

22nd November 2019

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 2019 to September 2019) for Vedanta Limited Iron Ore Mine (ML: 2677) situated in Chitradurga, Karnataka.

Reference:

1. Environmental Clearance letter no: J-110151/1167/2007-IA.II (M) Dated 05.02.2009 of M/s Vedanta Limited Iron Ore Mine (ML: 2677)
2. Extraordinary Gazette No: 5845 dated 28th November 2018.

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 2019 to September 2019) for Vedanta Limited Iron Ore Mine (ML:2677) situated in Chitradurga District, Karnataka.

Thanking you,

Yours Faithfully
For Vedanta Limited

For VEDANTA LIMITED


Manager - Mining

Authorized Signatory

Copy to:

1. The Senior Environmental Officer, KSPCB, Parisara Bhavana, Church Street, Bangalore.
2. The Regional Environmental Officer, KSPCB, Chitradurga.

Half Yearly Compliance Report to condition of Environment Clearance issued by

**Ministry of Environment, Forest and Climate Change, Government of India for
Vedanta Limited Iron Ore Mine, (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 production limit for 2019-20 is 4.51 MTPA

Period: April 2019 to September 2019 (1st 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. The nearest Eco sensitive zone is Rangayyanadurga Four Horned Antelope Wildlife Sanctuary which is situated in Davangere and Bellary District and is 70 km away from the lease boundary	
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	<p>After exhausting the first mine pit and before starting mining operations in the next pit, reclamation and plantation works in the 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.</p>	<p>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 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.</p>	<p>The total plantation carried on the waste dumps for the year 2019-20 is 49282 nos. Details of Plantation and Coiramat Laying is attached as Annexure-IV</p>
5	<p>Adequate buffer zone shall be maintained between two consecutive mineral bearing deposits.</p>	<p>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.</p>	
6	<p>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.</p>	<p>Dr. S S Dolli and Dr. B S Janagoudar (University of Agricultural sciences, Dharwad, College of Forestry, Sirsi) were engaged for the detailed study of Flora & Fauna present in the area. According to the studies there is no rare endemic or endangered or threatened (REET) species in the existing flora or fauna within the core area of A Narrain Iron Ore Mine. During the study, a total of about 182 plants (67 Tree, 30 Shrub, 58 Herb, 17 climbers and liana, 10 grass and cyper species) and 97 animals (11 Mammals, 59 Birds, 9 Reptile, 3 Amphibians and 15 Invertibrates were identified.</p> <p>Maintenance of habitats of existing wild life through regular Plantation work and maintenance of existing plantation is a regular phenomenon. Only native species are being used in the plantation programme.</p> <p>In addition, a detailed studies for developing a biodiversity management plan by Forestry College, Sirsi, is under progress details of which will be submitted in the next compliance.</p>	

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 border="1" data-bbox="852 289 1608 854"> <thead> <tr> <th rowspan="2"></th> <th rowspan="2">Particulars</th> <th colspan="2">Achieved from Apr'19 to Sep'19</th> </tr> <tr> <th>Qty.</th> <th>Cost</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Construction of rubble check dams</td> <td>-</td> <td>-</td> </tr> <tr> <td></td> <td>Water holes & Maintenance</td> <td>-</td> <td>-</td> </tr> <tr> <td>2</td> <td>Construction & maintenance of masonry check dams including Desilting</td> <td>3 Checkdams 75629 m³</td> <td>5,670,016 4,971,988</td> </tr> <tr> <td>3</td> <td>Agave plantation in the valley</td> <td>-</td> <td>-</td> </tr> <tr> <td>4</td> <td>Raising of fruit bearing and shed giving plantations</td> <td>49282</td> <td>3,482,758</td> </tr> <tr> <td>5</td> <td>Erection of watch towers</td> <td>-</td> <td>-</td> </tr> <tr> <td>6</td> <td>Provision of salt lick blocks</td> <td>-</td> <td>-</td> </tr> <tr> <td>7</td> <td>Watch and ward (person/month)</td> <td>-</td> <td>-</td> </tr> <tr> <td colspan="2">Total Cost in Rs.</td> <td colspan="2">14,124,762</td> </tr> </tbody> </table>		Particulars	Achieved from Apr'19 to Sep'19		Qty.	Cost	1	Construction of rubble check dams	-	-		Water holes & Maintenance	-	-	2	Construction & maintenance of masonry check dams including Desilting	3 Checkdams 75629 m ³	5,670,016 4,971,988	3	Agave plantation in the valley	-	-	4	Raising of fruit bearing and shed giving plantations	49282	3,482,758	5	Erection of watch towers	-	-	6	Provision of salt lick blocks	-	-	7	Watch and ward (person/month)	-	-	Total Cost in Rs.		14,124,762		<p>In our endeavor to protect Wildlife of the region the company has celebrated World Environment Day 2019 and Vanmahotsava from 1st July to 7th July 2019 under which various programmes for spreading awareness, Plantation drive, Seed ball distribution, workshop on biodiversity conservation for school children were organized. Snapshots of the same is attached as Annexure- V</p>
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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.	<p>The Iron ore having +45% Fe consider as Ore, low grade ore of < 52% Fe will be blended with the high grade ore and being made saleable. The siliceous ore of +35% Fe which is less than the threshold value will be stacked separately for future use.</p> <p>The details of Production of Iron Ore (Hematite) and waste handled for the said period (April 2019- September 2019):</p> <table border="1" data-bbox="852 1141 1598 1352"> <thead> <tr> <th>Period</th> <th>ROM Handling (in Tonnes)</th> <th>Waste Handling (in Tonnes)</th> <th>Total Handling (in Tonnes)</th> </tr> </thead> <tbody> <tr> <td>Apr'19 to Sep'19</td> <td>2854313</td> <td>1260377</td> <td>4114690</td> </tr> </tbody> </table>	Period	ROM Handling (in Tonnes)	Waste Handling (in Tonnes)	Total Handling (in Tonnes)	Apr'19 to Sep'19	2854313	1260377	4114690																																			
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9	Hydro-geological study of the area shall be	Prof. Ratnakar Dhakate from NGRI (National Geo- Physical	The Company has desilted																																										

	reviewed annually.	<p>Research Institute, Hyderabad) was engaged to carry out detailed hydrogeological studies of A Narrain Mines in the year 2016-17. According to the studies, sustainable groundwater resources in the downstream of watershed covering A Narrain Mines has been assessed through integrated hydrological, hydro-chemical and geophysical investigations. The groundwater level contours drawn for these periods indicate that the groundwater flow direction was from mine towards all the direction. During the groundwater exploration, it was also revealed that aquifers are encountered between the depths of 15 mbgl and 192 mbgl, which is well below our current pit bottom i.e. 798.8 m RL.</p> <p>Report was submitted to regional office in the previous compliance report. The report has recommended desilting of existing check dams, construction of harvesting pits and additional check dams at eight locations around the lease, implementation of which is in progress.</p>	around 75629 m ³ quantity of silt from 10 nearby village ponds. Some photos are attached as Annexure-VI
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.	<p>Fugitive dust generation is controlled by spraying the water on the main hauling road. The company has deployed 23 water tankers for suppressing the dust on Haul roads and its transport route. In the said period, 30692.49 KL of water is used for Dust suppression purpose.</p> <p>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.</p> <p>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.</p>	Abstract of Air monitoring results are attached as Annexure-I.
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	<p>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>	<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 has been received, and CSR Implementation Plan is prepared taking into consideration Village Development (short term & long term), Community and Stakeholder Management and Risk & Grievance Mapping.</p> <p>Moreover, the company has taken several initiatives all of which are directed with prime objective of empowerment of community through various socio-economic developmental initiatives. CSR Details:</p> <p>1. Health and Hygiene:</p> <p>(a) Mobile Health Unit: The company is operating Mobile Health unit in 12 nearby villages having a doctor, a nurse and an attendant. All the services are provided free of cost in these facilities.</p> <p>(b) Medical Campaigns: The company has conducted various medical campaigns include Anaemia Detection Camp, Cancer Awareness and Detection Camp, AIDS Awareness Camp, Dental Check-up Camp, Personal Hygiene Awareness Campaign, Eye Screening Camp etc.</p> <p>(c) Safe Potable drinking water project: The company has signed a MoU with Naandi Foundation and installed Reverse Osmosis (RO) plants in 3 villages which caters benefit to around 1000 families in 11 villages. To address the drought condition of the region, the company has funded in drilling 30 borewells across 24 villages.</p> <p>(d) Construction of Sanitation units for individual families: The Company has constructed sanitation units for 50 families in</p>	
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	<p>Megalahalli village under “Total Sanitation Campaign”. Company has also constructed first eco-friendly bio-digester toilet towards a clean and beautiful Karnataka at Sri Anjaneyaswamy High School, in Kadleguddu Village, Karnataka. Bio-digester toilets have been installed in 12 Village schools which will benefit at unit around 864 students. This initiative helped school to get girl students back to school and reduce girls’ dropout from schools.</p> <p>(e) Awareness to adolescent girl child: The company has conducted several awareness sessions on Menstrual Hygiene to more than 800 girl students across 11 village school.</p> <p>2. Education:</p> <p>(a) Evening Study centers: The Company has come up with the Evening Study Centres called ‘Sesa Sayankala Kalika Kendra’, where the students are provided personalized guidance for doing their homework and preparation for securing good marks in exams. Currently 7 such centres are running at 7 villages and 468 students are being benefited.</p> <p>(b) Summer Camp: 45 days Summer Vacation Camp for the students of class 10th was been organized during the month of May. So far 1750 students have been benefitted through this initiative.</p> <p>(c) Transport facility for school students: Hired 02 Nos. buses for daily transport of the students of 11 village schools.</p> <p>(d) Promoting School Infrastructure: The company has constructed school and anganwadi building and provided books, uniforms, educational materials like map, charts, benches, furniture, sports equipments, LCD projector, photocopy machines etc.</p> <p>(e) Education Aid: The company has provided Notebook and stationary to around 9000 students from 34 schools.</p> <p>(f) Smart Class: The company has contributed to the vision of Digital India by introducing smart class at 7 high schools which caters to more than 1000 students.</p> <p>(g) Scholarship Programme: Under “Beti Bachao, Beti Padhao” scheme, the company has provided scholarships to 73</p>	
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		<p>meritorious girl students from the mining belt to pursue higher education.</p> <p>(h) Advance computer training: The company has operationalized 3 advanced computer training centres which has helped 120 students across 5 villages.</p> <p>3. Sustainable Livelihood:</p> <p>(a) Alternative Livelihood Opportunities Project (ALOP): the company has formed a committee consisting of 11 members, among these 2 are elderly respected persons, 2 are women SHG members, 2 are progressive farmers, 1 is land less labour, 2 are retired employees and 2 are from project implementing & funding agencies. This committee helps in capacity building of Farmers and Farming land by introducing new and advance technology, demonstrating micro enterprises in food processing etc. some initiatives includes Community based Watershed Development, New crop enterprise introduction – Soybean crop cultivation, Promotion of Vermi compost units, Women entrepreneurial development program, Integrated Farming Systems and Livestock development Established-Artificial Insemination (AI) Centre.</p> <p>(b) Drought Mitigation programme: The company has drilled bore wells in 13 Villages and provided pipeline connection to address the issue at the villages. The company has also De-silted about 10 village ponds, 9 silting ponds and 29 check dams and supplied potable drinking water to the needy people in villages and school children.</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" data-bbox="873 1219 1587 1422"> <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> </tbody> </table>	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	
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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.	<p>The Company has three transport routes out of which 2 of our transport routes pass through nearby villages. The company has taken up several infrastructural development activities in these nearby villages which includes construction of road from Bheemasamudra to Siddapura Village, Medikeripura to Sasaluhalla village, Tanigehalli cross to Medikeripura village, Kumtakadamadagi to Malapanhatti village, Construction of concrete road at Medikeripura, and Bheemasamudra villages. The company has also contributed in Road widening project from Bommenahalli to Malapanhatti village.</p> <p>Black topping of other village roads is also being undertaken on regular basis under the CSR scheme as per the instruction of district administration and requirements for the benefits of villagers.</p> <p>Roads are also regularly cleaned by manual sweeping to remove ore spillage from the transport trucks. A total of 32 workers are engaged for carrying out cleaning activity on daily basis at the junction and speed breakers. Moreover the company has taken up initiative of planting native species along the roadside.</p>									
15	Rain water harvesting shall be undertaken to recharge the ground water source.	<p>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</p>									

		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 10 ponds situated in Kadleguddu, Megalahalli, Hanumanakatte, Basavapura, Bheemasamudra, Nellikatte, Bommenahalli, Palya, Haliyuru and Medikeripura villages. This has resulted in a trapping surface runoff and helped in ground water rejuvenation.	
16	Measures for prevention and control of soil erosion and management of silt shall be undertaken.	<p>During the monsoon period, run-off from the waste dumps and other areas are controlled by a series of Check dams and Settling ponds which helps in preventing runoff washout to reach in the natural streams. 4307 meters of retaining walls have been constructed in order to prevent the sliding of the dump materials and protect the soil erosion. 3719 meters of Garland drains are also constructed all along the toe of the dump to properly channelize the runoff water from the dump. The check dams provided with spill way facilities are being de-silted regularly.</p> <p>As part of waste dump stabilization, The non-active waste dump areas are covered with Geotextile and are being stabilized by spreading Grass seeds as a step towards stabilization. This is followed by planting of native species. In the said period a total of 22650 m² of the area is covered from Geotextile on the dumps which are taken up for vegetation by grass seeding and plantation.</p>	
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 the approved R&R plan, as much as 29 Check dams, 9 gully plugs and 7 settling ponds are constructed all along the lease boundary. 4307 meters of retaining walls have been constructed in order to prevent the sliding of the dump materials and protect the soil erosion. 3719 meters of Garland drains are also constructed all along the toe of the dump to properly channelize the runoff water from the dump. Coco filters are also installed in the Garland drains to control the silt from the runoff water.	
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	The mining activity is ben carried out at top of the hill. The pit top & bottom is 930 mts and 798.8 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	Abstract of Water monitoring results are attached as Annexure-II.

	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.	been regularly submitted to regional office and Karnataka Pollution Control Board.	
19	Cultivable waste land shall be identified and 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	Company in association with UAS, Dharwad had taken a project called ALOP (Alternative Livelihood Opportunities Project) in surrounding villages from 2008 to 2012 with below objective: 1) To build the capacity of farmers and farming condition of soil, water, vegetation and livestock management for improving the productivity and economic returns. 2) To demonstrate improved crop production technologies in farmers field. 3) To demonstrate off farm micro enterprises in food processing and value addition with women groups. 4) To encourage people institutions and facilitate linkages with development departments. 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-III .
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	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>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>	<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>	
23	<p>Top soil / solid waste shall be stacked properly with proper slope and adequate safeguards and shall be utilized for backfilling for reclamation and rehabilitation of mined out area.</p>	<p>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.</p>	
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. 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>	<p>Over burden (OB) is stacked at earmarked dump site as per IBM approved in Mining plan 2017- 2022, by adopting step dumping method on designated non mineralized areas within the lease and overall slope of the dump is not more than 26°. Finalized portions of the dumps are covered with geotextiles and afforestation immediately.</p>	
25	<p>Slope of the mining bench and ultimate pit limit shall be as per the mining scheme approved by Indian Bureau of Mines</p>	<p>The ultimate pit limit and slope of the mining bench is maintained as per the IBM approved mining scheme.</p>	

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 2019-20 is 49282 Nos. The total area covered for the year 2018-19 is 9.243 Ha.</p> <table border="1" data-bbox="852 362 1602 1141"> <thead> <tr> <th>Area</th> <th>Location</th> <th>No. of saplings</th> <th>Area Covered (Ha)</th> </tr> </thead> <tbody> <tr> <td rowspan="7">WML</td> <td>1st step D3</td> <td>9050</td> <td>0.90</td> </tr> <tr> <td>2nd step D3</td> <td>2200</td> <td>0.64</td> </tr> <tr> <td>3rd step D3</td> <td>2000</td> <td>0.53</td> </tr> <tr> <td>4th step D3</td> <td>2800</td> <td>1.04</td> </tr> <tr> <td>Dump-1</td> <td>14900</td> <td>3.19</td> </tr> <tr> <td>Safety Zone BP-14</td> <td>3000</td> <td>0.15</td> </tr> <tr> <td>Near Sample Shed</td> <td>3200</td> <td>0.61</td> </tr> <tr> <td rowspan="5">OML</td> <td>Admin Office</td> <td>679</td> <td>0.33</td> </tr> <tr> <td>BBH Railway siding</td> <td>3048</td> <td>0.86</td> </tr> <tr> <td>Forest Area</td> <td>2250</td> <td>0.98</td> </tr> <tr> <td>Distribution to schools, employees, Chitrdurga park, temple etc.</td> <td>705</td> <td>-</td> </tr> <tr> <td>Road Side plantation Gate-3 and 1</td> <td>5450</td> <td>3 km</td> </tr> <tr> <td colspan="2">Total</td> <td>49282</td> <td>9.243</td> </tr> </tbody> </table>	Area	Location	No. of saplings	Area Covered (Ha)	WML	1st step D3	9050	0.90	2nd step D3	2200	0.64	3rd step D3	2000	0.53	4th step D3	2800	1.04	Dump-1	14900	3.19	Safety Zone BP-14	3000	0.15	Near Sample Shed	3200	0.61	OML	Admin Office	679	0.33	BBH Railway siding	3048	0.86	Forest Area	2250	0.98	Distribution to schools, employees, Chitrdurga park, temple etc.	705	-	Road Side plantation Gate-3 and 1	5450	3 km	Total		49282	9.243	
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27	<p>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</p>	<p>The company regularly monitors the ground water level and quality of nearby 8 tube wells. The mining activity is being carried out at top of the hill. The pit top & bottom is 930 mts and 798.8 mts from M.S.L. which is way above the ground water level and therefore there is no influence on these bore wells due to mining activity. The company uses ground water only for Dust suppression and domestic usage. The monitoring reports are regularly submitted to MoEF, Central ground water</p>	<p>Abstract of Water monitoring results are attached as Annexure-II.</p>																																														

	winter(January) and the data thus collected shall be regularly sent to MoEF, Central ground water Authority and Regional Director, Central Ground water Board	Authority and Regional Director, Central Ground water Board	
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-I .
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 is 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 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.	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.	
31	Prior permission from the Competent Authority shall be obtained for extraction of ground water, if any	The company uses Groundwater for Dust suppression and other Domestic purposes for which it has three registered bore wells.	
32	Action plan with respect to	Action plan with respect to suggestions/improvements and	

	<p>suggestions/improvements and recommendations made during public consultation/hearing shall be submitted to the ministry and the state Govt. within six months</p>	<p>recommendations made during public consultation/hearing have been submitted to the ministry. The following suggestions/ improvements were received during public consultation/ hearing:</p> <p>1) Employment to local persons, conduct training courses to the unemployed youths and farmers in the field of animal husbandry, Horticultural, agricultural etc to be taken and construction of compound wall with afforestation measures to Hirekandawadi school.</p> <p>Action implemented: Under the livelihood project the farmers are given training to grow fast yield crops and Animal health camps were conducted and compound wall to Hirekandawadi school was constructed and also employments to local persons were given.</p> <p>2) Adopting town villages Bommavanagatihalli and Kadalegudda villages to take up development works.</p> <p>Action implemented: The above two villages were adopted through ALOP project and various socio economic activities have been carried out.</p> <p>3) To donate ambulance facilities to Hireguntur PHC.</p> <p>Action implemented: The ambulance has been donated to the district Govt hospital.</p> <p>4) Afforestation measures all along the roads of Kagalagere with dust preventive measures</p> <p>Action implemented: The plantation all along the either side of the roads is done to control the fly dust. The barricades and speed bumpers are installed to reduce the speed of the vehicle entering the village limit. The roads are cleaned by manual sweeping.</p>	
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		<p>5) To take up social development works to Bommenahalli village Action implemented: Developmental works which have taken in Bommenahalli Village are:</p> <ol style="list-style-type: none"> a. Health camp conducted in the village. b. Compound wall for primary school c. Dining hall constructed for primary school d. Safe drinking water project for entire village <p>6) To make asphaltting of roads and make necessary arrangement for truck parking at Medikeripura. Action implemented: Necessary arrangement for truck parking was made and roads are well maintained</p>	
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	<p>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>	<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" data-bbox="863 527 1598 982"> <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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5	<p>Data on ambient air quality should be regularly submitted to the Ministry, including its Regional Office Bangalore, SPCB / CPCB once in six months</p>	<p>Ambient air quality data is submitted regularly to the ministry, its Regional office Bangalore and KSPCB once in six months.</p>																																													
6	<p>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.</p>	<p>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.</p>																																													
7	<p>Industrial waste water (work shop and waste water from the mine) should be properly collected, treated so as to confirm to the</p>	<p>Oil & grease traps are provided at workshop where the oil is separated from water and is reused for dust suppression. The treated water is monitored for the parameters such as TSS, Oil</p>																																													

	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.	& grease, pH etc. and is submitted regularly to Pollution control board.	
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. Parthiban Madesh (Head- HSE) Parthiban.madesh@vedanta.co.in +91- 8778042423 (M)</p>	<p>Chief Operating Officer (COO)</p> <p>↓</p> <p>B Sivakumar (Head HSE- IOB)</p> <p>↓</p> <p>Parthiban Madesh (Head HSE-Karnataka)</p> <p>↓</p> <p>Aditya Anchliya (Chief Environment Manager)</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 2019-20 will be submitted in the next six monthly compliance report.	
12	The project authorities shall inform to the	Complied	

	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		
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	Complied	
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	Compliances were submitted in the earlier compliance report.

Contact Details		
1	Address	<p>Vedanta Limited Iron Ore Mine (ML 2677) 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	(T) +91-8194238100 (F) +91-8194238180
3	Contact details of the responsible persons-	(1) Mr. Krishna Reddy (Director- Iron Ore Karnataka) MK.Reddy@vedanta.co.in +91-9483211966 (M) (2) Mr. Parthiban Madesh (Head- EHS) Parthiban.Madesh@vedanta.co.in +91- 8778042423 (M)
4	GPS Location	Latitude: N 14 13'34.61" Longitude: E 76 12'41.73"
5	Website	www.sesagoaironore.com or www.vedantalimited.com



CHENNAI METTEX LAB PRIVATE LIMITED

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

(Approved/Recognized by APEDA, AGMARK, GAFTA, EIC, FSSAI, BIS & MoEF)

(Air Quality Monitoring Wing)

ABSTRACT OF AMBIENT AIR QUALITY MONITORING DATA

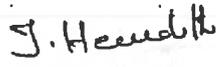
Project : Chitradurga Mine Report No : I
 Client : M/s.Vedanta Limited Season : Summer
 Month : April - 2019

S.NO	MONTH & YEAR	ZONE	LOCATION	PARAMETERS ($\mu\text{g}/\text{m}^3$)			
				SO ₂	NO ₂	PM ₁₀	PM _{2.5}
1.	March - 2019	Core	Plant-I area (Crushing)	8.5	25.4	69.0	38.8
			Loading point (Mining Working)	6.3	18.1	61.5	34.1
			Unloading Point (Dumping)	7.9	14.7	64.9	37.0
			Haulage Road	5.4	19.5	57.2	32.1
			BBH Siding	4.4	13.6	54.4	31.5
			Ore Stock Yard	9.1	20.0	68.7	39.5
		Buffer	Megelahalli Village	5.4	16.1	52.1	29.3
			Tenigchalli Village	4.7	11.8	38.2	22.8
			Medikeripura Village	6.2	14.5	49.0	27.4
			Konanur	4.4	12.1	42.6	24.0

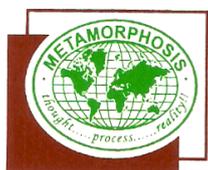
ANALYZED AND VERIFIED BY:

1. 
S. SRI RENGANATHAN
 Technical Manager



2. 
J. HEMALATHA
 Dy. Quality Manager /
 Govt. Analyst

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.



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METAMORPHOSISSM

LABORATORY PRIVATE LIMITED

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Compiled Data – Ambient Air – Fugitive Emission (June – September 2019)

Name of the Project: Vedanta Limited Iron Ore Mine (ML: 2677), Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka State.

Core Zone

A1: Haulage Road / Service Road

Unit: $\mu\text{g}/\text{m}^3$	
PM	
Min	371.1
Max	432.1
Avg.	395.8

A2: Ore Storage & Loading

Unit: $\mu\text{g}/\text{m}^3$	
PM	
Min	286.0
Max	385.0
Avg.	339.1

A3: Waste Dump

Unit: $\mu\text{g}/\text{m}^3$	
PM	
Min	282.3
Max	400.9
Avg.	351.1

A4: Crusher Plant

Unit: $\mu\text{g}/\text{m}^3$	
PM	
Min	376.7
Max	424.3
Avg.	394.8

A5: Mine Face / Benches

Unit: $\mu\text{g}/\text{m}^3$	
PM	
Min	318.0
Max	390.6
Avg.	349.7

A6: Screening Plant

Unit: $\mu\text{g}/\text{m}^3$	
PM	
Min	306.9
Max	415.6
Avg.	377.9

KSPCB Standards	Parameter ($\mu\text{g}/\text{m}^3$)
	PM
	1200

Note: Compiled Data is prepared based on the season-wise reports already submitted.

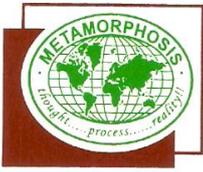
Authorized Signatory

Dr. Shanth A. Thimmaiah
Laboratory Head



TC-5841

“PRAKRUTI BHAVAN”, #200, 1st & 2nd Floor, 40th Main, 1st Cross,
BTM Layout II Stage, Behind Central Silk Board,
Bengaluru – 560068, Karnataka, India, Telefax: +91.80.26783006
Email: mail@metamorphosis-india.com.



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TEST REPORT

AMBIENT NOISE MEASUREMENT

- Name of the project** : Vedanta Limited Iron Ore Mine (ML:2677)
- Location name** : Buffer Zone – Megalahalli Village
- Name of the project proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
- Date of Measurement** : 13.06.2019
- Name of instrument** : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
- Date of reporting** : 14.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Megalahalli Village	07191743	IS:9989 -1981	35.0	48.2	38.9	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found within the permissible limits applicable to residential area.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

End of Report

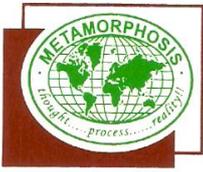
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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Core Zone – MEMC Railway Siding
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 17.06.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
BBH Siding	07191747	IS:9989 -1981	68.4	80.0	71.6	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

End of Report

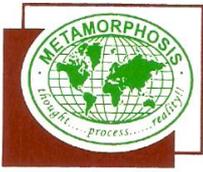
Authorized Signatory

Laboratory Head
Dr. Shanth A. Thimmaiah



TC-5841

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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Buffer Zone – Medikeripura Village
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 14.06.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Medikeripura Village	07191740	IS:9989 -1981	40.0	54.6	49.2	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found within the permissible limits applicable to residential area.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

End of Report

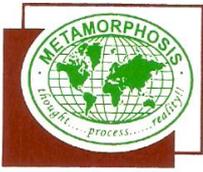
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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Buffer Zone – Tanigehalli Village
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 14.06.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Tanigehalli Village	07191741	IS:9989-1981	51.4	64.6	54.9	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found within the permissible limits applicable to residential area.
Sample Collected By	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru.

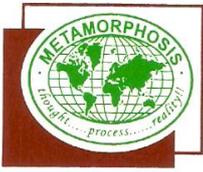
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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Buffer Zone – Konanuru Village
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 14.06.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Konanuru Village	07191750	IS:9989-1981	49.9	55.8	54.7	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found within the permissible limits applicable to residential area.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

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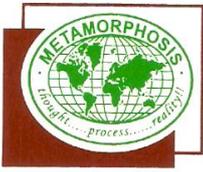
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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Buffer Zone – Sasalu Village
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 14.06.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Sasalu Village	07191751	IS:9989 -1981	46.2	52.6	51.9	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

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INFERENCE	Report Status as per KSPCB Standards: - Values are found within the permissible limits applicable to residential area.
Sample Collected By	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru.

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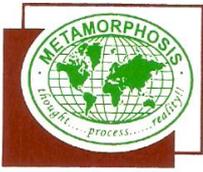
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AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Buffer Zone – Kagalger Village
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 13.06.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Kagalger Village	07191745	IS:9989 -1981	41.5	52.8	47.6	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

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Sample Collected By	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru.

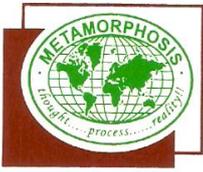
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TEST REPORT

AMBIENT NOISE MEASUREMENT

- Name of the project** : Vedanta Limited Iron Ore Mine (ML:2677)
- Location name** : Buffer Zone – Sirigere village
- Name of the project proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
- Date of Measurement** : 14.06.2019
- Name of instrument** : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
- Date of reporting** : 14.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Sirigere village	07191739	IS:9989 -1981	43.6	54.3	46.5	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found within the permissible limits applicable to residential area.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

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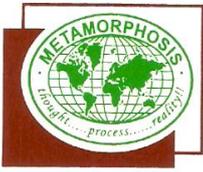
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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Core Zone – Near Loading Area
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 14.06.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.08.219

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Near Loading Area	07191742	IS:9989-1981	70.0	80.0	71.7	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area and ACGIH Noise Threshold Limits.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

End of Report

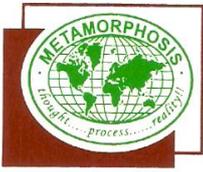
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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Core Zone – Near Stock Area
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 17.06.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Near Stock Area	07191746	IS:9989-1981	60.0	70.0	67.3	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area and ACGIH Noise Threshold Limits.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

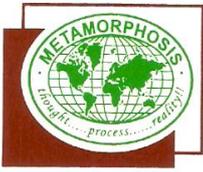
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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Core Zone – Admin Office at Mines
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 17.06.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Admin Office at Mines	07191748	IS:9989 -1981	50.0	62.8	68.6	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area and ACGIH Noise Threshold Limits.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

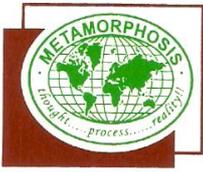
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TEST REPORT

AMBIENT NOISE MEASUREMENT

- Name of the project** : Vedanta Limited Iron Ore Mine (ML:2677)
- Location name** : Core Zone – Haulage Road
- Name of the project proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
- Date of Measurement** : 17.06.2019
- Name of instrument** : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
- Date of reporting** : 14.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Haulage Road	07191749	IS:9989 -1981	60.0	70.0	69.3	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area and ACGIH Noise Threshold Limits.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

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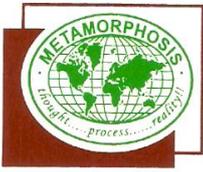
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AMBIENT NOISE MEASUREMENT

- Name of the project** : Vedanta Limited Iron Ore Mine (ML:2677)
- Location name** : Core Zone – Sasalu Office
- Name of the project proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
- Date of Measurement** : 17.06.2019
- Name of instrument** : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
- Date of reporting** : 14.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Sasalu Office	07191752	IS:9989-1981	59.0	68.3	66.4	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area and ACGIH Noise Threshold Limits.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

End of Report

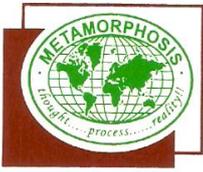
Authorized Signatory

Laboratory Head
Dr. Shanth A. Thimmaiah



TC-5841

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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Core Zone – Crushing Plant
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 17.06.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Crushing Plant	07191753	IS:9989 -1981	69.9	74.4	70.1	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area and ACGIH Noise Threshold Limits.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

End of Report

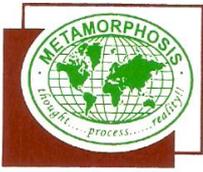
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TEST REPORT

AMBIENT NOISE MEASUREMENT

- Name of the project** : Vedanta Limited Iron Ore Mine (ML:2677)
- Location name** : Core Zone – Near Office Canteen
- Name of the project proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
- Date of Measurement** : 17.06.2019
- Name of instrument** : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
- Date of reporting** : 14.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Near Office Canteen	07191744	IS:9989 -1981	58.9	70.0	63.0	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area and ACGIH Noise Threshold Limits.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

End of Report

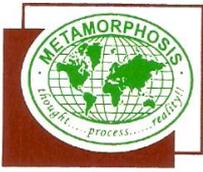
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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Megalahalli Village
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office
Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 29.07.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 17.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Megalahalli Village	08191903	IS:9989 -1981	43.3	56.6	50.7	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found within the permissible limits applicable to residential area.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

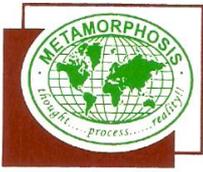
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TEST REPORT

AMBIENT NOISE MEASUREMENT

- Name of the project** : Vedanta Limited Iron Ore Mine (ML:2677)
- Location name** : MEMC Railway Siding
- Name of the project proponent** : M/s. Vedanta Limited, Megalahalli Office
Complex, Bheemasamudra, Chitradurga, Karnataka
- Date of Measurement** : 29.07.2019
- Name of instrument** : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
- Date of reporting** : 17.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
BBH Siding	08191904	IS:9989 -1981	53.0	59.9	56.7	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found within the permissible limits applicable to commercial area.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

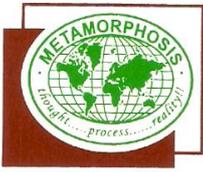
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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Medikeripura Village
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office
Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 29.07.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 17.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Medikeripura Village	08191905	IS:9989 -1981	50.8	57.7	53.5	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to residential area.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

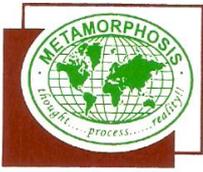
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AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Tenigehalli Village
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office
Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 29.07.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 17.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Tanigehalli Village	08191906	IS:9989 -1981	42.2	59.3	52.6	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found within the permissible limits applicable to residential area.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

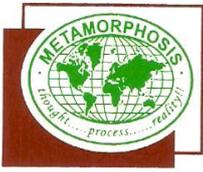
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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Konanuru Village
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office
Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 29.07.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 17.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Konanuru Village	08191907	IS:9989 -1981	36.1	51.8	44.5	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards:- Values are found to be within the permissible limits applicable to residential area.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

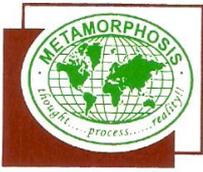
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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Sasalu Village
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office
Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 29.07.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 17.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Sasalu Village	08191908	IS:9989 -1981	48.1	54.1	51.7	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found within the permissible limits applicable to residential area.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

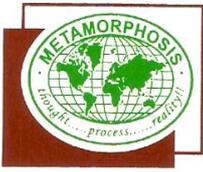
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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Sirigere village
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office
Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 29.07.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 17.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Sirigere village	08191910	IS:9989 -1981	49.1	58.9	52.2	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found within the permissible limits applicable to residential area.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

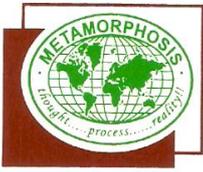
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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Truck Parking area near Circle Gate
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office
Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 29.07.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 17.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Parking area	08191926	IS:9989 -1981	60.0	66.6	63.2	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area and ACGIH Noise Threshold Limits.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

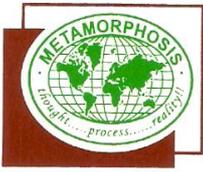
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AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Mine Office
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office
Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 29.07.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 17.08.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Sesa 1	08191925	IS:9989 -1981	52.1	83.2	73.2	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

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Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

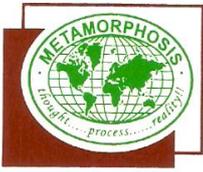
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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Bheemasamudra Village
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office
Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 29.07.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.09.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Bheemasamudra Village	08191909	IS:9989 -1981	49.0	53.3	51.7	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to residential area.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

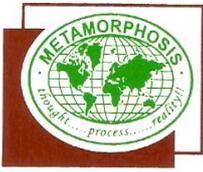
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Authorized Signatory

Laboratory Head
Dr. Shanth A. Thimmaiah



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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Excavator 1 & 2
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office
Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 29.07.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.09.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Excavator - 1	08191911	IS:9989 -1981	58.4	66.8	62.8	-	-	-
Excavator - 2	08191912	IS:9989 -1981	56.9	74.5	63.8	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area and ACGIH Noise Threshold Limits.
Sample Collected By	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru.

End of Report

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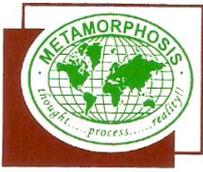
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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Wheel Loader – 1, 2 & 3
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office
Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 29.07.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.09.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Wheel Loader – 1	08191914	IS:9989 - 1981	60.0	76.1	66.8	-	-	-
Wheel Loader – 2	08191915	IS:9989 - 1981	49.5	75.8	67.9	-	-	-
Wheel Loader - 3	08191916	IS:9989 - 1981	71.3	77.7	75.0	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area and ACGIH Noise Threshold Limits.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

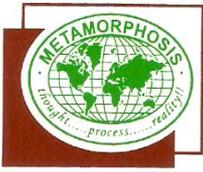
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AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Volvo Trucks – 1 & 2
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office
Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 29.07.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.09.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Volvo Trucks – 1	08191917	IS:9989 -1981	56.0	71.4	62.8	-	-	-
Volvo Trucks - 2	08191918	IS:9989 -1981	59.9	73.7	64.3	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area and ACGIH Noise Threshold Limits.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

End of Report

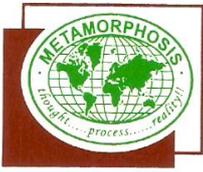
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AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Grader
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office
Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 29.07.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.09.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Grader	08191913	IS:9989 -1981	68.9	82.3	73.0	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area and ACGIH Noise Threshold Limits.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

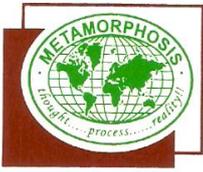
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AMBIENT NOISE MEASUREMENT

- | | |
|----------------------------------|--|
| 1. Name of the project | : Vedanta Limited Iron Ore Mine (ML:2677) |
| 2. Location name | : Ripper / Dozer 1 & 2 |
| 3. Name of the project proponent | : M/s. Vedanta Limited, Megalahalli Office
Complex, Bheemasamudra, Chitradurga, Karnataka |
| 4. Date of Measurement | : 29.07.2019 |
| 5. Name of instrument | : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063. |
| 6. Date of reporting | : 14.09.2019 |

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Ripper / Dozer - 1	08191919	IS:9989 -1981	64.0	78.5	67.9	-	-	-
Ripper / Dozer - 2	08191920	IS:9989 -1981	67.5	81.9	73.9	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area and ACGIH Noise Threshold Limits.
Sample Collected By	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru.

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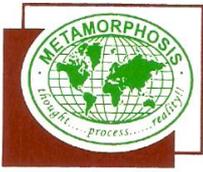
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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : MSP(North Block)
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office
Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 29.07.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.09.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
MSP (North Block)	08191921	IS:9989 -1981	58.5	77.4	68.7	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area and ACGIH Noise Threshold Limits.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

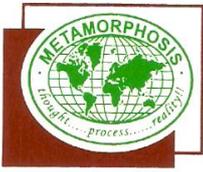
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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : TUP Pump
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office
Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 29.07.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.09.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
TUP Pump	08191922	IS:9989 -1981	57.6	76.1	65.2	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area and ACGIH Noise Threshold Limits.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

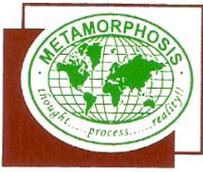
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TEST REPORT

AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Voltas
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 29.07.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.09.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Voltas	08191923	IS:9989-1981	66.2	75.2	70.7	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area and ACGIH Noise Threshold Limits.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

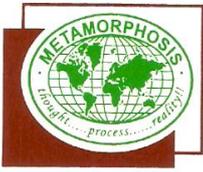
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AMBIENT NOISE MEASUREMENT

3. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
 4. Location name : Fixed Plant - 1
 3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office
 Complex, Bheemasamudra, Chitradurga, Karnataka
 4. Date of Measurement : 29.07.2019
 5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
 6. Date of reporting : 14.09.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
Fixed Plant - 1	08191924	IS:9989 -1981	65.1	72.2	69.6	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area and ACGIH Noise Threshold Limits.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

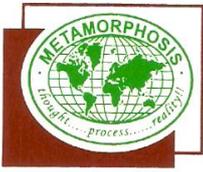
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AMBIENT NOISE MEASUREMENT

1. Name of the project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location name : Weighbridge 5 – 6
3. Name of the project proponent : M/s. Vedanta Limited, Megalahalli Office
Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Measurement : 29.07.2019
5. Name of instrument : Digital sound level meter Lutron SL 4033 SD &SI. No: Q650063.
6. Date of reporting : 14.09.2019

Sampling point	Sample no.	Protocol	Result (dB (A))					
			Day			Night		
			LMin	LMax	Leq	LMin	LMax	Leq
WB 5 – 6	08191927	IS:9989 -1981	53.1	87.8	75.0	-	-	-

Limits in dB (A) Leq			
Area Code	Category of Area/ Zone	Day (6 a.m. to 10 p.m.)	Night (10 p.m. to 6 a. m.)
(A)	Industrial Area	75	70
(B)	Commercial Area	65	55
(C)	Residential Area	55	45
(D)	Sensitive Zone	50	40

ACGIH Noise Threshold Limits										
Duration per Day (Hours)*	16	8	6	4	3	2	1.5	1	0.5	0.25
Sound Level (dBA)	82	85	86	88	89	91	92	94	97	100

Note: The result & inference pertains to the sample tested only and parameters as per the requisition of the client.

INFERENCE	Report Status as per KSPCB Standards: - Values are found to be within the permissible limits applicable to industrial area and ACGIH Noise Threshold Limits.
Sample Collected By	M/s. METAMORPHOSISSM Laboratory Private Limited, Bengaluru.

End of Report

Authorized Signatory

Laboratory Head
Dr. Shanth A. Thimmaiah



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CHENNAI METTEX LAB PRIVATE LIMITED

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

(Approved/Recognized by APEDA, AGMARK, GAFTA, EIC, FSSAI, BIS & MoEF)

Analysis Report for Ground Water Samples

Client: M/s.Vedanta Limited

Report: II A

Project: Chitradurga Mine

Season: Summer - 2019

Date of Collection: 17.05.2019

S. No	Parameters	Sample Code Time of Sampling Units ↓	GWQ -1	GWQ -2	GWQ -3	GWQ -4	GWQ -5	GWQ -6	GWQ -7	GWQ -8	Standard : IS : 10500
			07.15 Hrs	10.20 Hrs	07.40 Hrs	07.50 Hrs	09.35 Hrs	10.00 Hrs	09.20 Hrs	08.00 Hrs	
1	pH	-	7.51	7.86	7.42	7.32	7.42	7.74	7.73	7.54	6.5 to 8.5
2	Turbidity	NTU	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	5
3	Total Dissolved Solids	mg/l	682	512	772	676	596	596	584	786	2000
4	Total Hardness as CaCO ₃	mg/l	298	276	401	360	284	360	326	410	600
5	Calcium as Ca	mg/l	58	52	106	102	52	58	54	102	200
6	Magnesium as Mg	mg/l	37	35	33	26	37	52	46	38	100
7	Total Alkalinity as CaCO ₃	mg/l	290	280	410	356	280	338	270	412	600
8	Fluoride as F	mg/l	0.42	0.30	0.41	0.34	0.32	0.41	0.37	0.41	1.50
9	Chloride as Cl	mg/l	88	104	162	146	122	176	132	232	1000
10	Sulphate as SO ₄	mg/l	19	16	31	24.2	14.3	21	11.2	31.2	400
11	Total Iron as Fe	mg/l	BDL	BDL	BDL	0.04	BDL	0.04	0.04	0.04	1.0
12	Total Suspended Solids	mg/l	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: Bommanagathihalli Village (Tube Well)

GWQ-5: Alaghatta Village (Tube Well)

GWQ-6: Near Office Canteen (Tube Well)

GWQ-7: Near Mines Canteen (Tube Well)

GWQ-8: Tenighahalli (Tube Well)

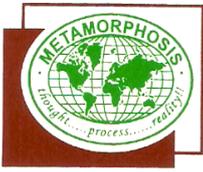
Analyzed and Verified By

1.
S. SRI RENGANATHAN



2.
P. RAVITHA
Technical Manager

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.



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TEST REPORT

ANALYSIS REPORT OF WATER QUALITY

1. **Name of the Project** : Vedanta Limited Iron Ore Mine (ML:2677)
2. **Location Name** : GWQ – 1: Megalahalli village Borewell
3. **Name of Project Proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. **Date of Sampling** : 11.09.2019
5. **Particulars of Sample Collected** : Ground Water
6. **Sample Number** : 09192642
7. **Date of Sample Receipt** : 18.09.2019
8. **Analysis Started On** : 19.09.2019
9. **Date of Reporting** : 17.10.2019

Sr. No.	Parameters	Protocol	Unit	Result	Standard IS 10500: 2012 (2 nd Revision)mdt.1	
					Acceptable Limit	Permissible limit in the absence of alternate source
A. PHYSICAL PARAMETERS						
1.	Colour	IS:3025 (Part 4)	Hazen	2	5	15
2.	pH@ 25 ^o C	IS:3025 (Part 11)	--	8.05	6.5 to 8.5	No Relaxation
3.	Turbidity	IS:3025 (Part 10)	NTU	0.55	1	5
B. CHEMICAL PARAMETERS						
4.	Conductivity@ 25 ^o C	IS:3025 (Part 14)	μS/cm	608.0	Not Specified	Not Specified
5.	Total Dissolved solids	IS:3025 (Part-16)	mg/l	375.2	500	2000
6.	Total Suspended Solids	IS 3025 (Part 17)	mg/l	BDL	Not Specified	Not Specified
7.	Total Hardness as CaCO ₃	IS: 3025 (Part 21)	mg/l	114.3	200	600
8.	Calcium as Ca	IS 3025 (Part 40)	mg/l	74.8	75	200
9.	Magnesium as Mg	IS 3025 (Part 46)	mg/l	19.6	30	100
10.	Total Alkalinity as CaCO ₃	IS:3025 (Part 23)	mg/l	112.8	200	600
11.	Fluorides as F	IS 3025 (Part 60)	mg/l	BDL	1	1.5
12.	Chlorides as Cl	IS:3025 (Part 32)	mg/l	43.3	250	1000
13.	Sulphate as SO ₄	IS 3025 (Part 24)	mg/l	36.3	200	400
14.	Nitrate as NO ₃	IS 3025 (Part 60)	mg/l	2.22	45	No Relaxation
15.	Iron as Fe	IS 3025 (Part 53)	mg/l	0.02	0.3	No Relaxation
C. MICROBIOLOGICAL PARAMETERS						
16.	Coliform organism/100ml*	IS:1622-1981	MPN	ND	Shall not be detected in any 100 ml sample.	
17.	E.Coli Bacteria/100ml*	IS:1622-1981	MPN	ND		

Note : The tests marked with an * are not accredited by NABL. The result & inference pertains to the sample tested only and parameters as per the requisition of the client. BDL: Below Detection Limit; NA: Not Analysed; ND: Not Detected

INFERENCE	As per IS Standards Report Status: All tested parameters are within acceptable limits
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

Authorised Signatory

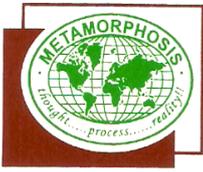
Laboratory Head

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TEST REPORT

ANALYSIS REPORT OF WATER QUALITY

1. **Name of the Project** : Vedanta Limited Iron Ore Mine (ML:2677)
2. **Location Name** : GWQ – 2: MEMC Railway Siding Borewell
3. **Name of Project Proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. **Date of Sampling** : 11.09.2019
5. **Particulars of Sample Collected** : Ground Water
6. **Sample Number** : 09192643
7. **Date of Sample Receipt** : 18.09.2019
8. **Analysis Started On** : 19.09.2019
9. **Date of Reporting** : 17.10.2019

Sr. No.	Parameters	Protocol	Unit	Result	Standard IS 10500: 2012 (2 nd Revision) mdt.1	
					Acceptable Limit	Permissible limit in the absence of alternate source
A. PHYSICAL PARAMETERS						
1.	Colour	IS:3025 (Part 4)	Hazen	2	5	15
2.	pH@ 25 ^o C	IS:3025 (Part 11)	--	8.13	6.5 to 8.5	No Relaxation
3.	Turbidity	IS:3025 (Part 10)	NTU	0.58	1	5
B. CHEMICAL PARAMETERS						
4.	Conductivity@ 25 ^o C	IS:3025 (Part 14)	µS/cm	1043.0	Not Specified	Not Specified
5.	Total Dissolved solids	IS:3025 (Part-16)	mg/l	416.0	500	2000
6.	Total Suspended Solids	IS 3025 (Part 17)	mg/l	BDL	Not Specified	Not Specified
7.	Total Hardness as CaCO ₃	IS: 3025 (Part 21)	mg/l	113.6	200	600
8.	Calcium as Ca	IS 3025 (Part 40)	mg/l	70.5	75	200
9.	Magnesium as Mg	IS 3025 (Part 46)	mg/l	25.6	30	100
10.	Total Alkalinity as CaCO ₃	IS:3025 (Part 23)	mg/l	196.4	200	600
11.	Fluorides as F	IS 3025 (Part 60)	mg/l	BDL	1	1.5
12.	Chlorides as Cl	IS:3025 (Part 32)	mg/l	149.4	250	1000
13.	Sulphate as SO ₄	IS 3025 (Part 24)	mg/l	4.70	200	400
14.	Nitrate as NO ₃	IS 3025 (Part 60)	mg/l	2.44	45	No Relaxation
15.	Iron as Fe	IS 3025 (Part 53)	mg/l	0.01	0.3	No Relaxation
C. MICROBIOLOGICAL PARAMETERS						
16.	Coliform organism/100ml*	IS:1622-1981	MPN	ND	Shall not be detected in any 100 ml sample.	
17.	E.Coli Bacteria/100ml*	IS:1622-1981	MPN	ND		

*Note : The tests marked with an * are not accredited by NABL. The result & inference pertains to the sample tested only and parameters as per the requisition of the client. BDL: Below Detection Limit; NA: Not Analysed; ND: Not Detected*

INFERENCE	As per IS Standards Report Status: All tested parameters are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

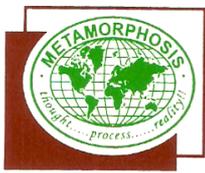
Authorised Signatory

Laboratory Head
Dr. Shanth A. Thimmaiah



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TEST REPORT

ANALYSIS REPORT OF WATER QUALITY

- Name of the Project** : Vedanta Limited Iron Ore Mine (ML:2677)
- Location Name** : GWQ – 3: Medikeripura village Borewell
- Name of Project Proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
- Date of Sampling** : 11.09.2019
- Particulars of Sample Collected** : Ground Water
- Sample Number** : 09192644
- Date of Sample Receipt** : 18.09.2019
- Analysis Started On** : 19.09.2019
- Date of Reporting** : 17.10.2019

Sr. No.	Parameters	Protocol	Unit	Result	Standard IS 10500: 2012 (2 nd Revision) mdt.1	
					Acceptable Limit	Permissible limit in the absence of alternate source
A. PHYSICAL PARAMETERS						
1.	Colour	IS:3025 (Part 4)	Hazen	3	5	15
2.	pH@ 25°C	IS:3025 (Part 11)	--	7.42	6.5 to 8.5	No Relaxation
3.	Turbidity	IS:3025 (Part 10)	NTU	0.45	1	5
B. CHEMICAL PARAMETERS						
4.	Conductivity@ 25°C	IS:3025 (Part 14)	µS/cm	197.1	Not Specified	Not Specified
5.	Total Dissolved solids	IS:3025 (Part-16)	mg/l	140.0	500	2000
6.	Total Suspended Solids	IS 3025 (Part 17)	mg/l	BDL	Not Specified	Not Specified
7.	Total Hardness as CaCO ₃	IS: 3025 (Part 21)	mg/l	141.1	200	600
8.	Calcium as Ca	IS 3025 (Part 40)	mg/l	44.4	75	200
9.	Magnesium as Mg	IS 3025 (Part 46)	mg/l	7.35	30	100
10.	Total Alkalinity as CaCO ₃	IS:3025 (Part 23)	mg/l	72.2	200	600
11.	Fluorides as F	IS 3025 (Part 60)	mg/l	BDL	1	1.5
12.	Chlorides as Cl	IS:3025 (Part 32)	mg/l	24.1	250	1000
13.	Sulphate as SO ₄	IS 3025 (Part 24)	mg/l	23.1	200	400
14.	Nitrate as NO ₃	IS 3025 (Part 60)	mg/l	0.69	45	No Relaxation
15.	Iron as Fe	IS 3025 (Part 53)	mg/l	0.03	0.3	No Relaxation
C. MICROBIOLOGICAL PARAMETERS						
16.	Coliform organism/100ml*	IS:1622-1981	MPN	ND	Shall not be detected in any 100 ml sample.	
17.	E.Coli Bacteria/100ml*	IS:1622-1981	MPN	ND		

*Note : The tests marked with an * are not accredited by NABL. The result & inference pertains to the sample tested only and parameters as per the requisition of the client. BDL: Below Detection Limit; NA: Not Analysed; ND: Not Detected*

INFERENCE	As per IS Standards Report Status: All tested parameters are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

Authorised Signatory

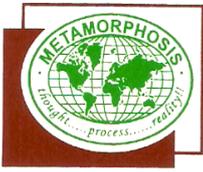
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TEST REPORT

ANALYSIS REPORT OF WATER QUALITY

1. **Name of the Project** : Vedanta Limited Iron Ore Mine (ML:2677)
2. **Location Name** : GWQ – 3: Alaghatta village Borewell
3. **Name of Project Proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. **Date of Sampling** : 11.09.2019
5. **Particulars of Sample Collected** : Ground Water
6. **Sample Number** : 09192645
7. **Date of Sample Receipt** : 18.09.2019
8. **Analysis Started On** : 19.09.2019
9. **Date of Reporting** : 17.10.2019

Sr. No.	Parameters	Protocol	Unit	Result	Standard IS 10500: 2012 (2 nd Revision)mdt.1	
					Acceptable Limit	Permissible limit in the absence of alternate source
A.	PHYSICAL PARAMETERS					
1.	Colour	IS:3025 (Part 4)	Hazen	3	5	15
2.	pH@ 25 ^o C	IS:3025 (Part 11)	--	8.17	6.5 to 8.5	No Relaxation
3.	Turbidity	IS:3025 (Part 10)	NTU	0.64	1	5
B.	CHEMICAL PARAMETERS					
4.	Conductivity@ 25 ^o C	IS:3025 (Part 14)	μS/cm	1060.0	Not Specified	Not Specified
5.	Total Dissolved solids	IS:3025 (Part-16)	mg/l	448.0	500	2000
6.	Total Suspended Solids	IS 3025 (Part 17)	mg/l	BDL	Not Specified	Not Specified
7.	Total Hardness as CaCO ₃	IS: 3025 (Part 21)	mg/l	114.3	200	600
8.	Calcium as Ca	IS 3025 (Part 40)	mg/l	68.8	75	200
9.	Magnesium as Mg	IS 3025 (Part 46)	mg/l	28.3	30	100
10.	Total Alkalinity as CaCO ₃	IS:3025 (Part 23)	mg/l	104.0	200	600
11.	Fluorides as F	IS 3025 (Part 60)	mg/l	BDL	1	1.5
12.	Chlorides as Cl	IS:3025 (Part 32)	mg/l	144.6	250	1000
13.	Sulphate as SO ₄	IS 3025 (Part 24)	mg/l	17.6	200	400
14.	Nitrate as NO ₃	IS 3025 (Part 60)	mg/l	4.51	45	No Relaxation
15.	Iron as Fe	IS 3025 (Part 53)	mg/l	0.015	0.3	No Relaxation
C.	MICROBIOLOGICAL PARAMETERS					
16.	Coliform organism/100ml*	IS:1622-1981	MPN	ND	Shall not be detected in any 100 ml sample.	
17.	E.Coli Bacteria/100ml*	IS:1622-1981	MPN	ND		

*Note : The tests marked with an * are not accredited by NABL. The result & inference pertains to the sample tested only and parameters as per the requisition of the client. BDL: Below Detection Limit; NA: Not Analysed; ND: Not Detected*

INFERENCE	As per IS Standards Report Status: All tested parameters are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

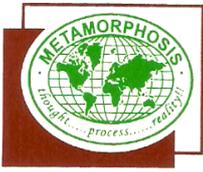
Authorised Signatory

Laboratory Head
Dr. Shanth A. Thimmaiah



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TEST REPORT

ANALYSIS REPORT OF WATER QUALITY

1. **Name of the Project** : Vedanta Limited Iron Ore Mine (ML:2677)
2. **Location Name** : GWQ – 6: Bore well situated near Office Canteen
3. **Name of Project Proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. **Date of Sampling** : 11.09.2019
5. **Particulars of Sample Collected** : Ground Water
6. **Sample Number** : 09192646
7. **Date of Sample Receipt** : 18.09.2019
8. **Analysis Started On** : 19.09.2019
9. **Date of Reporting** : 17.10.2019

Sr. No.	Parameters	Protocol	Unit	Result	Standard IS 10500: 2012 (2 nd Revision)mdt.1	
					Acceptable Limit	Permissible limit in the absence of alternate source
A. PHYSICAL PARAMETERS						
1.	Colour	IS:3025 (Part 4)	Hazen	2	5	15
2.	pH@ 25°C	IS:3025 (Part 11)	--	8.14	6.5 to 8.5	No Relaxation
3.	Turbidity	IS:3025 (Part 10)	NTU	0.66	1	5
B. CHEMICAL PARAMETERS						
4.	Conductivity@ 25°C	IS:3025 (Part 14)	µS/cm	1005.0	Not Specified	Not Specified
5.	Total Dissolved solids	IS:3025 (Part-16)	mg/l	444.0	500	2000
6.	Total Suspended Solids	IS 3025 (Part 17)	mg/l	BDL	Not Specified	Not Specified
7.	Total Hardness as CaCO ₃	IS: 3025 (Part 21)	mg/l	113.1	200	600
8.	Calcium as Ca	IS 3025 (Part 40)	mg/l	74.6	75	200
9.	Magnesium as Mg	IS 3025 (Part 46)	mg/l	23.8	30	100
10.	Total Alkalinity as CaCO ₃	IS:3025 (Part 23)	mg/l	123.2	200	600
11.	Fluorides as F	IS 3025 (Part 60)	mg/l	BDL	1	1.5
12.	Chlorides as Cl	IS:3025 (Part 32)	mg/l	225.3	250	1000
13.	Sulphate as SO ₄	IS 3025 (Part 24)	mg/l	16.9	200	400
14.	Nitrate as NO ₃	IS 3025 (Part 60)	mg/l	1.39	45	No Relaxation
15.	Iron as Fe	IS 3025 (Part 53)	mg/l	0.02	0.3	No Relaxation
C. MICROBIOLOGICAL PARAMETERS						
16.	Coliform organism/100ml*	IS:1622-1981	MPN	ND	Shall not be detected in any 100 ml sample.	
17.	E.Coli Bacteria/100ml*	IS:1622-1981	MPN	ND		

*Note: The tests marked with an * are not accredited by NABL. The result & inference pertains to the sample tested only and parameters as per the requisition of the client. BDL: Below Detection Limit; NA: Not Analysed; ND: Not Detected*

INFERENCE	As per IS Standards Report Status: .All tested parameters are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

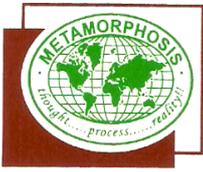
Authorised Signatory

Laboratory Head
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TEST REPORT

ANALYSIS REPORT OF WATER QUALITY

1. **Name of the Project** : Vedanta Limited Iron Ore Mine (ML:2677)
2. **Location Name** : GWQ – 6: Bore well situated near Mines Canteen
3. **Name of Project Proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. **Date of Sampling** : 11.09.2019
5. **Particulars of Sample Collected** : Ground Water
6. **Sample Number** : 09192647
7. **Date of Sample Receipt** : 18.09.2019
8. **Analysis Started On** : 19.09.2019
9. **Date of Reporting** : 17.10.2019

Sr. No.	Parameters	Protocol	Unit	Result	Standard IS 10500: 2012 (2 nd Revision)/mdt.1	
					Acceptable Limit	Permissible limit in the absence of alternate source
A. PHYSICAL PARAMETERS						
1.	Colour	IS:3025 (Part 4)	Hazen	3	5	15
2.	pH@ 25 ^o C	IS:3025 (Part 11)	--	8.11	6.5 to 8.5	No Relaxation
3.	Turbidity	IS:3025 (Part 10)	NTU	0.57	1	5
B. CHEMICAL PARAMETERS						
4.	Conductivity@ 25 ^o C	IS:3025 (Part 14)	µS/cm	991.0	Not Specified	Not Specified
5.	Total Dissolved solids	IS:3025 (Part-16)	mg/l	236.7	500	2000
6.	Total Suspended Solids	IS 3025 (Part 17)	mg/l	BDL	Not Specified	Not Specified
7.	Total Hardness as CaCO ₃	IS: 3025 (Part 21)	mg/l	108.7	200	600
8.	Calcium as Ca	IS 3025 (Part 40)	mg/l	69.8	75	200
9.	Magnesium as Mg	IS 3025 (Part 46)	mg/l	24.9	30	100
10.	Total Alkalinity as CaCO ₃	IS:3025 (Part 23)	mg/l	142.0	200	600
11.	Fluorides as F	IS 3025 (Part 60)	mg/l	BDL	1	1.5
12.	Chlorides as Cl	IS:3025 (Part 32)	mg/l	125.3	250	1000
13.	Sulphate as SO ₄	IS 3025 (Part 24)	mg/l	13.7	200	400
14.	Nitrate as NO ₃	IS 3025 (Part 60)	mg/l	0.83	45	No Relaxation
15.	Iron as Fe	IS 3025 (Part 53)	mg/l	0.03	0.3	No Relaxation
C. MICROBIOLOGICAL PARAMETERS						
16.	Coliform organism/100ml*	IS:1622-1981	MPN	ND	Shall not be detected in any 100 ml sample.	
17.	E.Coli Bacteria/100ml*	IS:1622-1981	MPN	ND		

*Note : The tests marked with an * are not accredited by NABL. The result & inference pertains to the sample tested only and parameters as per the requisition of the client. BDL: Below Detection Limit; NA: Not Analysed; ND: Not Detected*

INFERENCE	As per IS Standards Report Status: All tested parameters are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

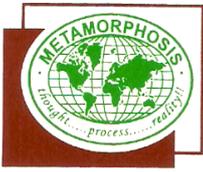
Authorised Signatory

Laboratory Head
Dr. Shanth A. Thimmaiah



TC-5841

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TEST REPORT

ANALYSIS REPORT OF WATER QUALITY

1. **Name of the Project** : Vedanta Limited Iron Ore Mine (ML:2677)
2. **Location Name** : GWQ – 8: Admin RO Water
3. **Name of Project Proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. **Date of Sampling** : 11.09.2019
5. **Particulars of Sample Collected** : Ground Water
6. **Sample Number** : 09192648
7. **Date of Sample Receipt** : 18.09.2019
8. **Analysis Started On** : 19.09.2019
9. **Date of Reporting** : 17.10.2019

Sr. No.	Parameters	Protocol	Unit	Result	Standard IS 10500: 2012 (2 nd Revision)mdt.1	
					Acceptable Limit	Permissible limit in the absence of alternate source
A. PHYSICAL PARAMETERS						
1.	Colour	IS:3025 (Part 4)	Hazen	2	5	15
2.	pH@ 25°C	IS:3025 (Part 11)	--	7.37	6.5 to 8.5	No Relaxation
3.	Turbidity	IS:3025 (Part 10)	NTU	0.49	1	5
B. CHEMICAL PARAMETERS						
4.	Conductivity@ 25°C	IS:3025 (Part 14)	µS/cm	130.1	Not Specified	Not Specified
5.	Total Dissolved solids	IS:3025 (Part-16)	mg/l	74.0	500	2000
6.	Total Suspended Solids	IS 3025 (Part 17)	mg/l	BDL	Not Specified	Not Specified
7.	Total Hardness as CaCO ₃	IS: 3025 (Part 21)	mg/l	100.8	200	600
8.	Calcium as Ca	IS 3025 (Part 40)	mg/l	28.2	75	200
9.	Magnesium as Mg	IS 3025 (Part 46)	mg/l	7.35	30	100
10.	Total Alkalinity as CaCO ₃	IS:3025 (Part 23)	mg/l	53.2	200	600
11.	Fluorides as F	IS 3025 (Part 60)	mg/l	0.23	1	1.5
12.	Chlorides as Cl	IS:3025 (Part 32)	mg/l	19.28	250	1000
13.	Sulphate as SO ₄	IS 3025 (Part 24)	mg/l	0.70	200	400
14.	Nitrate as NO ₃	IS 3025 (Part 60)	mg/l	2.46	45	No Relaxation
15.	Iron as Fe	IS 3025 (Part 53)	mg/l	0.015	0.3	No Relaxation
C. MICROBIOLOGICAL PARAMETERS						
16.	Coliform organism/100ml*	IS:1622-1981	MPN	ND	Shall not be detected in any 100 ml sample.	
17.	E.Coli Bacteria/100ml*	IS:1622-1981	MPN	ND		

*Note : The tests marked with an * are not accredited by NABL. The result & inference pertains to the sample tested only and parameters as per the requisition of the client. BDL: Below Detection Limit; NA: Not Analysed; ND: Not Detected*

INFERENCE	As per IS Standards Report Status: All tested parameters are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

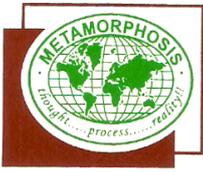
Authorised Signatory

Laboratory Head
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TEST REPORT

ANALYSIS REPORT OF WATER QUALITY

- | | |
|------------------------------------|---|
| 1. Name of the Project | : Vedanta Limited Iron Ore Mine (ML:2677) |
| 2. Location Name | : GWQ – 9: Mine Office RO Treated Water |
| 3. Name of Project Proponent | : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka |
| 4. Date of Sampling | : 11.09.2019 |
| 5. Particulars of Sample Collected | : Ground Water |
| 6. Sample Number | : 09192649 |
| 7. Date of Sample Receipt | : 18.09.2019 |
| 8. Analysis Started On | : 19.09.2019 |
| 9. Date of Reporting | : 17.10.2019 |

Sr. No.	Parameters	Protocol	Unit	Result	Standard IS 10500: 2012 (2 nd Revision) mdt.1	
					Acceptable Limit	Permissible limit in the absence of alternate source
A. PHYSICAL PARAMETERS						
1.	Colour	IS:3025 (Part 4)	Hazen	1	5	15
2.	pH@ 25 ^o C	IS:3025 (Part 11)	--	7.15	6.5 to 8.5	No Relaxation
3.	Turbidity	IS:3025 (Part 10)	NTU	0.72	1	5
B. CHEMICAL PARAMETERS						
4.	Conductivity@ 25 ^o C	IS:3025 (Part 14)	μS/cm	133.8	Not Specified	Not Specified
5.	Total Dissolved solids	IS:3025 (Part-16)	mg/l	84.4	500	2000
6.	Total Suspended Solids	IS 3025 (Part 17)	mg/l	BDL	Not Specified	Not Specified
7.	Total Hardness as CaCO ₃	IS: 3025 (Part 21)	mg/l	70.5	200	600
8.	Calcium as Ca	IS 3025 (Part 40)	mg/l	24.2	75	200
9.	Magnesium as Mg	IS 3025 (Part 46)	mg/l	4.90	30	100
10.	Total Alkalinity as CaCO ₃	IS:3025 (Part 23)	mg/l	38.0	200	600
11.	Fluorides as F	IS 3025 (Part 60)	mg/l	0.35	1	1.5
12.	Chlorides as Cl	IS:3025 (Part 32)	mg/l	28.9	250	1000
13.	Sulphate as SO ₄	IS 3025 (Part 24)	mg/l	12.0	200	400
14.	Nitrate as NO ₃	IS 3025 (Part 60)	mg/l	0.43	45	No Relaxation
15.	Iron as Fe	IS 3025 (Part 53)	mg/l	0.01	0.3	No Relaxation
C. MICROBIOLOGICAL PARAMETERS						
16.	Coliform organism/100ml*	IS:1622-1981	MPN	ND	Shall not be detected in any 100 ml sample.	
17.	E.Coli Bacteria/100ml*	IS:1622-1981	MPN	ND		

Note : The tests marked with an * are not accredited by NABL. The result & inference pertains to the sample tested only and parameters as per the requisition of the client. BDL: Below Detection Limit; NA: Not Analysed; ND: Not Detected

INFERENCE	As per IS Standards Report Status: All tested parameters are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

Authorised Signatory

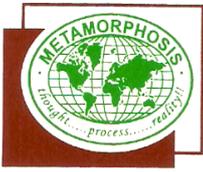
Laboratory Head

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\TEST REPORT

ANALYSIS REPORT OF WATER QUALITY

1. Name of the Project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location Name : GWQ – 5: Bommanagathihalli Village Bore well
3. Name of Project Proponent : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Sampling : 11.09.2019
5. Particulars of Sample Collected : Ground Water
6. Sample Number : 09192650
7. Date of Sample Receipt : 18.09.2019
8. Analysis Started On : 19.09.2019
9. Date of Reporting : 17.10.2019

Sr. No.	Parameters	Protocol	Unit	Result	Standard IS 10500: 2012 (2 nd Revision)mdt.1	
					Acceptable Limit	Permissible limit in the absence of alternate source
A. PHYSICAL PARAMETERS						
1.	Colour	IS:3025 (Part 4)	Hazen	1	5	15
2.	pH@ 25 ^o C	IS:3025 (Part 11)	--	7.56	6.5 to 8.5	No Relaxation
3.	Turbidity	IS:3025 (Part 10)	NTU	0.87	1	5
B. CHEMICAL PARAMETERS						
4.	Conductivity@ 25 ^o C	IS:3025 (Part 14)	μS/cm	205.0	Not Specified	Not Specified
5.	Total Dissolved solids	IS:3025 (Part-16)	mg/l	164.4	500	2000
6.	Total Suspended Solids	IS 3025 (Part 17)	mg/l	BDL	Not Specified	Not Specified
7.	Total Hardness as CaCO ₃	IS: 3025 (Part 21)	mg/l	151.2	200	600
8.	Calcium as Ca	IS 3025 (Part 40)	mg/l	40.4	75	200
9.	Magnesium as Mg	IS 3025 (Part 46)	mg/l	12.2	30	100
10.	Total Alkalinity as CaCO ₃	IS:3025 (Part 23)	mg/l	87.4	200	600
11.	Fluorides as F	IS 3025 (Part 60)	mg/l	BDL	1	1.5
12.	Chlorides as Cl	IS:3025 (Part 32)	mg/l	24.1	250	1000
13.	Sulphate as SO ₄	IS 3025 (Part 24)	mg/l	20.6	200	400
14.	Nitrate as NO ₃	IS 3025 (Part 60)	mg/l	0.73	45	No Relaxation
15.	Iron as Fe	IS 3025 (Part 53)	mg/l	0.02	0.3	No Relaxation
C. MICROBIOLOGICAL PARAMETERS						
16.	Coliform organism/100ml*	IS:1622-1981	MPN	ND	Shall not be detected in any 100 ml sample.	
17.	E.Coli Bacteria/100ml*	IS:1622-1981	MPN	ND		

Note : The tests marked with an * are not accredited by NABL. The result & inference pertains to the sample tested only and parameters as per the requisition of the client. BDL: Below Detection Limit; NA: Not Analysed; ND: Not Detected

INFERENCE	As per IS Standards Report Status: All tested parameters are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

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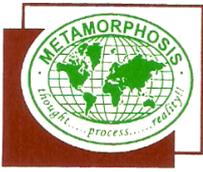
Laboratory Head

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TEST REPORT

ANALYSIS REPORT OF WATER QUALITY

- Name of the Project** : Vedanta Limited Iron Ore Mine (ML:2677)
- Location Name** : GWQ : New Bore Hole - 1
- Name of Project Proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
- Date of Sampling** : 11.09.2019
- Particulars of Sample Collected** : Ground Water
- Sample Number** : 09192651
- Date of Sample Receipt** : 18.09.2019
- Analysis Started On** : 19.09.2019
- Date of Reporting** : 17.10.2019

Sr. No.	Parameters	Protocol	Unit	Result	Standard IS 10500: 2012 (2 nd Revision) mdt.1	
					Acceptable Limit	Permissible limit in the absence of alternate source
A. PHYSICAL PARAMETERS						
1.	Colour	IS:3025 (Part 4)	Hazen	2	5	15
2.	pH@ 25°C	IS:3025 (Part 11)	--	8.02	6.5 to 8.5	No Relaxation
3.	Turbidity	IS:3025 (Part 10)	NTU	0.62	1	5
B. CHEMICAL PARAMETERS						
4.	Conductivity@ 25°C	IS:3025 (Part 14)	µS/cm	1108.0	Not Specified	Not Specified
5.	Total Dissolved solids	IS:3025 (Part-16)	mg/l	365.7	500	2000
6.	Total Suspended Solids	IS 3025 (Part 17)	mg/l	BDL	Not Specified	Not Specified
7.	Total Hardness as CaCO ₃	IS: 3025 (Part 21)	mg/l	107.2	200	600
8.	Calcium as Ca	IS 3025 (Part 40)	mg/l	66.8	75	200
9.	Magnesium as Mg	IS 3025 (Part 46)	mg/l	26.4	30	100
10.	Total Alkalinity as CaCO ₃	IS:3025 (Part 23)	mg/l	185.0	200	600
11.	Fluorides as F	IS 3025 (Part 60)	mg/l	BDL	1	1.5
12.	Chlorides as Cl	IS:3025 (Part 32)	mg/l	110.8	250	1000
13.	Sulphate as SO ₄	IS 3025 (Part 24)	mg/l	15.6	200	400
14.	Nitrate as NO ₃	IS 3025 (Part 60)	mg/l	0.91	45	No Relaxation
15.	Iron as Fe	IS 3025 (Part 53)	mg/l	0.01	0.3	No Relaxation
C. MICROBIOLOGICAL PARAMETERS						
16.	Coliform organism/100ml*	IS:1622-1981	MPN	ND	Shall not be detected in any 100 ml sample.	
17.	E.Coli Bacteria/100ml*	IS:1622-1981	MPN	ND		

*Note : The tests marked with an * are not accredited by NABL. The result & inference pertains to the sample tested only and parameters as per the requisition of the client. BDL: Below Detection Limit; NA: Not Analysed; ND: Not Detected*

INFERENCE	As per IS Standards Report Status: All tested parameters are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

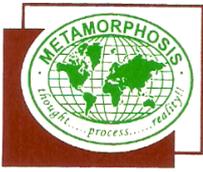
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Laboratory Head
Dr. Shanth A. Thimmaiah



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TEST REPORT

ANALYSIS REPORT OF WATER QUALITY

- Name of the Project** : Vedanta Limited Iron Ore Mine (ML:2677)
- Location Name** : GWQ : New Bore Hole - 3
- Name of Project Proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
- Date of Sampling** : 11.09.2019
- Particulars of Sample Collected** : Ground Water
- Sample Number** : 09192652
- Date of Sample Receipt** : 18.09.2019
- Analysis Started On** : 19.09.2019
- Date of Reporting** : 17.10.2019

Sr. No.	Parameters	Protocol	Unit	Result	Standard IS 10500: 2012 (2 nd Revision) mdt.1	
					Acceptable Limit	Permissible limit in the absence of alternate source
A. PHYSICAL PARAMETERS						
1.	Colour	IS:3025 (Part 4)	Hazen	1	5	15
2.	pH@ 25°C	IS:3025 (Part 11)	--	8.12	6.5 to 8.5	No Relaxation
3.	Turbidity	IS:3025 (Part 10)	NTU	0.46	1	5
B. CHEMICAL PARAMETERS						
4.	Conductivity@ 25°C	IS:3025 (Part 14)	µS/cm	911.0	Not Specified	Not Specified
5.	Total Dissolved solids	IS:3025 (Part-16)	mg/l	379.4	500	2000
6.	Total Suspended Solids	IS 3025 (Part 17)	mg/l	BDL	Not Specified	Not Specified
7.	Total Hardness as CaCO ₃	IS: 3025 (Part 21)	mg/l	116.8	200	600
8.	Calcium as Ca	IS 3025 (Part 40)	mg/l	72.6	75	200
9.	Magnesium as Mg	IS 3025 (Part 46)	mg/l	28.2	30	100
10.	Total Alkalinity as CaCO ₃	IS:3025 (Part 23)	mg/l	165.2	200	600
11.	Fluorides as F	IS 3025 (Part 60)	mg/l	BDL	1	1.5
12.	Chlorides as Cl	IS:3025 (Part 32)	mg/l	91.6	250	1000
13.	Sulphate as SO ₄	IS 3025 (Part 24)	mg/l	10.6	200	400
14.	Nitrate as NO ₃	IS 3025 (Part 60)	mg/l	1.26	45	No Relaxation
15.	Iron as Fe	IS 3025 (Part 53)	mg/l	0.015	0.3	No Relaxation
C. MICROBIOLOGICAL PARAMETERS						
16.	Coliform organism/100ml*	IS:1622-1981	MPN	ND	Shall not be detected in any 100 ml sample.	
17.	E.Coli Bacteria/100ml*	IS:1622-1981	MPN	ND		

Note : The tests marked with an * are not accredited by NABL. The result & inference pertains to the sample tested only and parameters as per the requisition of the client. BDL: Below Detection Limit; NA: Not Analysed; ND: Not Detected

INFERENCE	As per IS Standards Report Status: All tested parameters are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

Authorised Signatory

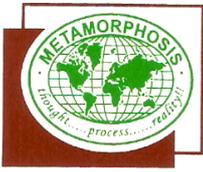
Laboratory Head

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TEST REPORT

ANALYSIS REPORT OF WATER QUALITY

1. Name of the Project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location Name : GWQ : New Bore Hole - 4
3. Name of Project Proponent : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Sampling : 11.09.2019
5. Particulars of Sample Collected : Ground Water
6. Sample Number : 09192653
7. Date of Sample Receipt : 18.09.2019
8. Analysis Started On : 19.09.2019
9. Date of Reporting : 17.10.2019

Sr. No.	Parameters	Protocol	Unit	Result	Standard IS 10500: 2012 (2 nd Revision) mdt.1	
					Acceptable Limit	Permissible limit in the absence of alternate source
A. PHYSICAL PARAMETERS						
1.	Colour	IS:3025 (Part 4)	Hazen	3	5	15
2.	pH@ 25°C	IS:3025 (Part 11)	--	8.21	6.5 to 8.5	No Relaxation
3.	Turbidity	IS:3025 (Part 10)	NTU	0.5	1	5
B. CHEMICAL PARAMETERS						
4.	Conductivity@ 25°C	IS:3025 (Part 14)	µS/cm	1076.0	Not Specified	Not Specified
5.	Total Dissolved solids	IS:3025 (Part-16)	mg/l	412.0	500	2000
6.	Total Suspended Solids	IS 3025 (Part 17)	mg/l	BDL	Not Specified	Not Specified
7.	Total Hardness as CaCO ₃	IS: 3025 (Part 21)	mg/l	109.4	200	600
8.	Calcium as Ca	IS 3025 (Part 40)	mg/l	65.4	75	200
9.	Magnesium as Mg	IS 3025 (Part 46)	mg/l	24.9	30	100
10.	Total Alkalinity as CaCO ₃	IS:3025 (Part 23)	mg/l	156.0	200	600
11.	Fluorides as F	IS 3025 (Part 60)	mg/l	BDL	1	1.5
12.	Chlorides as Cl	IS:3025 (Part 32)	mg/l	134.9	250	1000
13.	Sulphate as SO ₄	IS 3025 (Part 24)	mg/l	12.4	200	400
14.	Nitrate as NO ₃	IS 3025 (Part 60)	mg/l	1.02	45	No Relaxation
15.	Iron as Fe	IS 3025 (Part 53)	mg/l	0.025	0.3	No Relaxation
C. MICROBIOLOGICAL PARAMETERS						
16.	Coliform organism/100ml*	IS:1622-1981	MPN	ND	Shall not be detected in any 100 ml sample.	
17.	E.Coli Bacteria/100ml*	IS:1622-1981	MPN	ND		

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INFERENCE	As per IS Standards Report Status: All tested parameters are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

Authorised Signatory

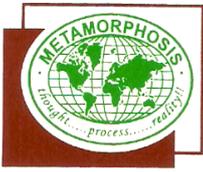
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TEST REPORT

ANALYSIS REPORT OF WATER QUALITY

- Name of the Project** : Vedanta Limited Iron Ore Mine (ML:2677)
- Location Name** : SWQ - 1: Megalahalli village Pond
- Name of Project Proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
- Date of Sampling** : 11.09.2019
- Particulars of Sample Collected** : Surface Water
- Sample Number** : 09192654
- Date of Sample Receipt** : 18.09.2019
- Analysis Started On** : 19.09.2019
- Date of Reporting** : 17.10.2019

Sr. No.	Parameters	Protocol	Unit	Result	Standards for discharge of environmental pollutants into Inland Surface Water [Schedule-VI] G.S.R.422 (E) dated 19.05.1993
1.	pH@ 25 ⁰ C	IS:3025 (Part 11)	--	7.43	5.5 to 9.0
2.	Total Suspended Solids	IS 3025 (Part 17)	mg/l	44.8	50 (non-rainy day) / 100 (rainy day) (as per G.S.R.209(E) dated 4.10.2010)
3.	Manganese as Mn*	IS 3025 (Part 59)	mg/l	NA	2.0
4.	Oil and Grease	IS3025 (part 39): 1988 (reaffirmed 2009)	mg/l	5.8	10
5.	Total Iron as Fe	IS 3025 (Part 53)	mg/l	0.33	3.0
6.	E.Coli Bacteria/100ml*	IS:1622-1981	MPN	ND	Shall not be detected in any 100 ml sample.

*Note : The tests marked with an * are not accredited by NABL. The result & inference pertains to the sample tested only and parameters as per the requisition of the client. BDL: Below Detection Limit; NA: Not Analysed; ND: Not Detected*

INFERENCE	As per [Schedule-VI] G.S.R.422 (E) dated 19.05.1993 and/or G.S.R. 209(E) dated 4.10.2010 Standards Report Status: All the tested parameters are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

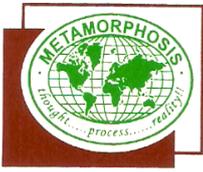
Authorised Signatory

Laboratory Head
Dr. Shanth A. Thimmaiah



TC-5841

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TEST REPORT

ANALYSIS REPORT OF WATER QUALITY

1. Name of the Project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location Name : SWQ - 6: D – Medikeripura Tank
3. Name of Project Proponent : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Sampling : 11.09.2019
5. Particulars of Sample Collected : Surface Water
6. Sample Number : 09192655
7. Date of Sample Receipt : 18.09.2019
8. Analysis Started On : 19.09.2019
9. Date of Reporting : 17.10.2019

Sr. No.	Parameters	Protocol	Unit	Result	Standards for discharge of environmental pollutants into Inland Surface Water [Schedule-VI] G.S.R.422 (E) dated 19.05.1993
1.	pH@ 25 ⁰ C	IS:3025 (Part 11)	--	7.68	5.5 to 9.0
2.	Total Suspended Solids	IS 3025 (Part 17)	mg/l	37.4	50 (non-rainy day) / 100 (rainy day) (as per G.S.R.209(E) dated 4.10.2010)
3.	Manganese as Mn*	IS 3025 (Part 59)	mg/l	NA	2.0
4.	Oil and Grease	IS3025 (part 39): 1988 (reaffirmed 2009)	mg/l	6.5	10
5.	Total Iron as Fe	IS 3025 (Part 53)	mg/l	0.20	3.0
6.	E.Coli Bacteria/100ml*	IS:1622-1981	MPN	ND	Shall not be detected in any 100 ml sample.

Note : The tests marked with an * are not accredited by NABL. The result & inference pertains to the sample tested only and parameters as per the requisition of the client. BDL: Below Detection Limit; NA: Not Analysed; ND: Not Detected

INFERENCE	As per [Schedule-VI] G.S.R.422 (E) dated 19.05.1993 and/or G.S.R. 209(E) dated 4.10.2010 Standards Report Status: All the tested parameters are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

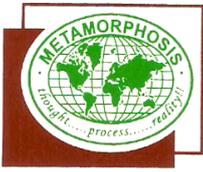
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TEST REPORT

ANALYSIS REPORT OF WATER QUALITY

- Name of the Project** : Vedanta Limited Iron Ore Mine (ML:2677)
- Location Name** : SWQ - 5: Mines Water (CDL - 1)
- Name of Project Proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
- Date of Sampling** : 11.09.2019
- Particulars of Sample Collected** : Surface Water
- Sample Number** : 09192656
- Date of Sample Receipt** : 18.09.2019
- Analysis Started On** : 19.09.2019
- Date of Reporting** : 17.10.2019

Sr. No.	Parameters	Protocol	Unit	Result	Standards for discharge of environmental pollutants into Inland Surface Water [Schedule-VI] G.S.R.422 (E) dated 19.05.1993
1.	pH@ 25 ^o C	IS:3025 (Part 11)	--	7.85	5.5 to 9.0
2.	Total Suspended Solids	IS 3025 (Part 17)	mg/l	BDL	50 (non-rainy day) / 100 (rainy day) (as per G.S.R.209(E) dated 4.10.2010)
3.	Manganese as Mn*	IS 3025 (Part 59)	mg/l	NA	2.0
4.	Oil and Grease	IS3025 (part 39): 1988 (reaffirmed 2009)	mg/l	8.2	10
5.	Total Iron as Fe	IS 3025 (Part 53)	mg/l	0.39	3.0
6.	E.Coli Bacteria/100ml*	IS:1622-1981	MPN	ND	Shall not be detected in any 100 ml sample.

*Note : The tests marked with an * are not accredited by NABL. The result & inference pertains to the sample tested only and parameters as per the requisition of the client. BDL: Below Detection Limit; NA: Not Analysed; ND: Not Detected*

INFERENCE	As per [Schedule-VI] G.S.R.422 (E) dated 19.05.1993 and/or G.S.R. 209(E) dated 4.10.2010 Standards Report Status: All the tested parameters are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

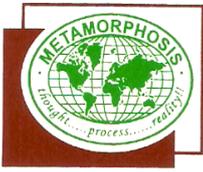
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TEST REPORT

ANALYSIS REPORT OF WATER QUALITY

1. Name of the Project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location Name : SWQ - 4: Vehicle Washing Water at Mines
3. Name of Project Proponent : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Sampling : 11.09.2019
5. Particulars of Sample Collected : Surface Water
6. Sample Number : 09192658
7. Date of Sample Receipt : 18.09.2019
8. Analysis Started On : 19.09.2019
9. Date of Reporting : 17.10.2019

Sr. No.	Parameters	Protocol	Unit	Result	Standards for discharge of environmental pollutants into Inland Surface Water [Schedule-VI] G.S.R.422 (E) dated 19.05.1993
1.	pH@ 25 ⁰ C	IS:3025 (Part 11)	--	7.98	5.5 to 9.0
2.	Total Suspended Solids	IS 3025 (Part 17)	mg/l	49.04	50 (non-rainy day) / 100 (rainy day) (as per G.S.R.209(E) dated 4.10.2010)
3.	Manganese as Mn*	IS 3025 (Part 59)	mg/l	NA	2.0
4.	Oil and Grease	IS3025 (part 39): 1988 (reaffirmed 2009)	mg/l	7.2	10
5.	Total Iron as Fe	IS 3025 (Part 53)	mg/l	BDL	3.0
6.	E.Coli Bacteria/100ml*	IS:1622-1981	MPN	ND	Shall not be detected in any 100 ml sample.

Note : The tests marked with an * are not accredited by NABL. The result & inference pertains to the sample tested only and parameters as per the requisition of the client. BDL: Below Detection Limit; NA: Not Analysed; ND: Not Detected

INFERENCE	As per [Schedule-VI] G.S.R.422 (E) dated 19.05.1993 and/or G.S.R. 209(E) dated 4.10.2010 Standards Report Status: All the tested parameters are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

Authorised Signatory

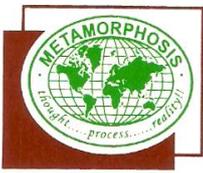
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TEST REPORT

ANALYSIS REPORT OF SOIL SAMPLE

1. Name of the Project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location Name : VGS – 1: Bommanagatihalli (Agri land)
3. Name of Project Proponent : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Sampling : 13.06.2019
5. Particulars of Sample Collected : Soil sample
6. Sample Number : 07191754
7. Date of Sample Receipt : 06.07.2019
8. Analysis Started On : 08.07.2019
9. Date of Reporting : 14.08.2019

Sr. No.	Parameters	Protocol	Unit	Result
1	pH @ 25 ⁰ C	IS:2720 (Part 26)	--	7.78
2	Conductivity @ 25 ⁰ C	IS:14767 :2000	µs/cm	374
3	Organic Carbon*	MLPL/SOP/37	%	0.99
4	Available Phosphorus as PO ₄ *	IS:10158-1982	Kg/ha	171.10
5	Available potassium as K	MLPL/SOP/32	Kg/ha	234.90
6	Chloride*	APHA (22 nd Edition)4500 Cl ⁻ B&C 2012	Kg/ha	NA
7	Iron	APHA (22 nd Edition) 3500 Fe B	Kg/ha	NA
8	Water Retention Capacity	-	%	NA
9	Sand*	IS:1498-1970	%	32.50
10	Silt*	IS:1498-1970	%	62.50
11	Clay*	IS:1498-1970	%	5.00
12	Texture*	-	-	Silt Loam

INFERENCE	Report Status: All parameters meet the requirements and are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

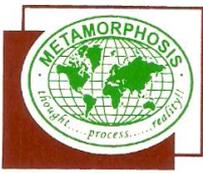
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TEST REPORT

ANALYSIS REPORT OF SOIL SAMPLE

- Name of the Project** : Vedanta Limited Iron Ore Mine (ML:2677)
- Location Name** : VGS – 2: Hirekandwadi Village (Agri land)
- Name of Project Proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
- Date of Sampling** : 13.06.2019
- Particulars of Sample Collected** : Soil sample
- Sample Number** : 07191755
- Date of Sample Receipt** : 06.07.2019
- Analysis Started On** : 08.07.2019
- Date of Reporting** : 14.08.2019

Sr. No.	Parameters	Protocol	Unit	Result
1	pH @ 25 ^o C	IS:2720 (Part 26)	--	8.16
2	Conductivity @ 25 ^o C	IS:14767 :2000	µs/cm	347
3	Organic Carbon*	MLPL/SOP/37	%	0.55
4	Available Phosphorus as PO ₄ *	IS:10158-1982	Kg/ha	236.90
5	Available potassium as K	MLPL/SOP/32	Kg/ha	368.10
6	Chloride*	APHA (22 nd Edition)4500 Cl ⁻ B&C 2012	Kg/ha	NA
7	Iron	APHA (22 nd Edition) 3500 Fe B	Kg/ha	NA
8	Water Retention Capacity	-	%	NA
9	Sand*	IS:1498-1970	%	45.00
10	Silt*	IS:1498-1970	%	35.00
11	Clay*	IS:1498-1970	%	20.00
12	Texture*	-	-	Loam

INFERENCE	Report Status: All parameters meet the requirements and are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

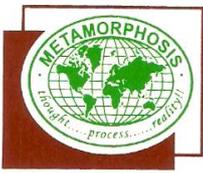
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TEST REPORT

ANALYSIS REPORT OF SOIL SAMPLE

1. **Name of the Project** : Vedanta Limited Iron Ore Mine (ML:2677)
2. **Location Name** : VGS – 3: Kadlegudu Village (Agri land)
3. **Name of Project Proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. **Date of Sampling** : 13.06.2019
5. **Particulars of Sample Collected** : Soil sample
6. **Sample Number** : 07191756
7. **Date of Sample Receipt** : 06.07.2019
8. **Analysis Started On** : 08.07.2019
9. **Date of Reporting** : 14.08.2019

Sr. No.	Parameters	Protocol	Unit	Result
1	pH @ 25 ^o C	IS:2720 (Part 26)	--	7.33
2	Conductivity @ 25 ^o C	IS:14767 :2000	µs/cm	95.3
3	Organic Carbon*	MLPL/SOP/37	%	0.04
4	Available Phosphorus as PO ₄ *	IS:10158-1982	Kg/ha	144.93
5	Available potassium as K	MLPL/SOP/32	Kg/ha	108.90
6	Chloride*	APHA (22 nd Edition)4500 Cl ⁻ B&C 2012	Kg/ha	NA
7	Iron	APHA (22 nd Edition) 3500 Fe B	Kg/ha	NA
8	Water Retention Capacity	-	%	NA
9	Sand*	IS:1498-1970	%	25.00
10	Silt*	IS:1498-1970	%	60.00
11	Clay*	IS:1498-1970	%	15.00
12	Texture*	-	-	Silt Loam

INFERENCE	Report Status: All parameters meet the requirements and are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

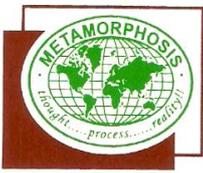
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TEST REPORT

ANALYSIS REPORT OF SOIL SAMPLE

- Name of the Project** : Vedanta Limited Iron Ore Mine (ML:2677)
- Location Name** : VGS – 4: Alagatta Village (Agri Land)
- Name of Project Proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
- Date of Sampling** : 13.06.2019
- Particulars of Sample Collected** : Soil sample
- Sample Number** : 07191757
- Date of Sample Receipt** : 06.07.2019
- Analysis Started On** : 08.07.2019
- Date of Reporting** : 14.08.2019

Sr. No.	Parameters	Protocol	Unit	Result
1	pH @ 25 ⁰ C	IS:2720 (Part 26)	--	6.31
2	Conductivity @ 25 ⁰ C	IS:14767 :2000	μs/cm	360.30
3	Organic Carbon*	MLPL/SOP/37	%	1.58
4	Available Phosphorus as PO ₄ *	IS:10158-1982	Kg/ha	264.27
5	Available potassium as K	MLPL/SOP/32	Kg/ha	370.90
6	Chloride*	APHA (22 nd Edition)4500 Cl ⁻ B&C 2012	Kg/ha	NA
7	Iron	APHA (22 nd Edition) 3500 Fe B	Kg/ha	NA
8	Water Retention Capacity	-	%	NA
9	Sand*	IS:1498-1970	%	15.00
10	Silt*	IS:1498-1970	%	60.00
11	Clay*	IS:1498-1970	%	25.00
12	Texture*	-	-	Silt Loam

INFERENCE	Report Status: All parameters meet the requirements and are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

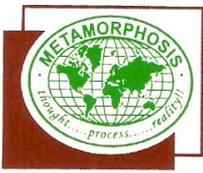
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TEST REPORT

ANALYSIS REPORT OF SOIL SAMPLE

1. Name of the Project : Vedanta Limited Iron Ore Mine (ML:2677)
2. Location Name : VGS – 5: Tenegehalli Village (Agri Land)
3. Name of Project Proponent : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. Date of Sampling : 13.06.2019
5. Particulars of Sample Collected : Soil sample
6. Sample Number : 07191758
7. Date of Sample Receipt : 06.07.2019
8. Analysis Started On : 08.07.2019
9. Date of Reporting : 14.08.2019

Sr. No.	Parameters	Protocol	Unit	Result
1	pH @ 25 ⁰ C	IS:2720 (Part 26)	--	7.71
2	Conductivity @ 25 ⁰ C	IS:14767 :2000	μs/cm	307.7
3	Organic Carbon*	MLPL/SOP/37	%	0.79
4	Available Phosphorus as PO ₄ *	IS:10158-1982	Kg/ha	239.20
5	Available potassium as K	MLPL/SOP/32	Kg/ha	231.40
6	Chloride*	APHA (22 nd Edition)4500 Cl ⁻ B&C 2012	Kg/ha	NA
7	Iron	APHA (22 nd Edition) 3500 Fe B	Kg/ha	NA
8	Water Retention Capacity	-	%	NA
9	Sand*	IS:1498-1970	%	35.00
10	Silt*	IS:1498-1970	%	50.00
11	Clay*	IS:1498-1970	%	15.00
12	Texture*	-	-	Silt Loam

INFERENCE	Report Status: All parameters meet the requirements and are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

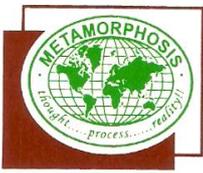
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TEST REPORT

ANALYSIS REPORT OF SOIL SAMPLE

1. **Name of the Project** : Vedanta Limited Iron Ore Mine (ML:2677)
2. **Location Name** : VGS – 6: Waste dump (Within the lease area)
3. **Name of Project Proponent** : M/s. Vedanta Limited, Megalahalli Office Complex, Bheemasamudra, Chitradurga, Karnataka
4. **Date of Sampling** : 13.06.2019
5. **Particulars of Sample Collected** : Soil sample
6. **Sample Number** : 07191759
7. **Date of Sample Receipt** : 06.07.2019
8. **Analysis Started On** : 08.07.2019
9. **Date of Reporting** : 14.08.2019

Sr. No.	Parameters	Protocol	Unit	Result
1	pH @ 25°C	IS:2720 (Part 26)	--	6.15
2	Conductivity @ 25°C	IS:14767 :2000	µs/cm	175.6
3	Organic Carbon*	MLPL/SOP/37	%	0.12
4	Available Phosphorus as PO ₄ *	IS:10158-1982	Kg/ha	86.13
5	Available potassium as K	MLPL/SOP/32	Kg/ha	56.40
6	Chloride*	APHA (22 nd Edition)4500 Cl ⁻ B&C 2012	Kg/ha	NA
7	Iron	APHA (22 nd Edition) 3500 Fe B	Kg/ha	NA
8	Water Retention Capacity	-	%	NA
9	Sand*	IS:1498-1970	%	20.00
10	Silt*	IS:1498-1970	%	60.00
11	Clay*	IS:1498-1970	%	20.00
12	Texture*	-	-	Silt Loam

INFERENCE	Report Status: All parameters meet the requirements and are within acceptable limits.
Sample Collected by	M/s. METAMORPHOSIS SM Laboratory Private Limited, Bengaluru

** End of Report **

Authorised Signatory

Laboratory Head
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PLANTATION FOR THE YEAR 2019-20
Vedanta Limited Iron Ore Mine (ML No. 2677)

S. No.	Local Name	Botanical Name	2019-20
1	Akash maliga	Millngotinia hortensis	100
2	Aralimara	Ficus religiosa	1274
3	Ashoka	Saraca asoca	300
4	Bevu	Azardirachta Indica	275
5	Biduru	Bamboo	100
6	Booruga	Tabebuia rosea	290
7	bouganvilla	Bougainvillea	1820
8	Buggiri(oorvasi mara)	thespesia populnea	1620
9	Casuarina	Casuarina	175
10	Coconut	Cocos nucifera	10
11	Gobbra Gidda	Gilicidia	7390
12	Gulmohar	Delonix regia	849
13	Haladi gulmohar	Peltophorum pterocarpum	570
14	Henna	Lawsonia inermis	1625
15	Honge	Pongamia pinnata	10665
16	Hunise	Tamarindus indica	325
17	Ippe	Madhuca longifolia var.latifolia	1300
18	Jacaranda	Jacaranda mimosifolia	324
19	Kaadu Baadaami	Terminalia catappa	60
20	Kamara	Lantana camara	2800
21	Koranekelear	Tecoma stans	1595
22	Lemon Grass	Cymbopogon	110
23	Māvina haṇṇu	Mangifera indica	420
24	Nelli	Phyllanthus emblica	1075
25	Nerale	Syzygium cumini	1603
26	Panasa/ Halasu	Artocarpus heterophyllus(Jack fruit)	700
27	Rose	Rosa rubiginosa	250
28	Seema hunise	Pithecelobium dulce	750
29	Seema roba	Seema Rouba Glauca	3780
30	Seema thangidi	Cassia Semia	1400
31	Seetha phala	Annona squamosa	112
32	Shrigandha	Santalum album	10
33	Singapore cherry	Muntingia Calabura	5605
	Total		49282

Afforestation Initiatives

Inculcating a feeling of personal association with planted tree

'Plant a sapling on your birthday'



'Plantations by distinguished guests'

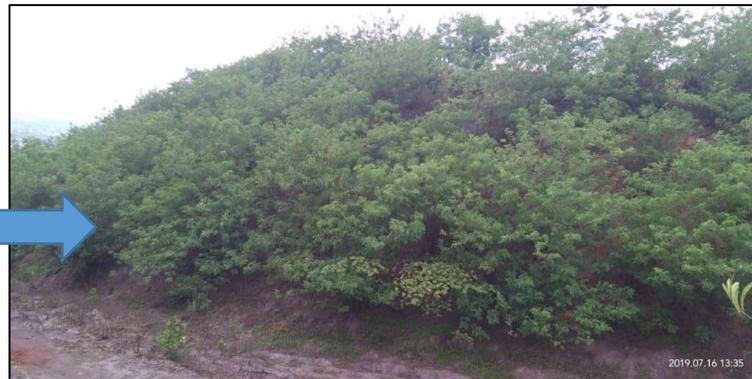
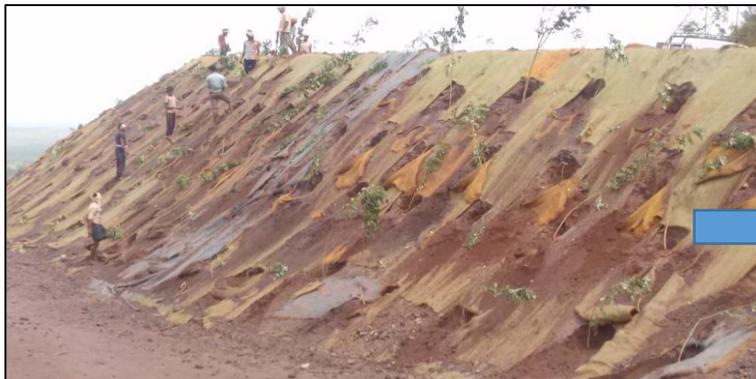


'Plantation along roadside & dumps'



Let's leave behind our mark and not the footprint..!

Transformation of Waste Dumps through Plantation



Fire Line development in the nearby Forest Area



To prevent forest fires to spread into deep forests, 9.8 Km of Fireline has been developed within 10 km radius of mine lease

VANMAHOTSAV CELEBRATIONS AT IOK



Inauguration of Vanmahotsav week by Plantation of Mango saplings by the chief guest at the site.



Spreading of Geo Coirmats on the dumps in order to retain fertility and vegetation



Around 6000 seedballs were prepared with the help of local community and were sowed in the nearby region for increasing the green cover



An awareness rally was organized where 150 school students participated to spread awareness on protection of trees.



Awareness session and distribution of 240 saplings to employees, encouraging them to plant more trees



Plantation drive by the security personnels where 200 saplings were planted at the site



“Workshop on Biodiversity” Dr. Ramesh Rathod (Associate Prof.- College of Forestry), Mr. KeshavaMurthy (MSc. Forestry- Bird Specialist) and Mr. Uday Kumar (MSc. Forestry- Butterfly Specialist) have given guest lectures on “Importance of Van Mahotsava”, “Birds of India” and “Butterflies of India”



World Environment Day Celebration (IOK)



Moving ahead with the initiatives for the World Environment Week celebrations, Vedanta- Sesa Goa Iron Ore Karnataka Unit organized drawing competition for students belonging to various schools of the villages surrounding the mines which was based on this year's theme **#BeatAirPollution**. Along with this a plantation drive was carried out where hundreds of saplings were planted in the presence of District Education Department officials, school students, SHG women and Vedanta employees. The objective of spreading awareness towards the degrading environment conditions was done successfully where more than 350 people participated.

Outcomes of Desilting Initiatives in Villages



Basavapura Village Pond



Malapanhatti Village Pond



Hanumanakatte Village Pond



Dodalghatta Village Pond



Siddapura Village Pond



Newly constructed Checkdams on natural streams in forest area has a capacity to store 4800 m³ of rainwater