23rd Compliance Report to EC No: F. No. J-11011/946/2007-IA-II(I)

(Period: April 2020 to September 2020)

6 Monthly Compliance Report to Conditions Of Environmental Clearance Issued By MOEF, Govt. of India, for Blast Furnace (0.90MTPA), Sinter Plant (2MTPA), Coke Plant (0.6MTPA), Waste Heat Recovery Power Plant (60MW) by Vedanta Limited (earlier known as Sesa Sterlite Ltd./ Sesa Goa Limited) *

A. Specific Conditions

I. Electrostatic precipitator (ESP) shall be provided to Sinter plant and WHRB based Power Plant to control gaseous emissions from all the vents/stacks within 100 mg/Nm^3. Gas Cleaning Plant along with Ventury scrubber shall be provided to blast furnace. On-line stack monitoring facilities for all the stacks shall be provided to ensure particulate emissions below 100 mg/Nm^3 and data submitted to the Ministry's Regional Office at Bangalore, CPCB and Goa Pollution Control Board. Efforts shall be made to reduce RSPM levels in the ambient air and a time bound action plan should be submitted.

Electrostatic Precipitator (ESP) provided to the Sinter Plant at Head End & Tail End of Sinter Machine. Dry Gas Cleaning Plant (GCP) with a dust catcher & bag filters, provided to Blast Furnace. Online stack monitoring facilities is installed for Sinter main stack, Sinter Tail end stack, WHRB-1&2 of Waste Heat Recovery Power plant and Hot Blast Stove of Blast Furnace. Continuous Real time data are connected to CPCB portal .Other conditions complied subject to letter dated 15 Sep 2009 addressed to MOEF, which clarifies areas of non-applicability of the conditions. Regular Stack Monitoring & Ambient Air Quality Monitoring is conducted and monthly reports are submitted to GSPCB (Currently uploaded on OCEMS system as per GSPCB Direction). Also half yearly reports are submitted to CPCB & MOEF.

Detail of average reading for all six locations.

Sr.No.	Location	Average from April 20 to September *20*			
		PM10	PM2.5	SO2	NO2
1	Amona Gate	51.90	20.82	10.18	14.66
2	Compound wall Towards Maina	51.47	20.84	10.4	15.19
3	Opposite BSNL Exchange	53.26	22.37	10.37	15.30
4	Near Dispatch Gate	53.42	22.45	10.63	15.30
5	Compound wall Towards Navelim	50.45	21.29	10.30	14.7
6	Nr. Sateri Temple	50.82	20.47	10.22	14.98

12 parameters monitoring as per National AAQ report is as follows

(Average from April 20 to September *20)*

Sr.no	Parameters	Amona Gate	Opp BSNL Exchange	Near dispatch gate	Comp. wall towards Navelim	Near Sateri temple	Comp. wal towards Maina
1	**PM10**	51.90	53.26	53.42	50.45	50.82	51.47
	limit =100 µg/m3						
2.	**PM 2.5**	20.82	22.37	22.45	21.29	20.47	20.84
	limit =60 µg/m3						
3.	**SO_2**	10.18	10.37	10.63	10.30	10.22	10.4
	limit =80 µg/m3						
4.	**NO2**	14.66	15.30	15.30	14.7	14.98	15.19
	limit =80 µg/m3						
5.	**Ozone**	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
	Limit =180 µg/m3						
6.	**Lead (pb)**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
	limit =1 µg/m3						
7.	**Ammonia (NH_3)**	<20.0	<20.0	<20.0	<20.0	<20.0	<20.0
	Limit=400 µg/m3						
8.	**Carbon Monoxide (mg/m3) (CO)**	0.23	0.27	0.30	0.28	0.27	0.26
	Limit = 4 mg/m3						
9.	**Benzene (C_6H_6)**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Limit= 5 µg/m3						
10.	**Benzo Pyrene (BaP)**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

	Limit = 1 ng/m3						
11.	**Arsenic (As)**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	Limit= 6 ng/m3						
12.	**Nickel (Ni)**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	Limit= 20 ng/m3						

Individual day wise readings are attached as Annexure I.

II. <u>Pulse jet bag filters shall be provided to coal crusher, product house, raw material handling areas. Transfer point etc. Bag filters shall be provided at the crusher. Screening and transfer points. The Coke Oven gases shall be fully utilized for power generation. Water sprinkling system and dry fog system shall be provided to control fugitive emissions at the coal handling area and work zone.</u>

Pulse jet bag filters are provided for coal crusher house, coke screening towers, transfer points, raw material handling sections, etc. Also rain gun sprinklers are provided at raw material yard. Coal is stored in the closed shed. Wind screens are installed along the raw material storage yard. Bag house de-dusting system is provided for proportioning bin, sinter screening building, flux and fuel crushing and small de-dusting units for various transfer stations. Additionally fog/mist cannons have been brought for dust suppression from process activities at the source. Coke Oven Flue Gas (COFG) is fully utilized for Clean Power Generation.

III. <u>Data on ambient air quality stack emission and fugitive emissions shall be uploaded on the company's website and also regularly submitted online to Ministry's Regional office at Bangalore, Goa State Pollution Control Board (GPCB) and Central Pollution Control Board as well as hard copy once in six months. Data on SPM. SO2 and NOx shall also be displayed prominently outside the premises at the appropriate place for the general public.</u>

Ambient Air quality & source emission data is submitted on regular basis to GSPCB. Also six monthly data on stack emission & ambient air quality is submitted to GSPCB, CPCB, MOEF & in hard copy and through e-mail and also uploaded on company website : - http://sesagoaironore.com/sustainability/hse/environment-reports/

Display of PM10, PM2.5, and S02 & NO2 is done prominently outside the premises for the general public. Please refer to table in (i) of Specific Conditions. Ambient Air Quality Reports and Stack Monitoring Reports are submitted regularly to MOEF, CPCB & GSPCB along with six monthly compliance reports. All the values are within limits.
Stack emission data is provided in (iii) of GC below and as Annexure II.

IV. Secondary fugitive emissions from all the sources including Blast Furnace, Coke Oven and Sinter Plant shall be controlled within the latest permissible limits issued by the Ministry and regularly monitored. Guidelines/Code of Practice issued by the CPCB shall be followed.

There are no specific permissible limits, - guidelines/code of practice issued by CPCB/MOEF for Non-Recovery Coke Oven Plants. Rain guns have been installed at raw material yard for dust suppression. Bag filter de-dusting systems are used to control dust. Wind screen/wind shields are installed at prominent locations as per the instructions of GSPCB. The monitoring is done regularly. Also as an additional improvement initiative we have procured Fog/Mist canons and Road sweeping machine of Dulevu make for road dust cleaning and ultimately for fugitive dust suppression and control.

V. Total water requirement shall not exceed 16632 m3/day. The effluent from generated utilities shall be treated in the effluent treatment plant and recycled and reused in the process in blast furnace, sinter plant, dust suppression. Ash moistening, firefighting and green belt development etc. No effluent shall be discharged outside the premises and ' zero' discharge shall be followed.

All Process water from Coke, Blast Furnace, and Sinter Plant is recycled and reused. After appropriate treatment Blow down from Cooling Tower of Power Plant is let out into Mondovi River after temperature & pH monitoring as per Consent conditions from Goa State Pollution Control Board (GSPCB).
The present Water Consumption is on an avg. 4654.18 m3/day (including water for cooling as well as process water) blow down water from Power Plant is around average 74.83 m3/day.

VI. Regular monitoring of influent and effluent water shall be ensured and treated wastewater shall meet the norms prescribed by the Goa State Pollution Control Board or described under the E(P) Act whichever are more stringent and reports shall be submitted six monthly to the Ministry's Regional Office at Bangalore, GSPCB and CPCB.

Blow down from Cooling Tower of Power Plant is let out into Mandovi river after temperature & pH adjustment. Monthly monitoring is carried out as per Consent conditions. Reports are submitted to GSPCB every month and to MOEF (RO), CPCB, and every six monthly as six monthly compliance reports. Blast Furnace, Sinter Plant and Coke Oven Plant operate on zero discharge. Only non-contact type of condenser cooling water is disposed back into Mandovi river as per Consent conditions from Goa State Pollution Control Board (GSPCB) .As per CTO condition max. 3600 m3/day blow down water can be disposed, however last six month avg. was around 74.83 m3/day. Temperature & pH is around avg. 27.4°C and 7.45 respectively.

VII. All the blast furnace slag shall be granulated and provided to cement manufacturers for further utilization. All the dust from the air pollution control equipments shall be recycled and reused in the Sinter plant. All the other solid wastes shall be disposed off in the environment-friendly manner or provided to authorized recyclers/ re-processors. Used oil shall also be provided to authorized recyclers only. An action plan for the disposal of fly ash and granulated BF & SMS slag shall be submitted to the Ministry and its Regional Office at Bangalore within 3 months.

Granulated BF slag is disposed to cement industries. Dust from air pollution control equipment is recycled & reused in Sinter Plant. Used oil is disposed off to the authorized recyclers only. Disposal of Fly Ash & SMS slag is not applicable as the facility is limited to iron making through blast furnace and there is no steel making provision and the power plant is based on waste heat hence thermal coal is not used for power generation. The non-applicability of fly ash & SMS slag is mentioned in letter to MoEF dated 15 September 2009.

VIII. All the fly ash shall be utilized as per Fly Ash Notification, 1999 and amended in 2003.

Not Applicable as thermal coal is not used. The power plant is run on BF gas and Coke Oven Flue Gas.

IX. Vehicular pollution due to transportation of raw material and finished product shall be controlled. Proper arrangements shall also be made to control dust emissions during loading and unloading of the raw material and finished product.

Vehicular pollution due to transportation of raw materials and finished product is controlled. Rain Guns (Sprinkling system) have been installed in the raw material yard and water tankers are used for dust suppression Sprinklers for dust suppression has been installed at Pig Iron Dispatch yard. Pollution under Check certificates of all vehicles entering premises is checked.

X. Green belt shall be developed in 33 % area within and around the plant premises as per the CPCB guidelines in consultation with DFO.

Green belt is developed in phases with plantation drives during the Monsoons. Total land area is 104 Ha. 21Ha is reserved for future usage and 33Ha is earmarked as greenbelt area. Plantation was carried out in consultation of Goa Forest Development Corporation (GFDC) as well as in-house guidance from company expert team.

XI. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Steel Sector shall be strictly implemented.

The Project is not an Integrated Iron & Steel Plant and hence the CREP guidelines of steel sector are not applicable however, whatever CREP conditions are applicable for blast furnace and non-recovery coke plant have been complied, proactively.

XII. The company shall provide housing for construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking

water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed' after the completion of the project.

All temporary housing structures have been decommissioned after the project is operational.

B. GENERAL CONDITIONS

1. **The project authorities must strictly adhere to the stipulations made by the Goa Pollution Control Board (GPCB) and the State Government.**

Stipulations made by GSPCB are strictly adhered to. Reports are either sent to Goa State Pollution Control Board (GSPCB) or uploaded on GSPCB Website. Regular site visits are made by GSPCB personnel to check the compliance status.

2. **No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.**

No expansion or modification in the plant is carried out without prior approval of MoEFCC. We have got Environment Clearance and Consent to operate for hot metal expansion from existing Blast furnace for production enhancement of 0.45 MTPA to 0.54 MTPA. We have applied for Environment clearance for setting up of Ductile Iron plant, Ferro Silicon Plant additional Oxygen plant in the existing Pig Iron Expansion Plant premises near existing mini blast furnace.

3. **The gaseous emissions from various process units shall conform to the load/mass based standards notified by this Ministry on 19th May, 1993 and standards prescribed from time to time. The state Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. At no time, the emission level shall go beyond the prescribed standards. On-line continuous monitoring system shall be installed in stacks to monitor SPM and interlocking facilities shall be provided so that process can be automatically stopped in case emission level exceeds the limit. NOX burners shall be installed to control NOX levels.**

Online stack monitoring instrument is installed for main stacks of Sinter plant (At Head End and Tail End), Hot Blast Stove and both WHRB stacks of Power Plant to track TPM and gases. Real time data are continuously going to CPCB portal. Interlock is provided for Sinter Machine, to ensure automatically stopping of the process when emission exceeds the limits.

The stack heights of stacks and latest data is as follows- (From April-20 to September-20)

Plant	Stack connected to	Height of stack	Particulate Matter in mg/Nm (Avg.)	SO2 in mg/Nm^3 (Avg.)	NO2 in mg/Nm^3 (Avg.)
Sinter Plan	Main ESP	100m	48.41	NA	NA
	Discharge end ESP	30m	54.43	Not Applicable as these are de-dusting stack	
	Sinter Screening &Product bunker Bag Filter	30m	49.81		
	Proportioning bin bag filter	30m	54.02		
	Flux & Fuel Area bag filter	30m	46.41		
Blast Furnace	Cast House De-dusting	30m	39.44	Not Applicable as these are de-dusting stack	
	Stock House De-dusting	30m	43.31		
	Hot Blast Stoves (HBS)	60m	26.04	13.83	16.61
Power Plant	Waste Heat Recovery Boiler-1	50m	45.38	55.39	47.92

***99% of the time (on an avg.) stacks connected to coke oven batteries are closed from top and coke oven flue gases with temperature of almost 1100^{0}C are diverted to waste heat recovery boiler for clean power generation. As per latest consent granted by Goa State Pollution Control, the unit should carry out emission monitoring from the stacks of Waste Heat recovery boiler chimney attached to coke oven plant once in three month, which is carried out regularly and reports are sent/uploaded to GSPCB. However due to the structural weakening of Waste Heat Recovery Boiler 2 chimney, stack monitoring was not done for the aforesaid chimney for 4 Quarters. The same has been communicated to State Pollution Control Board through letter and the chimney is likely to be replaced by December 2020 and got late due to COVID`19 scenario.**

4. **At least four ambient air quality-monitoring stations shall be established in the downward direction as well as where maximum ground level concentration of SPM, $S0_2$ and $N0_2$. are anticipated in consultation with the GPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Bangalore I GSPCB I CPCB once in six months.**

AAQM locations are approved by GSPCB and the monthly reports are submitted to GSPCB. Two Continuous Ambient Air 'Quality Stations have been set up. Data on Air Quality, Stack emissions is

submitted once in six months to MOEF (RO) .Monthly AAQM reports are submitted to GSPCB. All 12 parameters as per NAAQM are monitored; other parameters are Below Detection Limits. Ozone and Ammonia are found in traces. Table is attached in (i) above Ambient Air Quality Reports and Stack Monitoring Reports are submitted regularly to MOEF, CPCB & GSPCB along with six monthly compliance report. All the values are within limits.

5. **In-plant control measures for checking fugitive emissions from all the vulnerable sources like Sinter plant, Blast Furnace area etc. shall be adopted. Further. specific measures like water sprinkling shall be carried out at the stock piles of raw material, stacker. reclaimer. transfer points etc. Dust extraction system and bag filters shall be provided to the sinter plant. stock house and blast furnace. Centralized de-dusting system i.e. collection of fugitive emissions through suction hood and subsequent treatment through bag filter or any other device and finally emitted through a stack of appropriately designed shall be provided. Fugitive emissions shall be controlled, regularly monitored and records maintained.**

   Individual Pulse Jet Bag Filters are provided for Cast House, Stock House of Blast Furnace and Flux & Fuel House, Proportioning House, Sinter Screening House of Sinter Plant. These Pulse jet bag filters cover various capture points such as screening, transfer stations, etc. Electrostatic precipitators (ESPs) are provided at Head & Tail end of Sinter Machine of the Sinter Plant. Rain gun sprinklers are provided & operated at the Raw material yard of the Sinter Plant & Blast Furnace. Windscreens are also installed along the raw material boundary wall. Windshields are installed at the Pig Iron dispatch yard. All the stacks are of adequate height as per the design. Fugitive emissions are controlled, monitored & records maintained. Dust suppression system installed at raw material hoppers.

6. **Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December. 1993 or as amended form time to time. The treated wastewater shall be utilized for plantation purpose.**

   All Process water from Coke, Blast Furnace, and Sinter Plant is recycled and reused after appropriate treatment. Blow down from Cooling Tower of Power Plant is let out into Mandovi river after temperature & pH adjustment as per GSPCB. Cooling tower blow down is monitored every month before disposal into river. Readings Of the same are attached in Annexure III.

7. **The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods. Silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (night time).**

   Overall noise levels in and around the plant area is on an average less than 85dB (A). Enclosures, acoustic hoods, silencers, etc. are provided wherever necessary. The ambient noise levels conforms to the standards prescribed under EPA Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime) at the boundary of the plant.

8. **The company shall develop surface water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.**

Surface rain water harvesting and ground water recharging are in vogue as per the advise of Sr. hydro geologist from Water Resource Department (WRD) of Goa. Roof top rain water is directed to tanks and reused. Around 300000 m3 rain water (from mid-June- mid October) is collected in excavated pits. The stored water is used for process in blast furnace, shell cooling and slag granulation. Also, water which is drawn from the Napoli (mining) pit and is used for the process is obtained by Rain Water Harvesting.

9. **Occupational Health Surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.**

Occupational Health Surveillance of the workers is carried out on a regular basis and records maintained as per the Factories Act. An Occupational Health Centre with an ambulance and Occupational physician (Company employee) and Para-medicos are available.

10. **The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA / EMP report. Further, the company shall undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.**

There are three villages around the units. We have done the need assessment of the area and working towards the overall development of the villages in various thrust areas like Health, Education, livelihood creation & creation of social infrastructure. There is continuous engagement with all the concerned stakeholders to understand the concerns and finding solutions through consultation process.

11. **The project authorities shall earmark adequate capital cost and recurring cost/annum for environment pollution control measures and utilize judiciously to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Ministry's Regional Office at Bangalore. The funds so provided shall not be diverted for any other purpose**

HSE department with competent employees looks after Environmental Management with Management support. An earmarked budget has been allotted with adequate provisions for implantation, operation and maintenance of Environment Pollution Control Measures

12. **The Regional Office of this Ministry at Bangalore/CPCB/GPCB will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation shall be submitted to them regularly.**

6 monthly compliance report & monitored data is submitted to MoEF, CPCB & GSPCB regularly on six monthly basis. The report & data uploaded on to company website: - http://sesagoaironore.com/sustainability/hse/environment-reports/

13. **The Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the GPCB and may also be seen at Website of the Ministry of Environment and Forests at http:/envfor.nic.in. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the Regional office.**

The information about grant of Environmental Clearance was published in 2 local newspapers as per the condition of EC. English Daily "Navhind Times" dated 12/06/2009 & Marathi Daily "Tarun Bharat" dated 12/06/2009.

14. **Project authorities 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 and the date of commencing the land development work**

The first Consent to Operate was granted for following units in below mentioned years:-

Coke Plant	08/9/2011
WHRPP	22/12/2011
BF	08/06/2012
Sinter Plant	09/11/2012

Additional Recommendations on 25/4/12, when amendment in EC was granted

1. **The NAAQS issued by the Ministry vide GSR No 826 (E) dated 16th November 2009 shall be followed.**

12 parameters as mentioned in NAAQS are monitored at AAQ stations and reports are submitted to GSPCB.

2. **The Project Proponent shall also submit 6 monthly reports on the status of the compliance of stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to respective RO of MOEF, respective ZO of CPCB & SPCB. RO of MOEF at Bangalore/CPCB/GSPCB shall monitor the conditions.**

Complied. Six monthly compliance reports submitted to RO of MOEF at Bangalore with cc to CPCB & GSPCB. Also monitored parameters are submitted to the authorities as mentioned in above clauses.

3. **Environmental Statement for each financial year ending 31st March in Form V as is mandated to be submitted by project proponent to GSPCB as prescribed under EPR 1986 shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to respective ROs of MOEF by e-mail.**

Complied. The Environmental Statements for all units, viz, Coke Plant, Power Plant, Blast furnace and Sinter Plant for year 2019-20 are submitted on 18th September 2020.

4. **The Company shall submit within 3 months their policy towards Corporate Environment Responsibility which should inter-alia address (i) SOP to bring into focus any Infringent/deviation/violation of EC conditions (ii) Hierarchical system or Administrative order of the company to deal with environmental issues and ensuring compliance to EC conditions (iii) System of reporting of noncompliance/violation environmental norms to Board of Directors of the company or/and stakeholders or shareholders.**

Corporate Environment Responsibility Policy Action Plan was submitted to MOEF, CPCB and GSPCB on 20/11/12 along with 7th Six Monthly EC Compliance. If any changes are incorporated in CER, same will be intimated to the authorities. Environmental issues are discussed periodically in Vedanta Sustainability Committee Meeting. This Sustainability Committee reports to the Board of Directors, which reviews performance on 6 monthly basis.

Additional Conditions as per Amendment to Environmental clearance via letter No:- F. No. J-11011/946/2007-IA.II(I) dated 07/01/2020

1. **Additional filter beds, arrester wall shall be provided along the Storm Water Drainage for settlement of Suspended Particles and to prevent siltation. The runoff water shall be diverted in settling ponds to prevent any siltation of river/nallah/fields.**

   Storm water drains are provided with filter beds. The additional filter beds and arrester walls are already provided before monsoon. The runoff water is diverted into the settling ponds and used for process to prevent siltation of river/nallah/fields.

2. **All the transportation roads within the project premises shall be fully asphalted/ concreted in a phased manner to ensure the reduction of fugitive emissions and to get a clear runoff during monsoon.**

   Majority of the roads are asphalted and the remaining roads will be asphalted or concreted in a phase-wise manner. Also, it will be pertinent to note that budget is allocated for the same annually.

3. **Regular monitoring of ground water quality shall be carried out in one open well each in three villages i.e., Amona, Navelim and Maina villages in the post and pre-monsoon seasons and the results shall be submitted to GSPCB under intimation to RO, MOEF & CC Bangalore.**

   Ground water quality monitoring was done in the surrounding villages i.e. Amona, Navelim and Maina in the month of October 2020 as a part of ground water study post-monsoon. The reports are enclosed herewith as Annexure IV for your reference.

4. **One additional Continuous Ambient Air Quality Monitoring Station (CAAQMS), in consultation with GSPCB shall be established within the project premise towards the adjoining village and monitoring reports shall be submitted to Goa State Pollution Control Board (GSPCB) and CPCB.**
   There are six AAQMS units installed within the plant namely Near Amona Gate, Near Dispatch Gate,Compound wall towards Maina, Compound wall Towards Navelim, Near Satteri Temple and opposite BSNL exchange and Reports of the Monitoring done at these stations are submitted to GSPCB on monthly basis. The monitoring Reports are enclosed herewith as Annexure- I for your reference. Two CAAQMS units are installed within the plant and are connected to GSPCB and CPCB. We have given purchase order for new CAAQMS unit, however GSPCB is still to provide new location site for installation of the aforesaid CAAQMS.

5. **Additional sprinkling arrangement in the raw material stacking area shall be done to control fugitive dust within the project premise.**

   Rain guns are provided in the stacking area for suppressing dust. Also, additional water tanker sprinkling is done in stacking yard. We have also installed two new fog cannons, a sprinkling arrangement in the yard.

6. **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.**

   Bag Filters are provided to control the secondary emission with the hoods at the emission sources.

7. **The NOx and CO levels should be monitored at workplace at regular intervals (minimum once a week and controlled).**

   We are monitoring NOx levels at 6 Locations and CO at multiple locations.

8. **Monthly monitoring of BaP, Pb,HC, VoCs shall be conducted and report shall be submitted to GSPCB and CPCB.**
   We have non-recovery type coke oven plants. However, we have started carrying out the monthly monitoring of BaP, Pb, HC, VoCs through AAQMS and Reports of the same are submitted to your good office. Reports of the same are attached as Annexure V.

9. **Performance evaluation of all air pollution control devices should be carried out through competent agencies as per the predetermined maintenance protocol of each equipment and report submitted to GSPCB and CPCB.**

   Performance evaluation of Air Pollution control device like Baghouses, ESP`s and others have been carried out by MOEF&Cc accredited Lab however comprehensive reports are awaited and will submitted to GSPCB and CPCB once received.

10. **The tree density in the existing greenbelt should be increased by planting local species within the project boundary areas adjoining villages as per CPCB guideline.**

    33% of dedicated green belt area has been marked within the premises. Every year plantation is taken up in the monsoon season to increase the density.

11. **All above condition shall also be incorporated in the Six Monthly report submitted to Regional Office, Bangalore, MoEF&CC.**

    This is being complied hereby with this 23rd E.C Compliance report which was first complied after 22nd E.C. Compliance report.

    ***Please note that Environmental Monitoring was not possible in the month of April`20 due to Covid`19 situation.

** Vedanta Limited (earlier known as Sesa Sterlite Ltd./Sesa Goa Ltd.) has implemented Blast Furnace (0.54MTPA), Sinter Plant (1MTPA), Coke Plant (0.3MTPA), Waste Heat Recovery Power Plant (30MW) vis-a-vis 50% of Environmental Clearance Capacity, as Phase1.*

With respect to Letter dated 25/4/12 from MOEF, name of Project Proponent has been changed from Sesa Industries Ltd. to Sesa Goa Ltd. And further to Vedanta Ltd. Also an amendment in EC has been issued by MOEF with respect to change in plant configuration with changes in stack dimensions.

- Vedanta Ltd. has got Environment Clearance and Consent To Operate for hot metal expansion from existing Blast furnace for production enhancement of 0.45 MTPA to 0.54 MTPA.

- We have applied for Environment clearance for setting up of 0.3 MTPA Capacity Ductile Iron plant, 0.005MTPA Capacity Ferro Silicon Plant, Increasing capacity of Existing plant from 0.54 MTPA to 0.65 MTPA through technology up-gradation, Setting up of 4 Coke ovens, Increase in Existing capacity of Production from old unit from 0.29 MTPA to 0.35 MTPA and Oxygen Plant in the existing Pig Iron Expansion Plant premises near existing mini blast furnace.

ANNEXURE-I

Ambient Air Monitoring data from April-20 to September-20

1 - NEAR AMONA GATE				
Date	Particular Matter PM 10	Particular Matter PM 2.5	Sulphur Dioxide (SO2)	Nitrogen Dioxide (NO2)
21.05.2020	80.51	39.65	14.42	20.58
25.05.2020	72.23	32.4	13.15	19.19
28.05.2020	62.44	27.82	13.1	18.75
01.06.2020	43.69	14.01	9.17	10.72
04.06.2020	38.75	11.85	9.25	13.1
08.06.2020	47.43	15.22	9.33	11.91
11.06.2020	51.62	16.84	10.52	13.77
15.06.2020	41.41	13.64	8.71	10.55
18.06.2020	43.49	12.43	10.84	13.38
22.06.2020	54.55	17.26	11.68	15.14
25.06.2020	51.3	13.81	9.75	12.85
29.06.2020	46.35	12.31	8.92	11.94
02.07.2020	41.94	15.72	9.1	10.65
06.07.2020	43.31	16.72	9.2	13.25
09.07.2020	38.93	11.23	8.96	12.08
13.07.2020	41.22	12.81	9.37	14.1
16.07.2020	44.51	16.88	9.25	13.12
20.07.2020	46.31	17.34	10.75	14.04
23.07.2020	43.19	14.8	9.83	14.59
27.07.2020	41.86	12.72	9.35	13.97
30.07.2020	45.6	15.43	9.02	14.12
03-08-2020	47.44	19.34	9.3	13.49
06-08-2020	55.37	24.78	10.07	15.62
10-08-2020	43.78	17.36	8.79	13.69
13-08-2020	54.28	21.98	9.31	15.45
17-08-2020	48.69	18.47	9.16	13.12
20-08-2020	52.17	20.62	9.78	14.15
24-08-2020	55.68	23.49	10.15	15.79
27-08-2020	68.93	30.37	11.34	16.83
31-08-2020	59.35	28.53	10.64	14.98
03.09.2020	58.21	28.52	9.51	16.52
07.09.2020	55.68	26.9	10.64	16.78
10.09.2020	52.86	22.18	9.89	15.63
14.09.2020	62.79	31.27	11.25	17.35
17.09.2020	48.52	21.38	9.16	14.89
21.09.2020	57.32	27.33	10.57	15.93
24.09.2020	63.45	32.68	11.77	16.76
28.09.2020	67.39	35.14	11.92	18.38

2 - OPP. BSNL EXCHANGE				
Date	Particular Matter PM 10	Particular Matter PM 2.5	Sulphur Dioxide (SO2)	Nitrogen Dioxide (NO2)
21.05.2020	77.3	37.34	13.4	18.6
25.05.2020	63.04	32.81	12.89	19.05
28.05.2020	60.5	28.57	12.22	18.19
01.06.2020	42.02	19.5	9.53	12.55
04.06.2020	50.64	22.66	11.34	13.53
08.06.2020	46.02	20.17	9.17	12.93
11.06.2020	39.33	16.22	8.8	11.61
15.06.2020	42.02	12.64	9.83	13.61
18.06.2020	39.66	10.44	9.72	11.89
22.06.2020	54.04	21.62	12.35	14.86
25.06.2020	55.86	23.54	13.05	17.05
29.06.2020	50.46	19.5	11.48	16.65
02.07.2020	44.96	15.39	9.59	13.42
06.07.2020	40.29	12.85	9.7	13.05
09.07.2020	42.19	13.51	9.09	13.51
13.07.2020	41.67	11.56	8.89	11.81
16.07.2020	39.82	14.85	9.55	14.11
20.07.2020	46.66	20.5	9.86	13.11
23.07.2020	42.4	15.05	9.76	15.17
27.07.2020	45.13	16.84	10.09	16.64
30.07.2020	45.79	18.34	11.21	17.19
03-08-2020	46.17	16.76	9.42	14.25
06-08-2020	64.24	28.83	10.37	15.12
10-08-2020	44.61	13.81	8.76	13.66
13-08-2020	51.43	17.83	9.36	14.86
17-08-2020	52.26	16.27	8.93	13.91
20-08-2020	57.38	24.18	9.88	16.27
24-08-2020	63.51	27.04	10.58	17.14
27-08-2020	75.16	33.58	10.78	16.8
31-08-2020	68.93	31.9	11.47	17.55
03.09.2020	63.12	31.64	10.17	17.31
07.09.2020	58.74	28.2	9.74	16.37
10.09.2020	55.63	25.31	9.38	15.46
14.09.2020	65.17	33.06	10.83	18.2
17.09.2020	52.19	22.58	9.46	14.36
21.09.2020	62.41	28.22	10.68	15.42
24.09.2020	68.59	35.81	11.24	18.48
28.09.2020	64.83	31.34	11.77	17.93

3 - NEAR DISPATCH GATE				
Date	Particular Matter PM 10	Particular Matter PM 2.5	Sulphur Dioxide (SO2)	Nitrogen Dioxide (NO2)
21.05.2020	82	47.2	15.81	22.04
25.05.2020	74 37	39.1 1	16.34	25.31
28.05.2020	72.57	38.69	15	20.23
01.06.2020	45.51	13.72	8.18	10.84
04.06.2020	40.93	12.06	9.75	12.27
08.06.2020	49.88	14.18	9.11	11.55
11.06.2020	50.6	17.59	12.38	15.51
15.06.2020	42.18	16.26	6.98	10.03
18.06.2020	38.9	11.23	9.66	11.89
22.06.2020	52.53	17.59	12.8	16.12
25.06.2020	55.08	21.42	10.51	15.13
29.06.2020	52.55	20.75	11.68	13.65
02.07.2020	41.62	13.81	8.4	11.54
06.07.2020	39.19	11.56	9.54	12.71
09.07.2020	42.91	12.93	9.03	12.76
13.07.2020	43.07	15.84	9.52	15.38
16.07.2020	41.84	13.68	8.13	10.83
20.07.2020	47.33	16.75	10.53	14.11
23.07.2020	44.13	14.51	10.78	15.89
27.07.2020	45.88	18.05	10.84	15.26
30.07.2020	45.66	14.22	10.99	14.19
03-08-2020	44.54	17.28	9.23	14.2
06-08-2020	53.69	23.11	10.57	15.72
10-08-2020	44.86	16.54	9.53	14.62
13-08-2020	52.43	18.46	10.04	15.79
17-08-2020	47.83	16.31	9.52	14.18
20-08-2020	52.86	22.18	10.37	15.73
24-08-2020	59.25	26.87	11.06	16.44
27-08-2020	70.42	35.86	11.84	17.72
31-08-2020	68.58	32.75	10.59	16.64
03.09.2020	67.43	32.49	10.68	17.22
07.09.2020	57.51	27.37	9.82	16.41
10.09.2020	59.68	30.57	10.26	15.36
14.09.2020	63.01	35.83	11.16	17.83
17.09.2020	54.27	24.86	9.66	15.26
21.09.2020	65.28	36.68	10.94	16.11
24.09.2020	69.15	33.51	11.39	17.34
28.09.2020	71.42	38.03	11.63	17.85

4 - COMPOUND WALL TOWARDS NAVELIM				
Date	Particular Matter PM 10	Particular Matter PM 2.5	Sulphur Dioxide (SO2)	Nitrogen Dioxide (NO2)
21.05.2020	69	31.2	13.81	19.04
25.05.2020	73.37	39.11	14.34	22.31
28.05.2020	62 57	28.69	13	18.23
01.06.2020	38.12	13.06	7.96	10.42
04.06.2020	50.78	16.72	12.65	15.78
08.06.2020	41.03	14.89	8.91	10.55
11.06.2020	45.01	12.06	9.36	11.23
15.06.2020	47.49	16.59	10.85	13.1
18.06.2020	35.85	14.35	7.96	9.95
22.06.2020	53.31	21.71	12.88	15.5
25.06.2020	51.53	20.63	11.97	14.82
29.06.2020	47.62	19.59	11.16	14.05
02.07.2020	40.36	12.43	7.87	10.48
06.07.2020	38.69	11.48	8.78	13.51
09.07.2020	42.97	13.93	8.68	11.34
13.07.2020	45.96	18.13	8.84	12.45
16.07.2020	42.04	13.93	9.79	13.57
20.07.2020	46.47	15.71	9.19	13.05
23.07.2020	45.97	17.51	11.59	14.85
27.07.2020	44.04	13.81	11.14	14.87
30.07.2020	42.21	12.52	9.7	13.37
03-08-2020	44.09	15.18	8.58	13.15
06-08-2020	53.15	24.63	9.64	14.65
10-08-2020	42.18	16.3	8.49	14.08
13-08-2020	47.88	19.32	9.16	15.81
17-08-2020	42.17	14.28	8.97	14.66
20-08-2020	53.39	19.28	9.23	15.21
24-08-2020	56.84	24.76	10.84	15.78
27-08-2020	58 38	29.73	11.14	16.06
31-08-2020	62.53	30.25	11.36	17.36
03.09.2020	63.84	30.36	10.77	16.29
07.09.2020	55.47	25.72	9.64	15.62
10.09.2020	57.55	28.04	9.71	15.78
14.09.2020	61.93	32.39	11.25	17.36
17.09.2020	48.57	25.9	9.86	14.85
21.09.2020	62.64	31.46	10.63	16.89
24.09.2020	58.98	29.47	10.24	15.69
28.09.2020	63.47	34.13	11.58	17.12

5 - NEAR SATERI TEMPLE				
Date	Particular Matter PM 10	Particular Matter PM 2.5	Sulphur Dioxide (SO2)	Nitrogen Dioxide (NO2)
21.05.2020	68.47	33.45	12.1	18.29
25.05.2020	59.42	27.75	11.82	18.42
28.05.2020	57.29	23.74	12.23	18.02
01.06.2020	40.9	11.52	9.3	11.85
04.06.2020	48.73	15.22	12.39	14.61
08.06.2020	43.3	14.76	10.12	12.91
11.06.2020	38.61	10.65	8.34	11.33
15.06.2020	44.32	14.64	10.51	13.33
18.06.2020	32.94	9.86	7.92	10.51
22.06.2020	49.58	19.84	11.04	14.79
25.06.2020	57.56	21.62	10.97	17
29.06.2020	53.64	22.41	12.98	15.93
02.07.2020	41.37	11.81	8.54	12.01
06.07.2020	39.97	10.44	8.58	13.7
09.07.2020	40.79	13.97	9.11	12.75
13.07.2020	45.25	14.35	9.19	12.63
16.07.2020	39.91	12.93	8.87	13.34
20.07.2020	43.58	15.8	9.52	14.54
23.07.2020	46.6	17.26	10.69	15.03
27.07.2020	44.03	14.06	10.69	14.2
30.07.2020	41.88	10.85	8.63	12.8
03-08-2020	43.89	15.47	8.7	13.05
06-08-2020	47.16	16.89	10.21	14.12
10-08-2020	57.81	22.06	9.83	15.28
13-08-2020	52.17	19.36	10.2	17.28
17-08-2020	44.84	15.97	8.82	14.55
20-08-2020	52.18	20.92	9.79	16.83
24-08-2020	59.32	27.73	10.74	17.23
27-08-2020	66.27	32.82	11.58	16.58
31-08-2020	60.28	30.46	11.32	17.12
03.09.2020	61.56	28.75	10.38	16.57
07.09.2020	57.23	24.83	10.03	15.44
10.09.2020	54.27	26.49	9.84	15.21
14.09.2020	62.58	31.28	11.27	17.28
17.09.2020	51.27	24.32	9.86	15.34
21.09.2020	61.76	32.57	10.68	16.41
24.09.2020	57.83	27.5	10.14	15.68
28.09.2020	62.96	33.58	11.76	17.48

6 - COMPOUND WALL TOWARDS MAINA				
Date	Particular Matter PM 10	Particular Matter PM 2.5	Sulphur Dioxide (SO2)	Nitrogen Dioxide (NO2)
21.05.2020	65.58	29.12	13.14	18.16
25.05.2020	62.13	25.82	12.73	19.24
28.05.2020	56.08	24.74	12.53	17.78
01.06.2020	41.74	12.6	9.47	12.36
04.06.2020	46.64	14.8	12.19	14.27
08.06.2020	42.1	13.1	10.98	13.38
11.06.2020	36.4	9.31	8.72	11.71
15.06.2020	39.59	10.1	11.18	14.66
18.06.2020	34.17	9.77	7.76	10.39
22.06.2020	53.1	20.21	13.38	15.63
25.06.2020	54.19	18.55	11.3	15.55
29.06.2020	50.3	17.51	10.92	13.98
02.07.2020	42.3	13.43	8.9	12.27
06.07.2020	38.33	12.93	8.2	13.26
09.07.2020	41.57	14.06	8.73	12.93
13.07.2020	42.43	15.8	9.2	12.98
16.07.2020	41.74	11.35	10.92	14.24
20.07.2020	43.4	14.35	8.89	13.66
23.07.2020	43.12	15.43	10.48	14.02
27.07.2020	46.33	16.3	11.07	15.58
30.07.2020	41.2	13.6	9.95	13.84
03-08-2020	44.76	16.13	9.01	13.57
06-08-2020	52.17	19.65	9.85	14.83
10-08-2020	57.31	27.52	10.23	16.16
13-08-2020	54.92	24.58	9.96	16.94
17-08-2020	45.87	14.79	8.57	14.23
20-08-2020	58.62	23.13	10.25	16.74
24-08-2020	60.13	26.82	10.36	17.06
27-08-2020	67.86	35.16	11.76	17.58
31-08-2020	62.94	32.06	11.49	17.3
03.09.2020	59.75	26.27	9.74	16.43
07.09.2020	61.3	30.73	10.24	16.88
10.09.2020	55.83	25.62	9.1	15.36
14.09.2020	63.16	32.05	10.86	17.27
17.09.2020	54.82	25.86	9.47	15.65
21.09.2020	62.37	30.14	10.62	16.3
24.09.2020	64.84	32.92	11.25	17.21
28.09.2020	67.12	35.89	11.8	17.87

ANNEXURE-II

STACK MONITORING DETAILS FROM April 2020 To September 2020

SINTER PLANT

Sr. No	Month	Parameter	Stack Details				
			Head End ESP	Tail End ESP	Proportioning de-dusting	Sinter screening de-dusting	Flux and fuel de-dusting
1	April`20-June`20	Particulate Matter(Mg/Nm3)	46.3	55.7	59.12	51.2	44.99
2	July`20-September`20	Particulate Matter(Mg/Nm3)	50.53	53.16	48.92	48.42	47.83

Blast Furnace

Sr. No	Month	Parameter	Stack Details			
			Hot Blast Stove	PCM Cast house de-dusting	Stock house de-dusting	Pulverized coal injection
1	April`20-June`20	Particulate Matter(Mg/Nm3)	23.79	41.05	44.94	44.95
		SO2 (Mg/Nm3)	11.86	NA	NA	NA
		Nox (Mg/Nm3)	14.24	NA	NA	NA
2	July`20-September`20	Particulate Matter(Mg/Nm3)	28.29	37.83	41.69	48.96
		SO2 (Mg/Nm3)	15.81	NA	NA	NA
		Nox (Mg/Nm3)	18.99	NA	NA	NA

Waste Heat Recovery Power Plant II

Sr. No	Month	Parameter	Stack Details
			Waste Heat Recovery Boiler No 1
1	April`20-June`20	Particulate Matter(Mg/Nm3)	48.1
		SO2 (Mg/Nm3)	55.8
		Nox (Mg/Nm3)	46
2	July`20-September`20	Particulate Matter(Mg/Nm3)	42.66
		SO2 (Mg/Nm3)	54.98
		Nox (Mg/Nm3)	49.85

Annexure III- Power Plant CT Blowdown Water Analysis Data

Sr. No.	Month	Parameter	CT Blowdown Discharge Before Treatment	CT Blowdown Discharge After Treatment
1	May`20	PH	7.18	7.14
		Temperature (Deg. Cel.)	27.3	27.1
		Suspended Solid(mg/Lit)	49	41
		Oil & Grease (mg/Lit)	1.2	1
		Free Chlorine (mg/Lit)	Nil	Nil
		Phosphates as P(mg/Lit)	0.36	0.2
		Copper as Cu (mg/Lit)	<0.001	<0.001
		Chromium as Cr (mg/Lit)	<0.001	<0.001
		Iron as Fe (mg/Lit)	<0.001	<0.001
		Zinc as Zn (mg/Lit)	0.42	0.38
2	June`20	PH	6.97	7.08
		Temperature (Deg. Cel.)	-	27.8
		Suspended Solid(mg/Lit)	42	47
		Oil & Grease (mg/Lit)	1.6	1.2
		Free Chlorine (mg/Lit)	Nil	Nil
		Phosphates as P(mg/Lit)	1.28	0.42
		Copper as Cu (mg/Lit)	0.33	<0.001
		Chromium as Cr (mg/Lit)	0.14	<0.001
		Iron as Fe (mg/Lit)	0.15	<0.001
		Zinc as Zn (mg/Lit)	0.34	0.34
3	July`20 (1st Fortnight)	PH	7.14	7.1
		Temperature (Deg. Cel.)	27.6	27.7
		Suspended Solid(mg/Lit)	37	35
		Oil & Grease (mg/Lit)	1.1	1
		Free Chlorine (mg/Lit)	Nil	Nil
		Phosphates as P(mg/Lit)	0.36	0.3
		Copper as Cu (mg/Lit)	<0.001	<0.001
		Chromium as Cr (mg/Lit)	0.14	0.11
		Iron as Fe (mg/Lit)	0.052	0.049
		Zinc as Zn (mg/Lit)	0.029	0.026
	July`20 (2nd Fortnight)	PH	7.09	7.02
		Temperature (Deg. Cel.)	27.7	27.7
		Suspended Solid(mg/Lit)	41	39
		Oil & Grease (mg/Lit)	1.2	1.1
		Free Chlorine (mg/Lit)	Nil	Nil

		Phosphates as P(mg/Lit)	0.27	0.24
		Copper as Cu (mg/Lit)	<0.001	<0.001
		Chromium as Cr (mg/Lit)	0.16	0.15
		Iron as Fe (mg/Lit)	0.056	0.054
		Zinc as Zn (mg/Lit)	0.037	0.034
4	August`20 (1st Fortnight)	PH	7.35	7.37
		Temperature (Deg. Cel.)	27.4	27.4
		Suspended Solid(mg/Lit)	39	37
		Oil & Grease (mg/Lit)	1	1
		Free Chlorine (mg/Lit)	Nil	Nil
		Phosphates as P(mg/Lit)	0.3	0.29
		Copper as Cu (mg/Lit)	0.243	0.24
		Chromium as Cr (mg/Lit)	0.107	0.106
		Iron as Fe (mg/Lit)	0.268	0.263
		Zinc as Zn (mg/Lit)	0.234	0.229
	August`20 (2nd Fortnight)	PH	7.21	7.19
		Temperature (Deg. Cel.)	27.6	27.6
		Suspended Solid(mg/Lit)	41	40
		Oil & Grease (mg/Lit)	1.4	1.2
		Free Chlorine (mg/Lit)	Nil	Nil
		Phosphates as P(mg/Lit)	0.39	0.37
		Copper as Cu (mg/Lit)	0.274	0.273
		Chromium as Cr (mg/Lit)	0.113	0.111
		Iron as Fe (mg/Lit)	0.281	0.278
		Zinc as Zn (mg/Lit)	0.253	0.251
5	September`20 (1st Fortnight)	PH	7.29	7.35
		Temperature (Deg. Cel.)	27.7	27.7
		Suspended Solid(mg/Lit)	31	32
		Oil & Grease (mg/Lit)	1	1.2
		Free Chlorine (mg/Lit)	Nil	Nil
		Phosphates as P(mg/Lit)	0.26	0.28
		Copper as Cu (mg/Lit)	<0.001	<0.001
		Chromium as Cr (mg/Lit)	0.1	0.12
		Iron as Fe (mg/Lit)	0.036	0.038
		Zinc as Zn (mg/Lit)	0.019	0.021
	September`20 (2nd Fortnight)	PH	7.17	7.11
		Temperature (Deg. Cel.)	27.8	27.8
		Suspended Solid(mg/Lit)	43	43
		Oil & Grease (mg/Lit)	1.8	1.6
		Free Chlorine (mg/Lit)	Nil	Nil
		Phosphates as P(mg/Lit)	1.32	1.27
		Copper as Cu (mg/Lit)	0.15	0.12
		Chromium as Cr (mg/Lit)	0.13	0.1

		Iron as Fe (mg/Lit)	0.076	0.07
		Zinc as Zn (mg/Lit)	0.029	0.024

Parameters	Limits as per CTO (For After treatment water)
pH	5.5-89.0
Suspended Solid(mg/Lit)	100
Oil & Grease (mg/Lit)	20
Free Chlorine (mg/Lit)	0.5
Phosphates as P(mg/Lit)	5
Copper as Cu (mg/Lit)	1
Chromium as Cr (mg/Lit)	0.2
Iron as Fe(mg/Lit)	1
Zinc as Zn(mg/Lit)	1

ANNEXURE IV (Ground water monitoring)

GADARK LAB PVT. LTD.

INDUSTRIAL ANALYSTS & CONSULTANTS

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TEST CERTIFICATE

Doc. No: GLPL/QF/7.8/01

Test Certificate No.	GW/E/10159/20	T.C. Date	03/11/2020
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 30/10/2020		
Lab Reference No.	GW/E/10159/20	Page No.	1 of 1
Sampling Done On	30/10/2020	Sample Received on	30/10/2020
Sample Collected by	Client	Analysis Period	30/10/2020 To 03/11/2020
Sample Description	Amona – Sandesh Naik Well Water, 3 lit in plastic bottle & 1000 ml in glass bottle.		

ANALYSIS REPORTS:

Parameters	Units	Test Result	Specification Range as per IS 10500 - 2012		Methods (APHA 23rd Edition)
			Requirement Acceptable Limit	Permissible Limit in the Absence of Alternate Source	
Colour (Pt. Scale)	Hazen unit	< 1.0	5.0 Max.	15.0 Max.	APHA 2120 B
Turbidity	NTU	0.30	1.0 Max.	5.0 Max.	APHA 2130 B
pH	---	6.90	6.5 – 8.5	No Relaxation	APHA 4500 H^+ B
Electrical Conductivity	µS/cm	209.00	Not Specified		APHA 2510 B
Total Hardness as $CaCO_3$	mg/ltr	78.00	200.0 Max.	600.0 Max.	APHA 2340 C
Chlorides	mg/ltr	49.43	250.0 Max.	1000.0 Max.	APHA 4500 Cl^- B
Sulphate	mg/ltr	3.00	200.0 Max.	400.0 Max.	APHA 4500 SO_4^{2-} E
Total Dissolved Solids	mg/ltr	135.00	500.0 Max.	2000.0 Max.	APHA 2540 C
Nitrate	mg/ltr	1.80	45.0 Max.	No Relaxation	APHA 4500 NO_3 B
Calcium Hardness	mg/ltr	46.02	75.0 Max.	200.0 Max.	APHA 3500 Ca B
Dissolved Iron	mg/ltr	0.049	1.0 Max.	No Relaxation	APHA 3111 B
Magnesium Hardness	mg/ltr	27.98	30.0 Max.	100.0 Max.	APHA 3111 B
Manganese	mg/ltr	< 0.001	0.10 Max.	0.30 Max.	APHA 3111 B
COD	mg/ltr	<4.00	Not Specified		APHA 5220 - B
BOD 3 days 27°C	mg/ltr	<1.00	Not Specified		IS 3025 (Part 44) : 1993
Phosphates	mg/ltr	<0.001	Not Specified		APHA 4500 P D
Total Suspended Solids	mg/ltr	6.00	Not Specified		APHA 2540 D
Oil & Grease	mg/ltr	<0.1	Not Specified		APHA 5520 B

End

For **GADARK LAB PVT. LTD.**

AUTHORISED SIGNATORY
[SACHIN B. GAONKAR]

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GADARK LAB PVT. LTD.

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LAB. : H-54, Additional M.I.D.C. Kudal, Taluka - Kudal, District - Sindhudurg - 416 525.
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OFF. : 15, Hindustan Kohinoor Industrial Complex, L.B.S. Marg, Vikhroli (West), Mumbai - 83.
Tel.: (022) 2577 7069 / 2577 7070 / 2085 0091 • +91 93213 12367

TEST CERTIFICATE

Doc. No: GLPL/QF/7.8/01

Test Certificate No.	GW/E/10160/20	T.C. Date	03/11/2020
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 30/10/2020		
Lab Reference No.	GW/E/10160/20	Page No.	1 of 1
Sampling Done On	30/10/2020	Sample Received on	30/10/2020
Sample Collected by	Client	Analysis Period	30/10/2020 To 03/11/2020
Sample Description	Maina - Digamber Naik Well Water. 3 lit in plastic bottle & 1000 ml in glass bottle.		

ANALYSIS REPORTS:

Parameters	Units	Test Result	Specification Range as per IS 10500 - 2012		Methods (APHA 23rd Edition)
			Requirement Acceptable Limit	Permissible Limit in the Absence of Alternate Source	
Colour (Pt. Scale)	Hazen unit	< 1.0	5.0 Max.	15.0 Max.	APHA 2120 B
Turbidity	NTU	0.20	1.0 Max.	5.0 Max.	APHA 2130 B
pH	---	6.68	6.5 – 8.5	No Relaxation	APHA 4500 H^+ B
Electrical Conductivity	µS/cm	104.00	Not Specified		APHA 2510 B
Total Hardness as $CaCO_3$	mg/ltr	46.00	200.0 Max.	600.0 Max.	APHA 2340 C
Chlorides	mg/ltr	11.09	250.0 Max.	1000.0 Max.	APHA 4500 Cl^- B
Sulphate	mg/ltr	1.75	200.0 Max.	400.0 Max.	APHA 4500 SO_4^{2-} E
Total Dissolved Solids	mg/ltr	68.00	500.0 Max.	2000.0 Max.	APHA 2540 C
Nitrate	mg/ltr	2.10	45.0 Max.	No Relaxation	APHA 4500 NO_3 B
Calcium Hardness	mg/ltr	24.00	75.0 Max.	200.0 Max.	APHA 3500 Ca B
Dissolved Iron	mg/ltr	0.024	1.0 Max.	No Relaxation	APHA 3111 B
Magnesium Hardness	mg/ltr	22.00	30.0 Max.	100.0 Max.	APHA 3111 B
Manganese	mg/ltr	< 0.001	0.10 Max.	0.30 Max.	APHA 3111 B
COD	mg/ltr	<4.00	Not Specified		APHA 5220 - B
BOD 3 days 27°C	mg/ltr	<1.00	Not Specified		IS 3025 (Part 44) : 1993
Phosphates	mg/ltr	<0.001	Not Specified		APHA 4500 P D
Total Suspended Solids	mg/ltr	8.00	Not Specified		APHA 2540 D
Oil & Grease	mg/ltr	<0.1	Not Specified		APHA 5520 B

End

For **GADARK LAB PVT. LTD.**

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TEST CERTIFICATE

Doc. No: GLPL/QF/7.8/01

Test Certificate No.	GW/E/10161/20	T.C. Date	03/11/2020
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 30/10/2020		
Lab Reference No.	GW/E/10161/20	Page No.	1 of 1
Sampling Done On	30/10/2020	Sample Received on	30/10/2020
Sample Collected by	Client	Analysis Period	30/10/2020 To 03/11/2020
Sample Description	Navelim - Sanjay Naik Well Water, 3 lit in plastic bottle & 1000 ml in glass bottle.		

ANALYSIS REPORTS:

Parameters	Units	Test Result	Specification Range as per IS 10500 - 2012		Methods (APHA 23rd Edition)
			Requirement Acceptable Limit	Permissible Limit in the Absence of Alternate Source	
Colour (Pt. Scale)	Hazen unit	< 1.0	5.0 Max.	15.0 Max.	APHA 2120 B
Turbidity	NTU	0.20	1.0 Max.	5.0 Max.	APHA 2130 B
pH	---	6.62	6.5 – 8.5	No Relaxation	APHA 4500 H^+ B
Electrical Conductivity	µS/cm	170.00	Not Specified		APHA 2510 B
Total Hardness as $CaCO_3$	mg/ltr	84.00	200.0 Max.	600.0 Max.	APHA 2340 C
Chlorides	mg/ltr	15.52	250.0 Max.	1000.0 Max.	APHA 4500 Cl^- B
Sulphate	mg/ltr	2.81	200.0 Max.	400.0 Max.	APHA 4500 SO_4^{2-} E
Total Dissolved Solids	mg/ltr	102.00	500.0 Max.	2000.0 Max.	APHA 2540 C
Nitrate	mg/ltr	2.44	45.0 Max.	No Relaxation	APHA 4500 NO_3 B
Calcium Hardness	mg/ltr	62.03	75.0 Max.	200.0 Max.	APHA 3500 Ca B
Dissolved Iron	mg/ltr	0.041	1.0 Max.	No Relaxation	APHA 3111 B
Magnesium Hardness	mg/ltr	22.00	30.0 Max.	100.0 Max.	APHA 3111 B
Manganese	mg/ltr	< 0.001	0.10 Max.	0.30 Max.	APHA 3111 B
COD	mg/ltr	<4.00	Not Specified		APHA 5220 - B
BOD 3 days 27°C	mg/ltr	<1.00	Not Specified		IS 3025 (Part 44) : 1993
Phosphates	mg/ltr	<0.001	Not Specified		APHA 4500 P D
Total Suspended Solids	mg/ltr	10.00	Not Specified		APHA 2540 D
Oil & Grease	mg/ltr	<0.1	Not Specified		APHA 5520 B

End

For **GADARK LAB PVT. LTD.**

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ANNEXURE V (Workplace monitoring report)

May`20

Sadekar Enviro Engineers Pvt. Ltd.

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WORKPLACE AIR QUALITY MONITORING REPORT					
Report No.	SEE/AR/05/2020/0366	Report Date	28/05/2020		
Name of Client	M/s Vedanta Ltd.				
Address of Client	MCD,Navelim, Bicholim-Goa				
Sample Collected By	SEEPL Representative	Environmental condition of lab			
Date of Sampling	12/05/2020	Temperature(0C)*	26.6	Humidity (%)*	55
Analysis Started On	13/05/2020	Analysis Completed On	28/05/2020		

WORKPLACE AIR STATION LOCATION

Location of ambient air station	MCD Boiler Area		
Ambient Temperature (0C)*	32.4	Humidity (%)*	79
Wind Speed (km/hr)*	2.7	Wind Direction(Deg)*	248
Instruments Used	R.D.S.(APM- 460),		

POLLUTION PARAMETERS

Sr. No.	Parameters	Result	Unit	Limits**	Method
01.	Ammonia (NH3)	04.86	mg/m3	35.00	Method 401, Methods of Air Sampling & analysis , 3rd edition by Mr. J.P. Lodge
02.	Lead as Pb	<0.0010	mg/m3	0.075	IS 5182 (Part 22)
03.	Benzo(a)Pyrene	<0.0020	mg/m3	NS	IS 5182 (Part 12)
04.	VOC*	<0.20	ppm	NS	IS 5182 (Part 11):2006

** Permissible Exposure Limits as per OSHA (TWA for 8hrly)

Note : Test results related only to the sample tested.

: Test results relate only to the condition prevailing at the time of sampling

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: "The tests marked with an * are not accredited by NABL"

Analysed by
Susmita Kapdoskar

Sadekar Enviro Engineers Pvt. Ltd.

Authorized Signatory
Varsha Pole

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WORKPLACE AIR QUALITY MONITORING REPORT

Report Date	06/06/2020
Name of Client	M/s Vedanta Ltd.
Address of Client	BF3,Navelim, Bicholim-Goa
Sample Collected By	SEEPL Representative
Month of Sampling	May- 2020

WORKPLACE AIR MONITORING LOCATION

Location of ambient air station	Blast Furnace 3 Caste House		
Average Ambient Temperature (^{0}C)*	29.6	Average Humidity (%)*	73
Average Wind Speed (km/hr)*	1.8	Average Wind direction(Deg)*	178
Instruments Used	FPS(APM-550), RDS(APM-460) & GPS(APM – 411)		

Sr No	Report No.	Date of Sampling	PARAMETERS	
			Oxides of Nitrogen(NOx)	Carbon Monoxide
1	SEE/AR/05/2020/0365	12.05.2020	0.34	1.6
	SEE/AR/05/2020/0464	19.05.2020	0.40	3.9
	SEE/AR/05/2020/0546	26.05.2020	0.19	2.1
	Limits (mg/m^3)**		**9.0**	**55.00**
	Test Methods		**IS 5182 (Part 06)**	**Lab SOP No.: SEE/LD/SOP-AA-10**

Note : Test results related only to the sample tested.
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** Permissible Exposure Limits as per OSHA (TWA for 8hrly)

Analysed by
Susmita Kapdoskar

Sadekar Enviro Engineers Pvt. Ltd.

Authorized Signatory
Varsha Pole

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WORKPLACE AIR QUALITY MONITORING REPORT					
Report No.	SEE/AR/06/2020/0113	Report Date	15/06/2020		
Name of Client	M/s Vedanta Ltd.				
Address of Client	MCD II, Navelim, Bicholim-Goa				
Sample Collected By	SEEPL Representative	Environmental condition of lab			
Date of Sampling	06/06/2020	Temperature(^{0}C)*	26.7	Humidity (%)*	58
Analysis Started On	07/06/2020	Analysis Completed On	15/06/2020		

WORKPLACE AIR STATION LOCATION

Location of ambient air station	MCD II battery 2 area		
Ambient Temperature (^{0}C)*	32.1	Humidity (%)*	85
Wind Speed (km/hr)*	2.2	Wind Direction(Deg)*	215
Instruments Used	R.D.S.(APM- 460)		

POLLUTION PARAMETERS

Sr. No.	Parameters	Result	Unit	Limits**	Method
01.	Ammonia (NH3)	03.54	mg/m3	35.00	Method 401, Methods of Air Sampling & analysis , 3rd edition by Mr. J.P. Lodge
02.	Lead as Pb	<0.0010	mg/m3	0.075	IS 5182 (Part 22)
03.	Benzo(a)Pyrene	<0.0020	mg/m3	NS	IS 5182 (Part 12)
04.	VOC*	<0.20	ppm	NS	IS 5182 (Part 11):2006

**** Permissible Exposure Limits as per OSHA (TWA for 8hrly)**

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Analysed by
Susmita Kapdoskar

Authorized Signatory
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WORKPLACE AIR QUALITY MONITORING REPORT

Report Date	04/07/2020
Name of Client	M/s Vedanta Ltd.
Address of Client	BF3,Navelim, Bicholim-Goa
Sample Collected By	SEEPL Representative
Month of Sampling	June- 2020

WORKPLACE AIR MONITORING LOCATION

Location of ambient air station	Blast Furnace 3 Cast House		
Average Ambient Temperature (^{0}C)*	30.2	Average Humidity (%)*	84
Average Wind Speed (km/hr)*	1.5	Average Wind direction(Deg)*	196
Instruments Used	FPS(APM-550), RDS(APM-460) & GPS(APM – 411)		

Sr No	Report No.	Date of Sampling	PARAMETERS	
			Oxides of Nitrogen(NOx)	Carbon Monoxide
1	SEE/AR/06/2020/0111	06/06/2020	0.30	1.8
2	SEE/AR/06/2020/0327	12/06/2020	0.48	3.3
3	SEE/AR/06/2020/0500	19/06/2020	0.22	2.4
4	SEE/AR/06/2020/0621	26/06/2020	0.23	1.4
	Limits (mg/m^3)**		**9.0**	**55.00**

Test Methods	**IS 5182 (Part 06)**	**Lab SOP No.: SEE/LD/SOP-AA-10**

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Kapdoskar
Analysed by
Susmita Kapdoskar

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WORKPLACE AIR QUALITY MONITORING REPORT					
Report No.	SEE/AR/07/2020/0034	Report Date	09/07/2020		
Name of Client	M/s Vedanta Ltd.				
Address of Client	MCD II, Navelim, Bicholim-Goa				
Sample Collected By	SEEPL Representative	Environmental condition of lab			
Date of Sampling	03/07/2020	Temperature(^{0}C)*	27.9	Humidity (%)*	69
Analysis Started On	04/07/2020	Analysis Completed On	09/07/2020		

WORKPLACE AIR STATION LOCATION

Location of ambient air station	MCD II battery 2 area		
Ambient Temperature (^{0}C)*	30.2	Humidity (%)*	89
Wind Speed (km/hr)*	1.5	Wind Direction(Deg)*	314
Instruments Used	R.D.S.(APM- 460)		

POLLUTION PARAMETERS

Sr. No.	Parameters	Result	Unit	Limits**	Method
01.	Ammonia (NH3)	2.41	mg/m3	35.00	Method 401, Methods of Air Sampling & analysis , 3rd edition by Mr. J.P. Lodge
02.	Lead as Pb	<0.0010	mg/m3	0.075	IS 5182 (Part 22)
03.	Benzo(a)Pyrene	<0.0020	mg/m3	NS	IS 5182 (Part 12)
04.	VOC*	<0.20	ppm	NS	IS 5182 (Part 11):2006

** Permissible Exposure Limits as per OSHA (TWA for 8hrly)

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Kapdo
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WORKPLACE AIR QUALITY MONITORING REPORT

Report Date	05/08/2020
Name of Client	M/s. Vedanta Ltd.
Address of Client	BF3,Navelim, Bicholim-Goa
Sample Collected By	SEEPL Representative
Month of Sampling	July- 2020

WORKPLACE AIR MONITORING LOCATION

Location of ambient air station	Blast Furnace 3 PID2 Cast House		
Average Ambient Temperature (^{0}C)*	30.6	Average Humidity (%)*	94
Average Wind Speed (km/hr)*	1.8	Average Wind direction(Deg)*	352
Instruments Used	FPS(APM-550), RDS(APM-460) & GPS(APM – 411)		

Sr No	Report No.	Date of Sampling	PARAMETERS	
			Oxides of Nitrogen(NOx)	Carbon Monoxide
1	SEE/AR/07/2020/0033	03/07/2020	0.29	1.4
2	SEE/AR/07/2020/0163	10/07/2020	0.43	2.6
3	SEE/AR/07/2020/0373	17/07/2020	0.25	2.1
4	SEE/AR/07/2020/0522	24/07/2020	0.21	1.7
5	SEE/AR/07/2020/0569	31/07/2020	0.30	2.2

	Limits** (mg/m^3)	9.0	55.00
	Test Methods	IS 5182 (Part 06)	Lab SOP No.: SEE/LD/SOP-AA-10

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** Permissible Exposure Limits as per OSHA (TWA for 8hrly)

Analysed by
Susmita Kapdoskar

Sadekar Enviro Engineers Pvt. Ltd.

Authorized Signatory
Varsha Pole

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August`20

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WORKPLACE AIR QUALITY MONITORING REPORT					
Report No.	SEE/AR/08/2020/0135	Report Date	13/08/2020		
Name of Client	M/s Vedanta Ltd.				
Address of Client	MCD II, Navelim, Bicholim-Goa				
Sample Collected By	SEEPL Representative	Environmental condition of lab			
Date of Sampling	07/08/2020	Temperature(^{0}C)*	28.6	Humidity (%)*	75
Analysis Started On	08/08/2020	Analysis Completed On	13/08/2020		

WORKPLACE AIR STATION LOCATION

Location of ambient air station	MCD II battery 2 area		
Ambient Temperature (^{0}C)*	28.6	Humidity (%)*	92
Wind Speed (km/hr)*	1.4	Wind Direction(Deg)*	354
Instruments Used	R.D.S.(APM- 460)		

POLLUTION PARAMETERS

Sr. No.	Parameters	Result	Unit	Limits**	Method
01.	Ammonia (NH3)	2.21	mg/m3	35.00	Method 401, Methods of Air Sampling & analysis , 3rd edition by Mr. J.P. Lodge
02.	Lead as Pb	<0.0010	mg/m3	0.075	IS 5182 (Part 22)
03.	Benzo(a)Pyrene	<0.0020	mg/m3	NS	IS 5182 (Part 12)
04.	VOC*	<0.20	ppm	NS	IS 5182 (Part 11):2006

**** Permissible Exposure Limits as per OSHA (TWA for 8hrly)**

Note : Test results related only to the sample tested.
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WORKPLACE AIR QUALITY MONITORING REPORT

Report Date	04/09/2020
Name of Client	M/s. Vedanta Ltd.
Address of Client	BF3,Navelim, Bicholim-Goa
Sample Collected By	SEEPL Representative
Month of Sampling	Aug- 2020

WORKPLACE AIR MONITORING LOCATION

Location of ambient air station	Blast Furnace 3 PID2 Cast House		
Average Ambient Temperature (°C)*	29.8	Average Humidity (%)*	98
Average Wind Speed (km/hr)*	1.5	Average Wind direction(Deg)*	332
Instruments Used	FPS(APM-550), RDS(APM-460) & GPS(APM – 411)		

Sr No	Report No.	Date of Sampling	PARAMETERS	
			Oxides of Nitrogen(NOx)	Carbon Monoxide
1	SEE/AR/08/2020/0136	07/08/2020	0.25	1.2
2	SEE/AR/08/2020/0283	14/08/2020	0.39	2.3
3	SEE/AR/08/2020/0342	21/08/2020	0.26	2.0
4	SEE/AR/08/2020/0428	28/08/2020	0.24	1.9
	Limits (mg/m³)**		**9.0**	**55.00**

	Test Methods	IS 5182 (Part 06)	Lab SOP No.: SEE/LD/SOP-AA-10

Note : Test results related only to the sample tested.
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WORKPLACE AIR QUALITY MONITORING REPORT						
Report No.	SEE/AR/09/2020/0136	Report Date	10/09/2020			
Name of Client	M/s Vedanta Ltd.					
Address of Client	MCD II, Navelim, Bicholim-Goa					
Sample Collected By	SEEPL Representative	Environmental condition of lab				
Date of Sampling	04/09/2020	Temperature(°C)*	28.1	Humidity (%)*	69	
Analysis Started On	05/09/2020	Analysis Completed On	10/09/2020			

WORKPLACE AIR STATION LOCATION

Location of ambient air station	MCD II battery 2 area		
Ambient Temperature (°C)*	29.6	Humidity (%)*	97
Wind Speed (km/hr)*	1.2	Wind Direction(Deg)*	322
Instruments Used	R.D.S.(APM- 460)		

POLLUTION PARAMETERS

Sr. No.	Parameters	Result	Unit	Limits**	Method
01.	Ammonia (NH3)	2.05	mg/m3	35.00	Method 401, Methods of Air Sampling & analysis , 3rd edition by Mr. J.P. Lodge
02.	Lead as Pb	<0.0010	mg/m3	0.075	IS 5182 (Part 22)
03.	Benzo(a)Pyrene	<0.0020	mg/m3	NS	IS 5182 (Part 12)
04.	VOC*	<0.20	ppm	NS	IS 5182 (Part 11):2006

**** Permissible Exposure Limits as per OSHA (TWA for 8hrly)**

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WORKPLACE AIR QUALITY MONITORING REPORT

Report Date	05/10/2020
Name of Client	M/s. Vedanta Ltd.
Address of Client	BF3,Navelim, Bicholim-Goa
Sample Collected By	SEEPL Representative
Month of Sampling	September- 2020

WORKPLACE AIR MONITORING LOCATION

Location of ambient air station	Blast Furnace 3 PID2 Cast House		
Average Ambient Temperature (°C)*	29.8	Average Humidity (%)*	94
Average Wind Speed (km/hr)*	1.9	Average Wind direction(Deg)*	305
Instruments Used	FPS(APM-550), RDS(APM-460) & GPS(APM – 411)		

Sr No	Report No.	Date of Sampling	PARAMETERS	
			Oxides of Nitrogen(NOx)	Carbon Monoxide
1	SEE/AR/09/2020/0137	04/09/2020	0.29	1.0
2	SEE/AR/09/2020/0250	11/09/2020	0.35	2.5
3	SEE/AR/09/2020/0434	18/09/2020	0.28	2.1
4	SEE/AR/09/2020/0574	25/09/2020	0.21	1.6
	Limits (mg/m³)**		**9.0**	**55.00**

	Test Methods	IS 5182 (Part 06)	IS 5182(Part 10)

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Calibration details of Equipment used for Sampling & Analysis

Respirable Dust Sampler's with Gaseous Sampling

Sr No.	Equipment Name	Certificate No.	Calibrated on	Calibration due date
01	RDS-APM 460 BL(SR NO. 2228-DTK-2011)	ECL/SEEPL/2019-20/FLOW/5137	21/02/2020	21/02/2021

UV Spectrophotometer

Sr No.	Equipment Name	Calibration
01	UV	In House Calibration

Fine Particulate Sampler (SR NO. 291-DTJ-2014)

Sr No.	Equipment Name	Certificate No.	Calibrated on	Calibration due date
01	FPS - APM 550 MINI	ECL/SEEPL/2019-20/FLOW/5122	20/02/2020	20/02/2021

ICP-OES

Sr No.	Equipment Name	Calibration
01	ICP-OES	In House Calibration

Organic Vapour Sampler

Sr No.	Equipment Name	Sr. No.	Certificate No.	Calibrated on	Calibration due date
01	OVS Sampler	101-DTD-2014	ECL/SEEPL/2019-20/FLOW/5269	09/03/2020	09/03/2021