree Saptagiri Enclave, College Road,  
 CITY Hospet - 583 201 Tel No. 08394 - 228308  
 COUNTRY INDIA  
 SAMPLING METHOD N.A.  
 SAMPLE DESCRIPTION Iron Ore (Core Samples)  
 SAMPLE QTY. 1KG (each)  
 SAMPLE NO Code AURO/01 to AURO/39 Total: 39 Samples. (1<sup>st</sup> Batch) .  
 SAMPLE RECD ON 28/12/2010  
 TEST START DATE 28/12/2010  
 TEST END DATE 31/12/2010

### TEST PROTOCOL

Fe %	I H M 01
SiO2 %	I H M 01
Al2O3 %	I H M 01
P %	I H M 01
Mn %	I H M 01
LOI %	IS 2000 Part 1
Specfic Gravity	API 13A



Page 1 of 4

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SGS India Pvt. Ltd.

Laboratory, Plot No. R-12, L-16, Industrial Estate, Dam Road, Hospet - 583 205 Phone: (91) 08394 232153 and 230800 Fax: (91) 08394 232193  
 Regd & Corp. Off: SGS House, 4B, A.S. Marg, Vikhroli (West), Mumbai-400053 Tel: (022) 25798421 to 28 Fax: (022) 25798431 to 35 [www.sgs.com](http://www.sgs.com)

Member of the SGS Group (SGS SA)

*[Handwritten Signature]*  
 30/05/2016

## TEST REPORT

JOE No. : HO10-02252

DATE : 31/12/2010

Report Control No.:HO10-02252.001-039



Sl.No	SLIM Code	AURO Code	Fe%	Mn%	SiO2%	Al2O3%	P%	OP%	Specific Gravity
1	HO10-02252.001	Auro / 01	64.50	0.02	2.62	1.53	0.042	2.92	4.71
2	HO10-02252.002	Auro / 02	65.60	0.02	1.34	1.08	0.035	3.11	4.73
3	HO10-02252.003	Auro / 03	65.20	0.02	1.27	1.62	0.053	3.16	4.71
4	HO10-02252.004	Auro / 04	65.30	0.02	1.52	1.21	0.059	3.11	4.69
5	HO10-02252.005	Auro / 05	65.30	0.02	1.47	1.43	0.045	3.01	4.72
6	HO10-02252.006	Auro / 06	64.70	0.03	2.01	2.10	0.054	2.69	4.70
7	HO10-02252.007	Auro / 07	63.40	0.03	3.68	1.27	0.079	3.52	4.61
8	HO10-02252.008	Auro / 08	65.10	0.28	0.83	2.10	0.094	2.87	4.70
9	HO10-02252.009	Auro / 09	62.40	0.11	5.64	0.89	0.071	3.36	4.28
10	HO10-02252.010	Auro / 10	49.60	0.02	25.09	0.29	0.044	2.98	3.91
11	HO10-02252.011	Auro / 11	48.50	0.03	26.28	0.51	0.059	3.15	3.89
12	HO10-02252.012	Auro / 12	38.10	0.04	42.38	0.45	0.041	1.87	3.48
13	HO10-02252.013	Auro / 13	38.30	0.03	42.66	0.19	0.050	1.58	3.57
14	HO10-02252.014	Auro / 14	35.10	0.03	47.14	0.19	0.041	1.78	3.83
15	HO10-02252.015	Auro / 15	36.40	0.04	45.06	0.32	0.046	1.86	3.44
16	HO10-02252.016	Auro / 16	34.50	0.07	46.88	0.38	0.043	2.57	3.38
17	HO10-02252.017	Auro / 17	29.70	0.42	49.52	2.87	0.097	3.77	3.22

Page 2 of 4

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## TEST REPORT

JOE No. : HO10-02252

Report Control No.:HO10-02252.001-039

DATE : 31/12/2010



Sl.No	SLIM Code	AURO Code	Fe%	Mn%	SiO2%	Al2O3%	P%	Specific Gravity	
18	HO10-02252.018	Auro / 18	25.80	0.80	43.56	10.83	0.110	6.55	2.65
19	HO10-02252.019	Auro / 19	21.90	0.98	45.70	12.30	0.101	8.08	2.96
20	HO10-02252.020	Auro / 20	17.00	0.38	50.68	14.78	0.056	8.35	2.92
21	HO10-02252.021	Auro / 21	8.30	0.15	62.42	12.55	0.028	11.59	2.44
22	HO10-02252.022	Auro / 22	16.40	0.31	47.39	17.14	0.059	10.14	2.92
23	HO10-02252.023	Auro / 23	24.00	0.10	38.26	16.25	0.080	9.49	2.94
24	HO10-02252.024	Auro / 24	19.40	0.08	44.24	17.62	0.082	8.91	2.85
25	HO10-02252.025	Auro / 25	23.30	0.08	47.98	10.83	0.130	6.46	3.07
26	HO10-02252.026	Auro / 26	30.50	0.02	50.69	1.72	0.073	3.25	3.28
27	HO10-02252.027	Auro / 27	32.10	0.02	50.44	0.61	0.048	2.41	3.36
28	HO10-02252.028	Auro / 28	28.80	0.02	55.49	0.41	0.051	2.15	3.22
29	HO10-02252.029	Auro / 29	30.00	0.02	54.34	0.19	0.056	1.85	3.31
30	HO10-02252.030	Auro / 30	33.20	0.02	48.49	0.67	0.080	2.61	3.31
31	HO10-02252.031	Auro / 31	24.40	0.04	49.04	9.49	0.110	5.25	3.08
32	HO10-02252.032	Auro / 32	21.40	0.03	49.90	12.65	0.104	5.43	3.09
33	HO10-02252.033	Auro / 33	37.80	0.77	36.59	2.01	0.185	5.35	3.43
34	HO10-02252.034	Auro / 34	35.50	0.04	45.58	0.57	0.071	2.29	3.41

Page 3 of 4

*N. Suresh*

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SGS India Pvt. Ltd.

Laboratory: Plot No. R-12, L-16, Industrial Estate, Dam Road, Hospet - 583 203 Phone: (91) 08394 232153 asn 250800 Fax: (91) 08394 232193  
Regd & Corp. Off: SGS House, 4B, A.S. Marg, Vikhroli (West), Mumbai-400083. Tel: (022) 25798421 to 25 Fax: (022) 25798453 to 35 [www.sgs.com](http://www.sgs.com)

Member of the SGS Group (SGS SA)



## TEST REPORT

JOE No. : HO10-02252

DATE : 31/12/2010

Report Control No.:HO10-02252.001-039

Sl.No	SLIM Code	AURO Code	Fe%	Mn%	SiO2%	Al2O3%	LOI%	Specific Gravity
35	HO10-02252.035	Auro / 35	34.00	0.05	47.77	0.41	0.060	2.36
36	HO10-02252.036	Auro / 36	31.70	0.02	51.49	0.35	0.063	2.14
37	HO10-02252.037	Auro / 37	35.40	0.02	44.67	0.86	0.060	3.07
38	HO10-02252.038	Auro / 38	35.80	0.03	43.64	1.43	0.058	2.98
39	HO10-02252.039	Auro / 39	35.80	0.08	43.73	1.27	0.062	2.93

\*\*\*\* End of Report \*\*\*\*

per pro SGS India Private Ltd.

*N. Sripathi*  
 Authorised Signatory  
 N. SRIPATHI

Lab In-Charge /  
 Technical Manager



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## TEST REPORT

JOE No. : HO11-00005

Report Control No.:HO11-00005.001-037



SAMPLE NOT DRAWN BY LABORATORY

SAMPLE SUBMITTED AND IDENTIFIED BY CUSTOMER AS : IRON ORE EXPLORATION SAMPLE

CUSTOMER NAME AURO Minerals.,  
 ADDRESS # 322/3, 2nd Floor, Sree Saptagiri Enclave, College Road,  
 CITY Hospet - 583 201 Tel No. 08394 - 228308  
 COUNTRY INDIA  
 SAMPLING METHOD N.A.  
 SAMPLE DESCRIPTION Iron Ore (Core Samples)  
 SAMPLE QTY. 1KG (each)  
 SAMPLE NO Code AURO/40 to AURO/76 Total: 37 Samples. (2<sup>nd</sup> Batch)  
 SAMPLE RECD ON 03/01/2011  
 TEST START DATE 03/01/2011  
 TEST END DATE 04/01/2011

### TEST PROTOCOL

Fe %	I H M 01
SiO2 %	I H M 01
Al2O3 %	I H M 01
P %	I H M 01
Mn %	I H M 01
LOI %	IS 2000 Part 1
Specific Gravity	API 13A



*N. Sripal*

Page 1 of 4

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## TEST REPORT

JOE No. : HO11-00005

Report Control No.:HO11-00005.001-037



Sl.No	SLIM Code	AURO Code	Fe%	Mn%	SiO2%	Al2O3%	P%		
1	HO11-00005.001	Auro / 40	42.90	0.04	36.61	0.48	0.024	0.83	3.80
2	HO11-00005.002	Auro / 41	38.00	0.02	44.08	0.45	0.025	0.44	3.62
3	HO11-00005.003	Auro / 42	35.90	0.03	46.51	0.41	0.023	1.06	3.40
4	HO11-00005.004	Auro / 43	37.00	0.03	44.84	0.51	0.028	1.03	3.55
5	HO11-00005.005	Auro / 44	39.40	0.02	41.88	0.41	0.024	0.67	3.63
6	HO11-00005.006	Auro / 45	35.60	0.03	47.07	0.35	0.026	0.93	3.51
7	HO11-00005.007	Auro / 46	32.00	0.03	52.26	0.73	0.025	0.60	3.41
8	HO11-00005.008	Auro / 47	36.00	0.03	46.89	0.51	0.024	0.47	3.54
9	HO11-00005.009	Auro / 48	34.70	0.03	47.11	1.37	0.032	1.14	3.56
10	HO11-00005.010	Auro / 49	35.30	0.02	47.79	0.51	0.031	0.58	3.54
11	HO11-00005.011	Auro / 50	30.20	0.02	54.84	0.86	0.043	0.52	3.36
12	HO11-00005.012	Auro / 51	41.00	0.03	38.49	1.27	0.039	0.89	3.69
13	HO11-00005.013	Auro / 52	33.80	0.23	48.75	1.12	0.032	0.76	3.47
14	HO11-00005.014	Auro / 53	49.40	0.07	25.56	1.82	0.056	1.13	4.00
15	HO11-00005.015	Auro / 54	53.50	0.07	21.08	0.64	0.036	0.95	4.17
16	HO11-00005.016	Auro / 55	48.60	0.04	28.24	0.64	0.032	0.88	3.79
17	HO11-00005.017	Auro / 56	58.30	0.07	13.29	1.01	0.059	1.57	4.42

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## TEST REPORT

JOE No. : HO11-00005

DATE : 04/01/2011

Report Control No.:HO11-00005.001-037

Sl.No	SLIM Code	AURO Code	Fe%	Mn%	SiO2%	Al2O3%	P%	LOI%	Special Gravity
18	HO11-00005.018	Auro / 57	59.30	0.06	11.92	0.80	0.049	1.77	4.48
19	HO11-00005.019	Auro / 58	64.90	0.29	1.03	2.29	0.096	2.81	4.75
20	HO11-00005.020	Auro / 59	57.00	0.06	15.45	0.96	0.046	1.29	4.38
21	HO11-00005.021	Auro / 60	57.30	0.04	13.42	2.33	0.037	1.66	4.39
22	HO11-00005.022	Auro / 61	52.90	0.04	21.16	1.31	0.036	1.11	4.14
23	HO11-00005.023	Auro / 62	43.90	0.02	35.43	0.41	0.036	0.61	3.84
24	HO11-00005.024	Auro / 63	37.80	0.09	43.97	0.67	0.039	0.50	3.57
25	HO11-00005.025	Auro / 64	43.30	0.03	35.73	0.48	0.043	1.16	3.77
26	HO11-00005.026	Auro / 65	36.00	0.06	45.47	1.27	0.045	0.94	3.56
27	HO11-00005.027	Auro / 66	37.60	0.10	44.23	0.51	0.036	0.68	3.61
28	HO11-00005.028	Auro / 67	39.10	0.03	42.10	0.29	0.055	0.92	3.65
29	HO11-00005.029	Auro / 68	38.00	0.04	43.94	0.41	0.029	0.55	3.53
30	HO11-00005.030	Auro / 69	39.00	0.05	42.49	0.29	0.030	0.69	3.63
31	HO11-00005.031	Auro / 70	37.40	0.04	44.34	0.41	0.038	0.95	3.54
32	HO11-00005.032	Auro / 71	23.60	0.04	54.82	9.72	0.098	0.62	3.08
33	HO11-00005.033	Auro / 72	8.60	0.18	58.77	13.45	0.033	14.19	2.41
34	HO11-00005.034	Auro / 73	23.20	0.07	51.41	8.73	0.093	5.55	3.02

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## TEST REPORT

JOE No. : HO11-00005

DATE : 04/01/2011

Report Control No.:HO11-00005.001-037

Sl.No	SLIM Code	AURO Code	Fe%	Mn%	SiO2%	Al2O3%	P%	Govt of India Specific Grav	
35	HO11-00005.035	Auro / 74	20.40	0.12	49.57	11.50	0.085	8.57	2.85
36	HO11-00005.036	Auro / 75	9.00	0.10	70.43	11.25	0.091	4.28	2.74
37	HO11-00005.037	Auro / 76	10.10	0.12	68.33	10.55	0.103	5.47	2.79

\*\*\*\*\* End of Report \*\*\*\*\*

per pro SGS India Private Ltd.

*N. Sripathi*

Authorised Signatory

**N.SRIPATHI**

Lab In-charge /

Technical Manager



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TEST REPORT

JOE No. : HO11-00207

Report Control No.:HO10-00207.001-038



SAMPLE NOT DRAWN BY LABORATORY

SAMPLE SUBMITTED AND IDENTIFIED BY CUSTOMER AS : IRON ORE EXPLORATION SAMPLE

CUSTOMER NAME AURO Minerals.,  
 ADDRESS # 322/3, 2nd Floor, Sree Saptagiri Enclave, College Road,  
 CITY Hospet - 583 201 Tel No. 08394 – 228308  
 COUNTRY INDIA  
 SAMPLING METHOD N.A.  
 SAMPLE DESCRIPTION Iron Ore (Core Samples)  
 SAMPLE QTY. 1KG (each)  
 SAMPLE NO Code AURO/77 to AURO/114 Total: 38 Samples. (3<sup>rd</sup> Batch)  
 SAMPLE RECD ON 24/01/2011  
 TEST START DATE 24/01/2011  
 TEST END DATE 26/01/2011

TEST PROTOCOL

Fe %	I H M 01
SiO2 %	I H M 01
Al2O3 %	I H M 01
P %	I H M 01
Mn %	I H M 01
LOI %	IS 2000 Part 1
Specific Gravity	API 13A



*N. Sripal*

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## TEST REPORT

JOE No. : HO11-00207

Report Control No.:HO10-00207.001-038



Sl.No	SLIM Code	AURO Code	Fe%	Mn%	SiO2%	Al2O3%	P%	Specific Gravity	
1	HO11-00207.001	AURO / 77	40.10	0.03	38.74	0.80	0.058	2.19	3.37
2	HO11-00207.002	AURO / 78	33.50	0.03	48.63	0.57	0.049	1.83	3.40
3	HO11-00207.003	AURO / 79	33.60	0.03	48.53	0.80	0.045	1.54	3.29
4	HO11-00207.004	AURO / 80	30.70	0.03	53.37	0.45	0.036	1.61	3.46
5	HO11-00207.005	AURO / 81	36.10	0.03	45.91	0.06	0.042	2.01	3.85
6	HO11-00207.006	AURO / 82	45.20	0.03	31.36	1.31	0.036	1.92	3.57
7	HO11-00207.007	AURO / 83	38.40	0.03	41.61	0.89	0.045	2.17	3.38
8	HO11-00207.008	AURO / 84	34.40	0.04	47.77	0.06	0.050	1.67	3.83
9	HO11-00207.009	AURO / 85	43.50	0.03	34.86	0.51	0.044	2.50	3.85
10	HO11-00207.010	AURO / 86	45.10	0.06	31.24	0.92	0.058	2.04	3.45
11	HO11-00207.011	AURO / 87	36.00	0.04	45.49	0.26	0.037	1.71	3.57
12	HO11-00207.012	AURO / 88	38.40	0.03	42.38	0.29	0.041	1.89	3.44
13	HO11-00207.013	AURO / 89	35.00	0.03	47.17	0.16	0.040	1.86	3.66
14	HO11-00207.014	AURO / 90	41.50	0.04	37.57	0.38	0.044	3.38	4.02
15	HO11-00207.015	AURO / 91	51.80	0.06	18.81	2.90	0.067	2.52	4.14
16	HO11-00207.016	AURO / 92	54.80	0.08	17.36	0.96	0.052	3.70	4.26
17	HO11-00207.017	AURO / 93	58.60	0.06	10.62	1.05	0.046		

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*N. S. Gupta*

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## TEST REPORT

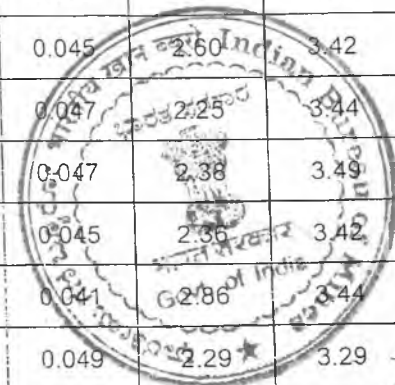
JOE No. : HO11-00207

DATE : 26/01/2011

Report Control No.:HO10-00207.001-038



Sl.No	SLIM Code	AURO Code	Fe%	Mn%	SiO2%	Al2O3%	P%	LOI%	Specific Gravity
18	HO11-00207.018	AURO / 94	41.80	0.04	35.54	1.18	0.029	2.60	3.27
19	HO11-00207.019	AURO / 95	65.00	0.22	1.12	1.98	0.092	3.07	4.71
20	HO11-00207.020	AURO / 96	44.80	0.08	31.26	0.86	0.054	3.01	3.78
21	HO11-00207.021	AURO / 97	38.90	0.08	40.62	0.51	0.040	2.46	3.47
22	HO11-00207.022	AURO / 98	35.80	0.04	46.10	0.13	0.041	1.77	3.47
23	HO11-00207.023	AURO / 99	34.50	0.04	47.52	0.13	0.040	2.21	3.42
24	HO11-00207.024	AURO / 100	34.60	0.03	47.03	0.13	0.045	2.60	3.42
25	HO11-00207.025	AURO / 101	35.00	0.05	46.83	0.06	0.047	2.25	3.44
26	HO11-00207.026	AURO / 102	36.10	0.06	45.18	0.03	0.047	2.38	3.49
27	HO11-00207.027	AURO / 103	34.70	0.04	47.11	0.13	0.045	2.36	3.42
28	HO11-00207.028	AURO / 104	35.10	0.06	45.92	0.19	0.041	2.86	3.44
29	HO11-00207.029	AURO / 105	31.00	0.05	52.41	0.13	0.049	2.29	3.29
30	HO11-00207.030	AURO / 106	36.60	0.10	42.73	0.51	0.084	3.46	3.43
31	HO11-00207.031	AURO / 107	31.80	0.05	50.85	0.19	0.049	2.70	3.31
32	HO11-00207.032	AURO / 108	30.30	0.07	52.79	0.38	0.056	2.69	3.26
33	HO11-00207.033	AURO / 109	33.80	0.05	47.64	0.32	0.075	2.86	3.37
34	HO11-00207.034	AURO / 110	32.10	0.06	48.47	1.27	0.058	3.55	3.32



*N. Singh*

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## TEST REPORT

JOE No. : HO11-00208

Report Control No.:HO10-00208.001-031



Sl.No	SLIM Code	AURO Code	Fe%	Mn%	SiO2%	Al2O3%	P%	Govt. of India Specific Gravity	
1	HO11-00208.001	AURO / 115	68.50	0.03	0.50	0.48	0.042	0.56	0.02
2	HO11-00208.002	AURO / 116	68.20	0.04	0.68	0.45	0.048	0.62	4.99
3	HO11-00208.003	AURO / 117	68.20	0.03	0.62	0.45	0.050	0.65	5.00
4	HO11-00208.004	AURO / 118	65.40	0.03	2.71	1.34	0.069	1.58	4.80
5	HO11-00208.005	AURO / 119	67.70	0.04	0.92	0.67	0.048	0.88	4.98
6	HO11-00208.006	AURO / 120	67.70	0.03	0.95	0.48	0.069	0.77	4.97
7	HO11-00208.007	AURO / 121	67.30	0.03	1.22	0.76	0.057	1.03	4.95
8	HO11-00208.008	AURO / 122	63.20	0.04	6.49	0.96	0.055	1.39	4.78
9	HO11-00208.009	AURO / 123	66.30	0.03	2.15	0.86	0.068	1.38	4.87
10	HO11-00208.010	AURO / 124	67.10	0.04	1.46	0.80	0.058	1.03	4.93
11	HO11-00208.011	AURO / 125	65.30	0.29	0.70	1.85	0.100	2.92	4.48
12	HO11-00208.012	AURO / 126	68.00	0.03	0.60	0.51	0.062	1.00	4.98
13	HO11-00208.013	AURO / 127	65.90	0.14	2.01	1.21	0.071	1.61	4.50
14	HO11-00208.014	AURO / 128	67.20	0.05	1.29	0.73	0.069	1.12	4.95
15	HO11-00208.015	AURO / 129	49.80	0.06	25.96	0.64	0.075	1.34	4.00
16	HO11-00208.016	AURO / 130	33.70	0.04	49.01	0.45	0.098	1.43	3.27
17	HO11-00208.017	AURO / 131	57.60	0.10	13.77	1.15	0.100	1.69	4.21

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## TEST REPORT

JOE No. : HO11-00208

Report Control No. HO10-00208.001-031

DATE : 26/01/2011



Sl.No	SLIM Code	AURO Code	Fe%	Mn%	SiO2%	Al2O3%	P%	LOI%	Specific Gravity
18	HO11-00208.018	AURO / 132	45.70	0.05	31.52	0.76	0.094	1.48	3.72
19	HO11-00208.019	AURO / 133	30.60	0.04	54.57	0.25	0.046	0.68	3.26
20	HO11-00208.020	AURO / 134	51.90	0.04	23.70	0.32	0.066	0.94	4.05
21	HO11-00208.021	AURO / 135	30.10	0.07	49.51	4.08	0.096	2.19	3.25
22	HO11-00208.022	AURO / 136	18.10	0.25	57.96	9.69	0.093	4.75	2.96
23	HO11-00208.023	AURO / 137	14.90	0.27	62.93	9.69	0.104	4.38	2.92
24	HO11-00208.024	AURO / 138	16.60	0.07	61.68	9.24	0.059	3.99	2.96
25	HO11-00208.025	AURO / 139	15.30	0.07	62.11	10.26	0.061	4.29	2.95
26	HO11-00208.026	AURO / 140	10.70	0.05	65.40	14.08	0.048	3.85	2.74
27	HO11-00208.027	AURO / 141	16.70	0.19	58.67	9.24	0.092	6.50	2.98
28	HO11-00208.028	AURO / 142	13.00	0.15	61.79	9.24	0.109	8.69	2.65
29	HO11-00208.029	AURO / 143	9.00	0.09	64.87	12.94	0.112	7.69	2.61
30	HO11-00208.030	AURO / 144	10.70	0.20	60.35	13.25	0.111	9.39	2.75
31	HO11-00208.031	AURO / 145	10.30	0.11	61.82	12.62	0.076	9.29	2.72

\*\*\*\* End of Report \*\*\*\*

per pro SGS India Private Ltd.

*N. Sripathi*

Authorised Signatory

**N. SRIPATHI**

Lab In-charge /

Technical Manager

Page 3 of 3

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SGS India Pvt. Ltd.

Laboratory, Plot No. R-12, L-16, Industrial Estate, Dam Road, Hospet - 583 203 Phone: (91) 08394 232153 asst 230800 Fax: (91) 08394 232193  
Regd & Corp. Off: SGS House, 4B, A.S. Marg, Vikhroli (West), Mumbai-400083. Tel: (022) 25798421 to 25 Fax: (022) 25798431 to 35 [www.sgs.com](http://www.sgs.com)

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## ANNEXURE-XIX

## DETAILED CALCULATION OF ORE RESERVE ESTIMATION

SECTION NAME	UNFC CODE	SECTIONAL AREA in sqm.			SECTIONAL INFLUENCE			VOLUME in cum.			TONNAGE IRON ORE	ORE RECOVERY	SUBGRADE 10%	REJECT 10%	TONNAGE BHQ	
		SH / P.C	BHQ	M.B.ROCK	ORE	SH / P.C	BHQ	M.B.ROCK	ORE							
A A'	G1(111)	2,373	290	-	532	30	71,190	8,700	-	15,960	51,072	40,858	5,107	5,107	21,750	
B B'	G1(111)	2,179	-	-	771	30	65,370	-	-	23,130	74,016	59,213	7,402	7,402	-	
C C'	G1(111)	-	-	-	-	30	-	-	-	-	-	-	-	-	-	
D D'	G1(111)	-	-	-	-	30	-	-	-	-	-	-	-	-	-	
EE'	G1(111)	221	926	-	195	30	6,630	27,780	-	5,850	18,720	14,976	1,872	1,872	69,450	
FF'	G1(111)	-	-	-	-	30	-	-	-	-	-	-	-	-	-	
GG'	G1(111)	-	-	-	-	30	-	-	-	-	-	-	-	-	-	
H H'	G1(111)	298	107	-	818	30	8,940	3,210	-	24,540	78,528	62,822	7,853	7,853	8,025	
I I'	G1(111)	307	123	-	-	30	9,210	3,690	-	-	-	-	-	-	9,225	
J J'	G1(111)	396	71	-	-	30	11,880	2,130	-	-	-	-	-	-	5,325	
K K'	G1(111)	1,007	598	210	300	30	30,210	17,940	6,300	9,000	28,800	23,040	2,880	2,880	44,850	
L L'	G1(111)	-	286	-	777	30	-	8,580	-	23,310	74,592	59,674	7,459	7,459	21,450	
MM'	G1(111)	777	-	-	-	30	23,310	-	-	-	-	-	-	-	-	
QQ'	G1(111)	-	-	-	-	30	-	-	-	-	-	-	-	-	-	
TT'	G1(111)	-	643	395	327	30	-	-	11,850	9,810	31,392	25,114	3,139	3,139	-	
U U'	G1(111)	2,032	180	1,221	300	30	60,960	5,400	36,630	9,000	28,800	23,040	2,880	2,880	13,500	
V V'	G1(111)	4,397	164	-	-	30	131,910	4,920	-	-	-	-	-	-	12,300	
W W'	G1(111)	176	-	-	-	30	5,280	-	-	-	-	-	-	-	-	
XX'	G1(111)	-	-	-	-	30	-	-	-	-	-	-	-	-	-	
								424,890	82,350	54,480	120,600	385,920	308,736	38,592	38,592	205,875
		SHALES PHYLLITIC CLAY		META BASIC ROCK												



*[Handwritten Signature]*  
30/05/2016



SECTION NAME	UNFC CODE	SECTIONAL AREA in sqm.				SECTIONAL INFLUENCE	SH / P.C	VOLUME in cum.			TONNAGE IRON ORE	IRON ORE RECOVERY	SUBGRADE 10%	REJECT 10%	TONNAGE BHQ
		SH / P.C	BHQ	M.B.ROCK	ORE			BHQ	M.B.ROCK	ORE					
A A'	G2(122)	-	-	-	-	30	-	-	-	-	-	-	-	-	
B B'	G2(122)	-	-	-	-	30	-	-	-	-	-	-	-	-	
C C'	G2(122)	-	-	-	-	30	-	-	-	-	-	-	-	-	
D D'	G2(122)	-	-	-	51	30	-	-	-	1,530	4,896	3,917	490	490	
E E'	G2(122)	-	-	-	-	30	-	-	-	-	-	-	-	-	
F F'	G2(122)	285	-	-	136	30	8,550	-	-	4,080	13,056	10,445	1,306	1,306	
G G'	G2(122)	-	-	-	248	30	-	-	-	7,440	23,808	19,046	2,381	2,381	
H H'	G2(122)	-	-	-	145	30	-	-	-	4,350	13,920	11,136	1,392	1,392	
I I'	G2(122)	-	-	-	276	30	-	-	-	8,280	26,496	21,197	2,650	2,650	
J J'	G2(122)	-	-	-	234	30	-	-	-	7,020	22,464	17,971	2,246	2,246	
K K'	G2(122)	-	-	-	-	30	-	-	-	-	-	-	-	-	
L L'	G2(122)	-	370	-	265	30	-	11,100	-	7,950	25,440	20,352	2,544	2,544	27,750
M M'	G2(122)	-	240	-	315	30	-	7,200	-	9,450	30,240	24,192	3,024	3,024	18,000
Q Q'	G2(122)	-	2,161	-	57	30	-	64,830	-	1,710	5,472	4,378	547	547	162,075
R R'	G2(122)	-	-	-	-	30	-	-	-	-	-	-	-	-	-
S S'	G2(122)	-	-	-	22	30	-	-	-	660	2,112	1,690	211	211	-
T T'	G2(122)	-	-	-	801	30	-	-	-	24,030	76,896	61,517	7,690	7,690	-
U U'	G2(122)	-	-	-	343	30	-	-	-	10,290	32,928	26,342	3,293	3,293	-
V V'	G2(122)	-	-	-	52	30	-	-	-	1,560	4,992	3,994	499	499	-
W W'	G2(122)	-	155	-	7	30	-	4,650	-	210	672	538	67	67	11,625
X X'	G2(122)	-	488	1,036	36	30	-	14,640	31,080	1,080	3,456	2,765	346	346	36,600
							8,550	102,420	31,080	89,640	286,848	229,478	28,685	28,685	256,050



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SECTION NAME	UNFC CODE	SECTIONAL AREA in sqm.				SECTIONAL INFLUENCE	SH / P.C
		SH / P.C	BHQ	M.B.ROCK	ORE		
A A'	G3(333)	353	75	-	190	30	10,590
B B'	G3(333)	99	-	-	95	30	2,970
C C'	G3(333)	2,065	-	-	1,116	30	61,950
D D'	G3(333)	1,992	501	-	920	30	59,760
E E'	G3(333)	1,140	-	-	778	30	34,200
F F'	G3(333)	1,535	265	-	734	30	46,050
G G'	G3(333)	931	244	-	1,159	30	27,930
H H'	G3(333)	290	170	-	833	30	8,700
I I'	G3(333)	34	212	-	652	30	1,020
J J'	G3(333)	670	365	-	1,032	30	20,100
K K'	G3(333)	98	2,286	445	2,225	30	2,940
L L'	G3(333)	1,178	286	-	636	30	35,340
M M'	G3(333)	2,034	600	-	410	30	61,020
Q Q'	G3(333)	2,388	741	-	1,205	30	71,640
R R'	G3(333)	2,803	831	-	192	30	84,090
S S'	G3(333)	6,332	1,453	-	1,574	30	189,960
T T'	G3(333)	4,227	294	396	1,800	30	126,810
U U'	G3(333)	439	447	-	764	30	13,170
V V'	G3(333)	2,816	268	-	1,338	30	84,480
W W'	G3(333)	-	-	-	125	30	-
X X'	G3(333)	3,065	488	-	396	30	91,950
							<b>1,034,670</b>



VOLUME in cum.      B.D.   TONNAGE      ORE      SUBGRADE      REJECT      TONNAGE

VOLUME in cum.		ORE	B.D.	TONNAGE	ORE RECOVERY	SUBGRADE 10%	REJECT 10%	TONNAGE BHQ
BHQ	M.B.ROCK							
2,250	-	5,700	3.2	18,240	14,592	1,824	1,824	5,625
-	-	2,850	3.2	9,120	7,296	912	912	-
-	-	33,480	3.2	107,136	85,709	10,714	10,714	-
15,030	-	27,600	3.2	88,320	70,656	8,832	8,832	37,575
-	-	23,340	3.2	74,688	59,750	7,469	7,469	-
7,950	-	22,020	3.2	70,464	56,371	7,046	7,046	19,875
7,320	-	34,770	3.2	111,264	89,011	11,126	11,126	18,300
5,100	-	24,990	3.2	79,968	63,974	7,997	7,997	12,750
6,360	-	19,560	3.2	62,592	50,074	6,259	6,259	15,900
10,950	-	30,960	3.2	99,072	79,258	9,907	9,907	27,375
68,580	13,350	66,750	3.2	213,600	170,880	21,360	21,360	171,450
8,580	-	19,080	3.2	61,056	48,845	6,106	6,106	21,450
18,000	-	12,300	3.2	39,360	31,488	3,936	3,936	45,000
22,230	-	36,150	3.2	115,680	92,544	11,568	11,568	55,575
24,930	-	5,760	3.2	18,432	14,746	1,843	1,843	62,325
43,590	-	47,220	3.2	151,104	120,883	15,110	15,110	108,975
8,820	11,880	54,000	3.2	172,800	138,240	17,280	17,280	22,050
13,410	-	22,920	3.2	73,344	58,675	7,334	7,334	33,525
8,040	-	40,140	3.2	128,448	102,758	12,845	12,845	20,100
-	-	3,750	3.2	12,000	9,600	1,200	1,200	-
14,640	-	11,880	3.2	38,016	30,413	3,802	3,802	36,600
<b>285,780</b>	<b>25,230</b>	<b>545,220</b>		<b>1,744,704</b>	<b>1,395,763</b>	<b>174,470</b>	<b>174,470</b>	<b>714,450</b>

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**JUSTIFICATIONS FOR ASSIGNING THE UNFC CODE FOR  
RAJA KRISHNA DEVA RAYA IRON ORE MINE (M.L. No. 2584)  
OF M/s. AURO MINERALS, HOSPET, KARNATAKA**

The summary of category-wise updated iron ore reserves as on 01st April 2016 is indicated below:

Proved Mineral Reserves	:	347,328 tonnes.
Probable Mineral Reserves	:	258,163 tonnes.
Inferred Mineral Resources	:	1,570,234 tonnes.

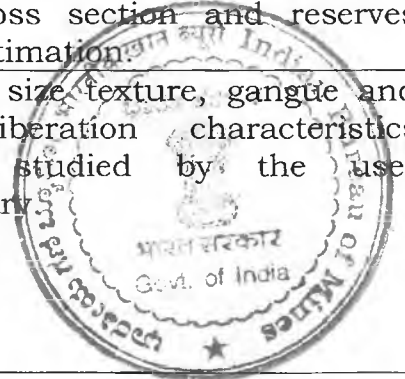
As per the UNFC classification a code of 111 is given for Proved Mineral Reserves. The reasons for assigning code is explained below.

**PROVED MINERAL RESERVES (111):**

**GEOLOGICAL AXIS (G1):**

Sl.No.	G1 (Detailed Exploration)	Status
1.	<p><b>Geological Survey:</b></p> <p>i. <b>Mapping</b> - for other minerals 1:1000 or larger scale.</p> <p>ii. Preparation of detailed topographical-cum-geological map including all surface geological features, extent of deposit, structure, location of boreholes, assay plan and sections of exploratory mine development and borehole data;</p> <p>iii. Topogrid/triangulation stations/identified fiducials linking in the maps.</p>	<p>i. <b>Mapping:</b> Detailed mapping in 1:2000 scale is conducted.</p> <p>ii. A detailed topographic cum geological map is prepared by incorporating all the surface geological features, extent of deposit, location of drill holes etc. Based on the workings within the lease area and exploration carried-out with 15 core drill holes, geological cross sections were constructed and the reserves were estimated. Geological Plan and Geological Sections are enclosed vide <b>Plate No. 4</b> and <b>5</b> respectively.</p> <p>iii. Permanent bench mark has been established and the details are given in the Surface Plan enclosed vide <b>Plate No. 3.</b></p>

2.	<b>Geochemical Survey:</b> Detailed grid pattern sampling and analysis.	Detailed samplings from the mining pit and 15 core drill holes were conducted and the same were analysed.
3.	<b>Geophysical Survey:</b> Detailed and specific borehole geophysical survey.	Detailed and specific drill hole survey was conducted with 15 core drill holes.
4.	<b>Technological:</b> i. <b>Drilling</b> : Closer spaced (with definite grid pattern than that for G2 category; For coal, i) Density of bore holes to be 12 to 15 per sq. km. depending on the complexities for geo structural proving.  ii. Exploratory mining and check drilling results if possible;  iii. <b>Sampling</b> – systematic pit and trench sampling, core and sludge sampling for laboratory scale and bulk sample for the pilot plant scale beneficiation studies.	i. <b>Drilling:</b> Detailed drilling in the ore zone has been conducted by drilling 15 no. of core drill holes with an average spacing of about 100m.  ii. <b>Exploratory Mining:</b> Mine is in operation since 1956 and drill result is correlatable with the actual mining being carried-out.  iii. Systematic samplings from the mining pit and drill holes have been carried-out and analyzed. The same is utilized for preparation of cross section and reserves estimation.
5.	<b>Petrographic and mineragraphic study:</b> Refining of data on the petrographic character of rocks of the deposit and its surroundings, alterations (if any), including study of grain size texture gangue and its liberation characteristics for further refining of data.	Grain size, texture, gangue and its liberation characteristics were studied by the user industry.
6.	<b>Geo statistical analysis of bore hole data thickness of ore:</b> Waste encountered in holes, assay values of samples if considered necessary.	No Geo statistical analysis has been conducted. However thickness of ore is ascertained based on the drilling/exploration data and ore body exposed by actual mining and geology of the area.





**FEASIBILITY AXIS (F1):**

Sl.No.	F1 (Feasibility Study)	Status
1.	<b>Geology:</b> Geology of area and project, detailed exploration, closed spaced drilling, ore body modeling, bulk samples for beneficiation, geotechnical and ground water and surface waters studies.	<b>Geology:</b> Geology of area and project, detailed exploration, geotechnical studies have been carried-out. The details of Geology is given in Scheme of Mining under Para 1.0 of Part-A.
2.	<b>Mining:</b> Mining plan, mine recoveries and efficiencies, equipment selection, manpower requirement.	<b>Mining:</b> Details of Mine planning, recovery and selection of equipment are furnished under Para 2.0 of Part-A and details of manpower is furnished under para 7.0 (b) of Part-A.
3.	<b>Environment:</b> EIA studies and EMP including socio-economic impact, rehabilitation of project affected persons, waste disposal/reclamation, and detailed land use data.	<b>Environment:</b> EIA and EMP including socio-economic impact, waste disposal/reclamation, land use data studies have been carried-out for mining and the approval for the same is obtained from SEIAA, Karnataka.
4.	<b>Processing:</b> Pilot scale investigation data, list of equipment, manpower and environmental consideration like waste disposal of tailing, etc.	<b>Processing:</b> List of equipment, manpower and environmental consideration like waste disposal has been considered during the preparation of EIA. Brief description of the same is enclosed in the Scheme of Mining under Para 8.0 of Part-A.
5.	<b>Infrastructure and services, construction activities:</b> Full details	<b>Infrastructure and services:</b> Infrastructure services necessary for the operation of the mining activities is provided. Details are given in the Scheme of Mining Para 7.0 (a) of Part-A.
6.	<b>Costing:</b> Detailed break-up of capital cost, details of working capital.	Details of capital cost and working capital details are given in feasibility study report enclosed vide <b>Annexure-XXI</b> .

M/s. AURO MINERALS

7.	<b>Marketing:</b> Overview, specific market aspects.	Details of marketing overview and specific market aspects are given in feasibility study report enclosed vide <b>Annexure- XXI.</b>
8.	<b>Economic viability:</b> Cash flow forecast, inflation effects, sensitivity studies.	Economic viability is given in feasibility study report enclosed vide <b>Annexure-XXI.</b>
9.	<b>Other factors :</b> Statutory provisions relating to labour, land, mining, taxation etc.	All the statutory provisions relating to labour, land, mining, taxation etc. are complied as per existing Rules.

**ECONOMIC AXIS (E1):**

Sl.No.	E1 (Economic)	Status
1.	Detailed exploration.	Detailed exploration in the form of exploratory mining, drilling of 15 core drill holes etc., has been carried-out.
2.	Mining report/mining plan/working mines.	Mining plan/Scheme report is being regularly prepared and the mine was worked systematically and scientifically.
3.	Specific end - use grades of reserves (above economic cut-off grade)	Specific end use grade is 56% Fe. The iron ore produced from this mine will be used for steel making as well as in cement industry.
4.	Specific knowledge of forest/non forest and other land use data.	The lease area of 31.0 Ha. as per Mining Lease Deed (32.05 Ha. as per CEC Survey) falls in Government Forest Land.



**FEASIBILITY STUDY REPORT**

**RAJA KRISHNA DEVA RAYA IRON ORE MINE (M.L. No. 2584)  
Of M/s. AURO MINERALS, HOSPET, KARNATAKA**

1.	Details of the lease held	Raja Krishna Deva Raya Iron Ore Mine, M.L. No. 2584 of M/s. Auro Minerals, Hospet, Karnataka.		
	Location; Village:	Kallahalli Village,		
	Taluka :	Hospet Taluka,		
	District:	Bellary		
	State	Karnataka		
2.	Total lease area held (hects.):	31.0 Ha. - As per ML Deed, 32.05 Ha. as per the CEC Survey.		
3.	Name of the minerals for which lease granted	Iron ore.		
4.	Mineralized area (hects)	15 Ha.		
5.	Please indicate the whether the entire area has been explored and stage of exploration :(As per UNFC)	No, about 50% of the mineralized area has been explored with 15 core drill holes.		
6.	Reserves and resources estimated (with unit): (As per UNFC) (as on 01.04.2016)	<b>Category</b>	<b>Reserves</b>	<b>UNFC</b>
		Proved Reserves	347,328 tonnes	111
		Probable Reserves	258,163 tonnes	122
		Inferred Resources	1,570,234 tonnes	333
		<b>Total</b>	<b>2,175,725 tonnes</b>	
7.	Area for which mining plan has been approved (Hects.) and its details like date approval	Mining Plan was prepared under Rule 24(A) of MCR 1960 and approved by IBM vide letter No. 279/157/90/BNG dated 30.04.2002. Further, Scheme of Mining for the period from 2006-07 to 2010-11 was approved vide letter No. MS/BLR/Fe-76-SZ dated 18.09.2006. Later, Scheme of Mining for the period from 2011-12 to 2015-16 was approved vide letter No. KNT/BLR/MS/Fe-119-SZ dated 13.09.2013.		
8.	Plans for exploration in unbroken areas:	Total 10 boreholes are proposed to upgrade the level of exploration.		



M/s. AURO MINERALS,

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30/05/2016

**1. GENERAL MINE DESCRIPTION:**

**Name of the Lessee** : M/s. Auro Minerals, Hospet,

**Name of the mine** : Raja Krishna Deva Raya Iron Ore Mine,

**M.L. No. & Extent** : M.L. No. 2584, 31.0 Ha. – As per ML deed, 32.05 Ha. as per CEC Survey.

**Production capacity**: 0.084 mtpa of iron ore fixed by ICFRE/CEC.

**Location** :

Village : Kallahalli,

Taluka : Hospet,

District : Bellary,

State : Karnataka.

Latitude : 15° 12' 41.8"N to 15° 13' 08.6"N

Longitude : 76° 25' 36.7"E to 76° 26' 15.7"E.

The lease area is surrounded by forest and other mining leases leased to Sri. K.R.Kaviraj towards North-West and Sri. P.Venganna Setty & Bros. towards South-East. The mine is located at about 11 km from Hospet.

**Characteristics of deposit:**

The Mining block is located in the NEB range of Sandur schist belt. The Iron ore formations are due to leaching process of BHO. Iron ore formation is irregular habit. Both hanging wall and foot wall are generally ferruginous shale but towards footwall side is followed by Banded Hematite Quartzite. The strike direction of ore body as well as litho units is NW- SE, dipping towards SW by 70° to 75°.



Four reefs occur in the lease area. First reef is located towards Western side with strike length of 450m and average width of 20 m, nature of ore is lumpy with phyllitic intrusions. The second reef is located towards Northern side of first reef with strike length of 160m and average width of 15m. Third reef is in the central part of South-East with strike length of 260m and average width of 10m. Fourth reef is towards North of third reef exposed in patches with total strike length of 60m and average width of 10m, type of ore body occurs as lumpy and powdery. Contacts of ore

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M/s. AURO MINERALS,

with the associated formation, repetition of beds and local folding is noticed in the lease area. The wall rocks of this area are phyllites and structural controls are BHQ's, which stands along the ridge of the eastern part of the lease area.

## **2. EXPLORATION:**

So far, 50% of the mineralized area was explored with the help of 15 core drill holes and proved availability of iron ore reserves in the lease. Further, 10 boreholes are proposed during this scheme period. Exploration will be continued by way of core drilling.

## **3. RESERVE ASSESSMENT:**

**Sampling:** Systematic samplings from exploratory drill holes were collected and samples were analysed for Fe. Also regular samples were collected from the mining pits and analysed for Fe.

**Chemical analysis:** The chemical analysis report shows that the grade of the proved ore reserve varies from 45% to 69% Fe.

**Recovery with cut off grade:** Recovery of the ore is considered 80% based on the previous experience, balance 10% sub-grade, 10% intercalated waste and entire ore from the mine is suitably blended as per the buyer's requirement and dispatched. The cut-off grade for this sector is 45% Fe.

**Tonnage factor & method of assessment:** The reserves have been estimated using the cross sections drawn at 30m intervals. Based on the exploratory mining and exploration data proved reserves were plotted on the cross sections. In-situ density of 2.50t/m<sup>3</sup> for BHQ, 3.2 t/m<sup>3</sup> for iron ore and 2 t/m<sup>3</sup> for waste was considered.

The summary of category-wise updated reserves as on 01<sup>st</sup> April 2016 is indicated in the below table:



Classification	UNFC Code	Iron Ore Quantity (Tonnes)	BHQ Quantity (Tonnes)
<b>Mineral Reserve</b>			
1) Proved Mineral Reserve	111	347,328	--
2) Probable Mineral Reserve	121 and 122	258,163	--
<b>Total Mineral Reserves</b>		<b>605,491</b>	<b>461,925</b>
<b>B. Remaining Resources</b>			
3) Feasibility Mineral Resource	211	--	--
4) Pre-feasibility Mineral Resource	221 and 222	--	--
5) Measured Mineral Resource	331	--	205,875
6) Indicated Mineral Resource	332	--	256,050
7) Inferred Mineral Resource	333	1,570,234	714,450
8) Reconnaissance Mineral Resource	334	--	--
<b>Total Mineral Resources</b>		<b>1,570,234</b>	<b>1,176,375</b>
<b>TOTAL MINERAL RESERVES/RESOURCES (A+B)</b>		<b>2,175,725</b>	<b>1,176,375</b>

Siliceous ore generated during the normal production will be stacked separately. The end-use grade is +56% Fe.

**4. PRODUCTION SCHEDULE:**

Mine comes under 'A' category Mechanized open cast mine. Mine was having Environmental Clearance for 0.42 mtpa of iron ore production. However, the annual feasible production of 0.084 mtpa (84,000 tons per annum) is fixed based on the dumping capacity available in the mining lease area which is least among the three criteria's by the CEC/ICFRE.

Summary of year-wise Production and Development quantities for next five years scheme period is given in the following table: (Unit: in Tons)

Year	Pit No.	Total tentative Excavation (cum)	Top Soil (m <sup>3</sup> )	OB/SB/IB (m <sup>3</sup> )	ROM (m <sup>3</sup> )		Mineral reject (m <sup>3</sup> )	ROM/Waste Ratio
					Ore*	Sub-grade + BHQ		
2016-17	1	56,167	-	26,407	26,250	-	3,510	1: 1.1
2017-18	1	75,937	-	35,977	26,250	-	13,710	1: 1.9
2018-19	1	50,407	-	17,287	26,250	-	6,870	1: 0.9
2019-20	1	38,497	-	10,477	26,250	-	1,770	1: 0.5
2020-21	1	55,864	-	25,804	26,250	-	3,810	1: 1.1
TOTAL		276,872	-	115,952	131,250	-	29,670	1: 1.1

M/s. AURO MINERALS,




**5. MINING METHOD:**

An opencast fully mechanized mining method is adopted for the purpose of exploitation of mineral. Excavators, back hoe, tippers etc. are used. Drilling & Blasting, Crushing & Screening will be carried-out. The entire strike length was opened and faces will be advanced across and along the strike in benches of 8m maximum height and width is more than the height. Pit slope will be kept 35°. The road gradients of 1 in 16 will be maintained as per MMR 1961.

It is proposed to work in general shift of 8hrs under daylight depending upon necessity.

A list of mining machineries under use/proposed to be deployed to achieve the proposed production is as follows;

<b>Type of Machinery Make &amp; Model</b>	<b>Capacity</b>	<b>Units</b>	<b>H.P.</b>	<b>Rate/Hr</b>
<b>A. Drilling</b>				
Wagon Drill / Jack Hammer, Atlas Capco	115mm/ 37mm	1	-	16m/hr
Compressor, CP-300	300cfm	1		
<b>B. Loading</b>				
Hydraulic Excavator, Tata Hitachi	0.9m <sup>3</sup>	2	210	120 t
Wheel Loader, Tata	1.2m <sup>3</sup>	2	450	150 t
<b>C. Haulage and Transport</b>				
Tippers, TATA	10/16 tons	11	100	
Jeep, Tata Sumo	6+1	2	-	-
<b>D. Others/Miscellaneous</b>				
Water Tanker, TATA Truck	8,000Ltrs	1	120	
Mobile Crushing & Screening, Finely/Parker	150 TPH	1	-	-
Rock Breaker	-	1	-	-
Road Grader	-	1	-	-

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M/s. AURO MINERALS,

**6. BENEFICIATION:**

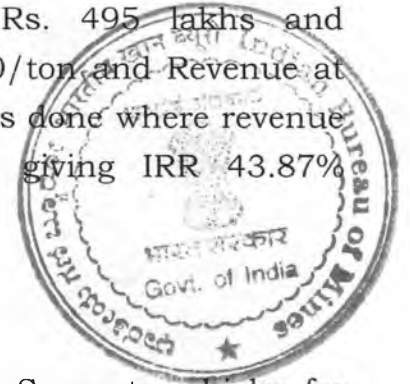
There is no mineral processing/beneficiation within the lease area except dry crushing & screening.

**7. MARKETING:**

The ore produced from this mine will be sold directly to the local buyers/traders/exporters/exported directly after dry screening which will be used for steel making. Some of the buyer's specifications are as follows;

Particulars	Physical	Chemical	Buyers
Calibrated Lumpy Ore	+10 to -30mm	Fe: 55-61%; SiO <sub>2</sub> : <7.5%, Al <sub>2</sub> O <sub>3</sub> : <3.5%; P: <0.10%, S: <0.05%; Mn: <0.50%.	Pig Iron Plants, Steel Plants.
Fines	-10mm	Fe: 55-62%; SiO <sub>2</sub> : <4%, Al <sub>2</sub> O <sub>3</sub> : <2.5%; P: <0.10%, S: <0.05%; Mn: <0.50%.	Steel Plants.
Low grade	-30mm	Fe: 45-55%; SiO <sub>2</sub> : <6.50%, Al <sub>2</sub> O <sub>3</sub> : <7.50%; P: <0.05%, S: <0.05%; Mn: <0.50%.	Beneficiation Plants

Present value of the mineral at pit head is around Rs. 1,500/-. Considering the capital investment of about Rs. 495 lakhs and expenditure calculated at working cost Rs. 859.50/ton and Revenue at Rs. 1,500/ton. IRR found 108.62%. Risk analysis is done where revenue crash is considered at 75%, value calculated giving IRR 43.87% concluding that the project is viable.



**8. INFRASTRUCTURE:**

The mine is located at about 11 kms from Hospet. Separate vehicles for staff and Manager are provided. The approach road is good and approachable in all seasons. Mine is well equipped with office, stores, first aid service, garage, canteen, weighbridge, rest shelter etc.

Category-wise break-up of the employees is given below;

<b>Category</b>	<b>Particulars</b>	<b>No. of employees</b>
Highly Skilled	Manager, Mining Engineer, Geologist	02
Skilled	Foremen, Mates, Machinery Operators, Supervisors	24
Semi-Skilled	Assistants/Helpers	06
Unskilled	Cleaners, Attenders, labors	08
<b>Total</b>		<b>40</b>

Note: Employment potential is in accordance with Rule No. 42 (1) (c) (i) of MCDR 1988.

#### **9. ENVIRONMENTAL REQUIREMENTS:**

Environment Impact Assessment study has been carried-out and Environmental Management Plan is prepared. Based on that EIA/EMP, Environmental Clearance is accorded for iron ore production of 0.42 mtpa. However, the annual feasible production of 0.084 mtpa (84,000 tons per annum) is fixed based on the reserves available in the mining lease area which is least among the three criteria's by the CEC/ICFRE. Mine closure and reclamation plans are submitted to IBM as statutory requirement. Final closure and reclamation plans will be submitted at the time of final closure.

#### **10. OTHERS LIKE LEGAL FACTORS LIKE TRIBAL ISSUES, NATIONAL PARKS, ETC.:**

There is no National Parks or tribal issues involved in this mining.

#### **11. ECONOMIC EVALUATION:**

The decision to continue iron ore production at Raja Krishna Deva Raya Iron Ore Mine, M.L. No. 2584 located in Kallahalli Village, Hospet Taluka, Bellary District of Karnataka State is based on Economic criteria. Key determinants in the decision making process on economic feasibility include the current and predicted market value of the iron ore and the cost of production. Production cost mainly include expenditures related to iron ore production and environmental management during mine

operations. The cost of reclamation and closure are usually the most significant thought in the project life cycle. Consequently, the cost of environmental management during operations and at its closure is considered at an early stage in mine planning, often during the project feasibility analysis.

The details of capital and recurring expenditure are given in following Table;

<b>Budget for proposed mining</b>				
<b>Activities</b>	<b>Area of investment</b>	<b>Method of calculation</b>	<b>Basics</b>	<b>Expenses (Lakh Rs.)</b>
<b>Capital Investment</b>				<b>494.51</b>
<b>I.</b>	<b>Land</b>			<b>155.00</b>
a.	Land cost expenditure	Rs. 5 lakh/Ha. for Forest and Rs. 2 lakh/Ha. for Non-Forest	Area: 31.0 Ha. in Govt. Forest.	155.00
b.	Cost on relief and rehabilitation action plan			0.00
c.	Compensation to the land outstees		No land outstees	0.00
d.	Acquiring Surface Rights			0.00
<b>II.</b>	<b>Mining</b>			<b>100.00</b>
a.	Cost for infrastructure & equipments		Mechanized India mining	100.00
<b>III.</b>	<b>Environmental protection</b>			<b>230.51</b>
a.	Pollution Control (check dam, gully plug, Settling tank, water tanker, etc.)			
	Retaining Wall, Trench, Bund.	Garland drain, retaining wall, etc.	As per R&R Plan	138.51
	Settling ponds	7 settling tank		29.00
	Plantation	As per R&R Plan		53.00
b.	Water Tanker	2		10.00
<b>IV.</b>	<b>Socio-economic development</b>			<b>8.00</b>
a.	Infrastructure development (Edu., Medical, etc)			
i	Educational facilities	Free Scholarship for higher education in the buffer zone		2.00
ii	Medical facilities	Health check up of villagers in buffer zone & workers		2.00
iii	Others			2.00



	Income Gen. Activities	Financial support for interest free loans		2.00
<b>V.</b>	<b>Occupational Health &amp; safety</b>			<b>1.00</b>
a.	Infrastructure & PPEs			1.00
<b>Total Capital Investment</b>				<b>494.51</b>
				<b>Say Rs. 495 Lakhs</b>

<b>BUDGET FOR PROPOSED MINING:</b>					
<b>Activ ities</b>	<b>Area of investment</b>	<b>Method of calculation</b>	<b>Basics</b>	<b>Expenses (Lakh Rs)</b>	<b>Cost/ tonne in Rs.</b>
<b>Recurring Expenditure</b>					
<b>i.</b>	<b>Mining</b>				<b>775.00</b>
a.	Expenditure for infrastructure and equipment maintenance		30% of direct investment for infrastructure & maintenance	30.00	35.71
b.	Mining of ore and waste	Rs. Per ton	Rs.400/tonne	336.00	400.00
c.	Salaries &Wages of 40 staffs	No of workers X Wages	Rs. 20,000 per month	96.00	114.29
d.	Royalty on mineral & miscellaneous Expenditure	Rs. Per ton	Rs. 225.00 per ton	189.00	225.00
<b>ii.</b>	<b>Socio-economic development</b>				<b>74.38</b>
a.	Crop Damage Compensation			2.00	2.58
b.	DMF & NMET Funds	30%+2% of Royalty	32% of Rs 225 * 84,000 tons	60.48	72.00
<b>iii.</b>	<b>Occupational Health &amp; safety</b>				<b>4.76</b>
a.	For routine checkup	40 persons X per annum	Budget Rs. 10,000/- per annum	4.00	4.76
<b>iv.</b>	<b>Environmental Management</b>				<b>5.36</b>
a.	Protective Measures			2.00	2.38
b.	Environmental Monitoring			2.50	2.98

**Capital investment including Pre-emptive Expenses: Rs. 495 Lakhs**

**Capital investment for Mining and Environmental Management (Environmental Control, Social Development, etc.): Rs. 340 lakhs**

**Consideration of per ton working cost as on date is given below:**

**Recurring cost (Rs. /MT)**

Expenditure on cost of mining	: 775.00/ton.
Expenditure for socioeconomic development	: 74.38/ton.
Expenditure for occupational Health and Safety	: 4.76/ton.
Expenditure for Environmental Management	: 5.36/ton.
<b>Total</b>	<b>: 859.50/ton.</b>
<b>Value of Mineral at pit head</b>	<b>: Rs.1,500/ton.</b>

**Summary of Viability:**

Expenditure calculated at working cost Rs. 859.50/Ton and Revenue at Rs. 1,500/ton. IRR found 108.62%

Risk analysis is done where revenue crash is considered at 75% Value calculated giving IRR 43.87% concluding that the project is viable.

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PRODUCTION AND DEVELOPMENT CALCULATIONS

ANNEXURE-XXII

Year	Section Name	Bench Height (m)	SECTIONAL AREA in sqm.				Sectional Influence	VOLUME in cum.				TONNAGE			
			Sh/Ph.	BHQ	MB Rock	Ore		Sh/Ph.	BHQ	MB Rock	ORE	IRON ORE	Intercalated	BHQ	
2016-17	S S'	780-788M	16	-	-	37	30	480	-	-	1,110	3,197	639	-	
		772-780M	113	-	-	38	30	3,390	-	-	1,140	3,283	657	-	
	T T'	828-836M	3	6	-	-	30	90	180	-	-	-	-	450	
		820-828M	34	46	-	-	30	1,020	1,380	-	-	-	-	3,450	
		812-820m	89	-	-	6	30	2,670	-	-	180	518	104	-	
		804-812m	24	-	-	93	30	720	-	-	2,797	8,054	1,611	-	
		796-804m	-	-	-	108	30	-	-	-	3,240	9,331	1,866	-	
		788-796M	-	-	-	99	30	-	-	-	2,970	8,554	1,711	-	
		780-788M	91	-	-	95	30	2,730	-	-	2,850	8,208	1,642	-	
		772-780M	23	23	55	181	30	690	690	1,650	5,430	15,638	3,128	1,725	
	U U'	812-820M	48	-	-	-	30	1,440	-	-	-	-	-	-	
		804-812M	68	-	-	4	30	2,040	-	-	120	346	69	-	
		796-804M	8	-	-	69	30	240	-	-	2,070	5,962	1,192	-	
		788-796M	-	3	-	95	30	-	90	-	2,850	8,208	1,642	225	
		780-788M	20	39	191	147	30	600	1,170	5,730	4,410	12,701	2,540	2,925	
				<b>537</b>	<b>117</b>	<b>246</b>	<b>972</b>	<b>450</b>	<b>16,110</b>	<b>3,510</b>	<b>7,380</b>	<b>29,167</b>	<b>84,000</b>	<b>16,800</b>	<b>8,775</b>

2017-18	L L'	828-836M	-	5	-	-	30	-	150	-	-	-	-	375
		820-828M	4	80	-	-	30	120	2,400	-	-	-	-	6,000
		812-820M	63	21	-	-	30	1,890	630	-	-	-	-	1,575
		804-812M	90	-	-	-	30	2,700	-	-	-	-	-	-
		796-804M	108	-	-	-	30	3,240	-	-	-	-	-	-
		788-796M	112	-	-	-	30	3,360	-	-	120	346	69	-
		780-788M	68	-	-	99	30	2,040	-	-	2,970	8,554	1,711	-
		772-780M	4	14	-	-	30	120	420	-	9,030	26,006	5,201	1,050
		764-772M	-	20	-	-	30	-	600	-	8,370	24,106	4,821	1,500
		MM'	836-844M	-	9	-	-	30	-	270	-	-	-	-
828-836M	-		75	-	-	30	-	2,250	-	-	-	-	5,625	
820-828M	-		130	-	-	30	-	3,900	-	-	-	-	9,750	

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	812-820M	67	83	-	-	30	2,010	2,490	-	-	-	-	6,225
	804-812M	190	20	-	-	30	5,700	600	-	-	-	-	1,500
	796-804m	190	-	-	-	30	5,700	-	-	-	-	-	-
	788-796M	132	-	-	56	30	3,960	-	-	1,680	4,838	968	-
	780-788M	68	-	-	98	30	2,040	-	-	2,940	8,467	1,693	-
	772-780M	6	-	-	135	30	180	-	-	4,057	11,683	2,337	-
		<b>1,102</b>	<b>457</b>	<b>-</b>	<b>972</b>	<b>540</b>	<b>33,060</b>	<b>13,710</b>	<b>-</b>	<b>29,167</b>	<b>84,000</b>	<b>16,800</b>	<b>34,275</b>

2018-19	I I'	796-804M	57	-	-	-	30	1,710	-	-	-	-	-	
		788-796M	73	-	-	-	30	2,190	-	-	-	-	-	
		780-788M	53	-	-	22	30	1,590	-	-	660	1,901	380	-
		772-780M	4	-	-	166	30	120	-	-	4,980	14,342	2,868	-
	J J'	812-820M	17	-	-	-	30	510	-	-	-	-	-	-
		804-812M	79	-	-	-	30	2,370	-	-	-	-	-	-
		796-804M	43	20	-	14	30	1,290	600	-	420	1,210	242	1,500
		788-796M	-	23	-	79	30	-	690	-	2,370	6,826	1,365	1,725
		780-788M	74	-	-	167	30	2,220	-	-	5,010	14,429	2,886	-
		772-780M	20	-	-	180	30	600	-	-	5,407	15,571	3,114	-
	K K'	780-788m	7	10	-	68	30	210	300	-	2,040	5,875	1,175	750
		772-780m	26	118	-	160	30	780	3,540	-	4,800	13,824	2,765	8,850
		764-772m	26	58	-	116	30	780	1,740	-	3,480	10,022	2,004	4,350
		<b>479</b>	<b>229</b>	<b>-</b>	<b>972</b>	<b>390</b>	<b>14,370</b>	<b>6,870</b>	<b>-</b>	<b>29,167</b>	<b>84,000</b>	<b>16,800</b>	<b>17,175</b>	

2019-20	G G'	780-788m	56	3	-	110	30	1,680	90	-	3,300	9,504	1,901	225
		772-780m	98	-	-	225	30	2,940	-	-	6,750	19,440	3,888	-
	H H'	804-812m	13	1	-	-	30	390	30	-	-	-	-	75
		796-804m	49	24	-	7	30	1,470	720	-	210	605	121	1,800
		788-796m	-	30	-	47	30	-	900	-	1,410	4,061	812	2,250
		780-788m	7	-	-	96	30	210	-	-	2,880	8,294	1,659	-
		772-780m	25	-	-	186	30	750	-	-	5,587	16,089	3,218	-
		764-772m	4	1	-	301	30	120	30	-	9,030	26,006	5,201	75
		<b>252</b>	<b>59</b>	<b>-</b>	<b>972</b>	<b>240</b>	<b>7,560</b>	<b>1,770</b>	<b>-</b>	<b>29,167</b>	<b>84,000</b>	<b>16,800</b>	<b>4,425</b>	

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2020-21	A A'	780-788m	13	10	-	21	30	390	300	-	630	1,814	363	750
		772-780m	187	58	-	103	30	5,610	1,740	-	3,090	8,899	1,780	4,350
		764-772m	24	59	-	103	30	720	1,770	-	3,090	8,899	1,780	4,425
	B B'	788-796m	52	-	-	36	30	1,560	-	-	1,080	3,110	622	-
		780-788m	208	-	-	116	30	6,240	-	-	3,480	10,022	2,004	-
		772-780m	192	-	-	116	30	5,760	-	-	3,480	10,022	2,004	-
		764-772m	24	-	-	116	30	720	-	-	3,480	10,022	2,004	-
	D D'	780-788m	1	-	-	50	30	22	-	-	1,488	4,285	857	-
	E E'	780-788m	10	23	-	38	30	305	-	-	1,140	3,283	657	-
		772-780m	9	4	-	114	30	263	-	-	3,420	9,850	1,970	-
	F F'	780-788m	30	-	-	41	30	896	-	-	1,219	3,510	702	-
		772-780m	13	-	-	119	30	401	-	-	3,570	10,282	2,056	-
			763	154	-	972	360	22,887	3,810	-	29,167	84,000	16,800	9,525

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## LIST OF ANNEXURES

Sl. No	Description	Annexure No.
1	Meteorological data (Dec 10 to May 2011)	IA -IF
2	Frequency distribution of Wind	II
3	Air quality Data	IIIA - IIID
4	Fugitive Monitoring data	IVA - IVD
5	Ground Water Analysis Data	V
6	Noise level Data	VI
7	Soil quality Data	VII



# Monthly Report

Annexure - I B

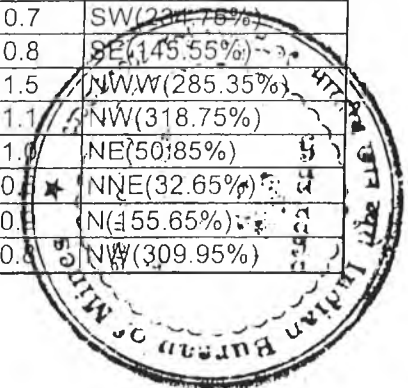
Month : JANUARY

Year : 2011

User Name : AURO MINERALS

Address : RKDR Iron Ore Mine

Sl.No	Date	TEMP			RH			RAIN			W.SPEED		W.DIRECTION MOST
		AVG	MAX	MIN	AVG	MAX	MIN	SUM	MAX	MIN	MAX	MIN	
1	01.01.2011	17.8	27.9	19.7	75.6	88.3	57.9	0	0	0	2.9	0.6	SW(221.65%)
2	02.01.2011	21.0	28.7	20.8	73.6	90.9	42.1	0	0	0	3.8	0.8	SWW(243.65%)
3	03.01.2011	18.8	29.5	19.5	66.3	81.1	49.1	0	0	0	4.4	0.9	SE(133.65%)
4	04.01.2011	21.6	30.5	19.5	65.9	83.9	42.9	0	0	0	6.5	0.7	SSE(155.55%)
5	05.01.2011	22.1	29.6	19.6	69.9	89.3	43.2	0	0	0	5.3	0.7	SEE(118.75%)
6	06.01.2011	21.5	30.5	19.5	65.8	83.9	42.8	0	0	0	5.8	0.5	NE(44.45%)
7	07.01.2011	20.6	30.0	19.1	67.2	85.2	41.9	0	0	0	4.9	0.8	NEE(66.95%)
8	08.01.2011	22.1	29.4	19.6	69.9	89.3	43.1	0	0	0	7.5	0.9	NNE(22.15%)
9	09.01.2011	19.1	27.5	19.5	77.1	89.9	56.2	0	0	0	3.6	0.5	NE(39.65%)
10	10.01.2011	18.2	30.4	20.1	71.6	86.5	42.9	0	0	0	6.2	0.5	N(333.45%)
11	11.01.2011	21.2	26.8	17.5	72.9	91.3	47.6	0	0	0	5.9	0.7	NW(311.65%)
12	12.01.2011	23.4	27.4	19.5	71.3	89.7	49.7	0	0	0	4.8	0.8	NEE(77.75%)
13	13.01.2011	25.7	30.2	17.2	53.6	90.3	59.9	0	0	0	3.8	1.1	SW(230.65%)
14	14.01.2011	20.9	28.7	20.8	73.6	90.9	42.1	0	0	0	6.0	1.0	SWW(253.55%)
15	15.01.2011	18.9	29.8	19.4	76.5	91.8	64.2	0	0	0	7.2	1.1	SSW(200.95%)
16	16.01.2011	20.1	28.6	20.6	73.5	90.9	42.6	0	0	0	3.3	0.6	SE(138.25%)
17	17.01.2011	19.1	27.5	19.6	77.1	89.8	56.2	0	0	0	3.8	0.9	SW(224.65%)
18	18.01.2011	17.0	28.6	20.2	75.9	89.2	53.2	0	0	0	4.9	0.8	SEE(115.15%)
19	19.01.2011	21.2	29.9	19.1	82.1	93.1	61.3	0	0	0	5.0	0.7	NE(42.35%)
20	20.01.2011	25.0	28.4	18.2	73.1	86.9	51.3	0	0	0	5.6	0.9	N(322.98%)
21	21.01.2011	22.4	27.4	22.0	88.7	98.6	81.7	0	0	0	6.1	0.5	E(99.95%)
22	22.01.2011	22.0	31.0	20.2	41.6	63.2	46.1	0	0	0	4.8	0.5	NNE(23.45%)
23	23.01.2011	21.8	29.9	19.5	40.9	62.1	45.8	0	0	0	7.1	0.9	SEE(111.35%)
24	24.01.2011	21.3	29.4	19.1	77.1	91.2	41.6	0	0	0	6.7	0.7	SW(231.75%)
25	25.01.2011	21.1	25.6	18.6	87.9	85.8	59.6	0	0	0	4.8	0.8	SE(145.55%)
26	26.01.2011	21.6	27.2	19.9	91.2	77.9	74.1	0	0	0	4.4	1.5	NWW(285.35%)
27	27.01.2011	20.2	28.1	18.9	71.9	84.4	64.6	0	0	0	6.6	1.1	NW(318.75%)
28	28.01.2011	19.1	27.4	19.5	75.1	89.9	56.2	0	0	0	6.2	1.0	NE(50.85%)
29	29.01.2011	18.6	31.0	20.6	76.4	88.6	64.2	0	0	0	4.4	0.7	NNE(32.65%)
30	30.01.2011	18.2	30.6	20.2	71.6	86.5	42.8	0	0	0	7.9	0.8	N(355.65%)
31	31.01.2011	18.6	29.6	19.1	76.4	91.8	64.1	0	0	0	8.0	0.8	NW(309.95%)



# Monthly Report

Month : FEBRUARY

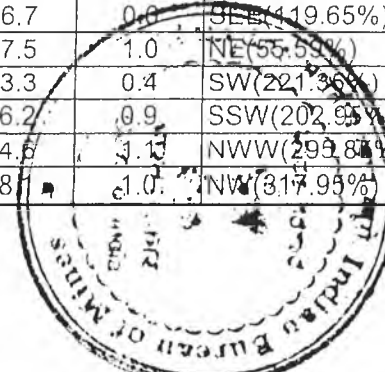
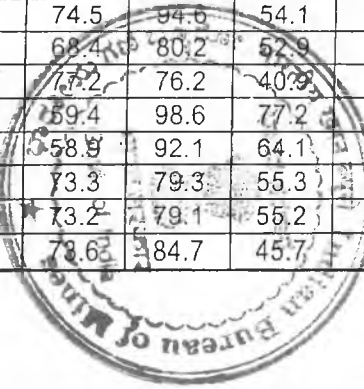
Year : 2011

User Name : AURO MINERALS

Address : RKDR Iron Ore Mine

Annexure - I C

SI.No	Date	TEMP			RH			RAIN			W.SPEED		W.DIRECTION
		AVG	MAX	MIN	AVG	MAX	MIN	SUM	MAX	MIN	MAX	MIN	MOST
1	01.02.2011	26.4	30.8	19.3	77.2	81.9	52.1	0	0	0	3.3	0.9	SW(236.25%)
2	02.02.2011	23.1	29.9	20.0	41.2	63.1	46.2	0	0	0	2.9	0.7	SWW(239.75%)
3	03.02.2011	21.7	31.6	20.5	45.1	77.9	49.3	0	0	0	6.0	1.1	SSW192.79%)
4	04.02.2011	24.1	30.5	24.6	52.3	80.3	50.1	0	0	0	4.5	1.0	SW(225.35%)
5	05.02.2011	23.5	29.5	25.5	66.2	82.0	62.0	0	0	0	7.2	0.9	S(190.65%)
6	06.02.2011	24.9	28.1	23.1	72.5	98.3	77.1	0	0	0	4.4	0.7	W277.75%)
7	07.02.2011	26.3	27.6	25.1	69.6	95.1	79.2	0	0	0	6.8	0.5	SSW(210.65%)
8	08.02.2011	25.6	29.5	26.3	63.9	89.9	72.7	0	0	0	4.9	0.5	SW(222.75%)
9	09.02.2011	23.6	30.5	25.1	66.3	81.6	60.0	0	0	0	6.1	0.4	E(100.25%)
10	10.02.2011	23.6	26.2	23.5	52.4	98.3	85.1	0	0	0	7.5	0.4	SEE(111.25%)
11	11.02.2011	23.5	26.7	23.4	72.5	98.3	76.7	0	0	0	5.4	0.8	S(188.25%)
12	12.02.2011	27.0	30.4	23.5	45.1	72.8	51.4	0	0	0	3.8	1.1	SSE(155.55%)
13	13.02.2011	27.3	29.6	24.7	59.1	92.9	64.7	0	0	0	4.7	0.4	NEE(77.75%)
14	14.02.2011	25.7	30.1	19.5	60.1	77.7	42.4	0	0	0	3.9	1.0	NW(325.75%)
15	15.02.2011	24.5	29.8	25.1	50.2	87.7	56.7	0	0	0	6.0	0.8	NWW(300.65%)
16	16.02.2011	21.6	27.3	20.5	81.5	91.1	69.6	0	0	0	5.7	0.7	NW(315.70%)
17	17.02.2011	25.8	31.4	22.3	74.7	87.2	63.6	0	0	0	4.8	0.4	N(333.35%)
18	18.02.2011	25.1	29.8	20.3	81.5	91.6	53.5	0	0	0	6.1	0.5	NE(45.55%)
19	19.02.2011	25.9	31.8	22.6	71.4	80.6	53.7	0	0	0	3.3	0.6	NW(316.35%)
20	20.02.2011	23.3	30.0	20.2	73.5	88.8	55.5	0	0	0	2.8	0.8	SEE(119.75%)
21	21.02.2011	24.3	30.6	23.7	74.5	94.6	54.1	0	0	0	3.7	0.9	SW(220.85%)
22	22.02.2011	25.3	31.5	24.9	68.4	80.2	52.9	0	0	0	4.4	1.1	SWW(248.60%)
23	23.02.2011	23.9	31.9	24.2	77.2	76.2	40.9	0	0	0	6.7	0.0	SEE(119.65%)
24	24.02.2011	26.1	28.7	24.2	59.4	98.6	77.2	0	0	0	7.5	1.0	NE(55.55%)
25	25.02.2011	27.6	29.6	24.5	58.9	92.1	64.1	0	0	0	3.3	0.4	SW(221.35%)
26	26.02.2011	25.3	30.8	25.2	73.3	79.3	55.3	0	0	0	6.2	0.9	SSW(202.95%)
27	27.02.2011	25.3	30.2	25.0	73.2	79.1	55.2	0	0	0	4.6	1.1	NWW(299.85%)
28	28.02.2011	19.8	29.6	21.7	78.6	84.7	45.7	0	0	0	8.1	1.0	NW(317.95%)



# Monthly Report

Annexure - I D

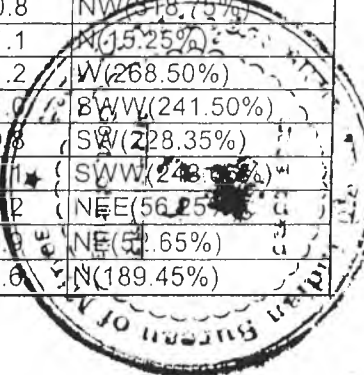
Month : MARCH

Year : 2011

User Name : AURO MINERALS

Address : RKDR Iron Ore Mine

Sl.No	Date	TEMP			RH			RAIN			W.SPEED		W.DIRECTION
		AVG	MAX	MIN	AVG	MAX	MIN	SUM	MAX	MIN	MAX	MIN	MOST
1	01.03.2011	25.6	33.4	21.8	42.5	63.3	29.7	0	0	0	6.2	0.5	SW(222.35%)
2	02.03.2011	31.3	33.9	20.6	41.6	86.9	46.1	0	0	0	5.3	0.8	SSW(205.45%)
3	03.03.2011	30.2	32.5	21.8	42.2	85.9	45.3	0	0	0	3.6	0.7	NWW(300.35%)
4	04.03.2011	29.9	31.3	21.6	50.3	74.6	41.2	0	0	0	3.7	0.9	NWW(288.45%)
5	05.03.2011	31.2	33.5	20.9	41.6	86.4	45.3	0	0	0	3.8	0.6	NNW(333.75%)
6	06.03.2011	25.4	35.5	20.6	49.3	82.3	34.5	0	0	0	4.0	1.1	N(99.95%)
7	07.03.2011	31.2	33.6	24.5	41.4	86.8	45.8	0	0	0	7.2	1.0	NW(318.75%)
8	08.03.2011	31.6	34.3	20.3	61.4	84.5	57.3	0	0	0	6.8	0.6	SW(228.45%)
9	09.03.2011	25.7	35.7	21.1	49.5	82.9	29.7	0	0	0	7.2	0.6	SW(215.65%)
10	10.03.2011	28.2	35.9	22.3	52.4	53.8	32.7	0	0	0	3.6	0.8	SWW(250.45%)
11	11.03.2011	26.4	33.4	20.5	52.5	84.6	35.4	0	0	0	4.8	0.9	SW(218.05%)
12	12.03.2011	25.3	34.5	21.2	61.3	83.3	56.2	0	0	0	4.4	0.5	SSW(205.45%)
13	13.03.2011	25.2	36.5	23.5	51.5	82.6	32.8	0	0	0	5.5	0.8	S(181.88%)
14	14.03.2011	21.5	35.6	22.6	81.3	86.6	35.6	0	0	0	6.0	0.8	SSW(200.95%)
15	15.03.2011	29.0	36.2	22.1	52.7	53.5	36.4	0	0	0	7.1	1.1	SW(228.45%)
16	16.03.2011	24.8	36.4	26.6	70.8	60.9	37.4	0	0	0	4.6	1.0	NW(320.75%)
17	17.03.2011	25.2	39.2	24.5	76.2	70.6	34.5	0	0	0	6.1	1.1	NNW(333.75%)
18	18.03.2011	25.7	37.9	25.5	48.9	75.6	47.6	0	0	0	5.0	0.9	NNW(328.37%)
19	19.03.2011	28.2	36.3	22.1	52.9	90.6	34.8	0	0	0	4.1	0.8	NW(320.75%)
20	20.03.2011	25.3	37.4	24.8	77.1	91.9	34.9	0	0	0	6.2	0.7	N(189.45%)
21	21.03.2011	28.1	38.2	24.6	56.2	83.8	31.5	0	0	0	5.2	0.6	NWW(303.45%)
22	22.03.2011	28.5	36.8	22.3	62.9	92.8	30.5	0	0	0	4.4	0.9	NNW(330.15%)
23	23.03.2011	24.3	38.4	24.8	58.2	87.1	32.5	0	0	0	7.0	0.8	NW(318.75%)
24	24.03.2011	21.5	37.9	23.2	75.5	84.4	34.6	0	0	0	6.1	1.1	N(15.25%)
25	25.03.2011	23.6	36.8	22.1	78.7	88.7	33.8	0	0	0	4.5	1.2	W(268.50%)
26	26.03.2011	23.8	37.1	13.0	76.6	85.3	30.8	0	0	0	7.0	1.0	SWW(241.50%)
27	27.03.2011	21.6	36.8	20.8	82.4	89.6	34.7	0	0	0	3.9	0.8	SW(228.35%)
28	28.03.2011	24.9	37.9	23.3	66.7	88.6	51.3	0	0	0	6.1	1.1	SWW(243.35%)
29	29.03.2011	27.4	37.3	25.8	46.9	77.8	36.9	0	0	0	5.5	1.2	NEE(56.25%)
30	30.03.2011	26.9	37.7	25.8	48.8	67.2	40.1	0	0	0	4.0	0.9	NE(51.65%)
31	31.03.2011	24.0	38.3	24.9	58.1	87.1	32.2	0	0	0	5.2	0.6	N(189.45%)



# Monthly Report

Annexure - I E

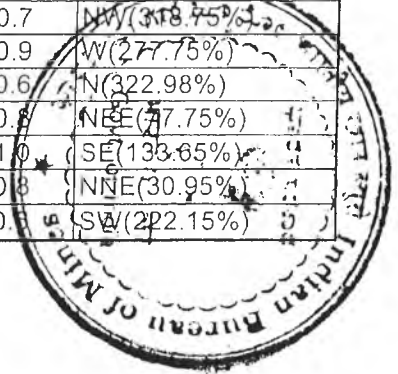
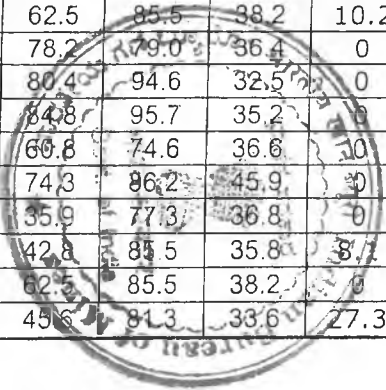
Month : APRIL

Year : 2011

User Name : AURO MINERALS

Address : RKDR Iron Ore Mine

SI.No	Date	TEMP			RH			RAIN			W.SPEED		W.DIRECTION
		AVG	MAX	MIN	AVG	MAX	MIN	SUM	MAX	MIN	MAX	MIN	MOST
1	01.04.2011	26.3	37.3	24.6	40.6	76.3	44.3	0	0	0	3.9	0.9	NW(318.75%)
2	02.04.2011	28.1	36.5	22.2	52.8	53.6	41.2	0	0	0	4.1	0.8	NWW(288.45%)
3	03.04.2011	27.6	35.4	26.5	59.7	85.2	35.1	0	0	0	4.0	0.6	N(99.95%)
4	04.04.2011	25.3	36.6	23.6	51.5	82.6	32.8	0	0	0	6.9	0.5	SE(125.95%)
5	05.04.2011	24.6	37.2	24.6	76.9	87.9	34.3	0	0	0	4.6	0.8	SEE(111.95%)
6	06.04.2011	25.7	37.6	23.6	54.7	83.5	32.4	0	0	0	5.0	1.0	SE(135.65%)
7	07.04.2011	25.3	36.8	23.5	51.5	82.6	32.9	0	0	0	3.8	0.8	NW(318.75%)
8	08.04.2011	25.4	38.2	25.7	45.1	84.6	47.2	0	0	0	4.2	0.9	N(15.25%)
9	09.04.2011	25.4	35.6	24.7	73.1	85.3	35.4	6	6.6	3	7.2	1.1	E(100.75%)
10	10.04.2011	26.2	36.8	23.6	54.8	85.5	32.6	0	0	0	4.9	0.7	SE(125.95%)
11	11.04.2011	28.2	38.0	24.2	55.7	83.5	31.2	0	0	0	6.2	0.9	NE(39.65%)
12	12.04.2011	26.3	37.2	23.1	54.8	85.5	32.5	0	0	0	6.3	0.8	W(268.50%)
13	13.04.2011	25.6	38.2	25.5	42.7	83.3	45.7	0	0	0	4.5	0.5	NW(320.75%)
14	14.04.2011	27.5	38.5	24.7	36.2	75.3	42.2	8.3	5.6	6.1	8.0	1.2	SW(228.45%)
15	15.04.2011	25.6	37.4	23.6	54.7	83.5	33.4	13.2	24.4	10	8.1	1.0	NEE(66.95%)
16	16.04.2011	25.2	37.6	25.3	41.7	79.3	32.6	0	0	0	4.6	0.8	SWW(253.55%)
17	17.04.2011	25.9	38.2	25.3	48.6	93.5	47.4	0	0	0	5.2	0.9	SW(228.45%)
18	18.04.2011	28.6	38.6	24.7	28.5	74.3	45.3	0	0	0	3.5	0.6	S(181.88%)
19	19.04.2011	26.2	39.2	25.4	39.6	82.7	37.9	0	0	0	6.6	0.7	NW(318.75%)
20	20.04.2011	25.9	39.6	25.4	39.6	82.6	38.2	0	0	0	4.4	0.8	NE(52.65%)
21	21.04.2011	25.7	38.6	23.6	62.5	85.5	38.2	10.2	12.6	8.5	7.9	0.9	NWW(303.45%)
22	22.04.2011	24.2	39.8	26.3	78.2	79.0	36.4	0	0	0	6.8	0.7	E(100.75%)
23	23.04.2011	23.1	40.1	25.7	80.4	94.6	32.5	0	0	0	4.8	0.5	SE(133.65%)
24	24.04.2011	22.4	41.0	25.4	84.8	95.7	35.2	0	0	0	3.8	0.7	NW(318.75%)
25	25.04.2011	27.5	40.5	26.4	66.8	74.6	36.6	0	0	0	6.5	0.9	W(277.75%)
26	26.04.2011	23.6	39.1	23.6	74.3	86.2	45.9	0	0	0	5.1	0.6	N(322.98%)
27	27.04.2011	29.4	39.4	25.6	35.9	77.3	36.8	0	0	0	4.8	0.8	NEE(77.75%)
28	28.04.2011	27.3	40.0	26.1	42.8	85.5	35.8	8.7	6	3	6.7	1.0	SE(133.65%)
29	29.04.2011	25.7	38.6	23.7	62.5	85.5	38.2	0	0	0	4.1	0.8	NNE(30.95%)
30	30.04.2011	24.3	39.5	23.6	45.6	81.3	33.6	27.3	29.3	8	6.1	0.8	SW(222.15%)





# Monthly Report

Annexure - I F

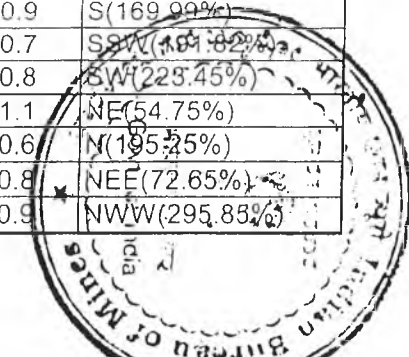
Month : MAY

Year : 2011

User Name : AURO MINERALS

Address : RKDR Iron Ore Mine

Sl.No	Date	TEMP			RH			RAIN			W.SPEED		W.DIRECTION
		AVG	MAX	MIN	AVG	MAX	MIN	SUM	MAX	MIN	MAX	MIN	MOST
1	01.05.2011	28.3	37.3	24.1	53.1	80.1	33.9	0	0	0	5.6	0.9	SW(236.25%)
2	02.05.2011	23.7	38.5	25.9	76.9	82.3	36.8	0	0	0	4.4	1.1	S(181.88%)
3	03.05.2011	26.2	37.2	23.9	52.2	83.4	33.7	0	0	0	6.3	1.2	NEE(77.75%)
4	04.05.2011	25.3	36.9	25.1	77.5	71.2	35.1	0	0	0	7.1	1.0	E(100.25%)
5	05.05.2011	25.7	37.5	24.1	55.3	84.2	32.6	0	0	0	5.5	0.8	S(188.25%)
6	06.05.2011	24.9	37.4	24.5	52.3	83.1	33.4	0	0	0	4.9	1.3	NWW(300.65%)
7	07.05.2011	24.8	38.2	25.8	45.8	81.7	48.2	0	0	0	8.3	1.5	NW(325.75%)
8	08.05.2011	25.3	39.2	24.9	74.2	83.6	36.4	0	0	0	7.8	1.2	W(266.25%)
9	09.05.2011	25.8	36.8	26.1	55.2	84.1	33.4	0	0	0	6.9	1.3	SWW(245.75%)
10	10.05.2011	26.6	37.5	24.6	40.6	76.4	44.4	0	0	0	8.5	1.0	SW(222.65%)
11	11.05.2011	25.9	38.2	25.4	48.7	81.3	47.6	0	0	0	7.2	0.9	SSW(210.25%)
12	12.05.2011	28.5	38.6	25.3	32.6	74.7	45.4	0	0	0	6.7	0.8	SEE(115.75%)
13	13.05.2011	22.6	35.8	23.9	81.4	81.5	35.3	0	0	0	8.2	1.1	SE(139.75%)
14	14.05.2011	25.4	37.8	24.2	57.6	84.3	33.2	15	23.1	8	6.6	0.9	SSW(210.45%)
15	15.05.2011	25.2	37.6	25.3	41.7	79.3	32.6	0	0	0	5.9	0.8	W(280.35%)
16	16.05.2011	25.9	38.2	25.3	48.6	81.3	47.4	0	0	0	6.6	0.6	NW(309.25%)
17	17.05.2011	25.8	36.9	23.8	39.6	86.5	40.2	0	0	0	7.4	1.1	NWW(301.80%)
18	18.05.2011	24.9	37.0	24.6	46.2	78.0	42.1	0	0	0	8.1	1.1	N(17.62%)
19	19.05.2011	24.1	36.1	24.3	55.9	83.2	36.8	0	0	0	8.0	1.0	N(195.25%)
20	20.05.2011	25.3	36.2	24.1	52.7	80.9	33.4	0	0	0	6.9	0.9	NEE(72.65%)
21	21.05.2011	24.9	37.0	25.4	68.0	69.7	40.1	0	0	0	7.8	1.2	SE(135.75%)
22	22.05.2011	25.8	36.8	24.5	56.2	71.8	35.2	0	0	0	7.5	0.8	SEE(120.75%)
23	23.05.2011	24.8	36.2	24.1	58.2	74.3	39.4	0	0	0	8.1	1.3	SW(215.61%)
24	24.05.2011	25.4	36.9	25.2	57.2	84.6	45.2	0	0	0	7.9	1.1	SWW(239.33%)
25	25.05.2011	24.8	37.1	25.2	60.8	81.8	36.9	30	38.6	15	8.2	0.9	S(169.99%)
26	26.05.2011	25.3	36.9	23.7	56.2	82.4	36.8	0	0	0	6.8	0.7	SSW(181.82%)
27	27.05.2011	28.6	37.1	25.1	52.3	78.6	32.9	0	0	0	7.3	0.8	SW(228.45%)
28	28.05.2011	26.9	37.5	23.6	55.2	74.6	83.0	0	0	0	5.8	1.1	NE(54.75%)
29	29.05.2011	26.2	38.1	26.1	54.3	73.2	34.1	0	0	0	6.4	0.6	N(195.25%)
30	30.05.2011	25.9	37.1	26.2	53.1	71.2	35.8	0	0	0	7.2	0.8	NEE(72.65%)
31	31.05.2011	26.1	36.2	25.3	35.1	54.8	34.4	16	16.3	6	8.3	0.9	NWW(295.83%)



Station ID : 1  
 Year: 2010 - 11  
 Date Range : December 01 - May 31

ANNEXURE - XXIII



Frequency Distribution  
 (Normalised)

Wind Direction (Blowing From ) / Wind Speed (m/s)

	0.0 - 2.5	2.5 - 5.0	5.0 - 7.5	>= 7.5	Total
N	0	6	8	3	17
NNE	0	3	0	1	4
NE	0	4	7	0	11
NEE	0	6	6	1	13
E	0	1	5	0	6
SEE	0	6	6	0	12
SE	0	7	5	2	14
SSE	0	1	2	0	3
S	0	3	4	1	8
SSW	0	1	10	0	11
SW	0	12	11	3	26
SWW	0	5	5	1	11
W	0	2	4	1	7
NWW	0	6	5	2	13
NW	0	9	9	3	21
NNW	0	4	1	0	5
Total	0	76	88	18	182



Annexure - III A



AMBIENT AIR QUALITY MONITORING DATA								
Name of Mine : R.K.D.R. Iron Ore Mine					Unit: $\mu\text{g}/\text{cum}$			
ML No. 2584					Station : Vadrahalli			
Season/ Week	Winter - 2010 - 11 (Dec -10 - Feb - 11)				Summer - 2011 (March - 11 - May - 11)			
	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM
I Week	12.75	10.15	52	126	19.34	13.35	40	118
	11.53	10.08	56	135	20.21	12.87	46	110
II Week	12.95	11.91	52	122	19.77	11.15	50	120
	11.87	10.57	44	98	17.35	12.68	44	119
III Week	13.39	10.87	60	134	14.66	11.27	39	130
	12.50	10.92	56	130	15.52	13.22	44	126
IV Week	11.59	10.38	49	124	14.06	12.95	51	132
	12.69	10.73	54	128	15.42	13.05	49	128
V Week	13.23	10.44	40	85	20.89	14.49	54	133
	12.75	10.36	42	100	21.92	16.59	50	124
VI Week	14.14	12.08	34	82	19.77	13.84	53	120
	13.12	10.57	52	93	16.24	11.63	49	125
VII Week	14.55	12.19	39	106	17.88	14.96	50	130
	13.63	11.27	41	117	16.46	12.06	52	129
VIII Week	15.00	12.00	36	109	13.50	11.10	45	121
	13.12	10.36	45	116	18.85	13.71	49	125
IX Week	22.49	14.63	43	108	19.99	15.85	48	130
	21.13	12.30	48	110	20.62	17.97	53	135
X Week	19.44	11.59	52	101	18.12	15.85	50	122
	18.74	14.44	41	107	21.14	17.26	46	128
XI Week	20.19	12.36	39	112	19.37	15.58	53	119
	19.82	13.29	36	115	21.85	15.58	49	125
XII Week	18.12	13.04	43	103	15.00	13.04	40	102
	17.99	12.85	40	109	16.36	12.3	35	107
CPCB Limits	80	80	100	200	80	80	100	200



	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM
Min	11.53	10.08	34	82
Max	22.49	17.97	60	135
Mean	16.69	12.74	46.52	117.25
SD	3.31	1.99	6.25	13.01
10 Percentile	13.12	10.87	40	107
30 Percentile	14.06	11.27	43	110
50 Percentile	16.46	12.36	48	120
95 Percentile	21.85	16.59	56	134
98 Percentile	21.92	17.26	56	135

Annexure - III B



AMBIENT AIR QUALITY MONITORING DATA								
Name of Mine : R.K.D.R. Iron Ore Mine					Unit: $\mu\text{g}/\text{cum}$			
ML No. 2584					Station : Jaisinghpur			
Season/ Week	Winter - 2010 - 11 (Dec -10 - Feb - 11)				Summer - 2011 (March - 11 - May - 11)			
	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM
I Week	12.00	10.15	51	126	15.71	12.68	45	118
	11.47	10.20	46	118	18.06	13.26	41	107
II Week	13.50	10.99	60	135	16.30	12.13	53	103
	11.25	10.22	54	128	15.74	11.63	38	110
III Week	12.77	10.02	48	116	17.60	13.97	44	99
	13.39	11.17	50	131	14.65	12.30	50	102
IV Week	12.50	11.98	44	98	18.66	14.84	44	100
	12.75	10.99	57	121	16.59	13.49	34	111
V Week	12.79	10.94	38	92	17.49	13.39	49	122
	14.11	11.19	41	104	18.74	15.70	55	109
VI Week	12.16	10.05	50	89	16.79	14.20	56	118
	13.75	11.04	46	92	17.14	15.40	50	110
VII Week	12.35	10.44	39	106	19.77	16.91	48	120
	13.71	10.15	45	110	16.36	11.15	52	124
VIII Week	15.00	12.04	48	109	17.39	12.85	54	115
	14.51	11.73	38	111	18.74	14.44	50	121
IX Week	18.12	13.04	40	100	21.24	15.50	50	125
	16.36	14.60	43	103	19.99	14.80	55	121
X Week	13.84	11.38	39	109	20.24	16.07	49	116
	16.73	12.03	42	114	19.99	15.15	54	123
XI Week	19.99	13.74	50	112	20.62	14.09	56	117
	18.21	11.48	45	110	22.49	15.94	48	109
XII Week	17.24	13.95	40	109	16.36	11.15	51	120
	16.87	11.63	49	118	15.00	10.22	49	119
CPCB Limits	80	80	100	200	80	80	100	200

	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM
Min	11.25	10.02	34	89
Max	22.49	16.91	60	135
Mean	16.19	12.63	47.46	112.5
SD	2.86	1.93	5.95	10.24
10 Percentile	13.39	10.99	41	103
30 Percentile	14.11	11.17	44	109
50 Percentile	16.36	12.13	49	112
95 Percentile	20.62	15.94	56	128
98 Percentile	21.24	16.07	57	131



Annexure - III C



AMBIENT AIR QUALITY MONITORING DATA								
Name of Mine : R.K.D.R. Iron Ore Mine					Unit: $\mu\text{g}/\text{cum}$			
ML No. 2584					Station : Papinayakanahalli			
Season/ Week	Winter - 2010 - 11 (Dec -10 - Feb - 11)				Summer - 2011 (March - 11 - May - 11)			
	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM
I Week	11.03	10.20	56	121	16.70	12.68	44	110
	11.81	10.25	59	138	19.49	13.32	50	116
II Week	12.50	10.92	45	92	17.04	14.22	54	103
	13.06	11.18	54	112	18.74	13.48	43	118
III Week	12.50	10.57	47	107	16.70	12.30	38	112
	11.57	10.15	42	126	17.42	13.10	40	116
IV Week	13.12	11.27	52	123	15.25	12.65	44	105
	12.08	10.10	57	138	16.81	12.10	51	110
V Week	13.33	10.10	40	103	16.73	12.03	50	117
	12.85	10.63	38	115	19.08	14.60	52	110
VI Week	13.23	11.19	42	91	19.99	15.03	49	111
	12.16	10.05	38	88	17.49	13.74	53	114
VII Week	12.79	11.19	43	76	16.73	14.96	45	109
	13.63	11.53	38	93	14.46	11.78	50	112
VIII Week	12.35	10.94	31	99	12.50	13.39	54	110
	13.18	10.25	39	103	16.19	15.22	44	118
IX Week	19.49	14.37	39	108	20.62	14.80	49	120
	18.46	13.33	43	110	22.85	16.11	54	132
X Week	16.36	12.68	48	103	19.99	14.80	51	118
	17.49	12.33	40	99	18.74	15.50	45	121
XI Week	19.28	12.98	37	96	21.74	16.91	55	116
	21.87	14.80	42	104	20.24	17.76	50	130
XII Week	19.08	13.45	43	101	17.99	12.26	54	127
	18.46	13.33	48	108	16.36	11.15	51	121
CPCB Limits	80	80	100	200	80	80	100	200

	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM
Min	11.03	10.05	31	76
Max	22.85	17.76	59	138
Mean	16.28	12.74	46.48	111.04
SD	3.22	1.96	6.41	12.54
10 Percentile	12.79	10.92	40	103
30 Percentile	13.23	11.19	43	105
50 Percentile	16.73	12.68	47	111
95 Percentile	21.74	16.11	56	132
98 Percentile	21.87	16.91	57	138





Annexure - IID



AMBIENT AIR QUALITY MONITORING DATA								
Name of Mine : R.K.D.R. Iron Ore Mine					Unit: $\mu\text{g}/\text{cum}$			
ML No. 2584					Station : Sidhapura			
Season/ Week	Winter - 2010 - 11 (Dec -10 - Feb - 11)				Summer - 2011 (March - 11 - May - 11)			
	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM
I Week	11.47	10.20	32	98	16.50	12.33	44	108
	11.25	10.15	44	88	18.06	14.41	49	111
II Week	13.23	10.94	57	102	17.04	13.26	39	109
	12.85	10.57	46	126	14.36	11.13	50	117
III Week	11.36	10.10	57	134	19.28	14.90	47	113
	12.79	10.20	55	122	15.28	13.10	55	110
IV Week	11.84	10.01	48	137	19.08	14.41	42	109
	13.75	10.33	52	120	16.45	12.99	51	115
V Week	13.33	10.57	40	82	18.74	12.68	48	109
	12.23	10.90	43	91	17.62	11.41	50	119
VI Week	13.63	11.53	52	88	16.59	11.23	53	122
	12.79	10.69	37	102	15.39	10.24	44	114
VII Week	12.08	10.33	40	79	17.49	12.68	52	120
	13.23	11.19	34	90	18.96	13.42	48	119
VIII Week	11.44	10.24	42	83	19.82	14.62	50	112
	12.56	10.05	39	101	18.22	14.05	53	110
IX Week	14.40	11.50	43	118	24.74	17.76	44	102
	13.23	10.20	40	104	19.99	14.09	47	111
X Week	12.00	10.15	53	100	23.99	17.76	39	108
	14.37	11.98	39	108	20.62	16.21	51	116
XI Week	15.55	12.84	42	96	17.39	13.53	47	112
	17.67	13.29	48	101	16.87	14.80	54	110
XII Week	16.24	11.63	40	100	18.74	15.22	42	101
	15.00	12.26	39	110	17.49	13.74	50	108
CPCB Limits	80	80	100	200	80	80	100	200

	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM
Min	11.25	10.01	32	79
Max	24.74	17.76	57	137
Mean	15.77	12.33	46.06	107.6
SD	3.26	2.05	6.14	12.53
10 Percentile	12.79	10.24	40	100
30 Percentile	13.23	10.69	42	102
50 Percentile	15.55	11.98	47	109
95 Percentile	20.62	16.21	55	126
98 Percentile	23.99	17.76	57	134





Annexure - IVA

AMBIENT AIR QUALITY MONITORING DATA

Name of Mine : R.K.D.R. Iron Ore Mine					Unit: $\mu\text{g}/\text{cum}$			
ML No. 2584					Station : Mine Area			
Season/ Week	Winter - 2010 - 11 (Dec -10 - Feb - 11)				Summer - 2011 (March - 11 - May - 11)			
	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM
I Week	11.25	10.15	93	230	23.53	14.13	122	273
	11.42	10.07	105	204	19.31	12.06	113	326
II Week	11.18	10.27	110	210	22.49	13.84	110	292
	11.81	10.76	99	195	23.62	14.37	120	268
III Week	12.84	10.17	109	200	26.89	15.34	113	296
	11.37	10.12	100	182	23.86	12.68	119	276
IV Week	12.46	10.99	96	193	20.79	11.04	108	310
	11.92	10.34	99	188	25.86	13.37	117	287
V Week	17.93	13.60	57	224	24.40	14.78	119	328
	16.02	12.11	66	213	21.54	15.52	121	266
VI Week	15.97	11.40	52	240	20.17	13.79	115	271
	16.57	13.08	61	208	18.74	14.41	109	330
VII Week	15.37	12.92	49	220	17.22	13.48	111	328
	16.73	12.63	58	199	21.59	11.57	119	334
VIII Week	17.42	13.40	62	233	19.28	14.10	121	310
	16.02	13.07	71	243	21.13	12.49	124	341
IX Week	22.15	13.07	111	232	24.32	14.66	120	323
	20.48	11.72	110	241	22.59	13.08	116	311
X Week	24.20	14.22	103	235	25.24	15.67	110	265
	20.78	11.72	104	244	26.21	16.14	121	277
XI Week	23.27	14.99	109	220	28.12	17.66	125	321
	22.43	11.81	110	222	23.48	12.29	119	330
XII Week	26.28	13.44	103	210	18.53	10.81	102	178
	23.56	12.08	107	208	16.87	11.72	100	185
CPCB Limits	120	120	150	500	120	120	150	500

	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM
Min	11.18	10.07	49	178
Max	28.12	17.66	125	341
Mean	19.69	12.86	102.46	254.58
SD	4.79	1.78	21.03	50.32
10 Percentile	15.97	11.04	96	208
30 Percentile	16.87	11.72	102	220
50 Percentile	20.78	13.07	110	243
95 Percentile	26.28	15.67	122	330
98 Percentile	26.89	16.14	124	334



Annexure - IVB



**AMBIENT AIR QUALITY MONITORING DATA**

Name of Mine : R.K.D.R. Iron Ore Mine

Unit:  $\mu\text{g}/\text{cum}$ 

ML No. 2584

Station : Haulage Road

Season/ Week	Winter - 2010 - 11 (Dec -10 - Feb - 11)				Summer - 2011 (March - 11 - May - 11)			
	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM
I Week	11.44	10.01	100	196	23.20	12.06	99	222
	11.00	10.17	102	188	22.00	11.03	111	240
II Week	12.27	10.18	99	200	25.24	13.51	109	201
	11.45	10.02	96	209	21.74	11.63	108	211
III Week	12.81	10.22	89	228	26.78	14.09	116	235
	13.66	11.05	100	241	23.20	12.41	105	243
IV Week	12.65	10.36	103	233	27.95	14.41	113	227
	13.75	10.68	105	211	24.40	13.42	110	238
V Week	16.95	13.60	55	297	19.08	12.88	120	260
	14.46	11.04	62	265	21.09	11.72	118	278
VI Week	17.04	13.07	48	294	23.52	13.45	111	269
	16.81	12.92	55	302	20.64	11.13	117	284
VII Week	17.25	14.05	62	283	21.39	13.08	110	293
	15.38	12.88	61	262	22.49	11.00	112	300
VIII Week	14.50	11.15	57	256	20.14	12.30	110	298
	15.62	13.21	40	304	18.68	11.89	116	282
IX Week	23.46	12.23	103	229	23.80	18.51	110	260
	24.75	11.72	109	220	25.37	16.89	119	248
X Week	25.54	12.23	100	208	28.44	17.11	113	271
	23.17	13.07	104	230	24.37	14.97	110	283
XI Week	24.74	13.32	105	243	29.99	20.95	109	292
	26.59	11.72	100	214	25.19	16.02	114	301
XII Week	27.26	13.26	99	229	19.08	11.91	103	185
	25.30	11.72	101	220	14.94	10.57	100	192
CPCB Limits	120	120	150	500	120	120	150	500

	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM
Min	11	10.01	40	185
Max	29.99	20.95	120	304
Mean	20.43	12.73	98.29	247.4
SD	5.29	2.24	20.81	35.69
10 Percentile	14.50	11.03	96	211
30 Percentile	16.95	11.63	100	227
50 Percentile	21.74	12.30	105	243
95 Percentile	27.95	17.11	118	301
98 Percentile	28.44	18.51	119	302



Annexure



**AMBIENT AIR QUALITY MONITORING DATA**

Name of Mine : R.K.D.R. Iron Ore Mine

Unit:  $\mu\text{g}/\text{cum}$ 

ML No. 2584

Station : Screening/Crushing Area

Season/ Week	Winter - 2010 - 11 (Dec -10 - Feb - 11)				Summer - 2011 (March - 11 - May - 11)			
	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM
I Week	11.25	10.36	100	230	23.77	13.20	123	330
	11.78	10.11	103	228	25.49	15.01	110	268
II Week	11.66	11.04	109	243	24.20	14.22	104	299
	12.00	10.36	110	250	21.09	11.72	121	311
III Week	11.78	10.47	102	243	27.20	14.13	116	285
	12.75	11.20	99	238	23.24	13.74	111	276
IV Week	13.42	12.02	100	227	26.99	15.22	109	299
	11.78	10.87	108	249	24.88	12.88	127	317
V Week	15.66	12.57	60	233	21.24	10.95	116	311
	17.99	13.74	55	221	20.20	11.89	118	323
VI Week	17.04	13.07	51	211	22.89	12.57	120	309
	16.57	12.74	63	204	19.86	11.89	121	310
VII Week	15.00	12.26	57	229	20.11	13.84	119	300
	14.31	11.91	49	235	18.95	11.20	112	311
VIII Week	16.27	13.08	52	210	20.45	10.57	111	318
	15.34	12.11	47	199	23.33	11.30	119	321
IX Week	21.69	12.23	109	248	26.92	20.95	116	302
	19.86	11.37	103	237	23.17	16.15	114	319
X Week	21.13	13.84	110	230	25.23	17.27	121	300
	20.24	14.16	107	241	26.58	16.33	119	308
XI Week	22.14	12.08	108	229	29.11	18.25	124	324
	21.39	11.37	110	243	30.70	19.53	117	312
XII Week	20.45	10.38	107	240	17.18	11.16	108	187
	25.30	11.38	111	247	16.57	12.06	100	201
CPCB Limits	120	120	150	500	120	120	150	500

	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM
Min	11.25	10.11	47	187
Max	30.7	20.95	127	330
Mean	19.92	12.93	102.21	264.71
SD	5.16	2.41	22.79	42.48
10 Percentile	15.00	11.16	100	229
30 Percentile	16.57	11.37	103	235
50 Percentile	20.45	12.23	110	249
95 Percentile	27.20	18.25	123	323
98 Percentile	29.11	19.53	124	324





Annexure - IVD

AMBIENT AIR QUALITY MONITORING DATA

Name of Mine : R.K.D.R. Iron Ore Mine					Unit: $\mu\text{g}/\text{cum}$			
ML No. 2584					Station : Drilling & Loading Area			
Season/ Week	Winter - 2010 - 11 (Dec -10 - Feb - 11)				Summer - 2011 (March - 11 - May - 11)			
	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM
I Week	11.25	10.36	108	239	24.14	12.75	110	287
	12.35	10.94	100	243	27.60	13.26	116	246
II Week	11.07	10.07	105	249	29.49	16.91	103	295
	12.46	10.27	99	238	25.12	14.80	120	252
III Week	11.92	10.34	110	243	28.23	15.67	107	271
	12.56	10.46	109	232	26.78	14.19	111	263
IV Week	13.21	11.88	103	229	24.54	13.45	105	244
	12.78	10.99	106	246	29.99	14.90	118	237
V Week	17.60	13.42	47	206	20.11	14.22	116	318
	17.24	13.11	53	239	22.62	11.89	121	300
VI Week	16.87	12.68	49	220	21.06	12.08	109	310
	16.57	13.08	60	236	20.18	11.89	120	298
VII Week	15.65	12.87	56	210	21.81	12.11	118	309
	16.27	12.40	50	237	18.34	12.06	116	311
VIII Week	17.04	13.07	49	219	20.94	11.81	119	328
	15.32	12.13	55	202	23.86	12.88	122	333
IX Week	20.12	13.82	99	230	24.14	16.20	118	299
	19.49	11.84	110	241	27.60	19.02	123	308
X Week	17.38	10.57	108	192	25.77	14.09	120	314
	16.57	12.23	101	209	29.65	13.45	117	295
XI Week	19.86	11.72	100	240	26.81	12.23	119	311
	18.74	10.99	107	243	23.48	13.24	124	319
XII Week	19.56	11.20	104	229	17.38	12.49	100	200
	20.79	12.88	100	238	16.27	11.89	106	199
CPCB Limits	120	120	150	500	120	120	150	500

	SO <sub>2</sub>	NO <sub>x</sub>	RPM	SPM
Min	11.07	10.07	47	192
Max	29.99	19.02	124	333
Mean	19.97	12.72	100.96	257.44
SD	5.35	1.79	23.15	40.17
10 Percentile	15.65	11.20	99	229
30 Percentile	16.87	11.89	101	237
50 Percentile	19.86	12.49	108	243
95 Percentile	29.49	16.20	122	319
98 Percentile	29.65	16.91	123	328

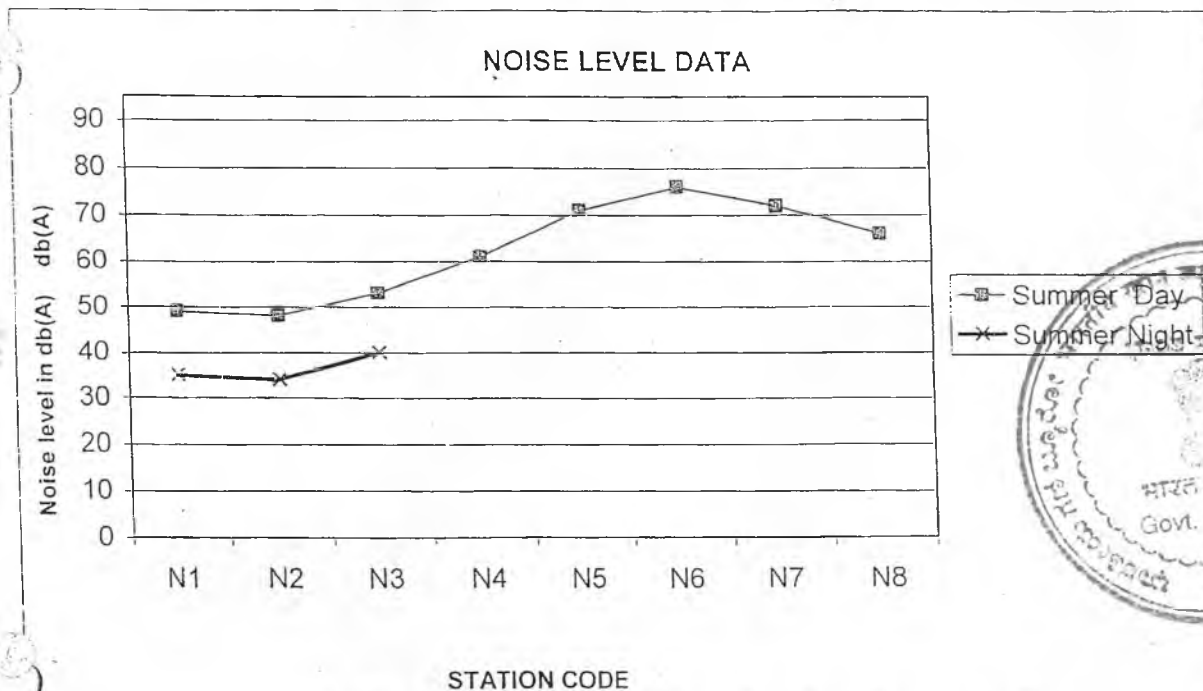
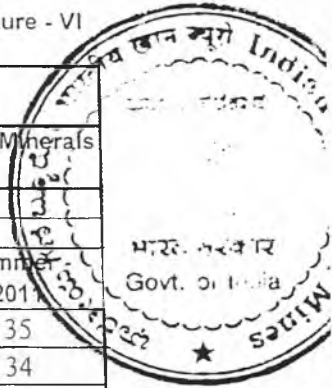




WATER QUALITY DATA											
Name of Mine: R.K.D.R. Iron Ore Mine				Name of Company : M/s Auro Minerals							
ML No. 1751/2584		WINTER - 2010-11				SUMMER - 2011					
Sl.No.	Parameter	Unit	IS 10500 Limits	Kallahalli	Rajapura	Kariganur	Mine	Kallahalli	Rajapura	Kariganur	Mine
				Bore well	Bore well	Bore well	Borewell	Bore well	Bore well	Bore well	Borewell
<i>Physical Parameter</i>											
1	Colour		unobjectionable	colourless	colourless	colourless	colourless	colourless	colourless	colourless	colourless
2	Odour		unobjectionable	odourless	odourless	odourless	odourless	odourless	odourless	odourless	odourless
3	Taste		unobjectionable	tasteless	tasteless	tasteless	tasteless	tasteless	tasteless	tasteless	tasteless
4	pH		6.5 to 8.5	7.5	7.3	7.4	7.8	7.8	7.5	7.6	8.0
5	Conductivity	mhos/cm	1500	1079	1131	1092	1213	1102	1152	1011	1222
6	Total Dissolved Solids	mg/l	500 to 2000	699	862	912	1209	706	881	931	1183
7	Turbidity	NTU		1	1	2.1	2.0	1.4	1.3	1.8	2.1
<i>Chemical Parameter</i>											
8	Total Alkalinity as CaCO <sub>3</sub>	mg/l	200 to 600	411	402	409	396	420	415	426	401
9	Total Hardness as Ca CO <sub>3</sub>	mg/l	300 to 600	429	536	432	387	408	544	401	376
10	Calcium	mg/l	75 to 200	120	112	109	116	116	109	111	121
11	Magnesium	mg/l	30 to 100	58	61	64	76	45	56	59	81
12	Chloride	mg/l	250 to 1000	182	193	177	175	190	200	175	181
13	Sulphate	mg/l	200 to 400	289	284	295	301	256	269	277	298
14	Nitrate	mg/l	45	4.1	5.1	4.5	4.7	4.5	5.3	4.8	5.1
15	Flouride	mg/l	1.00 to 1.50	1.2	1.0	1.2	1.3	1.0	1.1	1.3	1.2
16	Iron	mg/l	0.3 to 1.0	0.4	0.3	0.6	0.5	0.2	0.2	0.3	0.5
17	Manganese	mg/l	0.1 to 0.3	0.013	0.010	0.011	0.011	0.011	0.012	0.012	0.013



NOISE LEVEL DATA						
Name of Mine : R.K.D.R. Iron Ore Mine			Name of Company : M/s Auro Minerals			
ML No. 1751/2584						
Sl.No	Location code	Location	Noise level in db(A)			
			Day		Night	
			Winter-2010-11	Summer - 2011	Winter-2010-11	Summer - 2011
1	N1	Kallahalli Village	--	49	--	35
2	N2	Rajapura Village	--	48	--	34
3	N3	Kariganur Village	--	53	--	40
4	N4	Mines Office	--	61	--	NO Operation
5	N5	Crushing/Screening	--	71	--	
6	N6	Drilling Point	--	76	--	
7	N7	Loading Point	--	72	--	
8	N8	Haulage Road	--	66	--	



Locations:			
N1	Kallahalli village	N5	Crushing/Screening
N2	Rajapura village	N6	Drilling Piont
N3	Kariganur village	N7	Loading point
N4	Mines Office	N8	Haul Road

FIG No.4

## Annexure - VII

SOIL QUALITY DATA FOR WINTER SEASON DECEMBER TO FEBRUARY 2010 - 11				
Name of Mine: RKDR Iron Ore Mine		Name of Company: M/s Auro Minerals		
ML No. 1751/2584				
Sl.No.	Parameter	Kallahalli Village	Rajapura Village	Kariganur Village
		Agri. Soil	Agri. Soil	Agri. Soil
1	p <sup>H</sup>	6.7	7.5	6.3
2	Electric Conductivity (micro-mhos/cm)	360	419	397
3	Organic Carbon (meq/100gms)	0.41	0.66	0.72
4	Nitrogen as N (kg/ha)	1.8	1.5	1.8
5	Phosphorus as P (kg/ha)	0.37	0.49	0.52
6	Potassium as K (meq/100gms)	0.05	0.06	0.08
7	Sulphate as SO <sub>4</sub> (meq/100gms)	0.49	0.42	0.48
8	Chloride as Cl (mg/100gms)	0.18	0.16	0.20
9	Sand %	38	40	48
10	Silt & Clay %	70	69	71
11	Texture	Claye loam	Claye loam	Claye loam
12	Water Holding Capacity %	29	31	32



## मडगांव शाखा

रुआ जुजे इनासियो लोयला  
 न्यु मार्केट, पोस्ट बॉक्स नं. २७२,  
 मडगांव, गोवा. पिन ४०३ ६०१.  
 दूरध्वनी : २७१५००६ / २७१५३१५  
 २७३१३२९ (स.म.प्र.)  
 २७३११४६ (म.प्र.)  
 २७३३७२९ (प.न.आर.आय.)  
 तार पत्ता: स्ट्रिंगेंट  
 फेक्स: ९९ (८३२) २७३६५५५ / २७३३७२९



# बैंक ऑफ इंडिया Bank of India

आपकी सेवा में सदैव तत्पर / *The Bank that cares*

## Margao Branch

Rua Jose Inacio Loyola,  
 New Market, R. B. No. 272,  
 Margao, Goa. Pin-403 601  
 Tel.: 2715006 / 2715395  
 2731321 (A.G.M.)  
 2731146 (C. M.)  
 2733729 (NRI)  
 Grams : Stringent  
 Fax : 91 (832) 2736595 / 2733729  
 E-mail: mrgboi@sancharnet.in

संदर्भ सं / Ref. No.:

दिनांक / Date : 16.04.2016

To

The Regional Controller of Mines  
Indian Bureau of Mines  
Bangalore

Dear Sir/s,

Re: Issue / Renewal Bank Guarantee

No.: 15061PEBL/130012 Dated 02.05.2013 For Rs. 490800/-On Behalf of : M/s. Auro MineralsDate of expiry : 31.03.2016

We enclose herewith the original of the captioned Bank Guarantee issued by us in your favour and at the request of our customer Mr./M/s. Auro Minerals issued/renewed for a period of 62 years/months.

2. The confirmation of this guarantee is available with our controlling office. The beneficiary in their own interest should obtain such confirmation from the controlling office at the following **address enclosing a certified xerox copy of the guarantee.**

The Zonal Manager  
 Bank of India  
 Goa Zone  
 1<sup>st</sup> Floor, Star House,  
 EDC Complex, Patto Plaza,  
 Panaji, Goa. 403 001.

3. You can also have Electronic confirmation of the guarantee through: Goa.CIC@bankofindia.co.in

4. Kindly acknowledge the receipt.

Yours faithfully,



*[Signature]*  
 16/04/16  
 Senior Manager

*[Signature]*  
 30/05/2016

प्रधान कार्यालय : स्टार हाऊस, प्लॉट नं.: सी-५, जी-ब्लॉक, बांद्रा-कुर्ला कॉम्प्लेक्स,  
 बांद्रा (ईस्ट), पो. बॉ. नं.: ८१३५, मुंबई - ४०० ०५१

Head Office : Star House, Plot No. C-5, G-Block, Bandra - Kurla Complex, -  
 Bandra (East), P. B. No. 8135 Mumbai - 400 051

मडगांव शाखा  
रुआ जुजे इनासियो लोयला  
न्यु मार्केट, पोस्ट बॉक्स नं. २७२,  
मडगांव, गोवा. पिन ४०३ ६०९.  
दूरध्वनी २७९५००६ / २७९५३९५  
२७३१३२९ (स.म.प्र.)  
२७३११४६ (म.प्र.)  
२७३३७२९ (एन.आर.आय.)  
तार पत्ता: स्ट्रिजेंट  
फेक्स: ९१ (८३२) २७३६५९५ / २७३३७२९



बैंक ऑफ इंडिया  
Bank of India

आपकी सेवा में सदैव तत्पर / The Bank that cares

**Margao Branch**  
Rua Jose Inacio Loyola,  
New Market, P. B. No. 272,  
Margao, Goa Pin-403 601  
Tel.: 2715006 / 2715395  
2731321 (A.G.M.)  
2731146 (C. M.)  
2733729 (NRI)  
Grams : Stringent  
Fax : 91 (832) 2736595 / 2733729  
E-mail: mrgboi@sancharnet.in

संदर्भ सं / Ref. No.: MGR/ADV/2016-17

दिनांक / Date : 16.04.2016

To  
The Regional Controller of Mines  
Indian Bureau of Mines  
Bangalore



Dear Sir,

Our Guarantee No.: 15061PEBG-130012  
Dated 02.05.2013 for Rs. 490800/-  
Issued in your favour at the request of our  
customer Mr./M/s. Auro Minerals  
Date of expiry: 31.03.2016



On whose behalf the above guarantee has been issued by us, we hereby extend the validity period of the said guarantee from 31.03.2016 to 31.05.2021 all other terms and conditions remaining unchanged.

2. Notwithstanding anything contained herein above our liability under this guarantee is restricted to Rs. 490800/- (Rupees four lakh ninety thousand eight hundred only) and this guarantee is valid upto 31.05.2021. We shall be released and discharged from all liabilities hereunder unless a written claim for payment under this guarantee is lodged on us within 12 month/s from the date of expiry of the guarantee i.e. on or before 31.05.2022 irrespective of whether or not the original guarantee is returned to us.

3. This dated : 16.04.2016 at Margao Goa.



For Bank of India

[Signature]  
16/04/16  
Sr. Manager

[Signature]  
16/04/16  
Chief Manager

प्रधान कार्यालय : स्टार हाऊस, प्लॉट नं.: सी-५, जी-ब्लॉक, बांद्रा-कुर्ला कॉम्प्लेक्स,  
बांद्रा (ईस्ट), पो. बॉ. नं.: ८३३५, मुंबई - ४०० ०५१  
Head Office : Star House, Plot No. C-5, G-Block, Bandra - Kurla Complex,  
Bandra (East) P Box No 8135 Mumbai - 400 051

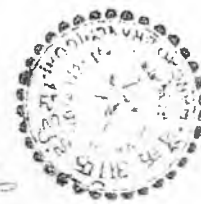




गोवा GOA

Date 6/9/1988  
 Name of P. Auro Minerals  
 Resident Goa  
 Place of Goa  
 Licence No. [Signature]

420460



~~BANK GUARANTEE AND CO-ACCEPTANCE BOND~~

1. Agreement on production of a Bank guarantee for Rs. 490,800 (Rupees Four Lakhs Ninety Thousand Eight Hundred Only) under rule 23F of MCDR, 1988.
2. We Bank of India, Margao, at the request of Auro Minerals do hereby undertake to pay to the Regional Controller of Mines, Indian Bureau of Mines, Bangalore or any other officer authority nominated by the Controller General, Indian Bureau of Mines an amount not exceeding Rs. 490,800/- (Rupees Four Lakhs Ninety Thousand Eight Hundred Only) against any loss or damage caused to or suffered or would be



कृते बैंक ऑफ इंडिया  
 For BANK OF INDIA  
[Signature]  
 वरिष्ठ प्रबंधक SENIOR MANAGER  
 मडगांव शा. गोवा MARGAO BR. GOA

BANK OF INDIA  
 बैंक ऑफ इंडिया  
[Signature]  
 CHIEF MANAGER  
 मुख्य प्रबंधक

caused to or suffered by the Government or towards non compliance of provisions of Rule 23A, B & 23E of MCDR, 1988 i.e. Progressive mine closure plan approved in respect of the mining lease for M. L. No. 2584 (ore/ores) over an area of 31.00 Hects. Granted by State Government to Auro Minerals situated in Kallahalli Village, Hospet Taluka, Bellary District, Karnataka State by reason of any breach of the said lessee of any of the terms or conditions contained in the Mine closure plan/progressive mine closure plan.

3. We, Bank of India, do hereby undertake to pay the amount due and payable under this guarantee without any demur, to the authority merely on a demand from the Regional Controller of Mines, Indian Bureau of Mines, Bangalore, or any other authorized by the Controller General, Indian Bureau of Mines stating that the amount claimed is due by way of loss or loss of damage caused to or would be caused to or suffered by the government by reason of breach by the said lessee or any of the terms or conditions contained in the mining plan / mining scheme or by reason of lessee's failure to perform the said mine closure plan/progressive mine closure plan. However our liability under this guarantee shall be restricted to an amount not exceeding Rs. 490,800/- (Rupees Four Lakhs Ninety Thousand Eight Hundred Only).

4. We undertake to pay to the authority on a demand from the Regional Controller of Mines, Indian Bureau of Mines, Bangalore, or any other officer authorized by the Controller General, Indian Bureau of Mines or Govt. of India any money so demanded notwithstanding any dispute or disputes raised by the lessee in any suit or proceedings pending before any court or tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this bond shall be valid discharge of our liability for payment there under and lessee shall have no claim against us for making such payment.

5. We, Bank of India, further agree that the guarantee herein contained shall remain in full force and effect during the period up to the end of the Mining plan/Scheme of Mining period of five years that would be taken for performance of the said Agreement and that shall continue to be enforceable till all the dues of the Govt. under or by virtue of the



कृते बैंक ऑफ इंडिया  
For BANK OF INDIA

वरिष्ठ प्रबंधक ASSISTANT MANAGER  
मडगांव शा. गोवा MARGAO BR. GOA

BANK OF INDIA  
बैंक ऑफ इंडिया

CHIEF MANAGER  
मुख्य प्रबंधक

said agreement have been fully paid and its claims satisfied or discharged till Regional Controller of Mines, Indian Bureau of Mines, Bangalore or any other officer authorized by the Controller General, Indian Bureau of Mines certifies that the terms and conditions of the said progressive mine closure plan/final mine closure plan have been fully and properly carried out by the said lessee and accordingly discharge this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before 31.03.2016, we shall be discharged from all liability under this guarantee thereafter.



6. We further agree that Regional Controller of Mines, Indian Bureau of Mines, Bangalore, or any other officer authorized by the Controller General, Indian Bureau of Mines shall have fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said lessee from time to time or to postpone for any time or from time to time any powers exercisable by Regional Controller of Mines, Bangalore, against the said lessee and to forbear or enforce any of the terms and conditions relating to the said agreement, we (bank) shall not be relieved from our liability by reason of any such variation or extension being granted to the said lessee or for any forbearance, act or omission on the part of Regional Controller of Mines, Indian Bureau of Mines, Bangalore, or any indulgence by Regional Controller of Mines, Indian Bureau of Mines Bangalore, to the said lessee or any manner or thing whatsoever which under the law relating to sureties, would but this provision have effect of so relieving us.

7. The guarantee will not be discharged due to change in constitution of the bank of the bank or lessee.

8. We, Bank of India, lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Regional Controller of Mines, Indian Bureau of Mines, Bangalore, in writing.

9. Notwithstanding anything contained herein:

a) Our liability under this Bank guarantee shall not exceed Rs.490,800/- (Rupees Four Lakhs Ninety Thousand Eight Hundred Only)

b) The bank guarantee shall be valid up to 31.03.2016.



कृते बैंक ऑफ इंडिया  
For BANK OF INDIA  
*[Signature]*  
वरिष्ठ प्रबंधक SUBJON MANAGER  
मडगांव शा. गोवा MARGAO BR. GOA

बैंक ऑफ इंडिया  
For BANK OF INDIA  
*[Signature]*  
मुख्य प्रबंधक / Asst. Gen. Manager  
CHIEF MANAGER  
मडगांव सुबर्बन ब्रांच MARGAO BR. (Goa)



c) The period of bank guarantee submitted is valid for the period of the proposals given in the mining plan/Scheme of mining/PMCP etc. We are liable to pay the guarantee amount or any part thereof under this Bank guarantee only and only if the Regional Controller of Mines, Indian Bureau of Mines serves upon the Bank a written claim or demand on or before 31.03.2016.

10. Unless any action to enforce the claim is being made by the Regional Controller of Mines, Indian Bureau of Mines, Bangalore on or before 31.03.2016, all rights under this Guarantee shall be forfeited and the Bank shall be discharged from its liability hereunder.

11. If the bank guarantee is to be en-cashed through the court, in that case the (city where Regional office, IBM is located) Panaji court will have jurisdiction.

12. The confirmation of this Bank Guarantee is available with our controlling office. The beneficiary in his own interest should obtain such confirmation from our following controlling office:

The Zonal Manager  
Bank of India  
Star House, Goa  
Patto Plaza, Panaji, Goa - 403 001  
Email: zo.goa@bankofindia.com

13. In witness whereof, the bank through its authorized officer has set its hand and stamp on this 2<sup>nd</sup> Day of May 2013 at Margao.

कृते बैंक ऑफ इंडिया  
For BANK OF INDIA

*Tejas*  
(*T. C. Vaz*)  
वरिष्ठ प्रबंधक SENIOR MANAGER  
मडगांव शा. गोवा MARGAO BR. GOA  
118048

2/5/2013

BANK OF INDIA  
बैंक ऑफ इंडिया  
*[Signature]*  
13/5/13  
R. C. KACHHIA  
CHIEF MANAGER  
मुख्य प्रबंधक



STATE BANK OF INDIA  
PANAJI (GOA) BRANCH  
OFF. HOTEL MANDOVI  
D B ROAD, PANAJI, GOA-INDIA

TEL NO:  
FAX NO:0832-2226735  
SWIFT NO:SBININBB366  
PIN CODE:403001

REGIONAL CONTROLLER OF MINES  
INDIAN BUREAU OF MINES BANGALORE

Date: 3/31/2016

DEAR SIRs,



Original Guarantee NO :0050913BG0000078  
Amount of guarantee :INR2,61,700.00  
Guaranteecover from :8/30/2013 TO 3/31/2016  
Last date for lodgement of claim :3/31/2016

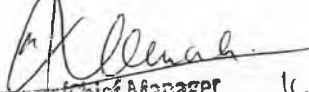
Applicant :AURO MINERALS

We hereby inform you that at the request of the above applicant, the captioned Guarantee No. 0050913BG0000078 issued by us on 8/30/2013 and renewed till 3/31/2016 for an amount of INR2,61,700.00 has now been extended for further period upto 5/31/2021 for an amount of INR2,61,700.00

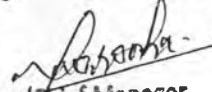
2. The last date for the receipt of claims under this extended guarantee will be 5/31/2021

3. All other terms and conditions as appearing in the Original Guarantee shall apply to this Extension guarantee and shall be read with the Original guarantee.

For STATE BANK OF INDIA  
For State Bank of India

  
AUTHORISED SIGNATORY  
पयजी मोवा (मुख्य शाखा) कोड 0509  
PANAJI, GOA (MAIN BRANCH) Code-0509

कते भारतीय स्टेट बैंक  
For State Bank of India

  
Chief Manager  
पयजी मोवा (मुख्य शाखा) कोड 0509  
AUTHORISED SIGNATORY

PLEASE CONTACT BRANCH FOR eTradeSBI FACILITY-INTERNET ACCESS TO TRADE FINANCE





STATE BANK OF INDIA  
OPP. HOTEL MANDOVI  
D B ROAD, PANAJI, GOA-INDIA

TEL NO:0832-6452185  
FAX NO:0832-2226735  
SWIFT NO:SBININBB366  
PIN CODE:403001

To,

REGIONAL CONTROLLER OF MINES  
INDIAN BUREAU OF MINES BANGALORE

Amendment Details  
=====

Date of Amendment : 3/31/2016  
Guarantee reference Number : 0050913BG0000078  
Your reference Number : NON REF

Amendment Details :

We hereby advise you of amendments made to the referenced Guarantee

Expiry Date changed to: 5/31/2021  
Date of Claim has changed to: 5/31/2021

Sender To Reciever Information:  
BG ISSUED AS PER LTR DTD AUGUST 22  
2013

कृते भारतीय स्टेट बैंक  
For State Bank of India

Yours faithfully,

*[Signature]*  
मुख्य अधिकारी / Chief Manager

Authorised Signatory कोड (CIN)  
PANAJI, G. (REGAR) Code-0009

PLEASE CONTACT BRANCH FOR eTradeSBI FACILITY-INTERNET ACCESS TO TRADE FINANCE



STATE BANK OF INDIA  
PANAJI (GOA) BRANCH  
OPP. HOTEL MANDOVI  
D B ROAD, PANAJI, GOA-INDIA

TEL NO:  
FAX NO: 0832-2226735  
SWIFT NO: SBININBB366  
PIN CODE: 403001

3/31/2016

To

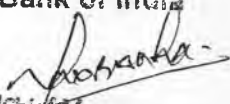
REGIONAL CONTROLLER OF MINES  
INDIAN BUREAU OF MINES BANGALORE

DEAR SIR(S),

GUARANTEE NUMBER : 0050913BG0000078  
DATE OF ISSUE : 8/30/2013  
NEW GUARANTEE AMOUNT : INR2,61,700.00  
NEW DATE OF EXPIRY : 5/31/2021  
NEW DATE OF CLAIM : 5/31/2021  
APPLICANT NAME : AURO MINERALS

We confirm having Issued / Extended the captioned Bank Guarantee in your favour on Behalf of our above named Constituent and the same signed by the officers of the Bank.

कृते भारतीय स्टेट बैंक  
YOURS FAITHFULLY **State Bank of India**

  
AUTHORISED SIGNATORY: **Chief Manager**

The Beneficiaries are advised in their own interest to verify the genuineness of the Guarantee with the BG issuing Branch.  
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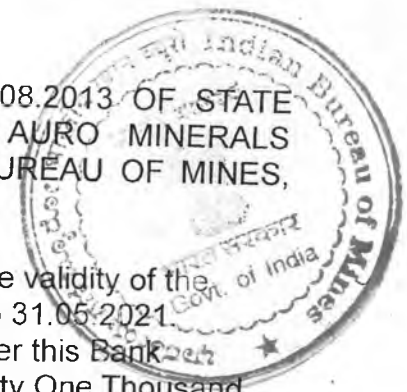


गोवा GOA 715  
30/3/2016  
1000  
Auro Minerals

386152



NEHA DALVI  
THE REGIONAL CONTROLLER OF MINES  
INDIAN BUREAU OF MINES  
BANGALORE.



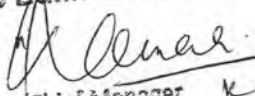
ADDENDUM TO GUARANTEE NO:-0050913BG0000078 DATED 30.08.2013 OF STATE BANK OF INDIA, BANAJI MAIN BRANCH ON ACCOUNT OF AURO MINERALS FAVOURING THE REGIONAL CONTROLLER OF MINES, INDIAN BUREAU OF MINES, BANGALORE, KARNATAKA.

1. At the request of our customer Auro Minerals, we hereby extend the validity of the captioned guarantee expiring on 31.03.2016 and make it valid upto 31.05.2021.
2. Notwithstanding anything contained herein above, our liability under this Bank Guarantee shall not exceed Rs. 2,61,700/- (Rupees Two Lakhs Sixty One Thousand Seven Hundred Only) and shall remain in force until 31.05.2021 and unless a demand to enforce any claim under the guarantee is filed against us on or before 31/05/2021, all your rights under this guarantee shall be forfeited and we shall be released and discharged from all the liabilities thereunder, whether or not the original guarantee is returned to us.
3. All the terms and conditions of the original Guarantee No 0050913BG0000078 dated 30.08.2013 remains unchanged.

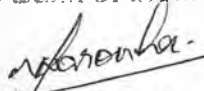


4. Please keep this addendum attached to the original guarantee No 0050913BG0000078 dated 30.08.2013 as it forms an integral part of the same.
5. Notwithstanding anything contrary contained in any law for the time being in force or banking practice, this guarantee shall not be assignable or transferable by the beneficiary. Notice or invocation by any person such as assignee, transferee or agent of beneficiary shall not be entertained by the bank. Any invocation of guarantee can be made only by the beneficiary directly.
6. Notwithstanding anything contained herein
  - a) our liability under this Bank Guarantee shall not exceed Rs. 261,700/- (Rupees Two Lakhs Sixty One Thousand Seven Hundred Only)
  - b) this bank guarantee shall remain in force until 31.05.2021 and
  - c) we are liable to pay the guarantee amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before 31.05.2021.

Dated this 31<sup>st</sup> Day of March, 2016  
Place: Panaji-Goa

कुते भारतीय स्टेट बैंक  
For State Bank of India  
  
मुख्य प्रबन्धक/Chief Manager K-128  
पणजी जोका (मुख्य शाखा) कोड 0509  
PANAJI, GOA BRANCH Code-0509

कुते भारतीय स्टेट बैंक  
For State Bank of India

  
मुख्य प्रबन्धक/Chief Manager  
पणजी जोका (मुख्य शाखा) कोड 0509  
PANAJI, GOA BRANCH Code-0509



STATE BANK OF INDIA  
PANAJI (GOA) BRANCH  
OPP. HOTEL MANDOVI  
D B ROAD, PANAJI, GOA-INDIA

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FAX NO:0832-2226735  
SWIFT NO:SBININBB366  
PIN CODE:403001

REGIONAL CONTROLLER OF MINES  
INDIAN BUREAU OF MINES BANGALORE

27/08/2013

DEAR SIRs,

GUARANTEE NO :0050913BG0000078  
AMOUNT OF GUARANTEE :INR2,61,700.00  
GUARANTEE COVER FROM :27/08/2013 TO 31/03/2016  
LAST DATE FOR LODGEMENT OF CLAIM :31/03/2016

THIS DEED OF GUARANTEE IS EXECUTED BY THE STATE BANK OF INDIA,  
CONSTITUTED UNDER THE STATE BANK OF INDIA ACT , 1955 HAVING THE CENTRAL OFFICE  
AT NARIMAN POINT , MUMBAI AND AMOUNGST OTHER PLACES. A BRANCH AT  
PANAJI (GOA) BRANCH HEREIN AFTER REFERRED TO AS 'THE BANK'). IN  
FAVOUR OF REGIONAL CONTROLLER OF MINES  
(HEREIN AFTER REFERRED TO AS 'BENEFICIARY') FOR AN AMOUNT NOT EXCEEDING  
INR 2,61,700.00  
Rupees two lakh sixty one thousand seven hundred INDIAN RUPEE only

AT THE REQUEST OF AURO MINERALS  
AND THE GUARANTEE SHALL REMAIN IN FULL FORCE UPTO 31/03/2016  
AND CANNNOT BE INVOKED OTHERWISE THAN BY WRITTEN DEMAND OR CLAIM UNDER THIS  
GUARANTEE SERVED ON THE BANK ON OR BEFORE THE 31/03/2016

SUBJECT TO AS AFORESAID

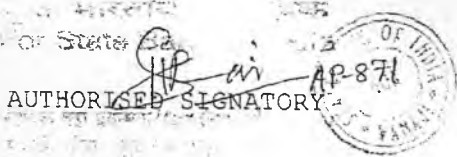
NOTWITHSTANDING ANYTHING CONTAINED HEREIN ABOVE, OUR LIABILITY UNDER THIS  
GUARANTEE IS RESTRICTED TO  
INR 2,61,700.00  
Rupees  
two lakh sixty one thousand seven hundred INDIAN RUPEE only

OUR GUARANTEE SHALL REMAIN IN FORCE UNTIL 31/03/2016. UNLESS A DEMAND OR  
CLAIM UNDER THE GUARANTEE IS MADE ON OUR BANK IN WRITING ON OR BEFORE  
31/03/2016 ALL YOURS RIGHTS UNDER THE SAID GUARANTEE BE FORFEITED AND WE SHALL  
BE RELIEVED AND DISCHARGED FROM ALL LIABILITES THEREUNDER.

AUTHORISED SIGNATORY

AUTHORISED SIGNATORY S23248

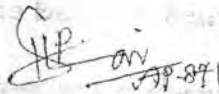
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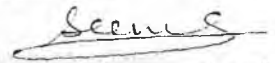


NOTWITHSTANDING ANYTHING CONTAINED HEREIN ABOVE, OUR LIABILITY UNDER THIS  
GUARANTEE IS RESTRICTED TO  
INR2,61,700.00  
two lakh sixty one thousand seven hundred INDIAN RUPEE only

OUR GUARANTEE SHALL REMAIN IN FORCE UNTIL 31/03/2016. UNLESS A DEMAND OR  
CLAIM UNDER THE GUARANTEE IS MADE ON OUR BANK IN WRITING ON OR BEFORE  
31/03/2016 ALL YOURS RIGHTS UNDER THE SAID GUARANTEE BE FORFEITED AND WE SHALL  
BE RELEIVED AND DISCHARGED FROM ALL LIABILITES THEREUNDER.

  
on 27/03/16

AUTHORISED SIGNATORY



S23248

AUTHORISED SIGNATORY





गोवा GOA

Date 21/08/13 Sr. No. 1203 Value Rs. 1000/-  
 Name of Purchaser AURO MINERALS  
 Resident of \_\_\_\_\_  
 Place \_\_\_\_\_  
 Licence No. \_\_\_\_\_

227161

Sign of vendor

Sign of Purchaser



**BANK GUARANTEE AND CO-ACCEPTANCE BOND**

1. Agreement on production of a Bank guarantee for Rs. 261,700/- (Rupees Two Lakhs Sixty One Thousand Seven Hundred Only) under rule 23F of MCDR, 1988.
2. We State Bank of India, Panaji, at the request of Auro Minerals, do hereby undertake to pay to the Regional Controller of Mines, Indian Bureau of Mines, Bangalore or any other officer authority nominated by the Controller General, Indian Bureau of Mines an amount not exceeding Rs. 261,700/- (Rupees Two Lakhs Sixty One Thousand Seven Hundred Only) against any loss or damage caused to or suffered or would be caused to or suffered by the Government or



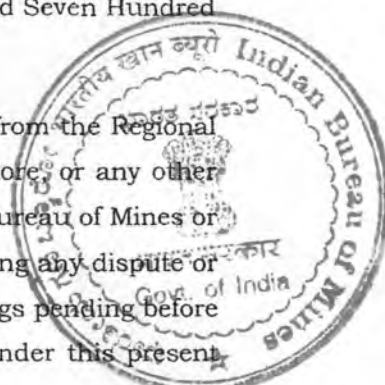
towards non compliance of provisions of Rule 23A, B & 23E of MCDR, 1988 i.e. Progressive mine closure plan approved in respect of the mining lease for M. L. No. 2584 (ore/ores) over an area of 31.00 Hects. Granted by State Government to Auro Minerals situated in Kallahalli Village, Hospet Taluka, Bellary District, Karnataka State by reason of any breach of the said lessee of any of the terms or conditions contained in the Mine closure plan/progressive mine closure plan.

3. We, State Bank of India, do hereby undertake to pay the amount due and payable under this guarantee without any demur, to the authority merely on a demand from the Regional Controller of Mines, Indian Bureau of Mines, Bangalore, or any other authorized by the Controller General, Indian Bureau of Mines stating that the amount claimed is due by way of loss or loss of damage caused to or would be caused to or suffered by the government by reason of breach by the said lessee or any of the terms or conditions contained in the mining plan / mining scheme or by reason of lessee's failure to perform the said mine closure plan/progressive mine closure plan. However our liability under this guarantee shall be restricted to an amount not exceeding Rs. 261,700/- (Rupees Two Lakhs Sixty One Thousand Seven Hundred Only).

4. We undertake to pay to the authority on a demand from the Regional Controller of Mines, Indian Bureau of Mines, Bangalore, or any other officer authorized by the Controller General, Indian Bureau of Mines or Govt. of India any money so demanded notwithstanding any dispute or disputes raised by the lessee in any suit or proceedings pending before any court or tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this bond shall be valid discharge of our liability for payment there under and lessee shall have no claim against us for making such payment.

5. We, State Bank of India, further agree that the guarantee herein contained shall remain in full force and effect during the period up to the end of the Mining plan/Scheme of Mining period of five years that would be taken for performance of the said Agreement and that shall continue to be enforceable till all the dues of the Govt. under or by virtue of the said agreement have been fully paid and its claims



satisfied or discharged till Regional Controller of Mines, Indian Bureau of Mines, Bangalore or any other officer authorized by the Controller General, Indian Bureau of Mines certifies that the terms and conditions of the said progressive mine closure plan/final mine closure plan have been fully and properly carried out by the said lessee and accordingly discharge this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before 31.03.2016, we shall be discharged from all liability under this guarantee thereafter.

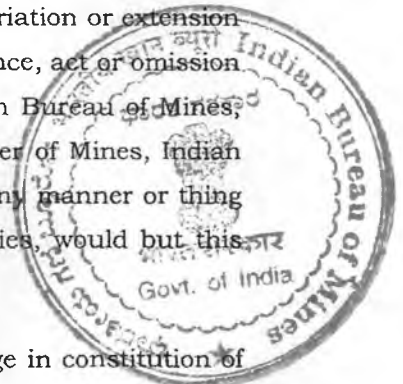
6. We further agree that Regional Controller of Mines, Indian Bureau of Mines, Bangalore, or any other officer authorized by the Controller General, Indian Bureau of Mines shall have fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said lessee from time to time or to postpone for any time or from time to time any powers exercisable by Regional Controller of Mines, Bangalore, against the said lessee and to forbear or enforce any of the terms and conditions relating to the said agreement, we (bank) shall not be relieved from our liability by reason of any such variation or extension being granted to the said lessee or for any forbearance, act or omission on the part of Regional Controller of Mines, Indian Bureau of Mines, Bangalore, or any indulgence by Regional Controller of Mines, Indian Bureau of Mines Bangalore, to the said lessee or any manner or thing whatsoever which under the law relating to sureties, would but this provision have effect of so relieving us.

7. The guarantee will not be discharged due to change in constitution of the bank of the bank or lessee.

8. We, State Bank of India, lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Regional Controller of Mines, Indian Bureau of Mines, Bangalore, in writing.


9. Notwithstanding anything contained herein:

- a) Our liability under this Bank guarantee shall not exceed Rs.261,700/- (Rupees Two Lakhs Sixty One Thousand Seven Hundred Only)
- b) The bank guarantee shall be valid up to 31.03.2016.



- c) The period of bank guarantee submitted is valid for the period of the proposals given in the mining plan/Scheme of mining/PMCP etc. We are liable to pay the guarantee amount or any part thereof under this Bank guarantee only and only if the Regional Controller of Mines, Indian Bureau of Mines serves upon the Bank a written claim or demand on or before 31.03.2016.
10. Unless any action to enforce the claim is being made by the Regional Controller of Mines, Indian Bureau of Mines, Bangalore on or before 31.03.2016, all rights under this Guarantee shall be forfeited and the Bank shall be discharged from its liability hereunder.
11. If the bank guarantee is to be en-cashed through the court, in that case the (city where Regional office, IBM is located) Panaji court will have jurisdiction.
12. In witness whereof, the bank through its authorized officer has set its hand and stamp on this 23<sup>rd</sup> Day of August 2013 at Panaji.

कृते भारतीय रू बैंक  
 For State Bank of India  
 सहस्यक महा प्रबन्धक/Asst General Manager  
 पणजी गोवा (मुख्य शाखा) कोड - 0510  
 PANAJI GOA MAIN BRANCH Code - 0510



ते भारतीय रू बैंक  
 of State Bank of India  
 सहस्यक महा प्रबन्धक/Asst General Manager  
 पणजी गोवा (मुख्य शाखा) कोड - 0510  
 PANAJI GOA MAIN BRANCH Code - 0510

