

Ref No. VAB/ENV/22-23/07

Date: 30/05/2022

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: 1st 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 24/01/2022
- 2. Amendment in Environment Clearance from MOEF vide letter dated 14th March, 2022

Sir,

With reference to the above, please find enclosed herewith:

1st six monthly compliance report to Environment Clearance [File No: IA-J-11011/946/2007-IA.II(I)] dated 24/01/2022 for the period **October 2021 to March 2022** 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,

VEDANTA LIMITED Sesa Goa iron ore Sesa Ghor, 20 EDC Complex, Patto, Panjun, Goa - 403 001, India T -91 0852 2460600 Website: www.sesagoaironore.com

Registered Office Vedanta Lunited, Est Hoor, "C" wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (Last), Mumbai 100003, Maharashtra, Indra UB: 113209MH1965PLC291394



For Vedanta Limited-Value Added Business

Saptesh Sardesai

CEO- Value added Business

Cc: Member Secretary, GSPCB, CPCB (SZO)

VEDANTA LIMITED Sesa Goa iton ore-Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa - 105 001, India 1 - 91 0832 2460600 - Website: www.sesagoaironore.com

Compliance Report to

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

(Period: October 2021 to March 2022)

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.

	A. Specific Cond	litions
Sr.	Specific conditions	Compliance status
no.		
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.	33.5% (54 hectares) of land within VAB premises has been marked for green belt development. There are around 3,00,000 nos. of plants available in the green belt area. During the monsoon season, i.e., from June to September 2022, it is planned to carry out gap filling in our green belt in both Amona and Navelim villages. It is also proposed to carry out plantation in both Amona and Navelim villages outside our boundary. The details of the plantation will be communicated to the ministry in our next six-monthly compliance report.
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.	Approved wildlife management plan has been submitted to State Forest Department along with request to raise demand note towards implementation of the same. Attaching annexure-I with communications to State Forest Department.
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 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. a. 6.38 km internal plant road shall be black topped or concreted by	Black topping of internal roads through concreting or bitumen is in progress. Out of 6.38 kms, road black topping of 4 kms length is completed till 31 st March, 2022. Attaching annexure-II: photo showing black topping of the road.
	April 2022.	All the stored along has been discussed to
	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.	All the stored slag has been disposed to cement industries. Kindly find below last six months slag generation and disposal details:

		Sr. no.	Month	Slag generation quantity (MT)	Slag disposal quantity (MT)	
		1.	October 2021	27,164	10,844.05	
		2.	November 2021	27,494	8,649.6	
		3.	December 2021	28,553	36,151.94	
		4.	January 2022	23,447	77,052.22	
		5.	February 2022	26,798	20,999.01	
		6.	March 2022	24,778	69,816	
			Total	158,234	223,512.82	
		The c	construction of stora			
	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.	expec comn	ave applied for NO cting the grant sho nunications pertaini	rtly. Attaching ng to NOC app	annexure-III as lication.	
	d. Wind Shield for control of graphite particle emissions shall be provided by March 2022.	comp side f	lation of 260 me leted along the pla or control of graphi cure-IV as picture o	ant boundaries te particle emis	towards Amona ssions. Attaching	
v.	Ductile Iron (DI) plant shall have the following provisions:		d and shall be ensure bipe plant as part of	U 1 <i>U</i>	A	
	 a. Wet scrubbers for Volatile Organic Compounds in annealing furnace. b. Bag filter for Zn coating and Mg converter area. c. Wet scrubbers in paint and bitumen coating area. d. Bag Filter in Cement lining area. e. PTFE dipped bags shall be used in the plant. f. PM emissions from BF in Zinc coating area shall be 5 mg/Nm3. g. ETP with recycling facility shall be included. All scrubber effluent shall be treated in ETP. 					
vi.	Parking area for trucks/dumpers shall be provided within the plant. No truck/dumper shall be parked outside the plant premises.					
vii.	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. Solid waste utilization	 been initiated involving the community (Sasticho Alt Tenant Association) like cage fishing and back farming. Through this project, interventions to conser- biodiversity, encourage agriculture and other alternati- livelihood interventions are undertaken. It is al proposed to carry out plantation in surroundings Navelim wetland in phased manner for white engagement with community is in progress f identification of land. Details of the same will b provided along with our next six-monthly compliant report. 			y (Sasticho Akh g and back to ions to conserve other alternative ken. It is also surroundings of her for which n progress for e same will be thly compliance	
v111.	• Maximum 90 days of slag storage area shall be permitted inside the plant.	stored	d for more than 90 d	lays.		
	• PP shall recycle/reuse 100 % solid waste generated in the plant.	cotto	ne solid waste is rec n waste and bio erated.			

	• Used refractories shall be recycled as far as possible.	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.	Sinter cooler waste recovery system is already available at sinter plant.
х.	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.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	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. Blast Furnace 1 and Blast Furnace 2 is equipped with stove waste heat recovery, cast house and stock house
	revamping of BF1 and BF2.	ventilation system and slag granulation facility. Dry Gas Cleaning Plant installation shall be taken up during next revamping.
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 is in progress.
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/Nm3. 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/Nm3 within two years from the date of EC.	New baghouse has been proposed for Blast Furnace 1 and Blast Furnace 3 baghouse shall be upgraded.
xiv.	AAQ at Mosque and Siddhartha Caves archaeological sites shall be monitored once in a month as per the CPCB norms.	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-V as the ambient air monitoring reports of both archaeological sites for the month of February 2022 and March 2022.
	02 manual ambient air quality monitoring stations within the plant shall be replaced with one CAAQMS in addition to the 03 CAAQMS presently installed.	Location for new Continuous Ambient Air Quality Monitoring System (CAAQMS) will be identified in consultation with Goa Sate Pollution Control board (GSPCB) and the new CAAQMS will be installed.
	Manual monitoring as done presently shall be continued and Benzo Amino Pyrene (BaP) shall be monitored manually as per CPCB norms.	Benzo Amino Pyrene (BaP) is being monitored monthly and reports are being submitted monthly to GSPCB. Attaching annexure VI as BaP monitoring data from October 2021 to March 2022.
	One manual air quality monitoring station shall be established towards Amona and Navelim villages and ambient air quality monitored as per CPCB norms.	For the installation of one AAQMS towards Amona and Navelim villages, we have requested GSPCB for providing the location of installation.
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 black topping of internal roads of 6.38km is in progress. The 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.	Riverine water quality is being monitored and reports are submitted to GSPCB every month. Attaching annexure VII as riverine water quality reports.
	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.	
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 proposed for Blast Furnace 1 and Blast Furnace 3 baghouse shall be upgraded.
xix.	Additional Filter beds, arrester wall shall be provided along the storm water drainage for settlement of suspended particles and to prevent siltation.	Filter beds and arrestor wall are provided in the storm drains and these storm drains are desilted every year before monsoon. The capacity of the final settling pond has been increased from 650 m ³ to 1200 m ³ during March 2022. Additional boulder wall has been provided to the main settling pond.
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 monsoon management plan has been prepared and implemented. Desilting of all the settling ponds and drains has been done.
B	. General conditions	
I. (i).	I. Statutory compliance: (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.
П. (i).	II. Air quality monitoring and preservation: (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 quarterly.
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. Reports are being submitted before 15 th of every month to Goa State Pollution Control Board (GSPCB).
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 grid 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, Electro Static 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 is 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. There is no possibility of occurrence spillage of coke during normal operations.
х.	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.
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 6 nos. of rain guns 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 (i)	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. These are calibrated periodically.
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 October 2021 as a part of post-monsoon ground water study. The reports are enclosed herewith as Annexure VIII 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, however, new STP shall be installed during construction phase of expansion project.

v.	Garland drains and collection pits shall be provided for each stock	Garland drains and catch ponds have been made along the
	pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.	stock piles to prevent water pollution during rainy season.
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. Attaching annexure-IX as pictures of the installed wheel washing system.
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. (i).	IV.Noisemonitoringandpreventioni. Noise pollution shall be monitored as per the prescribed Noise	Noise pollution is monitored once every three months. Attaching annexure-X as noise monitoring reports of
	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.	November 2021 and February 2022.
V (i)	V.EnergyConservationmeasures:(i). Use torpedo ladle for hot metal transfer as far as possible. Ifladles 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.
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 is being explored for overall solar potential and shall be accordingly taken up.
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	Wastemanagementi. 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.	Sapli	emissions inventory is prepared for the plangs shall be planted during monsoon of 2022. The programs for reduction of GHG emissions is ws:	Гhe	
		Sr. no	Description		
		1	Increasing clean power generation in Waste He Recovery Power Plant through turbine upgradation.	at	
		2	Coke drying by using waste heat recovery from hot air of sinter cooler	1	
		3	Oxygen enrichment in Blast furnaces.		
		4	Replacing old low efficiency motors with IE4 super premium efficiency motors		
		5	Replacing old pumps with high efficiency pum	ps	
		6	Installing VFD's for several compressors, pump and fans.	ps	
VIII (i)	PublichearingandHumanhealthissuesi. Emergency preparedness plan based on the Hazard identificationand Risk Assessment (HIRA) and Disaster Management Plan shallbe implemented.	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan is implemented.			
ii. iii.	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.iii. Occupational health surveillance of the workers shall be done on	temperature work zone has been carried out and prope Personal Protection Equipment (PPE) is provided always			
IX	a regular basis and records maintained.Management	Notec	1.		
(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.				
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 / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.	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. Health, Safety and Environment policy attached herewith as annexure XI.			
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. Following are the expenditure from Oct 2021 to March 2022:			
		Sr No	1	in	

		1	Dust extraction system	1,21,81,839	
		2	Black topping of roads	2,58,84,950	
		3	Windshield	37,82,823	
		4	Environmental Monitoring	5,61,550	
		5	Green belt development	2,07,370	
		6	Operation of STP	2,08,000	
		7	Dust suppression through tankers	22,61,495	
		8	Dust suppression through Road sweeping machine	4,46,925	
				4,55,34,952	
X (i)	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.	Bhaangarbhuin, in Konkani language and The Goan i English language. Attaching Annexure XII as newspape cutting of the advertisements.			
ii.	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.	local bodies including Panchayats and Municipal councils.			
iii.	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.				
iv.	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 vehicle of the company.	being done in the plant and the results are being displayed continuously on the digital display boards at our gates.			
v.	 public and put on the website of the company. 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. 	Noted ar	stalled at one of our gates. ad is implemented.		
vi.	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	Noted and is implemented.			
vii.	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			

viii.	viii. The project proponent shall abide by all the commitments and	Noted
	recommendations made in the EIA/EMP report, commitment made	
	during Public Hearing and also that during their presentation to the	
	Expert Appraisal Committee.	
ix.	ix. No further expansion or modifications in the plant shall be	Noted
	carried out without prior approval of the Ministry of Environment,	
	Forests and Climate Change (MoEF&CC).	
х.	x. Concealing factual data or submission of false/fabricated data	Noted
	may result in revocation of this environmental clearance and attract	
	action under the provisions of Environment (Protection) Act, 1986.	
xi.	xi. The Ministry may revoke or suspend the clearance, if	Noted
	implementation of any of the above conditions is not satisfactory.	
xii.	xii. The Ministry reserves the right to stipulate additional	Noted
	conditions if found necessary. The Company in a time bound	
	manner shall implement these conditions.	
xiii.	xiii. The Regional Office of this Ministry shall monitor compliance	Noted
	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.	
xiv.	xiv. Any appeal against this EC shall lie with the National Green	Noted
	Tribunal, if preferred, within a period of 30 days as prescribed under	
	Section 16 of the National Green Tribunal Act, 2010.	

Annexure-I: Communications to State Forest Department:



Ref No. VAB/ENV/2021-22/54

Date: 29/01/2022

To,

Chief Wildlife Warden, Goa Forest Department.

Swami Vivekanand Rd,

Altinho, Panaji,

Goa - 403001

Subject: Request for issuing of debit notes

Reference:

- 1. Letter dated 21/10/2021
- Wild Life Conservation Plan (WLCP) vide letter no. 1-576(PART)WL&ET (N)/2021-2022/554 dated 28/05/2021

Sir,

We would like to inform you that we at Value added Business, Vedanta limited, Amona, Navelim, Goa have been granted Environmental Clearance (EC) for our expansion project vide EC Identification No. EC22A008GA145461 dated 24/01/2022.

With reference to the approved Wild Life Conservation Plan (WLCP) vide letter no. 1-576(PART)WL&ET (N)/2021-2022/554 dated 28/05/2021, we would like to request your good office to raise the demand note for the total amount of Rs. 1,00,00,000/- (INR One Crore Only) towards implementation of the WLCP so that the forest department starts the implementation of the same as proposed in the approved plan.

Attaching the approved wildlife management plan and financial support details for reference.

Kindly consider above mentioned request.

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Registered Office Vedanta Limited, 1st Floor, C⁴ wing, Unit 105, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai 400093, Maharashtra, India, CIN-L13209MH1965PLC291394

Office of the

Office of the Pr. Chief Conservator of Forests Altinho, Panaji - Goa 403 001



Thanking you

Yours faithfully

For Vedanta Limited-Value Added Business

Saptosh Sardesai

Director- Value added Business

VEDANTA LIMITED Sesa Goa iron ore: Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa - 403 001, India T +91 0832 2400600 | Website: <u>www.sesaguawonore.com</u>

Registered Office.

Vedanta Limited, 1st Floor, "C. wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai 400093, Maharashtra, India, CIN, 1,13209MH1965PLC291394

Acknowledge copy

21/10/2021



sesa goa iron ore

To, Chief Wild Life Warden State Forest Department, Forest head Office, Altinho, Panaji, Goa

Sub: Wild Life Conservation plan for obtaining Environment Clearance reg.

Ref: No. 1-576(PART)WL&ET (N)/2021-2022/554 DATED 28/05/2021

Sir,

We thank you for approving the proposal for Wild Life Conservation Plan (WLCP) submitted by us as part of obtaining Environment Clearance (EC) for our existing plants & proposed projects at Value Added Business located in Amona and Navelim villages of North Goa District.

In this connection, we would like to request your good office to raise the demand note for the total amount of Rs. 1,00,00,000/- (INR One Crore only) towards implementation of the WLCP so that the forest department starts the implementation of the same as proposed in the approved plan.

Thanking you

Yours faithfully

Saptesh Sardesai Director- Value Added Business

Attached: Approval letter of WLCP for ready ref.

Pr. Chief Conservator of Forests Altinho, Panaji - Goa 403 601

1



<u>GOVERNMENT OF GOA</u> <u>OFFICE OF THE DEPUTY CONSERVATOR OF FORESTS</u> <u>WILDLIFE & ECO-TOURISM (NORTH) DIVISION</u> 1st Lift, 4th Floor, Junta House, Panaji - 403 001 (Goa)

No. 1-576(PART)WL&ET (N)/2021-2022/554

28th May, 2021 7 Jyaistha, 1943 (Saka)

To Vedanta Limited, Village Amona/Navelim, Bicholim- Goa.

Sub: - Wildlife Conservation Plan for obtaining Environment Clearance- Reg.

Sir,

With reference to your office communication no. VAB/ENV/21-22/03 Dt.06-05-2021 and in pursuance of MoEF&CC's letter no. IA-J-11011/946/2007-IA-II(I) Dt. 06-03-2019 on the above concerning subject I am directed to convey the approval of Chief Wildlife Warden on the Wildlife Conservation Plan submitted by Vedanta Ltd. for up- gradation of Blast Furnaces with following terms and conditions.

- The Wildlife Conservation Plan prepared by the Vimta Labs as per the terms of reference (ToR) given by MoEF&CC has been approved to obtain environment clearance for the expansion project.
- 2. The plan does not permit any use of any forest land or part of Wildlife sanctuaries and National Park and ESZ, User agency shall take prior approval as per Forest Conservation Act, 1980 if any forest land is involved.
- 3. The operation shall be carried in an efficient way whereas in any extent wildlife habitat is not disturbed.
- 4. There should not be any high sound/ noise pollution which can induces fear which can lead to force species/ animals to abandon their natural habitat.
- 5. All the activities prescribed in the Plan to be taken up by the user agency in consultation with Wildlife & Eco- tourism (N), div, Goa Forest Department.

Wildlife Conservation Plan

	7	6	, u	4	. α			1	Sr.N
Total	Veterinary support for the rescue squad in managing man-animal conflicts	Financial support to the department for celebrating Wildlife week and sponsoring the prizes for the competitions	Financial support to the department for conducting awareness campaigns for various stakeholders	Providing Trap Cameras to analyze the movement of Wild animals	Providing rescue cages and rescue equipments to the forest Department	Providing Rescue Van to the Forest Department	wildlife in the buffer area	Establishment of waterholde for	Plan of Operations
	LS	3.00/ year	40,000 /camp	20,000 /no.	LS	20.00 Lakh	Lakh	2000	Unit
	LS.	LS	5 Nos	5 Nos	LS	1 No	SON 7	FILY	First Year
36.00	4.00	3.00	2.00	1.00	2.00	20.00	4.00	_	Vear
	1.5	LS	5 Mos	5 Nos	LS		Z Nos	Pny	Secon
16.00	4.00	3.00	2.00	1.00	2.00		4.00	FID	Second Year
	LS	ĿS	5 Nos	5 Nos	LS		2 Nos	Phy	Third Year
WILLS IN	4100	3.00	2.00	1.00	2.00		4.00	Fin	Year
	5	LS	5 Nus	5 Nos	S.1		2 Nos	Phy	Fourt
	±00	3.00	2.00	1.00	2.00		4.00	Fin	Fourth Year
	LS	LS.	5 Nos	5 Nos	LS		2 Nos	Phy	Five Year
	4.00	3:00	2.00	1.00	2.00			Fin	ear
	LS	LS	25 nos	25 nos	Total	щ	10 nos	Phy	Cumulative
	20.00	15.00	10.00	5.00	10.00	20.00	20.00	Fin	ntive

TABLE-13

Phy-Physical, Fin-Financial, LS-Lurnpsome

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Ref No. VAB/ENV/2021-22/96

Date: 16/02/2022

To, Chief Wildlife Warden, Goa Forest Department, Swami Vivekanand Rd, Altinho, Panaji, Goa - 403001

Subject: Request for issuing of debit notes

Reference:

- 1. Letter no. VAB/ENV/2021-22/54 dated 29/01/2022
- Wild Life Conservation Plan (WLCP) vide letter no. 1-576(PART)WL&ET (N)/2021-2022/554 dated 28/05/2021

ole

Sir,

With respect to above mentioned reference letter vide no. VAB/ENV/2021-22/54 dated 29/01/2022, we would like to request your good office that kindly issue debit notes towards implementation of the WLCP so that the implementation of the same as proposed in the approved plan can start.

Kindly consider above mentioned request.

Thanking you

Yours faithfully

For Vedanta Limited-Value Added Business

Saptesh Saldesai

Director-Value added Business

VEDANTA LIMITED Sesa Goa iron ore: Sesa Ghor, 20 EDC Complex, Patto, Panjim, Goa – 403 001, India T +91 0832 2460600 | Website: <u>www.sesagoaironore.com</u>

12022 Office

Pr. Chief Conservator of Forests Altinho, Panaji - Goa 403 001



Letter No: VAB/ENV/21-22/100

Date: 28/03/2022

Chief Wildlife Warden, Goa Forest Department, Swami Vivekanand Rd, Altinho, Panaji, Goa - 403001

Sub: - Wild Life Conservation Plan for obtaining Environmental Clearance Reg..

Reference:

·To,

- Letter No. 1-576-WL&ET(N)/2021-2022/3965 dated 28/02/2022 received by our office on 07/03/2022
- 2. Our letter no. VAB/ENV/2021-22/96 dated 16/02/2022
- 3. Our letter no. VAB/ENV/2021-22/54 dated 29/01/2022

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- 4. Our letter dated 21/10/2021
- Wildlife Conservation Plan (WLCP) vide letter no. 1-576(PART)WL&ET (N)/2021-2022/554 dated 28/05/2021

Dear Sir,

With respect to your letter numbered 1-576-WL&ET(N)/2021-2022/3965 dated 28/02/2022 received by our office on 07/03/2022, we would like to state that Ministry of Environment, Forest, and Climate Change (MOEFCC) issued Terms of Reference (TOR) numbered IA-J-11011/946/2007-IA.II(I) dated 6/03/2019 for carrying out Environmental Impact Assessment (EIA) for expansion project of Vedanta Ltd

Pr. Chief Conservator of Forests Altinho, Panaji - Goa 403 001

at Amona- Navelim Goa. One of the conditions of TOR was to prepare wildlife management plan and approval of the Wildlife conservation plan by Chief WildLife Warden of the State Government

The Wildlife Conservation plan was prepared and was approved by Chief Wildlife Warden, Govt. Of Goa through letter numbered 1-576(PART)WL&ET (N)/2021-2022/554 dated 28/05/2021. The said Wildlife conservation plan was presented to Expert Appraisal Committee of (MOEFCC) towards expansion proposal of Vedanta Ltd at Amona- Navelim Goa. Based upon which MOEFCC has granted Environmental Clearance for Vedanta Unit at Amona- Navelim Goa (attached EC copy for reference)

Hence, we have requested your good office to raise demand note towards implementation of the Wildlife Conservation Plan.

Thanking you,

Yours faithfully,

For Vedanta Limited – Value Addition Business

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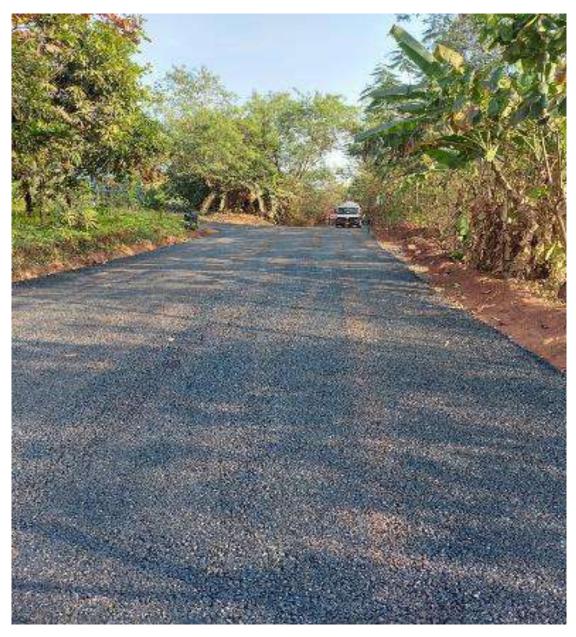
Director Value Added Business

Vedanta Ltd

VEDANTA-LIMITED Value Added Business: Pig Iron Division: Aurona: PO Marcela, Goa-403 107 T. 91-832-641-2160; F. 91-832-238-5235-288; Web: www.sesagoaironore.com

Registered Offrey Vedanta Entitied, 1st Floor, 'C aging Unit 103, Corporate Avenue, And Projects, Chakala, Andhen (East) Alionbai (1000) * Maharashtiri Judia CTV 1122/30X[1106/2017/301/301]

Annexure II: Picture of black topped road:



Black topped road near oxygen plant.

Annexure-III: Communications regarding NOC from archaeology department:





Letter No: VAB/ENV/21-22/23

Date:-22/07/2021

To, Director,

Directorate of Archives & Archaeology

Govt. of Goa

Sub: NOC for our expansion Project at Amona-Navelim villages, Bicholim Taluka, NorthGoa District, Goa

Madam,

We at Value added business of Vedanta Ltd are having Pig iron Plants, met coke division and 60MW power plant at Amona and Navelim villages. We are in the process of obtaining Environment Clearance for our expansion project within our existing boundaries.

During our EIA studies, we have observed that some of the state archaeological monuments namely Caves at Naroa , The Mosque and tank at Tar Surla are located at a distance of 1.9km and 1.5km respectively from the project site. Besides these we have also annexed other archaeological monuments within 10km vicinity of our plant.

We carry out our operations with all the necessary safety and environmental safe guards there by taking care of our surroundings also. We would like to bring it to the notice of your good self that neither the existing operations nor the expansion activities (which are within the same existing boundary) will have any negative impact on the said sites.

We request you to grant us a No objection certificate for our project for submission to the MoEF and Cc, New Delh

Thanking You,

Yours Sincerely,

For Vedanta Ltd.

Saptesh Sardesai (Director- Value Added Business, Amona) CC: The G.E.O, Goal a vest event promotion & Facilitation Board

VEDANTA LIMITED Value Added Business, Met Coke Division, Navelim, PO Sanquelim, Bicholim, Goa-403 505 Tel +91-832 398 1400 | Fax +91-832 398 1575 | Web: 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

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Annexure

List of protected monuments/sites within 10km distance from our plant:

- 1. The Mosque and Tank at Tar Surla (1.5 km, SE)
- 2. Caves at Naroa (1.9 km, SE)
- 3. Site of Gujir (2.2 km, N)
- Site of Fortess at St. Estevam (3.2 km, WNW)
- 5. Fort of Sanquelim (4.4 km, N)
- 6. Temple of Saptakoteshwar (5.9 km, WNW)
- Fort Naroa (6.0 km, W)
- 8. Chapel of Our Lady of Monte (6.9 km, W)
- 9. Ruins of Brahmapuri (7.0 km, W)
- 10. Namzgah/ Idgah Mosque (7.1 km, NW)
- 11. Chapel of St. Xavier (7.5 km, W)
- 12. Church of St. Peter (7.9 km, W)
- 13. Old Goa Church (Approx. 8.0 km, W)
- 14. Caves at Mangueshi (8.2 km, SW)
- 15. Site of Ruins of Manguesh temple (8.3 km, SW)
- 16. Convent of St. Monica & Chapel (8.6 km, W)
- 17. Ruins of College of St. Populo (8.8 km, W)
- 18. Shri Saptakoteshwar temple (10.6 km, SSE)

VEDANTA LIMITED

Value Added Business, Met Coke Division, Navelim, PO Sanquelim, Bicholim, Goa-403 505 Tel +91-832 398 1400 | Fax +91-832 398 1575 | Web: 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



Letter No: VAB/ENV/21-22/

Date: 16/08/2021

To, The Director, Directorate of Archives and Archeology Government of Goa Kind attention: **Shri Varad Sabnis**

Sub: - "NOC for our expansion project at amona navelim villages, Bicholim Taluka North goa district"

Reference: Our letter with Ref No: VAB/ENV/21-22/23 Dated 22/07/2021

Dear Sir,

With reference to above letter and as discussed during your site visit on 12-08-2021, kindly find following enclosures to this letter with additional information about existing process and proposed expansion.

- 1. Annexure I: Details of current plants and processes
- 2. Annexure II: Details of proposed expansion/Diversification project.
- 3. Annexure III: Environment Management Plan

Kindly process our request for No Objection Certificate for our project for submission to the MoEF and CC, New Delhi, in connection with our EC application.

Thanking you,

Yours faithfully, For Vedanta Limited – Value Addition Business

Saptesh Sardesai Director - Value Added Business

VEDANTA LIMITED Value Added Business, Pig from Division, Ainona, PO Marcela, Goa-403-107 T -91-832-641-2160 [F -91-832-238-5235-288] Web: <u>www.sesagoaironore.eggs</u>

Registered Office: Vedanta Limited. 1st Floor. "C" wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andhen (Fast), Mumbar 400093, Maharashtra, India, CIN: L13209MH1965PLC291394

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Date:-22/12/2021



Letter No: VAB/ENV/21-22/51 To, Director,

Directorate of Archives & Archaeology

Govt. Of Goa

Sub: NOC for our expansion Project at Amona-Navelim villages,Bicholim Taluka, NorthGoa District, Goa

Ref: 1. VAB/ENV/21-22/23 dated 22/07/2021

2. Site visit dated 12/08/2021

3. VAB/ENV/21-22/ dated 16/08/2021

Respected Sir,

With reference to above communication we request your good office to please grant us No objection certificate (NOC) for our project. Site inspection has been already carried out on 12.08.2021.

We at Value added business of Vedanta Ltd having operations at Amona and Navelim villages, are in the process of obtaining Environment Clearance for our expansion project within our existing boundaries.

We carry out our operations with all the necessary safety and environmental safe guards there by taking care of our surroundings also. We would like to bring it to the notice of your good self that neither the existing operations nor the expansion activities (which are within the same existing boundary) will have any negative impact on the said sites.

We request you to grant us a No objection certificate for our project for Submission to the MoEF and Cc, New Delhi

Thanking You,

Yours Sincerely,

For Vedanta Ltd. NEWTO STO Saptesh Sardesai

(Director- Value Added Business, Amona)

Roceires and Archaester

VEDANTA LIMITED

Value Added Business, Met Coke Division, Navelin, PO Sanquelini, Bieholim, Goa-403 505 Tel: 91-832 398 1400 Fax: +91-832 398 [575] Web: www.sesagoaironore.com

Registered Office: Vedauta Limited, 1st Floor "C" wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (Fast), Mumbai 400003, Maharashtra, India, CIN 1.13209M11965PLC291394



Ref No. VAB/ENV/2022-23/01

Date: 12/04/2022

To. Director. Directorate of Archives and Archaeology. Govt. of Goa.

Subject: Submission of Environmental Impact Assessment (EIA) report

Reference:

- 1. Inspection at Value Added Business, Vedanta Limited, Amona, Goa dated 05/04/2022
- Our letter no. VAB/ENV/2021-22/23 dated 22/07/2021
- 3. Our letter no. VAB/ENV/2021-22/ dated 16/08/2021
- 4. Our letter no. VAB/ENV/2021-22/51 dated 22/12/2021

Dear Sir.

With respect to the site inspection dated 05/04/2022 at Value Added Business, Vedanta Limited, Amona- Navelim, Goa pertaining to NOC from Archaeology authority, we are submitting herewith copy of Environmental Impact Assessment (EIA) report for reference as requested by the inspection team on the day of inspection.

Thanking you.

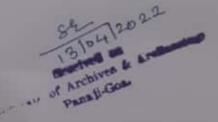
Yours faithfully

For-Vedanta Limited- Value Added Business

Saptesh Sardesai

CEO- Value Added Business

VEDANTA LIMITED Sens Close room net: Sense Close, 20 FEX. Complexs. Partic, Partyon, Cont. - 403 401, Jacker 7 - 01 0012 [Senset: Website: Web-set: Senset: Se



Verlagen Constant, Dat Floor, "C" using Long 101, Corporate Accesse. And Property, "Nethoday Andiors (Name), Methodality, India Cites 3, 12 product system, C291 and



Ref No. VAB/ENV/2022-23/05

Date: 06/05/2022

To,

The Director,

Directorate of Archives and Archaeology,

Govt. of Goa

Subject: NOC for our expansion project at Value Added Business, Vedanta Limited, Amona, Navelim, Goa

Reference:

- 1. Inspection at Value Added Business, Vedanta Limited, Amona, Navelim, Goa dated 05/04/2022
- 2. Our letter no. VAB/ENV/2021-22/23 dated 22/07/2021
- 3. Our letter no. VAB/ENV/2021-22/ dated 16/08/2021
- 4. Our letter no. VAB/ENV/2021-22/51 dated 22/12/2021

Dear Sir,

With reference to the above communication and the inspection done by your team on 05/04/2022 at Value Added Business, Vedanta Limited, Amona, Navelim, Goa, we would like to request your good office to please grant us No Objection certificate (NOC) for our project.

We at Value Added Business, Vedanta Ltd. having operations at Amona and Navelim villages have already obtained Environmental Clearance (EC) for our expansion project within our existing boundaries.

We request you to grant us an NOC for our project for submission to the MOEF&CC, New Delhi.

Thanking you.

Yours faithfully

For Vedanta Limited- Value Added Business

Saptesh Sardesai

CEO- Value Added Business



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:

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Annexure-IV: Picture of newly installed windshield:



Windshield at Blast Furnace 1 and 2 area

Annexure V: Archaeological sites ambient air monitoring data of February-22 and March-22

Parameters	ters Unit February- 2022 March- Results 2022 Results *N.A.A.Q.S.		Methods		
PM 10	µg/m3 62.68 65.18 100.0		NAAQMS/36/2012-2013 Volume 1		
PM 2.5	M 2.5 μg/m3 28.90 32.37 60.0		NAAQMS/36/2012-2013 Volume 1		
SO ₂	µg/m3	11.63	11.93	80.0	IS 5182 (Part II) 2012
NO ₂	µg/m3	17.32	17.35	80.0	IS 5182 (Part VI) 2012
СО	mg/m3	0.14 (for 1 hour)	0.15***	4.0 for 1 hour	IS 5182 (Part X) 1999
Lead	µg/m3	< 0.01	< 0.01	1.0	NAAQMS/36/2012-2013 Volume 1
Ozone	µg/m3	< 20.0 (for 1 hour)	< 20.0***	180.0 for 1 hour	APHA Method 411 3rd Edition
Ammonia	µg/m3	< 14.0	< 14.0	400.0	APHA Method 401 3rd Edition
Benzene	µg/m3	< 0.14	< 0.14	5.0**	IS 5182 (Part 11) 2006
Benzo Pyrene	ng/m3	< 0.1	< 0.1	1.0**	IS 5182 (Part 12):2004
Arsenic	ng/m3	< 0.7	< 0.7	6.0**	NAAQMS/36/2012-2013 Volume 1

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

Nickel	ng/m3	< 6.0	< 6.0	20.0**	NAAQMS/36/2012-2013 Volume 1
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*N.A.A.Q.S- National Ambient Air Quality Standards

** Annual Arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

Parameters	Unit	February- 2022	March- 2022	*N.A.A.Q.S.	Methods
		Results	Results		
PM 10	µg/m3	59.47	63.48	100.0	NAAQMS/36/2012-2013
					Volume 1
PM 2.5	µg/m3	27.23	31.27	60.0	NAAQMS/36/2012-2013
					Volume 1
SO2	µg/m3	11.05	11.54	80.0	IS 5182 (Part II) 2012
NO2	µg/m3	16.14	16.69	80.0	IS 5182 (Part VI) 2012
СО	mg/m3	0.11 (for 1 hour)	0.13 (for 1 hour)	4.0 for 1 hour	IS 5182 (Part X) 1999
Lead	ug/m2	< 0.01	< 0.01	1.0	NAAQMS/36/2012-2013
Leau	µg/m3			1.0	Volume 1
Ozone	µg/m3	< 20.0 (for 1	< 20.0 (for 1	180.0 for 1 hour	APHA Method 411 3rd Edition
		hour)	hour)		
Ammonia	µg/m3	< 14.0	< 14.0	400.0	APHA Method 401 3rd Edition
Benzene	µg/m3	< 0.14	< 0.14	5.0**	IS 5182 (Part 11) 2006
Benzo	ng/m3	< 0.1	< 0.1	1.0**	IS 5182 (Part 12):2004
Pyrene	ng/m5			1.0**	15 5182 (Fait 12).2004
Arsenic	ng/m3	< 0.7	< 0.7	6.0**	NAAQMS/36/2012-2013
AISCIIC	ny/m3			0.0	Volume 1
Nickel	ng/m3	< 6.0	< 6.0	20.0**	NAAQMS/36/2012-2013
INICKCI	ny/mo			20.0	Volume 1

• Ambient air monitoring data of archaeological site 2: Near Mosque, Surla:

*N.A.A.Q.S- National Ambient Air Quality Standards

** Annual Arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

Annexure VI: Benzo Amino Pyrene (BaP) monitoring data from October-2021 to March-2022

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
01-10-21	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
06-10-21	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
08-10-21	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
13-10-21	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
15-10-21	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
20-10-21	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
22-10-21	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2

27-10-21	<0.2	< 0.2	<0.2	< 0.2	<0.2	<0.2
29-10-21	< 0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2
03-11-21	< 0.2	< 0.2	< 0.2	<0.2	< 0.2	<0.2
05-11-21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
10-11-21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
12-11-21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
17-11-21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
19-11-21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
24-11-21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
26-11-21	< 0.2	<0.2	< 0.2	<0.2	< 0.2	<0.2
02-12-21	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
06-12-21	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
09-12-21	< 0.2	<0.2	< 0.2	<0.2	< 0.2	<0.2
13-12-21	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
16-12-21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
20-12-21	< 0.2	<0.2	<0.2	<0.2	< 0.2	<0.2
23-12-21	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
27-12-21	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
30-12-21	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
03-01-22	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
06-01-22	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
10-01-22	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
13-01-22	< 0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2
17-01-22	< 0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2
20-01-22	< 0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2
24-01-22	< 0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2
27-01-22	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
31-01-22	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
03-02-22	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
07-02-22	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
10-02-22	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
14-02-22	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
17-02-22	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
21-02-22	< 0.2	<0.2	< 0.2	< 0.2	< 0.2	<0.2
24-02-22	< 0.2	<0.2	< 0.2	<0.2	< 0.2	<0.2
28-02-22	< 0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2
03-03-22	< 0.2	<0.2	< 0.2	< 0.2	<0.2	< 0.2
07-03-22	< 0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2
10-03-22	< 0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2
14-07-22	< 0.2	<0.2	< 0.2	< 0.2	<0.2	< 0.2
17-03-22	< 0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2
21-03-22	< 0.2	<0.2	< 0.2	< 0.2	<0.2	< 0.2
24-03-22	< 0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2
28-03-22	< 0.2	<0.2	< 0.2	<0.2	<0.2	< 0.2
31-03-22	< 0.2	<0.2	< 0.2	< 0.2	< 0.2	< 0.2

Annexure VII: Riverine water quality reports from October 2021 to March 2022:



K LAB PVT. J **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 CERTIFICATE

Doc. No: GLPL/QF/7.8/01

Test Certificate No.	GW/E/21/10141	T.C. Date:	19/10/2021		
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 14/10/2021				
Lab Reference No.	GW/E/21/10141 Page No. 1 of 1				
Sampling Done On	14/10/2021	Sample Received on	14/10/2021		
Sample Collected By	GLPL Analysis Period 14/10/2021 To 19/10/202				
Sample Description	River upstream sample (50 mtrs. upstream from discharge point), 2000 ml in plastic bottle & 100 ml in glass bottle.				

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pН		6.74	6.5 - 8.5	APHA (23 rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.9	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	4.2	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.5	3.0	IS 3025 (Part 44) : 1993
Temperature	°C	27.8		APHA (23rd Edition) 2550 B
BACTERIOLOGICAL TES	<u>s</u> :	1		1
Fecal Coliform	Org/100 ml	70	100.0	APHA (23rd Edition) 9221 E

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

End

For GADARK LAB PVT. LTD.

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AUTHORISED SIGNATORY [KAILAS V. CHITALKAR] Note:

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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



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TEST CERTIFICATE

Doc. No: GLPL/QF/7.8/01

Test Certificate No.	GW/E/21/10142	T.C. Date:	19/10/2021		
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 14/10/2021				
Lab Reference No.	GW/E/21/10142	GW/E/21/10142 Page No. 1 of 1			
Sampling Done On	14/10/2021	Sample Received on	14/10/2021		
Sample Collected By	GLPL Analysis Period 14/10/2021 To 19/10/202				
Sample Description	River downstream sample (50 mtrs. downstream from discharge point), 2000 ml in plastic bottle & 100 ml in glass bottle.				

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pH _		6.72	6.5 - 8.5	APHA (23rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/itr	5.0	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	4.0	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.3	3.0	IS 3025 (Part 44) : 1993
BACTERIOLOGICAL TES	<u>IT</u> :		(Care days of the second s	
Fecal Coliform	Org/100 ml	64	100.0	APHA (23rd Edition) 9221 E

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

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TEST CERTIFICATE

Doc. No: GLPL/QF/7.8/01

Test Certificate No.	GW/E/21/10218	T.C. Date:	03/11/2021		
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 29/10/2021				
Lab Reference No.	GW/E/21/10218	GW/E/21/10218 Page No. 1 of 1			
Sampling Done On	29/10/2021	Sample Received on	29/10/2021		
Sample Collected By	GLPL Analysis Period 29/10/2021 To 03/11/20				
Sample Description	River upstream sample (50 mtrs. upstream from discharge point), 2000 ml in plastic bottle & 100 ml in glass bottle.				

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
рН		6.84	6.5 - 8.5	APHA (23 rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	5.0	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	4.4	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.5	3.0	IS 3025 (Part 44) : 1993
Temperature	0°C	27.8		APHA (23rd Edition) 2550 B
BACTERIOLOGICAL TES	<u>ST</u> :	1	radie open in deservisies in	
Fecal Coliform	Org/100 ml	84	100.0	APHA (23 rd Edition) 9221 E

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

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TEST CERTIFICATE

Doc. No: GLPL/QF/7.8/01

Test Certificate No.	GW/E/21/10219	T.C. Date:	03/11/2021		
Customer Name and Address	(WASTE HEAT RECOV SURVEY NO. 205,206,2 SURVEY NO. 207 (PAR	D (MET COKE DIVISION) ERY POWER PLANT – I) 207, 31/1, PART OF 177,44,43 (T) OF NAVELIM VILLAGE AN I & 44/5 OF AMONA VILLAGE	ID		
Letter Ref/Date	As per Dated 29/10/2021				
Lab Reference No.	GW/E/21/10219	GW/E/21/10219 Page No. 1 of 1			
Sampling Done On	29/10/2021	Sample Received on	29/10/2021		
Sample Collected By	GLPL Analysis Period 29/10/2021 To 03/11/202				
Sample Description	River downstream sample (50 mtrs. downstream from discharge point), 2000 ml in plastic bottle & 100 ml in glass bottle.				

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pН		6.86	6.5-8.5	APHA (23rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.8	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	4.2	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.2	3.0	IS 3025 (Part 44) : 1993
BACTERIOLOGICAL TES	<u>T</u> :			
Fecal Coliform	Org/100 ml	79	100.0	APHA (23 rd Edition) 9221 E

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

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For GADARK LAB PVT. LTD.

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TEST CERTIFICATE

Doc. No: GLPL/QF/7.8/01

Test Certificate No.	GW/E/21/11113	T.C. Date:	19/11/2021		
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 15/11/2021				
Lab Reference No.	GW/E/21/11113 Page No. 1 of 1				
Sampling Done On	15/11/2021	Sample Received on	15/11/2021		
Sample Collected By	GLPL Analysis Period 15/11/2021 To 19/11/2021				
Sample Description	River upstream sample (50 mtrs. upstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle.				

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pН		6.94	6.5 - 8.5	APHA (23rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.6	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	6.4	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.4	3.0	IS 3025 (Part 44) : 1993
Temperature	٥C	27.7		APHA (23rd Edition) 2550 B
BACTERIOLOGICAL TES	I:		1. T	
Fecal Coliform	Org/100 ml	94	100.0	APHA (23rd Edition) 9221 E

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

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TEST CERTIFICATE

Doc. No: GLPL/QF/7.8/01

Test Certificate No.	GW/E/21/11114	T.C. Date:	19/11/2021	
Customer Name and Address	(WASTE HEAT RECOV SURVEY NO. 205,206,2 SURVEY NO. 207 (PAR	D (MET COKE DIVISION) ERY POWER PLANT – I) 207, 31/1, PART OF 177,44,43, T) OF NAVELIM VILLAGE AN & 44/5 OF AMONA VILLAGE	ID	
Letter Ref/Date	As per Dated 15/11/2021			
Lab Reference No.	GW/E/21/11114	Page No.	1 of 1	
Sampling Done On	15/11/2021	Sample Received on	15/11/2021	
Sample Collected By	GLPL	Analysis Period	15/11/2021 To 19/11/2021	
Sample Description	River downstream samp plastic bottle & 100 ml in	le (50 mtrs. downstream from o glass bottle.	discharge point) , 2000 ml in	

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
рН		6.90	6.5 - 8.5	APHA (23 rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.4	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	6.1	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.2	3.0	IS 3025 (Part 44) : 1993
BACTERIOLOGICAL TES	<u>ET</u> :			
Fecal Coliform	Org/100 ml	84	100.0	APHA (23rd Edition) 9221 E

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

End

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TEST CERTIFICATE

Doc. No: GLPL/QF/7.8/01

Test Certificate No.	GW/E/21/11117	T.C. Date:	02/12/2021	
Customer Name and Address	(WASTE HEAT RECOV SURVEY NO. 205,206,2 SURVEY NO. 207 (PAR	D (MET COKE DIVISION) ERY POWER PLANT – I) 207, 31/1, PART OF 177,44,43/ T) OF NAVELIM VILLAGE AN & 44/5 OF AMONA VILLAGE	ID	
Letter Ref/Date	As per Dated 29/11/2021			
Lab Reference No.	GW/E/21/11117	Page No.	1 of 1	
Sampling Done On	29/11/2021	Sample Received on	29/11/2021	
Sample Collected By	GLPL	Analysis Period	29/11/2021 To 02/12/2021	
Sample Description	River upstream sample (50 mtrs. upstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle.			

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pН		7.04	6.5 - 8.5	APHA (23rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.8	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	6.8	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.7	3.0	IS 3025 (Part 44) : 1993
Temperature	°C	27.8		APHA (23rd Edition) 2550 B
BACTERIOLOGICAL TES	I		and the set	
Fecal Coliform	Org/100 ml	84	100.0	APHA (23rd Edition) 9221 E

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

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For GADARK LAB PVT. LTD.

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TEST CERTIFICATE

Doc. No: GLPL/QF/7.8/01

Test Certificate No.	GW/E/21/11118	T.C. Date:	02/12/2021		
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 29/11/202	1			
Lab Reference No.	GW/E/21/11118	GW/E/21/11118 Page No. 1 of 1			
Sampling Done On	29/11/2021	Sample Received on	29/11/2021		
Sample Collected By	GLPL	Analysis Period	29/11/2021 To 02/12/2021		
Sample Description	River downstream samp plastic bottle & 100 ml in	le (50 mtrs. downstream from on glass bottle.	discharge point) , 2000 ml in		

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pН		7.00	6.5 - 8.5	APHA (23rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.6	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	6.6	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.4	3.0	IS 3025 (Part 44) : 1993
BACTERIOLOGICAL TES	<u>T</u> :			
Fecal Coliform	Org/100 ml	79	100.0	APHA (23rd Edition) 9221 E

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

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TEST CERTIFICATE

Doc. No: GLPL/QF/7.8/01

Test Certificate No.	GW/E/21/12121	T.C. Date:	20/12/2021			
Customer Name and Address	(WASTE HEAT RECOV SURVEY NO. 205,206,2 SURVEY NO. 207 (PAR	D (MET COKE DIVISION) ERY POWER PLANT – I) 207, 31/1, PART OF 177,44,43. T) OF NAVELIM VILLAGE AN & 44/5 OF AMONA VILLAGE	ID			
Letter Ref/Date	As per Dated 14/12/202	1				
Lab Reference No.	GW/E/21/12121	GW/E/21/12121 Page No. 1 of 1				
Sampling Done On	14/12/2021	Sample Received on	14/12/2021			
Sample Collected By	GLPL	Analysis Period	14/12/2021 To 20/12/2021			
Sample Description	River upstream sample of plastic bottle & 100 ml in	(50 mtrs. upstream from discha glass bottle.	rge point) , 2000 ml in			

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pН		7.11	6.5 - 8.5	APHA (23 rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.8	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	4.5	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.2	3.0	IS 3025 (Part 44) : 1993
Temperature	°C	27.6		APHA (23rd Edition) 2550 B
BACTERIOLOGICAL TES	<u>iT</u> :			
Fecal Coliform	Org/100 ml	94	100.0	APHA (23 rd Edition) 9221 E

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

End

For GADARK LAB PVT. LTD.

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- 5. Calibration details of the equipment's used in monitoring and / or analysis is back side of analysis report



INDUSTRIAL ANALYSTS & CONSULTANTS

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TEST CERTIFICATE

Doc. No: GLPL/QF/7.8/01

Test Certificate No.	GW/E/21/12122	T.C. Date:	20/12/2021
Customer Name and Address	(WASTE HEAT RECOV SURVEY NO. 205,206,2 SURVEY NO. 207 (PAR	D (MET COKE DIVISION) ERY POWER PLANT – I) 207, 31/1, PART OF 177,44,43 T) OF NAVELIM VILLAGE AN & 44/5 OF AMONA VILLAGE	ID
Letter Ref/Date	As per Dated 14/12/202	1	
Lab Reference No.	GW/E/21/12122	Page No.	1 of 1
Sampling Done On	14/12/2021	Sample Received on	14/12/2021
Sample Collected By	GLPL	Analysis Period	14/12/2021 To 20/12/2021
Sample Description	River downstream samp plastic bottle & 100 ml in	le (50 mtrs. downstream from o glass bottle.	discharge point) , 2000 ml in

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pН		7.07	6.5 - 8.5	APHA (23 rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.6	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	4.3	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.1	3.0	IS 3025 (Part 44) : 1993
BACTERIOLOGICAL TES	<u></u> :			
Fecal Coliform	Org/100 ml	84	100.0	APHA (23rd Edition) 9221 E

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

End

For GADARK LAB PVT. LTD.

AUTHORISED SIGNATORY [SANTOSH V. ZULPE]

Note:

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TEST CERTIFICATE

Doc. No: GLPL/QF/7.8/01

Test Certificate No.	GW/E/21/12131	T.C. Date:	04/01/2022			
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 30/12/2021					
Lab Reference No.	GW/E/21/12131	GW/E/21/12131 Page No. 1 of 1				
Sampling Done On	30/12/2021	Sample Received on	30/12/2021			
Sample Collected By	GLPL Analysis Period 30/12/2021 To 04/01/20					
Sample Description	River upstream sample plastic bottle & 100 ml ir	(50 mtrs. upstream from discha glass bottle.	irge point) , 2000 ml in			

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pН		7.04	6.5 - 8.5	APHA (23 rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.6	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	4.7	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.4	3.0	IS 3025 (Part 44) : 1993
Temperature	°C	24.6		APHA (23rd Edition) 2550 B
BACTERIOLOGICAL TES	<u>T</u> :			Letter and the second sec
Fecal Coliform	Org/100 ml	84	100.0	APHA (23 rd Edition) 9221 E

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

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For GADARK LAB PVT. LTD.

AUTHORISED SIGNATORY [SANTOSH V. ZULPE]

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TEST CERTIFICATE

Doc. No: GLPL/QF/7.8/01

Test Certificate No.	GW/E/21/12132	T.C. Date:	04/01/2022
Customer Name and Address	(WASTE HEAT RECOV SURVEY NO. 205,206,2 SURVEY NO. 207 (PAR	D (MET COKE DIVISION) ERY POWER PLANT – I) 207, 31/1, PART OF 177,44,43 T) OF NAVELIM VILLAGE AN & 44/5 OF AMONA VILLAGE	ID
Letter Ref/Date	As per Dated 30/12/202	1	
Lab Reference No.	GW/E/21/12132	Page No.	1 of 1
Sampling Done On	30/12/2021	Sample Received on	30/12/2021
Sample Collected By	GLPL	Analysis Period	30/12/2021 To 04/01/2022
Sample Description	River downstream samp plastic bottle & 100 ml in	le (50 mtrs. downstream from o glass bottle.	discharge point) , 2000 ml in

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pН		7.02	6.5 - 8.5	APHA (23 rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.2	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	4.5	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.2	3.0	IS 3025 (Part 44) : 1993
BACTERIOLOGICAL TES	<u>)</u> :			
Fecal Coliform	Org/100 ml	70	100.0	APHA (23 rd Edition) 9221 E

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

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TEST REPORT

Doc. No: GLPL/QF/7.8/01

Test Report No.	GW/E/22/01115	T.R. Date:	19/01/2022		
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 14/01/2022	2			
Lab Reference No.	GW/E/22/01115	Page No.	1 of 1		
Sampling Done On	14/01/2022	Sample Received on	14/01/2022		
Sample Collected By	GLPL Analysis Period 14/01/2022 To 19/01/202				
Sample Description	River upstream sample plastic bottle & 100 ml in	(50 mtrs. upstream from discha glass bottle.	rge point) , 2000 ml in		

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pН		6.92	6.5 - 8.5	APHA (23rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.5	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	5.2	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.4	3.0	IS 3025 (Part 44) : 1993
Temperature	٥C	27.7		APHA (23rd Edition) 2550 B
BACTERIOLOGICAL TES	<u>T</u> :		S	
Fecal Coliform	Org/100 ml	84	100.0	APHA (23 rd Edition) 9221 E

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

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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/22/01116	T.R. Date:	19/01/2022			
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 14/01/2022					
Lab Reference No.	GW/E/22/01116	GW/E/22/01116 Page No. 1 of 1				
Sampling Done On	14/01/2022	Sample Received on	14/01/2022			
Sample Collected By	GLPL Analysis Period 14/01/2022 To 19/01/2022					
Sample Description	River downstream sample (50 mtrs. downstream from discharge point), 2000 ml ir plastic bottle & 100 ml in glass bottle.					

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pН		6.90	6.5 - 8.5	APHA (23rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.4	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	5.0	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.2	3.0	IS 3025 (Part 44) : 1993
BACTERIOLOGICAL TES	<u>)T</u> :			
Fecal Coliform	Org/100 ml	79	100.0	APHA (23rd Edition) 9221 E

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

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TEST REPORT

Doc. No: GLPL/QF/7.8/01

Test Report No.	GW/E/22/01119	T.R. Date:	02/02/2022			
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 28/01/2022					
Lab Reference No.	GW/E/22/01119	GW/E/22/01119 Page No. 1 of 1				
Sampling Done On	28/01/2022	Sample Received on	28/01/2022			
Sample Collected By	GLPL	Analysis Period	28/01/2022 To 02/02/2022			
Sample Description	River upstream sample plastic bottle & 100 ml in	(50 mtrs. upstream from discha n glass bottle.	arge point) , 2000 ml in			

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
рН		6.84	6.5 - 8.5	APHA (23 rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.3	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	5.2	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.4	3.0	IS 3025 (Part 44) : 1993
Temperature	°C	27.6		APHA (23rd Edition) 2550 B
BACTERIOLOGICAL TES	<u>.</u> :			
Fecal Coliform	Org/100 ml	94	100.0	APHA (23rd Edition) 9221 E

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

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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/22/01120	T.R. Date:	02/02/2022			
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 28/01/2022	2				
Lab Reference No.	GW/E/22/01120	GW/E/22/01120 Page No. 1 of 1				
Sampling Done On	28/01/2022	Sample Received on	28/01/2022			
Sample Collected By	GLPL	Analysis Period	28/01/2022 To 02/02/2022			
Sample Description	River downstream samp plastic bottle & 100 ml ir	ble (50 mtrs. downstream from n glass bottle.	discharge point) , 2000 ml in			

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pH		6.90	6.5 - 8.5	APHA (23 rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.4	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	4.9	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.3	3.0	IS 3025 (Part 44) : 1993
BACTERIOLOGICAL TES	<u>T</u> :			
Fecal Coliform	Org/100 ml	84	100.0	APHA (23rd Edition) 9221 E

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

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TEST REPORT

Doc. No: GLPL/QF/7.8/01

Test Report No.	GW/E/22/02144	Test Report Date:	19/02/2022			
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 14/02/2022					
Lab Reference No.	GW/E/22/02144	GW/E/22/02144 Page No. 1 of 1				
Sampling Done On	14/02/2022	Sample Received on	14/02/2022			
Sample Collected By	GLPL Analysis Period 14/02/2022 To 19/02/20					
Sample Description	River upstream sample of plastic bottle & 100 ml in	(50 mtrs. upstream from discha glass bottle.	rge point) , 2000 ml in			

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pН		6.89	6.5 - 8.5	APHA (23rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.3	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	6.7	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.3	3.0	IS 3025 (Part 44) : 1993
Temperature	٥C	27.8		APHA (23rd Edition) 2550 B
BACTERIOLOGICAL TES	I:			
Fecal Coliform	Org/100 ml	94	100.0	APHA (23rd Edition) 9221 E

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

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TEST REPORT

Doc. No: GLPL/QF/7.8/01

Test Report No.	GW/E/22/02145	Test Report Date:	19/02/2022			
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 14/02/2022					
Lab Reference No.	GW/E/22/02145	GW/E/22/02145 Page No. 1 of 1				
Sampling Done On	14/02/2022	Sample Received on	14/02/2022			
Sample Collected By	GLPL Analysis Period 14/02/2022 To 19/02/202					
Sample Description	River downstream samp plastic bottle & 100 ml in	le (50 mtrs. downstream from o glass bottle.	discharge point) , 2000 ml in			

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pН		6.87	6.5 - 8.5	APHA (23 rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.4	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	6.2	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.2	3.0	IS 3025 (Part 44) : 1993
BACTERIOLOGICAL TES	<u>.</u> :		14	
Fecal Coliform	Org/100 ml	84	100.0	APHA (23rd Edition) 9221 E

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

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TEST REPORT

Doc. No: GLPL/QF/7.8/01

Test Report No.	GW/E/22/02148	Test Report Date:	05/03/2022			
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 28/02/2022					
Lab Reference No.	GW/E/22/02148	GW/E/22/02148 Page No. 1 of 1				
Sampling Done On	28/02/2022	Sample Received on	28/02/2022			
Sample Collected By	GLPL	GLPL Analysis Period 28/02/2022 To 05/03/202				
Sample Description	River upstream sample (50 mtrs. upstream from discharge point) , 2000 ml in plastic bottle & 100 ml in glass bottle.					

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pН		6.90	6.5 - 8.5	APHA (23 rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.4	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	5.8	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.6	3.0	IS 3025 (Part 44) : 1993
Temperature	0°C	27.8		APHA (23rd Edition) 2550 B
BACTERIOLOGICAL TES	<u>.</u> :			
Fecal Coliform	Org/100 ml	79	100.0	APHA (23rd Edition) 9221 E

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

End

For GADARK LAB PVT. LTD.

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Note:

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- 2. Test Report 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 Report.
- 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



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

9			Doc. No: GLPL/QF/7.8/01			
Test Report No.	GW/E/22/02149 Test Report Date: 05/03/2022					
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 28/02/2022	As per Dated 28/02/2022				
Lab Reference No.	GW/E/22/02149	GW/E/22/02149 Page No. 1 of 1				
Sampling Done On	28/02/2022	Sample Received on	28/02/2022			
Sample Collected By	GLPL	Analysis Period	28/02/2022 To 05/03/2022			
Sample Description	River downstream samp plastic bottle & 100 ml in	le (50 mtrs. downstream from o glass bottle.	discharge point) , 2000 ml in			

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pН		6.94	6.5 - 8.5	APHA (23rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.3	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	5.3	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.4	3.0	IS 3025 (Part 44) : 1993
BACTERIOLOGICAL TES	<u>.</u> :			
Fecal Coliform	Org/100 ml	70	100.0	APHA (23rd Edition) 9221 E

End

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

For GADARK LAB PVT. LTD.

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TEST CERTIFICATE

Doc. No: GLPL/QF/7.8/01

Test Certificate No.	GW/E/22/03104	T.C. Date:	18/03/2022			
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 14/03/2022					
Lab Reference No.	GW/E/22/03104	GW/E/22/03104 Page No. 1 of 1				
Sampling Done On	14/03/2022	Sample Received on	14/03/2022			
Sample Collected By	GLPL Analysis Period 14/03/2022 To 18/03/202					
Sample Description	River upstream sample plastic bottle & 100 ml ir	(50 mtrs. upstream from dischangles bottle.	rge point), 2000 ml in			

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pH /		6.78	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	6.2	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.2	3.0	IS 3025 (Part 44) : 1993
Temperature	°C	27.7	10 Non 327	APHA (23rd Edition) 2550 B
BACTERIOLOGICAL TES	<u>iT</u> :		N.D.Y	1974
Fecal Coliform	Org/100 ml	84	. 100.0	APHA (23rd Edition) 9221 E

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

End

For GADARK LAB PVT. LTD.

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TEST CERTIFICATE

Doc. No: GLPL/QF/7.8/01

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Test Certificate No.	GW/E/22/03105	T.C. Date:	18/03/2022		
Customer Name and Address	(WASTE HEAT RECOV SURVEY NO. 205,206,2 SURVEY NO. 207 (PAR	D (MET COKE DIVISION) ERY POWER PLANT – I) 107, 31/1, PART OF 177,44,43 T) OF NAVELIM VILLAGE AN & 44/5 OF AMONA VILLAGE	ID		
Letter Ref/Date	As per Dated 14/03/2022				
Lab Reference No.	GW/E/22/03105	Page No.	1 of 1		
Sampling Done On	14/03/2022	Sample Received on	14/03/2022		
Sample Collected By	GLPL Analysis Period 14/03/2022 To 18/03/202				
Sample Description	River downstream samp plastic bottle & 100 ml in	le (50 mtrs. downstream from o glass bottle.	discharge point) , 2000 ml in		

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pH	-	6.71	6.5 - 8.5	APHA (23rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.3	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	6	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/itr	2.1	3.0	IS 3025 (Part 44) : 1993
BACTERIOLOGICAL TES	I:	GADARK		
Fecal Coliform	Org/100 ml	79	100.0	APHA (23rd Edition) 9221 E

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

End

For GADARK LAB PVT. LTD.

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TEST CERTIFICATE

Doc. No: GLPL/QF/7.8/01

Test Certificate No.	GW/E/22/03168	T.C. Date:	02/04/2022			
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 29/03/2022					
Lab Reference No.	GW/E/22/03168	GW/E/22/03168 Page No. 1 of 1				
Sampling Done On	29/03/2022	Sample Received on	29/03/2022			
Sample Collected By	GLPL Analysis Period 29/03/2022 To 02/04/202					
Sample Description	River upstream sample (plastic bottle & 100 ml in	50 mtrs. upstream from discha glass bottle.	rge point), 2000 ml in			

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pH	-	6.84	6.5-8.5	APHA (23 rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/ltr	4.3	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	6.8	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/ltr	2.4	3.0	IS 3025 (Part 44) : 1993
Temperature	0°C	27.7		APHA (23rd Edition) 2550 B
BACTERIOLOGICAL TES	<u>n</u> :	1	P June	
Fecal Coliform	Org/100 ml	94	100.0	APHA (23rd Edition) 9221 E

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

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TEST CERTIFICATE

Doc. No: GLPL/QF/7.8/01

Test Certificate No.	GW/E/22/03169	T.C. Date:	02/04/2022			
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 29/03/2022					
Lab Reference No.	GW/E/22/03169	GW/E/22/03169 Page No. 1 of 1				
Sampling Done On	29/03/2022	Sample Received on	29/03/2022			
Sample Collected By	GLPL Analysis Period 29/03/2022 To 02/04/202					
Sample Description	River downstream sampl plastic bottle & 100 ml in	e (50 mtrs. downstream from o glass bottle.	discharge point), 2000 ml in			

ANALYSIS REPORTS:

Parameters	Units	Test Result	*Limits	Methods
pH	- 1	6.81	6.5-8.5	APHA (23rd Edition) 4500 H ⁺
Dissolved Oxygen	mg/itr	4.4	4.0	APHA (23rd Edition) 4500 O C
Turbidity	NTU	6.5	30.0	APHA (23rd Edition) 2130 B
BOD 3 days 27°C	mg/itr	2.1	3.0	IS 3025 (Part 44) : 1993
BACTERIOLOGICAL TES	<u>i</u> :		Mrs.	
Fecal Coliform	Org/100 ml	84	100.0	APHA (23rd Edition) 9221 E

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

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For GADARK LAB PVT. LTD.

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TEST CERTIFICATE

			Doc. No: GLPL/QF/5.10/01		
Test Certificate No.	GW/E/21/07134	T.C. Date	25/10/2021		
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 20/10/2021				
Lab Reference No.	GW/E/21/07134	Page No.	1 of 1		
Sampling Done On	20/10/2021	Sample Received o	n 20/10/2021		
Sample Collected by	Client	Analysis Period	20/10/2021 To 25/10/2021		
Sample Description	Maina - Digamber Naik Well Water, 3 lit in plastic bottle & 1000 ml in glass bottle.				

ANALYSIS REPORTS:

Parameters	Units	Test		ion Range as per 0500 - 2012	Methods
		Result	Requirement Acceptable Limit	Permissible Limit in the Absence of Alternate Source	(APHA 23rd Edition)
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		6.74	6.5-8.5	No Relaxation	APHA 4500 H ⁺ B
Electrical Conductivity	µS/cm	127.00	No	t Specified	APHA 2510 B
Total Hardness as CaCO ₃	mg/ltr	42.00	200.0 Max.	600.0 Max.	APHA 2340 C
Chlorides	mg/ttr	12.51	250.0 Max.	1000.0 Max.	APHA 4500 CITB
Sulphate	mg/ltr	2.03	200.0 Max.	400.0 Max.	APHA 4500 SO42-E
Total Dissolved Solids	mg/ltr	82.00	500.0 Max.	2000.0 Max.	APHA 2540 C
Nitrate	mg/ltr	1.96	45.0 Max.	No Relaxation	APHA 4500 NO3 B
Calcium Hardness	mg/itr	23.02	No	t Specified	APHA 3500 Ca B
Dissolved Iron	mg/itr	<0.001	1.0 Max.	No Relaxation	APHA 3111 B
Magnesium Hardness	mg/itr	18.98	No	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/itr	6.00	Noi	t Specified	APHA 2540 D
Oil & Grease	mg/ltr	<0.1	· Not	t Specified	APHA 5520 B

For GADARK LAB PVT. LTD.

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TEST CERTIFICATE

	DOC. NO. GEFLIQITS. 10/01					
Test Certificate No.	GW/E/21/07135	T.C. Date	25/10/2021			
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 20/10/2021					
Lab Reference No.	GW/E/21/07135	Page No.	1 of 1			
Sampling Done On	20/10/2021	Sample Received o	n 20/10/2021			
Sample Collected by	Client	Analysis Period	20/10/2021 To 25/10/2021			
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
			Requirement Acceptable Limit	Permissible Limit in the Absence of Alternate Source	(APHA 23rd Edition)
Colour (Pt. Scale)	Hazen unit	< 1.0	5.0 Max.	15.0 Max.	APHA 2120 B
Turbidity	NTU	0.27	1.0 Max.	5.0 Max.	APHA 2130 B
pH		6.81	6.5 - 8.5	No Relaxation	APHA 4500 H ⁺ B
Electrical Conductivity	µS/cm	158.00	Not Specified		APHA 2510 B
Total Hardness as CaCO3	mg/ltr	64.00	200.0 Max.	600.0 Max.	APHA 2340 C
Chlorides	mg/ltr	16.02	250.0 Max.	1000.0 Max.	APHA 4500 CI B
Sulphate	mg/ltr	3.42	200.0 Max.	400.0 Max.	APHA 4500 SO42-E
Total Dissolved Solids	mg/ltr	96.00	500.0 Max.	2000.0 Max.	APHA 2540 C
Nitrate	mg/ltr	2.61	45.0 Max.	No Relaxation	APHA 4500 NO3 B
Calcium Hardness	mg/ltr	42.03	Not Specified		APHA 3500 Ca B
Dissolved Iron	mg/ltr	< 0.001	1.0 Max.	No Relaxation	APHA 3111 B
Magnesium Hardness	mg/itr	21.97	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/itr	<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	6.00	Not Specified		APHA 2540 D
Oil & Grease	mg/ltr	<0.1	Not Specified		APHA 5520 B

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[SANTOSH V. ZULPE]

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Dec No: CLDL/OE/E 10/01

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TEST CERTIFICATE

		 V. V. Standards and Statistics and Statistics 	Doc. No: GLPL/QF/5.10/01			
Test Certificate No.	GW/E/21/07136	T.C. Date	25/10/2021			
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 20/10/2021					
Lab Reference No.	GW/E/21/07136	Page No.	1 of 1			
Sampling Done On	20/10/2021	Sample Received o	n 20/10/2021			
Sample Collected by	Client	Analysis Period	20/10/2021 To 25/10/2021			
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
			Requirement Acceptable Limit	Permissible Limit in the Absence of Alternate Source	(APHA 23rd Edition)
Colour (Pt. Scale)	Hazen unit	< 1.0	5.0 Max.	15.0 Max.	APHA 2120 B
Turbidity	NTU	0.21	1.0 Max.	5.0 Max.	APHA 2130 B
pН		6.70	6.5 - 8.5	No Relaxation	APHA 4500 H* B
Electrical Conductivity	µS/cm	184.00	Not Specified		APHA 2510 B
Total Hardness as CaCO ₃	mg/ltr	62.00	200.0 Max.	600.0 Max.	APHA 2340 C
Chlorides	mg/ltr	31.03	250.0 Max.	1000.0 Max.	APHA 4500 CITB
Sulphate	mg/ltr	4.06	200.0 Max.	400.0 Max.	APHA 4500 SO42-E
Total Dissolved Solids	mg/ltr	111.00	500.0 Max.	2000.0 Max.	APHA 2540 C
Nitrate	mg/ltr	2.07	45.0 Max.	No Relaxation	APHA 4500 NO3 B
Calcium Hardness	mg/ltr	40.03	Not Specified		APHA 3500 Ca B
Dissolved Iron	mg/itr	<0.001	1.0 Max.	No Relaxation	APHA 3111 B
Magnesium Hardness	mg/itr	21.97	30.0 Max.	100.0 Max.	APHA 3111 B
Manganese	mg/ltr	< 0.001	· Not	t 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	9.00	Not Specified		APHA 2540 D
Oil & Grease	mg/itr	<0.1	Not	Specified	APHA 5520 B

For GADARK LAB PVT. LTD.

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Annexure- IX: Pictures of installed wheel washing system:



Wheel wash system at raw material gate

Annexure X: Noise Monitoring results from October-21 to March-22

Sr. no.	Location	Noise Level (Novemb	• • •	Noise Level dB (A) Leq- (February 2022)	
		Day time avg.	Night time avg.	Day time avg.	Night time avg.
1	Near Amona gate	69.8	62.4	72.7	63.4
2	Opp. BSNL exchange	62.6	57.6	68.1	60.2
3	Near Dispatch gate	67.3	56.3	68.9	59.7
4	Near Satteri temple	54.2	44.7	58.4	44.1
5	Compound wall towards Navelim	63.7	57.2	64.8	54.8
6	Compound wall towards Maina	64.5	56.8	63.7	55.4

Annexure XI: Health, Environment and Safety policy of our company:



HSEQ POLICY

Document No:HSES/POL-09

We at Vedanta Limited – Iron Ore Business are committed to sustainable development through effective management and continual improvement in health, safety, environment and quality (HSEQ) by ensuring compliance to applicable legal and other requirements as an integral part of our business. The health and safety of our employees and stakeholders (who may be impacted by the company's operations) is of paramount importance and our aim is to achieve zero harm to people and to the environment.

We are always committed to:

- Improve occupational health and safety performance through prevention of injury and ill-health of employees and contractors by providing safe and healthy work environment, minimizing the risks associated with occupational hazards pertaining to day-to-day activities and hazardous processes and by implementing periodic health assessment programs and health monitoring practices.
- Adopt best in class technologies and practices for prevention of pollution, minimization of waste and optimum utilization of resources.
- Supply product on time as per agreed specifications to achieve customer satisfaction.
- Enhance HSEQ awareness and positive culture through effective communication, participation and consultation amongst the employees and stakeholders.

This policy will be implemented throughout the Iron Ore Business, and it shall be reviewed and revised periodically (after consultation with all the interested parties) for suitability and effectiveness and the HSEQ performance shall be communicated to employees and stakeholders.

Date: 31st May ,2021

SAUVICK MAZUMDER Date: 2021.06.07 16:50:57 +05'30'

Sauvick Mazumder

CEO- Iron and Steel Business

Sunil Duggal Occupier

1. Advertisement in English language in 'The Goan' on 30/01/2022:

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THE GOAN 🍪 NEWS

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Report on Pegasus spyware stirs hornet's nest in India

REPORT SAYS INDIA BOUGHT PEGASUS AS PART OF DEFENCE DEAL WITH ISRAEL

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Union minister calls Modi govt has NYT 'Supari Media' NEW DELN: Union Ministe Ger VK Singh on Saturday called The New York Times "Supari Media" over its re-port which claimed than th

Risk persists even though Covid

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accorded Environmental Clearance (EC Identification No EC23A0086A184661) to Volue Addition Biumess of Vedanta Limited, located in viloges Amona and Howelm, Bicholim Takuka North Goo District, for Up-Oradottion of Blast Fumores (BP) to Enhance the Production Capacity of Br-1 & 2 from 2,92,000 TrA to 3,50,000 TPA, Br-3 from 5,40,000 TPA, setting up of Additional Caygen Riant of ISD TPD, Fe-St plant of S000 TPA, Ductile Iron Ripe plant of 300000 TPA and addition of avers to estisming Metallingcial Cole bottler y-1 unit. The copy of Environment Clearance letter is available in the office of Goo State Patulan Centrol Board and also available on website (suwu partwest.nici.n) of Ministry of Environment, Forest and Climate Change:Gov. of India.

For Vedanta - Value Added Business (VAB) Saptesh Sardesal Director, VAB

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Sidhu files nomination IndianOil first Indian PSU to bag

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from Amritsar East AGENCIES

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82% of employees prefer working from home than going to office: Study

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workforce has found new love with remote , giving them freedom and productivity that 6 HR to be more trusting, it said adding that god or underutilised employees will find uses faster and out faster than pre-pandem

2. Advertisement in Konkani language in 'Bhangarbhium' on 30/01/2022:



Annexure XIII: Picture of the digital display board:

