

Ref No. VAB/ENV/2023-24/04

Date: 27/05/2023

To,
The Director,
Ministry of Environment and Forest,
Regional Office (Southern Zone), Kendriya Sadan,
4th Floor, 17th Main Road, 2nd Block, Koramangala,
Bengaluru, Karnataka- 560034

Subject:

Submission of 3rd six-monthly compliance report to the conditions of Environment Clearance [File No: IA-J-11011/946/2007-IA.II(I)] for M/s Vedanta Limited (Formerly Sesa Goa Ltd.)

Reference:

1. File No: IA-J-11011/946/2007-IA.II(I) dated 24/04/2022
2. Amendment in Environment Clearance from MOEF vide letter dated 14th March, 2022

Respected Sir,

With respect to above references, please find enclosed herewith:
3rd six-monthly compliance report to Environment Clearance File No: IA-J-11011/946/2007-IA.II(I) dated 24/04/2022 for the period **October 2022 to March 2023** for M/s Vedanta Limited (Formerly Sesa Goa Ltd.).

Project Name: Up-Gradation of Blast Furnaces (BF) to enhance the production capacity of BF-1 & 2 from 2,92,000 TPA to 3,50,000 TPA, BF-3 from 5,40,000 TPA to 6,50,000 TPA, setting up of additional oxygen plant, installation of ductile iron pipe plant of 3,00,000 TPA capacity, 4 additional met coke ovens, setting up of Fe-Si plant of 5,000 TPA capacity at Amona and Navelim villages, Bicholim taluka, North Goa district, Goa. The annexures are enclosed along with the compliance status report.

Thanking you.

Yours faithfully

For Vedanta Limited- Value Added Business
Saptesh Sardesai
CEO- Value Added Business and Cement

Cc: (i) Member Secretary of GSPCB and (ii) Member Secretary of CPCB (SZO)

VEDANTA LIMITED
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Registered Office: Vedanta Limited, 1st Floor, 'G' wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai 400093, Maharashtra, India
CIN: L13209MH1965PLC291394

Compliance Report to

Environmental Clearance File No: IA-J-11011/946/2007-IA.II(I)

(Period: October 2022 to March 2023)

Project Name: Up-Gradation of Blast Furnaces (BF) to enhance the production capacity of BF-1 & 2 from 2,92,000 TPA to 3,50,000 TPA, BF-3 from 5,40,000 TPA to 6,50,000 TPA, setting up of additional oxygen plant, installation of ductile iron pipe plant of 3,00,000 TPA capacity, 4 additional met coke ovens, setting up of Fe-Si plant of 5,000 TPA capacity at Amona and Navelim villages, Bicholim taluka, North Goa district, Goa.

| Sr. no. | Conditions of EC | Compliance status as of 31 st March 2023 |
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| A. Specific Conditions | | |
| i. | The project proponent shall abide by all orders and judicial pronouncements, made from time to time in case no. 47 of 2013 before the Hon'ble National Green Tribunal, Case No. 881/2017 in Hon'ble High Court of Goa; Case No. 24/2015 before the Hon'ble District Court, Mapusa. | Noted. |
| ii. | Green Belt shall be developed in 54 hectares of land (33.5 % of total land) with tree density of 2500 trees per ha by 31/12/2022 all along the periphery of the project site. This shall include gap filling which shall be done in existing green belt developed area wherever tree density is less than 2500 trees per ha. This shall include green belt development within the site with a width of 25 meters towards the Amona village and Navelim village located a distance of 0.32 km and 0.05km from the project site respectively. | <p>Green Belt has been developed within 54 hectares (33.5% of total land) with density of 2,500 plants per hectare.</p> <p>Green belt is developed both towards Amona and Navelim village. In addition, wind shields have been installed along the project boundary towards these villages.</p> |
| iii. | The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC. | <p>Approved wildlife management plan of 5 years received from the State Forest Department, Govt. of Goa and the implementation of the same is in progress. In first phase of implementation of wildlife management plan, 25 nos. of trap cameras were provided to Goa State Forest Department. Sponsorships towards Bird Festival and Wildlife Week celebration have been provided to State Forest Department.</p> <p>The communications with the State Forest Department are attached as Annexure I.</p> |
| iv. | The project proponent shall comply with the following points by on (or) before 31/05/2022 as committed below by the proponent, failing which, GSPCB shall initiate legal action against the proponent under the relevant | <p>Complied</p> <p>Black topping/concreting of 6.38km of internal road is completed. Photographs of black</p> |

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| | <p>provision of the Environment (Protection) Act, 1986. Further, compliance status in this regard shall be submitted to the concerned Regional Office of the MoEF&CC along with the six-monthly compliance report.</p> <p>a. 6.38 km internal plant road shall be black topped or concreted by April 2022.</p> | <p>topping/concreting of internal roads were shared with 2nd EC compliance report.</p> |
| | <p>b. All the stored slag shall be disposed of by May 2022 and the covered storage shed for slag shall be put in place by 31st May, 2022.</p> | <p>Complied All the existing stored slag has been disposed to cement industries. Presently there is no stacking of slag at the unit except for day-to-day generation. We have acquired a company manufacturing slag cement for utilisation of slag wherein, we have provided a covered shed to store the slag, in compliance with this condition</p> |
| | <p>c. There are 18 sites of archaeological importance in the study area. Requisite NOC from the concerned competent authority shall be obtained by the proponent and submitted to the Ministry on (or) before 31/05/2022.</p> | <p>Complied. NOC from concerned competent authority obtained dated 14th July, 2022.</p> |
| | <p>d. Wind Shield for control of graphite particle emissions shall be provided by March 2022.</p> | <p>Complied 260 meters of additional wind shield installed at the project boundary towards Amona village as per timeline.</p> |
| v. | <p>Ductile Iron (DI) plant shall have the following provisions:</p> <p>a. Wet scrubbers for Volatile Organic Compounds in annealing furnace.</p> <p>b. Bag filter for Zn coating and Mg converter area.</p> <p>c. Wet scrubbers in paint and bitumen coating area.</p> <p>d. Bag Filter in Cement lining area.</p> <p>e. PTFE dipped bags shall be used in the plant.</p> <p>f. PM emissions from BF in Zinc coating area shall be 5 mg/Nm³.</p> <p>g. ETP with recycling facility shall be included. All scrubber effluent shall be treated in ETP.</p> | <p>Noted and shall be ensured during project phase of ductile iron pipe plant as part of detailed Engineering.</p> |
| vi. | <p>Parking area for trucks/dumpers shall be provided within the plant. No truck/dumper shall be parked outside the plant premises.</p> | <p>Parking area for trucks/dumpers is provided inside the plant premises. No company truck/ dumper is parked outside the plant premises.</p> |
| vii. | <p>Project proponent shall conserve wetlands located in the vicinity of the project site (Amona – 0.3km in Northern direction and Navelim – 0.6 km in Northern direction) by developing green belt development all along the boundary of the wet land.</p> | <p>During the monsoon season 2022, i.e., from June to September 2022, total 1850 nos. of plants were planted in the surrounding of Navelim wetland area.</p> |
| viii. | <p>Solid waste utilization ● Maximum 90 days of slag storage area shall be permitted inside the plant.</p> | <p>Complied Slag is disposed continuously and is not allowed to be stored for more than 90 days.</p> |

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| | <ul style="list-style-type: none"> ● PP shall recycle/reuse 100 % solid waste generated in the plant. | Complied All the solid waste is recycled/ reused except oil-soaked cotton waste and bio medical waste which are incinerated in the coke ovens. |
| | <ul style="list-style-type: none"> ● Used refractories shall be recycled as far as possible. | Complied Used refractories are recycled or reused in road construction purpose. |
| ix. | Sinter Plant shall be equipped with sinter cooler waste recovery system to generate process steam or power. | Complied Sinter cooler waste recovery system is already available at sinter plant. |
| x. | <p>BF3 shall be equipped with stove waste heat recovery, cast house and stock house ventilation system, slag granulation facility, Dry Gas Cleaning Plant. Top Recovery Turbine shall be installed during next revamping of BF3.</p> <p>BF1 & 2 shall be equipped with stove waste heat recovery, cast house and stock house ventilation system and slag granulation facility. Dry Gas Cleaning Plant shall be installed during next revamping of BF1 and BF2.</p> | <p>Blast furnace 3 is already equipped with stove waste heat recovery, cast house and stock house ventilation system, slag granulation facility and dry gas cleaning plant. Top Recovery Turbine installation shall be taken up during revamping.</p> <p>Blast Furnace 1 and Blast Furnace 2 are equipped with stove waste heat recovery, cast house and stock house ventilation system and slag granulation facility.</p> |
| xi. | Performance test shall be conducted on all pollution control systems every year and report shall be submitted to Regional Office of the MoEF&CC. | Performance test of the air pollution control systems was done in 2022 and reports were submitted to GSPCB and regional office of MOEFF&CC. |
| xii. | Submerged Arc Furnace shall be of closed type with 4th hole extraction system. | Noted. This shall be taken up during project phase. |
| xiii. | Particulate matter emissions from stacks shall be less than 30 mg/Nm ³ . Necessary retrofitting work shall be carried out in Air Pollution Control Devices (APCDs) of old plant to reduce PM emissions to less than 30 mg/Nm ³ within two years from the date of EC. | Complied As a part of expansion project, new baghouse has been provided for Blast Furnace 1. The pictures of this baghouse are attached as Annexure II . The PM emissions from the stacks of blast furnaces 1, 2 and 3 are maintained below 30 mg/Nm ³ . |
| xiv. | AAQ at Mosque and Siddhartha Caves archaeological sites shall be monitored once in a month as per the CPCB norms. | Complied Ambient air monitoring is being done once a month at the Mosque and Siddhartha Caves archaeological sites at Tar Surla and the reports are submitted monthly to Goa State Pollution Control Board. Attaching annexure-III : Ambient air monitoring reports of both archaeological sites from October 2022 till March 2023. |
| | 02 manual ambient air quality monitoring stations within the plant shall be replaced with one CAAQMS in addition to the 03 CAAQMS presently installed. | Complied One new CAAQMS has been installed at the location identified by Goa State Pollution Control Board team. The picture of this CAAQMS has been attached as Annexure IV . |
| | Manual monitoring as done presently shall be continued and Benzo Amino Pyrene (BaP) shall be monitored manually as per CPCB norms. | Complied Benzo Amino Pyrene (BaP) is being monitored monthly and reports are being submitted monthly to GSPCB. Attaching annexure V . BaP monitoring data from October 2022 to March 2023. |

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| | One manual air quality monitoring station shall be established towards Amona and Navelim villages and ambient air quality monitored as per CPCB norms. | One AAQMS has been installed towards Amona village and one AAQMS towards Navelim village. The ambient air quality monitoring at these two locations is done as per CPCB norms. The reports are attached as annexure VI . |
| xv. | Water requirement for the plant shall be met from Mandovi River and Valvonti river. Ground water abstraction is not permitted. | No ground water is used for process. Water from Mandovi and Valvonti river is used for operation purposes for which required permissions have been obtained. |
| xvi. | All internal and connecting roads to the Highway shall be black topped/ concreted with suitable load in term of Million Standard Axle (MSA) as per IRC guidelines. | The internal roads and connecting roads to the highway have been black-topped. |
| xvii. | Water being used for cooling purposes in Waste Heat Recovery Power Plant (WHRPP) is the saline water drawn from Mandovi river (backwater). The blow down of cooling towers shall be discharged back to the saline backwaters as per the approval of the GSPCB. Project proponent shall periodically monitor the riverine water quality and report shall be submitted along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC. | Riverine water quality is being monitored and reports are submitted to GSPCB every month. Attaching annexure VII : Riverine water quality reports from October'22 to April'23. |
| xviii. | Secondary emission generated during charging, tapping of metal, slag tapping may be controlled by providing canopy hoods at proper elevation connected to air pollution control device without interfering with the production process. | The Dust Extraction Systems (DES) have been provided for coal charging and baghouses with hoods have been provided for tapping of metal. New baghouse has been installed for Blast Furnace-1. |
| xix. | Additional Filter beds, arrester wall shall be provided along the storm water drainage for settlement of suspended particles and to prevent siltation. | Additional filter beds and arrestor walls are provided in the storm drains and these storm drains are desilted every year before monsoon. |
| xx. | The recommendations contained in the storm water management plan shall be strictly adhered with. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC. | The storm water management plan has been prepared and implemented. Desilting of all the settling ponds and drains has been done. |

B. General conditions

| I Statutory compliance: | | |
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| i. | The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/ construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project. | Noted. |
| II Air quality monitoring and preservation: | | |

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| i. | The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories. | Continuous Emission Monitoring System (CEMS) have been installed at the process stacks and are connected to Goa State Pollution Control Board (GSPCB) and Central Pollution Control Board (CPCB). Calibration of CEMS is done regularly. |
| ii. | The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories. | Six Ambient Air Quality Monitoring Stations (AAQMS) are present and monthly air monitoring is done through laboratories recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories. Reports are being submitted before 15 th of every month to Goa State Pollution Control Board (GSPCB). Attaching annexure VIII : Ambient air quality reports from October'2022 to March'2023. |
| iii. | Sampling facility at process stacks and at quenching towers shall be provided as per CPCB guidelines for manual monitoring of emissions. | All process stacks have been provided with sampling facility. Quenching tower is not a source of process emissions and are provided with grit arresters. |
| iv. | Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed stack emission and fugitive emission standards. | Baghouses, Electrostatic Precipitators (ESPs), Dust Extracting Systems (DESS), rain guns, fog cannons, windshields, road sweeping machines are present to control air pollution. |
| v. | The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags. | Differential pressure measurement is available across bags to detect leakage. Compressed Air puffing arrangement is available for mechanized cleaning. |
| vi. | Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly. | For road cleaning, road sweeping machines are deployed. |
| vii. | Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after briquetting/ agglomeration. | All the iron ore fines, coal and coke fines, lime fines and such other fines are reused in the sinter plant to produce sinter. |
| viii. | The project proponent use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin. | Raw material carrying trucks are always ensured for tarpaulin covering whenever plying outside premises. |
| ix. | Facilities for spillage collection shall be provided for coal and coke on wharf of coke oven batteries (Chain conveyors, land based industrial vacuum cleaning facility). | Wharf of coke is enclosed with parapet wall on two sides. Feed end is connected to settling pond whereas discharge end on conveyor feeding to screening plant. Coke from wharf is directly taken on conveyor lined with side skirting. There is no possibility of any spillage. |
| x. | Land-based APC system shall be installed to control coke pushing emissions. | Hoods lined with pyro-block modules are provided on hot coke car for control of emissions. |

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| xi. | Monitor CO, HC and O2 in flue gases of the coke oven battery to detect combustion efficiency and cross leakages in the combustion chamber. | Our coke oven batteries are non-recovery type working under negative pressure, hence, there is no Coke Oven Flue Gas (COFG) leakages from coke oven process. |
| xii. | Wind shelter fence and chemical spraying shall be provided on the raw material stock piles. | Windshield has been provided at the boundary of the plant. There are rain guns provided in the raw material yard for sprinkling of water to prevent generation of fugitive dust. |
| xiii. | Design the ventilation system for adequate air changes as per prevailing norms for all tunnels, motor houses, Oil Cellars. | Tunnels are not present at our plant. For motor houses and oil storage rooms, proper ventilation system has been provided. |
| III | Water quality monitoring and preservation | |
| i | The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30th May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories. | Continuous Effluent Monitoring Systems are present at our plant and are connected to GSPCB and CPCB. |
| ii. | The project proponent shall monitor regularly ground water quality at least twice a year (pre- and post-monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognized under Environment (Protection) Act, 1986 and NABL accredited laboratories. | Ground water quality is monitored twice a year, pre-monsoon, and post-monsoon. Ground water quality monitoring was done in the surrounding villages i.e. Amona, Navelim and Maina in the month of November 2022 as a part of post-monsoon ground water study. The reports are enclosed herewith as Annexure IX for your reference. |
| iii. | The project proponent shall provide the ETP for coke oven to meet the standards prescribed in G.S.R 277 (E) dated 31st March 2012 (Integrated iron & Steel); G.S.R 414 (E) dated 30th May 2008 (Sponge Iron) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time as amended from time to time; | Our coke oven batteries are non-recovery type coke ovens where entire water used for coke quenching is recycled back to process after passing through settling ponds. |
| iv. | Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards. | We have three Sewage Treatment Plants (STPs) for current operations for treatment of domestic wastewater. The new STP shall be installed during construction phase of expansion project. |
| v. | Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy | Garland drains and catch ponds have been made along the stock piles to prevent water pollution during rainy season. |

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| | rains and to check the water pollution due to surface run off. | |
| vi. | Tyre washing facilities shall be provided at the entrance of the plant gates. | Wheel washing system is installed at the entrance of our plant and works every day. |
| vii. | Water meters shall be provided at the inlet to all unit processes in the steel plants. | Water meters have been installed at the inlet of all the processes. |
| IV | Noise monitoring and prevention | |
| i. | Noise pollution shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report. | Noise pollution is monitored once every three months. Attaching annexure X as noise monitoring reports of November 2022 and February 2023. |
| V | Energy Conservation measures: | |
| i. | Use torpedo ladle for hot metal transfer as far as possible. If ladles not used, provide covers for open top ladles. | In current operations, hot metal is not transferred to longer distances, and it is poured into the pig casting machine. Hence, torpedo ladle is not required. |
| ii. | Restrict Gas flaring to < 1%. | Gas flaring restricted to <1% shall be implemented, except for during any power plant shutdown. Flaring data is also tracked on daily basis so that any issue arising is tracked and rectified immediately. |
| iii. | Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly; | Solar power generation system of 100 KW is under process to be set up at rooftops of admin building and parking areas. |
| iv. | Provide LED lights in their offices and residential areas. | Noted. LED lights are provided. |
| v. | Ensure installation of regenerative/recuperative type burners on all reheating furnaces. | Reheating furnaces are not present at our plant as of now, hence, regenerative type burners are not required to be installed. |
| VI | Waste management | |
| i. | Oil Collection pits shall be provided in oil cellars to collect and reuse/recycle spilled oil. Oil collection trays shall be provided under coils on saddles in cold rolled coil storage area. | Oil collection pits have been provided in oil storage rooms to collect and reuse/recycle spilled oil. |
| ii. | Kitchen waste shall be composted or converted to biogas for further use. | Kitchen waste is treated in composting unit and is recycled for further use. |
| VII | Green Belt | |

| i. | The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration by trees. | GHG emissions inventory is prepared for the plant. The list of programs for reduction of GHG emissions is as follows: <table><tr><th>Sl.</th><th>Description</th></tr><tr><td>1</td><td>Setting up 100 KW solar power plant at admin building and parking areas of Met Coke Division (MCD).</td></tr><tr><td>2</td><td>Setting up EV charging station outside VAB for employees & community.</td></tr><tr><td>3</td><td>Preparing roadmap for GreenCo certification for VAB and going for certification.</td></tr><tr><td>4</td><td>Carrying out energy audit at VAB and preparing action plan for implementation</td></tr><tr><td>5</td><td>Taking trail of Biodiesel in MCD, and basis the performance results, further usage plan to be decided</td></tr><tr><td>6</td><td>Carrying out annual plantation program in surrounding villages.</td></tr></table> | Sl. | Description | 1 | Setting up 100 KW solar power plant at admin building and parking areas of Met Coke Division (MCD). | 2 | Setting up EV charging station outside VAB for employees & community. | 3 | Preparing roadmap for GreenCo certification for VAB and going for certification. | 4 | Carrying out energy audit at VAB and preparing action plan for implementation | 5 | Taking trail of Biodiesel in MCD, and basis the performance results, further usage plan to be decided | 6 | Carrying out annual plantation program in surrounding villages. |
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| Sl. | Description | | | | | | | | | | | | | | | |
| 1 | Setting up 100 KW solar power plant at admin building and parking areas of Met Coke Division (MCD). | | | | | | | | | | | | | | | |
| 2 | Setting up EV charging station outside VAB for employees & community. | | | | | | | | | | | | | | | |
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| 4 | Carrying out energy audit at VAB and preparing action plan for implementation | | | | | | | | | | | | | | | |
| 5 | Taking trail of Biodiesel in MCD, and basis the performance results, further usage plan to be decided | | | | | | | | | | | | | | | |
| 6 | Carrying out annual plantation program in surrounding villages. | | | | | | | | | | | | | | | |
| VIII | Public hearing and Human health issues | | | | | | | | | | | | | | | |
| i. | Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented. | Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan is implemented. | | | | | | | | | | | | | | |
| ii. | ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms. | Heat stress analysis for the workmen who work in high temperature work zone has been carried out and proper Personal Protection Equipment (PPE) is provided always. | | | | | | | | | | | | | | |
| iii. | iii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained. | Occupational health surveillance is done annually. The last Occupational health surveillance was done in November 2022. | | | | | | | | | | | | | | |
| IX | Environment Management | | | | | | | | | | | | | | | |
| i. | The project proponent shall comply with the provisions contained in this Ministry’s OM vide F.No. 22-65/2017-IA.III dated 30/09/2020. | Noted. | | | | | | | | | | | | | | |
| ii. | The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / | The company has a Health, Safety and Environment policy in place. We are ISO 14000:2015 certified (Environment Management System). Also, there is a system in place for tracking and reporting of all the statutory compliances. | | | | | | | | | | | | | | |

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| | deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stakeholders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report. | |
| iii. | A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization. | Separate Environment cell exists both at project as well as head quarter. Separate budget is allocated towards environmental measures at site. |
| X | Miscellaneous | |
| i. | The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently. | Complied. Advertisement regarding grant of EC has been published on 30th January 2022 in two local newspapers: Bhaangarbhuin, in Konkani language and The Goan in English language. Copies of newspaper advertisement were sent with the 1st compliance report for period of October'2021 to March'2022. Environmental Clearance has also been displayed on company's website https://sesagoaironore.com/ under Sustainability section. |
| ii. | The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt. | Complied. Copies of environmental clearance were submitted to local bodies including Panchayats and Municipal councils. |
| iii. | The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis. | Complied. Six-monthly EC Compliance status report is submitted to MoEF&CC, CPCB & GSPCB. The same is uploaded on company's website https://sesagoaironore.com/ under Sustainability section. |
| iv. | The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company. | Complied. Ambient air monitoring and stack emission monitoring is done at the plant site and the results are being displayed continuously on the digital display boards installed at our gates. |
| v. | The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal. | Complied. Six-monthly EC Compliance status report is submitted to MoEF&CC, CPCB & GSPCB. |
| vi. | The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company | Complied. Yearly Environmental Statement in Form-V is submitted to the Goa State Pollution Control Board as prescribed under the Environmental (Protection) Rules, 1986 and is uploaded on company's website |

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| | | https://sesagoaironore.com/ under Sustainability section. |
| vii. | The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project. | Noted and compliance assured. |
| viii. | The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee. | Noted and compliance assured. |
| ix. | No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC). | Noted and compliance assured. |
| x. | Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986. | Noted |
| xi. | The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory. | Noted |
| xii. | The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions. | Noted |
| xiii. | The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports. | Noted. Full co-operation will be extended. |
| xiv. | Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010. | Noted |

Annexure I
Communications with the State Forest Department

Ref No. VAB/ENV/2022-23/42

Date: 27/12/2022

To,

The Office of The Deputy Conservator of Forests,
Wildlife and EcoTourism (North) Division
1st Lift, 4th Floor, Junta House,
Panaji-403 001 Goa

Sub: - Wildlife Conservation Plan for obtaining Environmental Clearance

Reference:

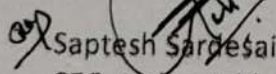
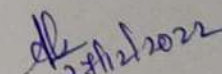
1. Letter no. 1-576/WL&ET(N)/2022-2023/661 dated 02/06/2022 received by us on 15/06/2022.

Respected sir,

With respect to the letter received from your good office vide Letter no. 1-576/WL&ET(N)/2022-2023/661 dated 02/06/2022 received by us on 15/06/2022, we are handing over 10 nos of trap cameras w.r.t to compliance Sr.No.4 of providing trap cameras to analyse the movement of wild animals.

Thanking you

Yours faithfully

For Vedanta Limited- Value Added Business
Saptesh Sardesai
CEO- Value Added Business
Despatch Clerk
O/o The Dy. Conservator of Forests
Wildlife & Eco-Tourism (North)
Panaji - Goa**VEDANTA LIMITED**

Sesa Goa iron ore: Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa - 403 001, India
T: 91 0832 2460600 | Website: www.sesagoaironore.com

Registered Office:

Vedanta Limited, 1st Floor, 'C' wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai 400093, Maharashtra, India
CIN: L13209MH1965PLC291394



GOVERNMENT OF GOA
OFFICE OF THE DEPUTY CONSERVATOR OF FORESTS
WILDLIFE & ECO- TOURISM (NORTH) DIVISION
1ST LIFT, 4TH FLOOR, JUNTA HOUSE,
PANAJI - 403 001 (GOA)

Phone: 0832-2229701/ E mail: dcfwlnorth-forest.goa@nic.in

No.1-576/WL&ET(N)/2022-23

Dated:27/12/2022

RECEIPT

Received 10 nos. of trap cameras alongwith Safety Cases, 32 GB Memory Card & Duracell Batteries under Wildlife Conservation Plan for obtaining Environmental Clearance to analyse the movement of wild animals from Vedanta Limited, Sesa Goa Iron Ore : Sesa Ghor, 20 EDC Complex, Patto Panaji vide letter no.VAB/ENV/2022-23/42 dated 27/12/2022.


(Anand S. Jadhav)

Dy. Conservator of Forests
Wildlife & Eco-Tourism (N)



GOVERNMENT OF GOA
OFFICE OF THE DEPUTY CONSERVATOR OF FORESTS
WILDLIFE & ECO- TOURISM (NORTH) DIVISION
1ST LIFT, 4TH FLOOR, JUNTA HOUSE,
PANAJI - 403 001 (GOA)

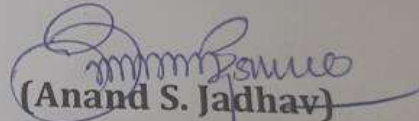
Phone: 0832-2229701/ E mail: dcfw/north-forest.goa@nic.in

No.1-576/WL&ET(N)/2022-23

Dated:10/02/2023

RECEIPT

Received 15 nos. of trap cameras alongwith Safety Cases, 32 GB Memory Cards & Duracell Batteries and assistance for celebration of Wildlife Week '2023 under Wildlife Conservation Plan from Vedanta Limited, Sesa Goa.


(Anand S. Jadhav)

Dy. Conservator of Forests
Wildlife & Eco-Tourism (N)

Annexure II

Photograph of New BF-1 Baghouse



New Baghouse installed for Blast Furnace-1

Annexure III
Ambient Air Quality Monitoring reports of Archaeological
sites

Ambient Air Quality monitoring data of archaeological site 1: Near Siddhartha Caves, Surla:

| Parameters | Unit | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 |
|--------------|-------|---------|---------|---------|---------|---------|---------|
| PM 10 | µg/m3 | 37.54 | 40.37 | 38.93 | 41.29 | 43.65 | 44.25 |
| PM 2.5 | µg/m3 | 16.89 | 19.71 | 17.53 | 17.74 | 18.04 | 18.76 |
| SO2 | µg/m3 | 9.30 | 9.32 | 9.28 | 9.22 | 9.14 | 9.04 |
| NO2 | µg/m3 | 13.83 | 13.02 | 13.74 | 13.84 | 13.65 | 13.59 |
| CO | mg/m3 | 0.24* | 0.24* | 0.24* | 0.24* | 0.23* | 0.23* |
| Lead | µg/m3 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Ozone | µg/m3 | < 20.0* | < 20.0* | < 20.0* | < 20.0* | < 20.0* | < 20.0* |
| Ammonia | µg/m3 | < 14.0 | < 14.0 | < 14.0 | < 14.0 | < 14.0 | < 14.0 |
| Benzene | µg/m3 | < 0.14 | < 0.14 | < 0.14 | < 0.14 | < 0.14 | < 0.14 |
| Benzo Pyrene | ng/m3 | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Arsenic | ng/m3 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 |
| Nickel | ng/m3 | < 6.0 | < 6.0 | < 6.0 | < 6.0 | < 6.0 | < 6.0 |

* Hourly value

Ambient Air Quality monitoring data of archaeological site 2: Near Mosque, Surla:

| Parameters | Unit | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 |
|--------------|-------|---------|---------|---------|---------|---------|---------|
| PM 10 | µg/m3 | 34.96 | 38.53 | 35.63 | 38.46 | 40.57 | 38.94 |
| PM 2.5 | µg/m3 | 14.27 | 17.62 | 14.39 | 15.64 | 16.24 | 17.16 |
| SO2 | µg/m3 | 9.62 | 9.58 | 9.68 | 9.56 | 9.43 | 9.42 |
| NO2 | µg/m3 | 14.48 | 14.76 | 14.32 | 14.41 | 14.53 | 14.66 |
| CO | mg/m3 | 0.24* | 0.24* | 0.24* | 0.24* | 0.24* | 0.23* |
| Lead | µg/m3 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Ozone | µg/m3 | < 20.0* | < 20.0* | < 20.0* | < 20.0* | < 20.0* | < 20.0* |
| Ammonia | µg/m3 | < 14.0 | < 14.0 | < 14.0 | < 14.0 | < 14.0 | < 14.0 |
| Benzene | µg/m3 | < 0.14 | < 0.14 | < 0.14 | < 0.14 | < 0.14 | < 0.14 |
| Benzo Pyrene | ng/m3 | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Arsenic | ng/m3 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 | < 0.7 |
| Nickel | ng/m3 | < 6.0 | < 6.0 | < 6.0 | < 6.0 | < 6.0 | < 6.0 |

* Hourly value

Annexure IV
Photograph of New CAAQMS unit



New CAAQMS installed

Annexure V

Benzo Amino Pyrene (BaP) monitoring data

Benzo Amino Pyrene (BaP) monitoring data**(October 2022 to March 2023)**

| Date | 1. Near Amona gate | 2. Opp. BSNL exchange | 3. Near Dispatch gate | 4. Compound wall towards Navelim | 5. Near Sateri temple | 6. Compound wall towards Maina |
|------------|-----------------------|-----------------------------|-----------------------------|--|-----------------------------|--------------------------------------|
| 03-10-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 06-10-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 10-10-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 13-10-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 17-10-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 20-10-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 24-10-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 27-10-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 31-10-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 03-11-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 07-11-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 10-11-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 14-11-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 17-11-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 21-11-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 24-11-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 28-11-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 01-12-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 05-12-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 08-12-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 12-12-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 15-12-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 19-12-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 22-12-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 26-12-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 29-12-2022 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 02-01-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 05-01-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 09-01-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 12-01-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 16-01-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 19-01-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 23-01-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 27-01-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 30-01-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 02-02-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 06-02-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |

| | | | | | | |
|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 09-02-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 13-02-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 16-02-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 20-02-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 23-02-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 27-02-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 02-03-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 06-03-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 09-03-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 13-03-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 16-03-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 20-03-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 23-03-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 27-03-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| 30-03-2023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Limits | 1 ng/m3 | 1 ng/m3 | 1 ng/m3 | 1 ng/m3 | 1 ng/m3 | 1 ng/m3 |

Annexure VI

Villages- Ambient Air Quality monitoring reports

AAQMS location 1: Near Amona village (Oct-22 and April-23)

| Date | Particular Matter PM 10 (ug/m3) | Particular Matter PM 2.5 (ug/m3) | Sulphur Dioxide (SO2) (ug/m3) | Nitrogen Dioxide (NOx) (ug/m3) |
|------------|------------------------------------|-------------------------------------|----------------------------------|-----------------------------------|
| 03-10-2022 | 42.78 | 22.57 | 9.67 | 16.79 |
| 06-10-2022 | 43.98 | 23.59 | 9.88 | 16.86 |
| 10-10-2022 | 48.72 | 25.21 | 9.74 | 17.21 |
| 13-10-2022 | 50.23 | 26.84 | 10.23 | 16.93 |
| 17-10-2022 | 45.77 | 25.81 | 9.65 | 17.15 |
| 20-10-2022 | 53.68 | 29.15 | 10.36 | 17.28 |
| 24-10-2022 | 48.39 | 25.58 | 9.74 | 16.75 |
| 27-10-2022 | 57.81 | 30.11 | 10.42 | 17.43 |
| 31-10-2022 | 53.46 | 28.95 | 10.07 | 17.22 |
| 03-11-2022 | 58.22 | 28.54 | 9.71 | 16.79 |
| 07-11-2022 | 54.78 | 26.70 | 9.84 | 16.86 |
| 10-11-2022 | 56.98 | 25.37 | 9.65 | 17.14 |
| 14-11-2022 | 58.14 | 28.40 | 10.17 | 17.24 |
| 17-11-2022 | 52.31 | 26.28 | 9.82 | 17.36 |
| 21-11-2022 | 62.11 | 30.56 | 10.24 | 17.63 |
| 24-11-2022 | 58.61 | 29.43 | 9.88 | 16.86 |
| 28-11-2022 | 54.46 | 28.71 | 10.30 | 17.54 |
| 01-12-2022 | 53.47 | 29.33 | 9.72 | 17.23 |
| 05-12-2022 | 50.65 | 27.85 | 9.46 | 17.18 |
| 08-12-2022 | 45.93 | 24.18 | 8.98 | 16.80 |
| 12-12-2022 | 57.50 | 26.78 | 9.23 | 17.07 |
| 15-12-2022 | 48.64 | 31.26 | 10.20 | 17.65 |
| 19-12-2022 | 45.17 | 25.09 | 9.07 | 17.43 |
| 22-12-2022 | 56.82 | 23.86 | 9.45 | 17.78 |
| 26-12-2022 | 61.77 | 33.52 | 10.41 | 18.03 |
| 29-12-2022 | 54.11 | 26.38 | 9.36 | 17.92 |
| 02-01-2023 | 54.85 | 26.35 | 9.67 | 17.44 |
| 05-01-2023 | 51.39 | 24.9 | 9.42 | 17.26 |
| 09-01-2023 | 48.75 | 24.76 | 8.84 | 16.91 |
| 12-01-2023 | 55.13 | 27.73 | 9.78 | 17.59 |
| 16-01-2023 | 49.92 | 24.88 | 9.21 | 17.41 |
| 19-01-2023 | 52.27 | 25.68 | 9.36 | 17.49 |
| 23-01-2023 | 61.48 | 30.22 | 10.58 | 18.34 |
| 27-01-2023 | 58.94 | 28.63 | 10.72 | 18.16 |
| 30-01-2023 | 53.11 | 25.87 | 9.88 | 17.65 |
| 02-02-2023 | 56.83 | 27.29 | 9.62 | 17.68 |
| 06-02-2023 | 46.65 | 23.96 | 9.74 | 17.91 |
| 09-02-2023 | 53.18 | 25.12 | 9.54 | 17.51 |
| 13-02-2023 | 55.76 | 26.88 | 9.78 | 17.64 |
| 16-02-2023 | 61.35 | 30.34 | 9.54 | 17.48 |
| 20-02-2023 | 48.96 | 24.17 | 9.47 | 17.69 |
| 23-02-2023 | 54.66 | 25.65 | 9.84 | 18.24 |

| | | | | |
|---------------------------|--------------------|-------------------|-------------------|-------------------|
| 27-02-2023 | 57.32 | 28.23 | 9.27 | 17.9 |
| 02-03-2023 | 57.84 | 28.16 | 9.69 | 17.72 |
| 06-03-2023 | 49.35 | 24.77 | 9.84 | 17.95 |
| 09-03-2023 | 62.17 | 29.64 | 9.72 | 18.02 |
| 13-03-2023 | 58.39 | 27.75 | 9.61 | 17.49 |
| 16-03-2023 | 55.27 | 25.96 | 9.75 | 17.86 |
| 20-03-2023 | 52.49 | 24.61 | 9.66 | 17.45 |
| 23-03-2023 | 50.95 | 25.06 | 9.71 | 17.82 |
| 27-03-2023 | 61.84 | 29.55 | 9.65 | 17.73 |
| 30-03-2023 | 53.49 | 27.69 | 9.72 | 17.79 |
| NAAQS daily limits | 100 (ug/m3) | 60 (ug/m3) | 80 (ug/m3) | 80 (ug/m3) |

AAQMS location 2: Near Navelim village (Oct-22 and April-23)

| Date | Particular Matter PM 10 (ug/m3) | Particular Matter PM 2.5 (ug/m3) | Sulphur Dioxide (SO2) (ug/m3) | Nitrogen Dioxide (NOx) (ug/m3) |
|-------------------|--|---|--------------------------------------|---------------------------------------|
| 03-10-2022 | 41.54 | 23.11 | 9.47 | 16.84 |
| 06-10-2022 | 44.12 | 25.03 | 9.68 | 16.93 |
| 10-10-2022 | 47.35 | 26.89 | 9.84 | 17.08 |
| 13-10-2022 | 51.05 | 27.73 | 10.07 | 17.26 |
| 17-10-2022 | 48.45 | 26.12 | 9.92 | 17.1 |
| 20-10-2022 | 50.22 | 27.44 | 10.11 | 17.21 |
| 24-10-2022 | 46.73 | 26.28 | 9.96 | 16.82 |
| 27-10-2022 | 54.6 | 27.43 | 10.24 | 17.4 |
| 31-10-2022 | 58.31 | 29.32 | 10.65 | 17.66 |
| 03-11-2022 | 57.11 | 26.30 | 9.42 | 16.76 |
| 07-11-2022 | 52.46 | 26.71 | 9.72 | 16.98 |
| 10-11-2022 | 55.01 | 26.86 | 9.80 | 17.22 |
| 14-11-2022 | 57.47 | 29.19 | 10.15 | 17.32 |
| 17-11-2022 | 56.32 | 26.31 | 9.96 | 17.31 |
| 21-11-2022 | 62.07 | 30.67 | 10.18 | 17.44 |
| 24-11-2022 | 54.18 | 27.34 | 9.86 | 16.92 |
| 28-11-2022 | 52.38 | 26.11 | 9.79 | 17.01 |
| 01-12-2022 | 41.54 | 23.11 | 9.47 | 16.84 |
| 05-12-2022 | 44.12 | 25.03 | 9.68 | 16.93 |
| 08-12-2022 | 47.35 | 26.89 | 9.84 | 17.08 |
| 12-12-2022 | 51.05 | 27.73 | 10.07 | 17.26 |
| 15-12-2022 | 48.05 | 26.12 | 9.92 | 17.10 |
| 19-12-2022 | 50.22 | 27.44 | 10.11 | 17.21 |
| 22-12-2022 | 46.73 | 26.28 | 9.96 | 16.82 |
| 26-12-2022 | 54.60 | 27.43 | 10.24 | 17.40 |
| 29-12-2022 | 58.31 | 29.32 | 10.65 | 17.66 |

| | | | | |
|---------------------------|--------------------|-------------------|-------------------|-------------------|
| 02-01-2023 | 52.54 | 25.12 | 9.58 | 17.5 |
| 05-01-2023 | 49.42 | 24.76 | 8.46 | 16.89 |
| 09-01-2023 | 54.38 | 26.83 | 8.86 | 17.34 |
| 12-01-2023 | 58.49 | 27.85 | 9.63 | 17.62 |
| 16-01-2023 | 62.06 | 31.65 | 9.79 | 17.84 |
| 19-01-2023 | 54.27 | 25.1 | 9.01 | 17.53 |
| 23-01-2023 | 60.34 | 29.83 | 10.23 | 18.25 |
| 27-01-2023 | 53.27 | 25.44 | 9.35 | 17.38 |
| 30-01-2023 | 58.73 | 27.47 | 9.75 | 18.14 |
| 02-02-2023 | 57.12 | 26.54 | 9.54 | 17.54 |
| 06-02-2023 | 49.05 | 24.77 | 9.71 | 17.79 |
| 09-02-2023 | 54.76 | 26.33 | 9.24 | 17.36 |
| 13-02-2023 | 52.85 | 25.71 | 9.71 | 17.94 |
| 16-02-2023 | 62.38 | 31.84 | 9.35 | 17.95 |
| 20-02-2023 | 49.15 | 25.11 | 9.64 | 17.82 |
| 23-02-2023 | 56.91 | 28.22 | 9.91 | 17.25 |
| 27-02-2023 | 54.64 | 27.45 | 9.82 | 17.93 |
| 02-03-2023 | 55.82 | 26.85 | 9.52 | 17.63 |
| 06-03-2023 | 51.34 | 25.43 | 9.7 | 17.83 |
| 09-03-2023 | 61.67 | 30.29 | 9.63 | 17.75 |
| 13-03-2023 | 57.56 | 27.21 | 9.56 | 17.52 |
| 16-03-2023 | 55.31 | 24.98 | 9.66 | 17.71 |
| 20-03-2023 | 53.94 | 25.31 | 9.77 | 17.82 |
| 23-03-2023 | 48.79 | 24.62 | 9.84 | 18.05 |
| 27-03-2023 | 62.36 | 30.55 | 9.69 | 17.79 |
| 30-03-2023 | 55.97 | 27.24 | 9.67 | 17.54 |
| NAAQS daily limits | 100 (ug/m3) | 60 (ug/m3) | 80 (ug/m3) | 80 (ug/m3) |

Annexure VII
Riverine water quality reports



GADARK LAB PVT. LTD.

INDUSTRIAL ANALYSTS & CONSULTANTS

LAB.: H-54, Additional M.I.D.C. Kudal, Taluka - Kudal, District - Sindhudurg - 416 525.

Tel. : (02362) 223519 • E-mail : info@gadark.in • Website : www.gadark.in

OFF.: 15, Hindustan Kohinoor Industrial Complex, L.B.S. Marg, Vikhroli (West), Mumbai - 83.

Tel.: (022) 2577 7069 / 2577 7070 / 2085 0091 • +91 93213 12367

TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|--|--------------------|--------------------------|
| Test Report No. | GW/E/22/10094 | T.R. Date: | 18/10/2022 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 14/10/2022 | | |
| Lab Reference No. | GW/E/22/10094 | Page No. | 1 of 1 |
| Sampling Done On | 14/10/2022 | Sample Received on | 14/10/2022 |
| Sample Collected By | GLPL | Analysis Period | 14/10/2022 To 18/10/2022 |
| Sample Description | River upstream sample (100 mtrs. upstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 7.14 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.3 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 11.6 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.4 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.9 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 84 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

End

For GADARK LAB PVT. LTD.

AUTHORISED SIGNATORY
[KAILAS V. CHITALKAR]

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Tel.: (022) 2577 7069 / 2577 7070 / 2085 0091 • +91 93213 12367

TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|--|--------------------|--------------------------|
| Test Report No. | GW/E/22/10095 | T.R. Date: | 18/10/2022 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 14/10/2022 | | |
| Lab Reference No. | GW/E/22/10095 | Page No. | 1 of 1 |
| Sampling Done On | 14/10/2022 | Sample Received on | 14/10/2022 |
| Sample Collected By | GLPL | Analysis Period | 14/10/2022 To 18/10/2022 |
| Sample Description | River downstream sample (100 mtrs. downstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 7.11 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.1 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 10.8 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.2 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.9 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 79 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

End

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TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|---|--------------------|--------------------------|
| Test Report No. | GW/E/22/10143 | T.R. Date: | 31/10/2022 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NAVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 28/10/2022 | | |
| Lab Reference No. | GW/E/22/10143 | Page No. | 1 of 1 |
| Sampling Done On | 28/10/2022 | Sample Received on | 28/10/2022 |
| Sample Collected By | GLPL | Analysis Period | 28/10/2022 To 31/10/2022 |
| Sample Description | River upstream sample (100 mtrs. upstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 7.09 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.4 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 9.2 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.4 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.8 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 94 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

End

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TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|--|--------------------|--------------------------|
| Test Report No. | GW/E/22/10144 | T.R. Date: | 31/10/2022 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT - I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NAVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM - GOA. | | |
| Letter Ref/Date | As per Dated 28/10/2022 | | |
| Lab Reference No. | GW/E/22/10144 | Page No. | 1 of 1 |
| Sampling Done On | 28/10/2022 | Sample Received on | 28/10/2022 |
| Sample Collected By | GLPL | Analysis Period | 28/10/2022 To 31/10/2022 |
| Sample Description | River downstream sample (100 mtrs. downstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

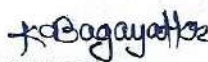
| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 7.10 | 6.5 - 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.5 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 9 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.3 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.8 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 84 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW - II Waters

End

For GADARK LAB PVT. LTD.


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TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|---|--------------------|--------------------------|
| Test Report No. | GW/E/22/11087 | T.R. Date: | 19/11/2022 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NAVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 14/11/2022 | | |
| Lab Reference No. | GW/E/22/11087 | Page No. | 1 of 1 |
| Sampling Done On | 14/11/2022 | Sample Received on | 14/11/2022 |
| Sample Collected By | GLPL | Analysis Period | 14/11/2022 To 19/11/2022 |
| Sample Description | River downstream sample (100 mtrs. downstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 7.05 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.3 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 9.2 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.4 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.8 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 84 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

End

For GADARK LAB PVT. LTD.

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TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|--|--------------------|--------------------------|
| Test Report No. | GW/E/22/11148 | T.R. Date: | 03/12/2022 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NAVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 29/11/2022 | | |
| Lab Reference No. | GW/E/22/11148 | Page No. | 1 of 1 |
| Sampling Done On | 29/11/2022 | Sample Received on | 29/11/2022 |
| Sample Collected By | GLPL | Analysis Period | 29/11/2022 To 03/12/2022 |
| Sample Description | River upstream sample (100 mtrs. upstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 7.05 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.2 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 8.7 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.3 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.9 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 84 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

End

For GADARK LAB PVT. LTD.

Kailas V. Chitalkar

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K. B. Garg

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TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|--|--------------------|--------------------------|
| Test Report No. | GW/E/22/11149 | T.R. Date: | 03/12/2022 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NAVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 29/11/2022 | | |
| Lab Reference No. | GW/E/22/11149 | Page No. | 1 of 1 |
| Sampling Done On | 29/11/2022 | Sample Received on | 29/11/2022 |
| Sample Collected By | GLPL | Analysis Period | 29/11/2022 To 03/12/2022 |
| Sample Description | River downstream sample (100 mtrs. downstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 7.07 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.3 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 8.6 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.2 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.9 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 84 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

End

For GADARK LAB PVT. LTD.

Kailas V. Chitalkar

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K. Bagayath

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TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|---|--------------------|--------------------------|
| Test Report No. | GW/E/22/12095 | T.R. Date: | 17/12/2022 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NAVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 14/12/2022 | | |
| Lab Reference No. | GW/E/22/12095 | Page No. | 1 of 1 |
| Sampling Done On | 14/12/2022 | Sample Received on | 14/12/2022 |
| Sample Collected By | GLPL | Analysis Period | 14/12/2022 To 17/12/2022 |
| Sample Description | River upstream sample (100 mtrs. upstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 6.96 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.1 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 4.6 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.4 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.7 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 84 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

End

For GADARK LAB PVT. LTD.

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TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|---|--------------------|--------------------------|
| Test Report No. | GW/E/22/12096 | T.R. Date: | 17/12/2022 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NAVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 14/12/2022 | | |
| Lab Reference No. | GW/E/22/12096 | Page No. | 1 of 1 |
| Sampling Done On | 14/12/2022 | Sample Received on | 14/12/2022 |
| Sample Collected By | GLPL | Analysis Period | 14/12/2022 To 17/12/2022 |
| Sample Description | River downstream sample (100 mtrs. downstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 6.98 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.2 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 4.4 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.2 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.7 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 84 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

End

For GADARK LAB PVT. LTD.

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[KAILAS V. CHITALKAR]

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GADARK LAB PVT. LTD.

INDUSTRIAL ANALYSTS & CONSULTANTS

LAB.: H-54, Additional M.I.D.C. Kudal, Taluka - Kudal, District - Sindhudurg - 416 525.

Tel. : (02362) 223519 • E-mail : info@gadark.in • Website : www.gadark.in

OFF.: 15, Hindustan Kohinoor Industrial Complex, L.B.S. Marg, Vikhroli (West), Mumbai - 83.

Tel.: (022) 2577 7069 / 2577 7070 / 2085 0091 • +91 93213 12367

TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|---|--------------------|--------------------------|
| Test Report No. | GW/E/22/12165 | T.R. Date: | 03/01/2023 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NAVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 30/12/2022 | | |
| Lab Reference No. | GW/E/22/12165 | Page No. | 1 of 1 |
| Sampling Done On | 30/12/2022 | Sample Received on | 30/12/2022 |
| Sample Collected By | GLPL | Analysis Period | 30/12/2022 To 03/01/2023 |
| Sample Description | River upstream sample (100 mtrs. upstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 7.13 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.3 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 5.6 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.2 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.8 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 84 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

End

For GADARK LAB PVT. LTD.

Brute

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[KAILAS V. CHITALKAR]

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Tel.: (022) 2577 7069 / 2577 7070 / 2085 0091 • +91 93213 12367

TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|--|--------------------|--------------------------|
| Test Report No. | GW/E/22/12166 | T.R. Date: | 03/01/2023 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NAVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 30/12/2022 | | |
| Lab Reference No. | GW/E/22/12166 | Page No. | 1 of 1 |
| Sampling Done On | 30/12/2022 | Sample Received on | 30/12/2022 |
| Sample Collected By | GLPL | Analysis Period | 30/12/2022 To 03/01/2023 |
| Sample Description | River downstream sample (100 mtrs. downstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 7.11 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.1 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 5.1 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.1 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.7 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 70 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

End

For GADARK LAB PVT. LTD.

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TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|--|--------------------|--------------------------|
| Test Report No. | GW/E/23/01076 | T.R. Date: | 17/01/2023 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 13/01/2023 | | |
| Lab Reference No. | GW/E/23/01076 | Page No. | 1 of 1 |
| Sampling Done On | 13/01/2023 | Sample Received on | 13/01/2023 |
| Sample Collected By | GLPL | Analysis Period | 13/01/2023 To 17/01/2023 |
| Sample Description | River upstream sample (100 mtrs. upstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 6.98 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.3 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 5.6 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.2 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.8 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 94 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

End

For GADARK LAB PVT. LTD.

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TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|---|--------------------|--------------------------|
| Test Report No. | GW/E/23/01077 | T.R. Date: | 17/01/2023 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NAVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 13/01/2023 | | |
| Lab Reference No. | GW/E/23/01077 | Page No. | 1 of 1 |
| Sampling Done On | 13/01/2023 | Sample Received on | 13/01/2023 |
| Sample Collected By | GLPL | Analysis Period | 13/01/2023 To 17/01/2023 |
| Sample Description | River downstream sample (100 mtrs. downstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 6.95 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.2 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 5.3 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.2 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.7 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 84 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

End

For GADARK LAB PVT. LTD.

R. Kailas V. Chitalkar

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TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|---|--------------------|--------------------------|
| Test Report No. | GW/E/23/01129 | T.R. Date: | 03/01/2023 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NAVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 30/01/2023 | | |
| Lab Reference No. | GW/E/23/01129 | Page No. | 1 of 1 |
| Sampling Done On | 30/01/2023 | Sample Received on | 30/01/2023 |
| Sample Collected By | GLPL | Analysis Period | 30/01/2023 To 03/01/2023 |
| Sample Description | River upstream sample (100 mtrs. upstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 7.04 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.2 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 4.8 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.4 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.7 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 94 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

End

For GADARK LAB PVT. LTD.

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TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|---|--------------------|--------------------------|
| Test Report No. | GW/E/23/01130 | T.R. Date: | 03/01/2023 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NAVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 30/01/2023 | | |
| Lab Reference No. | GW/E/23/01130 | Page No. | 1 of 1 |
| Sampling Done On | 30/01/2023 | Sample Received on | 30/01/2023 |
| Sample Collected By | GLPL | Analysis Period | 30/01/2023 To 03/01/2023 |
| Sample Description | River downstream sample (100 mtrs. downstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 7.02 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.1 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 4.6 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.2 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.7 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 94 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

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For GADARK LAB PVT. LTD.

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TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|---|--------------------|--------------------------|
| Test Report No. | GW/E/23/020134 | T.R. Date: | 18/02/2023 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NAVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 14/02/2023 | | |
| Lab Reference No. | GW/E/23/020134 | Page No. | 1 of 1 |
| Sampling Done On | 14/02/2023 | Sample Received on | 14/02/2023 |
| Sample Collected By | GLPL | Analysis Period | 14/02/2023 To 18/02/2023 |
| Sample Description | River upstream sample (100 mtrs. upstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 7.03 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.2 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 4.7 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.3 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.7 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 84 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

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For GADARK LAB PVT. LTD.

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TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|--|--------------------|--------------------------|
| Test Report No. | GW/E/23/020135 | T.R. Date: | 18/02/2023 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 14/02/2023 | | |
| Lab Reference No. | GW/E/23/020135 | Page No. | 1 of 1 |
| Sampling Done On | 14/02/2023 | Sample Received on | 14/02/2023 |
| Sample Collected By | GLPL | Analysis Period | 14/02/2023 To 18/02/2023 |
| Sample Description | River downstream sample (100 mtrs. downstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 7.08 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.4 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 4.6 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.2 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.7 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 84 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

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For GADARK LAB PVT. LTD.

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Tel.: (022) 2577 7069 / 2577 7070 / 2085 0091 + 91 9321312367

TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|--|--------------------|--------------------------|
| Test Report No. | GW/E/23/02148 | T.R. Date: | 03/03/2023 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT - I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM - GOA. | | |
| Letter Ref/Date | As per Dated 27/02/2023. | | |
| Lab Reference No. | GW/E/23/02148 | Page No. | 1 of 1 |
| Sampling Done On | 27/02/2023 | Sample Received on | 27/02/2023 |
| Sample Collected By | GLPL | Analysis Period | 27/02/2023 To 03/03/2023 |
| Sample Description | River upstream sample (100 mtrs. upstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 7.02 | 6.5 - 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.3 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 5.2 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.3 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.8 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 84 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW - II Waters

End

For GADARK LAB PVT. LTD.

AUTHORISED SIGNATORY
[KAILAS V. CHITALKAR]

KCBagayath
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Note:

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2. Test certificate shall not be reproduced except in full, without written approval of the laboratory.
3. Samples will be preserved for a period 15 days from the delivery of Test Certificate.
4. Customer complaint register is available at laboratory.
5. Calibration details of the equipment's used in monitoring and / or analysis is back side of analysis report



GADARK LAB PVT. LTD.

INDUSTRIAL ANALYSTS & CONSULTANTS

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OFF.: 15, Hindustan Kohinoor Industrial Complex, L.B.S. Marg, Vikhroli (West), Mumbai - 83.
Tel.: (022) 2577 7069 / 2577 7070 / 2085 0091 + 91 9321312367

TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|--|--------------------|--------------------------|
| Test Report No. | GW/E/23/02149 | T.R. Date: | 03/03/2023 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 27/02/2023 | | |
| Lab Reference No. | GW/E/23/02149 | Page No. | 1 of 1 |
| Sampling Done On | 27/02/2023 | Sample Received on | 27/02/2023 |
| Sample Collected By | GLPL | Analysis Period | 27/02/2023 To 03/03/2023 |
| Sample Description | River downstream sample (100 mtrs. downstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 7.04 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.2 | 4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 5.1 | 30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.3 | 3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.8 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 84 | 100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

End

For GADARK LAB PVT. LTD.

AUTHORISED SIGNATORY
[KAILAS V. CHITALKAR]

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TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|---|--------------------|--------------------------|
| Test Report No. | GW/E/23/03076 | T.R. Date: | 17/03/2023 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 14/03/2023 | | |
| Lab Reference No. | GW/E/23/03076 | Page No. | 1 of 1 |
| Sampling Done On | 14/03/2023 | Sample Received on | 14/03/2023 |
| Sample Collected By | GLPL | Analysis Period | 14/03/2023 To 17/03/2023 |
| Sample Description | River upstream sample (100 mtrs. upstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 7.14 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.4 | >4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 5.6 | <30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.2 | <3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.9 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 94 | <100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

End

For GADARK LAB PVT. LTD.

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Tel.: (022) 2577 7069 / 2577 7070 / 2085 0091 • +91 93213 12367

TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|---|--------------------|--------------------------|
| Test Report No. | GW/E/23/03077 | T.R. Date: | 17/03/2023 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 14/03/2023 | | |
| Lab Reference No. | GW/E/23/03077 | Page No. | 1 of 1 |
| Sampling Done On | 14/03/2023 | Sample Received on | 14/03/2023 |
| Sample Collected By | GLPL | Analysis Period | 14/03/2023 To 17/03/2023 |
| Sample Description | River downstream sample (100 mtrs. downstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 7.11 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.2 | >4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 5.4 | <30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.2 | <3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.9 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 94 | <100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/
AS per Class SW – II Waters

End

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Recognised by Ministry of Environment, Forest and CC, Government of India, vide Gazette Notification No. 3221, dated 24th August 2021, valid upto 15th October 2023. ISO 9001 : 2015 Certified & ISO 45001 : 2018 Certified.



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Tel.: (022) 2577 7069 / 2577 7070 / 2085 0091 • +91 93213 12367

TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|---|--------------------|--------------------------|
| Test Report No. | GW/E/23/03136 | T.R. Date: | 04/04/2023 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 30/03/2023 | | |
| Lab Reference No. | GW/E/23/03136 | Page No. | 1 of 1 |
| Sampling Done On | 30/03/2023 | Sample Received on | 30/03/2023 |
| Sample Collected By | GLPL | Analysis Period | 30/03/2023 To 04/04/2023 |
| Sample Description | River upstream sample (100 mtrs. upstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 6.98 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.3 | >4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 5.6 | <30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.2 | <3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.9 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 84 | <100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/

AS per Class SW – II Waters

End

For GADARK LAB PVT. LTD.


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[KAILAS V. CHITALKAR]


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TEST REPORT

Doc. No: GLPL/QF/7.8/01

| | | | |
|---------------------------|---|--------------------|--------------------------|
| Test Report No. | GW/E/23/03137 | T.R. Date: | 04/04/2023 |
| Customer Name and Address | M/s. VEDANTA LIMITED (MET COKE DIVISION) (WASTE HEAT RECOVERY POWER PLANT – I) SURVEY NO. 205,206,207, 31/1, PART OF 177,44,43/1,43/2, & 42/1 & 74, SURVEY NO. 207 (PART) OF NVELIM VILLAGE AND SURVEY NO. 43/1, 44/4 & 44/5 OF AMONA VILLAGE, BICHOLIM – GOA. | | |
| Letter Ref/Date | As per Dated 30/03/2023 | | |
| Lab Reference No. | GW/E/23/03137 | Page No. | 1 of 1 |
| Sampling Done On | 30/03/2023 | Sample Received on | 30/03/2023 |
| Sample Collected By | GLPL | Analysis Period | 30/03/2023 To 04/04/2023 |
| Sample Description | River downstream sample (100 mtrs. downstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | *Limits | Methods |
|-------------------------------|------------|-------------|-----------|---|
| pH | --- | 7.01 | 6.5 – 8.5 | APHA (23 rd Edition) 4500 H ⁺ |
| Dissolved Oxygen | mg/ltr | 4.3 | >4.0 | APHA (23 rd Edition) 4500 O C |
| Turbidity | NTU | 5.2 | <30.0 | APHA (23 rd Edition) 2130 B |
| BOD 3 days 27°C | mg/ltr | 2.2 | <3.0 | IS 3025 (Part 44) : 1993 |
| Temperature | °C | 27.8 | --- | APHA (23 rd Edition) 2550 B |
| BACTERIOLOGICAL TEST : | | | | |
| Fecal Coliform | Org/100 ml | 70 | <100.0 | APHA (23 rd Edition) 9221 E |

*Limits: GSPCB Consent No. 5/416/95-PCB/CI-5196/

AS per Class SW – II Waters

End

For GADARK LAB PVT. LTD.

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Annexure VIII

Ambient air quality monitoring reports of VAB

AAQMS location 1: Near Amona Gate

| Date | Particular Matter PM 10 (ug/m3) | Particular Matter PM 2.5 (ug/m3) | Sulphur Dioxide (SO2) (ug/m3) | Nitrogen Dioxide (NOx) (ug/m3) |
|------------|------------------------------------|-------------------------------------|----------------------------------|--------------------------------------|
| 03-10-2022 | 42.16 | 22.58 | 9.78 | 16.47 |
| 06-10-2022 | 45.09 | 25.21 | 9.83 | 16.89 |
| 10-10-2022 | 50.41 | 27.35 | 10.54 | 17.32 |
| 13-10-2022 | 41.65 | 21.97 | 9.56 | 16.74 |
| 17-10-2022 | 46.92 | 25.77 | 9.75 | 16.89 |
| 20-10-2022 | 48.83 | 27.01 | 10.34 | 17.34 |
| 24-10-2022 | 46.12 | 24.88 | 9.74 | 16.56 |
| 27-10-2022 | 53.48 | 28.13 | 10.52 | 17.55 |
| 31-10-2022 | 59.32 | 29.3 | 11.32 | 17.58 |
| 03-11-2022 | 48.62 | 26.07 | 9.65 | 16.59 |
| 07-11-2022 | 62.41 | 31.33 | 9.75 | 17.15 |
| 10-11-2022 | 56.22 | 31.15 | 9.88 | 17.44 |
| 14-11-2022 | 54.77 | 33.72 | 10.13 | 17.41 |
| 17-11-2022 | 56.71 | 30.09 | 10.44 | 17.78 |
| 21-11-2022 | 56.44 | 27.24 | 9.71 | 16.93 |
| 24-11-2022 | 62.13 | 30.9 | 9.69 | 16.89 |
| 28-11-2022 | 48.62 | 27.65 | 9.89 | 17.81 |
| 01-12-2022 | 55.79 | 29.33 | 9.72 | 17.23 |
| 05-12-2022 | 51.68 | 27.85 | 9.46 | 17.18 |
| 08-12-2022 | 47.03 | 24.18 | 8.98 | 16.8 |
| 12-12-2022 | 50.11 | 26.78 | 9.23 | 17.07 |
| 15-12-2022 | 58.23 | 31.26 | 10.2 | 17.65 |
| 19-12-2022 | 48.34 | 25.09 | 9.07 | 17.43 |
| 22-12-2022 | 53.79 | 23.86 | 9.54 | 17.78 |
| 26-12-2022 | 62.23 | 33.52 | 10.41 | 18.03 |
| 29-12-2022 | 58.77 | 26.38 | 9.36 | 17.92 |
| 02-01-2023 | 58.54 | 27.34 | 9.54 | 18.22 |
| 05-01-2023 | 52.79 | 24.11 | 9.40 | 17.67 |
| 09-01-2023 | 63.17 | 27.38 | 10.34 | 18.35 |
| 12-01-2023 | 49.35 | 24.16 | 9.86 | 17.83 |
| 16-01-2023 | 54.18 | 25.86 | 9.76 | 17.74 |
| 19-01-2023 | 59.34 | 27.52 | 10.41 | 18.33 |
| 23-01-2023 | 61.23 | 28.9 | 10.04 | 17.83 |
| 27-01-2023 | 56.84 | 25.55 | 10.58 | 18.37 |
| 30-01-2023 | 60.89 | 30.07 | 10.58 | 18.37 |
| 02-02-2023 | 62.47 | 30.44 | 10.21 | 18.46 |
| 06-02-2023 | 58.9 | 25.03 | 9.78 | 17.86 |
| 09-02-2023 | 61.66 | 29.52 | 9.92 | 18.16 |
| 13-02-2023 | 55.48 | 25.85 | 10.39 | 18.52 |
| 16-02-2023 | 57.89 | 27.16 | 10.07 | 18.36 |
| 20-02-2023 | 62.13 | 29.94 | 9.48 | 18.11 |
| 23-02-2023 | 58.07 | 28.22 | 10.35 | 18.39 |
| 27-02-2023 | 59.83 | 29.43 | 10.11 | 17.98 |
| 02-03-2023 | 63.65 | 31.42 | 10.05 | 18.17 |
| 06-03-2023 | 59.01 | 28.7 | 9.77 | 17.91 |

| | | | | |
|---------------------------|--------------------|-------------------|-------------------|-------------------|
| 09-03-2023 | 57.32 | 27.04 | 9.88 | 18.01 |
| 13-03-2023 | 58.18 | 26.12 | 9.66 | 17.49 |
| 16-03-2023 | 61.67 | 30.26 | 10.08 | 18.06 |
| 20-03-2023 | 57.38 | 27.11 | 9.88 | 17.49 |
| 23-03-2023 | 59.02 | 28.89 | 10.17 | 18.34 |
| 27-03-2023 | 61.25 | 29.21 | 9.92 | 17.88 |
| 30-03-2023 | 62.66 | 31.34 | 10.23 | 18.51 |
| NAAQS daily limits | 100 (ug/m3) | 60 (ug/m3) | 80 (ug/m3) | 80 (ug/m3) |

AAQMS location 2: Opp. BSNL exchange

| Date | Particular Matter PM 10 (ug/m3) | Particular Matter PM 2.5 (ug/m3) | Sulphur Dioxide (SO2) (ug/m3) | Nitrogen Dioxide (NOx) (ug/m3) |
|-------------------|--|---|--------------------------------------|---------------------------------------|
| 03-10-2022 | 42.85 | 23.11 | 9.67 | 16.61 |
| 06-10-2022 | 45.26 | 25.35 | 9.8 | 16.83 |
| 10-10-2022 | 52.64 | 27.48 | 11.21 | 17.25 |
| 13-10-2022 | 42.37 | 22.54 | 9.58 | 16.83 |
| 17-10-2022 | 46.74 | 25.83 | 9.8 | 16.92 |
| 20-10-2022 | 50.18 | 27.39 | 10.15 | 17.43 |
| 24-10-2022 | 44.06 | 24.9 | 9.79 | 16.64 |
| 27-10-2022 | 52.66 | 28.48 | 10.74 | 17.41 |
| 31-10-2022 | 57.38 | 30.06 | 11.33 | 17.63 |
| 03-11-2022 | 50.14 | 30.22 | 9.68 | 16.94 |
| 07-11-2022 | 47.85 | 28.74 | 9.89 | 16.77 |
| 10-11-2022 | 63.67 | 30.77 | 10.9 | 17.68 |
| 14-11-2022 | 70.48 | 35.68 | 11.14 | 18.15 |
| 17-11-2022 | 55.71 | 27.96 | 9.94 | 16.97 |
| 21-11-2022 | 52.46 | 26.7 | 10.22 | 17.59 |
| 24-11-2022 | 53.91 | 29.66 | 9.85 | 16.74 |
| 28-11-2022 | 47.86 | 28.11 | 10.13 | 17.75 |
| 01-12-2022 | 57.31 | 28.54 | 9.64 | 17.39 |
| 05-12-2022 | 52.98 | 25.31 | 9.51 | 17.07 |
| 08-12-2022 | 48.63 | 24.07 | 8.78 | 16.91 |
| 12-12-2022 | 52.47 | 27.9 | 9.38 | 17.33 |
| 15-12-2022 | 61.38 | 32.43 | 10.33 | 17.83 |
| 19-12-2022 | 47.83 | 24.88 | 9.12 | 16.84 |
| 22-12-2022 | 56.71 | 27.32 | 9.64 | 17.66 |
| 26-12-2022 | 66.38 | 34.79 | 10.68 | 18.21 |
| 29-12-2022 | 57.11 | 29.45 | 9.49 | 17.77 |
| 02-01-2023 | 60.34 | 28.65 | 9.6 | 18.31 |
| 05-01-2023 | 54.78 | 25.11 | 9.44 | 17.75 |
| 09-01-2023 | 62.86 | 29.89 | 10.41 | 18.58 |
| 12-01-2023 | 50.13 | 24.38 | 9.93 | 17.82 |

| | | | | |
|---------------------------|--------------------|-------------------|-------------------|-------------------|
| 16-01-2023 | 58.44 | 26.07 | 9.85 | 17.65 |
| 19-01-2023 | 54.21 | 24.77 | 10.44 | 18.73 |
| 23-01-2023 | 64.92 | 31.84 | 10.34 | 18.43 |
| 27-01-2023 | 49.66 | 24.93 | 10.2 | 18.31 |
| 30-01-2023 | 57.18 | 27.80 | 10.21 | 18.47 |
| 02-02-2023 | 63.52 | 31.24 | 10.25 | 18.52 |
| 06-02-2023 | 57.29 | 26.87 | 9.85 | 17.96 |
| 09-02-2023 | 62.88 | 28.95 | 9.73 | 17.53 |
| 13-02-2023 | 59.01 | 27.03 | 10.32 | 18.31 |
| 16-02-2023 | 55.37 | 25.11 | 9.95 | 18.3 |
| 20-02-2023 | 61.76 | 29.27 | 10.21 | 17.96 |
| 23-02-2023 | 56.93 | 26.84 | 10.47 | 18.43 |
| 27-02-2023 | 58.12 | 27.23 | 10.23 | 18.21 |
| 02-03-2023 | 61.48 | 30.84 | 9.89 | 17.96 |
| 06-03-2023 | 58.32 | 28.61 | 10.08 | 18.34 |
| 09-03-2023 | 56.9 | 27.25 | 9.77 | 17.82 |
| 13-03-2023 | 63.18 | 31.08 | 10.12 | 18.33 |
| 16-03-2023 | 62.07 | 30.77 | 9.88 | 18.14 |
| 20-03-2023 | 56.72 | 27.43 | 9.95 | 17.78 |
| 23-03-2023 | 60.89 | 28.92 | 10.22 | 18.47 |
| 27-03-2023 | 58.59 | 27.54 | 9.76 | 17.69 |
| 30-03-2023 | 62.32 | 31.86 | 10.09 | 18.42 |
| NAAQS daily limits | 100 (ug/m3) | 60 (ug/m3) | 80 (ug/m3) | 80 (ug/m3) |

AAQMS location 3: Near Dispatch gate

| Date | Particular Matter PM 10 (ug/m3) | Particular Matter PM 2.5 (ug/m3) | Sulphur Dioxide (SO2) (ug/m3) | Nitrogen Dioxide (NOx) (ug/m3) |
|-------------------|--|---|--|---|
| 03-10-2022 | 43.58 | 23.25 | 9.76 | 16.72 |
| 06-10-2022 | 46.22 | 25.87 | 9.73 | 16.65 |
| 10-10-2022 | 52.79 | 27.79 | 10.32 | 17.11 |
| 13-10-2022 | 43.14 | 23.11 | 9.48 | 16.36 |
| 17-10-2022 | 45.82 | 25.54 | 9.75 | 16.82 |
| 20-10-2022 | 51.78 | 26.9 | 10.23 | 17.23 |
| 24-10-2022 | 47.01 | 23.73 | 9.68 | 16.9 |
| 27-10-2022 | 53.69 | 27.71 | 10.38 | 17.24 |
| 31-10-2022 | 56.83 | 29.64 | 10.96 | 17.69 |
| 03-11-2022 | 47.35 | 27.88 | 9.75 | 16.81 |
| 07-11-2022 | 60.59 | 31.62 | 9.8 | 16.88 |
| 10-11-2022 | 71.72 | 34.43 | 10.07 | 17.24 |
| 14-11-2022 | 64.59 | 32.64 | 9.92 | 17.68 |
| 17-11-2022 | 56.72 | 27.92 | 10.11 | 18.16 |
| 21-11-2022 | 58.62 | 29.34 | 10.05 | 17.82 |
| 24-11-2022 | 57.93 | 27.56 | 9.53 | 16.71 |
| 28-11-2022 | 55.41 | 26.12 | 10.13 | 18.07 |

| | | | | |
|---------------------------|--------------------|-------------------|-------------------|-------------------|
| 01-12-2022 | 56.84 | 29.34 | 9.81 | 17.74 |
| 05-12-2022 | 51.75 | 26.82 | 9.48 | 17.13 |
| 08-12-2022 | 47.72 | 24.58 | 8.9 | 17.08 |
| 12-12-2022 | 54.83 | 28.23 | 9.26 | 17.26 |
| 15-12-2022 | 63.91 | 31.66 | 10.11 | 18.16 |
| 19-12-2022 | 49.18 | 25.8 | 9.08 | 16.59 |
| 22-12-2022 | 58.93 | 28.32 | 9.79 | 17.44 |
| 26-12-2022 | 64.37 | 35.67 | 10.52 | 18.18 |
| 29-12-2022 | 59.43 | 30.15 | 9.66 | 17.53 |
| 02-01-2023 | 62.11 | 30.56 | 9.68 | 18.43 |
| 05-01-2023 | 56.82 | 25.68 | 9.53 | 17.66 |
| 09-01-2023 | 59.43 | 28.31 | 10.54 | 18.61 |
| 12-01-2023 | 52.35 | 25.49 | 9.84 | 18.32 |
| 16-01-2023 | 63.19 | 31.08 | 9.81 | 17.71 |
| 19-01-2023 | 55.65 | 24.82 | 10.57 | 18.83 |
| 23-01-2023 | 65.98 | 32.79 | 10.3 | 18.4 |
| 27-01-2023 | 48.73 | 24.63 | 10.33 | 18.26 |
| 30-01-2023 | 56.84 | 26.45 | 9.96 | 18.42 |
| 02-02-2023 | 61.68 | 30.17 | 9.89 | 18.02 |
| 06-02-2023 | 58.44 | 26.53 | 9.65 | 17.74 |
| 09-02-2023 | 64.36 | 32.38 | 10.18 | 18.61 |
| 13-02-2023 | 57.51 | 26.97 | 10.16 | 18.24 |
| 16-02-2023 | 59.27 | 26.14 | 9.73 | 17.84 |
| 20-02-2023 | 62.55 | 31.06 | 10.36 | 18.45 |
| 23-02-2023 | 57.76 | 26.94 | 10.18 | 18.08 |
| 27-02-2023 | 60.84 | 28.25 | 9.97 | 17.75 |
| 02-03-2023 | 63.48 | 31.27 | 10.15 | 18.34 |
| 06-03-2023 | 57.92 | 27.89 | 10.34 | 18.5 |
| 09-03-2023 | 58.18 | 26.53 | 9.89 | 17.78 |
| 13-03-2023 | 61.66 | 30.94 | 9.76 | 18.16 |
| 16-03-2023 | 62.07 | 31.45 | 10.01 | 17.94 |
| 20-03-2023 | 57.24 | 27.88 | 10.24 | 18.56 |
| 23-03-2023 | 63.16 | 31.73 | 10.07 | 18.31 |
| 27-03-2023 | 57.88 | 27.36 | 10.16 | 18.2 |
| 30-03-2023 | 60.54 | 30.59 | 9.95 | 18.25 |
| NAAQS daily limits | 100 (ug/m3) | 60 (ug/m3) | 80 (ug/m3) | 80 (ug/m3) |

AAQMS location 4: Compound wall towards Navelim

| Date | Particular Matter PM 10 (ug/m3) | Particular Matter PM 2.5 (ug/m3) | Sulphur Dioxide (SO2) (ug/m3) | Nitrogen Dioxide (NOx) (ug/m3) |
|------------|------------------------------------|-------------------------------------|----------------------------------|-----------------------------------|
| 03-10-2022 | 40.58 | 22.48 | 9.56 | 16.65 |
| 06-10-2022 | 45.31 | 25.75 | 9.83 | 16.76 |
| 10-10-2022 | 51.89 | 27.53 | 10.45 | 17.14 |
| 13-10-2022 | 43.34 | 23.46 | 9.55 | 16.43 |
| 17-10-2022 | 45.47 | 25.62 | 9.71 | 16.78 |
| 20-10-2022 | 52.89 | 27.33 | 10.16 | 17.18 |
| 24-10-2022 | 48.41 | 24.07 | 9.73 | 16.44 |
| 27-10-2022 | 56.92 | 27.83 | 10.22 | 17.12 |
| 31-10-2022 | 55.23 | 28.34 | 11.25 | 17.54 |
| 03-11-2022 | 50.14 | 27.85 | 9.78 | 16.88 |
| 07-11-2022 | 48.96 | 26.94 | 10.26 | 17.56 |
| 10-11-2022 | 71.05 | 33.64 | 10.51 | 18.01 |
| 14-11-2022 | 62.46 | 30.55 | 9.77 | 17.71 |
| 17-11-2022 | 55.92 | 27.45 | 9.85 | 17.35 |
| 21-11-2022 | 49.11 | 27.62 | 10.46 | 18.34 |
| 24-11-2022 | 53.64 | 28.03 | 10.01 | 17.76 |
| 28-11-2022 | 55.71 | 27.95 | 10.13 | 17.64 |
| 01-12-2022 | 54.98 | 28.21 | 9.67 | 17.63 |
| 05-12-2022 | 49.67 | 26.05 | 9.25 | 17.34 |
| 08-12-2022 | 45.39 | 25.17 | 8.67 | 17.01 |
| 12-12-2022 | 56.24 | 27.34 | 9.36 | 17.34 |
| 15-12-2022 | 64.82 | 32.54 | 10.29 | 17.92 |
| 19-12-2022 | 48.15 | 25.67 | 9.24 | 17.24 |
| 22-12-2022 | 57.77 | 28.11 | 9.85 | 17.52 |
| 26-12-2022 | 68.91 | 34.83 | 10.38 | 18.33 |
| 29-12-2022 | 55.32 | 29.68 | 9.74 | 17.48 |
| 02-01-2023 | 61.78 | 29.51 | 9.54 | 17.88 |
| 05-01-2023 | 55.91 | 26.28 | 9.47 | 17.73 |
| 09-01-2023 | 60.53 | 28.28 | 10.41 | 18.83 |
| 12-01-2023 | 55.68 | 25.32 | 9.77 | 18.14 |
| 16-01-2023 | 64.95 | 32.45 | 9.83 | 17.63 |
| 19-01-2023 | 53.66 | 25.68 | 10.63 | 18.68 |
| 23-01-2023 | 63.12 | 30.61 | 9.86 | 17.85 |
| 27-01-2023 | 49.35 | 24.57 | 10.21 | 18.32 |
| 30-01-2023 | 57.8 | 25.29 | 9.85 | 18.23 |
| 02-02-2023 | 58.61 | 28.74 | 9.77 | 17.82 |
| 06-02-2023 | 61.28 | 30.12 | 9.61 | 17.66 |
| 09-02-2023 | 65.92 | 33.57 | 10.24 | 18.31 |
| 13-02-2023 | 56.77 | 27.41 | 10.4 | 18.56 |
| 16-02-2023 | 58.26 | 28.96 | 9.63 | 17.57 |
| 20-02-2023 | 64.55 | 32.17 | 9.87 | 17.82 |
| 23-02-2023 | 55.93 | 27.89 | 10.29 | 18.21 |
| 27-02-2023 | 61.47 | 30.64 | 10.53 | 17.93 |
| 02-03-2023 | 62.17 | 31.66 | 10.07 | 18.16 |
| 06-03-2023 | 56.84 | 26.98 | 9.98 | 17.85 |

| | | | | |
|---------------------------|--------------------|-------------------|-------------------|-------------------|
| 09-03-2023 | 59.02 | 28.43 | 9.71 | 17.36 |
| 13-03-2023 | 61.23 | 29.66 | 9.68 | 17.79 |
| 16-03-2023 | 62.58 | 31.72 | 10.26 | 18.52 |
| 20-03-2023 | 57.77 | 26.92 | 10.17 | 18.37 |
| 23-03-2023 | 62.07 | 31.43 | 10.25 | 18.29 |
| 27-03-2023 | 56.35 | 28.51 | 9.78 | 17.58 |
| 30-03-2023 | 61.48 | 30.95 | 10.53 | 18.44 |
| NAAQS daily limits | 100 (ug/m3) | 60 (ug/m3) | 80 (ug/m3) | 80 (ug/m3) |

AAQMS location 5: Near Sateri temple

| Date | Particular Matter PM 10 (ug/m3) | Particular Matter PM 2.5 (ug/m3) | Sulphur Dioxide (SO2) (ug/m3) | Nitrogen Dioxide (NOx) (ug/m3) |
|-------------------|--|---|--------------------------------------|---------------------------------------|
| 03-10-2022 | 42.18 | 23.16 | 9.62 | 16.77 |
| 06-10-2022 | 44.89 | 25.43 | 9.77 | 16.89 |
| 10-10-2022 | 52.75 | 26.74 | 10.21 | 17.23 |
| 13-10-2022 | 44.65 | 24.33 | 9.76 | 16.65 |
| 17-10-2022 | 47.11 | 25.87 | 9.92 | 16.7 |
| 20-10-2022 | 53.07 | 27.31 | 10.05 | 17.35 |
| 24-10-2022 | 47.73 | 24.33 | 9.53 | 16.49 |
| 27-10-2022 | 54.52 | 26.89 | 10.24 | 17.09 |
| 31-10-2022 | 57.85 | 28.44 | 10.67 | 17.38 |
| 03-11-2022 | 52.46 | 26.47 | 9.77 | 16.92 |
| 07-11-2022 | 47.92 | 24.56 | 10.52 | 17.76 |
| 10-11-2022 | 62.65 | 31.56 | 10.17 | 17.86 |
| 14-11-2022 | 71.46 | 34.9 | 10.69 | 18.31 |
| 17-11-2022 | 55.93 | 27.56 | 9.96 | 17.22 |
| 21-11-2022 | 54.69 | 26.74 | 10.22 | 17.49 |
| 24-11-2022 | 53.84 | 26.91 | 9.79 | 17.53 |
| 28-11-2022 | 54.69 | 27.23 | 10.07 | 17.85 |
| 01-12-2022 | 57.21 | 29.43 | 9.69 | 17.7 |
| 05-12-2022 | 42.78 | 24.28 | 8.75 | 16.71 |
| 08-12-2022 | 47.92 | 28.35 | 8.9 | 17.2 |
| 12-12-2022 | 58.51 | 29.24 | 9.43 | 17.45 |
| 15-12-2022 | 65.07 | 35.69 | 10.12 | 18.24 |
| 19-12-2022 | 47.42 | 25.08 | 9.04 | 17.16 |
| 22-12-2022 | 59.34 | 30.62 | 9.72 | 17.67 |
| 26-12-2022 | 70.34 | 36.27 | 10.44 | 18.49 |
| 29-12-2022 | 56.72 | 28.51 | 9.66 | 17.33 |
| 02-01-2023 | 62.79 | 31.06 | 9.6 | 17.93 |
| 05-01-2023 | 54.47 | 26.34 | 9.51 | 17.7 |
| 09-01-2023 | 60.84 | 29.62 | 10.48 | 18.64 |
| 12-01-2023 | 57.31 | 25.71 | 9.83 | 18.27 |
| 16-01-2023 | 63.89 | 31.66 | 9.7 | 17.78 |

| | | | | |
|---------------------------|--------------------|-------------------|-------------------|-------------------|
| 19-01-2023 | 55.23 | 25.72 | 10.52 | 18.73 |
| 23-01-2023 | 58.98 | 28.31 | 9.74 | 17.94 |
| 27-01-2023 | 51.26 | 24.44 | 10.31 | 18.46 |
| 30-01-2023 | 56.82 | 25.38 | 10.64 | 18.6 |
| 02-02-2023 | 62.01 | 30.46 | 9.82 | 17.94 |
| 06-02-2023 | 64.38 | 32.04 | 9.70 | 17.75 |
| 09-02-2023 | 57.91 | 27.85 | 9.65 | 17.64 |
| 13-02-2023 | 58.05 | 26.51 | 10.16 | 18.24 |
| 16-02-2023 | 54.67 | 27.34 | 10.34 | 18.76 |
| 20-02-2023 | 62.34 | 30.85 | 10.38 | 18.44 |
| 23-02-2023 | 57.9 | 26.87 | 9.85 | 18.01 |
| 27-02-2023 | 62.56 | 30.94 | 10.22 | 18.43 |
| 02-03-2023 | 61.58 | 30.73 | 9.87 | 17.82 |
| 06-03-2023 | 57.33 | 26.68 | 10.22 | 18.92 |
| 09-03-2023 | 63.15 | 32.57 | 9.78 | 17.44 |
| 13-03-2023 | 60.68 | 30.41 | 9.81 | 18.3 |
| 16-03-2023 | 59.26 | 29.44 | 10.33 | 18.21 |
| 20-03-2023 | 56.13 | 26.76 | 9.97 | 18.06 |
| 23-03-2023 | 63.02 | 31.83 | 10.13 | 18.17 |
| 27-03-2023 | 57.33 | 28.6 | 9.89 | 17.82 |
| 30-03-2023 | 60.86 | 29.87 | 10.06 | 18.12 |
| NAAQS daily limits | 100 (ug/m3) | 60 (ug/m3) | 80 (ug/m3) | 80 (ug/m3) |

AAQMS location 6: Compound wall towards Maina

| Date | Particular Matter PM 10 (ug/m3) | Particular Matter PM 2.5 (ug/m3) | Sulphur Dioxide (SO2) (ug/m3) | Nitrogen Dioxide (NOx) (ug/m3) |
|-------------------|--|---|--|---|
| 03-10-2022 | 41.65 | 23.44 | 9.75 | 16.65 |
| 06-10-2022 | 45.35 | 25.52 | 9.83 | 16.91 |
| 10-10-2022 | 51.87 | 27.1 | 10.03 | 17.34 |
| 13-10-2022 | 47.23 | 23.69 | 9.65 | 16.53 |
| 17-10-2022 | 49.45 | 24.22 | 10.02 | 17.32 |
| 20-10-2022 | 51.46 | 28.02 | 10.15 | 17.39 |
| 24-10-2022 | 50.34 | 26.81 | 9.98 | 16.92 |
| 27-10-2022 | 55.21 | 28.54 | 10.26 | 17.12 |
| 31-10-2022 | 58.9 | 30.03 | 10.42 | 17.27 |
| 03-11-2022 | 54.26 | 28.46 | 10.11 | 17.61 |
| 07-11-2022 | 48.62 | 27.66 | 9.78 | 17.51 |
| 10-11-2022 | 70.13 | 37.8 | 10.12 | 17.63 |
| 14-11-2022 | 64.58 | 33.05 | 9.86 | 17.85 |
| 17-11-2022 | 53.27 | 28.27 | 10.26 | 17.67 |
| 21-11-2022 | 50.39 | 26.98 | 10.28 | 17.44 |
| 24-11-2022 | 54.68 | 27.67 | 9.88 | 17.32 |
| 28-11-2022 | 47.95 | 26.85 | 10.15 | 17.29 |

| | | | | |
|---------------------|--------------------|-------------------|-------------------|-------------------|
| 01-12-2022 | 61.34 | 31.56 | 9.7 | 17.86 |
| 05-12-2022 | 56.3 | 26.38 | 9.23 | 17.34 |
| 08-12-2022 | 48.53 | 25.17 | 8.71 | 16.97 |
| 12-12-2022 | 55.92 | 26.27 | 9.65 | 17.35 |
| 15-12-2022 | 68.73 | 36.81 | 10.31 | 18.64 |
| 19-12-2022 | 51.28 | 26.23 | 9.17 | 17.24 |
| 22-12-2022 | 58.92 | 29.35 | 9.65 | 17.77 |
| 26-12-2022 | 72.57 | 37.93 | 10.31 | 18.53 |
| 29-12-2022 | 58.01 | 28.42 | 9.79 | 17.4 |
| 02-01-2023 | 61.74 | 30.14 | 9.66 | 18.23 |
| 05-01-2023 | 55.69 | 25.33 | 9.55 | 17.74 |
| 09-01-2023 | 63.76 | 32.06 | 10.45 | 18.35 |
| 12-01-2023 | 54.18 | 24.7 | 10.59 | 19.68 |
| 16-01-2023 | 58.91 | 27.81 | 9.89 | 17.89 |
| 19-01-2023 | 54.77 | 25.34 | 10.56 | 18.63 |
| 23-01-2023 | 60.32 | 29.13 | 9.74 | 17.72 |
| 27-01-2023 | 53.64 | 25.64 | 10.71 | 18.55 |
| 30-01-2023 | 59.02 | 25.93 | 10.24 | 18.3 |
| 02-02-2023 | 63.25 | 31.49 | 10.28 | 18.52 |
| 06-02-2023 | 58.96 | 28.72 | 10.07 | 18.16 |
| 09-02-2023 | 56.72 | 26.28 | 10.24 | 18.32 |
| 13-02-2023 | 62.85 | 30.07 | 10.35 | 18.5 |
| 16-02-2023 | 55.02 | 25.92 | 9.85 | 17.69 |
| 20-02-2023 | 64.11 | 32.58 | 10.24 | 18.33 |
| 23-02-2023 | 57.32 | 26.34 | 10.07 | 17.78 |
| 27-02-2023 | 63.09 | 32.44 | 9.88 | 18.32 |
| 02-03-2023 | 62.56 | 31.28 | 10.24 | 18.3 |
| 06-03-2023 | 58.47 | 29.05 | 10.08 | 18.11 |
| 09-03-2023 | 60.78 | 30.53 | 9.98 | 18.16 |
| 13-03-2023 | 57.83 | 27.66 | 9.62 | 17.87 |
| 16-03-2023 | 58.42 | 28.9 | 10.13 | 18.18 |
| 20-03-2023 | 63.26 | 31.85 | 10.25 | 18.24 |
| 23-03-2023 | 61.84 | 30.77 | 9.96 | 18.11 |
| 27-03-2023 | 58.12 | 29.33 | 10.11 | 17.86 |
| 30-03-2023 | 60.07 | 30.31 | 10.17 | 18.37 |
| NAAQS limits | 100 (ug/m3) | 60 (ug/m3) | 80 (ug/m3) | 80 (ug/m3) |

Annexure IX
Post-monsoon ground water monitoring report



GADARK LAB PVT. LTD.

INDUSTRIAL ANALYSTS & CONSULTANTS

LAB.: H-54, Additional M.I.D.C. Kudal, Taluka - Kudal, District - Sindhudurg - 416 525,
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TEST REPORT

Doc. No: GLPL/QF/5.10/01


| | | | |
|---------------------------|---|--------------------|--------------------------|
| Test Report No. | GW/E/22/11004 | T.R. Date | 05/11/2022 |
| Customer Name and Address | M/s. VEDANTA LIMITED (PIG IRON PLANT) SURVEY NO. 30 (PART)41,42/1,27 (PART) AMONA, P.O. MARCELA, BICHOLIM - GOA. | | |
| Letter Ref/Date | As per Dated 01/11/2022 | | |
| Lab Reference No. | GW/E/22/11004 | Page No. | 1 of 1 |
| Sampling Done On | 01/11/2022 | Sample Received on | 01/11/2022 |
| Sample Collected By | GLPL | Analysis Period | 01/11/2022 To 05/11/2022 |
| Sample Description | Amona - Sandesh Naik Well Water, 3 lit in plastic bottle & 1000 ml in glass bottle. | | |

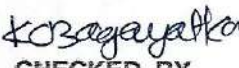
ANALYSIS REPORTS:

| Parameters | Units | Test Result | Specification Range as per IS 10500 - 2012 | | Methods (APHA 23rd Edition) |
|-------------------------------------|------------|-------------|--|--|---|
| | | | Requirement Acceptable Limit | Permissible Limit in the Absence of Alternate Source | |
| Colour (Pt. Scale) | Hazen unit | < 1.0 | 5.0 Max. | 15.0 Max. | APHA 2120 B |
| Turbidity | NTU | 0.20 | 1.0 Max. | 5.0 Max. | APHA 2130 B |
| pH | — | 7.01 | 6.5 - 8.5 | No Relaxation | APHA 4500 H ⁺ B |
| Electrical Conductivity | µS/cm | 154 | Not Specified | | APHA 2510 B |
| Total Hardness as CaCO ₃ | mg/ltr | 49 | 200.0 Max. | 600.0 Max. | APHA 2340 C |
| Chlorides | mg/ltr | 19.52 | 250.0 Max. | 1000.0 Max. | APHA 4500 Cl ⁻ B |
| Sulphate | mg/ltr | 4.06 | 200.0 Max. | 400.0 Max. | APHA 4500 SO ₄ ²⁻ E |
| Total Dissolved Solids | mg/ltr | 98 | 500.0 Max. | 2000.0 Max. | APHA 2540 C |
| Nitrate | mg/ltr | 1.17 | 45.0 Max. | No Relaxation | APHA 4500 NO ₃ B |
| Calcium Hardness | mg/ltr | 30.02 | Not Specified | | APHA 3500 Ca B |
| Dissolved Iron | mg/ltr | <0.001 | 1.0 Max. | No Relaxation | APHA 3111 B |
| Magnesium Hardness | mg/ltr | 18.98 | 30.0 Max. | 100.0 Max. | APHA 3111 B |
| Manganese | mg/ltr | < 0.001 | Not Specified | | APHA 3111 B |
| COD | mg/ltr | <4.00 | Not Specified | | APHA 5220 - B |
| BOD 3 days 27°C | mg/ltr | <1.00 | Not Specified | | IS 3025 (Part 44) : 1993 |
| Phosphates | mg/ltr | <0.001 | Not Specified | | APHA 4500 P D |
| Total Suspended Solids | mg/ltr | 7 | Not Specified | | APHA 2540 D |
| Oil & Grease | mg/ltr | <0.1 | Not Specified | | APHA 5520 B |

End

For GADARK LAB PVT. LTD.


AUTHORISED SIGNATORY
[KAILAS V. CHITALKAR]


CHECKED BY

Note:

1. Results relate only to the sample/s tested, only in case of samples submitted by customer & not drawn by GLPL.
2. Test certificate shall not be reproduced except in full, without written approval of the laboratory.
3. Samples will be preserved for a period 15 days from the delivery of Test Certificate.
4. Customer complaint register is available at laboratory.



GADARK LAB PVT. LTD.

INDUSTRIAL ANALYSTS & CONSULTANTS

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Tel.: (022) 2577 7069 / 2577 7070 / 2085 0091 + 91 9321312367

TEST REPORT

Doc. No: GLPL/QF/5.10/01

| | | | |
|---------------------------|---|--------------------|--------------------------|
| Test Report No. | GW/E/22/11003 | T.R. Date | 05/11/2022 |
| Customer Name and Address | M/s. VEDANTA LIMITED (PIG IRON PLANT) SURVEY NO. 30 (PART)41,42/1,27 (PART) AMONA, P.O. MARCELA, BICHOLIM - GOA. | | |
| Letter Ref/Date | As per Dated 01/11/2022 | | |
| Lab Reference No. | GW/E/22/11003 | Page No. | 1 of 1 |
| Sampling Done On | 01/11/2022 | Sample Received on | 01/11/2022 |
| Sample Collected By | GLPL | Analysis Period | 01/11/2022 To 05/11/2022 |
| Sample Description | Navelim - Sanjay Naik Well Water, 3 lit in plastic bottle & 1000 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | Specification Range as per IS 10500 - 2012 | | Methods (APHA 23rd Edition) |
|-------------------------------------|------------|-------------|--|--|---|
| | | | Requirement Acceptable Limit | Permissible Limit in the Absence of Alternate Source | |
| Colour (Pt. Scale) | Hazen unit | < 1.0 | 5.0 Max. | 15.0 Max. | APHA 2120 B |
| Turbidity | NTU | 0.22 | 1.0 Max. | 5.0 Max. | APHA 2130 B |
| pH | --- | 7.11 | 6.5 - 8.5 | No Relaxation | APHA 4500 H ⁺ B |
| Electrical Conductivity | μ S/cm | 143 | Not Specified | | APHA 2510 B |
| Total Hardness as CaCO ₃ | mg/ltr | 39 | 200.0 Max. | 600.0 Max. | APHA 2340 C |
| Chlorides | mg/ltr | 13.01 | 250.0 Max. | 1000.0 Max. | APHA 4500 Cl ⁻ B |
| Sulphate | mg/ltr | 3.46 | 200.0 Max. | 400.0 Max. | APHA 4500 SO ₄ ²⁻ E |
| Total Dissolved Solids | mg/ltr | 92 | 500.0 Max. | 2000.0 Max. | APHA 2540 C |
| Nitrate | mg/ltr | 1.08 | 45.0 Max. | No Relaxation | APHA 4500 NO ₃ B |
| Calcium Hardness | mg/ltr | 26.02 | Not Specified | | APHA 3500 Ca B |
| Dissolved Iron | mg/ltr | <0.001 | 1.0 Max. | No Relaxation | APHA 3111 B |
| Magnesium Hardness | mg/ltr | 12.98 | Not Specified | | APHA 3111 B |
| Manganese | mg/ltr | < 0.001 | 0.10 Max. | 0.30 Max. | APHA 3111 B |
| COD | mg/ltr | <4.00 | Not Specified | | APHA 5220 - B |
| BOD 3 days 27°C | mg/ltr | <1.00 | Not Specified | | IS 3025 (Part 44) : 1993 |
| Phosphates | mg/ltr | <0.001 | Not Specified | | APHA 4500 P D |
| Total Suspended Solids | mg/ltr | 4 | Not Specified | | APHA 2540 D |
| Oil & Grease | mg/ltr | <0.1 | Not Specified | | APHA 5520 B |

End

For GADARK LAB PVT. LTD.

AUTHORISED SIGNATORY
[KAILAS V. CHITALKAR]

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Note:

1. Results relate only to the sample/s tested, only in case of samples submitted by customer & not drawn by GLPL.
2. Test certificate shall not be reproduced except in full, without written approval of the laboratory.
3. Samples will be preserved for a period 15 days from the delivery of Test Certificate.
4. Customer complaint register is available at laboratory.



GADARK LAB PVT. LTD.

INDUSTRIAL ANALYSTS & CONSULTANTS

LAB.: H-54, Additional M.I.D.C. Kudal, Taluka - Kudal, District - Sindhudurg - 416 525,
Tel.: (02362) 223519 E-mail: info@gadark.in Website: www.gadark.in

OFF.: 15, Hindustan Kohinoor Industrial Complex, L.B.S. Marg, Vikhroli (West), Mumbai - 83.
Tel.: (022) 2577 7069 / 2577 7070 / 2085 0091 + 91 9321312367

TEST REPORT

Doc. No: GLPL/QF/5.10/01

| | | | |
|---------------------------|---|--------------------|--------------------------|
| Test Report No. | GW/E/22/11002 | T.R. Date | 05/11/2022 |
| Customer Name and Address | M/s. VEDANTA LIMITED (PIG IRON PLANT) SURVEY NO. 30 (PART)41,42/1,27 (PART) AMONA, P.O. MARCELA, BICHOLIM - GOA. | | |
| Letter Ref/Date | As per Dated 01/11/2022 | | |
| Lab Reference No. | GW/E/22/11002 | Page No. | 1 of 1 |
| Sampling Done On | 01/11/2022 | Sample Received on | 01/11/2022 |
| Sample Collected By | GLPL | Analysis Period | 01/11/2022 To 05/11/2022 |
| Sample Description | Maina - Digamber Naik Well Water, 3 lit in plastic bottle & 1000 ml in glass bottle. | | |

ANALYSIS REPORTS:

| Parameters | Units | Test Result | Specification Range as per IS 10500 - 2012 | | Methods (APHA 23rd Edition) |
|-------------------------------------|------------|-------------|--|--|---|
| | | | Requirement Acceptable Limit | Permissible Limit in the Absence of Alternate Source | |
| Colour (Pt. Scale) | Hazen unit | < 1.0 | 5.0 Max. | 15.0 Max. | APHA 2120 B |
| Turbidity | NTU | 0.20 | 1.0 Max. | 5.0 Max. | APHA 2130 B |
| pH | --- | 7.04 | 6.5 - 8.5 | No Relaxation | APHA 4500 H ⁺ B |
| Electrical Conductivity | μS/cm | 127 | Not Specified | | APHA 2510 B |
| Total Hardness as CaCO ₃ | mg/ltr | 35 | 200.0 Max. | 600.0 Max. | APHA 2340 C |
| Chlorides | mg/ltr | 11.51 | 250.0 Max. | 1000.0 Max. | APHA 4500 Cl ⁻ B |
| Sulphate | mg/ltr | 2.17 | 200.0 Max. | 400.0 Max. | APHA 4500 SO ₄ ²⁻ E |
| Total Dissolved Solids | mg/ltr | 84 | 500.0 Max. | 2000.0 Max. | APHA 2540 C |
| Nitrate | mg/ltr | 0.09 | 45.0 Max. | No Relaxation | APHA 4500 NO ₃ B |
| Calcium Hardness | mg/ltr | 23.02 | Not Specified | | APHA 3500 Ca B |
| Dissolved Iron | mg/ltr | <0.001 | 1.0 Max. | No Relaxation | APHA 3111 B |
| Magnesium Hardness | mg/ltr | 11.98 | Not Specified | | APHA 3111 B |
| Manganese | mg/ltr | < 0.001 | 0.10 Max. | 0.30 Max. | APHA 3111 B |
| COD | mg/ltr | <4.00 | Not Specified | | APHA 5220 - B |
| BOD 3 days 27°C | mg/ltr | <1.00 | Not Specified | | IS 3025 (Part 44) : 1993 |
| Phosphates | mg/ltr | <0.001 | Not Specified | | APHA 4500 P D |
| Total Suspended Solids | mg/ltr | 4 | Not Specified | | APHA 2540 D |
| Oil & Grease | mg/ltr | <0.1 | Not Specified | | APHA 5520 B |

End

For GADARK LAB PVT. LTD.

AUTHORISED SIGNATORY
[KAILAS V. CHITALKAR]

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Note:

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4. Customer complaint register is available at laboratory.

Annexure X
Noise monitoring reports



GADARK LAB PVT. LTD.

INDUSTRIAL ANALYSTS & CONSULTANTS

LAB.: H-54, Additional M.I.D.C. Kudal, Taluka - Kudal, District - Sindhudurg - 416 525.

Tel. : (02362) 223519 • E-mail : info@gadark.in • Website : www.gadark.in

OFF.: 15, Hindustan Kohinoor Industrial Complex, L.B.S. Marg, Vikhroli (West), Mumbai - 83.

Tel.: (022) 2577 7069 / 2577 7070 / 2085 0091 • +91 93213 12367

TEST REPORT

Doc.No : GLPL/QF/7.8/04

| | | | |
|---------------------------|--|------------|------------|
| Test Certificate No. | GA/E/22/11393 | T. C. Date | 05/12/2022 |
| Customer Name and Address | M/s. VEDANTA LIMITED IRON AND COKE PLANTS, AMONA AND NAVELIM, BICHOLIM – GOA. | | |
| Letter Ref / Date . | As per Dated 15/11/2022 | | |
| Measurement Done By | GLPL | Page No. | 1 of 1 |

NOISE LEVEL MEASUREMENT :

| | |
|---------------------|------------|
| Date of Measurement | 15/11/2022 |
|---------------------|------------|

| Sr. No. | LOCATION | NOISE LEVEL dB (A) Leq | |
|---------|-------------------------------|------------------------|-----------------|
| | | DAY TIME AVG. | NIGHT TIME AVG. |
| 01 | Near Amona Gate | 70.7 | 64.2 |
| 02 | Opp. BSNL Exchange | 67.3 | 60.4 |
| 03 | Near Dispatch Gate | 64.9 | 60.9 |
| 04 | Near Satteri Temple | 55.5 | 44.4 |
| 05 | Compound Wall Towards Navelim | 62.4 | 51.9 |
| 06 | Compound Wall Towards Maina | 61.7 | 53.8 |

Noise Limits as per Schedule III of "The Environment (Protection) Rules, 1986" are as follows:

| Area Code | Category of Area | Limits in dB(A) Leq | |
|-----------|------------------|---------------------|------------|
| | | Day Time | Night Time |
| (A) | Industrial Area | 75 | 70 |
| (B) | Commercial Area | 65 | 55 |
| (C) | Residential Area | 55 | 45 |
| (D) | Silence Zone | 50 | 40 |

End

For GADARK LAB PVT. LTD.

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AUTHORISED SIGNATORY
[KAILAS V. CHITALKAR]

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Note :

1. The results relate only to the samples tested
2. Test certificate shall not be reproduced except in full, without written approval of the laboratory.
3. Test Results relate only to the conditions prevailing at the time of sampling
4. Customer complaint register is available at laboratory.
6. Calibration details of the equipments used in monitoring and / or analysis is back side of analysis report.

CALIBRATION DETAILS OF EQUIPMENT USED FOR SAMPLING

| Sr. No. | Instrument Type | Calibrated On | Calibration Due Date |
|---------|---|---------------|----------------------|
| 1 | Sound Level Meter Sr. No. SLM/258/01/15 | 28/10/2022 | 27/10/2023 |



GADARK LAB PVT. LTD.

INDUSTRIAL ANALYSTS & CONSULTANTS

LAB.: H-54, Additional M.I.D.C. Kudal, Taluka - Kudal, District - Sindhudurg - 416 525,
Tel.: (02362) 223519 E-mail: info@gadark.in Website: www.gadark.in

OFF.: 15, Hindustan Kohinoor Industrial Complex, L.B.S. Marg, Vikhroli (West), Mumbai - 83.
Tel.: (022) 2577 7069 / 2577 7070 / 2085 0091 + 91 9321312367

TEST REPORT

Doc.No : GLPL/QF/5.10/01

| | | | |
|---------------------------|--|------------|------------|
| Test Certificate No. | AA/E/23/02548 | T. C. Date | 21/02/2023 |
| Customer Name and Address | M/s. VEDANTA LIMITED IRON AND COKE PLANTS, AMONA AND NAVELIM, BICHOLIM - GOA. | | |
| Letter Ref / Date . | As per Dated 16/02/2023 | | |
| Measurement Done By | GLPL | Page No. | 1 of 1 |

NOISE LEVEL MEASUREMENT :

| | |
|---------------------|------------|
| Date of Measurement | 16/02/2023 |
|---------------------|------------|

| Sr. No. | LOCATION | NOISE LEVEL dB (A) Leq | |
|---------|-------------------------------|------------------------|-----------------|
| | | DAY TIME AVG. | NIGHT TIME AVG. |
| 01 | Near Amona Gate | 69.4 | 63.1 |
| 02 | Opp. BSNL Exchange | 64.4 | 60.4 |
| 03 | Near Dispatch Gate | 62.9 | 59.8 |
| 04 | Near Satteri Temple | 54.8 | 44.2 |
| 05 | Compound Wall Towards Navelim | 61.4 | 52.4 |
| 06 | Compound Wall Towards Maina | 62.7 | 52.2 |

Noise Limits as per Schedule III of "The Environment (Protection) Rules, 1986" are as follows:

| Area Code | Category of Area | Limits in dB(A) Leq | |
|-----------|------------------|---------------------|------------|
| | | Day Time | Night Time |
| (A) | Industrial Area | 75 | 70 |
| (B) | Commercial Area | 65 | 55 |
| (C) | Residential Area | 55 | 45 |
| (D) | Silence Zone | 50 | 40 |

End

For GADARK LAB PVT. LTD.

AUTHORISED SIGNATORY
[KAILAS V. CHITALKAR]

Note :

1. The results relate only to the samples tested
2. Test certificate shall not be reproduced except in full, without written approval of the laboratory.
3. Test Results relate only to the conditions prevailing at the time of sampling
4. Customer complaint register is available at laboratory.
6. Calibration details of the equipments used in monitoring and / or analysis is back side of analysis report.

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CALIBRATION DETAILS OF EQUIPMENT USED FOR SAMPLING

| Sr. No. | Instrument Type | Calibrated On | Calibration Due Date |
|---------|-----------------------------------|---------------|----------------------|
| 1 | Sound Level Meter Sr. No. 2426112 | 20/10/2022 | 19/10/2023 |