

23th November, 2017

To
The Additional Principal Chief Conservator of Forests (C)
Ministry of Environment Forests and Climate Change
4th Floor, E&F Wings, Kendriya Sadan,
Kormangala, Bangalore – 560 034

Respected Sir,

Subject: Submission of Six monthly compliance report towards Environment Clearance for 1st Half (period-April 2017 to September 2017) for A. Narrain Iron Ore Mine, M/s Vedanta Ltd (ML: 2677) situated in Chitradurga, Karnataka.

Reference: Environmental Clearance letter no: J-110151/1167/2007-IA.II (M) Dated 05.02.2009 of A. Narrain Iron Ore Mine (ML: 2677)

With reference to the above subject, we are herewith submitting six monthly compliance report along with CD version towards Environment Clearance for 1st Half (period-April 2017 to September 2017) for A. Narrain Iron Ore Mine (ML:2677) of M/s. Vedanta Ltd situated in Chitradurga District, Karnataka.

Thanking you,

Yours Faithfully
For Vedanta Limited



Vijayanand Chakrasali
Head- Operations

Enclosures: Six monthly Compliance Report with Annexures and CD version.

Cc:

1. The Senior Environmental Officer, KSPCB, Parisara Bhavana, Church Street, Bangalore.
2. The Regional Director (ENV) Ecology & Environment Department Dr.Saleem Building, Radio Park, Bellary.
3. The Regional Environmental Officer, KSPCB, Chitradurga.

VEDANTA LIMITED

Sesa Goa Iron Ore, Karnataka No 15, SNS Chambers, 1st Floor, Sankey Road, Sadashivanagar, Bangalore – 560080.T: 08023612755 | www.sesagoaironore.com

Registered Office: Vedanta Limited, 1st Floor, 'C' wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai 400093, Maharashtra, India.

CIN: L13209MH1965PLC291394

Half Yearly Compliance Report to condition of Environment Clearance issued by			
Ministry of Environment, Forest and Climate Change, Government of India for A. Narrain Iron Ore Mine, M/s Vedanta Limited (Mining Lease: 2677)			
Letter No. J- 110151/1167/2007-IA.II (M) Dated 05/02/2009			
Production : 6.0 MTPA, as per Environment Clearance, however current production limit is 2.29 MTPA			
Period: April 2017- September 2017 (1 st Half)			
S No.	Clearance Condition	Compliance Status	Remarks
A.	Specific Conditions		
1	Environment 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.	The condition is not applicable.	
2	Environmental clearance is subject to obtaining clearance under the wildlife (Protection) Act, 1972 from the competent Authority	The provisions of Wildlife (protection) Act, 1972 is not applicable as A. Narrain Mines does not fall within 10 km of Eco sensitive Zone.	
3	No two pits shall be simultaneously worked i.e. before the first pit is exhausted and reclamation work completed, no mineral bearing area shall be worked	The lease area is divided into two parts namely South and North Block bifurcated by M/s John Mines of Mr. Praveen Chandra. Exploration has revealed that, there is variation of Quality in two blocks. The south block has higher Fe% content (> 56%Fe) whereas north block having lower Fe % (<56%Fe) which is not feasible to mine by independent operation. From the Mineral Conservation Point, it is essential to work both the block simultaneously in order to optimize / maximize mineral utilization and achieve zero waste from mining. The same is approved by IBM in Mining Plan and by CEC in Reclamation and Rehabilitation Plan.	
4	After exhausting the first mine pit and before starting mining operations in the next pit, reclamation and plantation works in the	As mentioned above it is not feasible to operate the North and South block independently. The exploitation of ore has been restricted to limited area. After exhausting the ore, the back	The total plantation carried on the waste dumps for the year 2017-18 is

	exhausted pit shall be completed so as to ensure that reclamation, forest cover and vegetation are visible during the first year of mining operations in the next pit. This process will follow till the last pit is exhausted. Adequate rehabilitation of mined pit shall be completed before any new ore bearing area is worked for expansion.	filling will be carried out and reclamation will be taken up. Exploitation of ore, back filling the pit & reclamation are in sequence until the life of the Mine. However the dumping of overburden waste is carried out in the designated non-mineralized areas within the lease and the finalized portions are taken up for reclamation immediately.	24186 nos.																											
5	Adequate buffer zone shall be maintained between two consecutive mineral bearing deposits.	The lease area is divided into two parts namely South and North Block bifurcated by M/s John Mines of Mr. Praveen Chandra. In the mineral conservation point of view we have obtained common boundary permission to exploit maximum mineral. Hence it is not applicable to have any buffer between the two mineral bearing deposits.																												
6	Primary survey of flora and fauna shall be carried out and data shall be submitted to the Ministry within six months before start of expansion activity.	Primary survey of flora and fauna was carried out while preparing EIA document. The latest survey was conducted in 2011 through Forestry College Sirsi and submitted to your good office along with July 2011 to December 2011 compliance report. However, a detailed biodiversity study of the region will be conducted through Forestry College, Sirsi in the year 2018, details of which will be submitted in the next compliance.																												
7	Conservation plan for wildlife shall be prepared in consultation with the chief wild life warden for implementation	<p>The detail plan was prepared and approved by Chief wild life warden. The works taken for the period are as follows:</p> <table><tr><th rowspan="2"></th><th rowspan="2">Particulars</th><th colspan="2">Achieved from Oct'16 -Mar'17</th><th colspan="2">Cumulative from 1999 to 2014</th></tr><tr><th>Qty.</th><th>Cost</th><th>Qty.</th><th>Cost</th></tr><tr><td rowspan="2">1</td><td>Construction of rubble check dams</td><td>-</td><td>-</td><td>7</td><td>68500</td></tr><tr><td>Water holes & Maint.</td><td>-</td><td>-</td><td>12</td><td>194239</td></tr><tr><td>2</td><td>Construction & maintenance of masonry check dams including Desilting</td><td>-</td><td>-</td><td>6</td><td>291914</td></tr></table>		Particulars	Achieved from Oct'16 -Mar'17		Cumulative from 1999 to 2014		Qty.	Cost	Qty.	Cost	1	Construction of rubble check dams	-	-	7	68500	Water holes & Maint.	-	-	12	194239	2	Construction & maintenance of masonry check dams including Desilting	-	-	6	291914	
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Total Cost in Rs.		18,13,590		1,30,34,755																																			
8	Zero waste mining concept shall be implemented either by putting up pelletisation plant or dispose of 100% low grade ores / fines to prospective buyers.	The Iron ore having +50% Fe consider as Ore. Non saleable ore are blended with the high grade ore and being made saleable. The sub-grade ore 45 to 50 % Fe ore stacked separately for future use.																																					
9	Hydro-geological study of the area shall be reviewed annually.	Comprehensive and detailed hydrogeological studies were conducted through NGRI (National Geo- Physical Research Institute). Report of the same was submitted to regional office in the previous compliance report. Recommendations of the report including desilting of existing check dams, construction of harvesting pits and additional check dams at eight location around the lease are implemented stage wise.				Some photos of the desilting jobs attached as Annexure-I																																	
10	Fugitive dust generation shall be controlled. Fugitive dust emission shall be regularly monitored at locations of nearest human habitation (including schools and other public amenities located nearest to sources of dust generation as applicable) and records submitted to the Ministry.	Fugitive dust generation is controlled by spraying the water on the main hauling road. Green belt has developed all along the lease boundary and tall growing saplings have planted all along the road side which acts as wind barrier. The ambient air quality monitoring is carried out twice a week in core zone as well as in buffer zone and results are regularly submitted to State Pollution Control Board.				Abstract of Air monitoring results are attached as Annexure-II.																																	
11	A 50m barrier of no mining zone all along both the side(s) facing the nallah (if any) passing through the lease area shall be demarcated and thick vegetation of native species raise. Status of implementation shall be submitted to the regional office of the Ministry on half yearly basis.	No nallah is present within the mining lease area.																																					

12	Need basis assessment for the nearby villages shall be conducted to study economic measures which can help in upliftment of poor section of society.	<p>Company in association with Society for Educational Welfare & Economic Development (SEED) has carried out Baseline Survey and CSR Implementation Plan in 19 Peripheral Villages of the mining Lease in Chitradurga. The baseline survey covered a detailed assessment of Socio-economic profile of the villages, Household Database, Resource mapping (Physical and Substitution), Status of Human Development Indices and Quality of life Indices, Infrastructure requirement and Socio-economic Development Options.</p> <p>Final report of the survey is yet to come, based on which CSR Implementation Plan will be prepared taking into consideration Village Development (short term & long term), Community and Stakeholder Management and Risk & Grievance Mapping.</p>																													
13	Land use pattern of the nearby villages shall be studied and action plan for abatement and compensation for damage to agricultural land / common property land (if any) in the nearby villages	<p>Land use pattern has been studied by UAS, Dharwad. The data is shown in the following table:</p> <table border="1"> <thead> <tr> <th>S No.</th><th>Land Use Type</th><th>Area (Ha)</th><th>(%)age</th></tr> </thead> <tbody> <tr> <td>1</td><td>Irrigated</td><td>2797</td><td>8.9</td></tr> <tr> <td>2</td><td>Un Irrigated</td><td>14561</td><td>46.4</td></tr> <tr> <td>3</td><td>Cultivable Waste Land</td><td>3738</td><td>11.9</td></tr> <tr> <td>4</td><td>Area N/A for Cultivation</td><td>2007</td><td>6.4</td></tr> <tr> <td>5</td><td>Forest Area</td><td>8298</td><td>26.4</td></tr> <tr> <td colspan="2">Total</td><td>31400</td><td>100</td></tr> </tbody> </table> <p>Agriculture damages if any are evaluated by appointing agriculture valuator and damages are paid to the concerned farmers. Apart from this, company has carried out various agriculture development programs in the villages in association with UAS, Dharwad and MYRADA NGO. The same has improved the crop production and thereby increasing the income of the farmers.</p>	S No.	Land Use Type	Area (Ha)	(%)age	1	Irrigated	2797	8.9	2	Un Irrigated	14561	46.4	3	Cultivable Waste Land	3738	11.9	4	Area N/A for Cultivation	2007	6.4	5	Forest Area	8298	26.4	Total		31400	100	
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14	Maintenance of village roads through which transportation of ores are undertaken shall be carried out by the company regularly at its own expenses.	The road used for transportation of ore is regularly maintained by the company. Roads are also regularly cleaned by manual sweeping to remove ore spillage from the transport trucks. A total of 4 workers are engaged for carrying out cleaning activity of daily basis at the junction and speed breakers. Moreover the																													

		company has taken up initiative of planting native species along the roadside. A stretch of total 6.2 km from Kadleguddu to Siregere and Medikeripura to Sasalu is planted with 648 saplings along with the installation of tree guard.	
15	Rain water harvesting shall be undertaken to recharge the ground water source.	Company has carried out rain water harvesting in surrounding villages under water shed development programme under the guidance of UAS, Dharwad. Rain water harvesting system is also installed in the office complex and at laboratory site. Also a series of settling ponds and check dams has been constructed along the mining lease which acts as rain water harvesting structures. This year company has carried out desilting of all the 29 checkdams and 7 settling pond around the mining lease and also carried out desilting of 4 ponds situated in Kadleguddu, Megalahalli, Tenigehalli and Medikeripura villages. This has resulted in a trapping surface runoff and helped in ground water rejuvenation.	Some photos of the desilting jobs attached as Annexure-I Acknowledgement letters from village panchayats attached as Annexure- III
16	Measures for prevention and control of soil erosion and management of silt shall be undertaken.	As per the approved R&R plan by CEC, All the waste dumps are covered with Geo textile and plantation has carried on in-active dump slope. In the said period a total of 36000 m ² of the area is covered from Geotextile on the dumps which are taken up for vegetation by grass seeding and plantation. All the Waste dumps are protected with Retaining wall and Garland drainage. Settling ponds and check dams are also constructed to arrest silt.	
17	Trenches / garland drains shall be constructed at foot of dumps and coco filters installed at regular intervals to arrest silt from being carried to water bodies	As per R&R plan approved by CEC Check dams, gully checks and retaining wall are constructed at foot of the dump. Coco filters are installed in the Garland drainages to control the silt being carried to water bodies.	
18	Ground water in the core zone shall be regularly monitored for contamination and depletion due to mining activity and records maintained. The monitoring data shall be submitted to the regional office of the ministry regularly. Further, monitoring points shall be located between the mine and drainage in the direction of flow of ground water shall be set up and records maintained.	The mining activity is ben carried out at top of the hill. The pit top& bottom is 930 mts and 845 mts from M.S.L. There is no contamination of ground water due to mining activity. However regular monitoring of ground water is carried out and same has been regularly submitted to regional office and Karnataka Pollution Control Board.	Abstract of Water monitoring results are attached as Annexure-V.
19	Cultivable waste land shall be identified and	Company in association with UAS, Dharwad had taken a project	

	fodder farming or other suitable productive use of waste land shall be taken up in phased manner. Status of implementation shall be submitted to the regional office of the ministry	called ALOP (Alternative Livelihood Opportunities Project) in surrounding villages from 2008 to 2012 for developing the farmers in cultivation and to increase their farm productivity. The outcome of the project are implemented and reviewed on annually.	
20	Monitoring of soil samples for assessment of transformation to acidic state or contamination due to mining activity shall be regularly conducted.	Soil analysis of samples from core zone and buffer zones is carried out and same has been regularly submitted to regional office and Karnataka Pollution Control Board.	Soil Analysis report is enclosed as Annexure-VI .
21	Transportation of ore shall be done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore / dust takes place. Transportation shall be done only during day time.	All the transportation trucks carrying ore are covered with Tarpaulin and the same instructions in local language is displayed near security point for all the transportation truck drivers. Transportation of Ore is carried as per the E-auction in day time only.	
22	Occupational health and safety measures for the workers including identification of work related health hazards, training on malaria eradication, HIV, and health effects on exposure to mineral dust shall be carried out. The company shall engage a full time qualified doctor who is trained in occupational health. Periodic monitoring for exposure to respirable mineral dust on the workers shall be conducted and records maintained including health records of the workers. Awareness programme for workers on impact of mining on their health and precautionary measures like use of personal equipment's etc. shall be carried out periodically. Review of impact of various health measures undertaken (at interval shall be conducted followed by follow up action wherever required	<p>Company has got an in house Occupational health unit with a fulltime doctor and nurses. All the hazards related to our activities are identified and addressed. Various health related training programs are conducted for the workers. Company has also adopted a formal HIV- AIDS policy. Periodic health checkups are also been conducted for all the employees working in the company.</p> <p>In the said period company has conducted awareness programs on HIV-AIDS, Breast Cancer and imparted health awareness training to Self Help Group (SHG) women and adolescent girls of nearby villages. Free eye checkup and dental checkup camps were also organized for nearby community.</p>	Photos of the Health initiatives attached as Annexure-VII
23	Top soil / solid waste shall be stacked properly with proper slope and adequate safeguards and shall be utilized for backfilling for reclamation and rehabilitation	No top soil is available within the mine lease as the entire area is broken up for mining and allied activities. The solid waste is properly stacked as per approved mining plan.	

	of mined out area.																																										
24	<p>Over burden (OB) shall be stacked at earmarked dump site and shall not be kept active for long period. The maximum height of the dump shall not exceed 30m, each stage shall preferably be of 10m and overall slope of the dump shall not exceed 28°. The OB dump shall be scientifically vegetated with suitable native species to prevent soil erosion and surface runoff.</p> <p>Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the ministry of environment & forests on six monthly basis.</p>	Solid waste is stacked by adopting step dumping method on designated non mineralized areas within the lease. Finalized portions of the dumps are covered with geotextiles and afforestation immediately.																																									
25	Slope of the mining bench and ultimate pit limit shall be as per the mining scheme approved by Indian Bureau of Mines	The ultimate pit limit and slope of the mining bench is maintained as per the IBM approved mining scheme.	Plantation details attached as Annexure-VIII																																								
26	<p>Adequate plantation shall be raised in the ML area, haul roads, OB dump sites etc. Green belt development shall be carried out considering CPCB guidelines including selection of plant species and in consultation with the local DFO/Agriculture department. Herbs and shrubs shall also form a part of afforestation programme besides tree plantation. The density of the trees shall not be less than 2500 plants per ha. The company shall involve local people with the help of self-help group for plantation programme. Details of year wise afforestation programme including rehabilitation of mined out area shall be submitted to the regional office of the ministry area.</p>	<p>Plantation was carried in ML area, outside ML, haul roads, OB dumps under the guidance of RFO & Dy. RFO. The total plantation carried for 2017-18 is 24186 Nos. The total area covered for the year 2017-18 is 7.27 Ha.</p> <table border="1"> <thead> <tr> <th colspan="2">Location</th><th>No. of saplings</th><th>Area (Ha)</th></tr> </thead> <tbody> <tr> <td>Dump-3</td><td>WML</td><td>11339</td><td>3.48</td></tr> <tr> <td>Safety Zone</td><td>WML</td><td>930</td><td>0.49</td></tr> <tr> <td>ID2</td><td>OML</td><td>1052</td><td>0.10</td></tr> <tr> <td>ID3</td><td>OML</td><td>2813</td><td>0.81</td></tr> <tr> <td>Megalahalli Kere</td><td>OML</td><td>774</td><td>0.23</td></tr> <tr> <td>Roadside plantation</td><td>OML</td><td>648</td><td>0.6</td></tr> <tr> <td>Forest Area</td><td>OML</td><td>3930</td><td>1.5</td></tr> <tr> <td>School premises</td><td>OML</td><td>2700</td><td>-</td></tr> <tr> <td colspan="2">Total</td><td>24186</td><td>7.271</td></tr> </tbody> </table>	Location		No. of saplings	Area (Ha)	Dump-3	WML	11339	3.48	Safety Zone	WML	930	0.49	ID2	OML	1052	0.10	ID3	OML	2813	0.81	Megalahalli Kere	OML	774	0.23	Roadside plantation	OML	648	0.6	Forest Area	OML	3930	1.5	School premises	OML	2700	-	Total		24186	7.271	
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27	Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring shall 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 shall be regularly sent to MoEF, Central ground water Authority and Regional Director, Central Ground water Board	The existing tube wells are far away from the mining activity as such there is no influence on these bore wells due to mining activity. Collected water samples are checked for the quality of the water every month.	Abstract of Water monitoring results are attached as Annexure-V .
28	Adequate air monitoring stations shall be installed in areas of human habitations near the mine and the results of ambient air quality shall be maintained and regularly submitted to regional office of the ministry	The ambient air quality monitoring is carried out in Core Zone as well as buffer zone. There are 6 monitoring stations in Core Zone and 4 monitoring stations in Buffer zone which is monitored twice in a weak for every month. The results of ambient air quality are maintained and same are regularly submitted to regional Office of ministry and Karnataka State Pollution Control Board.	Abstract of Air monitoring results are attached as Annexure-II .
29	The waste water from the mines shall be treated to conform to the prescribe standards before discharging in to the natural stream. The discharged water shall be regularly monitored and report submitted to the ministry of Environment& Forests, Central Pollution Control Board and the state Pollution control board	There is no waste water discharge from the Mine. During monsoon the runoff water is collected in the settling pond. Only the overflow water will be allowed into the natural stream. The natural stream water is collected in the village tank for public usage which is monitored and regularly submitted to regional office of ministry and Karnataka Pollution Control Board.	
30	Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transportation of ores and others shall have valid permissions as prescribed under Central Motor Vehicle Rules, 1989 and its amendments. Transportation of ore shall be done only during day time. The vehicles transporting ores shall be covered with a tarpaulin or other suitable enclosures so that no dust particles/ fine matters escape	Vehicles used for transporting ore are having the vehicle emission certificates. The copy of test certificate is enclosed with previous compliance report. Over loading of the trucks is not allowed. The trucks transporting the ore are not passing through wild life sanctuary.	

	during the course of transportation. No over loading of ores for transportation shall be committed. The trucks transporting ore shall not pass through wild life sanctuary.		
31	Prior permission from the Competent Authority shall be obtained for extraction of ground water, if any	Complied.	
32	Action plan with respect to suggestions/improvements and recommendations made during public consultation/hearing shall be submitted to the ministry and the state Govt. within six months	Is Complied with	
33	A final mine closure plan, along with details of Corpus Fund, shall be submitted to the Ministry of Environment & Forests, 5 years in advance of final mine closure for approval.	Will be complied	
B. General Conditions			
1	No change in mining technology and scope of working shall be made without prior approval of the MoEF	If any changes were made in mining technology and scope of the working, it will be informed to the MOEF.	
2	No change in the calendar plan including excavation, quantum of mineral and waste shall be made	Will be complied	
3	Fugitive dust emissions from all the sources shall be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points shall be provided and properly maintained	Fugitive dust emissions from all the sources are controlled regularly by water spraying, covering the waste dumps with Coir mat. Water spraying on haul roads, loading and unloading points and at transfer points are carried out regularly for proper maintenance.	

4	Four ambient air quality - monitoring stations shall be established in the core zone as well as in the buffer zone for RSPM, SPM, SO _x , NO _x monitoring. Location of the stations should be decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the state pollution control Board.	<p>Air quality monitoring is carried out in two zones such as Core Zone and Buffer Zone. 6 nos of ambient air quality monitoring stations in Core Zone are Plant-I, Haulage Road, Loading point, unloading point, BBH Siding and Ore stock yard. 4 nos of Ambient air quality monitoring stations in Buffer Zone are Megalahalli Village, Tanigehalli Village, Medikeripura Village and Konanuru Village. Monitoring is carried out twice a week for every month as per the Consent to Operate. Monitoring reports are submitted to pollution board once in quarter.</p> <table border="1"> <thead> <tr> <th>No.</th><th>Location</th><th>Latitude</th><th>Longitude</th></tr> </thead> <tbody> <tr> <td>C1</td><td>Loading Point</td><td>14°13'09.0"N</td><td>76°12'31.4"E</td></tr> <tr> <td>C2</td><td>Haulage road</td><td>14°13'29.7"N</td><td>76°12'39.8"E</td></tr> <tr> <td>C3</td><td>Unloading Point</td><td>14°13'10.6"N</td><td>76°12'41.6"E</td></tr> <tr> <td>C4</td><td>Ore Stockyard</td><td>14°13'30.6"N</td><td>76°12'32.8"E</td></tr> <tr> <td>C5</td><td>Crushing Plant</td><td>14°13'18.5"N</td><td>76°12'20.9"E</td></tr> <tr> <td>C6</td><td>BBH Railway Siding</td><td>14°11'30.6"N</td><td>76°13'19.8"E</td></tr> <tr> <td>B1</td><td>Meghalahally Village</td><td>14°13'49.9"N</td><td>76°13'05.9"E</td></tr> <tr> <td>B2</td><td>Konanuru Village</td><td>14°15'11.7"N</td><td>76°13'55.2"E</td></tr> <tr> <td>B3</td><td>Medikeripura Village</td><td>14°14'32.8"N</td><td>76°10'42.5"E</td></tr> <tr> <td>B4</td><td>Tenigehally Village</td><td>14°12'37.6"N</td><td>76°11'13.4"E</td></tr> </tbody> </table>	No.	Location	Latitude	Longitude	C1	Loading Point	14°13'09.0"N	76°12'31.4"E	C2	Haulage road	14°13'29.7"N	76°12'39.8"E	C3	Unloading Point	14°13'10.6"N	76°12'41.6"E	C4	Ore Stockyard	14°13'30.6"N	76°12'32.8"E	C5	Crushing Plant	14°13'18.5"N	76°12'20.9"E	C6	BBH Railway Siding	14°11'30.6"N	76°13'19.8"E	B1	Meghalahally Village	14°13'49.9"N	76°13'05.9"E	B2	Konanuru Village	14°15'11.7"N	76°13'55.2"E	B3	Medikeripura Village	14°14'32.8"N	76°10'42.5"E	B4	Tenigehally Village	14°12'37.6"N	76°11'13.4"E	
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B4	Tenigehally Village	14°12'37.6"N	76°11'13.4"E																																												
5	Data on ambient air quality should be regularly submitted to the Ministry, including its Regional Office Bangalore, SPCB / CPCB once in six months	Ambient air quality data is submitted regularly to the ministry, its Regional office Bangalore and KSPCB once in six months.																																													
6	Measures shall be taken for control of noise levels below 85dBA in the work environment. Workers engaged in operations of HEMM, etc., shall be provided with ear plugs/muffs.	Control measures like providing acoustic enclosures to DG sets are done. Staff working in the noise area is provided with ear plugs & ear muffs. All the mining machineries have air conditioned cabins which provides noise and dust free environment to the operator.																																													
7	Industrial waste water (work shop and waste water from the mine) should be properly collected, treated so as to confirm to the	Oil & grease traps are provided at workshop where the oil is separated from water and is reused for dust suppression.																																													

	standards prescribed under GSR 422(E) dated 19 th may, 1993 and 31 st December, 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluents.		
8	Personal working in the dusty areas shall be provided with protective respiratory devices and they shall also be imparted adequate training and information on safety and health aspects.	Regular trainings are provided in safety and health aspects. Dust mask, Ear plugs and safety goggles are provided for the persons working in dusty areas.	
9	Provision shall be made for the housing the laborers within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc., the housing may be in the form of temporary structures to be removed after the completion of the project.	All the laborers are from adjacent villages and are residing there. Hence, no provision of housing is provided in the mines area. The Reverse osmosis water purifier has been installed in the mines and office area for drinking purpose. Monitoring of which is carried out on monthly basis.	
10	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	<p>Separate Environmental Management cell has been established with qualified people who are reporting directly to head of the organization. Below are the contact details of the responsible persons-</p> <p>(1) Mr. Krishna Reddy (Head- IOK) MK.Reddy@vedanta.co.in +91-9483211966 (M)</p> <p>(2) Mr. B Sivakumar (Head- HSE) B.Sivakumar@vedanta.co.in +91-9893379754 (M)</p>	<p>Chief Operating Officer (COO)</p> <p>↓</p> <p>B Sivakumar (Head HSE- IOB)</p> <p>↓</p> <p>Mahesh Mahajan (Head HSE-Karnataka)</p> <p>↓</p> <p>Aditya Anchliya (Engineer- Environment)</p>
11	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year wise expenditure shall be reported to the Ministry.	Year wise expenditure records are maintained separately for Environmental Protection Measures and the same is submitted regularly to regional office and Karnataka State Pollution Control Board. Expenditure for the year 2017-18 will be submitted in the next six monthly compliance report	

12	The project authorities shall inform to the regional office of the ministry located at Bangalore regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land and development work	Will be complied with.	
13	The regional office of the ministry located at Bangalore shall monitor compliance of the stipulated conditions. The project authorities shall extend full cooperation to the officers of the regional office by furnishing the requisite data/ information/monitoring reports.	The data/ information are being sent to the regional office in the form of compliance reports.	
14	A copy of clearance letter will be marked to concerned panchayat/ local NGO, if any from whom suggestion/ representation has been received while processing the proposal	Will be complied with	
15	State Pollution Control board shall display a copy of the clearance letter at the Regional office, District industry and collector's office/ tehsildars office for 30 days.	Complied	
16	The project authorities shall advertise at least in two local newspapers widely circulated one 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://envfor.nic.in and a copy of the same shall be forwarded to the Regional office of the ministry located in Bangalore	Compiled	

Contact Details		
1	Address	<p>A. Narrain Iron Ore Mine, M/sVedanta Limited, Meghalahalli Office Complex, Bheemasamudra Post, Chitradurga (Karnataka)- 577520</p> <p>Registered Office Vedanta Limited 1st Floor, 'C' wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai (Maharashtra)- 400093</p>
2	Contact Numbers	<p>(T) +91-8194238100 (F) +91-8194238170</p>
3	Contact details of the responsible persons-	<p>(1) Mr. Krishna Reddy (Head- IOK) <u>MK.Reddy@vedanta.co.in</u> +91-9483211966 (M)</p> <p>(2) Mr. B Sivakumar (Head- HSE) <u>B.Sivakumar@vedanta.co.in</u> +91-9893379754 (M)</p>
4	GPS Location	<p>Latitude: N 14 13'34.61" Longitude: E 76 12'41.73"</p>
5	Website	<u>www.sesagoaironore.com</u> or <u>www.vedantalimited.com</u>

Desilting of Check dam and Settling Pond





Megalahalli Pond



CDR-10



Kadleguddu Pond



Post-monsoon



Phone : 044-22323163, 421 79490, 91
Fax : 044-22311034



CHENNAI METTEX LAB PRIVATE LIMITED

Jothi Complex, 83, M.K.N. Road, Guindy, Chennai - 600 032.

(Air Quality Monitoring Wing)

ABSTRACT OF AMBIENT AIR QUALITY MONITORING DATA

Project : Chitradurga Mine

Report No : I

Client : M/s.Vedanta Limited

Season : Summer

Month : April - 2017

S.NO	MONTH & YEAR	ZONE	LOCATION	PARAMETERS			
				SO ₂	NO ₂	PM ₁₀	PM _{2.5}
I.	April -2017	Core	Plant-I area (Crushing)	10.5	28.4	70.4	33.0
			Loading point (Mining Working)	9.9	26.6	66.8	30.8
			Unloading Point (Dumping)	11.1	23.7	63.9	29.4
			Haulage Road	10.1	25.4	65.4	31.1
			BBH Siding	9.2	22.8	62.8	30.0
			Ore Stock Yard	8.9	25.2	63.2	28.4
		Buffer	Megalahalli Village	7.2	17.5	58.1	26.8
			Tengigehalli Village	5.9	14.1	52.8	24.4
			Medikeripura Village	9.1	21.4	61.1	28.9
			Konanur	8.8	16.9	56.3	26.3

ANALYZED AND VERIFIED BY:

1.

S. SRI RENGANATHAN
Technical Manager

2

P. KAVITHA
Technical Manager
Govt. Analyst

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CHENNAI METTEX LAB PRIVATE LIMITED

Jothi Complex, 83, M.K.N. Road, Guindy, Chennai - 600 032.

(Air Quality Monitoring Wing)

ABSTRACT OF AMBIENT AIR QUALITY MONITORING DATA

Project : Chitradurga Mine Report No : 1
Client : M/s.Vedanta Limited Season : Summer
Month : May - 2017

S.NO	MONTH & YEAR	ZONE	LOCATION	PARAMETERS			
				SO ₂	NO ₂	PM ₁₀	PM _{2.5}
1.	May -2017	Core	Plant-I area (Crushing)	10.7	29.7	73.3	35.1
			Loading point (Mining Working)	9.3	24.3	68.7	32.8
			Unloading Point (Dumping)	8.2	24.9	67.4	31.9
			Haulage Road	9.6	26.2	65.1	32.4
			BBH Siding	8.3	22.0	64.0	30.6
			Ore Stock Yard	10.3	23.9	70.3	34.4
		Buffer	Megalahalli Village	8.0	18.1	60.8	28.6
			Tenigehalli Village	6.8	14.7	48.2	22.1
			Medikeripura Village	8.5	15.2	57.2	26.8
			Konanur	7.5	16.4	51.5	25.0

ANALYZED AND VERIFIED BY:

1. *D. Sathya Narayanan*

Dr. D. SATHIYA NARAYANAN
Quality Manager

2. *P. Kavitha*

P. KAVITHA
Technical Manager
Govt. Analyst

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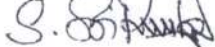
(Air Quality Monitoring Wing)

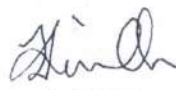
ABSTRACT OF AMBIENT AIR QUALITY MONITORING DATA

Project : Chitradurga Mine Report No : I
Client : M/s.Vedanta Limited Season : Monsoon
Month : June - 2017

S.NO	MONTH & YEAR	ZONE	LOCATION	PARAMETERS			
				SO ₂	NO ₂	PM ₁₀	PM _{2.5}
1.	June -2017	Core	Plant-I area (Crushing)	9.9	25.0	69.2	32.0
			Loading point (Mining Working)	8.5	22.1	66.1	30.6
			Unloading Point (Dumping)	7.8	20.2	62.1	28.9
			Haulage Road	9.4	21.3	63.7	30.3
			BBH Siding	7.5	18.1	60.8	26.8
			Ore Stock Yard	10.7	24.6	64.9	29.5
		Buffer	Megalahalli Village	7.2	16.4	58.5	27.1
			Tenigehalli Village	6.0	15.0	45.1	20.2
			Medikeripura Village	8.1	16.9	54.7	24.9
			Konanur	5.9	13.8	47.3	21.4

ANALYZED AND VERIFIED BY:

1. 
S. SRI RENGANATHAN
Technical M.

2. 
P. KAVITHA
Technical Manager
Govt. Analyst

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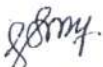
(Air Quality Monitoring Wing)

ABSTRACT OF AMBIENT AIR QUALITY MONITORING DATA


Project : Chitradurga Mine Report No : 1
Client : M/s.Vedanta Limited Season : Monsoon
Month : July - 2017

S.NO	MONTH & YEAR	ZONE	LOCATION	PARAMETERS			
				SO ₂	NO ₂	PM ₁₀	PM _{2.5}
1.	July -2017	Core	Plant-I area (Crushing)	9.1	22.9	64.9	29.8
			Loading point (Mining Working)	9.7	20.1	60.0	26.9
			Unloading Point (Dumping)	7.6	17.9	57.8	25.7
			Haulage Road	8.7	19.5	62.3	28.8
			BBH Siding	7.4	16.1	58.7	26.8
			Ore Stock Yard	9.5	21.0	61.4	27.7
		Buffer	Megalahalli Village	6.1	15.7	54.7	25.0
			Tenigehalli Village	7.6	13.5	47.9	21.8
			Medikeripura Village	5.8	15.4	51.8	23.6
			Konanur	7.3	12.8	45.1	20.5

ANALYZED AND VERIFIED BY:

1. 
K. MADASAMY
Technical Manager



2. 
P. KAVITHA
Technical Manager
Govt. Analyst

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(Air Quality Monitoring Wing)

ABSTRACT OF AMBIENT AIR QUALITY MONITORING DATA

Project : Chitradurga Mine Report No : I
Client : M/s.Vedanta Limited Season : Monsoon
Month : August - 2017


S.NO	MONTH & YEAR	ZONE	LOCATION	PARAMETERS			
				SO ₂	NO ₂	PM ₁₀	PM _{2.5}
1.	August -2017	Core	Plant-I area (Crushing)	8.9	20.2	60.4	28.0
			Loading point (Mining Working)	9.1	21.5	57.2	25.9
			Unloading Point (Dumping)	7.0	16.5	55.7	25.4
			Haulage Road	9.5	20.9	53.9	24.2
			BBH Siding	8.0	16.3	51.2	23.0
			Ore Stock Yard	9.3	22.0	58.6	27.0
		Buffer	Megalahalli Village	5.9	14.6	47.5	22.2
			Tenigehalli Village	6.1	12.8	43.6	18.9
			Medikeripura Village	8.1	15.1	46.7	20.5
			Konanur	6.5	16.0	39.6	17.9

ANALYZED AND VERIFIED BY:

1.


S. SRI RENGANATHAN
Technical Manager

2.


P. KAVITHA
Technical Manager
Govt. Analyst

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(Air Quality Monitoring Wing)

AMBIENT AIR QUALITY MONITORING DATA

Project : Chitradurga Mine

Report No : I A-1

Client : M/s. Vedanta Limited

Season : Monsoon

Month : September - 2017

Name of the station/Date of sample collection	Particulars of sample collected											
	Gaseous Concentration						Dust Concentration					
	SO ₂ (µg/m ³)			NO ₂ (µg/m ³)			PM ₁₀ (µg/m ³)			PM _{2.5} (µg/m ³)		
	I Shift	II Shift	III Shift	I Shift	II Shift	III Shift	I Shift	II Shift	III Shift	I Shift	II Shift	III Shift
A I. Megalhalli Village (Buffer Zone)												
07.09.2017	6	4	NP	17	15	NP	62	54	NP	30	27	NP
08.09.2017	7	7	NP	14	17	NP	58	51	NP	26	23	NP
14.09.2017	9	5	NP	18	17	NP	50	46	NP	23	21	NP
15.09.2017	7	5	NP	17	20	NP	42	48	NP	18	23	NP
21.09.2017	8	6	NP	15	16	NP	51	55	NP	24	26	NP
22.09.2017	5	8	NP	19	18	NP	44	46	NP	21	20	NP
28.09.2017	7	6	NP	17	20	NP	53	50	NP	25	23	NP
29.09.2017	8	8	NP	16	18	NP	48	52	NP	24	20	NP
Average	6.6			17.1			50.6			23.4		
NAAQ Standard(µg/m³)												
24 hrly Average	80			80			100			60		
Annual Arth.Mean	50			40			60			40		
A II. Tenigehalli Village (Buffer Zone)												
07.09.2017	4	6	NP	15	18	NP	51	44	NP	22	18	NP
08.09.2017	4	NP	6	16	NP	18	41	NP	49	15	NP	22
14.09.2017	7	5	NP	15	13	NP	45	49	NP	18	14	NP
15.09.2017	7	8	NP	17	15	NP	53	47	NP	23	20	NP
21.09.2017	5	7	NP	15	14	NP	45	43	NP	19	16	NP
22.09.2017	5	5	NP	12	15	NP	49	41	NP	25	22	NP
28.09.2017	8	6	NP	14	16	NP	40	38	NP	18	16	NP
29.09.2017	6	5	NP	13	15	NP	41	46	NP	19	22	NP
Average	5.9			15.1			45.1			19.3		
NAAQ Standard(µg/m³)												
24 hrly Average	80			80			100			60		
Annual Arth.Mean	50			40			60			40		

* NP- No Power.

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ಕನ್ನಡ ಕಲಿಯಿರಿ

ಕನ್ನಡ ಕಲಿಯಿರಿ

ಜಿಲ್ಲಾ ಪಂಚಾಯತ್ ಚಿತ್ರದುರ್ಗ

ತಾಲ್ಲೂಕು ಪಂಚಾಯಿತಿ ಚಿತ್ರದುರ್ಗ

ಬೋಮ್ಮೇನಹಳ್ಳಿ ಗ್ರಾಮ ಪಂಚಾಯಿತಿ ಕಾರ್ಯಾಲಯ

ಬೋಮ್ಮೇನಹಳ್ಳಿ .ಚಿತ್ರದುರ್ಗ ತಾಲ್ಲೂಕು ಚಿತ್ರದುರ್ಗ ಜಿಲ್ಲೆ

ಬೊ.ಗ್ರಾ.ಪಂ.ಸಿ.ಆರ್/2017-18

ದಿನಾಂಕ:-10-02-2017

ಇವರಿಗೆ

ಮೆನೇಜರ್

ವೇದಾಂತ ಲಿಮಿಟೆಡ್(ನಾರಾಯಣ್ ಮೈನ್)

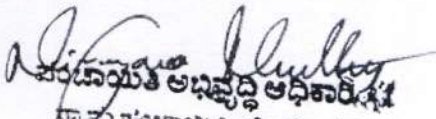
ಮೇಗಳಹಳ್ಳಿ ಕಛೇರಿ

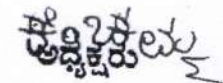
ಚಿತ್ರದುರ್ಗ (ತಾ) (ಜಿ)

ಮಾನ್ಯರೆ

ವಿಷಯ:- ಕಡ್ಲೇಗುದ್ದು ಗ್ರಾಮದ ಸಂಪೂರ್ಣವಾಗಿ ಕೆರೆ ಹೊಳೆತ್ತಿರುವ ಬಗ್ಗೆ.

ಈ ಮೇಲ್ಕಂಡ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ ಚಿತ್ರದುರ್ಗ ತಾಲ್ಲೂಕು ಹಿರೇಗುಂಟನೂರು ಹೋಬಳಿ ಬೋಮ್ಮೇನಹಳ್ಳಿ ಗ್ರಾಮದ ಪಂಚಾಯಿತಿ ವ್ಯಾಪ್ತಿಗೆ ಸೇರಿದ ಕಡ್ಲೇಗುದ್ದು ಗ್ರಾಮದಲ್ಲಿರುವ ಕೆರೆಯಲ್ಲಿ ಹೊಳು ತೆಗೆಯಲು ವೇದಾಂತ ಕಂಪನಿಯವರು ಕಾರ್ಯವನ್ನು ಹಾಕಿಕೊಂಡಿದ್ದು ಸದರಿ ಕೆರೆಯಲ್ಲಿ ಹೊಳು ತೆಗೆಯುವ ಕಾಮಗಾರಿ ಕೈಗೊಂಡಿದ್ದು, ಕೆಲಸ ತೃಪ್ತಿಕರವಾಗಿ ಕೈಗೊಂಡಿರುತ್ತಾರೆ.


ಗ್ರಾಮ ಪಂಚಾಯಿತಿ ಅಧ್ಯಕ್ಷರಾದ, ಬೋಮ್ಮೇನಹಳ್ಳಿ
ಚಿತ್ರದುರ್ಗ ತಾಲ್ಲೂಕು


ತಾಲ್ಲೂಕು ಅಧಿಕಾರಿ,
ಗ್ರಾಮ ಪಂಚಾಯಿತಿ, ಬೋಮ್ಮೇನಹಳ್ಳಿ
ಚಿತ್ರದುರ್ಗ ತಾ||

ಗ್ರಾಮ ಪಂಚಾಯತಿ ಕಾರ್ಯಾಲಯ

ಅಳಗವಾಡಿ, ಚಿತ್ರದುರ್ಗ ತಾ||, ಜಿಲ್ಲೆ

ಉಲ್ಲೇಖ :

To

ದಿನಾಂಕ 23-6-17

Vedanta Ltd.
Megalahalli complex
Megalahalli village
Chitradurg (Tq & Di)

Sub:- Completion of desilting work at madakuripura pond.

Respected Sir,

with reference to our earlier letter we would like to inform that Desilting work at Madakuripura village pond is satisfactorily completed by supervision of M.S. Gangadhara. the work taken jointly by the contribution of Vedanta Ltd, John Mines and Sri Kshethra Dharmasthala Manjunatha. Saunste,

regards,

Yours faithfully

Vijayamma
ಅಧ್ಯಕ್ಷರು
ಗ್ರಾಮ ಪಂಚಾಯತಿ, ಅಳಗವಾಡಿ
ಚಿತ್ರದುರ್ಗ ತಾ||, ಜಿಲ್ಲೆ

Kaleesh,
ಪಂಚಾಯತಿ ಅಭಿವೃದ್ಧಿ ಅಧಿಕಾರಿಗಳು
ಅಳಗವಾಡಿ, ಚಿತ್ರದುರ್ಗ ತಾ||

E-mail : test@mettexlab.com
Web : www.mettexlab.com

Phone : 044-22323163, 4217/9490, 91
Fax : 044-22311034



CHENNAI METTEX LAB PRIVATE LIMITED

Jothi Complex, 83, M.K.N. Road, Guindy, Chennai - 600 032.

NOISE LEVEL MONITORING DATA

Client: M/s.Vedanta Limited

Report : V

Project: Chitradurga Mine

Month : June - 2017

Unit : dB(A)

S.No	Location Code	Sampling Locations	Date	L _{Max}	L _{eq}		L _{min}
					Day	Night	
Buffer Zone (Ambient)							
1.	NQ-1	Meghalahalli Village	22.06.2017	58.5	52.5	43.7	39.5
2.	NQ-2	Tenigehalli Village	22.06.2017	60.3	51.1	40.9	36.2
3.	NQ-3	Medikeripura Village	22.06.2017	66.5	54.0	41.6	38.4
4.	NQ-4	Sriigere Village	22.06.2017	63.9	53.6	39.1	35.5
5.	NQ-5	Sasalu Village	22.06.2017	67.0	53.9	44.2	42.9
6.	NQ-6	Konanuru Village	22.06.2017	54.8	49.1	37.5	35.0
7.	NQ-7	Kagalger Village	22.06.2017	61.2	50.8	43.0	41.7
Core Zone :							
8.	NQ-8	Feed Hopper	22.06.2017	82.8	69.1	57.5	54.1
9.	NQ-9	Primary Crusher	22.06.2017	77.1	67.0	63.8	60.3
10.	NQ-10	Secondary Crusher	22.06.2017	76.7	63.9	58.4	55.5
11.	NQ-11	Secondary Screen	22.06.2017	74.5	66.1	61.9	57.3
12.	NQ-12	South Block	22.06.2017	70.8	62.3	55.3	51.8
13.	NQ-13	Calibrated Bunker	22.06.2017	75.5	68.7	60.2	53.6
14.	NQ-14	DG Set-725	22.06.2017	72.7	70.5	66.0	65.2
15.	NQ-15	DG-Set-160	22.06.2017	69.4	66.9	64.7	62.4

Contd

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CHENNAI METTEX LAB PRIVATE LIMITED

Jothi Complex, 83, M.K.N. Road, Guindy, Chennai - 600 032.

S.No	Location Code	Sampling Locations	Date	L _{Max}	L _{eq}		L _{min}
					Day	Night	
Core Zone :							
16.	NQ-16	Sampling Room	22.06.2017	81.3	73.2	68.4	65.1
17.	NQ-17	Excavator	22.06.2017	76.9	71.0	65.1	62.8
18.	NQ-18	Wheel loader	22.06.2017	73.5	66.7	62.9	59.7
19.	NQ-19	Dumper	22.06.2017	79.7	72.5	67.3	63.4
20.	NQ-20	Grader	22.06.2017	71.5	69.5	63.8	59.1
21.	NQ-21	Dozer	22.06.2017	83.3	73.8	66.4	65.6
22.	NQ-22	Office Room	22.06.2017	60.2	58.6	50.7	46.9
23.	NQ-23	North Block	22.06.2017	62.6	54.9	52.6	48.0
24.	NQ-24	Work Shop	22.06.2017	64.4	58.1	57.0	53.8

The maximum permissible limit to which a worker can exposed for 8 hrs. work with unprotected ear is	DGMS		ACGIH	
	90 dB(A)		85 dB(A)	
	Residential Area Limits in dB(A) Leq		Industrial Area Limits in dB(A) Leq	
	Day Time	Night Time	Day Time	Night Time
	55	45	75	70
MoEF ambient Noise standards in dB(A) Leq (no.41 dated 16.11.2010)				
Method Adopted	Integrated Sound level meter			
Sample Collected by	CHENNAI METTEX LAB PVT LTD			

Inference	It is concluded from the report that the noise level exist with in the stipulated limits as prescribed by MOEF, DGMS as well as ACGIH.
-----------	--

ANALYZED AND VERIFIED BY:

1.



2.

P. KAVITHA
Technical Manager

Govt. Analyst

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CHENNAI METTEX LAB PRIVATE LIMITED[®]

Jothi Complex, 83, M.K.N. Road, Guindy, Chennai - 600 032.

NOISE LEVEL MONITORING DATA

Client : M/s.Vedanta Limited

Report : V

Project : Chitradurga Mine

Month : September - 2017

Unit : dB(A)

S.No	Location Code	Sampling Locations	Date	L _{Max}	L _{eq}		L _{min}
					Day	Night	
Buffer Zone (Ambient)							
1.	NQ-1	Meghalahalli Village	14.09.2017	54.2	46.4	40.8	37.0
2.	NQ-2	Tenigehalli Village	14.09.2017	61.6	51.2	42.6	39.5
3.	NQ-3	Medikeripura Village	14.09.2017	64.5	52.9	44.0	41.8
4.	NQ-4	Sriigere Village	14.09.2017	58.5	51.7	39.3	36.2
5.	NQ-5	Sasalu Village	14.09.2017	62.9	54.2	44.5	43.0
6.	NQ-6	Konanuru Village	14.09.2017	56.7	47.5	39.2	38.1
7.	NQ-7	Kagalger Village	14.09.2017	53.1	49.0	43.3	40.6
Core Zone :							
8.	NQ-8	Feed Hopper	14.09.2017	79.3	65.1	59.3	54.1
9.	NQ-9	Primary Crusher	14.09.2017	61.5	57.7	55.1	53.0
10.	NQ-10	Secondary Crusher	14.09.2017	59.7	56.9	54.6	52.9
11.	NQ-11	Secondary Screen	14.09.2017	67.0	63.4	58.2	55.8
12.	NQ-12	South Block	14.09.2017	62.9	59.2	54.6	51.6
13.	NQ-13	Calibrated Bunker	14.09.2017	70.4	67.0	61.7	57.2
14.	NQ-14	DG Set-725	14.09.2017	72.0	69.1	68.5	67.0
15.	NQ-15	DG-Set-160	14.09.2017	68.2	66.3	64.1	63.4

Contd

NOTE: Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders will be liable for legal action. Unless otherwise stated the submitted results in this test report refer only to the sample(s) tested and such sample(s) are retained for 15 days only from the completion date of testing, except in case of regulatory samples, which will be retained for a specific period as per statutory requirement; while perishable & environmental testing related remnant samples will be discarded consequent upon completion of testing. Samples are not drawn by us unless otherwise stated. This document cannot be reproduced except in full, without prior written approval of the laboratory. This report is for the exclusive use of Chennai Mettex Lab's customer, and is provided in accordance with the agreement between Chennai Mettex Lab and its Customer.



CHENNAI METTEX LAB PRIVATE LIMITED®

Jothi Complex, 83, M.K.N. Road, Guindy, Chennai - 600 032.

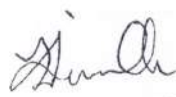
S.No	Location Code	Sampling Locations	Date	L _{Max}	L _{eq}		L _{min}
					Day	Night	
Core Zone :							
16.	NQ-16	Sampling Room	14.09.2017	79.2	72.8	68.5	66.3
17.	NQ-17	Excavator	14.09.2017	73.5	68.2	65.1	63.8
18.	NQ-18	Wheel loader	14.09.2017	74.6	65.1	63.5	61.3
19.	NQ-19	Dumper	14.09.2017	76.8	71.5	68.0	66.7
20.	NQ-20	Grader	14.09.2017	68.1	63.7	61.9	59.4
21.	NQ-21	Dozer	14.09.2017	81.6	74.0	69.3	67.0
22.	NQ-22	Office Room	14.09.2017	52.3	50.1	47.5	44.2
23.	NQ-23	North Block	14.09.2017	57.6	53.9	49.3	46.5
24.	NQ-24	Work Shop	14.09.2017	63.3	59.6	56.3	54.1

The maximum permissible limit to which a worker can exposed for 8 hrs. work with unprotected ear is	DGMS		ACGIH	
	90 dB(A)		85 dB(A)	
MoEF ambient Noise standards in dB(A) Leq (no.41 dated 16.11.2010)	Residential Area Limits in dB(A) Leq		Industrial Area Limits in dB(A) Leq	
	Day Time	Night Time	Day Time	Night Time
	55	45	75	70
Method Adopted	Integrated Sound level meter			
Sample Collected by	CHENNAI METTEX LAB PVT LTD			

Inference	It is concluded from the report that the noise level exist with in the stipulated limits as prescribed by MOEF, DGMS as well as ACGIH.
-----------	--

ANALYZED AND VERIFIED BY:

1. 
S. SRI RENGANATHAN
Technical Manager

2. 
P. RAVITHA
Technical Manager
Govt. Analyst

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CHENNAI METTEX LAB PRIVATE LIMITED

Jothi Complex, 83, M.K.N. Road, Guindy, Chennai - 600 032.

Analysis Report for Ground Water Samples

Client: M/s.Vedanta Limited

Report: II A

Project: Chitradurga Mine

Season: Summer - 2017

Date of Collection: 13.04.2017

S.No	Parameters	Sample Code	GWQ -1	GWQ -2	GWQ -3	GWQ -4	GWQ -5	GWQ -6	GWQ -7	Standard IS : 10500
		Time of Sampling Units ↓	09:55 Hrs	13:10 Hrs	11:05 Hrs	12:40 Hrs	14:20 Hrs	15:10 Hrs	15:20 Hrs	
1	pH	-	7.82	7.26	7.35	7.66	7.53	7.59	7.62	6.5 to 8.5
2	Turbidity	NTU	< 0.5	< 0.5	< 0.5	0.5	< 0.5	0.5	< 0.5	5
3	Total Dissolved Solids	mg/l	616	802	532	558	861	650	612	2000
4	Total Hardness as CaCO ₃	mg/l	342	460	364	310	564	421	394	600
5	Calcium as Ca	mg/l	88	114	74	57	98	80	76	200
6	Magnesium as Mg	mg/l	30	43	44	41	78	54	49	100
7	Total Alkalinity as CaCO ₃	mg/l	322	352	364	320	360	314	288	600
8	Fluoride as F	mg/l	0.32	0.37	0.44	0.48	0.62	0.76	0.52	1.50
9	Chloride as Cl	mg/l	204	164	46	92	164	141	149	1000
10	Sulphate as SO ₄	mg/l	19	47	52	34	36	51	16	400
11	Total Iron as Fe	mg/l	BDL	0.05	BDL	BDL	0.03	0.05	0.04	0.30
12	Total Suspended Solids	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-

BDL : Below-Detection Limit

Note: Standard IS: 10500 Permissible limits in the absence of alternative Sources

Sample Codes with Location:

GWQ-1: Meghalahalli Village (Tube Well); GWQ-2: BBH Siding (Tube Well)

GWQ-3: Medikeripura Village (Tube Well); GWQ-4: Alaghatta Village (Tube Well)

GWQ-5: Bommanagathihalli Village (Tube Well) GWQ-6: Near Office Canteen (Tube Well);

GWQ-7: Near Mines Canteen (Tube Well)

Analyzed and Verified By:

1.

2.

Govt. Analyst

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CHENNAI METTEX LAB PRIVATE LIMITED

Jothi Complex, 83, M.K.N. Road, Guindy, Chennai - 600 032.

Analysis Report for Ground Water Samples

Client: M/s.Vedanta Limited

Report: II A

Project: Chitradurga Mine

Season: Summer - 2017

Date of Collection: 11.05.2017

S.No	Parameters	Sample Code	GWQ -1	GWQ -2	GWQ -3	GWQ -4	GWQ -5	GWQ -6	GWQ -7	Standard: IS : 10500
		Time of Sampling Units ↓	09:30 Hrs	09:00 Hrs	10:10 Hrs	09:50 Hrs	09:15 Hrs	08:10 Hrs	08:20 Hrs	
1	pH	-	7.79	7.46	7.09	7.44	7.59	7.54	7.51	6.5 to 8.5
2	Turbidity	NTU	< 0.5	1.4	1.4	< 0.5	0.7	1.7	1.6	5
3	Total Dissolved Solids	mg/l	288	809	1206	634	772	588	552	2000
4	Total Hardness as CaCO ₃	mg/l	219	456	556	406	508	448	406	600
5	Calcium as Ca	mg/l	67	131	171	111	181	135	121	200
6	Magnesium as Mg	mg/l	13	31	44	31	38	27	25	100
7	Total Alkalinity as CaCO ₃	mg/l	200	343	520	223	410	317	268	600
8	Fluoride as F	mg/l	0.11	0.39	0.43	0.42	0.32	0.27	0.19	1.50
9	Chloride as Cl	mg/l	29	216	266	170	162	142	150	1000
10	Sulphate as SO ₄	mg/l	18	82	93	52	63	43	47	400
11	Total Iron as Fe	mg/l	BDL	0.16	0.11	BDL	0.06	0.15	0.09	0.30
12	Total Suspended Solids	mg/l	3	13	11	BDL	3	9	16	-

BDL : Below Detection Limit

Note: Standard IS: 10500 Permissible limits in the absence of alternative Sources

Sample Codes with Location:

GWQ-1: Meghalahalli Village (Tube Well); GWQ-2: Tenigehalli Village (Tube Well)

GWQ-3: Medikeripura Village (Tube Well); GWQ-4: Alaghatta Village (Tube Well)

GWQ-5: Bommanagathihalli Village (Tube Well) GWQ-6: Near Office Canteen (Tube Well);

GWQ-7: Near Mines Canteen (Tube Well)

Analyzed and Verified By:

1.

Dr. D. SATHIYA NARAYANAN
Quality Manager

2.

P. KAVITHA
Technical Manager

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CHENNAI METTEX LAB PRIVATE LIMITED

Jothi Complex, 83, M.K.N. Road, Guindy, Chennai - 600 032.

Analysis Report for Ground Water Samples

Client: M/s.Vedanta Limited

Report: II A

Project: Chitradurga Mine

Season: Monsoon - 2017

Date of Collection: 09.06.2017

S.No	Parameters	Sample Code	GWQ -1	GWQ -2	GWQ -3	GWQ -4	GWQ -5	GWQ -6	GWQ -7	GWQ -10	Standard : IS : 10500
		Time of Sampling	07: 00	13:30	07:30	10:30	07:15	09 :50	09 :20	07 :50	
		Units ↓	Hrs	Hrs	Hrs	Hrs	Hrs	Hrs	Hrs	Hrs	
1	pH	-	7.65	7.03	7.23	7.74	7.56	7.48	7.60	7.51	6.5 to 8.5
2	Turbidity	NTU	< 0.5	< 0.5	< 0.5	0.5	2.6	0.5	< 0.5	<0.5	5
3	Total Dissolved Solids	mg/l	286	667	1072	572	878	806	552	749	2000
4	Total Hardness as CaCO ₃	mg/l	230	424	592	360	590	524	342	384	600
5	Calcium as Ca	mg/l	53	104	97	72	99	99	68	80	200
6	Magnesium as Mg	mg/l	24	40	85	44	83	67	42	45	100
7	Total Alkalinity as CaCO ₃	mg/l	204	313	497	317	400	305	249	325	600
8	Fluoride as F	mg/l	0.21	0.28	0.52	0.54	0.64	0.81	0.45	0.52	1.50
9	Chloride as Cl	mg/l	35	159	206	104	157	212	121	163	1000
10	Sulphate as SO ₄	mg/l	11	42	62	36	38	56	18	36	400
11	Total Iron as Fe	mg/l	BDL	BDL	BDL	BDL	0.06	0.03	BDL	BDL	0.30
12	Total Suspended Solids	mg/l	BDL	BDL	BDL	BDL	7	BDL	BDL	BDL	-

BDL : Below Detection Limit

Note: Standard IS: 10500 Permissible limits in the absence of alternative Sources

Sample Codes with Location:


GWQ-1: Meghalahalli Village (Tube Well); GWQ-2: BBH Siding (Tube Well)

GWQ-3: Medikeripura Village (Tube Well); GWQ-4: Alaghatta Village (Tube Well)

GWQ-5: Bommanagathihalli Village (Tube Well) GWQ-6: Near Office Canteen (Tube Well)

GWQ-7: Near Mines Canteen (Tube Well) GWQ-10: Tenigahalli (Tube Well)

Analyzed and Verified By:

1. 
S. SRI RENGANATHAN
Technical Manager

2. P. KAVITHA
Technical Manager
Govt. Analyst

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CHENNAI METTEX LAB PRIVATE LIMITED

Jothi Complex, 83, M.K.N. Road, Guindy, Chennai - 600 032.

Analysis Report for Ground Water Samples

Client: M/s.Vedanta Limited

Report: II A

Project: Chitradurga Mine

Season: Monsoon - 2017

Date of Collection: 13.07.2017

S.No	Parameters	Sample Code	GWQ -1	GWQ -2	GWQ -3	GWQ -4	GWQ -5	GWQ -6	GWQ -7	GWQ -10	GWQ -15	Standard : IS : 10500
		Time of Sampling Units	06:50 Hrs	12:00 Hrs	07:40 Hrs	09:40 Hrs	07:15 Hrs	08:40 Hrs	10:00 Hrs	07:50 Hrs	07:50 Hrs	
1	pH	-	7.95	7.44	7.56	7.87	7.80	7.54	7.70	7.81	7.79	6.5 to 8.5
2	Turbidity	NTU	< 0.5	< 0.5	< 0.5	0.5	0.5	0.5	< 0.5	< 0.5	0.5	5
3	Total Dissolved Solids	mg/l	292	672	486	594	719	762	642	902	646	2000
4	Total Hardness as CaCO ₃	mg/l	232	448	356	404	540	552	448	544	392	600
5	Calcium as Ca	mg/l	49	96	69	86	103	109	88	125	104	200
6	Magnesium as Mg	mg/l	27	50	45	46	69	68	55	56	32	100
7	Total Alkalinity as CaCO ₃	mg/l	186	329	333	356	416	352	293	435	321	600
8	Fluoride as F	mg/l	0.23	0.31	0.36	0.61	0.56	0.86	0.51	0.61	0.48	1.50
9	Chloride as Cl	mg/l	41	150	45	114	120	201	179	216	156	1000
10	Sulphate as SO ₄	mg/l	13	44	52	38	37	57	21	44	31	400
11	Total Iron as Fe	mg/l	BDL	BDL	BDL	BDL	BDL	0.04	BDL	BDL	BDL	0.30
12	Total Suspended Solids	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-

BDL : Below Detection Limit

Note: Standard IS: 10500 Permissible limits in the absence of alternative Sources

Sample Codes with Location:

GWQ-1: Meghalahalli Village (Tube Well); GWQ-2: BBH Siding (Tube Well)

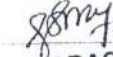
GWQ-3: Medikeripura Village (Tube Well); GWQ-4: Alaghatta Village (Tube Well)

GWQ-5: Bommanagathihalli Village (Tube Well) GWQ-6: Near Office Canteen (Tube Well)

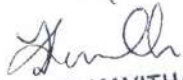
GWQ-7: Near Mines Canteen (Tube Well) GWQ-10: Tenigahalli (Tube Well)

GWQ-15: Konanur (Tube Well)

Analyzed and Verified By:

1. 
K. MADASAMY
Technical Manager

2.


P. KAVITHA
Technical Manager

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Sample retained one month from the date of reporting, except in the case of regulatory samples. Perishable samples will be discarded after releasing the test reports. Laboratory is not responsible for the authenticity of the xerox/photocopied test reports.



CHENNAI METTEX LAB PRIVATE LIMITED

Jothi Complex, 83, M.K.N. Road, Guindy, Chennai - 600 032.

Analysis Report for Ground Water Samples

Client: M/s.Vedanta Limited

Report: II A

Project: Chitradurga Mine

Season: Monsoon - 2017

Date of Collection: 17.08.2017

S.N o	Parameters	Sample Code	GWQ -1	GWQ -2	GWQ -3	GWQ -4	GWQ -5	GWQ -6	GWQ -7	GWQ -10	Standard : IS : 10500
		Time of Sampling Units ↓	06:50 Hrs	10:30 Hrs	07:40 Hrs	10:10 Hrs	07:15 Hrs	12:00 Hrs	11:00 Hrs	08:00 Hrs	
1	pH	-	7.74	7.56	7.63	7.45	7.51	7.60	7.60	7.47	6.5 to 8.5
2	Turbidity	NTU	< 0.5	< 0.5	< 0.5	0.5	0.8	0.5	< 0.5	< 0.5	5
3	Total Dissolved Solids	mg/l	270	664	474	508	802	652	668	870	2000
4	Total Hardness as CaCO ₃	mg/l	208	402	320	360	460	424	456	506	600
5	Calcium as Ca	mg/l	54	91	62	71	94	96	93	102	200
6	Magnesium as Mg	mg/l	18	43	40	44	55	45	54	61	100
7	Total Alkalinity as CaCO ₃	mg/l	171	339	324	324	394	308	280	428	600
8	Fluoride as F	mg/l	0.18	0.37	0.29	0.56	0.47	0.71	0.63	0.54	1.50
9	Chloride as Cl	mg/l	46	141	49	102	132	184	164	207	1000
10	Sulphate as SO ₄	mg/l	11	38	58	33	41	46	18	51	400
11	Total Iron as Fe	mg/l	BDL	BDL	BDL	BDL	BDL	0.03	BDL	BDL	0.30
12	Total Suspended Solids	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-

BDL : Below Detection Limit

Note: Standard IS: 10500 Permissible limits in the absence of alternative Sources

Sample Codes with Location:

GWQ-1: Meghalahalli Village (Tube Well); GWQ-2: BBH Siding (Tube Well)
GWQ-3: Medikeripura Village (Tube Well); GWQ-4: Alaghatta Village (Tube Well)
GWQ-5: Bommanagathihalli Village (Tube Well); GWQ-6: Near Office Canteen (Tube Well)
GWQ-7: Near Mines Canteen (Tube Well); GWQ-10: Tenigahalli (Tube Well)

Analyzed and Verified By:

1.
S. SRI RENGANATHAN
Technical Manager

2.
P. KAVITHA
Technical Manager

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CHENNAI METTEX LAB PRIVATE LIMITED[®]

Jothi Complex, 83, M.K.N. Road, Guindy, Chennai - 600 032.

Analysis Report for Ground Water Samples

Client: M/s.Vedanta Limited

Report: II A

Project: Chitradurga Mine

Season: Monsoon - 2017

Date of Collection: 15.09.2017

S.No	Parameters	Sample Code	GWQ -1	GWQ -2	GWQ -3	GWQ -4	GWQ -5	GWQ -6	GWQ -7	GWQ -10	Standard : IS : 10500
		Time of Sampling Units ↓	06:40 Hrs	08:10 Hrs	07:30 Hrs	09:30 Hrs	07:50 Hrs	10:15 Hrs	10:40 Hrs	07:50 Hrs	
1	pH	-	7.91	7.40	7.20	7.36	7.02	7.28	7.28	7.84	6.5 to 8.5
2	Turbidity	NTU	< 0.5	< 0.5	< 0.5	0.6	0.6	0.6	< 0.5	< 0.5	5
3	Total Dissolved Solids	mg/l	292	651	454	569	740	671	672	792	2000
4	Total Hardness as CaCO ₃	mg/l	176	392	282	371	442	402	404	470	600
5	Calcium as Ca	mg/l	57	84	56	78	89	91	88	94	200
6	Magnesium as Mg	mg/l	8.3	44	34.5	43	53	42.5	45	57	100
7	Total Alkalinity as CaCO ₃	mg/l	182	328	296	331	383	302	289	412	600
8	Fluoride as F	mg/l	0.16	0.47	0.32	0.61	0.43	0.66	0.66	0.46	1.50
9	Chloride as Cl	mg/l	52	135	38	113	127	180	151	189	1000
10	Sulphate as SO ₄	mg/l	14	35	52	37	43	48	19	46	400
11	Total Iron as Fe	mg/l	BDL	0.03	BDL	BDL	BDL	0.04	BDL	BDL	0.30
12	Total Suspended Solids	mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	-

BDL : Below Detection Limit

Note: Standard IS: 10500 Permissible limits in the absence of alternative Sources

Sample Codes with Location:

GWQ-1: Meghalahalli Village (Tube Well); GWQ-2: BBH Siding (Tube Well)
GWQ-3: Medikeripura Village (Tube Well); GWQ-4: Alaghatta Village (Tube Well)
GWQ-5: Bommanagathihalli Village (Tube Well) GWQ-6: Near Office Canteen (Tube Well)
GWQ-7: Near Mines Canteen (Tube Well) GWQ-10: Tenigahalli (Tube Well)

Analyzed and Verified By:

1.

S. SRI RENGANATHAN

2.

P. KAVITHA
Technical Analyst

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CHENNAI METTEX LAB PRIVATE LIMITED

Jothi Complex, 83, M.K.N. Road, Guindy, Chennai - 600 032.

ANALYSIS REPORT OF SOIL SAMPLES Soil Quality Monitoring Wing

Client : M/s. Vedanta Limited

Report No : VIII -A.

Project: Chitradurga Mine

Season: Monsoon-2017

Date of Collection: 16.06.2017

S.No.	Parameter	VGS1	VGS2	VGS3	VGS4	VGS5	VGS6
1.	pH (1:2 aqueous solution)	6.38	5.67	5.43	6.85	5.67	6.40
2.	Electrical Conductivity (μ mhos/cm)	906	910	980	920	972	964
3.	Organic Carbon %	0.53	0.56	0.62	0.48	0.56	0.47
4.	Phosphours as P, Kg/Hec	32	37	32	29	34	28
5.	Potassium as K, Kg/Hec	3.1	3.4	2.9	3.6	3.8	4.1
6.	Chloride as Cl, mg/100 gm	4.6	4.2	3.6	2.9	3.4	3.8
7.	Iron (Hcl Solubles), %	6.0	7.45	1.85	2.6	3.6	6.6
8.	Water Holding Capacity %	31	28	29	27	28	30
9.	Sand %	13.6	12.9	13.2	12.4	12.8	13.4
10.	Silt %	0.6	0.7	0.6	0.6	0.7	0.6
11.	Clay %	85.8	86.4	86.2	87.0	86.5	86.0
12.	Texture	Clay	Clay	Clay	Clay	Clay	Clay

Sample Collected & analyzed by : CHENNAI METTEX LAB PVT LTD

Location of sampling stations:

- VGS1 - Bommanagathalli (Agri land)
- VGS2 - Hirekandewali Village (Agri land)
- VGS3 - Kadlegudu Village (Agri land)
- VGS4 - Alagatta Village (Agri Land)
- VGS5 - Tenegehalli Village (Agri Land)
- VGS6 - Waste dump (With in the lease area)

ANALYZED & VERIFIED BY :

1.

2.

Govt. Analyst

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Health Initiatives- April 2017 to September 2017



Free Dental Checkup and awareness programme organized at Sirigere for Local Community. A total of 250 people were benefitted from this programme.



Health Awareness Camps for Self Help Group (SHG) Women at Muthugaduru Village, Chitradurga



sesa goa iron ore

PLANTATION FOR THE YEAR 2017-18
A Narrain Mines (ML No. 2677)

S. No.	LOCAL NAME	BOTANICAL NAME	QUANTITY (NOS)
1	Gobbra Gidda	Gilicidia	110
2	Aralimara	Ficus religiosa	660
3	Atti mara	Ficus racemosa	560
4	Baage/Bayala	Albizia lebbeck	590
5	Bevu	Azardirachta Indica	860
6	Biduru	Bamboo	150
7	Buggiri(oorvasi mara)	Thespesia populnea	300
8	Dubai Plants	Conocarpus lancifolius	95
9	Gonimara	Ficus drupacea	162
10	Panasa/ Halasu	Artocarpus heterophyllus(Jack fruit)	450
11	Honge	Pongamia pinnata	7519
12	Hunise	Tamarindus indica	250
13	Ippe	Madhuca longifolia var.latifolia	5116
14	Kaadu Baadaami	Terminalia catappa	448
15	Nelli	Phyllanthus emblica	600
16	Nimbe	Citrus limon	300
17	Chujjulu	Albizia amara	50
18	Seema roba	Seema Rouba Glauca	3054
19	Shivani	Gmelina arborea	1692
20	Singapore cherry	Mutingia Calabura	320
21	Tapsi mara	Holoptelea integrifolia	600
22	Chiku	Manikara zapota	300
Total			24186