COMPLIANCE REPORT OF ENVIRONMENTAL CLEARANCES

for

3300 (5x660) MW THERMAL POWER PLANT PHASE – I & II

at

TIRORA, DISTRICT GONDIA MAHARASHTRA

Submitted to:

Regional Office (WCZ)
Ministry of Environment, Forest & Climate Change
Central Pollution Control Board, New Delhi,
Maharashtra Pollution Control Board, Mumbai

adani
Power

Submitted By:

Environment Management Department
Adani Power Maharashtra Limited
Plot NO: A -1, Tirora Growth Centre
MIDC, Tirora, Gondia – 441911 (M.H)

PERIOD: OCTOBER 20 – MARCH 2021

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Introduction

Adani Power Maharashtra Ltd, (APML), a wholly owned company of Adani Power Limited has established 3300 MW (5 x 660) Coal-based Thermal Power Plant at Tiroda, District Gondia in Maharashtra in two phases as below:

Phase I: 2 x 660 MW

Phase II: 3 x 660 MW

The plant site is located at Tiroda Growth Centre of MIDC (Maharashtra Industrial Development Corporation) developed area near Tiroda, District Gondia in Maharashtra. The Villages, Gumadhawara, Khairbodi, Chikhali, Churdi, Bhiwapur, Kachewani and Mendipur, surround the site. The power plant is based on supercritical, energy efficient & environment friendly technology.

APML has been granted Environmental Clearances from Ministry of Environment & Forest, Consent to Establish & Consent to Operate from Maharashtra Pollution Control Board for phase I & II (Unit 1, 2, 3, 4 & 5). As a part of the compliance of statutory requirements, environmental quality monitoring is being done regularly at locations suggested by Sub-Regional Officer, MPCB, Bhandara on the basis of micrometeorological parameters. Also, three nos. of Continuous Ambient Air Quality Monitoring System have been established in three different locations inside the plant boundary as per wind rose and suggested by SRO, MPCB Bhandara. Also third party lab (M/s Enviro Analyst & Engineers Pvt. Ltd, Mumbai) carried out, environmental monitoring & analysis for the power plant.

Point wise compliance status of Environmental Clearance for Phase 1 & 2 is furnished herewith.

Adani Power Maharashtra Limited

Compliance status on Environmental Clearance
(Phase – I: 2 X 660 MW Coal based Thermal Power Plant)

Letter no.J-13011/4/2008-1A-II (T) dated 29.05.2008 and
Its subsequent Amendement dated 21.03.2012

Sr. No.	Conditions	Compliance Status
(i)	The total land requirement for the project shall be restricted to 210 ha.	Complied. The project has undergone expansion. The total area has changed and the same has been approved by MoEF&CC. The total area required for all two phases is 565.84 ha.
(ii)	Sulphur and ash content in the coal to be used in the project shall not exceed 0.5 % and 29.57 % respectively.(Amendment dt. 21.03.2012)	Being Complied. Sulphur & ash contents are below 0.5 % and 29.57 % respectively.
(iii)	A bi-flue stack of 275 m height shall be provided with continuous online monitoring equipment's for SOx, NOx and Particulate matter. Exit velocity of flue gases shall not be less than 22 m/sec.	Bi-flue Stack containing two flues of phase-I of 275 meters is installed with On-line monitoring equipment for SO_2, NOx & PM. Exit velocity of flue gas is more than 22m/sec.
(iv)	High efficiency Electrostatic Precipitator (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg/Nm^3.	Highly efficient Electrostatic Precipitators with efficiency of 99.93 % have been installed for each boiler (ESPs) to meet particulate emission less than 50 mg/Nm3. Monitoring report enclosed as **Annexure I**
(v)	Space provision shall be kept for retrofitting of FGD, if required at a later date.	Noted. Space for FGD has been provided in the plant as per the guidelines of CPCB vide letter No. B-33014/07/2017/IPC-II/TPP/15908 dated 11.12.2017. However, as per MoEF&CC's Notification date 31st March 2021, Tiroda TPP is falling under Category "C" Non- retiring TPPs and the timelines for compliance of SO2 emission is up to December 2024. Accordingly, the work is under progress for compliance as per CPCB direction.
(vi)	Adequate dust extraction system such as cyclones /bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	Adequate air pollution control measures such as dust extraction system (Cyclone followed by bag filters) in coal crusher and coal transfer points (JNTs), rain gun type dust suppression system in coal yard and dry fog type dust suppression system in belt conveyor have been provided.
(vii)	Fly ash shall be collected in dry form and storage facility (silos) shall be provided and its utilization to the maximum extant shall be ensured. 100% fly ash utilization shall be ensured from 5^{th} year onward. Unutilized fly ash shall be disposed off in the ash pond in the	Fly ash silos (06) established to collect dry ash for further utilization. Unutilized ash is being disposed off in the ash pond in lean slurry mode & High Concentration Slurry Disposal mode with recirculation of ash water. **FY 2020-21 more than 100% ash utilized i.e.**

	form of High Concentrated Slurry and the bottom ash in conventional slurry mode.	**120.12 %. APML has utilized 7.60 lacs MT legacy ash from ash pond. Please refer Ash Utilization details attached as Annexure – IV & X.**
(viii)	Ash pond shall be lined with HDPE lining. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached. Guard drains shall be provided all along the periphery of the ash dyke to avoid contamination of soil and surface water in case of run-off.	Being complied Well design ash dyke with LDPE lining has been established as per the guidelines of MoEF&CC, CEA & CPCB. Adequate safety measures are being taken for any unforeseen incidents. Guard drains & guard pond established.
(ix)	Water requirement shall not exceed 36 MCM/year. No ground water shall be extracted for this power project including during construction phase.	Complied This quantity is adequate to meet the plant's requirement. Monthly water consumption report is being submitted regularly to MPCB, Mumbai. Water allocation from Wainganga River for 70 MCM for both phases,
(x)	Closed cycle cooling system with cooling towers shall be provided. Cycle of concentration (COC) of at least 5.5 shall be adopted and the effluents treated as per the prescribed norms.	Being complied. COC of 5.5 is being maintained.
(xi)	The treated effluents confirming to the prescribed standards shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon for storm water. Arrangements shall be made that effluents and storm water do not get mixed.	All the effluent treated adequately in the ETP and STP. Treated water is being reused within the plant. The concept of "Zero Discharge Condition" implemented except during monsoon period. Separate drainage network established for storm water.
(xii)	A sewage treatment plant shall be provided and the treated sewage shall be used for raising green belt/plantation.	Sewage Treatment Plants have been installed & treated water reused suitably within the plant premises for green belt development.
(xiii)	Rainwater harvesting should be adopted. Central Ground water Authority / Board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months from the date of clearance and details shall be furnished.	Rainwater Harvesting study carried out & report submitted to Regional Director, Central Ground Water Board, Nagpur & Member Secretary- Central Ground Water Authority, New Delhi. Rainwater harvesting within the project has been constructed/ implemented to store the rainwater. The Rainwater Harvesting Structure has been made Inside plant premises for reuse of Rainwater. Please refer **Annexure – XII**
(xiv)	Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Details of these measures along with location plant layout shall be submitted to Ministry as well as to the regional Office of the	Adequate safety team with adequate safety measures is available in the plant site to take preventive control measures. Fire hydrant and rain gun type water sprinklers established in the coal yard. Copy of control measures and location plant layout has already submitted.

	Ministry at Bhopal.	
(xv)	Storage facilities for liquid fuel such as LDO to be used as auxiliary fuel in the project shall be made in the plant area where risk is minimum to the storage facilities. Adequate assessment of risk management shall be made in the Disaster management Plan for the same. Mock drills shall be conducted regularly as plan. Necessary clearance as may be applicable to such storage under HSM Rules shall be obtained.	The fuel LDO properly stored in minimum risk area & as per the norms storage location approved by the Chief Controller of Explosive. Disaster management plan and On-site emergency plan prepared & Mock drills are being conducted periodically.
(xvi)	Regular monitoring of ground water in and around the ash pond area shall be carried out, records maintained and periodic reports shall be furnished to the Regional Office of this Ministry.	Regular monitoring of ground water carried out around ash pond area. Monitoring results are being submitted to Regional Officer, MoEF and MPCB regularly. Please Refer **Annexure – I**.
(xvii)	A green belt of adequate width and density shall be developed around the plant periphery covering at least 69.64 ha of project area preferably with local species.	Green belt development/ plantations are being carried out on available land. Our efforts are being made to develop more greenery in and around plant premises. We have already established our nursery to develop saplings for afforestation & horticultural activities. Besides this, we have also developed lawn & gardens to create aesthetic view inside the plant premises. Green belt/plantation developed in 258 ha land which is more than the norms of 33% of total land area. Please Refer **Annexure – VI.**
(xviii)	A plan for conservation of fauna reported in the study area shall be prepared in consultation with State Forests and Wildlife Department within 3 months and shall be implemented effectively.	Complied Conservation plan of Fauna in the study area was prepared in consultation with State Forest dept. and submitted to Wildlife warden, Govt. of Maharashtra with compliance report. Biodiversity Policy has been formulated to protect the local Flora & fauna. We are the member of India Business & Biodiversity Initiative (IBBI). Various migratory birds have been observed inside the plant premises. Please refer **Annexure – IX**
(xix)	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	First Aid and sanitation facility provided for the drivers and contract workers during construction phase.
(xx)	Leq of Noise levels emanating from gas and steam turbines shall be limited to 75 dBA. For people working in the high noise area, requisite personal protective equipment like earplugs/ear muffs etc. shall be provided. Workers engaged in noisy areas such as steam & gas turbines etc. shall be periodically	Necessary actions have been taken care to maintain Ambient Noise levels within 75 db(A) during plant operation. The personal protective equipment's have been provided to workers & employees working in noisy areas. Noise level monitoring is being carried out regularly and reports submitted to the Board.

	examined to maintain audiometric record and for treatment for any hearing loss including shifting to non noisy/less noisy areas**.**	A complete medical checkup with audiometric test of workers & employees are being carried out as per frequency. Please refer **Annexure –I & IA.**
(xxi)	Regular monitoring of ground level concentration of SO_2, NOx, SPM and RSPM shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports (six monthly) shall be submitted to the Regional Office of this Ministry.	Regular monitoring of PM10, PM2.5, SO2 & NOx are being carried out as per frequency & monitoring results are well within the norm. Monitoring results are being submitted to MPCB monthly. Ambient Air Quality monitoring stations established in consultation with Sub- Regional Officer, MPCB. Please refer **Annexure –I & IA**
(xxii)	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in**.**	Complied. Copy of the same already submitted to your good office.
(xxiii)	A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.	We have already established Environment Management Dept. headed by AGM & supported by Environmental Officers /Engineers, Chemist & Horticulturist. Environmental laboratory has been established to monitor Environmental Quality Parameters for Ambient Air, Water, Stack emission monitoring etc. Environmental Management System as per EMS ISO 14001:2015 implemented under Integrated Management System. Our Environmental lab is Accredited with NABL as per ISO/IEC 17025:2017 which is valid up to 27.06.2021.
(xxiv)	Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards shall be submitted to this Ministry/Regional Office/CPCB/SPCB.	Six monthly compliance report is regularly submitted to MoEF&CC, CPCB & MPCB. The same has been sent by email also. Last compliance report was submitted in November - 2020 for the period of April '20 to September '2020 to MoEFCC/MPCB/CPCB vide our letter no. APML/EMD/MoEF/EC

<table>
<tr><td></td><td></td><td>/254/11/20 on 27.11.2020.</td></tr>
<tr><td>(xxv)</td><td>Regional Office of the Ministry of Environment & Forests located at Bhopal will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring.</td><td>Being Complied.
APML is regularly submitting compliance of Environment Clearance to MoEFCC/CPCB /MPCB.
Compliance status is also uploaded on https://parivesh.nic.in and www.adanipower.com on company website.</td></tr>
<tr><td>(xxvi)</td><td>Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.</td><td>Being complied
Separate fund has been already allocated for environmental protection.
Budget for Environment Protection measures for F.Y 20 – 21 is as below (in Lakhs):
<table>
<tr><th>SL. No</th><th>Particulars</th><th>Cost (in Lac.)</th></tr>
<tr><td>1</td><td>Pollution control equipment O &M</td><td>5011.40</td></tr>
<tr><td>2</td><td>Pollution Monitoring, Study and analysis</td><td>90.00</td></tr>
<tr><td>3</td><td>Green belt Development</td><td>282.0</td></tr>
<tr><td>4</td><td>Rural Development/CSR</td><td>397.0</td></tr>
<tr><td>5</td><td>Legal & consent fees</td><td>379.85</td></tr>
<tr><td>6</td><td>Training & Awareness</td><td>3.0</td></tr>
<tr><td>7</td><td>Waste Management</td><td>6975.0</td></tr>
<tr><td></td><td>Total</td><td>13138.25</td></tr>
</table></td></tr>
<tr><td>(xxvii)</td><td>The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.</td><td>Complied.</td></tr>
<tr><td>(xxviii)</td><td>Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry at Bhopal /the CPCB/the SPCB who would be monitoring the compliance of environmental status.</td><td>We always extend full cooperation to the Scientists/Officers from the Ministry / Regional Office of the Ministry at Bhopal /the CPCB/the SPCB etc.</td></tr>
<tr><td>(xxix)</td><td>The project proponent shall upload the status of compliance of the conditions stipulated in the environmental clearance issued vide this Ministry's letter of even no. dated 30.03.2007, in its website and uploaded periodically and also simultaneously send the same by e-mail to the Regional Office of the Ministry of Environment and Forests.</td><td>Six monthly Environmental Clearance compliance status report is regularly submitted to MoEF, CPCB and SPCB. The same is sent by email also.
Compliance status updated on Company's website. www.adanipower.com</td></tr>
</table>

(xxx)	Criteria pollutant levels including NOx, RSPM, (PM10 & PM2.5), Sox (from Stack & ambient air) shall be regularly monitored and results displayed in your website and also at the main gate of the power plant.	Criteria pollutant viz. NOx, PM10 PM2.5 & SOx (from Stack & Ambient Air) are being continuous monitored and results are displayed at the main gate of the power plant.

Compliance Status of Environmental Clearance

Phase- II 3x660 MW THERMAL POWER PLANT

LETTER NO.J-13012/81/2008-1A-II (T) DATED 22.04.2010) & its subsequent Amendment dated 30.03.2012 and dated 13.03.2014

SL. NO.	CONDITIONS	COMPLIANCE
(i)	Only one unit of 1 x 660 MW shall be run on 100% domestic coal for which coal linkage from SECL is available and the other two units of 2 x 660 MW shall be run purely on imported coal, as per details in Para 2.	MoEF&CC vide letter no. J-13012/81/2008-1A-II (T) dated 13.03.2014 has amended the condition for change of source of coal to indigenous Coal from subsidiary companies of "Coal India Limited" in place of Imported coal.
(ii)	Separate stacking arrangement shall be made for indigenous and imported coal.	EC is amended and the source of coal is domestic. Separate stacking/storage arrangement is not required.
(iii)	In case source of fuel supply is to be changed at a later stage for the 2 x 660 MW the project proponent shall come back to the ministry as the appraisal presently was done based on imported coal for 2 x 660 MW unit.	APML requested the MoEF&CC for Change of source of coal to indigenous Coal from subsidiary companies of "Coal India Limited" in place of imported coal. The EAC of MoEF considered our proposal on October 10, 2013 & January 9-10, 2014 respectively and subsequently the Environmental Clearance condition amended for change of coal source from imported to domestic/indigenous on 13/03/2014.
A	**Water & Waste Water Management**	
(iv)	No ground water shall be extracted for use in operation of the power plant even in lean season	Being Complied. We have already obtained permission from water resource department Govt. of Maharashtra for withdrawal of 70 MCM water for both phases from Wainganga river. The above quantity is adequate to meet the plant's requirement including lean season.
(v)	No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the setting up / operation of the power plant	Complied There is no water body within the plant site.
(vi)	Minimum required environmental flow suggested by the Competent Authority of the State Govt. shall be maintained in the Channel / Rivers (as applicable) even in lean season.	Complied Water allocation is from Dhapewada Irrigation Project constructed and maintained by Vidarbha Irrigation Development Corporation. APML has no role in regulating the water flow downstream.
(vii)	Hydro-geological study of the area shall be reviewed annually and results submitted to the Ministry and concerned agency in the State Govt. In case adverse impact on ground water quality and quantity is observed, immediate mitigating steps to contain any adverse impact on ground water shall be undertaken	Quality of ground water is being monitored in and around the plant premises. Ground water level in nearby villages is also being monitored on regular basis to know the seasonal fluctuations. CSIR-NEERI, Nagpur engaged to review Hydro-geological study for the period of 2019 – 2022. Hydrogeological review report of FY 2020-21 enclosed as **Annexure – XI**.
(viii)	Closed cycle cooling system with induced draft cooling towers shall be provided and COC of at least 5.5 shall be adopted.	5.5 COC is being maintained.
(ix)	The treated effluent confirming to the	Effluent treatment plant installed within the plant

	prescribed standards only shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon. Arrangements shall be made that effluent and storm water do not get mixed.	and treated water is being utilize/reuse within the premises to meet "Zero Discharge". Separate drainage system established for storm water.
(x)	Effluent from the desalination plant shall be first treated in a guard pond before discharged, if applicable.	Not Applicable The desalination plant is not required
(xi)	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.	Complied Sewage Treatment Plants have been installed and treated water is being suitably reused within the plant premises for green belt development.
(xii)	Rainwater harvesting should be adopted. Central Groundwater Authority/ Board shall be consulted for finalization of appropriate rainwater harvesting technology within a period of three months from the date of clearance and details shall be furnished.	Rainwater Harvesting study carried out & report submitted to Regional Director, Central Ground Water Board, Nagpur & Member Secretary, Central Ground Water Board, New Delhi. Rainwater harvesting practices adopted within the plant area.
(xiii)	Regular monitoring of ground water shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg, Cr, As, Pb) and records maintained and submitted to the Regional Office of the Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.	Being complied Regular monitoring of ground water quality including heavy metals is being carried out regularly in and around the project area. Piezometric wells are established around the ash pond area. Records are maintained and the same are submitted to Regional office of the Ministry at Nagpur. Please Refer **Annexure – I.**
B	**Air Pollution Control**	
(xiv)	Provision for installation of FGD shall be provided.	Noted. Space for FGD has been provided in the plant as per the guidelines of CPCB vide letter No. B-33014/07/2017/IPC-II/TPP/15908 dated 11.12.2017. However, as per MoEF&CC's Notification date 31st March 2021, Tiroda TPP is falling under Category "C" Non- retiring TPPs and the timelines for compliance of SO2 emission is up to December 2024. Accordingly the work is under progress for compliance as per CPCB direction.
(xv)	High Efficiency Electrostatic Precipitator (ESPs) shall be installed to ensure that particulate emission does not exceed 50 mg / Nm3.	Complied ESP with efficiency of 99.93% (ESPs of 10 fields) installed for each boiler to meet permissible norm for particulate emission of less than 50 mg / Nm3. Please refer **Annexure – III.** MPCB has certified 5 Star rating for maintaining Stack Emission well within the norms for last 3 consecutive years. Performance Test of the ESPs & Bag filters have been done as per MPCB.
(xvi)	Adequate dust extraction system such as cyclones /bag filters and water spray system in dusty areas such as in coal handling and	Complied Adequate air pollution control measures such as dust extraction system (Cyclone followed by bag

	ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	filters) in coal crushers and rain gun type dust suppression system in coal yard and dry fog type dust suppression system in the belt conveyor with insertable dust collector at transfer points have been installed to meet particulate matter emission within the norms.
(xvii)	Green Belt consisting of 3 tiers plantations of native species around plant and at least 100 m width shall be raised. Wherever 100 m width is not feasible a 50 m width Shall be raised and adequate justification shall be submitted to the ministry. Tree density shall not be less than 2500 per ha with survival rate not less than 70%.	Green belt development/ plantations are being carried out on available land. Our efforts are being made to develop more greenery in and around plant premises. We have already established our nursery to develop saplings for afforestation & horticultural activities. Besides this, we have also developed lawn & gardens to create aesthetic view inside the plant premises APML have developed green belt/plantation in 258 ha land which is more than 33%. Please refer **Annexure – VI.**
(xviii)	Noise level emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75dBA. For people working in the high noise area, requisite personal protective equipment like earplugs/ear muffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressor etc. shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy/less noisy areas.	Necessary actions has been taken care to maintain ambient noise levels within 75 db(A) during plant operation. The working personals provided with appropriate personal protective equipment and periodic audiometric check-up is being carried out and records are being maintained. The monitoring reports regularly submitted to the MPCB & MoEF. Please refer **Annexure – I & IA**
C	**Fly Ash Management**	
(xix)	Utilization of 100% Fly Ash generated shall be made from 4th year of operation of the plant. Status of implementation shall be reported to the Regional Office of the Ministry from time to time.	Annual Ash Generation and Utilization status is regularly submitted to MoEF&CC, MPCB & CEA. In FY 20-21 We have been achieved more than 100% fly ash utilization i.e. 120.10%. Efforts on Ash Utilization furnished herewith in **Annexure - X**
(xx)	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Unutilized fly ash shall be disposed off in the ash pond in the form of slurry. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. No ash shall be disposed off in low lying area.	Complied We have established 06 Nos. silos of 1700 ton capacity each for utilization of dry ash. Regular monitoring of heavy metals is being carried out.
(xxi)	Ash pond shall be lined with HDP/LDP lining or any other suitable impermeable media such that no leachate takes place at any point of time. Adequate safety measures shall also be implemented to protect the ash dyke from getting breached.	Complied Well-designed Ash dyke with HDPE lining have been established as per guidelines of MoEF, CEA and CPCB. Regular monitoring is being carried out.
(xxii)	For disposal of Bottom Ash in abandoned mines (if proposed to be undertaken) it shall be ensured that the Bottom and sides of the mined out area are adequately lined with clay before Bottom Ash is filled up. The	Being followed We will inform to Maharashtra Pollution Control Board well in advance.

	project proponent shall inform the State Pollution Control Board well in advance before undertaking the activity.	
(xxiii)	Regular monitoring of ground water level shall be carried out by establishing a network of existing wells and constructing new piezometers. Monitoring around the ash pond area shall be carried out particularly for heavy metals (Hg, Cr, As, Pb) and records maintained and submitted to the regional Office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.	Regular monitoring of ground water quality including heavy metals is being carried out in and around the project area. Piezometric wells are established around the ash pond. Records are maintained and the same being submitted along with compliance report. Please refer **Annexure – I**. APML has engaged **CSIR – NEERI**, Nagpur to carry out Fly Ash Leachability Study which is under process in Radius of 35 KM from Plant since **2019 up to 2022**
D	**Disaster Management**	
(xxiv)	Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to Ministry as well as to the regional Office of the Ministry.	Adequate safety team with safety control measures is available in the plant site to take preventive control measures. Fire hydrant and rain gun type water sprinklers established in the coal yard. Details of control measures and location within the plant layout has been already submitted to your good office.
(xxv)	Storage facilities for auxiliary liquid fuel such as LDO and / HFO/LSHS shall be made in the plant area in consultation with Department of Explosive, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster management plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.	The Fuel LDO is properly stored in minimum risk area & as per the norms fixed by the Chief Controller of Explosive. Disaster management plan and On-site emergency plan prepared & Mock drills are being conducted periodically.
E	**CSR/RCR Plan**	
(xxvi)	A good action plan for R & R (if applicable) with package for the project affected persons be submitted and implemented as per prevalent R&R policy within three months from the date of the issue of this letter.	R&R plan approved by the State govt. and implemented. APML had engaged Indian Institute of Social Welfare & Business Management (IISWBM), Kolkata for carrying out R&R audit for APML, Tiroda. The report has already been submitted along with compliance report of the period April'2019 to September'2019
(xxvii)	An amount of Rs. 66.0 Crores shall be earmarked as one time capital cost for CSR programme. Subsequently a recurring expenditure of Rs. 13.20 Crore per annum shall be earmarked as recurring expenditure for CSR activities. Details of the activities to be undertaken shall be submitted within one month along with road map for implementation.	A separate budget earmarked for CSR activities. Need Base Assessment study carried out and report already submitted to the ministry. We have established well qualified team with village mobilizers to take care of CSR activities. Six Monthly Progress report on CSR activities from October'2020 to March'2021 is enclosed as **Annexure – VII**.
(xxviii)	While identifying CSR programme the company shall conduct need based assessment for the nearby villages to study economic measures with action plan which	Need Base Assessment Study for development of CSR plan prepared and report already submitted to MoEF. Need Base plan implementation being done in

	can help in upliftment of poor section of society. Income generating projects consistent with the traditional skills of the people besides development of fodder farm, fruits bearing orchards, vocational training etc. can form a part of such programme. Company shall provide separate budget for community development activities and income generating programmes. This will be in addition to vocational training for individuals imparted to take up self-employment and jobs. In addition a special scheme for upliftment of SC/ST's and marginalized population in the study area out of CSR programme shall be formulated and submitted to the Ministry within six months along with firm commitment of implementation. The scheme shall have an in – built monitoring mechanism.	nearby village for the individuals who are economically weak to undertake some economic activity that would help them to achieve sustainable livelihood and financial independence. We have established a Skill Development Center for skill development of SC/ST and marginalized populations from Gondia and Bhandara district**.** So far, we have trained 749 students in which 626 placed for good job. Training on nursing (General Duty Assistance) for old aged people and severe patient given to 105 girls in which 88 girls have been placed for job. Please refer **Annexure VIII** for year wise training and placement details.
F	**General**	
(xxix)	Additional soil for leveling of the proposed site shall be generated within the site (to the extent possible) so that natural drainage system of the area is protected and improved.	Complied Natural drainage has not disturbed due to plant activities.
(xxx)	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	First Aid and sanitation facilities were provided for the drivers and contract workers during construction period.
(xxxi)	Provision shall be made for the housing of 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, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Labour hutments have been established with all required facilities & infrastructure for construction phase only.
(xxxii)	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in.	Complied. Copy of the same already submitted to your good office with compliance report.
(xxxiii)	A copy of clearance letter shall be sent by the proponent to concern panchayat, Zila parisad/municipal corporation, urban local body and the local NG, if any from whom suggestions/representations, if any received while processing the proposal. The	Complied. Copy of Environmental Clearance and other required documents provided to Zila Parishad & Gram Panchayat.

	clearance letter shall also be put on the website of the company by the proponent.	
(xxxiv)	A separate environment management cell with qualified staff shall be setup for implementation of the stipulated safeguards.	APML has already established Environment Management Dept. headed by AGM & supported by Env. Engineer, Chemist & Horticulturist. Environmental laboratory has been established to monitor Environmental Quality Parameters for Ambient Air, Water, Stack emission monitoring etc. Environmental Management System as per EMS ISO 14001:2015 implemented under Integrated Management System. Our Environmental lab is Accredited with NABL as per ISO/IEC 17025:2017 which is valid up to 27.06.2021.
(xxxv)	The proponent shall upload the status of compliance of stipulated EC conditions, including the results of monitoring data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional office of MoEF, the respective zone of CPCB & the SPCB. The criteria pollutant level namely, SPM, RSPM (PM10, PM2.5), SO2 and NOx (ambient level and stack emission) shall be displayed at the convenient location near the main gate of the company in the public domain.	Six monthly Environmental Clearance compliance status report is regularly submitted to MoEF&CC, CPCB and SPCB. The same is sent by email also. Compliance status updated on Company's website. Display board already installed in main gate.
(xxxvi)	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well by e-mail) to the respective Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB	Six monthly compliance report is regularly submitted to MoEF, CPCB & MPCB. The same is sent by email also. Last compliance report was submitted in November - 20 for the period of April '20 to September '2020 to MoEFCC/MPCB/CPCB vide our letter no. APML/EMD/MoEF/EC/254/11/20 on 27.11.2020.
(xxxvii)	The environment statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail	Environment Statement for F.Y 19-20 submitted through online portal of Maharashtra Pollution Control Board.
(xxxviii)	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment of the environmental clearance conditions on their website and update the same periodically	Six monthly Environmental Clearance compliance status report is regularly submitted to MoEF, CPCB and SPCB. The same is sent by email also. Compliance status updated on Company's website. www.adani.power.com

<table>
<tr><td></td><td>and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests.</td><td></td></tr>
<tr><td>(xxxix)</td><td>Regional Office of the Ministry of Environment & Forests will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring. Project proponent will up-load the compliance status in their website and up-date the same from time to time at least six monthly basis. Criteria pollutants levels including NOx (from stack & ambient air) shall be displayed at the main gate of the power plant.</td><td>Being Complied.
Six monthly Environmental Clearance compliance status report is regularly submitted to MoEF, CPCB and SPCB. The same is sent by email also.
Compliance status updated on Company's website. www.adani.power.com
Display board already installed in main gate.</td></tr>
<tr><td>(xi)</td><td>Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry</td><td>Separate fund has already been allocated and being utilize for Environmental Protection measures.
Budget details for pollution control measures furnished herewith for F.Y 20-21 as below (in Lakhs):
<table>
<tr><th>SL. No</th><th>Particulars</th><th>Cost (in Lac.)</th></tr>
<tr><td>1</td><td>Pollution control equipment O &M</td><td>5011.40</td></tr>
<tr><td>2</td><td>Pollution Monitoring Study and analysis</td><td>90.00</td></tr>
<tr><td>3</td><td>Green belt Development</td><td>282.0</td></tr>
<tr><td>4</td><td>Rural Development/CSR</td><td>397.0</td></tr>
<tr><td>5</td><td>Legal & consent fees</td><td>379.85</td></tr>
<tr><td>6</td><td>Training & Awareness</td><td>3.0</td></tr>
<tr><td>7</td><td>Waste Management</td><td>6975.0</td></tr>
<tr><td></td><td>Total</td><td>13138.25</td></tr>
</table></td></tr>
<tr><td>(xii)</td><td>The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant</td><td>Complied.</td></tr>
<tr><td>(xiii)</td><td>Full cooperation shall be extended to the Scientists/Officers from the Ministry / Regional Office of the Ministry at Bangalore / CPCB/ SPCB who would be monitoring the compliance of environmental status.</td><td>Noted.
Full cooperation always extended.</td></tr>
<tr><td colspan="3">Additional Conditions (EC Amendment)</td></tr>
<tr><td>(xiv)</td><td>The coal transportation by road shall be through tarpaulin covered trucks for a maximum period of two years and hence forth shall be only through mechanically</td><td>Compliance Assured.
At present, coal is being transported by rail through wagons and unloaded within our plant premises at wagon tippler & Track Hopers.</td></tr>
</table>

	covered trucks.	
(xv)	Avenue plantation of 2/3 rows all along the road shall be carried out by the project proponent at its own expense.	Layer wise thick Plantation done in all around the boundary.
(xvi)	Periodic maintenance of the road shall be done by the project proponent at its own expense and shall also facilitate the traffic control on the road.	Complied. All internal roads are black topped or concreated and being maintained.
(xvii)	Sulphur and ash contents in the domestic coal to be used in the project shall not exceed 0.4 % and 33% at any given time. In case of variation of coal quantity at any point of time, fresh reference shall be made to the Ministry for suitable amendments to environmental clearance condition wherever necessary.	Being complied. We are using washed coal from SECL and blended with raw coal. We have also installed Real time Coal Ash Analyzers to monitor ash content. MPCB official also collect coal samples time to time and analysis results are well within the stipulated limit. Quarterly Ash content report is being sent to MoEFCC regional office on regular basis.
(xlvii)	A long term study of radio activity and heavy metals content on coal to be used shall be carried out through a reputed institute. Thereafter, mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.	Complied. Monitoring reports is already submitted along with compliance report.
(xviii)	Harnessing solar power within the premises of the plant particularly at available roof tops shall be undertaken and status of implementation shall be submitted periodically to the regional office of the Ministry.	10 KW solar panel installed at the top of administrative building to cater domestic power requirement of administrative building. In addition to above, solar streetlights are installed along the ash dyke area. Under CSR activities, we have installed more than 200 solar streetlights in nearby villages.
(xix)	Mercury emission from the stack shall also be monitored on periodic basis.	Being complied. Mercury emission from the stack is being monitored & reports are being submitted. Please refer **Annexure – I.**
(l)	Fugitive emission shall be controlled to prevent impact on agricultural or non-agricultural land.	To control fugitive emission, rain gun type water sprinkling system has been installed in coal yard. All coal conveying belts conveyors are covered and fog type dust suppression system provided. Adequate water sprinkling arrangements made in wagon tripplers and track hoopers to mitigate dust emission during coal un-loading by rail. Closed coal conveyor belts have been established. Cyclones followed by bag filters are provided at each coal transfer points (JNT's). Additionally, mobile water sprinklers are deployed at CHP area to suppress fugitive dust while movement of vehicles.
(li)	Source sustainability study of water requirement shall be carried out by an institute of repute. The study shall also specify the source of water for meeting the requirement during lean season. The report shall be submitted to the Regional Office of the Ministry within six months.	VIDC has developed and is operating Dhapewada Barrage on River Wainganga for water supply. However, we have undergone source sustainability study of River Wainganga through "Academy of Water Technology and Environ Management" Kolkata in Technical collaboration with Indian Institute of Social Welfare and Business Management- Kolkata and CSIR-CGCRI -

		Kolkata. Final Report was already submitted along with compliance report.
(liii)	Fly ash shall not be used for agricultural purpose. No mine void filling will be undertaken as on option for ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the State Pollution Control Board and implementation done in close co-ordination with the State Pollution Control Board.	As per Fly ash Notification 25th January, 2016; Ash may be utilize in Agriculture as a promotional activity. For the same, APML has engaged AMPRI (A division of CSIR) Bhopal and CSIR – NEERI Nagpur to explore the possibility of Ash Utilization in different purpose to comply Flay Ash Utilization Notification CSIR – NEERI Nagpur was engaged for 03 years(2019 – 2022) to carry out Fly Ash Leachability Study in an around land reclamation through fly ash of a radius of 35 KM from APML. The 1st year inception report already submitted with EC Compliance report of October 2019 to March 2020
(liv)	Three tire green belt shall be developed all around Ash Pond over and above the Green Belt around the Plant Boundary.	Three tire plantation at Ash pond area is in progress. Plantation is also being done in the available open area along the plant boundary.
(lv)	Social audit for the CSR Scheme shall be carried out periodically by reputed university or an institution as per the CSR guidelines of Government of India and Details to be submitted to MoEF besides putting it on company's website.	Social audit for the CSR Scheme has been carried out by Indian Institute of Social Welfare & Business Management, **University of Kolkata.** The same has already been submitted to your good office with Oct'14 to Mar'15 compliance report. Further, Social Audit being carried out Indian Institute of Social Welfare & Business Management, **University of Kolkata.** Final Report is already submitted to your good office with compliance report April 2019 to Sept 2019.
(lvi)	An Environmental Cell shall be created at the project site itself and shall be headed by an officer of the company of appropriate seniority and qualification. It shall be ensured that the head of the Cell shall directly report to Head of the Organization. The environmental Cell shall be responsible and accountable for implementation of all the conditions given in the EC including in the amendment letter.	We have already established Environment Management Dept. headed by AGM & supported by Env. Engineer, Chemist & Horticulturist. Environmental laboratory **(NABL Accredited)** has been established to monitor Environmental Quality Parameters for Ambient Air, Water, Stack emission monitoring etc. Environmental Management System as per EMS ISO 14001:2015 implemented under Integrated Management System. Environmental Management System as per EMS ISO 14001:2015 implemented under Integrated Management System. Our Environmental lab is Accredited with NABL as per ISO/IEC 17025:2017 which is valid up to 27.06.2021.
(lvii)	Monitoring of surface water quantity and quality shall also be regularly conducted and record maintained. The monitoring data shall be submitted to the Ministry regularly. Further, monitoring points shall be located between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall be undertaken.	Monitoring of surface water and ground water quality including heavy metals is being done on regular basis and records maintained. Please refer **Annexure - I**
(lviii)	The environmental statement for each	Environmental statement is being submitted

	financial year ending 31st March in Form – V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliances of environmental clearance conditions and shall also be sent to the respective Regional Offices of the Ministry by e-mail.	regularly to MPCB. Last Environmental Statement submitted to MPCB through online portal.
(lix)	The project proponent shall formulate a well laid Corporate Environment Policy and identify and designate responsible officers at all levels of its hierarchy stipulated in this clearance letter and other applicable environment laws and regulations.	We have implemented ISO **14001:2015** under Integrated Management System consist of Environment, Health & Safety, Quality and Energy Management Systems. We have formulated a Corporate policy as per the requirement of Integrated Management System (IMS), **Biodiversity Conservation Policy has already been framed and incorporated in existing IMS policy. We are member of Indian Biodiversity Business Initiative (IBBI) as initiated by MoEF&CC. Integration of International Finance Corporation (IFC) Performance Standard and Single Used Plastic Free Unit with IMS is under progress.**

SIX MONTHLY ENVIRONMENTAL MONITORING REPORT

FOR
The Period of Oct.2020-Mar. 2021

of

ADANI POWER MAHARASHTRA LTD.
Tirora, Growth Center,
MIDC, Gondia – 441 911

Prepared by

Recognised by MoEF (GOI) under GSR No. 983 dated. 2.5.2014
NABET Accredited and ISO 9001: 2000Certified Organisation

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ENVIRO ANALYSTS & ENGINEERS PVT. LTD.
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Foreword

The protection of environment plays a crucial role in maintaining the local environment quality for any industry, throughout their production. Hence compliance of the statutory requirements becomes very important to conserve the ecological balance within and surrounding the plant area. Therefore, environment protection is becoming a prerequisite for sustainable development. In line with this requirement, the management of Adani Power Maharashtra Ltd. has adopted a corporate responsibility of development and top priority is given for environment protection.

In order to comply with the Environment protection act, to fulfill statutory requirement and to be in tune with Environmental Preservation and sustainable development Adani Power Maharashtra Ltd., has retained Enviro Analysts and Engineers Pvt. Ltd. as Environment Consultants and for various Environmental issues related to their Power Plant.

This report presents the Environmental Status for the period Oct.2020-Mar. 2021 as a compliance to the statutory requirements.

The co-operation extended by the Staff and Management of Adani Power Maharashtra Ltd. during the work execution period is gratefully acknowledged.

For **ENVIRO ANALYSTS & ENGINEERS PVT. LTD.**

Authorized Signatory

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1.0 INTRODUCTION.

M/s. Adani Power Maharashtra Limited (APML) a wholly owned company of Adani Power Limited has established 3300 MW (5x660) Coal-based Thermal Power Plant at Tiroda, District Gondia in Maharashtra in two phases as below:

Phase I: 2 x 660 MW

Phase II: 3 x 660 MW

1.1 Scope of Work.

The scope of work includes the data generation for various environmental components viz Meteorology, Air, Noise, Water, Stack, Effluent and soil of Adani Power Maharashtra limited, Tirora.

To monitor the environmental parameters and data analysis in the vicinity of the power plant of 5x660MW at MIDC Area Tiroda, APML awarded the service to M/s Enviro Analysts & Engineers Pvt. Ltd. (EAEPL), Mumbai.

The present report incorporates data of various Environmental parameters for OCT. 2020- MAR. 2021

Chapter – 2

Details of sampling Locations

&

Methodology for sampling and analytical procedures

2.0 DETAILS OF SAMPLING LOCATIONS.

The details of sampling location w. r. t. Air, Water and Noise quality around the power plant are shown in the Sampling location Map as depicted in Figure.2.1

2.1 Meteorology and Ambient Air Quality.

Meteorological data was collected at one station concurrently with the ambient air quality monitoring. The weather station was placed on the roof top at a height of 10m. Wind speed, wind direction, relative humidity and temperature & Rainfall were recorded at hourly intervals contineously.

The sampling locations of Ambient Air Quality in the Power plant premises covering upwind and down wind direction . To assess the effect of industrial activity of power plant on the air, environmental parameters like Particulate Matter-PM_{10}, Particulate Matter-$PM_{2.5}$, Sulphur Dioxide-SO_2, Nitrogen Dioxide –NO_2 were monitored Details of the sampling locations with respect to the plant site are given below in **Table-2.1** .

Table 2.1 Ambient Air Quality Monitoring Location

Code	Name of the monitoring Station	Distance from plant boundry (km)	Direction with respect to plant	Environmental Setting	Remarks
A1	**Near AWRS**	Within Plant	-	Within Plant	Industrial area
A2	**Nr. Brick Plant**	Within Plant	-	Within Plant	Industrial area
A3	**Nr. China colony**	Within Plant	-	Within Plant	Industrial area

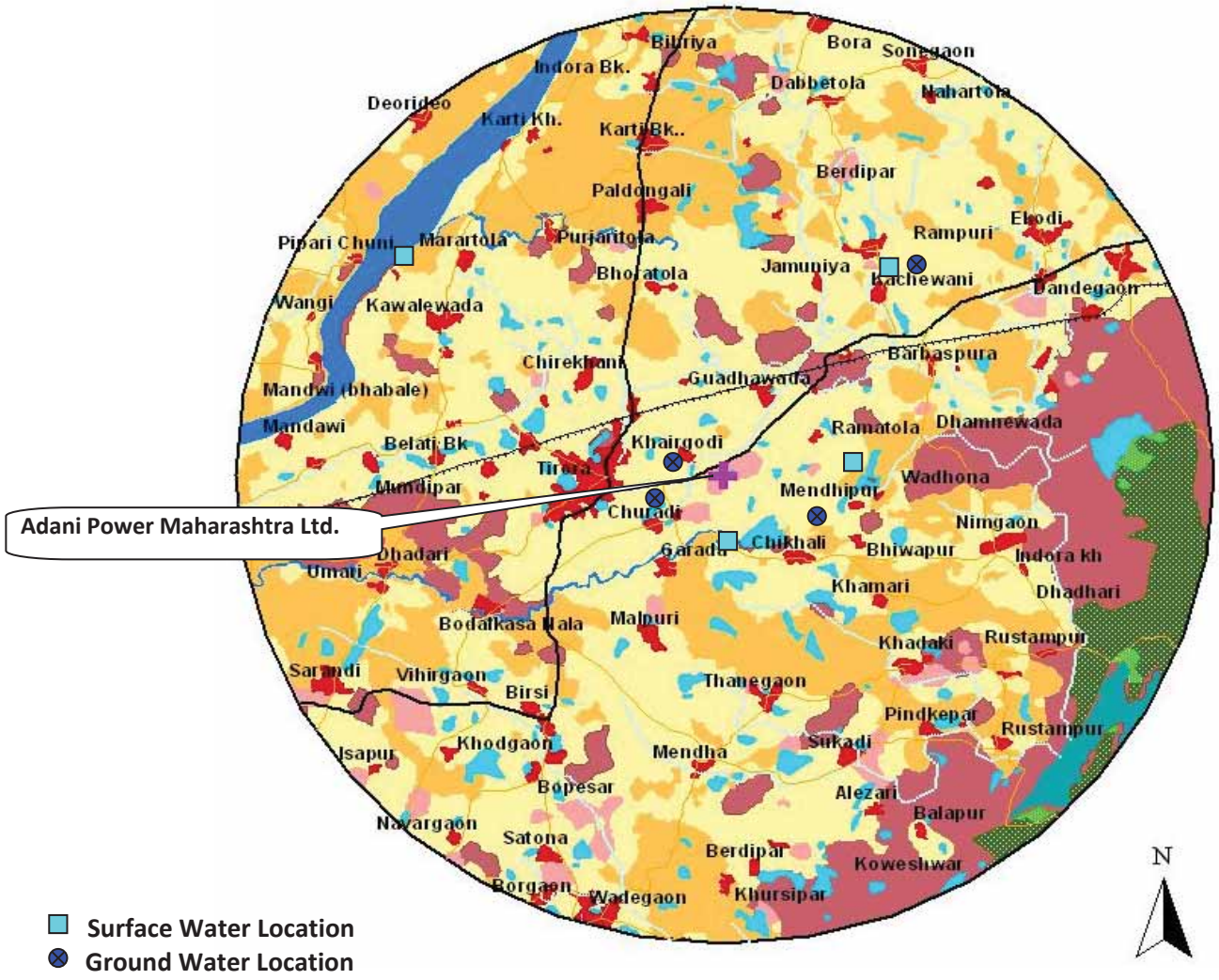


Figure : 2.1 SAMPLING LOCATIONS MAP

2.2 Water Quality

Water samples were collected at various locations within the area of 10 Km radius from the plant to assess the Physico-Chemical quality of Surface and Ground Quality water. Samples were collected as per the standard procedures. On site Parameters like Temperature, Electrical Conductivity, pH and Dissolved Oxygen were analyzed at-site using portable water analysis kit. Samples were collected by taking suitable precautions for preparation and transportation, particularly using sterilized bottles for bacteriological analysis. The details of the sampling locations are given in **Table-2.2** and **Figure.2.1** as depicted.

Water samples were collected on quarterly basis from 8 locations (Ground water 4, Surface water-4 Analytical methods mentioned in IS: 3025 and Standard Methods published by APHA were followed.

TABLE-2.2 WATER SAMPLING LOCATIONS

Surface Water				
Code	**Name of the monitoring Station**	**Distance from plant boundry (km)**	**Direction respect to plant**	**Source**
SW1	**Wainganga River Water**	**7.0**	**NW**	**River**
SW2	**Mendipur Pond Water**	**2.0**	**SE**	**Pond**
SW3	**Garada Village Nalah water**	**3.0**	**SSW**	**Nalah water**
SW4	**Kachewani Pond water**	**3.0**	**NE**	**Pond water**
Ground Water				
GW1	**Kachewani Hand Pump**	**3.2**	**NE**	**Bore well**
GW2	**Mendipur Hand Pump**	**2.5**	**SE**	**Bore well**
GW3	**Garada Hand Pump**	**3.2**	**SW**	**Bore well**
GW4	**Chikhali Hand Pump**	**2.0**	**S**	**Bore well**
Waste Water				
WW1	**Cooling Tower Blow Down water Unit-1**			**In Plant**
WW2	**Cooling Tower Blow Down water Unit-2**			**In Plant**
WW3	**Cooling Tower Blow Down water Unit-3**			**In Plant**
WW4	**Cooling Tower Blow Down water Unit-4**			**In Plant**
WW5	**Cooling Tower Blow Down water Unit-5**			**In Plant**
WW6	**Condenser cooling water Unit -1**			**In Plant**
WW7	**Condenser cooling water Unit -2**			**In Plant**
WW8	**Condenser cooling water Unit -3**			**In Plant**
WW9	**Condenser cooling water Unit -4**			**In Plant**
WW10	**Condenser cooling water Unit -5**			**In Plant**
Piezometric Well water				
P1	**Near AWRPH**			**In Plant**
P2	**B/H Ash dyke -1**			**In Plant**
P3	**Near Raw Water pump house -02**			**In Plant**

2.3 Noise Level:

Noise level at following in plant location and Buffer zone location were recorded by APML for the period of OCT. 2020- MAR. 2021. Location details are given in **Table-2.3**. and as depicted in **Figure.2.1**

TABLE: 2.3 NOISE LEVEL LOCATIONS FOR THE PERIOD OF Oct.2020- Mar.2021

Code	Location	Location type	Remarks
NL- 1	Inside the plant	Near Shanti Niketan I, II & III	Industrial
NL- 2		Near Labour Hutment	Industrial
NL- 3		Near Store Area	Industrial
NL- 4		Gate No.1	Industrial
NL- 5		Gate No.2	Industrial
NL- 6		Gate No.3	Industrial
NL-7		Near OHC	Industrial
NL-8		Railway Siding	Industrial
NL-9		Near Reservoir 2	Industrial
NL-10		Near Ash Water Recovery Pump House	Industrial
NL-11		In China Colony	Industrial

2.4 Methodology of Monitoring

2.4.1 Instruments Used

Samples were collected at *'Ambient Air'* monitoring locations' using standard *Fine dust sampler &* RDS sampler for monitoring PM_{10}, $PM_{2.5}$, SO_2, NO_2, concentrations and analyzed as per *USEPA / IS* methods in APML Laboratories at site

Also Continuous Ambient Air Monitoring station installed (CAAQMS) at APML make Tyledyne and Met One instrument approved by USEPA.

On site Micro-meteorological data for wind direction, wind Speed, Temp, Relative humidity and Rainfall collected from APML.

Ground water, Surface water & Effluent water were analyzed for onsite parameters likeTemperature, Electrical Conductivity, pH and Dissolved Oxygen were analyzed on-site using portable water analysis kit**.** Samples are collected, preserved and sent for further analysis to Enviro Analysts & Engineers Pvt. Ltd, where other parameters like total hardness, chlorides, sulphate etc and heavy metals are analyzed as per requirements IS 3025/APHA methods.
Soil samples were analyzed for physical, chemical and heavy metal concentrations, using analytical methods.
Noise was measured at site locations using a noise level meter to determine sound levels in a scale as dB (A) This is suitable for audible range of 20 to 20,000 Hz for human being. Sound level monitoring done by APML.
Stack Monitoring kit having sensor probe was used to monitor stack data like Flue gas velocity, Volumetric flow of flue gas, Temperature of flue gas, Moisture content and other parameters like SPM, SO_2, NO_2 make by ECOTECH

2.4.2 Method of Analysis

Air samples were analyzed as per standard methods specified by Central Pollution Control Board (CPCB), EPA & IS method.

2.4.2.1 Meteorology

Micro-meteorological data was observed for wind direction and speed using wind vane and anemometer using an automatic met logger. The data was recorded at 1 hour interval. Wind speed & wind direction, Temperature, Rain fall, Relative humidity were recorded by Weather Monitoring Station by APML.

2.4.2.2 Ambient Air Quality (AAQ)

Sampling was carried out at each station during the stipulated study period using pre-calibrated Respirable Dust Samplers and Fine Dust Sampler in each of the stations by APML.
Earmarked samples were collected for Particulate Matter-PM_{10}, Particulate Matter-$PM_{2.5}$, SO_2 and NO_2 for 24 hourly.

The baseline data of air environment is generated for the parameters namely: Particulate Matter-$PM_{10,}$ Particulate Matter-$PM_{2.5}$, Sulphur Dioxide $SO_{2,}$ and Nitrogen Dioxide NO_2 in APML

2.4.2.3 Stack Monitoring

Stack emission were analyzed with the help of stack Kit (ECOTECH Stack Kit & Prob set, quarterly basis at Boiler Stack situated in plant. Height of the Boiler Stack was noted as, 275 m and I.D. 7.4m.Flue gas, Velocity, Temperature, Volume & Qty, Moisture Content, PM, SO_2, NO_2, Hg were analyzed. The values obtained were then compared vis-a-vis with the standards prescribed by CPCB.

Iso-kinetic stack monitoring was conducted as per standard method IS 11255 (Part-3) specified in Emission Regulation Act Part to determine PM, SO_2 and NO_2, Data was collected and analysis was done for other parameters like Flue gas Velocity, Temperature, Volumetric flow rate, Moisture contents.

2.4.2.4 Water/Waste Water Quality

Water/Waste water samples were collected for physico-chemical and bacteriological parameters taking suitable Precautions. Temperature, pH, Dissolved Oxygen and Electrical conductivity were measured in the field while collecting the samples. Sterilized bottles were used to collect samples for bacteriological analysis, stored in ice and transported to the Laboratory.

Ground and surface water samples were analysed as per IS: 10500 and Waste Water samples were analysed as per IS: 3025. The analytical methods mentioned in IS: 3025 and Standard Methods published by APHA were followed. MPN Index of coli forms was found as per standard methods (IS: 1622).

2.4.2.5 Noise Level

Noise is defined as unwanted sound that creates interferences in speech, communication, causes annoyance, disturbance in work concentration and sleep, thus deteriorating the quality of Noise environment. In the present study, Noise monitoring has been conducted regularly by APML Since loudness of sound is the important parameter to assess the effects of particular activities on human being, hence noise level is measured for noise environment assessment. Hourly Sound Pressure level (SPL) was recorded with Sound Level Meter for 24 hours.

2.5 Analytical Procedures

2.5.1 Meteorology

The data obtained from field is used to as certain the wind percentage frequencies in the sixteen directions for wind speeds using Beaufort's scale in the range of 0-1.8, 1.8-3.6, 3.6 – 7.2, 7.2 – 14.4, 14.4 – 28.8 and >28.8 kmph. Average wind roses at twenty four hourly are prepared from the data collected. Temperature, Relative Humidity is monitoring by Automatic Weather Monitor (WM 271, Envirotech) and Rain fall by using Rain Gauge of WM 271.

2.5.2 Ambient Air Quality

Whatman GF/A & PTFE filter paper was used in Respirable dust sampler RSPM and FDS and weighed in Mettler electronic balance and computed as per standard methods.
Ambient Air samples were analyzed for SO_2 concentration levels by using Improved West-Gaeke method using spectrophotometer (HACH DR 5000) at a wavelength of 560 nm. NO2 conc. levels were estimated using Jacob and Hocheiser modified (Na-As) method using spectrophotometer (HACH DR 5000) at a wavelength of 540 nm

Sampling and Analytical Techniques

The techniques used for ambient air quality monitoring and minimum detectable levels are given in **Table-2.4**

TABLE- 2.4 (TECHNIQUES USED FOR AMBIENT AIR QUALITY MONITORING)

Sr. No.	Parameter	Technique	Technical protocol	Minimum detectable limit ($\mu g/m^3$)
1	PM10	Respirable Dust Sampler (Gravimetric Method)	IS-5182 (Part-IV)	5.0
2	PM2.5	Fine Respirable Dust Sampler (Gravimetric Method)	IS-5182 (Part-IV)	5.0
3	Sulphur dioxide	Improved West & Gaeke Method	IS-5182 (Part-II)	4.0
4	Nitrogen dioxide	Modified Jacob & Hochheiser Method	IS-5182 (Part-VI)	4.0

Chapter – 3

DATA ANALYSIS

3.0 DATA ANALYSIS

Environmental monitoring for the period of OCT. 2020- MAR. 2021 consisted of collection and analysis of meteorological parameters, ambient air quality and ground water and surface water quality at different locations within study area selected for carrying out environmental monitoring around the plant site.

3.1 Meteorology

Meteorological data was collected by APML on hourly basis for wind speed, Wind direction, temperature and relative humidity continuously. Total Rain fall on monthly basis during the period of OCT.2020- MAR.2021 was measured and recorded and reported in the Environmental report.

Wind Pattern for the period OCT. 2020- MAR. 2021.

The data recorded during the study period was analyzed and the daily maximum, minimum and total of all the parameters were observed. The summary of all the meteorological observations is given in **Table-3.1**.

TABLE- 3.1 METEOROLOGICAL DATA MONITORED AT SITE

(for the period of OCT. 2020- MAR. 2021)

Month	Temperature (^{0}C)		Relative Humidity (%)		Rainfall (mm)
	Max	Min	Max	Min	(Total)
Oct.2020	37.1	20.8	96.9	34.1	34.6
Nov. 2020	35.4	16.3	96.6	28.4	12.8
Dec. 2020	33.8	11.0	94.4	30.2	0
Jan. 2021	29.8	9.7	95.5	26.5	20.2
Feb. 2021	36.7	10.7	95.3	25.5	9.4
Mar. 2021	41.2	15.2	92.1	22.5	27.2

Temperature

The Temperature for the month of OCT. 2020- MAR. 2021 was found to be within range of 9.7°C – 41.2°C.

Relative Humidity

The average relative humidity for the month of OCT. 2020- MAR. 2021 was found to be within range of 22.5-96.9%.

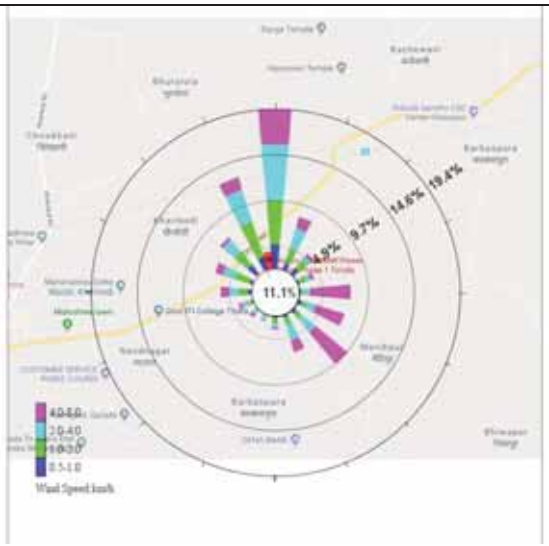
Rain Fall

Total Rain fall found the period of OCT. 2020- MAR. 2021 was 104.2mm

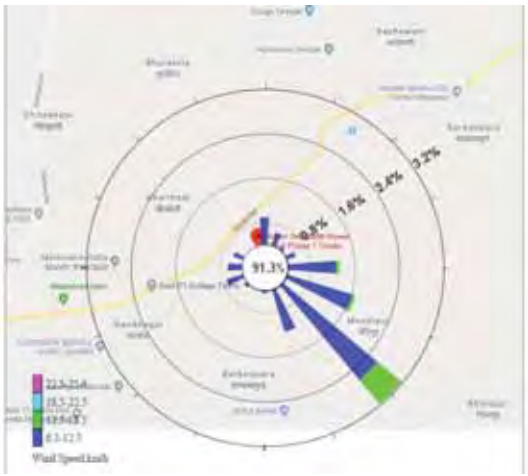
Wind Speed/Direction

The wind speed and direction data collected during the period of OCT. 2020- MAR. 2021. The wind roses plot using the collected data for OCT. 2020- MAR. 2021 is given in **Figure-3.1**

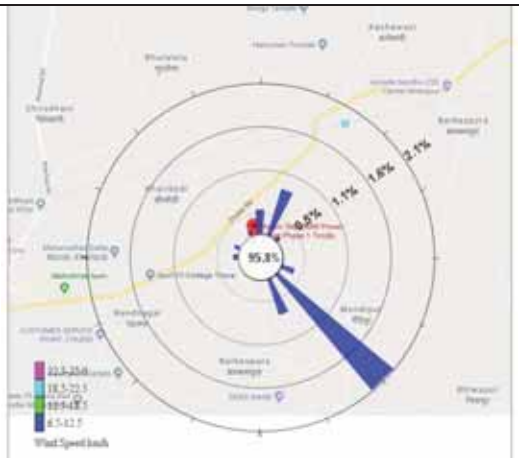
The first predominant wind direction during OCT. 2020- MAR. 2021 was SE. The calm condition ranges from 11.1 to 95.8%.



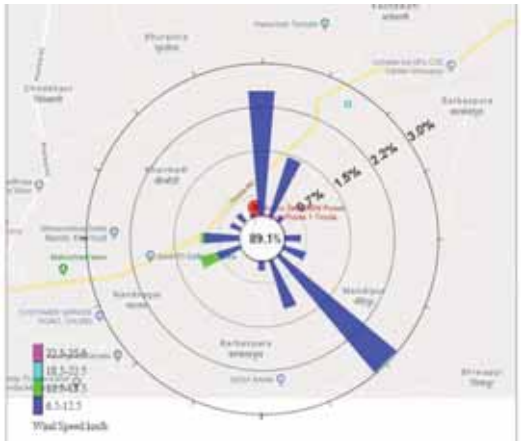
Wind rose for Oct. 2020



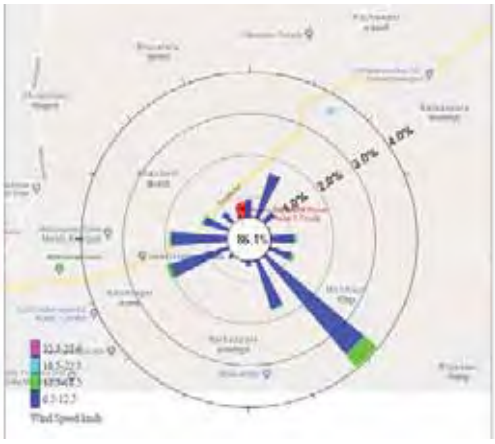
Wind rose for Nov. 2020



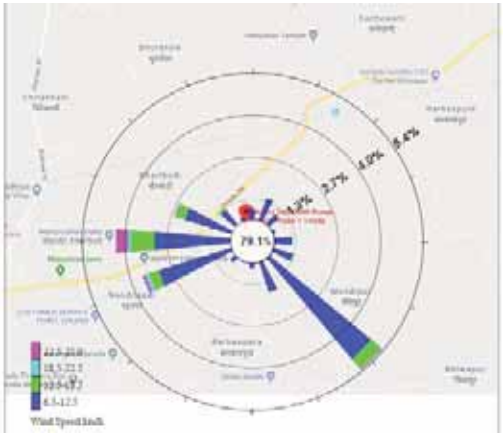
Wind rose for Dec. 2020



Wind rose for Jan. 2021



Wind rose for Feb. 2021



Wind rose for Mar. 2021

FIGURE-3.1 SITE SPECIFIC WINDROSE FOR OCT. 2020- Mar. 2021

3.2 Ambient Air Quality

Ambient air quality has been carried out within plant for the period of OCT. 2020- MAR. 2021. PM_{10}, $PM_{2.5}$, SO_2 & NO_2, sampling at all the locations is done for 24 hours average twice a week by APML. The values obtained were then compared vis-a-vis the standards prescribed by CPCB for Industrial/ Rural / Residential uses.

3.2.1 Presentation of Results.

The summary of Ambient Air Quality monitoring results for the period of OCT. 2020- MAR. 2021 are presented in detail in **Table 3.2** for Inside plant area. 98th percentile; maximum and minimum values etc have been computed from the collected raw data for all the AAQ monitoring station. The data has been compared with the standards prescribed by Central Pollution Control Board (CPCB)/NAAQ for residential and rural zone.

Particulate Matter-PM10

The minimum and maximum concentrations during OCT. 2020- MAR. 2021 in the plant area location for Particulate Matter-PM_{10} were recorded as 41.9 µg/m^3 and 85.1µg/m^3 respectively. The minimum concentration was recorded at Near Brick Plant (A2) and maximum concentration at Near AWRS (A1).

Particulate Matter-$PM_{2.5}$

The minimum and maximum concentrations in the plant area location for $PM_{2.5}$ were recorded as 10.2µg/m^3 and 50.2 µg/m^3 respectively. The minimum concentration was recorded at Near Brick Plant (A2) and maximum concentration was recorded at Near AWRS (A1).

Sulphur Dioxide (SO_2)

The minimum and maximum SO_2 concentrations in the plant area location were recorded as 7.0 µg/m^3 and 19.4 µg/m^3 respectively. The minimum concentration was recorded at Near Chaina Colony(A3 and maximum concentration was recorded at Near AWRS (A1) respectively.

Nitrogen Dioxide (NO_2)

The minimum and maximum NO_2 concentrations in the plant area location were recorded as 9.6 µg/m^3 and 32.5 µg/m^3 respectively. The minimum concentration was recorded at Near AWRS (A1) and maximum concentration was recorded at Near Chaina Colony(A3) respectively.

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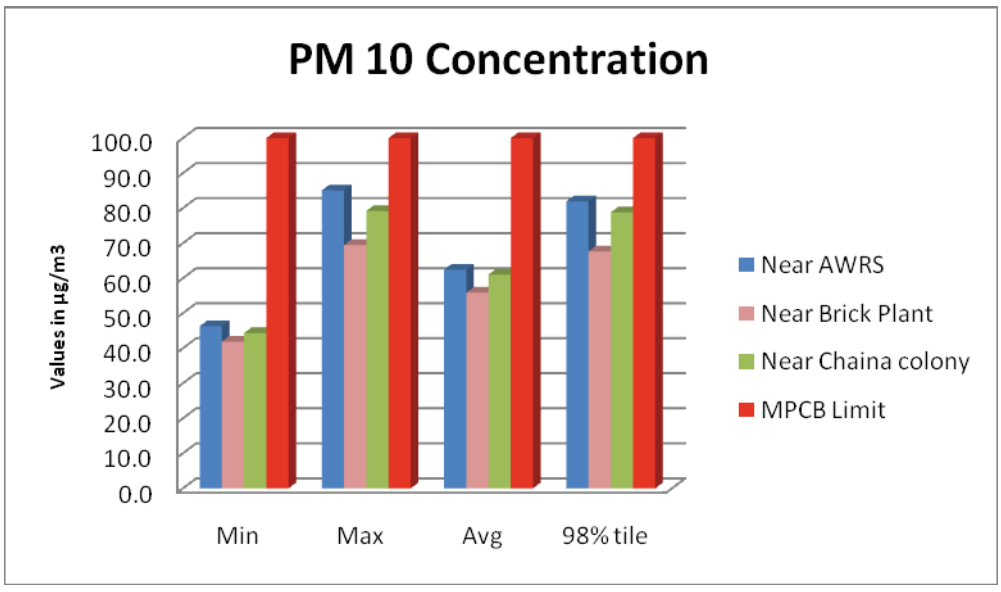
TABLE- 3.2 SUMMARY OF AMBIENT AIR QUALITY RESULT

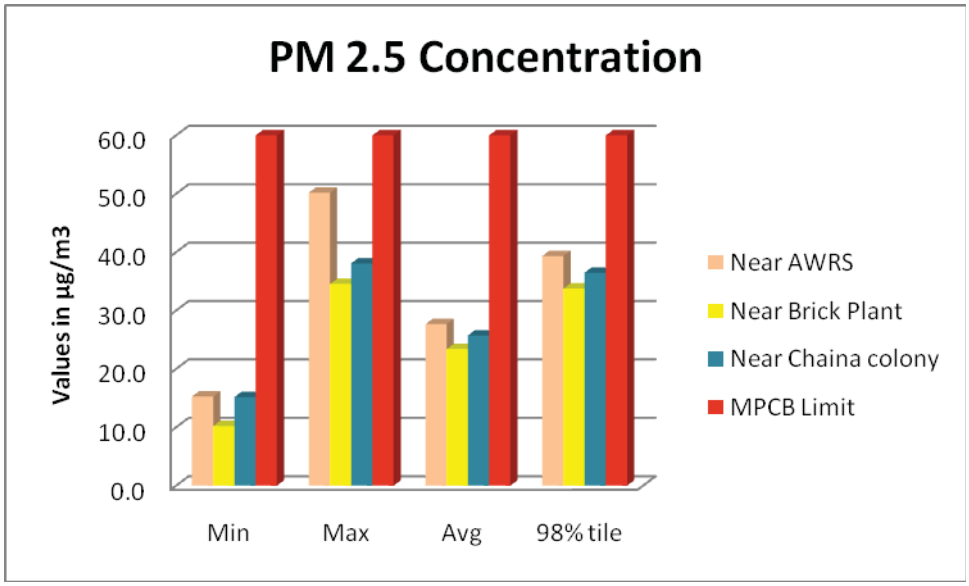
(Inside Plant Premises)

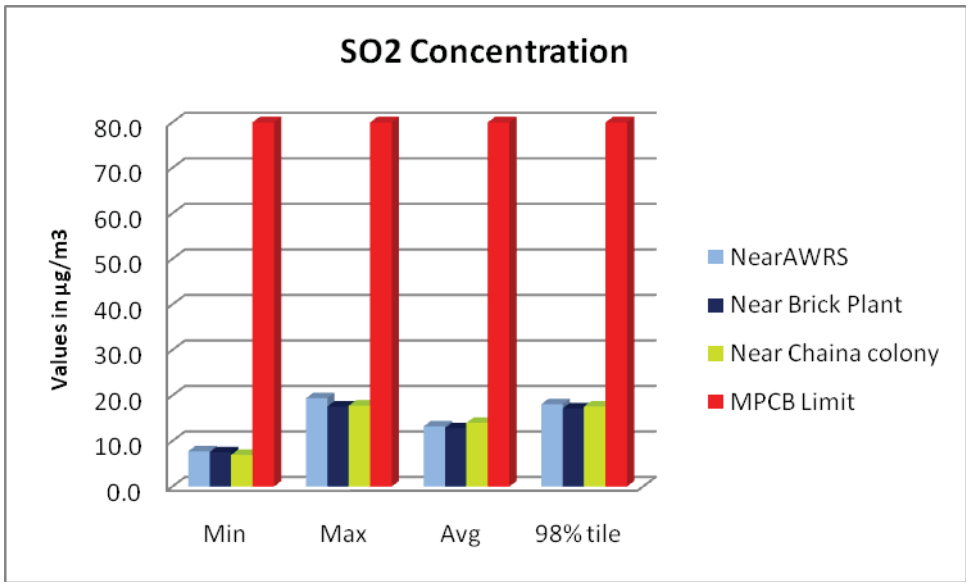
for the period of Oct.2020- Mar. 2021

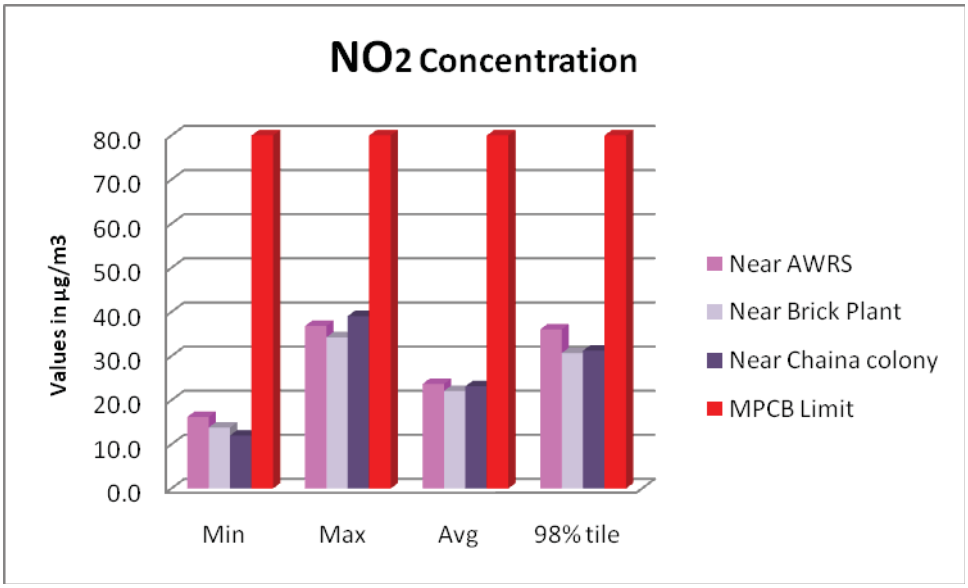
All values are µg/m3

Location	PM_{10}				$PM_{2.5}$				SO_2				NO_2			
	Min	Max	Avg	98% tile	Min	Max	Avg	98% tile	Min	Max	Avg.	98% tile	Min	Max	Avg.	98% tile
Nr. AWRS	46.3	85.1	62.4	81.9	15.3	50.2	27.7	39.3	7.8	19.4	13.2	18.1	9.6	30.1	18.4	30.1
Nr. Brick Plant	41.9	69.4	55.9	67.6	10.2	34.5	23.4	33.8	7.6	17.6	12.8	17.2	10.2	27.1	15.4	24.1
Nr. Chaina colony	44.3	79.2	61.1	78.8	15.2	38.1	25.7	36.5	7.0	17.8	14.0	17.6	10.8	32.5	19.2	31.9




PM 2.5 Concentration
Values in µg/m3
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Min
Max
Avg
98% tile
Near AWRS
Near Brick Plant
Near Chaina colony
MPCB Limit


SO2 Concentration
Values in µg/m3
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
Min
Max
Avg
98% tile
NearAWRS
Near Brick Plant
Near Chaina colony
MPCB Limit



3.3 Stack Monitoring.

Stack monitoring is done with the help of stack Kit (ECOTECH Stack Kit) & Prob set, once in a quarter at Boiler Stack 1 to 5 situated in plant. Height of the Boiler Stack was noted as, 275m and I.D. 7.4m.Flue gas, Velocity, Temperature, Volume & Qty, PM, SO_2, NO_x, Hg are analysed. The values obtained are then compared vis-a-vis with the standards prescribed by CPCB.

3.3.1 Presentation of Results.

The Stack analysis results for the period of OCT. 2020- MAR. 2021 are presented in detail for various parameters like Flue gas, Velocity, Temperature, Volume & Qty, SPM, SO_2, NOx, Hg values etc computed from the collected raw data for the Stack monitoring station. The summary of these results is presented below. The data has been compared with the standards prescribed by Central Pollution Control Board (CPCB)/MPCB

TABLE- 3.3 Stack Analysis Report for the period of Oct. 2020 - Mar.2020

Power Plant (Unit-I to Unit 5)

PARAMETERS	CONCENTRATION									
	Unit I		Unit 2		Unit 3		Unit 4		Unit 5	
Date of Sampling	**Jan.2021**	**Mar.2021**	**Jan.2021**	**Mar.2021**	**Jan.2021**	**Mar.2021**	**Jan.2021**	**Mar.2021**	**Jan.2021**	**Mar.2021**
Diameter of Stack (M)	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
Height of Stack (M)	275	275	275	275	275	275	275	275	275	275
Temp. of exit gas (0 C)	126	124	128	Unit not Working	126	128	125	127	Unit not Working	123
Velocity of exit gas (m/sec)	23.6	23.05	23.2		23.91	23.66	23.34	23.10		22.94
Flow of exit gas at stack temp. & Press.(m3/hr)	3652141.54	3567028.07	3590240.83		3700114.58	3661426.64	3611906.08	3564736.56		3550005.37
Flow of exit gas at NTP(Nm3/hr)	2618558.02	2543641.43	2561336.90		2652954.33	2584912.42	2596216.30	2522942.30		2537895.26
PM (mg/Nm3)	43.8	42.2	41.9		46.6	44.8	47.1	45.9		43.8
Total dust emission (kg/hr)	114.69	107.34	107.32		123.63	115.80	122.30	115.80		111.16
SO2 (mg/Nm3)	1017.63	1029.7	988.6		970.7	1021.6	931.7	994.6		962.5
SO2 (kg/hr)	2664.72	2619.18	2532.14		2575.22	2640.74	2418.89	2509.32		2442.72
SO2 (TPD)	63.95	62.86	60.77		61.80	63.38	58.05	60.22		58.62
NOx (mg/Nm3)	297.2	398.2	269.3		279.4	402.2	270.3	407.4		395.7
Mercury (mg/Nm3)	0.0188	0.0174	0.0161		0.0178	0.0181	0.0162	0.0177		0.0168

Note: Values of PM, SO2 and NOx Concentration base on 6% O2

3.4 Water Quality

Ground waters were collected at 4 locations and Surface water at 4 locations within the 10 km radial distance of power plant were analyzed as per IS 10500 to assess the quality of water for portability.

Presentation of Results

The results of the water quality monitored in the period of OCT. 2020- MAR. 2021, that of four surface water and four ground water samples and seven drinking water samples. The surface water quality results are given in **Table-3.4**, the results of ground water quality is given in **Table-3.5** and the results of Waste water quality are given in **Table-3.6** the findings are discussed below.

3.4.1 Ground Water Quality.

Most of the villages in the Nearby plant area have hand pumps, as most of the residents of these area use of this water for drinking and other domestic uses.

The analysis results indicate that the pH ranges from 7.50 to 8.05 the maximum pH observed at Kachewani village(GW1) and Minimum pH were observed at Garada Village (GW3) which is well within the specified standard of 6.5 to 8.5.

Total hardness was observed to be ranging from 196 to 351 mg/l. The maximum hardness 351 mg/l was recorded at Kachevani Village (GW1) and the minimum hardness of 196 mg/l was recorded at Mendipur village(GW2). which is well within the specified standard of 200(600) mg/l.

Chlorides were found to be in the range of 23.5 mg/l to 113.7mg/l, the maximum concentration of chlorides was observed at Kachewani Village (GW1) and the minimum concentration of chlorides was observed at Chikhali Village(GW4)

Sulphates were found to be in the range of 15.1 mg/l to 110.2 mg/l. The maximum value observed at Kachewani Village (GW1) and the minimum value observed at Medipur Village(GW2).
The values of Chlorides and sulphates are acceptable limits.
The analysis results indicate all parameter including bacteriological and heavy metal parameters are well within the drinking water standards.

3.4.2 Surface Water Quality.

The analysis results indicate that the pH values in the range of 7.65 to 8.10the minimum and maximum value was observed at Wainganga River and Garada Nala water respectively which is well within the specified standard of 6.5 to 8.5.

TDS was observed in the range of 116 mg/l to 530 mg/l, the maximum TDS value was observed at Garada Nalah where as minimum value was observed in Wainganga River, where as TDS is within Desirable limits.

Chlorides and Sulphates were found to be in the range of 9.3 to 26.8 mg/l and 6.1 to 19.5 mg/l respectively. It is observed that value of chlorides and Sulphates are well within acceptable limits. It is evident from the above values that all the parameters are found to comply with the requirements of IS: 10500 specification of surface water except bacteriological parameters. The surface water quality does not indicate any industrial contamination.

Heavy metals concentrations for metals like Arsenic (As), Mercury (Hg), Lead (Pb), Cadmium (Cd), Chromium (Cr) and Copper (Cu) were found to be within the acceptable limits.

3.4.3 Waste Water Quality

Waste water samples were also collected from Cooling Tower Blodown of unit 1 to 5, Analytical methods mentioned in IS: 3025 and Standard Methods published by APHA were followed. The summary of waste water quality collected on quarterly basis for the period of OCT. 2020- MAR. 2021 are given in **Table-3.6**

3.4.4 Pizo-Metric water

There were 3 Pizo meteric monitoried for water level and collected water samples were analyzed as per IS: 3025 and Standard Methods published by APHA were followed. The summary of pizo-metric water quality collected on quarterly basis for the period of OCT. 2020- MAR. 2021are given in **Table-3.7**

3.5 Noise Level:

Noise level was measured by APML in basic units of dB(A) at eleven location inside the plant (industrial Area) during day time and Night time for 24Hrs.

Noise level was found within the acceptable limits during daytime as well as night time for all locations with reference to CPCB standard limits for Industrial area and Residential area.

Noise levels at following locations were recorded for the period of OCT. 2020- MAR. 2021on monthly basis. The summary of Noise Level is given in **Table-3.8**

TABLE- 3.4 SURFACE WATER QUALITY

SW1: Wainganga River Water

Sr. No.	Test Parameters	Unit	As per IS 10500 : 2012	Results	
				Jan. 2021	Mar. 2021
1	**Apparent Colour**	Hazen units	5 (15)	1.5	1.0
2	**Odour**	-	Agreeable	Agreeable	Agreeable
3	**Taste**	-	Agreeable	-	-
4	**Turbidity NTU**	NTU	1(5)	1.0	1.0
5	**Total Dissolved Solid**	mg / l	500 (2000)	116	210
6	**Electrical Conductivity**	µS/cm	-	194	330
7	**Total Alkalinity**	mg / l	200 (600)	74	114
8	**pH Value** at 25ºC	-	6.5 to 8.5	8.0	7.65
9	**Total Hardness (CaCO3)**	mg / l	200 (600)	82	116
10	**Calcium (as Ca)**	mg / l	75 (200)	26.2	35.8
11	**Magnesium (as Mg)**	mg / l	30 (100)	4.00	6.4
12	**Copper as(Cu)**	mg / l	0.05(1.5)	< 0.01	< 0.01
13	**Iron (as Fe)**	mg / l	0.3	< 0.07	< 0.07
14	**Manganese as (Mn)**	mg / l	0.1(0.3)	< 0.01	< 0.01
15	**Chlorides (as Cl)**	mg / l	250(1000)	9.3	11.6
16	**Sulphate (as SO4)**	mg / l	200 (400)	6.1	10.2
17	**Nitrates (as NO3)**	mg / l	45	2.35	2.60
18	**Fluoride (as F)**	mg / l	1.0 (1.5)	0.30	0.45
19	**Phenolic Compounds**	mg / l	0.001	BDL	BDL
20	**Mercury as (Hg)**	mg / l	0.001	< 0.0005	< 0.0005
21	**Cadmium as (Cd)**	mg / l	0.003	< 0.001	< 0.001
22	**Selenium as (Se)**	mg / l	0.01	< 0.001	< 0.001
23	**Arsenic as (As)**	mg / l	0.01 (0.05)	< 0.01	< 0.01
24	**Cyanide as (CN)**	mg / l	0.05	< 0.005	< 0.005
25	**Lead as (Pb)**	mg / l	0.01	< 0.001	< 0.001
26	**Zinc as (Zn)**	mg / l	5 (15)	0.13	0.22
27	**Total Chromium as (Cr)**	mg / l	0.05	< 0.03	< 0.03
28	**Mineral Oil**	mg / l	0.05	< 0.01	< 0.01
29	**Free Residual Chlorine**	mg / l	0.2 (1.0)	Nil	Nil
30	**Total Coliform**	MPN/100 ml	Absent	>16	>16
31	**E. Coli**	Nos./100 ml	Absent	> 16	>16

Note : Standards limit given as Acceptable Limit (Permissible Limit)

SW2: Mendipur Pond Water

Sr. No.	Test Parameters	Unit	As per IS 10500 : 2012	Results	
				Jan. 2021	Mar. 2021
1	**Apparent Colour**	Hazen units	5 (15)	1.5	1.2
2	**Odour**	-	Agreeable	Agreeable	Agreeable
3	**Taste**	-	Agreeable	-	-
4	**Turbidity NTU**	NTU	1(5)	0.8	1.0
5	**Total Dissolved Solid**	mg / l	500 (2000)	170	264
6	**Electrical Conductivity**	µS/cm	-	276	412
7	**Total Alkalinity**	mg / l	200 (600)	134	152
8	**pH Value** at 25ºC	-	6.5 to 8.5	8.05	7.90
9	**Total Hardness (CaCO3)**	mg / l	200 (600)	92	158
10	**Calcium (as Ca)**	mg / l	75 (200)	28.8	39.2
11	**Magnesium (as Mg)**	mg / l	30 (100)	4.9	14.6
12	**Copper as(Cu)**	mg / l	0.05(1.5)	< 0.01	< 0.01
13	**Iron (as Fe)**	mg / l	0.3	0.075	0.080
14	**Manganese as (Mn)**	mg / l	0.1(0.3)	0.008	0.010
15	**Chlorides (as Cl)**	mg / l	250(1000)	11.7	14.2
16	**Sulphate (as SO4)**	mg / l	200 (400)	9.3	12.8
17	**Nitrates (as NO3)**	mg / l	45	2.60	2.85
18	**Fluoride (as F)**	mg / l	1.0 (1.5)	0.35	0.50
19	**Phenolic Compounds**	mg / l	0.001	BDL	BDL
20	**Mercury as (Hg)**	mg / l	0.001	< 0.0005	< 0.0005
21	**Cadmium as (Cd)**	mg / l	0.003	< 0.001	< 0.001
22	**Selenium as (Se)**	mg / l	0.01	< 0.001	< 0.001
23	**Arsenic as (As)**	mg / l	0.01 (0.05)	< 0.01	< 0.01
24	**Cyanide as (CN)**	mg / l	0.05	< 0.005	< 0.005
25	**Lead as (Pb)**	mg / l	0.01	< 0.001	< 0.001
26	**Zinc as (Zn)**	mg / l	5 (15)	0.12	0.19
27	**Total Chromium as (Cr)**	mg / l	0.05	< 0.03	< 0.03
28	**Mineral Oil**	mg / l	0.05	< 0.01	< 0.01
29	**Free Residual Chlorine**	mg / l	0.2 (1.0)	Nil	Nil
30	**Total Coliform**	MPN/100 ml	Absent	> 16	> 16
31	**E. Coli**	Nos./100 ml	Absent	> 16	> 16

Note : Standards limit given as Acceptable Limit (Permissible Limit)

SW3: Garada Village Nalah water

Sr. No.	Test Parameters	Unit	As per IS 10500 : 2012	Results	
				Jan.2021	Mar. 2020
1	**Apparent Colour**	Hazen units	5 (15)	1.0	1.5
2	**Odour**	-	Agreeable	Agreeable	Agreeable
3	**Taste**	-	Agreeable	-	-
4	**Turbidity NTU**	NTU	1(5)	0.5	1.0
5	**Total Dissolved Solid**	mg / l	500 (2000)	474	530
6	**Electrical Conductivity**	µS/cm	-	770	831
7	**Total Alkalinity**	mg / l	200 (600)	172	186
8	**pH Value** at 25°C	-	6.5 to 8.5	7.85	8.10
9	**Total Hardness (CaCO3)**	mg / l	200 (600)	220	278
10	**Calcium (as Ca)**	mg / l	75 (200)	56.2	65.8
11	**Magnesium (as Mg)**	mg / l	30 (100)	19.3	27.6
12	**Copper as(Cu)**	mg / l	0.05(1.5)	< 0.01	< 0.01
13	**Iron (as Fe)**	mg / l	0.3	0.09	0.10
14	**Manganese as (Mn)**	mg / l	0.1(0.3)	< 0.01	< 0.01
15	**Chlorides (as Cl)**	mg / l	250(1000)	22.4	26.8
16	**Sulphate (as SO4)**	mg / l	200 (400)	13.8	19.5
17	**Nitrates (as NO3)**	mg / l	45	2.70	3.10
18	**Fluoride (as F)**	mg / l	1.0 (1.5)	0.40	0.55
19	**Phenolic Compounds**	mg / l	0.001	BDL	BDL
20	**Mercury as (Hg)**	mg / l	0.001	< 0.0005	< 0.0005
21	**Cadmium as (Cd)**	mg / l	0.003	< 0.001	< 0.001
22	**Selenium as (Se)**	mg / l	0.01	< 0.001	< 0.001
23	**Arsenic as (As)**	mg / l	0.01 (0.05)	< 0.01	< 0.01
24	**Cyanide as (CN)**	mg / l	0.05	< 0.005	< 0.005
25	**Lead as (Pb)**	mg / l	0.01	< 0.001	< 0.001
26	**Zinc as (Zn)**	mg / l	5 (15)	0.22	0.28
27	**Total Chromium as (Cr)**	mg / l	0.05	< 0.03	< 0.03
28	**Mineral Oil**	mg / l	0.05	< 0.01	< 0.01
29	**Free Residual Chlorine**	mg / l	0.2 (1.0)	Nil	Nil
30	**Total Coliform**	MPN/100 ml	Absent	> 16	> 16
31	**E. Coli**	Nos./100 ml	Absent	> 16	> 16

Note : Standards limit given as Acceptable Limit (Permissible Limit)

SW4: Kachewani Pond water

Sr. No.	Test Parameters	Unit	As per IS 10500 : 2012	Results	
				Jan. 2021	Mar. 2021
1	**Apparent Colour**	Hazen units	5 (15)	2.0	1.5
2	**Odour**	-	Agreeable	Agreeable	Agreeable
3	**Taste**	-	Agreeable	-	-
4	**Turbidity NTU**	NTU	1(5)	1.0	1.0
5	**Total Dissolved Solid**	mg / l	500 (2000)	162	248
6	**Electrical Conductivity**	µS/cm	-	258	390
7	**Total Alkalinity**	mg / l	200 (600)	110	130
8	**pH Value** at 25ºC	-	6.5 to 8.5	7.90	8.05
9	**Total Hardness (CaCO3)**	mg / l	200 (600)	84	136
10	**Calcium (as Ca)**	mg / l	75 (200)	23.2	44.2
11	**Magnesium (as Mg)**	mg / l	30 (100)	6.3	6.2
12	**Copper as(Cu)**	mg / l	0.05(1.5)	< 0.01	< 0.01
13	**Iron (as Fe)**	mg / l	0.3	0.075	0.070
14	**Manganese as (Mn)**	mg / l	0.1(0.3)	< 0.01	< 0.01
15	**Chlorides (as Cl)**	mg / l	250(1000)	9.8	13.3
16	**Sulphate (as SO4)**	mg / l	200 (400)	8.5	10.6
17	**Nitrates (as NO3)**	mg / l	45	2.55	2.70
18	**Fluoride (as F)**	mg / l	1.0 (1.5)	0.30	0.50
19	**Phenolic Compounds**	mg / l	0.001	BDL	BDL
20	**Mercury as (Hg)**	mg / l	0.001	< 0.0005	< 0.0005
21	**Cadmium as (Cd)**	mg / l	0.003	< 0.001	< 0.001
22	**Selenium as (Se)**	mg / l	0.01	< 0.001	< 0.001
23	**Arsenic as (As)**	mg / l	0.01 (0.05)	< 0.01	< 0.01
24	**Cyanide as (CN)**	mg / l	0.05	< 0.005	< 0.005
25	**Lead as (Pb)**	mg / l	0.01	< 0.001	< 0.001
26	**Zinc as (Zn)**	mg / l	5 (15)	0.10	0.18
27	**Total Chromium as (Cr)**	mg / l	0.05	< 0.03	< 0.03
28	**Mineral Oil**	mg / l	0.05	< 0.01	< 0.01
29	**Free Residual Chlorine**	mg / l	0.2 (1.0)	Nil	Nil
30	**Total Coliform**	MPN/100 ml	Absent	> 16	> 16
31	**E.Coli**	Nos./100 ml	Absent	> 16	> 16

Note : Standards limit given as Acceptable Limit (Permissible Limit)

TABLE- 3.5 GROUND WATER REPORT

Monitoring Date: 23.01.2021

STATIC WATER LEVEL OF OPEN WELL						
Name of village	**Plinth Height (m)**	**Diameter (m)**	**Water level from G.L. (m)**	**Shape**	**Total Depth of well from G.L (m)**	**Landmark**
Mendipur	0.85	1.45	6.85	Round	11.00	**Near Vitoba Ahinshak Suryavanshi Residence**
Khairbori	1.10	1.83	5.65	Round	10.10	**Near Hanuman Temple, Durga Temple**
Churadi	1.20	2.60	7.05	Round	11.60	**Near Primary School**
Kachewani	1.5	4.80	5.15	Round	12.30	**Opp. ZP. school**

Monitoring Date: 26.03.2021

STATIC WATER LEVEL OF OPEN WELL						
Name of village	**Plinth Height (m)**	**Diameter (m)**	**Water level from G.L. (m)**	**Shape**	**Total Depth of well from G.L (m)**	**Landmark**
Mendipur	0.85	1.45	8.30	Round	11.00	**Near Vitoba Ahinshak Suryavanshi Residence**
Khairbori	1.10	1.83	7.75	Round	10.10	**Near Hanuman Temple, Durga Temple**
Churadi	1.20	2.60	9.50	Round	11.60	**Near Primary School**
Kachewani	1.5	4.80	7.25	Round	12.30	**Opp. ZP. school**

GROUND WATER QUALITY

GW1: Kachewani Hand Pump water

Sr. No.	Test Parameters	Unit	As per IS 10500 : 2012	Results	
				Jan. 2021	Mar. 2021
1	**Apparent Colour**	Hazen units	5 (15)	0.1	0.1
2	**Odour**	-	Agreeable	Agreeable	Agreeable
3	**Taste**	-	Agreeable	Agreeable	Agreeable
4	**Turbidity NTU**	NTU	1(5)	0.1	0.1
5	**Total Dissolved Solid**	mg / l	500 (2000)	670	722
6	**Electrical Conductivity**	µS/cm	-	1082	1136
7	**Total Alkalinity**	mg / l	200 (600)	194	206
8	**pH Value** at 25ºC	-	6.5 to 8.5	7.85	8.05
9	**Total Hardness (CaCO3)**	mg / l	200 (600)	304	351
10	**Calcium (as Ca)**	mg / l	75 (200)	78.8	84.2
11	**Magnesium (as Mg)**	mg / l	30 (100)	26.0	34.1
12	**Copper as(Cu)**	mg / l	0.05(1.5)	< 0.01	< 0.01
13	**Iron (as Fe)**	mg / l	0.3	0.10	0.12
14	**Manganese as (Mn)**	mg / l	0.1(0.3)	0.010	0.015
15	**Chlorides (as Cl)**	mg / l	250(1000)	102.5	113.7
16	**Sulphate (as SO4)**	mg / l	200 (400)	107.7	110.2
17	**Nitrates (as NO3)**	mg / l	45	2.20	2.40
18	**Fluoride (as F)**	mg / l	1.0 (1.5)	0.75	0.85
19	**Phenolic Compounds**	mg / l	0.001	BDL	BDL
20	**Mercury as (Hg)**	mg / l	0.001	< 0.0005	< 0.0005
21	**Cadmium as (Cd)**	mg / l	0.003	< 0.001	< 0.001
22	**Selenium as (Se)**	mg / l	0.01	< 0.001	< 0.001
23	**Arsenic as (As)**	mg / l	0.01 (0.05)	< 0.01	< 0.01
24	**Cyanide as (CN)**	mg / l	0.05	< 0.005	< 0.005
25	**Lead as (Pb)**	mg / l	0.01	< 0.001	< 0.001
26	**Zinc as (Zn)**	mg / l	5 (15)	0.40	0.52
27	**Total Chromium as (Cr)**	mg / l	0.05	< 0.03	< 0.03
28	**Mineral Oil**	mg / l	0.05	< 0.01	< 0.01
29	**Free Residual Chlorine**	mg / l	0.2 (1.0)	< 0.1	< 0.1
30	**Total Coliform**	MPN/100 ml	Absent	Absent	Absent
31	**E. Coli**	Nos./100 ml	Absent	Absent	Absent

Note : Standards limit given as Acceptable Limit (Permissible Limit)

GW2: Mendipur Hand Pump water

Sr. No.	Test Parameters	Unit	As per IS 10500 :2012	Results	
				Jan. 2021	Mar. 2021
1	**Apparent Colour**	Hazen units	5 (15)	0.1	0.1
2	**Odour**	-	Agreeable	Agreeable	Agreeable
3	**Taste**	-	Agreeable	Agreeable	Agreeable
4	**Turbidity NTU**	NTU	1(5)	0.1	0.1
5	**Total Dissolved Solid**	mg / l	500 (2000)	390	468
6	**Electrical Conductivity**	µS/cm	-	630	734
7	**Total Alkalinity**	mg / l	200 (600)	180	194
8	**pH Value** at 25ºC	-	6.5 to 8.5	7.70	7.85
9	**Total Hardness (CaCO3)**	mg / l	200 (600)	196	226
10	**Calcium (as Ca)**	mg / l	75 (200)	53.2	62.8
11	**Magnesium (as Mg)**	mg / l	30 (100)	15.3	16.8
12	**Copper as(Cu)**	mg / l	0.05(1.5)	< 0.01	< 0.01
13	**Iron (as Fe)**	mg / l	0.3	0.095	0.10
14	**Manganese as (Mn)**	mg / l	0.1(0.3)	< 0.01	< 0.01
15	**Chlorides (as Cl)**	mg / l	250(1000)	27.3	30.4
16	**Sulphate (as SO4)**	mg / l	200 (400)	15.1	20.6
17	**Nitrates (as NO3)**	mg / l	45	2.15	2.35
18	**Fluoride (as F)**	mg / l	1.0 (1.5)	0.70	0.80
19	**Phenolic Compounds**	mg / l	0.001	BDL	BDL
20	**Mercury as (Hg)**	mg / l	0.001	< 0.0005	< 0.0005
21	**Cadmium as (Cd)**	mg / l	0.003	< 0.001	< 0.001
22	**Selenium as (Se)**	mg / l	0.01	< 0.001	< 0.001
23	**Arsenic as (As)**	mg / l	0.01 (0.05)	< 0.01	< 0.01
24	**Cyanide as (CN)**	mg / l	0.05	< 0.005	< 0.005
25	**Lead as (Pb)**	mg / l	0.01	< 0.001	< 0.001
26	**Zinc as (Zn)**	mg / l	5 (15)	0.32	0.51
27	**Total Chromium as (Cr)**	mg / l	0.05	< 0.03	< 0.03
28	**Mineral Oil**	mg / l	0.05	< 0.01	< 0.01
29	**Free Residual Chlorine**	mg / l	0.2 (1.0)	< 0.1	< 0.1
30	**Total Coliform**	MPN/100 ml	Absent	Absent	Absent
31	**E.Coli**	Nos./100 ml	Absent	Absent	Absent

Note : Standards limit given as Acceptable Limit (Permissible Limit)

GW3: Garada Hand Pump water

Sr. No.	Test Parameters	Unit	As per IS 10500 : 2012	Results	
				Jan. 2021	Mar. 2021
1	**Apparent Colour**	Hazen units	5 (15)	0.1	0.1
2	**Odour**	-	Agreeable	Agreeable	Agreeable
3	**Taste**	-	Agreeable	Agreeable	Agreeable
4	**Turbidity NTU**	NTU	1(5)	0.1	0.1
5	**Total Dissolved Solid**	mg / l	500 (2000)	540	610
6	**Electrical Conductivity**	µS/cm	-	872	956
7	**Total Alkalinity**	mg / l	200 (600)	183	192
8	**pH Value** at 25ºC	-	6.5 to 8.5	7.50	7.65
9	**Total Hardness (CaCO3)**	mg / l	200 (600)	318	342
10	**Calcium (as Ca)**	mg / l	75 (200)	79.2	83.0
11	**Magnesium (as Mg)**	mg / l	30 (100)	29.1	32.7
12	**Copper as(Cu)**	mg / l	0.05(1.5)	< 0.01	< 0.01
13	**Iron (as Fe)**	mg / l	0.3	0.10	0.15
14	**Manganese as (Mn)**	mg / l	0.1(0.3)	< 0.01	< 0.01
15	**Chlorides (as Cl)**	mg / l	250(1000)	92.6	106.6
16	**Sulphate (as SO4)**	mg / l	200 (400)	33.7	36.7
17	**Nitrates (as NO3)**	mg / l	45	2.10	2.45
18	**Fluoride (as F)**	mg / l	1.0 (1.5)	0.80	0.90
19	**Phenolic Compounds**	mg / l	0.001	BDL	BDL
20	**Mercury as (Hg)**	mg / l	0.001	< 0.0005	< 0.0005
21	**Cadmium as (Cd)**	mg / l	0.003	< 0.001	< 0.001
22	**Selenium as (Se)**	mg / l	0.01	< 0.001	< 0.001
23	**Arsenic as (As)**	mg / l	0.01 (0.05)	< 0.01	< 0.01
24	**Cyanide as (CN)**	mg / l	0.05	< 0.005	< 0.005
25	**Lead as (Pb)**	mg / l	0.01	< 0.001	< 0.001
26	**Zinc as (Zn)**	mg / l	5 (15)	0.35	0.45
27	**Total Chromium as (Cr)**	mg / l	0.05	< 0.03	< 0.03
28	**Mineral Oil**	mg / l	0.05	< 0.01	< 0.01
29	**Free Residual Chlorine**	mg / l	0.2 (1.0)	< 0.1	< 0.1
30	**Total Coliform**	MPN/100 ml	Absent	Absent	Absent
31	**E. Coli**	Nos./100 ml	Absent	Absent	Absent

Note : Standards limit given as Acceptable Limit (Permissible Limit)

GW4: Chikhali Hand Pump water

Sr. No.	Test Parameters	Unit	As per IS 10500 : 2012	Results	
				Jan. 2021	Mar. 2021
1	Apparent Colour	Hazen units	5 (15)	0.1	0.1
2	Odour	-	Agreeable	Agreeable	Agreeable
3	Taste	-	Agreeable	Agreeable	Agreeable
4	Turbidity NTU	NTU	1(5)	0.1	0.1
5	Total Dissolved Solid	mg / l	500 (2000)	572	633
6	Electrical Conductivity	µS/cm	-	918	995
7	Total Alkalinity	mg / l	200 (600)	180	207
8	pH Value at 25oC	-	6.5 to 8.5	7.70	7.95
9	Total Hardness (CaCO3)	mg / l	200 (600)	226	280
10	Calcium (as Ca)	mg / l	75 (200)	67.2	74.8
11	Magnesium (as Mg)	mg / l	30 (100)	14.1	22.6
12	Copper as(Cu)	mg / l	0.05(1.5)	< 0.01	< 0.01
13	Iron (as Fe)	mg / l	0.3	0.085	0.12
14	Manganese as (Mn)	mg / l	0.1(0.3)	< 0.01	< 0.01
15	Chlorides (as Cl)	mg / l	250(1000)	23.5	35.2
16	Sulphate (as SO4)	mg / l	200 (400)	17.1	22.6
17	Nitrates (as NO3)	mg / l	45	2.05	2.15
18	Fluoride (as F)	mg / l	1.0 (1.5)	0.75	0.90
19	Phenolic Compounds	mg / l	0.001	BDL	BDL
20	Mercury as (Hg)	mg / l	0.001	< 0.0005	< 0.0005
21	Cadmium as (Cd)	mg / l	0.003	< 0.001	< 0.001
22	Selenium as (Se)	mg / l	0.01	< 0.001	< 0.001
23	Arsenic as (As)	mg / l	0.01 (0.05)	< 0.01	< 0.01
24	Cyanide as (CN)	mg / l	0.05	< 0.005	< 0.005
25	Lead as (Pb)	mg / l	0.01	< 0.001	< 0.001
26	Zinc as (Zn)	mg / l	5 (15)	0.28	0.37
27	Total Chromium as (Cr)	mg / l	0.05	< 0.03	< 0.03
28	Mineral Oil	mg / l	0.05	< 0.01	< 0.01
29	Free Residual Chlorine	mg / l	0.2 (1.0)	< 0.1	< 0.1
30	Total Coliform	MPN/100 ml	Absent	Absent	Absent
31	E. Coli	Nos./100 ml	Absent	Absent	Absent

Note : Standards limit given as Acceptable Limit (Permissible Limit)

TABLE- 3.6 WASTE WATER QUALITY (Oct.2020- Mar.2021)

Sample Category : Unit-1- Cooling Tower Blow Down water (WW-1)

Sr. No.	Parameters	Unit	MPCB Limit	Results	
				Jan. 2021	Mar. 2021
1.	Free Available Chlorine	mg / l	0.5	0.18	0.21
2.	Zinc as (Zn)	mg / l	1.0	0.15	0.13
3.	Total Chromium as (Cr)	mg / l	0.2	0.013	0.010
4.	Phosphate as (PO4)	mg/ l	5.0	1.32	1.35

Sample Category : Unit-2- Cooling Tower Blow Down water (WW-2)

Sr. No.	Parameters	Unit	MPCB Limit	Results	
				Jan. 2021	Mar. 2021
1.	Free Available Chlorine	mg / l	0.5	0.15	Unit Not Working
2.	Zinc as (Zn)	mg / l	1.0	0.12	
3.	Total Chromium as (Cr)	mg / l	0.2	0.011	
4.	Phosphate as (PO4)	mg/ l	5.0	1.30	

Sample Category : Unit-3- Cooling Tower Blow Down water (WW-3)

Sr. No.	Parameters	Unit	MPCB Limit	Results	
				Jan. 2021	Mar. 2021
1.	Free Available Chlorine	mg / l	0.5	0.19	0.15
2.	Zinc as (Zn)	mg / l	1.0	0.16	0.14
3.	Total Chromium as (Cr)	mg / l	0.2	0.015	0.012
4.	Phosphate as (PO4)	mg/ l	5.0	1.36	1.30

Sample Category : Unit-4-Cooling Tower Blow Down water (WW-4)

Sr. No.	Parameters	Unit	MPCB Limit	Results	
				Jan. 2021	Mar. 2021
1.	Free Available Chlorine	mg / l	0.5	0.20	0.18
2.	Zinc as (Zn)	mg / l	1.0	0.15	0.13
3.	Total Chromium as (Cr)	mg / l	0.2	0.011	0.014
4.	Phosphate as (PO4)	mg/ l	5.0	1.35	1.38

Sample Category : Unit-5- Cooling Tower Blow Down water (WW-5)

Sr. No.	Parameters	Unit	MPCB Limit	Results	
				Jan. 2021	Mar. 2021
1.	Free Available Chlorine	mg / l	0.5	Unit Not Working	0.22
2.	Zinc as (Zn)	mg / l	1.0		0.18
3.	Total Chromium as (Cr)	mg / l	0.2		0.012
4.	Phosphate as (PO4)	mg/ l	5.0		1.37

TABLE- 3.7 Pizo-metric well water Report

Monitoring Date: 23.01.2021

	STATIC WATER LEVEL OF PIZO. WELL			
Name of village	**Water level from B.G.L. (m)**	**Total Depth of Pizo well from G.L (m)**	**Total Depth of Pizo well with Casing (m)**	**Landmark**
Pizo well (P1)	1.2	18.6	19.8	Near AWRPH
Pizo well (P2)	1.7	20.0	21.0	B/H Ash dyke -1
Pizo well (P3)	1.0	20.0	20.7	Near Raw Water pump house -02

Pizo-metric well water Analysis Report

Sr. No.	Test Parameters	Unit	As per IS : 10500 : 2012	Pizo well (P1) Near AWRPH	Pizo well (P2) B/H Ash dyke -1	Pizo -well (P3) Near Raw Water pump house -02
1	pH		6.5 to 8.5	7.85	7.95	7.75
2	Total Dissolved Solid	mg / l	500 (2000)	530	494	540
3	Electrical Conductivity	µS/cm	-	848	820	876
4	Copper as(Cu)	mg / l	0.05 (1.5)	< 0.01	< 0.01	< 0.01
5	Iron (as Fe)	mg / l	0.3 (1.0)	0.15	0.12	0.12
6	Manganese as (Mn)	mg / l	0.1 (0.3)	0.070	0.083	0.065
7	Mercury as (Hg)	mg / l	0.001	< 0.0005	< 0.0005	< 0.0005
8	Cadmium as (Cd)	mg / l	0.01	0.0017	0.0016	0.0011
9	Selenium as (Se)	mg / l	0.01	0.0010	0.0010	0.0011
10	Arsenic as (As)	mg / l	0.05	0.009	0.008	0.010
11	Cyanide as (CN)	mg / l	0.05	< 0.005	< 0.005	< 0.005
12	Lead as (Pb)	mg / l	0.05	0.0018	0.0019	0.0013
13	Zinc as (Zn)	mg / l	5 (15)	2.1	2.84	2.80
14	Total Chromium as (Cr)	mg / l	0.05	< 0.010	< 0.010	< 0.010

For the Month Mar 2021

	STATIC WATER LEVEL OF PIZO. WELL			
Name of village	**Water level from B.G.L. (m)**	**Total Depth of Pizo well from G.L (m)**	**Total Depth of Pizo well with Casing (m)**	**Landmark**
Pizo well (P1)	1.7	18.6	19.8	Near AWRPH
Pizo well (P2)	2.2	20.0	21.0	B/H Ash dyke -1
Pizo well (P3)	1.5	20.0	20.7	Near Raw Water pump house -02

Pizo-metric well water Analysis Report

Sr. No.	Test Parameters	Unit	As per IS : 10500 : 2012	Pizo well (P1) Near AWRPH	Pizo well (P2) B/H Ash dyke -1	Pizo -well (P3) Near Raw Water pump house -02
1	pH		6.5 to 8.5	7.90	8.0	7.85
2	Total Dissolved Solid	mg / l	500 (2000)	484	516	522
3	Electrical Conductivity	µS/cm	-	774	812	840
4	Copper as(Cu)	mg / l	0.05 (1.5)	< 0.01	< 0.01	< 0.01
5	Iron (as Fe)	mg / l	0.3 (1.0)	0.15	0.17	0.13
6	Manganese as (Mn)	mg / l	0.1 (0.3)	0.071	0.075	0.082
7	Mercury as (Hg)	mg / l	0.001	< 0.0005	< 0.0005	< 0.0005
8	Cadmium as (Cd)	mg / l	0.01	0.0013	0.0016	0.0014
9	Selenium as (Se)	mg / l	0.01	0.0010	0.0013	0.0016
10	Arsenic as (As)	mg / l	0.05	0.011	0.010	0.012
11	Cyanide as (CN)	mg / l	0.05	< 0.005	< 0.005	< 0.005
12	Lead as (Pb)	mg / l	0.05	0.0017	0.0019	0.0015
13	Zinc as (Zn)	mg / l	5 (15)	2.32	2.90	3.7
14	Total Chromium as (Cr)	mg / l	0.05	< 0.010	< 0.010	< 0.010

TABLE- 3.8 Noise Level (Within Plant area)

SL. NO.	LOCATION	RESULT (dBA)					
		DAY					
		Oct. 2020	Nov. 2020	Dec. 2020	Jan. 2021	Feb. 2021	Mar. 2021
1	Near Shanti Niketan I, II & III	41.7	55.6	61.2	60.7	53.2	59.7
2	Near Labour Hutment	62.6	68.7	59.0	62.6	46.6	65.0
3	Near Store Area	64.9	67.2	60.2	68.5	49.3	60.8
4	Gate No.1	61.5	58.2	61.3	58.5	50.9	60.6
5	Gate No.2	56.1	67.0	66.0	67.6	62.0	62.1
6	Gate No.3	63.7	66.1	72.0	72.8	64.8	72.4
7	Near OHC	63.2	56.0	58.8	58.2	42.1	52.2
8	Railway Siding	67.7	65.9	73.0	63.5	63.9	67.4
9	Near Reservoir 2	56.1	66.3	54.3	60.5	51.6	56.2
10	Near Ash Water Recovery Pump House	62.9	59.5	56.2	62.5	48.6	62.8
11	In China Colony	40.9	47.2	40.4	42.3	37.7	40.4
CPCB Standards							
Industrial Area		75					

SL. NO.	LOCATION	RESULT (dBA)					
		NIGHT					
		Oct. 2020	Nov. 2020	Dec. 2020	Jan. 2021	Feb. 2021	Mar. 2021
1	Near Shanti Niketan I II & III	38.5	50.2	51.8	49.5	48.8	52.2
2	Near Labour Hutment	57.2	61.2	50.5	52.7	52.7	50.8
3	Near Store Area	55.4	58.8	52.7	51.1	48.0	57.8
4	Gate No.1	58.7	51.1	50.7	48.2	44.0	55.9
5	Gate No.2	49.9	47.8	52.2	45.5	51.7	48.8
6	Gate No.3	52.2	51.1	62.7	61.7	47.4	60.5
7	Near OHC	57.5	50.8	48.8	52.7	40.5	41.5
8	Railway Siding	59.7	61.2	62.0	58.0	58.0	52.9
9	Near Reservoir 2	46.8	49.9	48.7	42.7	42.7	50.7
10	Near Ash Water Recovery Pump House	52.2	51.2	45.5	55.7	41.4	45.5
11	In China Colony	37.7	45.5	38.7	39.9	35.2	37.5
CPCB Standards							
Industrial Area		70					

Annexure I - On site Meteorological Data for OCT. 2020- MAR. 2021

Oct. 2020

Date	Wind Direction (Blowing From)	Wind Speed (Km/hr)		Temperature (°C)			Humidity (%)			Atm. Pressure (mm Hg)	Rainfall (mm)
		Max.	Avg.	Max	Min	Avg.	Max	Min	Avg	(Average)	
01.10.2020	NE	18.8	1.6	36.2	26.5	31	94	55.8	76	974.4	0
02.10.2020	NE	20.5	1.6	37.1	26.3	30.9	91.8	48.6	71.1	974.5	0
03.10.2020	SE	27.4	2.2	37	24.5	31	92	46.8	65.8	975.1	0
04.10.2020	SSE	24	2.3	37	25	31	86.4	50.7	67.6	975.6	0
05.10.2020	SW	48.2	2.6	35.4	25.8	28.4	92.7	58.1	79.7	975.6	0.4
06.10.2020	NE	28.9	2.1	33.9	25.8	28.8	93.8	64.7	82.6	976	0.6
07.10.2020	NNE	40.5	2.7	33.2	25.3	27.7	96.6	68.3	87.9	977.1	25.2
08.10.2020	NE	21.5	1.9	32.7	25.4	28.4	96.9	70.6	87.1	977.3	0
09.10.2020	NNE	32.1	11.6	36.3	26.6	29.6	95.2	65.1	86.4	977.6	2
10.10.2020	NW	19.3	2.4	36.8	26.7	30.3	95.9	56.6	81.9	976.7	0
11.10.2020	ENE	37	2.9	35.1	27.6	30.1	94.6	60.6	82.5	974.7	0
12.10.2020	NE	36.3	4.6	36.4	26.4	30.5	94.7	54.5	76	973	0
13.10.2020	NNE	59.5	4.7	34.9	26.8	30	91.9	54.9	76.3	972.9	0
14.10.2020	SW	43.5	4.7	33.8	26.5	29.3	92.3	61.1	80.4	973.9	5
15.10.2020	WSW	39.1	7.4	33.3	27.1	29.5	89	65.6	78.8	974.6	0.6
16.10.2020	SW	45.7	5.5	34.8	27.4	30.3	90	59.3	77.1	975.1	0
17.10.2020	NNW	36.6	5.6	35.6	26.3	30.7	93.6	57.3	76.1	976.3	0
18.10.2020	NW	32.9	3.1	36.9	26.6	31.1	91.5	51.9	73.8	977	0
19.10.2020	NWN	25.9	2.4	36.7	26.9	31.15	94.1	52.2	75.1	976.8	0.8
20.10.2020	NE	31.1	2.6	36.5	25.9	30.5	95.3	46.1	74.4	976.8	0
21.10.2020	NNE	21.1	2.5	35.8	25.2	29.7	92.6	51.7	72.2	977.3	0
22.10.2020	NE	28.9	2.4	36.3	23.1	29	88.2	38.3	64.4	976.3	0
23.10.2020	NNE	19.5	2.3	35.8	22.9	28.6	89.1	43.8	68.1	976.5	0
24.10.2020	NW	26.9	2.4	36.9	22.9	29.3	93.6	34.1	69.5	978.2	0
25.10.2020	NW	22.5	2.4	36.7	22.6	29.8	93.5	42.4	69.4	980.1	0
26.10.2020	NW	35.8	2.5	35.2	22.6	29.1	92.8	44.4	68.8	981.1	0
27.10.2020	NW	21	3.7	36.2	23.9	28.9	90.3	39	71.1	980.5	0
28.10.2020	NW	19.5	2.4	36	23.3	28.7	93.7	36.1	69.8	981.1	0
29.10.2020	SSW	19.1	2.2	36.3	23.1	28.1	92.5	40.3	70.5	981.5	0
30.10.2020	SW	30.6	2.4	34.4	21.8	27.6	94.1	41.2	68.2	981.1	0
31.10.2020	SSE	37.3	3.1	33.4	20.8	26.6	82.5	37.1	61.6	981.5	0

Nov. 2020

Date	Wind Direction (Blowing From)	Wind Speed (Km/hr)		Temperature (°C)			Humidity (%)			Atm. Pressure (mm Hg)	Rainfall (mm)
		Max.	Avg.	Max	Min	Avg.	Max	Min	Avg	(Average)	
01.11.2020	SSE	37	3.5	33.9	20.4	26.3	86.2	35.6	61.5	982.1	0
02.11.2020	SSE	33.1	3.1	33.9	20.3	26.2	76.5	34.5	57.5	983.2	0
03.11.2020	SSE	27.1	2.7	33.8	19.5	25.7	82	34.3	58.4	983.5	0
04.11.2020	SSE	25.2	2.4	33.7	17.9	25.4	82.2	28.4	56.4	982.8	0
05.11.2020	WSW	24.3	2.2	34.7	17.3	24.9	87	30.5	60.4	983.5	0
06.11.2020	NW	33.1	2.6	34.3	18	25.1	84.8	32	59.4	985.5	0
07.11.2020	WSW	30.9	2.6	33.2	18.4	24.8	87.6	31.8	60.4	986.3	0
08.11.2020	SW	27.4	2.4	32.9	17.5	24.2	88.6	30.5	60.3	986.3	0
09.11.2020	SSE	26.9	2.6	32.3	17.3	23.7	83.9	29.4	57.3	985	0
10.11.2020	SSE	32.1	2.8	31.4	16.7	23.4	79.1	32.4	56.7	983.2	0
11.11.2020	SE	29.4	3.5	33.5	17.6	25.3	79.6	42.4	62.4	983.7	0
12.11.2020	SW	36.8	4.9	32.8	22.1	27.8	90.3	55.1	70.1	984.5	0
13.11.2020	WNW	33.3	4.1	35	25.5	30.6	77.4	43.7	58.2	983.9	0
14.11.2020	W	39.3	5.8	34.7	26.4	31.2	67.1	41.3	51.7	982.5	0
15.11.2020	WSW	47.9	8.2	34	23.7	29.5	84.1	43.1	57.4	983	0
16.11.2020	NW	23.2	3.9	35.4	25.1	30.9	80.9	46.2	59.8	982.9	0
17.11.2020	NE	16.2	2.9	34.3	20.1	26.3	91.2	41.1	68.5	738.7	0
18.11.2020	NNW	26.4	3.6	34.8	22.5	27.9	91	45.6	70.2	981.6	0
19.11.2020	NW	29.1	5.3	33.8	21.7	27.7	91.7	52.5	70.8	981.2	0
20.11.2020	NW	38	3.4	32.5	24.2	26.8	93.6	59.5	82.3	981.8	0.8
21.11.2020	SSE	28.7	3.5	30.8	19.8	24.7	94.8	48.9	72.9	983.6	0
22.11.2020	SSE	27.4	3.1	31.4	16.7	22.7	81	37.4	60.6	985	0
23.11.2020	WSW	26.9	2.5	31.8	16.3	23.2	85	38.7	62.3	984.8	0
24.11.2020	SW	25.9	2.3	32.1	17.4	23.9	86.7	37.9	62.3	984.1	0
25.11.2020	W	41	4.2	30.8	17.7	24.2	88	41	62.5	983.8	0
26.11.2020	W	47.9	4.6	30.7	18.5	22.4	93.9	46.2	72.2	984.1	11
27.11.2020	NW	37	4	26.9	20	22.6	96.6	61.2	82.7	986.2	1
28.11.2020	NNW	33.6	3.5	32.7	18.6	24.9	95.5	41.8	69.6	986.4	0
29.11.2020	NNW	26.2	3.5	32.9	19.1	25.3	85.5	40.1	65.9	985.6	0
30.11.2020	NW	26.4	2.5	32.8	19.6	25.5	88.4	41	65.8	985.2	0

Dec. 2020

Date	Wind Direction (Blowing From)	Wind Speed (Km/hr)		Temperature (°C)			Humidity (%)			Atm. Pressure (mm Hg)	Rainfall (mm)
		Max.	Avg.	Max	Min	Avg.	Max	Min	Avg	(Average)	
01.12.2020	NW	24.9	2.8	32.4	18.5	24.8	86.6	40.3	64.5	985.2	0
02.12.2020	NW	24.7	2.8	32.1	16.9	23.7	92.5	32.8	62.6	984.1	0
03.12.2020	NNW	22.5	2.3	33	17.2	24.2	83.8	31	58.2	983.6	0
04.12.2020	NW	21	2.7	33	15.7	23.8	91.9	32.7	62.5	982	0
05.12.2020	S	28.4	2.3	32.6	16.4	23.8	91.1	35.1	64.9	983.2	0
06.12.2020	S	22.0	2.3	33.3	17.6	24.5	91.1	36.2	66.0	984.8	0
07.12.2020	S	20.7	2.5	33.8	17.7	24.6	90.7	36.0	66.6	986.1	0
08.12.2020	S	26.7	2.0	33.8	18.5	25.1	89.7	37.4	65.4	986.0	0
09.12.2020	S	19.8	2.5	33.3	17.8	24.7	92.2	35.1	65.9	984.7	0
10.12.2020	S	21.2	1.8	33.5	18.4	24.6	90.5	39.3	62.0	983.9	0
11.12.2020	NNW	19.8	2.3	32.7	19.0	25.0	88.0	40.5	67.0	984.0	0
12.12.2020	S	22.7	2.9	29.9	21.6	24.8	82.4	47.7	67.5	983.7	0
13.12.2020	S	29.9	2.9	28.6	21.3	24.3	86.3	55.9	74.1	982.9	0
14.12.2020	SSW	33.8	2.9	27.7	21.6	24.5	91.4	60.1	76.2	983.1	0
15.12.2020	NW	26.9	4.1	30.6	21.6	25.3	94.4	55.6	76.6	984.5	0
16.12.2020	S	30.6	4.3	31.6	21.4	25.7	91.7	53.5	75.5	985.1	0
17.12.2020	S	40	4.1	29.3	20.5	23.7	91.5	59.8	78.8	985.0	0
18.12.2020	S	25.9	2.9	30.2	17.6	22.9	85.2	47	67.7	985.0	0
19.12.2020	S	29.9	3.1	29.2	15.8	21.5	76.7	31.7	54.3	985.9	0
20.12.2020	S	28.4	3.1	29.6	14.7	21.0	67.4	30.6	49.1	986.2	0
21.12.2020	SW	32.6	2.9	30	12.6	21.0	77.1	30.2	52.4	984.6	0
22.12.2020	SSW	29.6	2.8	30.5	12.9	21.6	76.5	31.5	54.1	982.6	0
23.12.2020	S	26.2	2.2	30.7	13.8	22.0	83.7	31.5	54.6	981.3	0
24.12.2020	SSW	21.7	2.2	31.3	15	22.1	85.6	32.6	59.6	980.9	0
25.12.2020	SW	23.5	2.1	30.4	15.7	22.0	80.3	36	58.8	982.1	0
26.12.2020	SW	19	2.0	30.8	14.3	20.3	77.3	35.9	58.6	982.7	0
27.12.2020	SW	18.3	2.1	28.2	11	18.3	87.6	38.2	63.5	981.5	0
28.12.2020	S	28.9	3.0	29.8	11.6	18.9	94	43.4	68.1	980.5	0
29.12.2020	SSW	22.5	2.7	28.7	13.2	18.7	83.6	48	68.1	981.1	0
30.12.2020	SW	25.2	2.9	29.7	13.2	18.9	88.7	43.3	68.7	981.7	0
31.12.2020	SW	26.2	2.9	29.5	13.1	18.9	84.4	43.4	67.2	982.7	0

Jan. 2021

Date	Wind Direction (Blowing From)	Wind Speed (Km/hr)		Temperature (°C)			Humidity (%)			Atm. Pressure (mm Hg)	Rainfall (mm)
		Max.	Avg.	Max	Min	Avg.	Max	Min	Avg	(Average)	
01.01.2021	SW	25.4	3.5	27.2	13.5	19.1	92.5	43.8	68.6	983.0	0.0
02.01.2021	WNW	32.9	4.0	28.9	13.7	19.5	90.0	44.6	67.0	982.7	0.0
03.01.2021	NNW	26.2	3.9	27.1	15.1	20.7	84.1	40.2	60.1	980.9	0.0
04.01.2021	WNW	24.5	3.1	25.9	14.5	19.9	85.4	44.9	64.8	981.2	0.0
05.01.2021	ENE	24.9	3.2	27.5	16.4	21.3	82.9	40.1	62.8	981.5	0.0
06.01.2021	SSW	21.7	3.0	28.0	16.8	21.7	84.2	42.0	64.7	980.6	0.0
07.01.2021	NNW	27.2	3.6	27.6	17.2	22.1	82.1	48.4	65.6	979.4	0.0
08.01.2021	W	26.2	3.5	26.6	19.4	22.5	80.2	49.0	63.5	978.9	0.0
09.01.2021	N	24.7	1.8	29.8	18.5	23.3	79	41.5	62.0	979.5	0.0
10.01.2021	S	21.7	2.0	28.1	17.9	22.2	86.6	46.4	69.9	980.2	0.0
11.01.2021	S	24	2.6	29.7	17.4	22.6	88.4	44.6	69.1	981.2	0.0
12.01.2021	SSW	37.5	4.9	26.3	16.4	20.6	88.2	52.5	71.4	981.9	0.0
13.01.2021	SSW	44.2	3.8	25.6	11.9	18.2	74.6	32.5	52.8	981.8	0.0
14.01.2021	SSW	28.9	3.5	26.7	10.2	18.4	71.3	33.8	49.0	981.7	0.0
15.01.2021	SW	24.9	2.4	26.4	10.1	18.0	65.3	30.4	47.3	980.5	0.0
16.01.2021	S	23.5	3.2	27.3	11.6	19.4	76.1	30.2	48.7	979.5	0.0
17.01.2021	NW	24.2	3.9	28.3	12.3	20.0	76.7	35.4	53.4	980.7	0.0
18.01.2021	NW	31.4	4.0	27.5	13.7	20.2	79.4	38.2	57.3	981.5	0.0
19.01.2021	N	41.2	4.2	29.1	14.8	21.1	86.2	42.3	64.7	980.1	0.0
20.01.2021	S	30.9	3.7	27.4	17.8	21.8	77.3	45.2	60.6	980.5	0.0
21.01.2021	SSW	31.9	3.1	27.6	13.7	20.0	72.4	27.5	49.1	981.1	0.0
22.01.2021	NW	26.9	3.1	27.8	11.6	19.3	78.9	31.1	48.6	981.4	0.0
23.01.2021	S	34.1	3.7	28.2	12.6	20.0	77.9	35.3	55.7	980.2	0.0
24.01.2021	ENE	34.8	4.4	27.5	13.9	20.7	86.0	48.8	67.0	980.3	0.0
25.01.2021	SSW	26.7	4.0	28.0	15.2	21.3	77.0	39.3	57.7	981.5	0.0
26.01.2021	SSW	32.4	4.4	27.0	14.3	19.8	77.6	48.2	62.1	981.3	0.0
27.01.2021	SSW	24.5	3.8	26.3	13.5	19.0	79.4	43.4	62.5	981.7	0.0
28.01.2021	NW	24.5	4.4	26.0	14.4	19.8	82.6	56.0	67.8	981.8	0.0
29.01.2021	S	49.2	5.3	21.9	13.9	17.1	95.5	48.3	71.3	983.1	20.2
30.01.2021	S	39.3	5.3	24.4	9.7	16.4	72.3	26.5	48.7	983.7	0.0
31.01.2021	SSW	24.0	3.3	25.5	9.8	17.3	80.0	31.0	49.5	984.1	0.0

Feb. 2021

Date	Wind Direction (Blowing From)	Wind Speed (Km/hr)		Temperature (°C)			Humidity (%)			Atm. Pressure (mm Hg)	Rainfall (mm)
		Max.	Avg.	Max	Min	Avg.	Max	Min	Avg	(Average)	
01.02.2021	SSW	24.9	3.6	26.6	10.7	18.3	66.2	28.1	47.6	985.8	0.0
02.02.2021	SSW	28.9	2.9	28.7	11.1	19.2	82.1	25.5	49.3	985.3	0.0
03.02.2021	S	25.2	3.0	28.6	11.0	19.5	83.3	25.6	52.8	984.3	0.0
04.02.2021	NW	26.2	3.9	28.4	12.2	20.1	79.0	29.1	50.4	983.8	0.0
05.02.2021	SSW	30.9	3.3	28.4	10.9	19.7	87.9	29.6	53.9	982.2	0.0
06.02.2021	S	46.2	5.0	25.0	13.7	18.7	78.4	40.9	58.9	982.5	0.0
07.02.2021	S	34.6	3.9	25.0	10.9	17.7	76.0	33.0	52.9	984.5	0.0
08.02.2021	SSW	32.4	3.9	25.7	10.9	17.9	77.6	33.0	52.3	984.7	0.0
09.02.2021	S	31.1	3.6	27.9	11.1	18.7	86	31.1	56.4	983.0	0.0
10.02.2021	S	21.2	3.3	29.6	12.3	20.0	79.4	28.3	54.4	980.9	0.0
11.02.2021	S	26.9	2.9	31.8	12.6	20.7	85.4	31.3	57.1	980.4	0.0
12.02.2021	N	19	2.8	31.7	14.5	22.6	77.9	33.3	53.5	981.2	0.0
13.02.2021	N	29.9	4.3	30.7	14.8	24.3	85.1	38.6	55.2	981.7	0.0
14.02.2021	NW	30.1	3.7	31.9	16.1	23.5	84.5	39.2	57.6	981.5	0.0
15.02.2021	ENE	34.1	4.5	31.0	17.3	23.8	85.1	42.3	62.2	980.4	0.0
16.02.2021	N	41.7	5.0	30.5	17.3	22.9	85.9	41.3	62.0	979.8	1.2
17.02.2021	W	57.8	6.4	21.8	15.4	17.5	94.1	65.5	85.1	982.4	8.2
18.02.2021	N	47.2	5.0	26.7	14.3	19.2	95.3	48.3	72.5	983.5	0.0
19.02.2021	NW	35.6	3.6	26.3	13.3	19.6	93.6	50.6	69.6	984.9	0.0
20.02.2021	S	31.4	3.3	29.8	14.7	21.0	93.6	40.5	64.4	984.5	0.0
21.02.2021	SSW	28.9	3.7	30.6	15.6	21.4	74.5	33.5	55.3	984.6	0.0
22.02.2021	S	26.2	2.6	31.9	13.5	22.0	81.1	29.6	50.5	983.7	0.0
23.02.2021	SSE	31.6	3.2	32.7	13.8	22.5	81.7	27.2	49.1	981.8	0.0
24.02.2021	N	24.0	2.9	33.3	14.9	23.2	78.2	27.5	47.4	980.4	0.0
25.02.2021	E	27.7	3.0	35.2	14.2	23.8	86.3	29.2	51.5	979.8	0.0
26.02.2021	N	28.2	2.2	36.1	15.9	25.2	81.8	32.4	50.5	978.2	0.0
27.02.2021	NW	29.9	3.4	35.9	15.8	25.1	80.6	29.3	49.3	978.0	0.0
28.02.2021	NW	26.9	2.9	36.7	16.7	25.6	85.0	30.2	50.0	978.6	0.0

Mar. 2021

Date	Wind Direction (Blowing From)	Wind Speed (Km/hr)		Temperature (°C)			Humidity (%)			Atm. Pressure (mm Hg)	Rainfall (mm)
		Max.	Avg.	Max	Min	Avg.	Max	Min	Avg	(Average)	
01.03.2020	ENE	48.4	3.4	37.1	19.0	27.4	75.7	27.5	43.5	980.6	0.0
02.03.2020	S	35.1	3.3	34.2	17.2	25.2	75.4	30.1	43.8	981.7	0.0
03.03.2020	N	31.4	2.8	34.7	15.5	24.1	63.8	23.9	41.4	981.4	0.0
04.03.2020	S	30.1	4.5	35.5	15.2	25.4	79.1	22.5	44.2	980.9	0.0
05.03.2020	ENE	34.8	4.8	35.9	15.4	25.5	73.1	27.3	44.4	980.4	0.0
06.03.2020	NNW	27.9	2.6	35.9	16.3	26.6	66.4	25.4	39.2	981.1	0.0
07.03.2020	NW	25.7	3.2	37.0	16.7	26.3	76.9	24.4	44.8	979.9	0.0
08.03.2020	NW	27.2	4.7	35.6	17.0	26.6	73.0	30.6	47.0	980.4	0.0
09.03.2020	NW	27.2	5.2	35.1	20.5	27.4	68.1	36.4	51.5	980.5	0.0
10.03.2020	NW	34.8	6.3	35.4	22.3	28.0	66.4	36.1	50.5	980.6	0.0
11.03.2020	NW	54.1	6.5	35.3	22.3	27.5	71.5	33.1	50.5	980.9	0.0
12.03.2020	W	40.0	4.6	34.9	19.8	27.6	68.4	36.1	48.0	982.0	0.0
13.03.2020	NW	24.9	3.8	32.8	21.6	27.8	77.2	38.3	51.8	982.4	14.6
14.03.2020	ESE	31.1	3.5	34.0	18.8	26.2	84.9	35.9	57.0	981.1	0.0
15.03.2020	NW	32.1	3.3	36.7	19.8	27.4	78.5	31.6	51.5	979.8	0.0
16.03.2020	NE	46.4	4.3	36.5	20.4	28.0	76.6	32.2	48.3	979.5	0.0
17.03.2020	W	32.1	4.2	34.6	21.1	28.1	69.9	33.2	46.6	978.9	0.0
18.03.2020	E	34.1	4.5	29.9	21.9	25.1	77.1	40.9	56.3	979.3	0.0
19.03.2020	N	61.0	4.7	30.7	18.0	23.0	87.2	43.1	69.5	980.2	7.8
20.03.2020	E	63.0	5.2	34.6	17.3	24.8	92.1	35.2	63.2	978.9	2.2
21.03.2020	ENE	63.0	7.4	34.3	20.3	27.0	69.5	34.6	49.4	978.4	1.8
22.03.2020	E	45.4	5.1	33.9	19.5	26.2	81.8	34.4	54.5	980.1	0.0
23.03.2020	NNW	63.0	5.2	25.2	18.6	21.5	86.0	51.7	72.0	982.2	0.8
24.03.2020	SSE	24.9	2.8	35.9	17.1	25.9	89.5	30.7	58.6	981.1	0.0
25.03.2020	SSW	25.9	3.6	38.0	20.0	28.5	74.6	28.5	45.8	979.5	0.0
26.03.2020	SSW	28.2	3.2	37.3	19.5	27.9	58.7	26.7	40.7	979.5	0.0
27.03.2020	S	22.5	2.8	38.2	19.6	28.8	58.7	24.6	35.6	978.4	0.0
28.03.2020	ENE	30.9	2.9	39.5	18.6	28.9	72.0	25.4	42.7	977.0	0.0
29.03.2020	ENE	24.9	3.0	41.2	19.3	30.2	75.2	23.0	41.1	975.9	0.0
30.03.2020	E	62.2	7.2	39.3	19.4	30.2	67.9	24.0	38.1	973.4	0.0
31.03.2020	ESE	49.4	5.3	38.8	22.7	30.7	48.4	22.6	33.4	972.5	0.0

ENVIRONMENTAL LABORATORY

(Accredited by NABL)

ADANI POWER MAHARASHTRA LIMITED, TIRODA

TC-5103

Format No: APML/ENV-LB/7.8/F01

URL: TC519320000001008F

Date: 31.10.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	14.10.2020	Analysis Starting Date :	14.10.2020
Quantity received	1 Ltr / Sample	Sampled by :	Environment Dept. APML
Sample Particulars : Cooling tower blowdown (Waste Water)			
Location of sample : Unit1,Unit-2,Unit-3,Unit-4 & Unit-5.			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results				
					U # 1	U # 2	U # 3	U # 4	U # 5
1	Free Available Chlorine	mg/l	APHA-23rd – 4500-Cl G, DPD Colorimetric Method	0.5	0.2	0.2	0.2	0.1	0.1
2	Phosphate as (PO4)	mg/l	APHA-23rd -4500-P D Stannous Chloride Method	5	2.1	1.9	3.2	3.8	2.9
3	Zinc as (Zn)	mg/l	----	1	BDL	BDL	BDL	BDL	BDL
4	Total Chromium as (Cr)	mg/l	----	0.2	BDL	BDL	BDL	BDL	BDL

End of the Report

Note: Tested results are well within the permissible limits of MPCB.

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Environmental Laboratory TC-5103 Adani Power Maharashtra Limited, Tirora

07/11/20

Authorized Signatory
(Technical Manager)

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URL: TC5193200000001009F	Date: 31.10.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	14.10.2020	Analysis Starting Date	14.10.2020
Quantity received	3 Lit /Sample	Sampled by	Environment Dept. APML
Sample Particulars : Treated Effluent Water			
Location of sample : DM Plant N-Pit , ETP Outlet			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results	
					N-pit	ETP Outlet
1	pH Value	---	APHA-23rd -4500-H+B Electrometric Method	5.5-9.0	7.3	8.1
2	TSS	mg / l	APHA-23rd - 2540 D	100.0	29	31
3	TDS	mg / l	APHA-23rd - 2540 C	2100.0	365	267
4	COD	mg / l	APHA-23rd Ed 2017-5220B Open Reflux Method	250.0	48	60
5	BOD at 27°C for 3 days	mg / l	IS: 3025 (P-44)-1993 R-1999 Ad.1 BOD 3-days at 27 °C	30.0	22	18
6	Oil & Grease	mg / l	APHA-23rd Ed 2017-5520 B Liquid Liquid Partition Gravemetric method	10.0	BDL	2.2

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4. # Indicates this parameter is not covered in our NABL scope

07/11/20

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Format No: APML/ENV-LB/7.8/F01

URL: TC519320000001011F	Date: 31.10.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	14.10.2020	Analysis Starting Date	14.10.2020
Quantity received	3 Lit /Sample	Sampled by	Environment Dept.
Sample Particulars : Treated Waste Water			
Location of sample : STP -1 & 2 Out Let			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results	
					STP-1	STP-2
1	TSS	mg / l	APHA-23rd - 2540 D	50	16	21
2	COD	mg / l	APHA-23rd Ed 2017-5220B Open Reflux Method	100	30	50
3	BOD at 27°C for 3 days	mg / l	IS: 3025 (P-44)-1993 R-1999 Ad.1 BOD 3-days at 27 °C	30	18	16

End of the Report

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ENVIRONMENTAL LABORATORY
(Accredited by NABL)

ADANI POWER MAHARASHTRA LIMITED, TIRODA

TC-5193

Format No: APML/ENV-LB/7.8/F01

URL NO :TC519320000001007F

Date: 31.10.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	14.10.2020	Analysis Starting Date :	14.10.2020
Quantity received	1 Ltr / Sample	Sampled by :	Environment Dept. APML
Sample Particulars : Condenser Cooling Water (Waste Water)			
Location of sample : Unit1,Unit-2,Unit-3,Unit-4 & Unit-5			

TEST REPORT

Sr no	Parameter	Unit	Test Methods	MPCB Standards	Results				
					U # 1	U # 2	U # 3	U # 4	U # 5
1	pH Value	---	APHA-23rd - 4500-H+B Electrometric Method	6.5-8.5	8.1	7.5	7.8	7.6	8.2
2	Temperature	Deg C	APHA-23rd - 2550 B	Not to exceed 5°C than that of intake water	32.0	34.0	33.0	31.0	31.0
3	Free Available Chlorine	PPM	APHA-23rd – 4500-Cl G, DPD Colorimetric Method	0.5	0.3	0.3	0.3	0.2	0.2

End of the Report

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Format No: APML/ENV-LB/7.8/F01

TC519320000001030F	Date: 10.10.2020
Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -3
2	Date of Sampling	:	08.10.2020
3	Time of Sampling	:	10:50 AM
4	Load (MW)	:	630
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	123
9	Flue Gas Velocity (M/sec)	:	22.75
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2550840

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results *
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	35.0
2	SO_2	IS 11255 (Part 2) 1985	1292	Mg/Nm^3	960.4
			80.2	TPD	55.8
3	NOx	IS 11255 (Part 7) 2005	300	Mg/Nm^3	288.9

** Results are corrected with 6% oxygen*

End of the Report

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ADANI POWER MAHARASHTRA LIMITED, TIRODA

TC-5193

Format No: APML/ENV-LB/7.8/F01

TC519320000001028F	Date: 10.10.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -1
2	Date of Sampling	:	08.10.2020
3	Time of Sampling	:	12:10 PM
4	Load (MW)	:	580
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	126
9	Flue Gas Velocity (M/sec)	:	22.98
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2557101

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results *
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	43.5
2	SO_2	IS 11255 (Part 2) 1985	1210	Mg/Nm^3	954.9
			75.2	TPD	55.3
3	NOx	IS 11255 (Part 7) 2005	300	Mg/Nm^3	276.6

** Results are corrected with 6% oxygen*

End of the Report

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Format No: APML/ENV-LB/7.8/F01

TC519320000001029F	Date: 10.10.2020
Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -2
2	Date of Sampling	:	08.10.2020
3	Time of Sampling	:	11:25 AM
4	Load (MW)	:	630
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	126
9	Flue Gas Velocity (M/sec)	:	23.49
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2613247

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results *
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	37.3
2	SO_2	IS 11255 (Part 2) 1985	1210	Mg/Nm^3	965.1
			75.2	TPD	57.8
3	NOx	IS 11255 (Part 7) 2005	300	Mg/Nm^3	285.8

** Results are corrected with 6% oxygen*

End of the Report

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Format No: APML/ENV-LB/7.8/F01

TC519320000001031F	Date: 24.10.2020

TEST REPORT

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -4
2	Date of Sampling	:	22.10.2020
3	Time of Sampling	:	11:30 AM
4	Load (MW)	:	366
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	121
9	Flue Gas Velocity (M/sec)	:	22.52
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2537442

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	39
2	SO_2	IS 11255 (Part 2) 1985	---	Mg/Nm^3	966
			80.2	TPD	58.8
3	NOx	IS 11255 (Part 7) 2005	---	Mg/Nm^3	294

** Results are corrected with 6% oxygen*

End of the Report

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07/11/20

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Format No: APML/ENV-LB/7.8/F01

TC519320000001032F	Date: 24.10.2020

TEST REPORT

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -5
2	Date of Sampling	:	22.10.2020
3	Time of Sampling	:	12:10 PM
4	Load (MW)	:	360
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	120
9	Flue Gas Velocity (M/sec)	:	22.43
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2533526

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	41
2	SO_2	IS 11255 (Part 2) 1985	---	Mg/Nm^3	953
			80.2	TPD	57.9
3	NOx	IS 11255 (Part 7) 2005	---	Mg/Nm^3	293

** Results are corrected with 6% oxygen*

End of the Report

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ADANI POWER MAHARASHTRA LIMITED, TIRODA

TC-5193

Format No: APML/ENV-LB/7.8/F01

URL No : TC519320000001001F

Date 31.10.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Ambient Air Quality (Plant)
Sample Collected by :	Environment Dept. APML

Test Report

Station	Sampling Location	Sampling Date	Analysis Starting Date	Parameters			
				PM 10	PM 2.5	SO2	NOx
				µg/m3	µg/m3	µg/m3	µg/m3
AAQ 1	Near AWRS	05.10.2020	06.10.2020	73.6	26.5	10.0	22.2
		09.10.2020	10.10.2020	68.9	22.0	13.3	20.4
		12.10.2020	13.10.2020	57.0	31.3	15.1	19.2
		16.10.2020	17.10.2020	63.0	26.7	14.1	16.2
		19.10.2020	20.10.2020	60.0	29.2	13.9	19.8
		23.10.2020	24.10.2020	51.3	15.3	10.4	18.0
		26.10.2020	27.10.2020	62.9	21.9	12.3	23.5
		30.10.2020	31.10.2020	60.7	28.8	11.4	21.6
AAQ 2	Near Brick Plant	05.10.2020	06.10.2020	50.3	33.8	13.7	24.7
		09.10.2020	10.10.2020	48.3	28.7	12.3	19.8
		12.10.2020	13.10.2020	65.9	31.9	14.5	20.4
		16.10.2020	17.10.2020	50.1	22.8	15.5	22.8
		19.10.2020	20.10.2020	49.9	25.1	11.9	17.4
		23.10.2020	24.10.2020	60.6	30.8	17.2	30.7
		26.10.2020	27.10.2020	54.7	21.9	14.9	21.0
		30.10.2020	31.10.2020	58.1	27.2	16.6	22.2
AAQ 3	China Colony	05.10.2020	06.10.2020	63.7	30.2	7.0	12.0
		09.10.2020	10.10.2020	68.8	26.7	12.1	17.4
		12.10.2020	13.10.2020	59.3	18.4	14.1	23.5
		16.10.2020	17.10.2020	44.3	22.4	10.8	16.2
		19.10.2020	20.10.2020	57.8	29.3	14.1	21.0
		23.10.2020	24.10.2020	61.2	20.1	12.9	20.4
		26.10.2020	27.10.2020	60.7	21.9	10.0	16.8
		30.10.2020	31.10.2020	49.8	19.2	11.2	17.4
NAAQMS Standard				100	60	80	80

End of the Report

Note: Tested results are well within the permissible limits of National Ambient Air Quality Monitoring Stanadard (NAAQMS)

1. The report is referring only to the tested sample and for applicable parameter.
2. This report is not to be reproducing wholly or in part, and can't be used as evidence in court of law.

07/11/20

Authorized Signatory
(Technical Manager)

Plot No. A-1,Tiroda Growth Centre, M.I.D.C., Dist: Gondia - 441911, Maharashtra, India
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Format No: APML/ENV-LB/7.8/F01

URL No. : URLTC519320000001023F Date: 31.10.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Ambient Noise Level (Plant)
Sample Collected by :	Environment Dept. APML
Date of Sampling:	17.10.2020

Test Report

S. No	Locations	Day Time in dB (A) (6.00 a.m. to 10.00 p.m.)	Night Time in dB (A) (10.00 p.m. to 06.00 a.m.)
1	Near Shanti Niketan I II & III	41.7	38.5
2	Near Labour Hutment	62.6	57.2
3	Near Store Area	64.9	55.4
4	Gate No.1	61.5	58.7
5	Gate No.2	56.1	49.9
6	Gate No.3	63.7	52.2
7	Near OHC	63.2	57.5
8	Railway Siding	67.7	59.7
9	Near Reservoir 2	56.1	46.8
10	Near Ash Water Recovery Pump House	62.9	52.2
11	In China Colony	40.9	37.7
CPCB Standards (Industrial Area)		75	70

*** End Of the Report***

Note: Tested results are well within the permissible limits of MPCB / CPCB.

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07/11/20

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Format No: APML/ENV-LB/7.8/F01

TC519320000001132F	Date: 28.11.2020

TEST REPORT

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -5
2	Date of Sampling	:	26.11.2020
3	Time of Sampling	:	12:10 PM
4	Load (MW)	:	640
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	121
9	Flue Gas Velocity (M/sec)	:	23.06
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2598899

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	38
2	SO_2	IS 11255 (Part 2) 1985	---	Mg/Nm^3	974
			80.2	TPD	60.7
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	275

** Results are corrected with 6% oxygen*

End of the Report

Note: Tested results are well within the permissible limits of MPCB.

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31/12/20

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(Technical Manager)

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Website:www.adani.com

Format No: APML/ENV-LB/7.8/F01

TC519320000001131F	Date: 28.11.2020

TEST REPORT

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -4
2	Date of Sampling	:	26.11.2020
3	Time of Sampling	:	4:50 PM
4	Load (MW)	:	645
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	124
9	Flue Gas Velocity (M/sec)	:	23.02
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2574704

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	44
2	SO_2	IS 11255 (Part 2) 1985	---	Mg/Nm^3	972
			80.2	TPD	60.1
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	293

* *Results are corrected with 6% oxygen*

End of the Report

Note: Tested results are well within the permissible limits of MPCB.

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Environmental Laboratory TC-5193 Adani Power Maharashtra Limited, Tiroda

01/12/20

Authorized Signatory
(Technical Manager)

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ENVIRONMENTAL LABORATORY

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TC-5193

ADANI POWER MAHARASHTRA LIMITED, TIRODA

Format No: APML/ENV-LB/7.8/F01

TC519320000001130F	Date: 21.11.2020
Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -3
2	Date of Sampling	:	19.11.2020
3	Time of Sampling	:	4:50 PM
4	Load (MW)	:	654
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	126
9	Flue Gas Velocity (M/sec)	:	23.21
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2582103

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results *
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	43.7
2	SO_2	IS 11255 (Part 2) 1985	1292	Mg/Nm^3	967.1
			80.2	TPD	56.2
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	287.9

** Results are corrected with 6% oxygen*

End of the Report

Note: Tested results are well within the permissible limits of MPCB.

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Authorized Signatory
(Technical Manager)

Page 1 of 1

Format No: APML/ENV-LB/7.8/F01

TC519320000001129F	Date: 21.11.2020
Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -2
2	Date of Sampling	:	19.11.2020
3	Time of Sampling	:	4:15 PM
4	Load (MW)	:	657
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	126
9	Flue Gas Velocity (M/sec)	:	23.05
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2564998

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results *
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	39.1
2	SO_2	IS 11255 (Part 2) 1985	1210	Mg/Nm^3	957.6
			75.2	TPD	56.0
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	290.1

** Results are corrected with 6% oxygen*

End of the Report

Note: Tested results are well within the permissible limits of MPCB.

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01/12/20

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Format No: APML/ENV-LB/7.8/F01

TC519320000001128F	Date: 21.11.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -1
2	Date of Sampling	:	19.11.2020
3	Time of Sampling	:	3:40 PM
4	Load (MW)	:	610
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	128
9	Flue Gas Velocity (M/sec)	:	23.45
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2595800

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results *
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	42.0
2	SO_2	IS 11255 (Part 2) 1985	1210	Mg/Nm^3	962.9
			75.2	TPD	57.3
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	280.6

** Results are corrected with 6% oxygen*

End of the Report

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Environmental Laboratory * TC - 5193 * Adani Power Maharashtra Limited, Tiroda

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ADANI POWER MAHARASHTRA LIMITED, TIRODA

TC-5193

Format No: APML/ENV-LB/7.8/F01

URL No : TC519320000001101F

Date 01.12.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Ambient Air Quality (Plant)
Sample Collected by :	Environment Dept. APML

Test Report

Station	Sampling Location	Sampling Date	Analysis Starting Date	Parameters			
				PM 10	PM 2.5	SO2	NOx
				µg/m3	µg/m3	µg/m3	µg/m3
AAQ 1	Near AWRS	02.11.2020	03.11.2020	69.2	32.6	14.7	29.5
		06.11.2020	07.11.2020	55.5	22.6	11.0	19.8
		09.11.2020	10.11.2020	67.5	26.7	15.9	27.1
		13.11.2020	14.11.2020	70.8	36.6	7.8	21.0
		17.11.2020	18.11.2020	65.6	33.5	9.4	16.8
		20.11.2020	21.11.2020	61.7	34.3	13.1	25.9
		23.11.2020	24.11.2020	51.9	25.9	12.5	30.1
		27.11.2020	28.11.2020	46.3	26.4	10.4	20.4
		30.11.2020	01.12.2020	59.7	25.7	15.1	25.3
AAQ 2	Near Brick Plant	02.11.2020	03.11.2020	45.6	15.7	9.6	19.8
		06.11.2020	07.11.2020	60.2	24.1	11.0	23.5
		09.11.2020	10.11.2020	53.0	10.2	10.6	22.2
		13.11.2020	14.11.2020	69.4	34.5	13.1	29.5
		17.11.2020	18.11.2020	67.6	30.3	10.6	22.2
		20.11.2020	21.11.2020	56.4	21.7	12.1	26.5
		23.11.2020	24.11.2020	42.6	25.7	11.2	27.7
		27.11.2020	28.11.2020	41.9	23.0	13.3	29.5
		30.11.2020	01.12.2020	48.6	17.0	14.1	24.1
AAQ 3	China Colony	02.11.2020	03.11.2020	62.1	25.0	12.5	22.2
		06.11.2020	07.11.2020	66.0	26.2	13.7	25.9
		09.11.2020	10.11.2020	78.8	30.3	15.1	19.2
		13.11.2020	14.11.2020	63.5	28.6	14.1	21.6
		17.11.2020	18.11.2020	67.7	31.7	16.8	28.9
		20.11.2020	21.11.2020	55.6	23.1	15.3	30.7
		23.11.2020	24.11.2020	54.0	24.3	17.0	31.3
		27.11.2020	28.11.2020	79.2	35.9	13.9	30.1
		30.11.2020	01.12.2020	67.7	28.9	14.9	29.5
NAAQMS Standard				100	60	80	80

End of the Report

Note: Tested results are well within the permissible limits of National Ambient Air Quality Monitoring Stanadard (NAAQMS)

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Environmental Laboratory TC-5193 Adani Power Maharashtra Limited, Tiroda

01/12/20

Authorized Signatory
(Technical Manager)

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Format No: APML/ENV-LB/7.8/F01

URL: TC519320000001106F	Date: 30.11.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	04.11.2020	Analysis Starting Date	04.11.2020
Quantity received	3 Lit /Sample	Sampled by	Environment Dept.
Sample Particulars : Treated Waste Water			
Location of sample : STP -1 & 2 Out Let			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results	
					STP-1	STP-2
1	TSS	mg / l	APHA-23rd - 2540 D	50	17	31
2	COD	mg / l	APHA-23rd Ed 2017-5220B Open Reflux Method	100	28	48
3	BOD at 27°C for 3 days	mg / l	IS: 3025 (P-44)-1993 R-1999 Ad.1 BOD 3-days at 27 °C	30	12	19

End of the Report

Note: Tested results are well within the permissible limits of MPCB.

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4. # Indicates this parameter is not covered in our NABL scope

Environmental Laboratory TC-5193 Adani Power Maharashtra Limited, Tiroda

01/12/20

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Format No: APML/ENV-LB/7.8/F01

URL: TC519320000001104F	Date: 30.11.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	04.11.2020	Analysis Starting Date	04.11.2020
Quantity received	3 Lit /Sample	Sampled by	Environment Dept. APML
Sample Particulars : Treated Effluent Water			
Location of sample : DM Plant N-Pit , ETP Outlet			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results	
					N-pit	ETP Outlet
1	pH Value	---	APHA-23rd -4500-H+B Electrometric Method	5.5-9.0	7.7	8.2
2	TSS	mg / l	APHA-23rd - 2540 D	100.0	33	32
3	TDS	mg / l	APHA-23rd - 2540 C	2100.0	367	275
4	COD	mg / l	APHA-23rd Ed 2017-5220B Open Reflux Method	250.0	45	28
5	BOD at 27°C for 3 days	mg / l	IS, 3025 (P-44)-1993 R-1999 Ad.1 BOD 3-days at 27 °C	30.0	23	12
6	Oil & Grease	mg / l	APHA-23rd Ed 2017-5520 B Liquid Liquid Partition Gravemetric method	10.0	BDL	2.6

End of the Report

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Environmental Laboratory * TC - 5193 * Adani Power Maharashtra Limited, Tiroda

01/12/20

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TC-5193

Format No: APML/ENV-LB/7.8/F01

URL: TC519320000001103F

Date: 30.11.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	04.11.2020	Analysis Starting Date :	04.11.2020
Quantity received	1 Ltr / Sample	Sampled by :	Environment Dept. APML
Sample Particulars : Cooling tower blowdown (Waste Water)			
Location of sample : Unit1,Unit-2,Unit-3,Unit-4 & Unit-5.			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results				
					U # 1	U # 2	U # 3	U # 4	U # 5
1	Free Available Chlorine	mg/l	APHA-23rd – 4500-Cl G, DPD Colorimetric Method	0.5	0.1	0.1	0.1	0.2	0.2
2	Phosphate as (PO4)	mg/l	APHA-23rd -4500-P D Stannous Chloride Method	5	2.5	2.7	1.9	1.8	1.6
3	Zinc as (Zn)	mg/l	----	1	BDL	BDL	BDL	BDL	BDL
4	Total Chromium as (Cr)	mg/l	----	0.2	BDL	BDL	BDL	BDL	BDL

End of the Report

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Environmental Laboratory TC-5193 Adani Power Maharashtra Limited, Tiroda

01/12/20

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ADANI POWER MAHARASHTRA LIMITED, TIRODA

TC-5193

Format No: APML/ENV-LB/7.8/F01

URL NO :TC519320000001102F

Date: 30.11.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	04.11.2020	Analysis Starting Date :	04.11.2020
Quantity received	1 Ltr / Sample	Sampled by :	Environment Dept. APML
Sample Particulars : Condenser Cooling Water (Waste Water)			
Location of sample : Unit1,Unit-2,Unit-3,Unit-4 & Unit-5			

TEST REPORT

Sr no	Parameter	Unit	Test Methods	MPCB Standards	Results				
					U # 1	U # 2	U # 3	U # 4	U # 5
1	pH Value	---	APHA-23rd - 4500-H+B Electrometric Method	6.5-8.5	8.1	7.5	7.8	7.6	8.2
2	Temperature	Deg C	APHA-23rd - 2550 B	Not to exceed 5°C than that of intake water	32.0	34.0	33.0	31.0	31.0
3	Free Available Chlorine	PPM	APHA-23rd – 4500-Cl G, DPD Colorimetric Method	0.5	0.1	0.1	0.1	0.3	0.3

End of the Report

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Environmental Laboratory TC - 5193 Adani Power Maharashtra Limited

01/12/20

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ENVIRONMENTAL LABORATORY

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TC-5193

ADANI POWER MAHARASHTRA LIMITED, TIRODA

Format No: APML/ENV-LB/7.8/F01

URL No. : TC519320000001123F

Date: 30.11.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Ambient Noise Level (Plant)
Sample Collected by :	Environment Dept. APML
Date of Sampling:	17.11.2020

Test Report

S. No	Locations	Day Time in dB (A) (6.00 a.m. to 10.00 p.m.)	Night Time in dB (A) (10.00 p.m. to 06.00 a.m.)
1	Near Shanti Niketan I II & III	55.6	50.2
2	Near Labour Hutment	68.7	61.2
3	Near Store Area	67.2	58.8
4	Gate No.1	58.2	51.1
5	Gate No.2	67.0	47.8
6	Gate No.3	66.1	51.1
7	Near OHC	56.0	50.8
8	Railway Siding	65.9	61.2
9	Near Reservoir 2	66.3	49.9
10	Near Ash Water Recovery Pump House	59.5	51.2
11	In China Colony	47.2	45.5
CPCB Standards (Industrial Area)		75	70

*** End Of the Report***

Note: Tested results are well within the permissible limits of MPCB / CPCB.

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Environmental Laboratory TC - 5193 Adani Power Maharashtra Limited, Tiroda

07/12/20

Authorized Signatory
(Technical Manager)

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Format No: APML/ENV-LB/7.8/F01

TC519320000001233F	Date: 19.12.2020
Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -1
2	Date of Sampling	:	15.12.2020
3	Time of Sampling	:	11:30 AM
4	Load (MW)	:	610
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	123
9	Flue Gas Velocity (M/sec)	:	23.34
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2616263

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results *
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	38.5
2	SO_2	IS 11255 (Part 2) 1985	1210	Mg/Nm^3	963.0
			75.2	TPD	57.4
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	292.6

** Results are corrected with 6% oxygen*

End of the Report

Note: Tested results are well within the permissible limits of MPCB.

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Authorized Signatory
(Technical Manager)

29/12/20

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Format No: APML/ENV-LB/7.8/F01

TC519320000001234F	Date: 26.12.2020
Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -2
2	Date of Sampling	:	23.12.2020
3	Time of Sampling	:	3:00 PM
4	Load (MW)	:	649
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	122
9	Flue Gas Velocity (M/sec)	:	23.23
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2610842

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results *
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	43.3
2	SO_2	IS 11255 (Part 2) 1985	1210	Mg/Nm^3	956.3
			75.2	TPD	57.2
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	280.5

** Results are corrected with 6% oxygen*

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01/01/21

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(Technical Manager)

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TC519320000001235F	Date: 26.12.2020
Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -3
2	Date of Sampling	:	23.12.2020
3	Time of Sampling	:	3:40 PM
4	Load (MW)	:	645
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	121
9	Flue Gas Velocity (M/sec)	:	23.88
10	Flow of Exit Gas at NTP (NM^3/Hr) :		2691363

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results *
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	41.3
2	SO_2	IS 11255 (Part 2) 1985	1292	Mg/Nm^3	962.6
			80.2	TPD	59.0
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	278.0

** Results are corrected with 6% oxygen*

End of the Report

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01/01/21

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(Technical Manager)

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Format No: APML/ENV-LB/7.8/F01

TC519320000001231F	Date: 12.12.2020

TEST REPORT

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -4
2	Date of Sampling	:	10.12.2020
3	Time of Sampling	:	12:25 PM
4	Load (MW)	:	420
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	122
9	Flue Gas Velocity (M/sec)	:	22.25
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2500331

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	37
2	SO_2	IS 11255 (Part 2) 1985	---	Mg/Nm^3	958
			80.2	TPD	57.5
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	289

** Results are corrected with 6% oxygen*

End of the Report

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15/12/20

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Format No: APML/ENV-LB/7.8/F01

TC519320000001232F	Date: 12.12.2020
TEST REPORT	
Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -5
2	Date of Sampling	:	10.12.2020
3	Time of Sampling	:	11:50 AM
4	Load (MW)	:	422
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	125
9	Flue Gas Velocity (M/sec)	:	22.57
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2517562

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	39.0
2	SO_2	IS 11255 (Part 2) 1985	---	Mg/Nm^3	968
			80.2	TPD	58.5
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	283

** Results are corrected with 6% oxygen*

End of the Report

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15/12/20

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URL No : TC519320000001201F

Date 31.12.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Ambient Air Quality (Plant)
Sample Collected by :	Environment Dept. APML

Test Report

Station	Sampling Location	Sampling Date	Analysis Starting Date	Parameters			
				PM 10	PM 2.5	SO2	NOx
				µg/m3	µg/m3	µg/m3	µg/m3
AAQ 1	Near AWRS	04.12.2020	05.12.2020	59.6	32.4	14.5	28.9
		07.12.2020	08.12.2020	63.5	39.3	11.0	20.4
		11.12.2020	12.12.2020	79.5	31.6	16.2	27.7
		14.12.2020	15.12.2020	71.9	28.0	8.2	22.2
		18.12.2020	19.12.2020	85.1	32.3	9.8	18.0
		21.12.2020	22.12.2020	67.4	28.3	12.9	25.9
		25.12.2020	26.12.2020	81.9	50.2	12.3	29.5
		28.12.2020	27.12.2020	71.0	25.3	10.0	19.2
AAQ 2	Near Brick Plant	04.12.2020	05.12.2020	62.6	18.1	10.4	22.2
		07.12.2020	08.12.2020	64.4	29.3	11.4	18.6
		11.12.2020	12.12.2020	58.4	22.2	12.3	27.1
		14.12.2020	15.12.2020	50.7	27.5	14.1	22.8
		18.12.2020	19.12.2020	58.2	15.2	11.4	24.7
		21.12.2020	22.12.2020	48.7	14.4	12.1	23.5
		25.12.2020	26.12.2020	55.7	17.2	11.9	21.0
		28.12.2020	27.12.2020	43.6	27.0	13.1	28.3
AAQ 3	China Colony	04.12.2020	05.12.2020	66.2	27.9	13.7	24.7
		07.12.2020	08.12.2020	59.7	26.4	11.9	22.8
		11.12.2020	12.12.2020	67.4	35.6	14.1	24.1
		14.12.2020	15.12.2020	70.3	36.3	16.4	30.7
		18.12.2020	19.12.2020	61.9	38.1	17.6	28.9
		21.12.2020	22.12.2020	57.1	35.6	15.7	28.9
		25.12.2020	26.12.2020	51.0	23.9	15.9	27.1
		28.12.2020	27.12.2020	58.1	25.9	17.8	30.1
NAAQMS Standard				100	60	80	80

End of the Report

Note: Tested results are well within the permissible limits of National Ambient Air Quality Monitoring Stanadard (NAAQMS)

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31/12/20

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(Technical Manager)

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Format No: APML/ENV-LB/7.8/F01

URL: TC519320000001209F	Date: 31.12.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	09.12.2020	Analysis Starting Date	09.12.2020
Quantity received	3 Lit /Sample	Sampled by	Environment Dept.
Sample Particulars : Treated Waste Water			
Location of sample : STP -1 & 2 Out Let			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results	
					STP-1	STP-2
1	TSS	mg / l	APHA-23rd - 2540 D	50	19	24
2	COD	mg / l	APHA-23rd Ed 2017-5220B Open Reflux Method	100	30	50
3	BOD at 27°C for 3 days	mg / l	IS: 3025 (P-44)-1993 R-1999 Ad.1 BOD 3-days at 27 °C	30	14	12

End of the Report

Note: Tested results are well within the permissible limits of MPCB.

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4. # Indicates this parameter is not covered in our NABL scope

Environmental Laboratory TC-5193 Adani Power Maharashtra Limited, Tiroda

31/12/20

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TC-5193

ADANI POWER MAHARASHTRA LIMITED, TIRODA

Format No: APML/ENV-LB/7.8/F01

URL No. : TC519320000001228F

Date: 31.12.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Ambient Noise Level (Plant)
Sample Collected by :	Environment Dept. APML
Date of Sampling:	19.12.2020

Test Report

S. No	Locations	Day Time in dB (A) (6.00 a.m. to 10.00 p.m.)	Night Time in dB (A) (10.00 p.m. to 06.00 a.m.)
1	Near Shanti Niketan I II & III	61.2	51.8
2	Near Labour Hutment	59.0	50.5
3	Near Store Area	60.2	52.7
4	Gate No.1	61.3	50.7
5	Gate No.2	66.0	52.2
6	Gate No.3	72.0	62.7
7	Near OHC	58.8	48.8
8	Railway Siding	73.0	62.0
9	Near Reservoir 2	54.3	48.7
10	Near Ash Water Recovery Pump House	56.2	45.5
11	In China Colony	40.4	38.7
CPCB Standards (Industrial Area)		75	70

*** End Of the Report***

Note: Tested results are well within the permissible limits of MPCB / CPCB.

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31/12/20

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ADANI POWER MAHARASHTRA LIMITED, TIRODA

TC-5193

Format No: APML/ENV-LB/7.8/F01

URL NO :TC519320000001205F

Date: 31.12.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	09.12.2020	Analysis Starting Date :	09.12.2020
Quantity received	1 Ltr / Sample	Sampled by :	Environment Dept. APML
Sample Particulars : Condenser Cooling Water (Waste Water)			
Location of sample : Unit1,Unit-2,Unit-3,Unit-4 & Unit-5			

TEST REPORT

Sr no	Parameter	Unit	Test Methods	MPCB Standards	Results				
					U # 1	U # 2	U # 3	U # 4	U # 5
1	pH Value	---	APHA-23rd - 4500-H+B Electrometric Method	6.5-8.5	7.9	7.8	8.2	8.1	8.4
2	Temperature	Deg C	APHA-23rd - 2550 B	Not to exceed 5°C than that of intake water	30.0	31.0	33.0	31.0	32.0
3	Free Available Chlorine	PPM	APHA-23rd – 4500-Cl G, DPD Colorimetric Method	0.5	0.4	0.4	0.4	0.2	0.2

End of the Report

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Authorized Signatory 31/12/20
(Technical Manager)

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TC-5193

Format No: APML/ENV-LB/7.8/F01

URL: TC519320000001233F Date: 31.12.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	16.12.2020	Analysis Starting Date :	16.12.2020
Quantity received	1 Ltr / Sample	Sampled by :	Environment Dept. APML
Sample Particulars : Boiler blowdown (Waste Water)			
Location of sample : Unit-4 & Unit-5			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results	
					U # 4	U # 5
1	TSS	mg / l	APHA-22nd - 2540 D	100	4.0	7.0
2	Oil & Grease	mg / l	APHA-22nd Ed 2012- 5520 B Liquid Liquid Partition Gravemetric method	10	BDL	BDL
3	Copper (Total)	mg/l	—	1	BDL	BDL
4	Iron (Total)	mg/l	APHA-22nd-3500-Fe-B	1	BDL	BDL

End of the Report

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31/12/20

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TC-5193

Format No: APML/ENV-LB/7.8/F01

URL: TC519320000001206F

Date: 31.12.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	09.12.2020	Analysis Starting Date :	09.12.2020
Quantity received	1 Ltr / Sample	Sampled by :	Environment Dept. APML
Sample Particulars : Cooling tower blowdown (Waste Water)			
Location of sample : Unit1,Unit-2,Unit-3,Unit-4 & Unit-5.			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results				
					U # 1	U # 2	U # 3	U # 4	U # 5
1	Free Available Chlorine	mg/l	APHA-23rd – 4500-Cl G, DPD Colorimetric Method	0.5	0.3	0.3	0.3	0.1	0.1
2	Phosphate as (PO4)	mg/l	APHA-23rd -4500-P D Stannous Chloride Method	5	2.2	2.9	2.5	1.5	1.8
3	Zinc as (Zn)	mg/l	----	1	BDL	BDL	BDL	BDL	BDL
4	Total Chromium as (Cr)	mg/l	----	0.2	BDL	BDL	BDL	BDL	BDL

End of the Report

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ADANI POWER MAHARASHTRA LIMITED, TIRODA

TC-5193

Format No: APML/ENV-LB/7.8/F01

URL: TC519320000001207F	Date: 31.12.2020

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	09.12.2020	Analysis Starting Date	09.12.2020
Quantity received	3 Lit /Sample	Sampled by	Environment Dept. APML
Sample Particulars : Treated Effluent Water			
Location of sample : DM Plant N-Pit , ETP Outlet			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results	
					N-pit	ETP Outlet
1	pH Value	---	APHA-23rd -4500-H+B Electrometric Method	5.5-9.0	8.1	7.8
2	TSS	mg / l	APHA-23rd - 2540 D	100.0	32	28
3	TDS	mg / l	APHA-23rd - 2540 C	2100.0	271	280
4	COD	mg / l	APHA-23rd Ed 2017-5220B Open Reflux Method	250.0	58	48
5	BOD at 27^0C for 3 days	mg / l	IS: 3025 (P-44)-1993 R-1999 Ad.1 BOD 3-days at 27 °C	30.0	12	16
6	Oil & Grease	mg / l	APHA-23rd Ed 2017-5520 B Liquid Liquid Partition Gravemetric method	10.0	BDL	2.2

End of the Report

Note: Tested results are well within the permissible limits of MPCB.

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4. # Indicates this parameter is not covered in our NABL scope

31/12/20

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Format No: APML/ENV-LB/7.8/F01

TC519321000000132F	Date: 24.01.2021
Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -1
2	Date of Sampling	:	22.01.2021
3	Time of Sampling	:	3:35 PM
4	Load (MW)	:	542
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	127
9	Flue Gas Velocity (M/sec)	:	23.48
10	Flow of Exit Gas at NTP (NM^3/Hr) :		2605883

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results *
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	40.6
2	SO_2#	IS 11255 (Part 2) 1985	200	Mg/Nm^3	956.0
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	400.2

** Results are corrected with 6% oxygen*

End of the Report

Note: Tested results are well within the permissible limits of MPCB.

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4 # As per MoEF&CC Notification the SO2 Limit will be applicable after installation of FGD (March 2023-March 2024)

31/01/21

Authorized Signatory
(Technical Manager)

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Format No: APML/ENV-LB/7.8/F01

TC519321000000130F	Date: 16.01.2021
Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -2
2	Date of Sampling	:	14.01.2021
3	Time of Sampling	:	11:57 AM
4	Load (MW)	:	654
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	122
9	Flue Gas Velocity (M/sec)	:	22.91
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2574688

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results *
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	38.3
2	SO_2	IS 11255 (Part 2) 1985	200	Mg/Nm^3	965.0
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	410.1

** Results are corrected with 6% oxygen*

End of the Report

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16/01/21

Authorized Signatory
(Technical Manager)

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Format No: APML/ENV-LB/7.8/F01

TC519321000000131F	Date: 16.01.2021
Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -3
2	Date of Sampling	:	14.01.2021
3	Time of Sampling	:	3:40 PM
4	Load (MW)	:	656
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	123
9	Flue Gas Velocity (M/sec)	:	24.24
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2717842

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results *
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	42.9
2	SO_2	IS 11255 (Part 2) 1985	200	Mg/Nm^3	995.7
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	405.6

** Results are corrected with 6% oxygen*

End of the Report

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4 # As per MoEF&CC Notification the SO2 Limit will be applicable after installation of FGD (March 2023-March 2024)

Authorized Signatory
(Technical Manager)

Page 1 of 1

Format No: APML/ENV-LB/7.8/F01

TC519321000000133F	Date: 24.01.2021

TEST REPORT

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -4
2	Date of Sampling	:	22.01.2021
3	Time of Sampling	:	12:30 PM
4	Load (MW)	:	485
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	124
9	Flue Gas Velocity (M/sec)	:	23.05
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2577953

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	44
2	SO_2	IS 11255 (Part 2) 1985	200	Mg/Nm^3	977
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	396

** Results are corrected with 6% oxygen*

End of the Report

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31/01/21

Authorized Signatory
(Technical Manager)

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ADANI POWER MAHARASHTRA LIMITED, TIRODA

TC-5193

Format No: APML/ENV-LB/7.8/F01

URL No : TC519321000000101F

Date 31.01.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Ambient Air Quality (Plant)
Sample Collected by :	Environment Dept. APML

Test Report

Station	Sampling Location	Sampling Date	Analysis Starting Date	Parameters			
				PM 10	PM 2.5	SO2	NOx
				µg/m3	µg/m3	µg/m3	µg/m3
AAQ 1	Near AWRS	01.01.2021	02.01.2021	65.7	24.1	15.9	29.5
		04.01.2021	05.01.2021	48.7	22.3	14.1	23.5
		08.01.2021	09.01.2021	69.5	19.6	17.8	25.3
		11.01.2021	10.01.2021	46.3	16.3	15.9	29.5
		15.01.2021	16.01.2021	67.3	27.9	13.9	18.0
		18.01.2021	19.01.2021	51.8	28.0	11.9	19.8
		22.01.2021	23.01.2021	59.2	18.6	10.4	26.5
		28.01.2021	29.01.2021	57.7	26.3	13.9	21.0
		29.01.2021	30.01.2021	56.0	25.1	11.0	19.2
AAQ 2	Near Brick Plant	01.01.2021	02.01.2021	52.9	15.9	10.6	16.2
		04.01.2021	05.01.2021	60.8	25.8	12.3	18.0
		08.01.2021	09.01.2021	46.8	22.8	11.9	21.0
		11.01.2021	10.01.2021	49.7	21.9	17.6	34.3
		15.01.2021	16.01.2021	59.4	18.4	13.3	20.4
		18.01.2021	19.01.2021	50.3	19.6	13.5	21.6
		22.01.2021	23.01.2021	56.2	24.3	13.7	18.0
		28.01.2021	29.01.2021	55.1	27.9	11.9	18.6
		29.01.2021	30.01.2021	59.5	16.9	15.3	19.8
AAQ 3	China Colony	01.01.2021	02.01.2021	62.7	24.5	17.6	24.1
		04.01.2021	05.01.2021	65.6	18.3	16.2	39.1
		08.01.2021	09.01.2021	59.1	21.0	12.5	24.7
		11.01.2021	10.01.2021	57.1	26.3	16.6	29.5
		15.01.2021	16.01.2021	55.7	22.4	11.4	16.2
		18.01.2021	19.01.2021	62.0	24.8	15.3	21.6
		22.01.2021	23.01.2021	70.0	21.4	12.9	23.5
		28.01.2021	29.01.2021	52.5	22.8	13.7	28.3
		29.01.2021	30.01.2021	58.7	18.0	14.9	27.7
NAAQMS Standard				100	60	80	80

End of the Report

Note: Tested results are well within the permissible limits of National Ambient Air Quality Monitoring Stanadard (NAAQMS)

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31/01/21

Authorized Signatory
(Technical Manager)

Page 1 of 1

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Format No: APML/ENV-LB/7.8/F01

URL No. : TC519321000000123F

Date: 31.01.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Ambient Noise Level (Plant)
Sample Collected by :	Environment Dept. APML
Date of Sampling:	16.01.2021

Test Report

S. No	Locations	Day Time in dB (A) (6.00 a.m. to 10.00 p.m.)	Night Time in dB (A) (10.00 p.m. to 06.00 a.m.)
1	Near Shanti Niketan I II & III	60.7	49.5
2	Near Labour Hutment	62.6	52.7
3	Near Store Area	68.5	51.1
4	Gate No.1	58.5	48.2
5	Gate No.2	67.6	45.5
6	Gate No.3	72.8	61.7
7	Near OHC	58.2	52.7
8	Railway Siding	63.5	58.0
9	Near Reservoir 2	60.5	42.7
10	Near Ash Water Recovery Pump House	62.5	55.7
11	In China Colony	42.3	39.9
CPCB Standards (Industrial Area)		75	70

*** End Of the Report***

Note: Tested results are well within the permissible limits of MPCB / CPCB.

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Environmental Laboratory TC-5193 Adani Power Maharashtra Limited, Tiroda

31/01/21

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(Technical Manager)

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ADANI POWER MAHARASHTRA LIMITED, TIRODA

TC-5193

Format No: APML/ENV-LB/7.8/F01

URL No : TC519321000000102F

Date: 31.01.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	20.01.2021	Analysis Starting Date :	20.01.2021
Quantity received	1 Ltr / Sample	Sampled by :	Environment Dept. APML
Sample Particulars : Condenser Cooling Water (Waste Water)			
Location of sample : Unit1,Unit-2,Unit-3,Unit-4 & Unit-5			

TEST REPORT

Sr no	Parameter	Unit	Test Methods	MPCB Standards	Results				
					U # 1	U # 2	U # 3	U # 4	U # 5
1	pH Value	---	APHA-23rd - 4500-H+B Electrometric Method	6.5-8.5	8.0	8.1	8.3	7.9	UNIT UNDER SHUT DOWN
2	Temperature	Deg C	APHA-23rd - 2550 B	Not to exceed 5'C than that of intake water	31.0	33.0	30.0	31.0	
3	Free Available Chlorine	PPM	APHA-23rd – 4500-Cl G, DPD Colorimetric Method	0.5	1.0	0.1	0.1	0.3	

End of the Report

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Authorized Signatory
(Technical Manager)

31/01/21

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TC-5193

Format No: APML/ENV-LB/7.8/F01

URL No : TC519321000000103F

Date: 31.01.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	20.01.2021	Analysis Starting Date :	20.01.2021
Quantity received	1 Ltr / Sample	Sampled by :	Environment Dept. APML
Sample Particulars : Cooling tower blowdown (Waste Water)			
Location of sample : Unit1,Unit-2,Unit-3,Unit-4 & Unit-5.			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results				
					U # 1	U # 2	U # 3	U # 4	U # 5
1	Free Available Chlorine	mg/l	APHA-23rd – 4500-Cl G, DPD Colorimetric Method	0.5	0.1	0.1	0.1	0.3	UNIT UNDER SHUT DOWN
2	Phosphate as (PO4)	mg/l	APHA-23rd -4500-P D Stannous Chloride Method	5	1.8	1.9	2.2	2.4	
3	Zinc as (Zn)	mg/l	----	1	BDL	BDL	BDL	BDL	
4	Total Chromium as (Cr)	mg/l	----	0.2	BDL	BDL	BDL	BDL	

End of the Report

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Environmental Laboratory TC-5193 Adani Power Maharashtra Limited, Tiroda

31/01/21

Authorized Signatory
(Technical Manager)

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ADANI POWER MAHARASHTRA LIMITED, TIRODA

TC-5193

Format No: APML/ENV-LB/7.8/F01

URL No : TC519321000000115F	Date: 31.01.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	20.01.2021	Analysis Starting Date	20.01.2021
Quantity received	3 Lit /Sample	Sampled by	Environment Dept. APML
Sample Particulars : Treated Effluent Water			
Location of sample : DM Plant N-Pit , ETP Outlet			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results	
					N-pit	ETP Outlet
1	pH Value	---	APHA-23rd -4500-H+B Electrometric Method	5.5-9.0	8.1	7.5
2	TSS	mg / l	APHA-23rd - 2540 D	100.0	27	42
3	TDS	mg / l	APHA-23rd - 2540 C	2100.0	485	266
4	COD	mg / l	APHA-23rd Ed 2017-5220B Open Reflux Method	250.0	43	65
5	BOD at 27°C for 3 days	mg / l	IS: 3025 (P-44)-1993 R-1999 Ad.1 BOD 3-days at 27 °C	30.0	15	19
6	Oil & Grease	mg / l	APHA-23rd Ed 2017-5520 B Liquid Liquid Partition Gravemetric method	10.0	BDL	2.8

End of the Report

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4. # Indicates this parameter is not covered in our NABL scope

Environmental Laboratory TC-5193 Adani Power Maharashtra Limited, Tiroda

31/01/21

Authorized Signatory
(Technical Manager)

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Website:www.adani.com

Format No: APML/ENV-LB/7.8/F01

URL No : TC519321000000106F	Date: 31.01.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	20.01.2021	Analysis Starting Date	20.01.2021
Quantity received	3 Lit /Sample	Sampled by	Environment Dept.
Sample Particulars : Treated Waste Water			
Location of sample : STP -1 & 2 Out Let			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results	
					STP-1	STP-2
1	TSS	mg / l	APHA-23rd - 2540 D	50	28	25
2	COD	mg / l	APHA-23rd Ed 2017-5220B Open Reflux Method	100	32	43
3	BOD at 27°C for 3 days	mg / l	IS: 3025 (P-44)-1993 R-1999 Ad.1 BOD 3-days at 27 °C	30	11	13

End of the Report

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31/01/21

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Format No: APML/ENV-LB/7.8/F01

TC519321000000230F	Date: 06.02.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -1
2	Date of Sampling	:	04.02.2021
3	Time of Sampling	:	12:28 PM
4	Load (MW)	:	635
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	126
9	Flue Gas Velocity (M/sec)	:	22.88
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2545910

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results *
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	41.0
2	SO_2	IS 11255 (Part 2) 1985	200	Mg/Nm^3	961.3
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	401.7

** Results are corrected with 6% oxygen*

End of the Report

Note: Tested results are well within the permissible limits of MPCB.

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06/02/21

Authorized Signatory
(Technical Manager)

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ADANI POWER MAHARASHTRA LIMITED, TIRODA

TC-5193

Format No: APML/ENV-LB/7.8/F01

TC519321000000231F	Date: 06.02.2021
Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -2
2	Date of Sampling	:	04.02.2021
3	Time of Sampling	:	11:54 AM
4	Load (MW)	:	652
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	124
9	Flue Gas Velocity (M/sec)	:	23.44
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2621190

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results *
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	42.2
2	SO_2	IS 11255 (Part 2) 1985	200	Mg/Nm^3	969.6
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	398.9

** Results are corrected with 6% oxygen*

End of the Report

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06/02/21

Authorized Signatory
(Technical Manager)

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Format No: APML/ENV-LB/7.8/F01

TC519321000000232F	Date: 06.02.2021
Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -3
2	Date of Sampling	:	04.02.2021
3	Time of Sampling	:	11:20 AM
4	Load (MW)	:	645
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	123
9	Flue Gas Velocity (M/sec)	:	22.66
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2540952

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results *
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	38.9
2	SO_2	IS 11255 (Part 2) 1985	200	Mg/Nm^3	962.3
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	409.6

** Results are corrected with 6% oxygen*

End of the Report

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Environmental Laboratory TC - 5193 Adani Power Maharashtra Limited, Tiroda

06/02/21

Authorized Signatory
(Technical Manager)

Plot No. A-1,Tiroda Growth Centre, M.I.D.C., Dist: Gondia - 441911, Maharashtra, India
Tel.: +917198255983, Fax: +917198253971, E-mail:arunpratap.singh@adani.com
Website:www.adani.com

Format No: APML/ENV-LB/7.8/F01

TC519321000000233F	Date: 22.02.2021

TEST REPORT

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -4
2	Date of Sampling	:	20.02.2021
3	Time of Sampling	:	2:42 PM
4	Load (MW)	:	600
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	116
9	Flue Gas Velocity (M/sec)	:	23.45
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2676426

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	43
2	SO_2	IS 11255 (Part 2) 1985	200	Mg/Nm^3	965
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	413

** Results are corrected with 6% oxygen*

End of the Report

Note: Tested results are well within the permissible limits of MPCB.

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4 # As per MoEF&CC Notification the SO2 Limit will be applicable after installation of FGD (March 2023-March 2024)

22/02/21

Authorized Signatory
(Technical Manager)

Plot No. A-1,Tiroda Growth Centre, M.I.D.C., Dist: Gondia - 441911, Maharashtra, India
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Format No: APML/ENV-LB/7.8/F01

TC519321000000234F	Date: 22.02.2021

TEST REPORT

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -5
2	Date of Sampling	:	20.02.2021
3	Time of Sampling	:	12:25 PM
4	Load (MW)	:	624
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	117
9	Flue Gas Velocity (M/sec)	:	24.07
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2740446

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	38
2	SO_2	IS 11255 (Part 2) 1985	200	Mg/Nm^3	963
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	404

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4 # As per MoEF&CC Notification the SO2 Limit will be applicable after installation of FGD (March 2023-March 2024)

Environmental Laboratory ★ Adani Power Maharashtra Limited, Tiroda ★ TC-5193 (NABL Certificate No.)

23/02/21

Authorized Signatory
(Technical Manager)

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ENVIRONMENTAL LABORATORY

(Accredited by NABL)

ADANI POWER MAHARASHTRA LIMITED, TIRODA

TC-5193

Format No: APML/ENV-LB/7.8/F01

URL No : TC519321000000201F

Date 27.02.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Ambient Air Quality (Plant)
Sample Collected by :	Environment Dept. APML

Test Report

Station	Sampling Location	Sampling Date	Analysis Starting Date	Parameters			
				PM 10	PM 2.5	SO2	NOx
				µg/m3	µg/m3	µg/m3	µg/m3
AAQ 1	Near AWRS	01.02.2021	02.02.2021	55.0	30.2	14.7	31.3
		05.02.2021	06.02.2021	62.7	23.5	14.2	27.6
		08.02.2021	09.02.2021	68.3	25.0	12.0	24.2
		12.02.2021	11.02.2021	53.1	27.3	12.3	24.7
		15.02.2021	16.02.2021	56.3	28.8	18.1	34.1
		19.02.2021	20.02.2021	56.0	26.7	19.4	36.8
		22.02.2021	23.02.2021	65.8	28.0	14.6	24.6
		26.02.2021	27.02.2021	63.5	29.9	17.6	36.1
AAQ 2	Near Brick Plant	01.02.2021	02.02.2021	58.1	28.9	7.6	13.8
		05.02.2021	06.02.2021	60.1	26.6	12.3	22.2
		08.02.2021	09.02.2021	51.6	16.7	14.5	26.5
		12.02.2021	11.02.2021	66.3	16.5	13.9	21.6
		15.02.2021	16.02.2021	54.1	27.3	12.1	20.4
		19.02.2021	20.02.2021	58.6	17.2	17.2	29.5
		22.02.2021	23.02.2021	61.7	20.2	14.9	18.0
		26.02.2021	27.02.2021	60.7	24.3	17.0	22.8
AAQ 3	China Colony	01.02.2021	02.02.2021	54.1	19.4	9.4	17.4
		05.02.2021	06.02.2021	58.6	18.1	13.5	19.8
		08.02.2021	09.02.2021	61.2	21.2	15.3	19.8
		12.02.2021	11.02.2021	62.2	22.6	14.3	18.6
		15.02.2021	16.02.2021	55.4	29.9	14.9	21.0
		19.02.2021	20.02.2021	59.7	15.2	16.4	22.2
		22.02.2021	23.02.2021	57.5	22.4	15.7	21.6
		26.02.2021	27.02.2021	59.0	19.4	14.7	27.1
NAAQMS Standard				100	60	80	80

End of the Report

Note: Tested results are well within the permissible limits of National Ambient Air Quality Monitoring Stanadard (NAAQMS)

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Authorized Signatory
(Technical Manager)

Page 1 of 1

Format No: APML/ENV-LB/7.8/F01

URL No. : TC519321000000223F

Date: 27.02.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Ambient Noise Level (Plant)
Sample Collected by :	Environment Dept. APML
Date of Sampling:	13.02.2021

Test Report

S. No	Locations	Day Time in dB (A) (6.00 a.m. to 10.00 p.m.)	Night Time in dB (A) (10.00 p.m. to 06.00 a.m.)
1	Near Shanti Niketan I II & III	53.2	48.8
2	Near Labour Hutment	46.6	52.7
3	Near Store Area	49.3	48.0
4	Gate No.1	50.9	44.0
5	Gate No.2	62.0	51.7
6	Gate No.3	64.8	47.4
7	Near OHC	42.1	40.5
8	Railway Siding	63.9	58.0
9	Near Reservoir 2	51.6	42.7
10	Near Ash Water Recovery Pump House	48.6	41.4
11	In China Colony	37.7	35.2
CPCB Standards (Industrial Area)		75	70

*** End Of the Report***

Note: Tested results are well within the permissible limits of MPCB / CPCB.

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Environmental Laboratory TC - 5193 (NABL Certificate No.) Adani Power Maharashtra Limited, Tiroda

27/02/21

Authorized Signatory
(Technical Manager)

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Website:www.adani.com

Format No: APML/ENV-LB/7.8/F01

URL No : TC519321000000217F	Date: 27.02.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	17.02.2021	Analysis Starting Date	17.02.2021
Quantity received	3 Lit /Sample	Sampled by	Environment Dept.
Sample Particulars : Treated Waste Water			
Location of sample : STP -1 & 2 Out Let			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results	
					STP-1	STP-2
1	TSS	mg / l	APHA-23rd - 2540 D	50	21	17
2	COD	mg / l	APHA-23rd Ed 2017-5220B Open Reflux Method	100	43	21
3	BOD at 27°C for 3 days	mg / l	IS: 3025 (P-44)-1993 R-1999 Ad.1 BOD 3-days at 27 °C	30	15	9

End of the Report

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4. # Indicates this parameter is not covered in our NABL scope

Environmental Laboratory TC-5193 Adani Power Maharashtra Limited, Tiroda

28/02/21

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(Technical Manager)

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ENVIRONMENTAL LABORATORY
(Accredited by NABL)

ADANI POWER MAHARASHTRA LIMITED, TIRODA

TC-5193

Format No: APML/ENV-LB/7.8/F01

URL No : TC519321000000215F	Date: 27.02.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	17.02.2021	Analysis Starting Date	17.02.2021
Quantity received	3 Lit /Sample	Sampled by	Environment Dept. APML
Sample Particulars : Treated Effluent Water			
Location of sample : DM Plant N-Pit , ETP Outlet			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results	
					N-pit	ETP Outlet
1	pH Value	---	APHA-23rd -4500-H+B Electrometric Method	5.5-9.0	8.5	7.4
2	TSS	mg / l	APHA-23rd - 2540 D	100.0	25	27
3	TDS	mg / l	APHA-23rd - 2540 C	2100.0	131	286
4	COD	mg / l	APHA-23rd Ed 2017-5220B Open Reflux Method	250.0	54	43
5	BOD at 27°C for 3 days	mg / l	IS: 3025 (P-44)-1993 R-1999 Ad.1 BOD 3-days at 27 °C	30.0	9	18
6	Oil & Grease	mg / l	APHA-23rd Ed 2017-5520 B Liquid Liquid Partition Gravemetric method	10.0	BDL	2.5

End of the Report

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28/02/21

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Format No: APML/ENV-LB/7.8/F01

URL No : TC519321000000214F

Date: 27.02.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	17.02.2021	Analysis Starting Date :	17.02.2021
Quantity received	1 Ltr / Sample	Sampled by :	Environment Dept. APML
Sample Particulars : Cooling tower blowdown (Waste Water)			
Location of sample : Unit1,Unit-2,Unit-3,Unit-4 & Unit-5.			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results				
					U # 1	U # 2	U # 3	U # 4	U # 5
1	Free Available Chlorine	mg/l	APHA-23rd – 4500-Cl G, DPD Colorimetric Method	0.5	0.3	0.3	0.3	0.2	0.2
2	Phosphate as (PO4)	mg/l	APHA-23rd -4500-P D Stannous Chloride Method	5	1.4	1.8	1.9	2.1	2.2
3	Zinc as (Zn)	mg/l	---	1	BDL	BDL	BDL	BDL	BDL
4	Total Chromium as (Cr)	mg/l	----	0.2	BDL	BDL	BDL	BDL	BDL

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Authorized Signatory 28/02/21
(Technical Manager)

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ENVIRONMENTAL LABORATORY

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ADANI POWER MAHARASHTRA LIMITED, TIRODA

TC-5193

Format No: APML/ENV-LB/7.8/F01

URL No : TC519321000000213F

Date: 27.02.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	17.02.2021	Analysis Starting Date :	17.02.2021
Quantity received	1 Ltr / Sample	Sampled by :	Environment Dept. APML
Sample Particulars : Condenser Cooling Water (Waste Water)			
Location of sample : Unit1,Unit-2,Unit-3,Unit-4 & Unit-5			

TEST REPORT

Sr no	Parameter	Unit	Test Methods	MPCB Standards	Results				
					U # 1	U # 2	U # 3	U # 4	U # 5
1	pH Value	---	APHA-23rd - 4500-H+B Electrometric Method	6.5-8.5	8.3	8.0	8.2	8.1	7.9
2	Temperature	Deg C	APHA-23rd - 2550 B	Not to exceed 5°c than that of intake water	32.0	31.0	32.0	34.0	33.0
3	Free Available Chlorine	PPM	APHA-23rd – 4500-Cl G, DPD Colorimetric Method	0.5	0.2	0.2	0.2	0.1	0.1

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28/02/21

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Format No: APML/ENV-LB/7.8/F01

TC519321000000326F	Date: 31.03.2021
Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -1
2	Date of Sampling	:	25.03.2021
3	Time of Sampling	:	11:35 AM
4	Load (MW)	:	466.8
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	121
9	Flue Gas Velocity (M/sec)	:	23.51
10	Flow of Exit Gas at NTP (NM^3/Hr) :		2649403

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results *
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	41.5
2	SO_2	IS 11255 (Part 2) 1985	200	Mg/Nm^3	1372
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	208

** Results are corrected with 6% oxygen*

End of the Report

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4 # As per MoEF&CC Notification the SO2 Limit will be applicable after installation of FGD (March 2023-March 2024)

Authorized Signatory
(Technical Manager)

Plot No. A-1,Tiroda Growth Centre, M.I.D.C., Dist: Gondia - 441911, Maharashtra, India
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Format No: APML/ENV-LB/7.8/F01

TC519321000000327F	Date: 31.03.2021
Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -3
2	Date of Sampling	:	25.03.2021
3	Time of Sampling	:	12:11 PM
4	Load (MW)	:	649.3
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0}C)	:	123
9	Flue Gas Velocity (M/sec)	:	23.07
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2586309

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results *
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	42.2
2	SO_2	IS 11255 (Part 2) 1985	200	Mg/Nm^3	1075.0
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	225

** Results are corrected with 6% oxygen*

End of the Report

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Environmental Laboratory * Adani Power Maharashtra Limited * TC-5193

Authorized Signatory
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Format No: APML/ENV-LB/7.8/F01

TC519321000000328F	Date: 22.02.2021

TEST REPORT

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -4
2	Date of Sampling	:	18.03.2021
3	Time of Sampling	:	11:33 AM
4	Load (MW)	:	636
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	125
9	Flue Gas Velocity (M/sec)	:	23.41
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2611052

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	34
2	SO_2	IS 11255 (Part 2) 1985	200	Mg/Nm^3	986
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	331

** Results are corrected with 6% oxygen*

End of the Report

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TC519321000000329F	Date: 31.03.2021

TEST REPORT

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Stack Monitoring
Sample Collected by :	Environment Dept. APML

1	Sampling Location	:	Unit -5
2	Date of Sampling	:	18.03.2021
3	Time of Sampling	:	12:04 PM
4	Load (MW)	:	556.7
5	Height of Stack (Meter)	:	275
6	Diameter of Stack (Meter)	:	7.4
7	Type of Fuel	:	Coal
8	Flue Gas Temperature (^{0} C)	:	126
9	Flue Gas Velocity (M/sec)	:	23.68
10	Flow of Exit Gas at NTP (NM^3/Hr)	:	2635009

Sr. No	Test Parameters	Test Method	MPCB Standards	Units	Results
1	PM	IS 11255 (Part- 1):1985	50	Mg/Nm^3	49
2	SO_2	IS 11255 (Part 2) 1985	200	Mg/Nm^3	1018
3	NOx	IS 11255 (Part 7) 2005	450	Mg/Nm^3	317

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End of the Report

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Format No: APML/ENV-LB/7.8/F01

URL No : TC519321000000301F

Date 31.03.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Ambient Air Quality (Plant)
Sample Collected by :	Environment Dept. APML

Test Report

Station	Sampling Location	Sampling Date	Analysis Starting Date	Parameters			
				PM 10	PM 2.5	SO2	NOx
				µg/m3	µg/m3	µg/m3	µg/m3
AAQ 1	Near AWRS	01.03.2021	02.03.2021	59.9	29.9	14.9	19.8
		05.03.2021	06.03.2021	70.1	32.3	15.1	20.4
		08.03.2021	09.03.2021	72.4	33.4	11.9	21.0
		12.03.2021	13.03.2021	49.2	22.3	10.4	27.7
		15.03.2021	16.03.2021	60.3	21.1	13.5	23.5
		19.03.2021	20.03.2021	55.4	35.3	14.9	16.2
		22.03.2021	23.03.2021	66.0	24.2	12.3	22.8
		26.03.2021	27.03.2021	58.8	25.1	14.7	21.0
		30.03.2021	31.03.2021	63.8	26.1	13.3	16.8
AAQ 2	Near Brick Plant	01.03.2021	02.03.2021	65.1	24.8	7.6	13.8
		05.03.2021	06.03.2021	56.2	16.2	12.3	21.6
		08.03.2021	09.03.2021	61.7	30.2	11.2	18.6
		12.03.2021	13.03.2021	48.2	28.4	10.4	19.8
		15.03.2021	16.03.2021	55.0	20.1	10.0	17.4
		19.03.2021	20.03.2021	53.7	26.5	13.1	20.4
		22.03.2021	23.03.2021	63.8	30.7	14.9	19.8
		26.03.2021	27.03.2021	64.5	21.1	15.3	22.2
		30.03.2021	31.03.2021	52.8	29.1	11.9	18.0
AAQ 3	China Colony	01.03.2021	02.03.2021	49.4	25.0	9.6	18.0
		05.03.2021	06.03.2021	62.7	36.5	13.7	20.4
		08.03.2021	09.03.2021	60.6	30.5	12.9	17.4
		12.03.2021	13.03.2021	56.2	25.3	11.2	15.0
		15.03.2021	16.03.2021	61.8	26.0	13.7	19.8
		19.03.2021	20.03.2021	59.4	22.5	17.2	24.7
		22.03.2021	23.03.2021	78.6	27.5	15.1	19.8
		26.03.2021	27.03.2021	64.6	32.4	14.5	26.5
		30.03.2021	31.03.2021	58.2	27.2	11.9	17.4
NAAQMS Standard				100	60	80	80

End of the Report

Note: Tested results are well within the permissible limits of National Ambient Air Quality Monitoring Stanadard (NAAQMS)

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2. This report is not to be reproducing wholly or in part, and can't be used as evidence in court of law.

Authorized Signatory
(Technical Manager)

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Format No: APML/ENV-LB/7.8/F01

URL No : TC519321000000308F

Date: 31.03.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	10.03.2021	Analysis Starting Date :	10.03.2021
Quantity received	1 Ltr / Sample	Sampled by :	Environment Dept. APML
Sample Particulars : Cooling tower blowdown (Waste Water)			
Location of sample : Unit1,Unit-2,Unit-3,Unit-4 & Unit-5.			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results				
					U # 1	U # 2	U # 3	U # 4	U # 5
1	Free Available Chlorine	mg/l	APHA-23rd – 4500-Cl G, DPD Colorimetric Method	0.5	0.2	Unit Under Shut Down	0.2	0.1	0.1
2	Phosphate as (PO4)	mg/l	APHA-23rd -4500-P D Stannous Chloride Method	5	1.5		1.4	2.3	2.7
3	Zinc as (Zn)	mg/l	----	1	BDL		BDL	BDL	BDL
4	Total Chromium as (Cr)	mg/l	----	0.2	BDL		BDL	BDL	BDL

End of the Report

Note: Tested results are well within the permissible limits of MPCB.

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Environmental Laboratory TC - 5193 (NABL Certificate No.) Adani Power Maharashtra Limited, Tiroda

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(Technical Manager)

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Website:www.adani.com

URL No : TC519321000000309F	Date: 31.03.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	10.03.2021	Analysis Starting Date	10.03.2021
Quantity received	3 Lit /Sample	Sampled by	Environment Dept. APML
Sample Particulars : Treated Effluent Water			
Location of sample : DM Plant N-Pit , ETP Outlet			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results	
					N-pit	ETP Outlet
1	pH Value	---	APHA-23rd -4500-H+B Electrometric Method	5.5-9.0	8.0	7.6
2	TSS	mg / l	APHA-23rd - 2540 D	100.0	31	24
3	TDS	mg / l	APHA-23rd - 2540 C	2100.0	294	154
4	COD	mg / l	APHA-23rd Ed 2017-5220B Open Reflux Method	250.0	41	51
5	BOD at 27°C for 3 days	mg / l	IS: 3025 (P-44)-1993 R-1999 Ad.1 BOD 3-days at 27 °C	30.0	8	12
6	Oil & Grease	mg / l	APHA-23rd Ed 2017-5520 B Liquid Liquid Partition Gravemetric method	10.0	BDL	2.1

End of the Report

Note: Tested results are well within the permissible limits of MPCB.

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4. # Indicates this parameter is not covered in our NABL scope

Environmental Laboratory TC-5193 Adani Power Maharashtra Limited, Tiroda

Authorized Signatory
(Technical Manager)

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adani ENVIRONMENTAL LABORATORY

(Accredited by NABL)

ADANI POWER MAHARASHTRA LIMITED, TIRODA

TC-5193

Format No: APML/ENV-LB/7.8/F01

URL No : TC519321000000307F

Date: 31.03.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	10.03.2021	Analysis Starting Date :	10.03.2021
Quantity received	1 Ltr / Sample	Sampled by :	Environment Dept. APML
Sample Particulars : Condenser Cooling Water (Waste Water)			
Location of sample : Unit1,Unit-2,Unit-3,Unit-4 & Unit-5			

TEST REPORT

Sr no	Parameter	Unit	Test Methods	MPCB Standards	Results				
					U # 1	U # 2	U # 3	U # 4	U # 5
1	pH Value	---	APHA-23rd - 4500-H+B Electrometric Method	6.5-8.5	8.2	Unit Under Shut Down	8.4	8.2	8.3
2	Temperature	Deg C	APHA-23rd - 2550 B	Not to exceed 5'C than that of intake water	33.0		33.0	34.0	34.0
3	Free Available Chlorine	PPM	APHA-23rd – 4500-Cl G, DPD Colorimetric Method	0.5	0.3		0.3	0.2	0.2

End of the Report

Note: Tested results are well within the permissible limits of MPCB.

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(Technical Manager)

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Format No: APML/ENV-LB/7.8/F01

URL No : TC519321000000311F	Date: 31.03.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911		
Sample Collection Date	10.03.2021	Analysis Starting Date	10.03.2021
Quantity received	3 Lit /Sample	Sampled by	Environment Dept.
Sample Particulars : Treated Waste Water			
Location of sample : STP -1 & 2 Out Let			

TEST REPORT

Sr no	Parameter (NABL SCOPE)	Unit	Test Methods	MPCB Standards	Results	
					STP-1	STP-2
1	TSS	mg / l	APHA-23rd - 2540 D	50	19	10
2	COD	mg / l	APHA-23rd Ed 2017-5220B Open Reflux Method	100	30	40
3	BOD at 27^0C for 3 days	mg / l	IS: 3025 (P-44)-1993 R-1999 Ad.1 BOD 3-days at 27 °C	30	12	15

End of the Report

Note: Tested results are well within the permissible limits of MPCB.

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4. # Indicates this parameter is not covered in our NABL scope

Authorized Signatory
(Technical Manager)

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URL No. : TC519321000000323F

Date: 31.03.2021

Issued To:	APML,Plot No. A -1, Tirora Growth Centre, MIDC – Tirora, Dist. Gondia – 441 911
Sample Particulars :	Ambient Noise Level (Plant)
Sample Collected by :	Environment Dept. APML
Date of Sampling:	13.03.2021

Test Report

S. No	Locations	Day Time in dB (A) (6.00 a.m. to 10.00 p.m.)	Night Time in dB (A) (10.00 p.m. to 06.00 a.m.)
1	Near Shanti Niketan I II & III	59.7	52.2
2	Near Labour Hutment	65.0	50.8
3	Near Store Area	60.8	57.8
4	Gate No.1	60.6	55.9
5	Gate No.2	62.1	48.8
6	Gate No.3	72.4	60.5
7	Near OHC	52.2	41.5
8	Railway Siding	67.4	52.9
9	Near Reservoir 2	56.2	50.7
10	Near Ash Water Recovery Pump House	62.8	45.5
11	In China Colony	40.4	37.5
CPCB Standards (Industrial Area)		75	70

*** End Of the Report***

Note: Tested results are well within the permissible limits of MPCB / CPCB.

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Annexure - II

ADANI POWER MAHARASHTRA LIMITED

5 x 660 MW Thermal Power Plant , Tirora, Gondia

Station: AAQMS 1 AAQMS 2 AAQMS 3

Oct-20	AAQMS-1 (Labour Hutment)												AAQMS-2 (China Colony)												AAQMS-3 (Gate no -2)											
	PM 10			PM 2.5			SO2			NOx			PM 10			PM 2.5			SO2			NOx			PM 10			PM 2.5			SO2			NOx		
	ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
1-Oct-20	65.7	34.8	45.9	34.2	12.6	14.1	21.4	11.0	19.0	23.9	5.6	11.3	69.1	38.2	49.3	38.1	16.5	18.0	14.8	9.4	11.4	27.3	9.0	14.7	68.4	37.5	48.6	32.4	10.8	12.3	14.1	10.7	11.7	26.6	8.3	14.0
2-Oct-20	70.1	39.2	50.3	26.7	5.1	6.6	19.8	8.4	10.4	28.3	10.0	15.7	73.5	42.6	53.7	36.2	14.6	16.1	19.2	15.0	13.6	31.7	13.4	19.1	72.8	41.9	53.0	33.5	11.9	13.4	18.5	9.1	9.1	31.0	12.7	18.4
3-Oct-20	66.8	35.9	47.0	35.0	13.4	14.9	25.5	14.1	23.1	25.0	6.7	12.4	70.2	39.3	50.4	38.3	16.7	18.2	15.9	11.7	13.3	28.4	10.1	15.8	69.5	38.6	49.7	30.9	9.3	10.8	15.2	9.8	5.8	27.7	9.4	15.1
4-Oct-20	69.3	38.4	49.5	30.5	8.9	10.4	15.0	6.6	12.6	27.5	9.2	14.9	72.7	41.8	52.9	29.7	8.1	9.6	18.4	12.2	13.8	28.4	10.1	15.8	72.0	41.1	52.2	31.7	10.1	11.6	17.7	7.3	11.3	30.2	11.9	17.6
5-Oct-20	71.2	40.3	51.4	34.9	13.3	14.8	16.9	11.5	14.5	29.4	11.1	16.8	74.6	43.7	52.0	35.6	14.0	15.5	20.3	13.5	16.7	23.5	5.2	10.9	73.9	41.0	54.1	25.9	13.3	5.8	19.6	10.2	13.2	32.0	13.7	19.4
6-Oct-20	76.4	45.5	56.6	32.8	11.2	12.7	22.1	10.7	19.7	32.8	14.5	20.2	79.8	48.9	62.0	36.1	14.5	16.0	25.5	10.1	16.1	27.3	9.0	14.7	79.1	48.2	59.3	27.1	5.5	7.0	20.9	5.5	11.5	33.1	14.8	20.5
7-Oct-20	78.3	45.4	58.5	30.2	8.6	10.1	21.0	9.6	18.6	33.5	15.2	20.9	79.7	48.8	59.9	35.6	14.0	15.5	22.0	6.6	12.6	29.6	11.3	17.0	79.0	48.1	59.2	35.1	13.5	15.0	23.7	8.3	14.3	32.2	13.9	19.6
8-Oct-20	73.8	42.9	54.0	29.7	8.1	9.6	19.5	8.1	17.1	32.0	13.7	19.4	77.2	46.3	57.4	29.4	7.8	9.3	20.7	5.3	11.3	29.4	11.1	16.8	74.3	43.4	54.5	23.9	8.3	3.8	20.0	4.6	10.6	32.5	14.2	19.9
9-Oct-20	80.1	49.2	60.3	30.6	9.0	10.5	25.8	14.4	23.4	32.4	14.1	19.8	83.5	52.6	65.7	28.6	7.0	8.5	17.9	7.5	8.5	29.7	11.4	17.1	82.8	51.9	63.0	30.1	8.5	10.0	20.4	9.0	15.0	29.4	11.1	16.8
10-Oct-20	67.4	36.5	47.6	32.8	11.2	12.7	19.3	7.9	16.9	27.6	9.3	15.0	82.6	51.7	62.8	30.4	8.8	10.3	21.4	6.0	12.0	28.3	10.0	15.7	84.6	53.7	64.8	24.6	13.0	4.5	22.6	10.2	13.2	31.6	13.3	19.0
11-Oct-20	67.9	34.0	48.1	34.2	12.6	14.1	13.6	9.2	11.2	24.1	5.8	11.5	71.3	40.4	51.5	30.6	9.0	10.5	17.0	7.6	10.6	25.5	7.2	12.9	69.6	38.7	49.8	28.9	7.3	8.8	21.0	10.6	11.6	27.8	9.5	15.2
12-Oct-20	76.2	45.3	56.4	33.9	12.3	13.8	21.9	17.5	19.5	22.3	12.0	9.7	77.6	46.7	57.8	30.4	8.8	10.3	23.3	13.9	16.9	27.8	9.5	15.2	78.9	48.0	59.1	27.1	5.5	10.0	18.3	7.9	12.9	27.8	9.5	15.2
13-Oct-20	70.7	34.8	50.9	30.7	9.1	10.6	22.0	17.6	19.6	20.9	10.6	8.3	71.1	40.2	51.3	32.4	10.8	12.3	23.1	13.7	16.7	30.4	12.1	17.8	71.2	40.3	51.4	25.9	14.3	5.8	19.0	8.6	15.6	20.3	10.6	7.7
14-Oct-20	73.6	42.7	53.8	28.4	6.8	14.3	20.1	15.7	19.7	19.3	7.0	6.7	72.9	42.0	53.1	34.9	13.3	14.8	18.6	9.2	12.2	22.1	13.8	9.5	71.8	40.9	52.0	29.1	7.5	9.0	21.1	5.7	11.7	30.9	12.6	18.3
15-Oct-20	66.1	35.2	46.3	27.9	6.3	7.8	18.7	14.3	16.3	23.4	5.1	10.8	69.5	38.6	49.7	32.7	11.1	12.6	15.2	5.8	8.8	17.2	12.6	4.6	68.8	37.9	49.0	30.2	8.6	10.1	17.5	7.1	8.1	19.0	6.7	6.4
16-Oct-20	73.5	42.6	53.7	31.8	10.2	11.7	23.1	18.7	20.7	20.1	11.8	17.5	76.9	46.0	60.1	34.3	12.7	14.2	22.8	13.4	20.4	31.9	13.6	19.3	76.2	45.3	56.4	30.5	8.9	10.4	15.6	5.2	13.2	24.3	6.0	16.7
17-Oct-20	79.3	48.4	59.5	34.6	13.0	14.5	25.0	20.6	24.2	22.6	10.3	18.0	82.7	51.8	62.9	32.4	6.8	12.3	20.4	11.0	18.0	32.7	14.4	20.1	82.0	51.1	62.2	32.6	11.0	12.5	19.7	9.3	16.3	27.6	9.3	18.0
18-Oct-20	70.6	39.7	50.8	33.8	12.2	13.7	16.3	11.9	13.9	27.6	9.3	15.0	74.0	43.1	54.2	40.3	18.7	20.2	19.7	10.3	13.3	32.2	13.9	19.6	73.3	42.4	53.5	33.8	12.2	13.7	19.0	8.6	9.6	31.5	13.2	18.9
19-Oct-20	72.1	38.3	52.3	31.2	4.6	11.1	21.8	17.4	19.4	27.3	9.0	14.7	76.7	40.8	56.9	36.1	14.5	19.0	20.4	11.0	14.0	25.4	19.7	12.8	77.8	46.9	58.0	34.1	12.5	14.0	20.3	9.9	17.9	32.1	13.8	19.5
20-Oct-20	78.2	47.3	58.4	35.1	13.5	15.0	23.9	12.5	21.5	30.4	12.1	17.8	81.6	50.7	61.8	37.9	9.3	17.8	20.6	5.2	11.2	28.9	10.6	16.3	80.9	50.0	61.1	34.2	12.6	14.1	22.3	6.9	12.9	28.1	9.8	15.5
21-Oct-20	81.3	50.4	61.5	28.1	6.5	8.0	21.8	10.4	19.4	33.4	15.1	20.8	81.2	50.3	61.4	31.8	10.2	11.7	18.4	8.0	9.0	25.1	6.8	12.5	82.4	51.5	62.6	32.9	11.3	12.8	21.7	13.3	15.3	33.0	14.7	20.4
22-Oct-20	77.3	46.4	57.5	30.9	9.3	10.8	23.0	14.8	20.6	32.6	14.3	20.0	80.7	52.4	60.9	30.2	8.6	10.1	19.3	9.9	12.9	23.4	5.1	10.8	80.0	52.1	60.2	31.9	10.3	11.8	15.1	9.7	9.7	33.2	14.9	20.6
23-Oct-20	75.9	45.0	56.1	32.8	11.2	12.7	21.6	13.4	19.2	28.4	10.1	15.8	79.3	48.4	59.5	35.0	13.4	14.9	22.1	12.7	15.7	22.6	14.3	10.0	78.6	47.7	58.8	30.9	9.3	10.8	21.5	11.1	12.1	32.8	14.5	20.2
24-Oct-20	69.9	39.0	50.1	3.6	15.7	-16.5	15.6	7.4	13.2	28.1	9.8	15.5	73.3	42.4	53.5	36.2	14.6	16.1	19.0	9.6	12.6	31.5	13.2	18.9	72.6	41.7	52.8	33.7	12.1	13.6	18.3	9.3	8.9	30.8	12.5	18.2
25-Oct-20	74.1	43.2	54.3	30.7	9.1	10.6	19.8	11.6	17.4	32.3	14.0	19.7	77.5	46.6	57.7	32.9	11.3	12.8	21.6	12.2	15.2	32.1	13.8	19.5	76.8	45.9	57.0	35.1	13.5	15.0	23.0	11.6	13.6	30.2	11.9	17.6
26-Oct-20	79.7	48.8	59.9	28.3	6.7	8.2	25.4	17.2	23.0	31.9	13.6	19.3	83.1	52.2	63.3	30.7	9.1	10.6	19.3	9.9	12.9	27.6	9.3	15.0	82.4	51.5	62.6	28.2	6.6	8.1	22.7	13.4	13.3	32.1	13.8	19.5
27-Oct-20	83.6	52.7	63.8	30.1	8.5	10.0	20.8	12.6	18.4	32.2	13.9	19.6	84.3	53.4	64.5	27.9	6.3	7.8	20.3	10.9	13.9	30.7	12.4	18.1	86.3	55.4	66.5	29.1	7.5	9.0	22.5	7.1	13.1	28.9	10.6	16.3
28-Oct-20	85.1	54.2	65.3	27.5	5.9	7.4	23.1	14.9	20.7	32.7	14.4	20.1	80.7	49.8	60.9	40.3	18.7	20.2	22.6	13.2	16.2	27.1	8.8	14.5	85.0	54.1	65.2	26.7	5.1	6.6	22.9	7.5	13.5	24.6	6.3	12.0
29-Oct-20	70.3	39.4	50.5	34.2	12.6	14.1	20.4	12.2	18.0	28.5	10.2	15.9	73.7	42.8	53.9	38.8	17.2	18.7	21.3	11.9	14.9	26.4	8.1	13.8	73.0	42.1	53.2	29.4	7.8	9.3	21.8	6.4	12.4	29.1	10.8	16.5
30-Oct-20	77.1	46.2	57.3	36.1	14.5	16.0	22.8	14.6	20.4	29.7	11.4	17.1	80.5	49.6	60.7	40.6	19.0	20.5	18.6	9.2	12.2	30.1	11.8	17.5	79.8	48.9	60.0	26.9	5.3	6.8	25.5	10.1	16.1	30.8	12.5	18.2
31-Oct-20	80.4	49.5	60.6	32.8	11.2	12.7	18.7	10.5	16.3	30.4	12.1	17.8	83.8	52.9	64.0	30.2	8.6	10.1	20.1	10.7	13.7	30.4	12.1	17.8	83.1	52.2	63.3	27.6	6.0	7.5	20.3	4.9	10.9	32.2	13.9	19.6

ADANI POWER MAHARASHTRA LIMITED

5 x 660 MW Thermal Power Plant , Tirora, Gondia

Station: AAQMS 1 AAQMS 2 AAQMS 3

Nov-20	AAQMS-1 (Labour Hutment)												AAQMS-2 (China Colony)												AAQMS-3 (Gate no -2)											
	PM 10			PM 2.5			SO2			NOx			PM 10			PM 2.5			SO2			NOx			PM 10			PM 2.5			SO2			NOx		
	ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
1-Nov-20	70.3	39.4	50.5	34.2	12.6	14.1	16.0	5.6	13.6	28.5	10.2	15.9	73.7	42.8	53.9	38.1	16.5	18.0	19.4	9.0	16.0	31.9	13.6	19.3	73.0	42.1	53.2	32.4	10.8	12.3	18.7	8.3	16.3	31.2	12.9	18.6
2-Nov-20	68.9	38.0	49.1	26.7	5.1	6.6	18.6	7.2	9.2	27.1	8.8	14.5	72.3	41.4	52.5	36.2	14.6	16.1	18.0	13.8	12.4	30.5	12.2	17.9	71.6	40.7	51.8	33.5	11.9	13.4	17.3	7.9	7.9	29.8	11.5	17.2
3-Nov-20	67.2	36.3	47.4	35.0	13.4	14.9	15.9	4.5	13.5	25.4	7.1	12.8	70.6	39.7	50.8	38.3	16.7	18.2	16.3	12.1	13.7	28.8	10.5	16.2	69.9	39.0	50.1	30.9	9.3	10.8	15.6	4.2	6.2	28.1	9.8	15.5
4-Nov-20	65.7	34.8	45.9	30.5	8.9	10.4	11.4	3.0	9.0	23.9	5.6	11.3	69.1	38.2	49.3	29.7	8.1	9.6	14.8	8.6	10.2	28.4	10.1	15.8	68.4	37.5	48.6	31.7	10.1	11.6	14.1	4.3	7.7	26.6	8.3	14.0
5-Nov-20	72.3	41.4	52.5	34.9	13.3	14.8	18.0	12.6	15.6	30.5	12.2	17.9	75.7	44.8	53.1	35.6	14.0	15.5	21.4	14.6	17.8	23.5	5.2	10.9	75.0	42.1	55.2	25.9	4.3	5.8	20.7	11.3	14.3	32.0	13.7	19.4
6-Nov-20	74.5	43.6	54.7	32.8	11.2	12.7	20.2	8.8	17.8	32.8	14.5	20.2	77.9	47.0	60.1	36.1	14.5	16.0	23.6	8.2	14.2	27.3	9.0	14.7	77.2	46.3	57.4	27.1	5.5	7.0	20.9	5.5	11.5	33.1	14.8	20.5
7-Nov-20	69.1	36.2	49.3	30.2	8.6	10.1	21.0	9.6	18.6	24.3	6.0	11.7	70.5	39.6	50.7	35.6	14.0	15.5	22.0	6.6	12.6	29.6	11.3	17.0	69.8	38.9	50.0	32.6	11.0	12.5	23.7	8.3	14.3	23.0	4.7	10.4
8-Nov-20	73.6	42.7	53.8	29.7	8.1	9.6	19.3	7.9	16.9	31.8	13.5	19.2	77.0	46.1	57.2	29.4	7.8	9.3	20.7	5.3	11.3	29.2	10.9	16.6	74.1	43.2	54.3	23.9	4.6	3.8	19.8	4.4	10.4	32.3	14.0	19.7
9-Nov-20	78.1	47.2	58.3	30.6	9.0	10.5	23.8	12.4	21.4	32.4	14.1	19.8	81.5	50.6	63.7	28.6	7.0	8.5	17.9	2.5	8.5	29.7	11.4	17.1	80.8	49.9	61.0	30.1	8.5	10.0	20.4	9.0	15.0	29.4	11.1	15.4
10-Nov-20	75.2	44.3	55.4	32.8	11.2	12.7	19.3	7.9	16.9	27.6	9.3	15.0	82.6	51.7	62.8	30.4	8.8	10.3	21.4	6.0	12.0	28.3	10.0	15.7	84.6	53.7	64.8	24.6	3.0	4.5	22.6	10.2	13.2	31.6	13.3	19.0
11-Nov-20	66.4	32.5	46.6	34.2	12.6	14.1	12.1	7.7	9.7	24.1	5.8	11.5	69.8	38.9	50.0	30.6	9.0	10.5	15.5	6.1	9.1	24.0	5.7	11.4	68.1	37.2	48.3	28.9	7.3	8.8	21.0	10.6	11.6	26.3	8.0	13.7
12-Nov-20	68.5	37.6	48.7	33.9	12.3	13.8	14.2	9.8	11.8	22.3	4.0	9.7	69.9	39.0	50.1	30.4	8.8	10.3	15.6	6.2	9.2	20.1	7.8	7.5	71.2	40.3	51.4	27.1	5.5	10.0	18.3	7.9	12.9	27.8	9.5	15.2
13-Nov-20	67.1	31.2	47.3	30.7	9.1	10.6	22.0	17.6	19.6	20.9	2.6	8.3	67.5	36.6	47.7	32.4	10.8	12.3	23.1	13.7	16.7	30.4	12.1	17.8	67.6	36.7	47.8	25.9	4.3	5.8	19.0	8.6	15.6	16.7	10.6	4.1
14-Nov-20	72.4	41.5	52.6	28.4	6.8	14.3	20.1	15.7	19.7	19.3	4.3	6.7	71.7	40.8	51.9	34.9	13.3	14.8	17.4	8.0	11.0	22.1	3.8	9.5	70.6	39.7	50.8	29.1	7.5	9.0	21.1	5.7	11.7	30.9	12.6	18.3
15-Nov-20	76.9	46.0	57.1	27.9	6.3	7.8	18.7	14.3	16.3	23.4	5.1	10.8	80.3	49.4	60.5	32.7	11.1	12.6	26.0	16.6	19.6	28.0	12.6	15.4	79.6	48.7	59.8	30.2	8.6	10.9	17.5	7.1	8.1	29.8	6.7	17.2
16-Nov-20	75.4	44.5	55.6	31.8	10.2	11.7	23.1	18.7	20.7	20.1	11.8	17.5	78.8	47.9	62.0	34.3	12.7	14.2	22.8	13.4	20.4	31.9	13.6	19.3	78.1	47.2	58.3	30.5	8.9	10.4	15.6	5.2	13.2	24.3	6.0	16.7
17-Nov-20	77.9	47.0	58.1	34.6	13.0	14.5	23.6	19.2	22.8	22.6	4.3	18.0	81.3	50.4	61.5	32.4	6.8	12.3	20.4	11.0	18.0	32.7	14.4	20.1	80.6	49.7	60.8	32.6	11.0	12.5	19.7	9.3	16.3	27.6	9.3	18.0
18-Nov-20	80.2	49.3	60.4	33.8	12.2	13.7	25.9	21.5	23.5	27.6	9.3	15.0	83.6	52.7	63.8	40.3	18.7	20.2	29.3	19.9	22.9	41.8	23.5	29.2	82.9	52.0	63.1	33.8	12.2	13.7	28.6	18.2	19.2	41.1	22.8	28.5
19-Nov-20	65.6	31.8	45.8	31.2	4.1	11.1	15.3	10.9	12.9	20.8	2.5	8.2	70.2	34.3	50.4	36.1	14.5	19.0	13.9	4.5	7.5	25.4	19.7	12.8	71.3	40.4	51.5	34.1	12.5	14.0	20.3	9.9	17.9	32.1	13.8	19.5
20-Nov-20	66.2	35.3	46.4	35.9	14.3	15.8	11.9	3.7	9.5	30.4	12.1	17.8	69.6	38.7	49.8	37.9	9.3	17.8	20.6	5.2	11.2	28.9	10.6	16.3	68.9	38.0	49.1	34.2	12.6	14.1	22.3	6.9	11.3	16.1	10.6	3.5
21-Nov-20	69.3	38.4	49.5	28.1	6.5	8.0	21.8	10.4	19.4	33.4	15.1	20.8	81.2	50.3	61.4	31.8	10.2	11.7	18.4	8.0	9.0	25.1	6.8	12.5	82.4	51.5	62.6	32.9	11.3	12.8	21.7	13.3	15.3	33.0	14.7	20.4
22-Nov-20	72.1	41.2	52.3	30.9	9.3	10.8	17.8	9.6	15.4	32.6	14.3	20.0	75.5	47.2	55.7	30.2	8.6	10.1	19.3	9.9	12.9	23.4	5.1	10.8	74.8	46.9	55.0	31.9	10.3	11.8	15.1	9.7	9.7	28.0	9.7	15.4
23-Nov-20	74.2	43.3	54.4	32.8	11.2	12.7	19.9	11.7	17.5	28.4	10.1	15.8	77.6	46.7	57.8	35.0	13.4	14.9	22.1	12.7	15.7	22.6	4.3	10.0	76.9	46.0	57.1	30.9	9.3	10.8	21.5	11.1	12.1	31.1	12.8	18.5
24-Nov-20	81.3	50.4	61.5	3.6	15.7	16.3	20.6	12.4	18.2	39.5	21.2	26.9	84.7	53.8	64.9	36.2	14.6	16.1	30.4	21.0	24.0	42.9	24.6	30.3	84.0	53.1	64.2	33.7	12.1	13.6	28.6	19.6	19.2	40.3	22.0	27.7
25-Nov-20	79.1	48.2	59.3	30.7	9.1	10.6	24.8	16.6	22.4	37.3	19.0	24.7	82.5	51.6	62.7	32.9	11.3	12.8	21.6	12.2	15.2	32.1	13.8	19.5	81.8	50.9	62.0	34.2	12.6	14.1	23.0	11.6	13.6	30.2	11.9	17.6
26-Nov-20	75.9	45.0	56.1	28.3	6.7	8.2	21.6	13.4	19.2	31.9	13.6	19.3	79.3	48.4	59.5	30.7	9.1	10.6	19.3	9.9	12.9	27.6	9.3	15.0	78.6	47.7	58.8	28.2	6.6	8.1	22.7	13.4	13.3	32.1	13.8	19.5
27-Nov-20	73.1	42.2	53.3	30.1	8.5	10.0	20.8	12.6	18.4	32.2	13.9	19.6	84.3	53.4	64.5	27.9	7.1	7.8	20.3	10.9	13.9	30.7	12.4	18.1	75.8	44.9	56.0	29.1	7.5	9.0	22.5	7.1	13.1	28.9	10.6	16.3
28-Nov-20	80.5	49.6	60.7	27.5	5.9	7.4	23.1	14.9	20.7	32.7	14.4	20.1	80.7	49.8	60.9	40.3	18.7	20.2	22.6	13.2	16.2	27.1	8.8	14.5	85.0	54.1	65.2	26.7	5.1	6.6	22.9	7.5	13.5	24.6	6.3	12.0
29-Nov-20	68.4	37.5	48.6	34.2	12.6	14.1	20.4	12.2	18.0	26.6	8.3	14.0	71.8	40.9	52.0	38.8	17.2	18.7	21.3	11.9	14.9	26.4	8.1	13.8	71.1	40.2	51.3	29.4	7.8	9.3	21.8	6.4	12.4	29.1	10.8	16.5
30-Nov-20	69.2	38.3	49.4	30.7	9.1	10.6	14.9	6.7	12.5	29.7	11.4	17.1	72.6	41.7	52.8	32.4	10.8	12.3	18.6	9.2	12.2	30.1	11.8	17.5	71.9	41.0	52.1	26.9	5.3	6.8	17.6	2.2	8.2	30.8	12.5	18.2

ADANI POWER MAHARASHTRA LIMITED

5 x 660 MW Thermal Power Plant , Tirora, Gondia

Station: AAQMS 1 AAQMS 2 AAQMS 3

Dec-20	AAQMS-1 (Labour Hutment)												AAQMS-2 (China Colony)												AAQMS-3 (Gate no -2)											
	PM 10			PM 2.5			SO2			NOx			PM 10			PM 2.5			SO2			NOx			PM 10			PM 2.5			SO2			NOx		
	ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
1-Dec-20	70.6	43.3	57.0	49.0	13.6	31.3	11.2	8.7	10.0	14.9	9.6	12.3	65.3	38.0	51.7	32.1	10.3	28.0	7.9	5.4	6.7	11.6	6.3	9.0	67.1	39.8	53.5	45.5	10.1	27.8	7.7	5.2	6.4	11.4	6.1	8.7
2-Dec-20	71.6	44.3	58.0	50.0	14.6	32.3	12.2	9.7	11.0	15.9	10.6	13.3	9.2	42.5	56.2	34.6	12.8	30.5	10.4	7.9	9.2	14.1	8.8	11.5	72.2	44.9	58.6	50.6	15.2	32.9	12.8	10.3	11.6	16.5	11.2	13.9
3-Dec-20	64.8	37.5	51.2	43.2	12.8	28.0	12.4	7.9	10.2	16.1	10.8	13.5	8.3	35.7	49.4	27.8	11.0	26.2	10.6	8.1	9.4	14.3	9.0	11.7	65.4	38.1	51.8	43.8	8.4	26.1	12.0	6.5	9.3	15.7	10.4	13.1
4-Dec-20	66.9	39.6	53.3	45.3	9.9	27.6	17.5	8.0	12.8	21.2	15.9	18.6	11.0	37.8	51.5	29.9	13.1	28.3	12.7	10.2	11.5	16.4	11.1	13.8	67.5	40.2	53.9	45.9	10.5	28.2	14.1	8.6	11.4	17.8	12.5	15.2
5-Dec-20	72.4	45.1	58.8	50.8	15.4	33.1	13.0	10.5	11.8	16.7	11.4	14.1	10.0	43.3	57.0	35.4	18.6	33.8	18.2	15.7	17.0	21.9	16.6	19.3	73.0	45.7	59.4	51.4	16.0	33.7	19.6	14.1	16.9	23.3	18.0	20.7
6-Dec-20	72.4	45.1	58.8	51.8	16.4	34.1	14.0	11.5	12.8	17.7	12.4	15.1	11.0	43.3	57.0	33.4	16.6	31.8	16.2	13.7	15.0	19.9	14.6	17.3	73.0	45.7	59.4	51.4	16.0	33.7	19.6	14.1	16.9	23.3	18.0	20.7
7-Dec-20	74.6	47.3	61.0	54.0	18.6	36.3	16.2	13.7	15.0	19.9	14.6	17.3	13.2	45.5	59.2	35.6	18.8	34.0	18.4	15.9	17.2	22.1	16.8	19.5	75.2	47.9	61.6	53.6	18.2	35.9	21.8	16.3	19.1	25.5	20.2	22.9
8-Dec-20	70.6	43.3	57.0	50.0	14.6	32.3	12.2	9.7	11.0	15.9	10.6	13.3	9.2	41.5	55.2	31.6	14.8	30.0	14.4	11.9	13.2	18.1	12.8	15.5	71.2	43.9	57.6	49.6	14.2	31.9	17.8	12.3	15.1	21.5	16.2	18.9
9-Dec-20	67.9	40.6	54.3	47.3	11.9	29.6	9.5	7.0	8.3	13.2	7.9	10.6	6.5	38.8	52.5	28.9	12.1	27.3	11.7	9.2	10.5	15.4	10.1	12.8	70.5	43.2	56.9	48.9	13.5	31.2	17.1	11.6	14.4	20.8	15.5	18.2
10-Dec-20	63.8	36.5	50.2	43.2	12.8	28.0	12.4	9.9	11.2	16.1	10.8	13.5	9.3	34.7	48.4	24.8	8.0	23.2	7.6	5.1	6.4	11.3	6.0	8.7	66.4	39.1	52.8	44.8	9.4	27.1	13.0	7.5	10.3	16.7	11.4	14.1
11-Dec-20	65.3	38.0	51.7	43.7	17.3	30.5	12.9	10.4	11.7	16.6	11.3	14.0	9.8	36.2	49.9	28.3	11.5	26.7	11.1	8.6	9.9	14.8	9.5	12.2	65.9	38.6	52.3	44.3	8.9	26.6	12.5	7.0	9.8	16.2	10.9	13.6
12-Dec-20	71.6	44.3	58.0	51.0	15.6	33.3	13.2	10.7	12.0	16.9	11.6	14.3	10.2	42.5	56.2	32.6	15.8	31.0	15.4	12.9	14.2	19.1	13.8	16.5	72.2	44.9	58.6	50.6	15.2	32.9	18.8	13.3	16.1	22.5	17.2	19.9
13-Dec-20	66.7	39.4	53.1	45.1	9.7	27.4	12.3	7.8	10.1	16.0	10.7	13.4	8.3	37.6	51.3	29.7	12.9	28.1	12.5	10.0	11.3	16.2	10.9	13.6	67.3	40.0	53.7	45.7	10.3	28.0	13.9	8.4	11.2	17.6	12.3	15.0
14-Dec-20	72.3	45.0	58.7	50.7	24.3	37.5	19.9	17.4	18.7	23.6	18.3	21.0	16.9	43.2	56.9	35.3	18.5	33.7	18.1	15.6	16.9	21.8	16.5	19.2	72.9	45.6	59.3	51.3	15.9	33.6	19.5	14.0	16.8	23.2	17.9	20.6
15-Dec-20	69.3	42.0	55.7	47.7	21.3	34.5	16.9	14.4	15.7	20.6	15.3	18.0	13.9	40.2	53.9	32.3	15.5	30.7	15.1	12.6	13.9	18.8	13.5	16.2	69.9	42.6	56.3	48.3	12.9	30.6	16.5	11.0	13.8	20.2	14.9	17.6
16-Dec-20	71.6	44.3	58.0	51.0	15.6	33.3	13.2	10.7	12.0	16.9	11.6	14.3	10.2	42.5	56.2	32.6	15.8	31.0	15.4	12.9	14.2	19.1	13.8	16.5	72.2	44.9	58.6	50.6	15.2	32.9	18.8	13.3	16.1	22.5	17.2	19.9
17-Dec-20	73.8	46.5	60.2	53.2	17.8	35.5	15.4	12.9	14.2	19.1	13.8	16.5	12.4	44.7	58.4	34.8	18.0	33.2	17.6	15.1	16.4	21.3	16.0	18.7	74.4	47.1	60.8	52.8	17.4	35.1	21.0	15.5	18.3	24.7	19.4	22.1
18-Dec-20	78.3	51.0	64.7	56.7	30.3	43.5	25.9	23.4	24.7	29.6	24.3	27.0	22.9	49.2	62.9	41.3	24.5	39.7	24.1	21.6	22.9	27.8	22.5	25.2	78.9	51.6	65.3	57.3	21.9	39.6	25.5	20.0	22.8	29.2	23.9	26.6
19-Dec-20	70.3	43.0	56.7	49.7	19.3	34.5	18.9	16.4	17.7	22.6	17.3	20.0	15.9	41.2	54.9	31.3	14.5	29.7	14.1	11.6	12.9	17.8	12.5	15.2	72.9	45.6	59.3	51.3	15.9	33.6	19.5	14.0	16.8	23.2	17.9	20.6
20-Dec-20	66.8	39.5	53.2	46.2	15.8	31.0	15.4	12.9	14.2	19.1	13.8	16.5	12.4	37.7	51.4	27.8	11.0	26.2	10.6	8.1	9.4	14.3	9.0	11.7	69.4	42.1	55.8	47.8	12.4	30.1	16.0	10.5	13.3	19.7	14.4	17.1
21-Dec-20	65.6	38.3	52.0	45.0	9.6	27.3	17.2	6.7	12.0	20.9	15.6	18.3	10.2	36.5	50.2	26.6	9.8	25.0	9.4	6.9	8.2	13.1	7.8	10.5	66.2	38.9	52.6	44.6	9.2	26.9	12.8	7.3	10.1	16.5	11.2	13.9
22-Dec-20	71.8	44.5	58.2	51.2	15.8	33.5	13.4	10.9	12.2	17.1	11.8	14.5	10.4	42.7	56.4	32.8	16.0	31.2	15.6	13.1	14.4	19.3	14.0	16.7	72.4	45.1	58.8	50.8	15.4	33.1	19.0	13.5	16.3	22.7	17.4	20.1
23-Dec-20	74.6	47.3	61.0	54.0	18.6	36.3	16.2	13.7	15.0	19.9	14.6	17.3	13.2	45.5	59.2	35.6	18.8	34.0	18.4	15.9	17.2	22.1	16.8	19.5	75.2	47.9	61.6	53.6	18.2	35.9	21.8	16.3	19.1	25.5	20.2	22.9
24-Dec-20	64.9	37.6	51.3	43.3	11.9	27.6	13.5	7.0	10.3	17.2	11.9	14.6	8.5	35.8	49.5	27.9	11.1	26.3	10.7	8.2	9.5	14.4	9.1	11.8	65.5	38.2	51.9	43.9	8.5	26.2	12.1	6.6	9.4	15.8	10.5	13.2
25-Dec-20	63.4	36.1	49.8	41.8	10.4	26.1	12.0	9.5	10.8	20.2	17.9	19.1	9.0	34.3	48.0	26.4	9.6	24.8	9.2	6.7	8.0	16.9	11.6	14.3	64.0	36.7	50.4	42.4	9.2	24.7	10.6	7.8	12.2	19.3	14.0	16.7
26-Dec-20	69.9	42.6	56.3	48.3	12.9	30.6	10.5	8.0	9.3	18.7	16.4	17.6	7.5	40.8	54.5	32.9	16.1	31.3	15.7	13.2	14.5	23.4	18.1	20.8	70.5	43.2	56.9	48.9	13.5	31.2	17.1	11.6	14.4	25.8	20.5	23.2
27-Dec-20	74.6	47.3	61.0	53.0	17.6	35.3	15.2	12.7	14.0	23.4	21.1	22.3	12.2	45.5	59.2	37.6	20.8	36.0	20.4	17.9	19.2	28.1	22.8	25.5	75.2	47.9	61.6	53.6	18.2	35.9	21.8	16.3	19.1	30.5	25.2	27.9
28-Dec-20	76.5	49.2	62.9	54.9	28.5	41.7	24.1	21.6	22.9	27.8	22.5	25.2	21.1	47.4	61.1	39.5	22.7	37.9	22.3	19.8	21.1	26.0	20.7	23.4	77.1	49.8	63.5	55.5	20.1	37.8	23.7	18.2	21.0	27.4	22.1	24.8
29-Dec-20	80.2	52.9	66.6	58.6	32.2	45.4	27.8	25.3	26.6	31.5	26.2	28.9	24.8	51.1	64.8	43.2	26.4	41.6	26.0	23.5	24.8	29.7	24.4	27.1	80.8	53.5	67.2	59.2	23.8	41.5	27.4	21.9	24.7	31.1	25.8	28.5
30-Dec-20	79.8	52.5	66.2	58.2	31.8	45.0	27.4	24.9	26.2	31.1	25.8	28.5	24.4	50.7	64.4	42.8	26.0	41.2	25.6	23.1	24.4	29.3	24.0	26.7	80.4	53.1	66.8	58.8	23.4	41.1	27.0	21.5	24.3	30.7	25.4	28.1
31-Dec-20	79.8	53.3	67.0	58.2	32.6	45.8	27.4	25.7	27.0	31.1	26.6	29.3	25.2	51.5	65.2	43.6	26.8	42.0	25.6	23.9	25.2	29.3	24.8	27.5	80.4	53.9	67.6	58.8	24.2	41.9	27.0	22.3	25.1	30.7	26.2	28.9

ADANI POWER MAHARASHTRA LIMITED

5 x 660 MW Thermal Power Plant , Tirora, Gondia

Station: AAQMS 1 AAQMS 2 AAQMS 3

Jan-20	AAQMS-1 (Labour Hutment)												AAQMS-2 (China Colony)												AAQMS-3 (Gate no -2)											
	PM 10			PM 2.5			SO2			NOx			PM 10			PM 2.5			SO2			NOx			PM 10			PM 2.5			SO2			NOx		
	ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
1-Jan-21	78.6	47.7	58.8	49.2	27.6	29.1	24.3	8.9	14.9	36.8	18.5	24.2	82.0	51.1	62.2	52.6	31.0	32.5	27.7	12.3	18.3	40.2	21.9	27.6	81.3	50.4	61.5	51.9	30.3	31.8	27.0	11.6	17.6	39.5	21.2	26.9
2-Jan-21	71.3	40.4	51.5	41.9	20.3	21.8	21.0	9.6	11.6	29.5	11.2	16.9	74.7	43.8	54.9	45.3	23.7	25.2	20.4	16.2	14.8	32.9	14.6	20.3	74.0	43.1	54.2	44.6	23.0	24.5	19.7	10.3	10.3	32.2	13.9	19.6
3-Jan-21	72.3	41.4	52.5	42.9	21.3	22.8	18.0	6.6	15.6	30.5	12.2	17.9	75.7	44.8	55.9	46.3	24.7	26.2	21.4	17.2	15.8	33.9	15.6	21.3	75.0	44.1	55.2	45.6	24.0	25.5	20.7	9.3	11.3	33.2	14.9	20.6
4-Jan-21	70.6	39.7	50.8	41.2	19.6	21.1	16.3	7.9	13.9	28.8	10.5	16.2	74.0	43.1	54.2	44.6	23.0	24.5	19.7	15.5	14.1	32.2	13.9	19.6	73.3	42.4	53.5	43.9	22.3	23.8	19.0	8.6	12.6	31.5	13.2	18.9
5-Jan-21	68.4	37.5	48.6	39.0	17.4	18.9	14.1	8.7	11.7	26.6	8.3	14.0	71.8	40.9	49.2	42.4	20.8	22.3	17.5	13.3	11.9	30.0	11.7	17.4	71.1	38.2	51.3	41.7	20.1	21.6	16.8	7.4	7.4	29.3	11.0	16.7
6-Jan-21	79.8	48.9	60.0	50.4	28.8	30.3	25.5	14.1	23.1	38.0	19.7	25.4	83.2	52.3	63.4	53.8	32.2	33.7	28.9	13.5	19.5	41.4	23.1	28.8	82.5	51.6	62.7	53.1	31.5	33.0	28.2	12.8	18.8	40.7	22.4	28.1
7-Jan-21	81.2	50.3	61.4	51.8	30.2	31.7	26.9	15.5	24.5	39.4	21.1	26.8	84.6	53.7	64.8	55.2	33.6	35.1	30.3	14.9	20.9	42.8	24.5	30.2	83.9	53.0	64.1	54.5	32.9	34.4	29.6	14.2	20.2	42.1	23.8	29.5
8-Jan-21	77.3	46.4	57.5	47.9	26.3	27.8	23.0	11.6	20.6	35.5	17.2	22.9	80.7	49.8	60.9	51.3	29.7	31.2	26.4	11.0	17.0	38.9	20.6	26.3	80.0	49.1	60.2	50.6	29.0	30.5	25.7	10.3	16.3	38.2	19.9	25.6
9-Jan-21	79.2	48.3	59.4	49.8	28.2	29.7	24.9	13.5	22.5	37.4	19.1	24.8	82.6	51.7	64.8	53.2	31.6	33.1	28.3	12.9	18.9	40.8	22.5	28.2	81.9	51.0	62.1	52.5	30.9	32.4	27.6	12.2	18.2	40.1	21.8	27.5
10-Jan-21	74.6	43.7	54.8	45.2	23.6	25.1	20.3	8.9	17.9	32.8	14.5	20.2	78.0	47.1	58.2	48.6	27.0	28.5	23.7	8.3	14.3	36.2	17.9	23.6	77.3	46.4	57.5	47.9	26.3	27.8	23.0	10.6	13.6	35.5	17.2	22.9
11-Jan-21	70.4	39.5	50.6	41.0	19.4	20.9	16.1	11.7	13.7	28.6	10.3	16.0	73.8	42.9	54.0	44.4	22.8	24.3	19.5	10.1	13.1	32.0	13.7	19.4	73.1	42.2	53.3	43.7	22.1	23.6	18.8	8.4	9.4	31.3	13.0	18.7
12-Jan-21	76.3	45.4	56.5	46.9	25.3	26.8	22.0	17.6	19.6	34.5	16.2	21.9	79.7	48.8	59.9	50.3	28.7	30.2	25.4	16.0	19.0	37.9	19.6	25.3	79.0	48.1	59.2	49.6	28.0	29.5	24.7	14.3	15.3	37.2	18.9	24.6
13-Jan-21	72.4	41.5	52.6	43.0	21.4	22.9	18.1	13.7	15.7	30.6	12.3	18.0	75.8	44.9	56.0	46.4	24.8	26.3	21.5	12.1	15.1	34.0	15.7	21.4	75.1	44.2	55.3	45.7	24.1	25.6	20.8	10.4	11.4	33.3	15.0	20.7
14-Jan-21	77.8	46.9	58.0	48.4	26.8	28.3	23.5	19.1	21.1	36.0	17.7	23.4	81.2	50.3	61.4	51.8	30.2	31.7	26.9	17.5	20.5	39.4	21.1	26.8	80.5	49.6	60.7	51.1	29.5	31.0	26.2	15.8	16.8	38.7	20.4	26.1
15-Jan-21	80.6	49.7	60.8	51.2	29.6	31.1	26.3	21.9	23.9	38.8	20.5	26.2	84.0	53.1	64.2	54.6	33.0	34.5	29.7	20.3	23.3	42.2	23.9	29.6	83.3	52.4	63.5	53.9	32.3	33.8	29.0	18.6	19.6	41.5	23.2	28.9
16-Jan-21	81.4	50.5	61.6	52.0	30.4	31.9	27.1	22.7	24.7	39.6	21.3	27.0	84.8	53.9	68.0	55.4	33.8	35.3	30.5	21.1	24.1	43.0	24.7	30.4	84.1	53.2	64.3	54.7	33.1	34.6	29.8	19.4	20.4	42.3	24.0	29.7
17-Jan-21	84.3	53.4	64.5	54.9	33.3	34.8	30.0	25.6	27.6	42.5	24.2	29.9	87.7	56.8	67.9	58.3	36.7	38.2	33.4	24.0	27.0	45.9	27.6	33.3	87.0	56.1	67.2	57.6	36.0	37.5	32.7	22.3	23.3	45.2	26.9	32.6
18-Jan-21	80.2	49.3	60.4	50.8	29.2	30.7	25.9	21.5	23.5	38.4	20.1	25.8	83.6	52.7	63.8	54.2	32.6	34.1	29.3	19.9	22.9	41.8	23.5	29.2	82.9	52.0	63.1	53.5	31.9	33.4	28.6	18.2	19.2	41.1	22.8	28.5
19-Jan-21	78.6	44.8	58.8	48.1	26.5	28.0	28.3	23.9	25.9	33.8	15.5	21.2	83.2	52.3	63.4	53.8	32.2	33.7	26.9	17.5	20.5	37.4	19.1	24.8	84.3	53.4	64.5	54.9	33.3	34.8	30.0	19.6	20.6	42.5	24.2	29.9
20-Jan-21	76.7	45.8	56.9	47.3	25.7	27.2	22.4	11.0	20.0	34.9	16.6	22.3	80.1	49.2	60.3	50.7	29.1	30.6	25.8	10.4	16.4	38.3	20.0	25.7	79.4	48.5	59.6	50.0	28.4	29.9	25.1	9.7	15.7	37.6	19.3	25.0
21-Jan-21	69.9	39.0	50.1	40.5	18.9	20.4	15.6	4.2	13.2	28.1	9.8	15.5	73.3	42.4	53.5	43.9	22.3	23.8	19.0	8.6	9.6	31.5	13.2	18.9	72.6	41.7	52.8	43.2	21.6	23.1	18.3	9.9	11.9	30.8	12.5	18.2
22-Jan-21	67.3	36.4	47.5	37.9	16.3	17.8	13.0	4.8	10.6	25.5	7.2	12.9	70.7	42.4	50.9	41.3	19.7	21.2	16.4	7.0	10.0	28.9	10.6	16.3	70.0	42.1	50.2	40.6	19.0	20.5	15.7	10.3	10.3	28.2	9.9	15.6
23-Jan-21	70.3	39.4	50.5	40.9	19.3	20.8	16.0	7.8	13.6	28.5	10.2	15.9	73.7	42.8	53.9	44.3	22.7	24.2	19.4	10.0	13.0	31.9	13.6	19.3	73.0	42.1	53.2	43.6	22.0	23.5	18.7	8.3	9.3	31.2	12.9	18.6
24-Jan-21	72.6	41.7	52.8	43.2	21.6	23.1	18.3	10.1	15.9	30.8	12.5	18.2	76.0	45.1	56.2	46.6	25.0	26.5	21.7	12.3	15.3	34.2	15.9	21.6	75.3	44.4	55.5	45.9	24.3	25.8	21.0	12.0	11.6	33.5	15.2	20.9
25-Jan-21	73.8	42.9	54.0	44.4	22.8	24.3	19.5	11.3	17.1	32.0	13.7	19.4	77.2	46.3	57.4	47.8	26.2	27.7	22.9	13.5	16.5	35.4	17.1	22.8	76.5	45.6	56.7	47.1	25.5	27.0	22.2	10.8	12.8	34.7	16.4	22.1
26-Jan-21	77.4	46.5	57.6	48.0	26.4	27.9	23.1	14.9	20.7	35.6	17.3	23.0	80.8	49.9	61.0	51.4	29.8	31.3	26.5	17.1	20.1	39.0	20.7	26.4	80.1	49.2	60.3	50.7	29.1	30.6	25.8	10.4	16.4	38.3	20.0	25.7
27-Jan-21	79.1	48.2	59.3	49.7	28.1	29.6	24.8	16.6	22.4	37.3	19.0	24.7	82.5	51.6	62.7	53.1	31.5	33.0	28.2	18.8	21.8	40.7	22.4	28.1	81.8	50.9	62.0	52.4	30.8	32.3	27.5	12.1	18.1	40.0	21.7	27.4
28-Jan-21	82.2	51.3	62.4	52.8	31.2	32.7	27.9	19.7	25.5	40.4	22.1	27.8	85.6	54.7	65.8	56.2	34.6	36.1	31.3	21.9	24.9	43.8	25.5	31.2	84.9	54.0	65.1	55.5	33.9	35.4	30.6	15.2	21.2	43.1	24.8	30.5
29-Jan-21	79.5	48.6	59.7	50.1	28.5	30.0	25.2	17.0	22.8	37.7	19.4	25.1	82.9	52.0	63.1	53.5	31.9	33.4	28.6	19.2	22.2	41.1	22.8	28.5	82.2	51.3	62.4	52.8	31.2	32.7	27.9	12.5	18.5	40.4	22.1	27.8
30-Jan-21	78.4	47.5	58.6	49.0	27.4	28.9	24.1	15.9	21.7	36.6	18.3	24.0	81.8	50.9	62.0	52.4	30.8	32.3	27.5	18.1	21.1	40.0	21.7	27.4	81.1	50.2	61.3	51.7	30.1	31.6	26.8	11.4	17.4	39.3	21.0	26.7
31-Jan-21	80.0	49.1	60.2	50.6	29.0	30.5	25.7	17.5	23.3	38.2	19.9	25.6	83.4	52.5	63.6	54.0	32.4	33.9	29.1	19.7	22.7	41.6	23.3	29.0	82.7	51.8	62.9	53.3	31.7	33.2	28.4	13.0	19.0	40.9	22.6	28.3

ADANI POWER MAHARASHTRA LIMITED

5 x 660 MW Thermal Power Plant , Tirora, Gondia

Station: AAQMS 1 AAQMS 2 AAQMS 3

Feb-20	AAQMS-1 (Labour Hutment)												AAQMS-2 (China Colony)												AAQMS-3 (Gate no -2)											
	PM 10			PM 2.5			SO2			NOx			PM 10			PM 2.5			SO2			NOx			PM 10			PM 2.5			SO2			NOx		
	ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
1-Feb-21	68.2	37.3	48.4	38.8	17.2	18.7	13.9	3.5	11.5	26.4	8.1	13.8	71.6	40.7	51.8	42.2	20.6	22.1	17.3	6.9	13.9	29.8	11.5	17.2	70.9	40.0	51.1	41.5	19.9	21.4	16.6	6.2	14.2	29.1	10.8	16.5
2-Feb-21	70.3	39.4	50.5	40.9	19.3	20.8	20.0	8.6	10.6	28.5	10.2	15.9	73.7	42.8	53.9	44.3	22.7	24.2	19.4	15.2	13.8	31.9	13.6	19.3	73.0	42.1	53.2	43.6	22.0	23.5	18.7	9.3	9.3	31.2	12.9	18.6
3-Feb-21	74.3	43.4	54.5	44.9	23.3	24.8	23.0	11.6	20.6	32.5	14.2	19.9	77.7	46.8	57.9	48.3	26.7	28.2	23.4	19.2	20.8	35.9	17.6	23.3	77.0	46.1	57.2	47.6	26.0	27.5	22.7	11.3	13.3	35.2	16.9	22.6
4-Feb-21	71.8	40.9	52.0	42.4	20.8	22.3	17.5	9.1	15.1	30.0	11.7	17.4	75.2	44.3	55.4	45.8	24.2	25.7	20.9	14.7	16.3	33.4	15.1	20.8	74.5	43.6	54.7	45.1	23.5	25.0	20.2	9.8	13.8	32.7	14.4	20.1
5-Feb-21	77.6	46.7	57.8	48.2	26.6	28.1	23.3	17.9	20.9	35.8	17.5	23.2	81.0	50.1	58.4	51.6	30.0	31.5	26.7	19.9	23.1	39.2	20.9	26.6	80.3	47.4	60.5	50.9	29.3	30.8	26.0	16.6	19.6	38.5	20.2	25.9
6-Feb-21	80.1	49.2	60.3	50.7	29.1	30.6	25.8	14.4	23.4	38.3	20.0	25.7	83.5	52.6	65.7	54.1	32.5	34.0	29.2	13.8	19.8	41.7	23.4	29.1	82.8	51.9	63.0	53.4	31.8	33.3	28.5	13.1	19.1	37.0	18.7	24.4
7-Feb-21	82.2	49.3	62.4	49.8	28.2	29.7	27.9	16.5	25.5	37.4	19.1	24.8	83.6	52.7	63.8	54.2	32.6	34.1	29.3	13.9	19.9	41.8	23.5	29.2	82.9	52.0	63.1	53.5	31.9	33.4	28.6	13.2	19.2	36.1	17.8	23.5
8-Feb-21	78.7	47.8	58.9	49.3	27.7	29.2	24.4	13.0	22.0	36.9	18.6	24.3	82.1	51.2	62.3	52.7	31.1	32.6	27.8	12.4	18.4	34.3	16.0	21.7	79.2	48.3	59.4	49.8	28.2	29.7	24.9	9.5	15.5	37.4	19.1	24.8
9-Feb-21	73.5	42.6	53.7	44.1	22.5	24.0	19.2	7.8	16.8	31.7	13.4	19.1	76.9	46.0	59.1	47.5	25.9	27.4	22.6	7.2	13.2	35.1	16.8	22.5	76.2	45.3	56.4	46.8	25.2	26.7	21.9	10.5	16.5	34.4	16.1	21.8
10-Feb-21	77.4	46.5	57.6	48.0	26.4	27.9	23.1	11.7	20.7	35.6	17.3	23.0	80.8	49.9	61.0	51.4	29.8	31.3	26.5	11.1	17.1	39.0	20.7	26.4	80.1	49.2	60.3	50.7	29.1	30.6	25.8	13.4	16.4	38.3	20.0	25.7
11-Feb-21	79.9	46.0	60.1	52.5	30.9	32.4	25.6	21.2	23.2	38.1	19.8	25.5	83.3	52.4	63.5	53.9	32.3	33.8	29.0	19.6	22.6	37.5	19.2	24.9	81.6	50.7	61.8	52.2	30.6	32.1	27.3	16.9	17.9	39.8	21.5	27.2
12-Feb-21	83.4	52.5	63.6	54.0	32.4	33.9	29.1	24.7	26.7	36.6	18.3	24.0	84.8	53.9	65.0	55.4	33.8	35.3	30.5	21.1	24.1	35.0	16.7	22.4	86.1	55.2	66.3	56.7	35.1	39.6	31.8	21.4	26.4	44.3	26.0	31.7
13-Feb-21	85.7	49.8	65.9	52.3	30.7	32.2	31.4	27.0	29.0	33.4	15.1	20.8	86.1	55.2	66.3	56.7	35.1	36.6	31.8	22.4	25.4	40.3	22.0	27.7	86.2	55.3	66.4	56.8	35.2	36.7	31.9	21.5	28.5	35.3	17.0	22.7
14-Feb-21	86.4	55.5	66.6	51.0	29.4	36.9	32.1	27.7	31.7	44.6	26.3	32.0	85.7	54.8	65.9	56.3	34.7	36.2	31.4	22.0	25.0	80.7	62.4	68.1	84.6	53.7	64.8	55.2	33.6	35.1	30.3	14.9	20.9	42.8	24.5	30.2
15-Feb-21	85.0	54.1	65.2	50.6	29.0	30.5	30.7	26.3	28.3	43.2	24.9	30.6	88.4	57.5	68.6	59.0	37.4	38.9	34.1	24.7	27.7	36.1	17.8	23.5	87.7	56.8	67.9	58.3	36.7	38.2	33.4	23.0	24.0	37.9	19.6	25.3
16-Feb-21	62.8	31.9	43.0	33.4	11.8	13.3	18.5	14.1	16.1	21.0	12.7	18.4	66.2	35.3	49.4	36.8	15.2	16.7	21.9	12.5	19.5	24.4	6.1	11.8	65.5	34.6	45.7	36.1	14.5	16.0	31.2	20.8	28.8	23.7	5.4	16.1
17-Feb-21	68.7	37.8	48.9	39.3	17.7	19.2	14.4	10.0	13.6	26.9	8.6	22.3	72.1	41.2	52.3	42.7	17.1	22.6	17.8	8.4	15.4	30.3	12.0	17.7	71.4	40.5	51.6	42.0	20.4	21.9	27.1	16.7	23.7	29.6	11.3	20.0
18-Feb-21	75.8	44.9	56.0	46.4	24.8	26.3	21.5	17.1	19.1	34.0	15.7	21.4	79.2	48.3	59.4	49.8	28.2	29.7	24.9	15.5	18.5	37.4	19.1	24.8	78.5	47.6	58.7	49.1	27.5	29.0	24.2	13.8	14.8	36.7	18.4	24.1
19-Feb-21	77.1	43.3	57.3	46.6	20.0	26.5	26.8	22.4	24.4	32.3	14.0	19.7	81.7	45.8	61.9	52.3	30.7	35.2	25.4	16.0	19.0	35.9	17.6	23.3	82.8	51.9	63.0	53.4	31.8	33.3	28.5	18.1	26.1	41.0	22.7	28.4
20-Feb-21	81.4	50.5	61.6	52.0	30.4	31.9	27.1	15.7	24.7	39.6	21.3	27.0	84.8	53.9	65.0	55.4	26.8	35.3	30.5	15.1	21.1	43.0	24.7	30.4	84.1	53.2	64.3	54.7	33.1	34.6	29.8	14.4	20.4	31.3	13.0	18.7
21-Feb-21	80.6	49.7	60.8	51.2	29.6	31.1	26.3	14.9	23.9	38.8	20.5	26.2	84.0	53.1	64.2	54.6	33.0	34.5	29.7	19.3	20.3	42.2	23.9	29.6	83.3	52.4	63.5	53.9	32.3	33.8	29.0	20.6	22.6	34.5	16.2	21.9
22-Feb-21	82.6	51.7	62.8	53.2	31.6	33.1	28.3	20.1	25.9	40.8	22.5	28.2	86.0	57.7	66.2	56.6	35.0	36.5	31.7	22.3	25.3	44.2	25.9	31.6	85.3	57.4	65.5	55.9	34.3	35.8	31.0	25.6	25.6	38.5	20.2	25.9
23-Feb-21	84.9	54.0	65.1	55.5	33.9	35.4	30.6	22.4	28.2	43.1	24.8	30.5	88.3	57.4	68.5	58.9	37.3	38.8	34.0	24.6	27.6	46.5	28.2	33.9	87.6	56.7	67.8	58.2	36.6	38.1	33.3	22.9	23.9	41.8	23.5	29.2
24-Feb-21	80.1	49.2	60.3	50.7	29.1	30.6	25.8	17.6	23.4	38.3	20.0	25.7	83.5	52.6	63.7	54.1	32.5	34.0	29.2	19.8	22.8	41.7	23.4	29.1	82.8	51.9	63.0	53.4	31.8	33.3	28.5	19.5	19.1	41.0	22.7	28.4
25-Feb-21	73.8	42.9	54.0	44.4	22.8	24.3	19.5	11.3	17.1	32.0	13.7	19.4	77.2	46.3	57.4	47.8	26.2	27.7	22.9	13.5	16.5	35.4	17.1	22.8	76.5	45.6	56.7	47.1	25.5	27.0	22.2	10.8	12.8	34.7	16.4	22.1
26-Feb-21	76.6	45.7	56.8	47.2	25.6	27.1	22.3	14.1	19.9	34.8	16.5	22.2	80.0	49.1	60.2	50.6	29.0	30.5	25.7	16.3	19.3	38.2	19.9	25.6	79.3	48.4	59.5	49.9	28.3	29.8	25.0	9.6	15.6	37.5	19.2	24.9
27-Feb-21	79.4	48.5	59.6	50.0	28.4	29.9	25.1	16.9	22.7	37.6	19.3	25.0	82.8	51.9	63.0	53.4	31.8	33.3	28.5	19.1	22.1	41.0	22.7	28.4	82.1	51.2	62.3	52.7	31.1	32.6	27.8	12.4	18.4	40.3	22.0	27.7
28-Feb-21	75.8	44.9	56.0	46.4	24.8	26.3	21.5	13.3	19.1	34.0	15.7	21.4	79.2	48.3	59.4	49.8	28.2	29.7	24.9	15.5	18.5	37.4	19.1	24.8	78.5	47.6	58.7	49.1	27.5	29.0	24.2	8.8	14.8	36.7	18.4	24.1

ADANI POWER MAHARASHTRA LIMITED

5 x 660 MW Thermal Power Plant , Tirora, Gondia

Station: AAQMS 1 AAQMS 2 AAQMS 3

Mar-20	AAQMS-1 (Labour Hutment)												AAQMS-2 (China Colony)												AAQMS-3 (Gate no -2)											
	PM 10			PM 2.5			SO2			NOx			PM 10			PM 2.5			SO2			NOx			PM 10			PM 2.5			SO2			NOx		
	ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3			ug/m3		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
1-Mar-21	67.5	36.6	47.7	30.6	9.0	10.5	13.2	2.8	10.8	25.7	7.4	13.1	70.9	40.0	51.1	38.1	16.5	18.0	16.6	6.2	13.2	29.1	10.8	16.5	70.2	39.3	50.4	32.4	10.8	12.3	15.9	5.5	13.5	28.4	10.1	15.8
2-Mar-21	69.2	38.3	49.4	33.9	12.3	13.8	18.9	7.5	9.5	27.4	9.1	14.8	72.6	41.7	52.8	36.2	14.6	16.1	18.3	14.1	12.7	30.8	12.5	18.2	71.9	41.0	52.1	33.5	11.9	13.4	17.6	8.2	8.2	30.1	11.8	17.5
3-Mar-21	71.6	40.7	51.8	35.0	13.4	14.9	20.3	8.9	17.9	29.8	11.5	17.2	75.0	44.1	55.2	35.9	14.3	15.8	20.7	16.5	18.1	33.2	14.9	20.6	74.3	43.4	54.5	30.9	9.3	10.8	20.0	8.6	10.6	32.5	14.2	19.9
4-Mar-21	66.8	35.9	47.0	37.4	15.8	17.3	12.5	4.1	10.1	25.0	6.7	12.4	70.2	39.3	50.4	36.4	14.8	16.3	15.9	9.7	11.3	28.4	10.1	15.8	69.5	38.6	49.7	31.7	10.1	11.6	15.2	4.8	8.8	27.7	9.4	15.1
5-Mar-21	73.4	42.5	53.6	35.8	14.2	15.7	19.1	13.7	16.7	31.6	13.3	19.0	76.8	45.9	54.2	35.6	14.0	15.5	22.5	15.7	18.9	23.5	5.2	10.9	76.1	43.2	56.3	25.9	4.3	5.8	21.8	12.4	15.4	32.0	13.7	19.4
6-Mar-21	68.4	37.5	48.6	35.4	13.8	15.3	14.1	2.7	11.7	26.6	8.3	14.0	71.8	40.9	54.0	36.1	14.5	16.0	17.5	2.1	8.1	30.0	11.7	17.4	71.1	40.2	51.3	27.1	5.5	7.0	16.8	6.4	7.4	25.3	7.0	12.7
7-Mar-21	75.9	43.0	56.1	33.2	11.6	13.1	21.0	9.6	18.6	31.1	12.8	18.5	77.3	46.4	57.5	33.2	11.6	13.1	22.0	6.6	12.6	30.1	11.8	17.5	76.6	45.7	56.8	40.1	18.5	20.0	22.3	6.9	12.9	29.8	11.5	17.2
8-Mar-21	72.4	41.5	52.6	37.1	15.5	17.0	18.1	6.7	15.7	30.6	12.3	18.0	75.8	44.9	56.0	29.4	7.8	9.3	20.7	5.3	11.3	28.0	9.7	15.4	72.9	42.0	53.1	23.9	8.3	3.8	18.6	3.2	9.2	31.1	12.8	18.5
9-Mar-21	76.8	45.9	57.0	35.6	14.0	15.5	22.5	11.1	20.1	32.4	14.1	19.8	80.2	49.3	62.4	28.6	7.0	8.5	17.9	2.5	8.5	29.7	11.4	17.1	79.5	48.6	59.7	30.1	8.5	10.0	20.4	9.0	15.0	29.4	11.1	16.8
10-Mar-21	85.2	54.3	65.4	30.9	9.3	10.8	19.3	7.9	16.9	27.6	9.3	15.0	82.6	51.7	62.8	30.4	8.8	10.3	21.4	6.0	12.0	28.3	10.0	15.7	84.6	53.7	64.8	24.6	3.0	4.5	22.6	10.2	13.2	31.6	13.3	19.0
11-Mar-21	67.9	34.0	48.1	31.4	9.8	11.3	13.6	9.2	11.2	24.1	5.8	11.5	71.3	40.4	51.5	32.4	10.8	12.3	17.0	7.6	10.6	25.5	7.2	12.9	69.6	38.7	49.8	28.9	7.3	8.8	21.0	10.6	11.6	27.8	9.5	15.2
12-Mar-21	76.2	45.3	56.4	32.9	11.3	12.8	21.9	17.5	19.5	22.3	4.0	9.7	77.6	46.7	57.8	30.4	8.8	10.3	23.3	13.9	16.9	27.8	9.5	15.2	78.9	48.0	59.1	27.1	5.5	10.0	18.3	7.9	12.9	27.8	9.5	15.2
13-Mar-21	80.1	44.2	60.3	35.7	14.1	15.6	22.0	17.6	19.6	20.9	12.2	8.3	80.5	49.6	60.7	32.4	10.8	12.3	23.1	13.7	16.7	31.5	13.2	18.9	80.6	49.7	60.8	25.9	4.3	5.8	19.0	8.6	15.6	29.7	11.4	17.1
14-Mar-21	78.3	47.4	58.5	35.6	14.0	21.5	20.1	15.7	19.7	19.3	6.8	6.7	77.6	46.7	57.8	34.9	13.3	14.8	23.3	13.9	16.9	22.1	3.8	9.5	76.5	45.6	56.7	29.1	7.5	9.0	21.1	5.7	11.7	30.9	12.6	18.3
15-Mar-21	74.7	43.8	54.9	27.9	6.3	7.8	18.7	14.3	16.3	23.4	5.1	10.8	78.1	47.2	58.3	32.7	11.1	12.6	23.8	14.4	17.4	25.8	7.5	13.2	77.4	46.5	57.6	30.2	8.6	10.1	17.5	7.1	8.1	27.6	9.3	15.0
16-Mar-21	68.5	37.6	48.7	31.7	10.1	11.6	23.1	18.7	20.7	20.1	11.8	17.5	71.9	41.0	55.1	32.8	11.2	12.7	22.8	13.4	20.4	30.1	11.8	17.5	71.2	40.3	51.4	30.5	8.9	10.4	15.6	5.2	13.2	29.4	11.1	21.8
17-Mar-21	69.7	38.8	49.9	24.8	3.2	4.7	15.4	11.0	14.6	22.6	4.3	18.0	73.1	42.2	53.3	37.8	12.2	17.7	18.8	9.4	16.4	31.3	13.0	18.7	72.4	41.5	52.6	32.6	11.0	12.5	19.7	9.3	16.3	30.6	12.3	21.0
18-Mar-21	71.3	40.4	51.5	31.1	9.5	11.0	17.0	12.6	14.6	27.6	9.3	15.0	74.7	43.8	54.9	28.6	7.0	8.5	20.4	11.0	14.0	32.9	14.6	20.3	74.0	43.1	54.2	33.8	12.2	13.7	19.7	9.3	10.3	32.2	13.9	19.6
19-Mar-21	73.8	40.0	54.0	30.6	4.0	10.5	23.5	19.1	21.1	29.0	10.7	16.4	78.4	42.5	58.6	36.1	14.5	19.0	22.1	12.7	15.7	25.4	7.1	12.8	79.5	48.6	59.7	34.1	12.5	14.0	20.3	9.9	17.9	32.1	13.8	19.5
20-Mar-21	76.1	45.2	56.3	32.4	10.8	12.3	21.8	10.4	19.4	25.9	7.6	13.3	79.5	48.6	59.7	37.9	9.3	17.8	20.6	5.2	11.2	28.9	10.6	16.3	78.8	47.9	59.0	38.4	16.8	18.3	22.3	6.9	12.9	26.0	7.7	13.4
21-Mar-21	84.9	54.0	65.1	32.6	11.0	12.5	21.8	10.4	19.4	30.5	12.2	17.9	81.2	50.3	61.4	31.8	10.2	11.7	18.4	8.0	9.0	25.1	6.8	12.5	82.4	51.5	62.6	37.0	15.4	16.9	21.7	13.3	15.3	33.0	14.7	20.4
22-Mar-21	77.2	46.3	57.4	26.4	4.8	6.3	22.9	14.7	20.5	31.0	12.7	18.4	80.6	52.3	60.8	30.2	8.6	10.1	19.3	9.9	12.9	23.4	5.1	10.8	79.9	52.0	60.1	31.9	10.3	11.8	15.1	9.7	9.7	33.1	14.8	20.5
23-Mar-21	72.9	42.0	53.1	32.8	11.2	12.7	18.6	10.4	16.2	31.1	12.8	18.5	76.3	45.4	56.5	30.4	8.8	10.3	22.0	12.6	15.6	22.6	4.3	10.0	75.6	44.7	55.8	30.9	9.3	10.8	21.3	10.9	11.9	29.8	11.5	17.2
24-Mar-21	69.9	39.0	50.1	30.2	8.6	10.1	15.6	7.4	13.2	28.1	9.8	15.5	73.3	42.4	53.5	30.8	9.2	10.7	19.0	9.6	12.6	31.5	13.2	18.9	72.6	41.7	52.8	30.4	8.8	10.3	18.3	9.3	8.9	30.8	12.5	18.2
25-Mar-21	75.6	44.7	55.8	29.6	8.0	9.5	21.3	13.1	18.9	26.4	8.1	13.8	79.0	48.1	59.2	27.6	6.0	7.5	21.6	12.2	15.2	32.1	13.8	19.5	78.3	47.4	58.5	35.1	13.5	15.0	23.0	11.6	13.6	30.2	11.9	17.6
26-Mar-21	66.3	35.4	46.5	32.7	11.1	12.6	12.0	3.8	9.6	24.5	6.2	11.9	69.7	38.8	49.9	28.6	7.0	8.5	15.4	6.0	9.0	27.9	9.6	15.3	69.0	38.1	49.2	28.2	6.6	8.1	14.7	13.4	5.3	27.2	8.9	14.6
27-Mar-21	80.3	49.4	60.5	30.1	8.5	10.0	20.8	12.6	18.4	32.2	13.9	19.6	83.7	52.8	63.9	27.9	6.3	7.8	20.3	10.9	13.9	30.7	12.4	18.1	83.0	52.1	63.2	29.1	7.5	9.0	22.5	7.1	13.1	28.9	10.6	16.3
28-Mar-21	84.6	53.7	64.8	34.1	12.5	14.0	23.1	14.9	20.7	32.7	14.4	20.1	80.7	49.8	60.9	32.4	10.8	12.3	22.6	13.2	16.2	27.1	8.8	14.5	85.1	54.2	65.3	26.7	5.1	6.6	22.9	7.5	13.5	24.6	6.3	12.0
29-Mar-21	76.3	45.4	56.5	33.6	12.0	13.5	20.4	12.2	18.0	29.7	11.4	17.1	79.7	48.8	59.9	30.1	8.5	10.0	21.3	11.9	14.9	26.4	8.1	13.8	79.0	48.1	59.2	29.4	7.8	9.3	21.8	6.4	12.4	29.1	10.8	16.5
30-Mar-21	70.8	39.9	51.0	34.5	12.9	14.4	16.5	8.3	14.1	29.0	10.7	16.4	74.2	43.3	54.4	35.4	13.8	15.3	19.9	10.5	13.5	32.4	14.1	19.8	73.5	42.6	53.7	26.9	5.3	6.8	19.2	3.8	9.8	30.8	12.5	18.2
31-Mar-21	78.1	47.2	58.3	32.7	11.1	12.6	18.7	10.5	16.3	30.4	12.1	17.8	81.5	50.6	61.7	30.2	8.6	10.1	20.1	10.7	13.7	30.4	12.1	17.8	80.8	49.9	61.0	27.6	6.0	7.5	20.3	4.9	10.9	32.2	13.9	19.6

Annexure- III

CEMS DAYWISE VALUES FOR THE MONTH OF OCT '2020											
S.NO.	DATE	UNIT# 1 LOAD(MW)	UNIT# 1 SOX(mg/nm3)			UNIT# 1 NOX(mg/nm3)			UNIT# 1 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Oct-20	512.12	874.09	834.96	930.12	236.56	223.46	252.53	37.92	35.34	41.00
2	02-Oct-20	570.27	897.74	849.04	954.15	243.57	228.31	262.18	39.26	35.83	42.75
3	03-Oct-20	612.39	920.83	847.64	959.98	250.72	227.50	264.34	40.69	36.13	43.36
4	04-Oct-20	605.63	910.47	848.07	951.90	247.02	226.86	261.84	39.93	36.00	42.88
5	05-Oct-20	584.1	910.42	879.29	938.17	247.86	236.97	258.25	40.16	37.95	42.19
6	06-Oct-20	597.45	908.45	885.27	931.40	246.45	237.80	255.38	39.83	38.11	41.61
7	07-Oct-20	591.75	915.21	890.56	938.36	249.43	239.25	258.15	40.42	38.39	42.17
8	08-Oct-20	587.74	909.31	851.48	933.54	247.24	230.22	255.30	40.00	36.31	41.58
9	09-Oct-20	636.62	920.41	842.63	958.24	249.47	225.60	263.89	40.41	35.76	43.28
10	10-Oct-20	627.9	922.78	878.98	957.16	250.86	239.27	263.38	40.67	37.99	43.18
11	11-Oct-20	516.94	875.36	833.72	948.03	237.30	223.13	260.70	38.06	35.28	42.66
12	12-Oct-20	511.49	879.46	831.67	935.53	238.52	222.27	257.35	38.31	35.11	42.01
13	13-Oct-20	522.85	888.14	852.54	932.60	241.77	228.32	256.11	38.99	36.28	41.76
14	14-Oct-20	474	868.76	842.02	892.17	236.25	226.73	244.89	37.86	36.01	39.60
15	15-Oct-20	483.45	865.09	840.68	888.92	234.19	224.80	244.17	37.46	35.60	39.47
16	16-Oct-20	413.13	836.11	797.97	878.61	226.11	212.65	238.89	35.92	33.19	38.39
17	17-Oct-20	402.32	838.14	802.13	913.40	226.99	214.32	251.02	36.09	33.58	40.79
18	18-Oct-20	390.73	831.45	798.35	910.36	224.89	213.02	250.02	35.64	33.33	40.32
19	19-Oct-20	423.01	847.06	802.92	929.01	229.57	214.51	255.62	36.56	33.62	41.68
20	20-Oct-20	420.04	842.48	799.59	898.50	228.06	213.27	244.31	36.28	33.37	39.43
21	21-Oct-20	415.81	838.48	797.44	900.88	226.59	212.66	245.67	36.01	33.08	39.71
22	22-Oct-20	410.8	839.09	797.03	908.50	227.28	212.49	249.01	36.12	33.22	40.39
23	23-Oct-20	433.25	849.46	798.28	926.52	230.02	212.94	253.64	36.70	33.31	41.45
24	24-Oct-20	502.49	876.38	812.55	941.97	237.84	217.54	258.04	38.17	34.21	42.05
25	25-Oct-20	402.7	835.12	799.08	890.95	226.49	213.34	244.02	36.04	33.64	39.01
26	26-Oct-20	427.54	849.32	803.71	946.37	230.25	215.08	259.30	36.67	33.74	42.36
27	27-Oct-20	431.87	854.87	800.64	956.25	232.24	213.95	263.17	37.10	33.51	43.33
28	28-Oct-20	469.43	865.46	799.14	951.70	234.63	213.43	261.60	37.52	33.41	42.49
29	29-Oct-20	466.59	866.67	810.84	946.07	235.56	217.80	260.17	37.77	34.05	42.55
30	30-Oct-20	464.26	870.98	800.30	953.10	237.08	213.87	262.27	38.03	33.31	42.96
31	31-Oct-20	510.67	878.37	821.00	945.11	238.25	221.48	258.94	38.28	35.01	42.29

CEMS DAYWISE VALUES FOR THE MONTH OF NOV '2020											
S.NO.	DATE	UNIT# 1 LOAD(MW)	UNIT# 1 SOX(mg/nm3)			UNIT# 1 NOX(mg/nm3)			UNIT# 1 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Nov-20	439.52	852.22	803.53	946.28	231.07	214.7	258.64	36.88	33.89	42.22
2	02-Nov-20	462.28	854.64	798.23	952.18	230.7	212.93	261.48	36.82	33.31	42.8
3	03-Nov-20	461.57	866.3	799.99	952.53	235.44	213.65	261.78	37.76	33.45	42.86
4	04-Nov-20	482.36	870.73	797.46	947.92	236.12	212.61	260.17	37.84	33.24	42.54
5	05-Nov-20	486.94	874.24	802.29	952.79	237.29	214.56	262.43	38.05	33.63	43
6	06-Nov-20	424.86	846.87	800.89	927.89	229.54	213.69	254.48	36.56	33.45	41.37
7	07-Nov-20	457.77	863.24	802.24	948.59	234.35	213.91	260.12	37.55	33.49	42.91
8	08-Nov-20	475.95	881.76	800.57	944.59	240.43	214.09	259.81	38.69	33.46	42.49
9	09-Nov-20	520.87	889.65	809.23	955.54	241.77	217.54	262.66	38.92	34.41	43.03
10	10-Nov-20	233.05	851.82	800.61	947.32	230.49	213.9	259.3	36.79	33.39	42.35
11	11-Nov-20	513.7	886.02	799.19	961.97	240.57	212.98	264.89	38.77	33.31	43.47
12	12-Nov-20	519.25	887.32	803.61	953.54	240.99	214.82	262.8	38.81	33.68	43.08
13	13-Nov-20	483.01	872.38	804.74	948.91	236.78	215.55	260.81	38.01	33.75	42.67
14	14-Nov-20	368.89	820.61	794.49	859.09	221.59	211.65	232.36	34.97	33.06	37.11
15	15-Nov-20	367.12	821.41	794.15	854.99	222	211.59	231.02	35.11	33.04	36.93
16	16-Nov-20	372.68	829.04	798.02	860.56	224.76	213.06	235.48	35.67	33.34	37.79
17	17-Nov-20	473.11	870.46	800.39	941.52	236.43	214.04	257.6	37.93	33.53	42.03
18	18-Nov-20	523.15	888.4	796.34	956.86	241.22	212.31	263.58	38.85	33.19	43.22
19	19-Nov-20	532.23	893.9	795.02	954.67	243.15	211.8	262.92	39.23	33.09	43.09
20	20-Nov-20	515.15	889.28	801.2	952.99	241.93	214	262.23	38.99	33.52	42.95
21	21-Nov-20	540.37	896.07	809.5	959.29	243.43	217.24	264.5	39.29	34.43	43.4
22	22-Nov-20	509.89	876.45	794.56	955.16	237.32	211.76	263.11	38.1	33.2	43.13
23	23-Nov-20	223.05	858.12	798.14	943.03	232.4	213.14	259.21	37.13	33.35	42.37
24	24-Nov-20	Unit in shutdown condition									
25	25-Nov-20	Unit in shutdown condition									
26	26-Nov-20	Unit in shutdown condition									
27	27-Nov-20	346.51	838.54	783.28	931.93	227.29	209.66	254.54	36.14	32.7	41.43
28	28-Nov-20	463.32	863.35	804.68	936.04	234.12	215.14	256.03	37.43	33.74	41.67
29	29-Nov-20	513.65	885.3	797.89	954.63	240.61	212.95	263.16	38.67	33.28	43.14
30	30-Nov-20	Unit in shutdown condition									

CEMS DAYWISE VALUES FOR THE MONTH OF DEC '2020											
S.NO.	DATE	UNIT# 1 LOAD(MW)	UNIT# 1 SOX(mg/nm3)			UNIT# 1 NOX(mg/nm3)			UNIT# 1 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Dec-20	553.87	910.96	807.92	946.58	247.82	215.97	260.55	40.14	34.19	42.64
2	02-Dec-20	547.37	888.45	814.71	942.04	240.96	219.59	258.83	38.80	34.64	42.42
3	03-Dec-20	486.16	874.30	790.39	933.98	237.51	210.41	256.77	38.12	32.81	41.90
4	04-Dec-20	515.64	885.45	805.36	955.79	240.37	215.97	263.33	38.70	33.92	43.29
5	05-Dec-20	514.26	884.97	804.39	951.65	240.27	215.60	261.63	38.63	33.65	42.83
6	06-Dec-20	459.12	865.31	797.67	955.00	235.07	212.80	263.12	37.64	33.28	43.13
7	07-Dec-20	497.83	876.32	798.41	945.21	237.57	212.96	259.49	38.12	33.31	42.41
8	08-Dec-20	510.80	884.67	814.87	953.22	240.33	219.41	262.71	38.70	34.86	43.06
9	09-Dec-20	516.20	878.49	791.54	955.83	237.59	210.92	262.83	38.11	32.92	43.06
10	10-Dec-20	515.89	886.29	793.58	957.07	240.69	211.81	263.66	38.68	33.10	43.24
11	11-Dec-20	488.33	873.38	805.32	949.58	236.82	215.35	261.38	38.00	33.78	42.79
12	12-Dec-20	522.19	889.96	805.54	958.28	241.90	215.08	264.02	38.97	33.72	43.31
13	13-Dec-20	502.45	877.94	797.99	947.32	238.04	212.72	260.09	38.24	33.26	42.53
14	14-Dec-20	448.54	852.44	807.75	946.31	230.48	216.42	258.94	36.70	34.28	42.11
15	15-Dec-20	499.96	881.23	799.07	953.90	239.45	213.16	262.71	38.48	33.35	43.05
16	16-Dec-20	192.51	826.40	806.69	852.14	222.84	215.20	233.56	35.26	33.74	37.42
17	17-Dec-20	Unit in shutdown condition									
18	18-Dec-20	Unit in shutdown condition									
19	19-Dec-20	Unit in shutdown condition									
20	20-Dec-20	Unit in shutdown condition									
21	21-Dec-20	Unit in shutdown condition									
22	22-Dec-20	Unit in shutdown condition									
23	23-Dec-20	Unit in shutdown condition									
24	24-Dec-20	Unit in shutdown condition									
25	25-Dec-20	Unit in shutdown condition									
26	26-Dec-20	Unit in shutdown condition									
27	27-Dec-20	Unit in shutdown condition									
28	28-Dec-20	Unit in shutdown condition									
29	29-Dec-20	Unit in shutdown condition									
30	30-Dec-20	Unit in shutdown condition									
31	31-Dec-20	Unit in shutdown condition									

CEMS DAYWISE VALUES FOR THE MONTH OF JAN '2021											
S.NO.	DATE	UNIT# 1 LOAD(MW)	UNIT# 1 SOX(mg/nm3)			UNIT# 1 NOX(mg/nm3)			UNIT# 1 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Jan-21	Unit in shutdown condition									
2	02-Jan-21	Unit in shutdown condition									
3	03-Jan-21	Unit in shutdown condition									
4	04-Jan-21	Unit in shutdown condition									
5	05-Jan-21	Unit in shutdown condition									
6	06-Jan-21	Unit in shutdown condition									
7	07-Jan-21	Unit in shutdown condition									
8	08-Jan-21	Unit in shutdown condition									
9	09-Jan-21	Unit in shutdown condition									
10	10-Jan-21	Unit in shutdown condition									
11	11-Jan-21	Unit in shutdown condition									
12	12-Jan-21	Unit in shutdown condition									
13	13-Jan-21	Unit in shutdown condition									
14	14-Jan-21	Unit in shutdown condition									
15	15-Jan-21	Unit in shutdown condition									
16	16-Jan-21	Unit in shutdown condition									
17	17-Jan-21	Unit in shutdown condition									
18	18-Jan-21	72.84	811.86	797.70	828.94	397.99	352.67	414.82	34.44	33.65	35.98
19	19-Jan-21	506.04	881.31	812.87	950.86	382.15	418.41	401.76	38.47	34.26	42.87
20	20-Jan-21	491.09	874.80	798.07	947.96	363.99	412.71	260.67	38.14	33.26	42.65
21	21-Jan-21	464.69	865.24	806.65	933.12	383.14	381.93	405.94	37.64	34.05	42.25
22	22-Jan-21	453.08	856.36	798.88	925.98	383.73	380.43	404.30	37.02	33.41	40.97
23	23-Jan-21	478.44	870.26	798.66	955.42	386.55	380.95	391.13	37.85	33.38	43.13
24	24-Jan-21	454.05	860.25	803.43	949.90	386.93	381.09	391.45	37.27	33.44	42.72
25	25-Jan-21	398.99	834.55	802.10	948.34	385.93	381.33	390.71	35.86	33.69	42.76
26	26-Jan-21	427.18	847.33	797.54	934.19	396.00	384.40	398.88	36.64	33.25	41.60
27	27-Jan-21	464.08	865.14	809.57	951.30	397.55	383.50	398.48	37.58	34.06	42.33
28	28-Jan-21	501.60	884.62	823.46	949.79	396.03	386.50	397.40	38.79	35.20	42.79
29	29-Jan-21	481.40	876.81	806.57	953.45	395.93	385.01	398.78	38.30	33.83	43.00
30	30-Jan-21	487.63	869.01	793.90	944.00	394.57	383.53	398.74	37.67	33.01	42.19
31	31-Jan-21	467.07	863.73	794.24	945.71	397.99	411.45	401.76	37.41	33.01	42.47

CEMS DAYWISE VALUES FOR THE MONTH OF FEB '2021											
S.NO.	DATE	UNIT# 1 LOAD(MW)	UNIT# 1 SOX(mg/nm3)			UNIT# 1 NOX(mg/nm3)			UNIT# 1 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Feb-21	513.26	877.58	804.88	937.63	397.55	383.5	419.51	38.18	33.81	41.92
2	02-Feb-21	487.31	871.71	799.19	941.23	396.03	386.5	407.4	37.92	33.41	42.16
3	03-Feb-21	518.41	883.45	809.66	952.8	395.93	385.01	405.78	38.47	34.06	42.65
4	04-Feb-21	508.73	883.89	799.48	948.27	394.57	383.53	416.74	38.67	33.34	42.66
5	05-Feb-21	519.95	891.15	811.25	959.66	394.34	385.53	420.53	39.06	33.8	43.42
6	06-Feb-21	505.77	877.63	806.42	945.97	394.47	383.49	418.13	38.16	33.41	42.35
7	07-Feb-21	497.86	883.46	795.08	955.11	406.3	388.21	423.09	38.68	33.08	43.13
8	08-Feb-21	505.6	882.24	801.37	955.43	399.62	383.68	423.28	38.54	33.45	43.35
9	09-Feb-21	520.25	889.55	804.97	948.51	401.86	385	421.37	38.95	33.71	42.8
10	10-Feb-21	534.78	893.31	802.84	950.41	402.79	384.63	421.44	39.17	33.64	42.8
11	11-Feb-21	529.88	891.65	806.57	954.66	402.35	386.71	423.05	39.09	34.07	43.12
12	12-Feb-21	536.54	898.94	802.13	956.66	404.8	384.36	423.53	39.51	33.59	43.21
13	13-Feb-21	535.27	889.69	805.67	944.2	401.25	385.1	419.69	38.85	33.73	42.46
14	14-Feb-21	546.14	894.05	804.16	941.81	402.35	384.91	417.91	39.07	33.7	42.38
15	15-Feb-21	483.52	873.51	798.92	949.88	397.18	383.42	421.19	37.99	33.33	42.75
16	16-Feb-21	462.54	865.93	810.31	956.38	395.19	387.48	423.3	37.7	34.21	43.39
17	17-Feb-21	469.67	865.55	814.28	942.37	394.68	388.78	419.04	37.6	34.47	42.33
18	18-Feb-21	441.29	853.36	797.83	951.1	391.23	383.19	422.03	36.9	33.37	42.92
19	19-Feb-21	362.81	819.18	797.64	845.19	381.31	382.65	391.51	35	33.32	37.02
20	20-Feb-21	417.72	844.72	792.31	926.26	388.85	381.05	412.25	36.42	32.94	40.97
21	21-Feb-21	407.44	844.64	796.55	929.61	389.32	382.41	414.12	36.55	33.21	41.35
22	22-Feb-21	517.44	889.26	807.89	950.64	401.79	386.9	421.92	38.94	34.27	42.9
23	23-Feb-21	550.2	895.51	818.65	931.54	403.13	389.55	414.86	39.19	34.61	41.47
24	24-Feb-21	561.89	903.69	848.09	946.65	405.86	388.01	420.87	39.77	36.41	42.7
25	25-Feb-21	600.38	917.58	868.86	947.12	409.52	394.73	420.66	40.42	37.56	42.65
26	26-Feb-21	596.44	909.9	846.4	940.94	407.14	387.67	418.86	40	36.18	42.3
27	27-Feb-21	624.78	923.21	846.08	952.03	411.24	386.7	421.15	40.76	35.97	42.79
28	28-Feb-21	609.88	919.64	857.5	959.57	410.48	392.14	424.22	40.62	37.33	42.99

CEMS DAYWISE VALUES FOR THE MONTH OF MAR '2021											
S.NO.	DATE	UNIT# 1 LOAD(MW)	UNIT# 1 SOX(mg/nm3)			UNIT# 1 NOX(mg/nm3)			UNIT# 1 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Mar-21	622	921.09	896.71	949.57	410.41	401.33	421.48	40.58	38.8	42.82
2	02-Mar-21	642.25	930.08	905.76	961.13	413.06	403.66	424.82	41.1	39.24	43.17
3	03-Mar-21	619.59	915.92	878.88	951.27	408.52	396.86	422.05	40.24	37.95	42.93
4	04-Mar-21	593.8	908.14	854.58	944.79	406.48	388.79	420.23	39.9	36.84	42.58
5	05-Mar-21	617.36	921	881.48	960.69	410.51	397.96	424.81	40.69	38.17	43.46
6	06-Mar-21	573.14	899.65	824.83	943.41	404.2	380.36	419.69	39.42	34.74	42.47
7	07-Mar-21	596.7	912.91	834.93	946.27	408.38	383.42	419.48	40.25	35.33	42.84
8	08-Mar-21	623.77	927.49	847.79	961.53	412.55	387.7	424.96	40.98	36.17	43.49
9	09-Mar-21	650.91	934.96	911.89	959.04	414.66	405.28	424.09	41.42	39.56	43.32
10	10-Mar-21	634.77	929.32	903.21	961.43	413.2	403.03	425.05	41.15	39.13	43.51
11	11-Mar-21	582.59	904.84	817.09	951.19	405.83	380.47	421.68	39.68	34.82	42.59
12	12-Mar-21	594.48	918.64	862.94	944.89	410.27	392.69	420.1	40.58	37.15	42.57
13	13-Mar-21	580.42	913.49	864.16	952.39	409.03	391.66	422.45	40.35	36.92	43.01
14	14-Mar-21	613.78	925.1	880.83	951.77	412.29	396.65	421.99	40.93	37.89	42.92
15	15-Mar-21	640.29	934.67	912.62	958	414.84	406.51	423.97	41.47	39.82	43.3
16	16-Mar-21	641.91	923.64	906.09	955.58	410.56	404.09	422.86	40.59	39.34	43.07
17	17-Mar-21	623.24	923.33	901.08	950.42	411.31	402.3	421.63	40.78	38.98	42.84
18	18-Mar-21	638.9	934.34	906.03	960.53	414.81	403.85	424.7	41.46	39.28	43.44
19	19-Mar-21	646.05	935.25	873.66	960.99	414.97	395.42	424.8	41.5	37.41	43.46
20	20-Mar-21	592.14	912.74	832.85	960.81	408.42	383.46	424.78	40.18	35.36	43.35
21	21-Mar-21	439.75	847.57	799.17	894.02	389.24	373.17	403.64	36.52	33.35	39.37
22	22-Mar-21	500.7	877.93	813.43	946.72	398.21	379.26	420.48	38.26	34.58	42.62
23	23-Mar-21	465.65	861.48	800.44	928.71	393.45	374.39	415.07	37.36	33.61	41.56
24	24-Mar-21	545.39	889.71	826.58	942.68	401.09	382.42	419.63	38.84	35.56	42.46
25	25-Mar-21	585.44	899.7	810.98	938.72	403.76	377.17	418.43	39.31	34.15	42.22
26	26-Mar-21	627.46	932.59	900.06	958.36	414.65	402.9	423.92	41.5	39.12	43.29
27	27-Mar-21	624.3	920.74	875.98	954.72	410.19	395.15	423.29	40.56	37.6	43.17
28	28-Mar-21	606.8	919.58	886	950.1	410.53	397.88	421.3	40.6	38.12	42.77
29	29-Mar-21	565.13	902.77	838.92	942.98	405.65	384.64	419.44	39.65	35.57	42.42
30	30-Mar-21	584.28	907.84	845.86	934.66	406.94	387.23	416.98	39.95	36.09	42.08
31	31-Mar-21	584.29	908.8	844.87	945.47	407.25	387.02	420.03	40.01	36.05	42.53

CEMS DAYWISE VALUES FOR THE MONTH OF OCT '2020											
S.NO.	DATE	UNIT# 2 LOAD(MW)	UNIT# 2 SOX(mg/nm3)			UNIT# 2 NOX(mg/nm3)			UNIT# 2 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Oct-20	Unit in shutdown condition									
2	02-Oct-20	Unit in shutdown condition									
3	03-Oct-20	Unit in shutdown condition									
4	04-Oct-20	Unit in shutdown condition									
5	05-Oct-20	462.32	957.46	865.47	986.72	282.22	255.09	295.59	45.96	41.02	47.92
6	06-Oct-20	611.98	954.68	881.41	994.45	281.18	256.40	297.93	45.62	41.28	47.64
7	07-Oct-20	587.15	945.57	916.98	975.31	278.30	265.92	292.36	45.38	43.18	47.85
8	08-Oct-20	624.72	962.66	930.26	988.35	283.81	269.97	294.69	46.10	43.99	47.91
9	09-Oct-20	346.14	961.38	924.24	987.90	283.27	271.84	295.65	46.39	44.37	47.90
10	10-Oct-20	Unit in shutdown condition									
11	11-Oct-20	Unit in shutdown condition									
12	12-Oct-20	332.49	946.72	846.29	996.53	278.61	246.46	298.50	45.27	39.29	47.83
13	13-Oct-20	638.58	971.39	944.87	996.94	287.43	274.71	298.72	46.55	44.94	47.93
14	14-Oct-20	586.02	943.67	887.28	989.23	277.86	259.41	295.55	45.53	41.88	47.70
15	15-Oct-20	563.25	935.66	871.28	985.95	275.21	251.43	295.16	44.90	40.29	47.88
16	16-Oct-20	584.79	943.65	853.81	988.56	277.82	247.14	296.08	45.25	39.43	47.90
17	17-Oct-20	642.76	969.79	925.64	993.16	286.26	273.10	296.98	46.08	44.62	47.79
18	18-Oct-20	618.76	958.23	926.06	995.39	282.51	267.83	298.57	45.48	43.57	47.87
19	19-Oct-20	646.49	970.25	950.68	993.01	285.97	275.72	297.54	45.98	44.86	47.84
20	20-Oct-20	649.99	970.94	947.04	993.24	286.25	275.54	296.94	45.79	42.72	47.50
21	21-Oct-20	649.24	970.79	945.17	996.73	286.19	273.66	299.01	44.30	41.99	46.84
22	22-Oct-20	650.78	971.81	947.03	996.17	286.56	274.12	298.50	44.33	41.86	46.73
23	23-Oct-20	640.70	964.27	944.32	988.55	283.65	273.98	295.34	43.80	41.86	46.10
24	24-Oct-20	647.01	968.95	941.60	990.93	285.39	273.27	296.55	44.13	41.54	46.37
25	25-Oct-20	614.64	958.51	872.36	987.08	282.81	257.85	295.51	43.77	39.87	46.22
26	26-Oct-20	599.32	951.76	851.94	991.81	280.80	248.96	296.40	43.51	38.17	46.31
27	27-Oct-20	650.60	967.88	950.94	988.23	284.67	275.93	294.56	43.92	41.94	45.94
28	28-Oct-20	651.67	974.99	949.59	994.36	288.14	275.62	297.93	44.69	42.17	46.63
29	29-Oct-20	651.26	972.33	946.63	995.40	286.83	274.00	298.46	44.39	41.84	46.74
30	30-Oct-20	653.19	969.51	949.73	995.23	285.25	275.53	297.92	44.10	42.15	46.66
31	31-Oct-20	649.23	968.73	948.65	995.03	285.19	274.89	297.92	44.10	41.98	46.61
CEMS DAYWISE VALUES FOR THE MONTH OF NOV '2020											
S.NO.	DATE	UNIT# 2 LOAD(MW)	UNIT# 2 SOX(mg/nm3)			UNIT# 2 NOX(mg/nm3)			UNIT# 2 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Nov-20	651.14	971.94	950.05	996.74	286.62	275.38	298.76	44.36	42.1	46.77
2	02-Nov-20	650.82	974.43	950.2	995.43	287.92	275.57	298.22	44.63	42.14	46.67
3	03-Nov-20	650.87	969.06	945.68	997.43	285.24	273.83	298.59	44.11	41.95	46.61
4	04-Nov-20	652.38	969.76	946.2	994.6	285.45	274.08	298.29	44.18	41.88	46.72
5	05-Nov-20	650.28	971.07	949.08	995.45	286.26	275.3	298.45	44.31	42.11	46.73
6	06-Nov-20	648.69	974.73	946.93	996.42	288.24	274.14	298.45	44.72	41.87	46.71
7	07-Nov-20	635.96	966.48	908.52	987.11	285	262.83	294.63	44.1	40.08	45.99
8	08-Nov-20	623.79	958.17	907.84	983.64	281.94	265.71	294.96	43.59	41.16	46.18
9	09-Nov-20	649.68	971.48	947.09	995.64	286.54	274.17	298.22	44.36	41.87	46.67
10	10-Nov-20	653.75	972.85	948.54	996.54	286.85	274.94	298.37	44.38	42.03	46.68
11	11-Nov-20	652.12	970.57	946.51	997.95	285.89	273.97	299.07	44.24	42.19	46.65
12	12-Nov-20	651.2	966.87	942.27	991.09	284.13	272.95	296.22	43.82	41.7	46.28
13	13-Nov-20	651.81	972.14	950	994.31	286.67	275.85	297.79	44.32	42.1	46.2
14	14-Nov-20	617.96	955.26	884.62	991.01	281.03	257.78	295.94	43.41	39.48	46.25
15	15-Nov-20	570.56	944.51	849.9	987.07	278.3	247.57	294.37	43.05	37.9	45.92
16	16-Nov-20	592.66	951.58	847.99	996.06	280.74	247.19	298.65	43.42	37.83	46.76
17	17-Nov-20	646.61	965.92	943.11	996.19	283.99	273.53	298.62	43.87	41.82	46.76
18	18-Nov-20	645.13	972.1	941.58	994.9	286.99	272.48	298.12	44.48	41.6	46.7
19	19-Nov-20	648.12	978.3	951.82	994.23	290.06	276.86	298.11	45.11	42.43	46.68
20	20-Nov-20	224.27	977.37	957.76	994.74	289.49	279.75	297.84	45.02	43	46.6
21	21-Nov-20	Unit in shutdown condition									
22	22-Nov-20	Unit in shutdown condition									
23	23-Nov-20	Unit in shutdown condition									
24	24-Nov-20	499.58	966.48	851.8	994.67	285.16	247.28	298.03	44.14	37.74	46.65
25	25-Nov-20	652.1	975.81	947.48	995.49	288.55	274.27	298.55	44.71	41.88	46.76
26	26-Nov-20	644.47	969.71	945.76	989.7	286.09	274.1	296.15	44.32	41.89	46.31
27	27-Nov-20	623.63	958.3	852.7	992.56	282	246.2	296.91	43.59	37.43	46.42
28	28-Nov-20	570.1	951.9	861.92	996.62	281.68	254.06	298.99	43.67	39.2	46.84
29	29-Nov-20	652.64	972.54	948.42	997.53	286.82	274.78	298.97	44.43	41.99	46.83
30	30-Nov-20	651.42	972.2	948.17	995.37	286.77	274.51	298.33	44.37	41.93	46.7

CEMS DAYWISE VALUES FOR THE MONTH OF DEC '2020											
S.NO.	DATE	UNIT# 2 LOAD(MW)	UNIT# 2 SOX(mg/nm3)			UNIT# 2 NOX(mg/nm3)			UNIT# 2 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Dec-20	652.91	969.31	948.26	990.12	285.19	274.73	295.48	44.06	41.98	46.14
2	02-Dec-20	652.47	972.35	949.10	994.62	286.76	275.21	297.97	44.40	42.35	46.63
3	03-Dec-20	651.59	971.77	947.61	997.84	286.52	274.49	299.31	44.31	41.94	46.76
4	04-Dec-20	651.68	968.98	947.30	994.63	285.12	274.28	298.01	44.05	41.89	46.64
5	05-Dec-20	651.48	971.69	950.82	997.48	286.49	275.94	299.21	44.34	42.21	46.87
6	06-Dec-20	650.19	971.64	935.19	997.42	286.61	271.49	299.14	44.34	41.53	46.85
7	07-Dec-20	642.72	973.33	933.36	995.01	287.87	273.75	298.48	44.67	42.01	46.75
8	08-Dec-20	622.65	964.89	896.65	998.01	285.15	266.05	299.38	44.17	41.05	46.90
9	09-Dec-20	632.01	966.13	929.06	992.67	285.23	269.97	296.37	44.22	41.32	46.46
10	10-Dec-20	651.98	969.80	946.94	992.26	285.50	274.11	296.51	44.14	41.86	46.05
11	11-Dec-20	651.83	967.83	947.03	992.88	284.54	274.15	297.38	43.97	41.87	46.53
12	12-Dec-20	599.15	967.28	946.93	995.44	284.45	274.48	298.25	43.93	41.96	46.68
13	13-Dec-20	Unit in shutdown condition									
14	14-Dec-20	Unit in shutdown condition									
15	15-Dec-20	346.72	956.54	871.11	987.27	281.21	257.90	294.25	43.39	39.92	46.29
16	16-Dec-20	652.79	970.56	947.66	994.04	285.76	274.71	297.18	44.20	41.97	46.45
17	17-Dec-20	653.08	967.57	948.36	993.77	284.34	275.91	297.40	43.91	42.22	46.51
18	18-Dec-20	656.05	968.80	950.14	994.78	284.71	275.50	297.86	43.96	42.12	46.60
19	19-Dec-20	653.68	971.60	947.65	998.98	289.49	278.45	304.40	44.32	41.93	46.86
20	20-Dec-20	650.36	974.41	947.18	993.45	297.94	284.21	307.28	44.63	41.87	46.49
21	21-Dec-20	649.53	967.05	946.04	989.77	294.34	284.25	305.72	43.92	41.92	46.19
22	22-Dec-20	650.33	970.95	951.59	997.78	296.16	286.90	309.18	44.33	42.42	46.85
23	23-Dec-20	649.97	969.07	949.35	995.57	295.32	285.74	308.29	44.10	42.19	46.69
24	24-Dec-20	654.79	976.23	954.67	996.84	298.45	287.63	308.86	44.70	42.54	46.80
25	25-Dec-20	657.54	975.95	952.05	997.29	298.15	286.20	308.89	44.63	42.25	46.79
26	26-Dec-20	656.81	974.65	949.33	998.67	297.56	285.11	309.44	44.56	42.05	46.89
27	27-Dec-20	657.04	970.40	949.69	993.79	295.42	285.18	307.11	44.10	42.17	46.43
28	28-Dec-20	656.45	974.00	947.81	996.17	297.28	284.56	308.82	44.48	41.95	46.81
29	29-Dec-20	657.59	973.57	952.08	996.78	296.98	286.17	308.57	44.37	42.24	46.72
30	30-Dec-20	657.23	974.62	952.50	997.06	297.51	286.30	308.44	44.51	41.94	46.71
31	31-Dec-20	657.81	971.03	948.19	995.35	295.69	284.30	307.80	44.11	41.89	46.57

CEMS DAYWISE VALUES FOR THE MONTH OF JAN '2021											
S.NO.	DATE	UNIT# 2 LOAD(MW)	UNIT# 2 SOX(mg/nm3)			UNIT# 2 NOX(mg/nm3)			UNIT# 2 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Jan-21	657.64	978.03	950.62	997.94	398.31	385.95	398.19	44.88	42.20	46.85
2	02-Jan-21	656.42	974.36	952.08	994.62	397.49	385.89	397.46	44.49	42.17	46.69
3	03-Jan-21	651.89	971.86	949.14	994.74	396.56	385.31	398.18	44.35	42.11	46.68
4	04-Jan-21	652.47	971.87	951.68	997.71	396.50	386.46	398.76	44.32	42.33	46.79
5	05-Jan-21	652.46	971.23	947.84	996.47	396.18	384.36	398.58	44.32	41.90	46.74
6	06-Jan-21	648.66	973.12	938.24	995.34	397.45	383.13	398.45	44.56	41.61	46.74
7	07-Jan-21	646.77	973.65	951.80	997.59	397.70	386.57	398.56	44.59	42.35	46.93
8	08-Jan-21	642.41	968.20	937.82	993.99	395.49	381.60	397.50	44.20	41.47	46.64
9	09-Jan-21	648.14	971.51	949.53	994.71	396.63	385.53	398.11	44.39	42.15	46.67
10	10-Jan-21	652.91	968.03	949.57	993.81	394.54	385.37	397.59	43.94	42.11	46.56
11	11-Jan-21	652.45	970.86	947.79	996.49	396.00	384.40	398.88	44.27	41.91	46.81
12	12-Jan-21	646.03	972.97	934.09	996.36	397.55	383.50	398.48	44.56	41.50	46.72
13	13-Jan-21	650.22	970.97	951.47	994.24	396.03	386.50	397.40	44.19	41.98	46.50
14	14-Jan-21	652.08	970.66	948.54	996.43	395.93	385.01	398.78	44.23	42.05	46.79
15	15-Jan-21	650.01	967.57	944.89	996.56	394.57	383.53	398.74	44.01	41.77	46.78
16	16-Jan-21	647.24	966.65	947.93	995.07	394.34	385.53	398.53	43.88	41.96	46.57
17	17-Jan-21	646.82	967.00	944.01	997.09	394.47	383.49	398.13	43.93	41.79	46.86
18	18-Jan-21	639.81	964.39	938.58	991.97	393.81	381.67	396.61	43.85	41.38	46.36
19	19-Jan-21	642.41	963.76	942.13	993.89	393.13	383.93	397.61	43.70	41.69	46.56
20	20-Jan-21	643.88	971.04	935.00	993.65	396.69	380.53	397.96	44.39	41.29	46.66
21	21-Jan-21	643.68	971.51	943.70	994.01	397.01	383.36	397.63	44.48	42.03	46.56
22	22-Jan-21	649.07	969.05	950.64	988.93	395.33	385.87	395.51	44.11	42.21	46.17
23	23-Jan-21	651.91	972.68	949.78	997.57	396.95	385.89	397.35	44.43	42.24	46.88
24	24-Jan-21	644.65	969.07	945.79	992.59	395.71	383.88	397.67	44.17	41.85	46.54
25	25-Jan-21	644.41	968.53	942.27	989.33	395.43	383.75	396.16	44.12	41.65	46.32
26	26-Jan-21	641.47	969.18	936.73	992.18	396.03	383.65	396.93	44.28	42.05	46.45
27	27-Jan-21	631.28	959.35	878.77	996.11	391.73	385.30	398.73	43.51	39.18	46.78
28	28-Jan-21	648.68	972.48	950.48	992.44	397.09	386.98	396.96	44.43	42.50	46.44
29	29-Jan-21	649.65	967.93	946.92	992.25	394.75	384.38	396.67	44.04	41.91	46.66
30	30-Jan-21	650.61	972.80	947.58	995.83	397.11	384.65	398.49	44.47	41.98	46.73
31	31-Jan-21	650.13	964.66	945.55	985.87	393.08	383.81	393.73	43.64	41.82	45.79

CEMS DAYWISE VALUES FOR THE MONTH OF FEB '2021											
S.NO.	DATE	UNIT# 2 LOAD(MW)	UNIT# 2 SOX(mg/nm3)			UNIT# 2 NOX(mg/nm3)			UNIT# 2 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Feb-21	648.55	976.48	959.15	995.44	401.25	396.50	417.40	44.89	43.25	46.74
2	02-Feb-21	643.08	970.56	947.52	995.88	405.23	402.01	418.78	44.39	42.01	46.79
3	03-Feb-21	651.62	972.71	949.82	998.01	398.25	399.53	418.74	44.42	42	46.85
4	04-Feb-21	649.96	973.16	947.64	994.8	408.25	401.53	414.25	44.54	41.93	46.64
5	05-Feb-21	650.28	972.74	949.41	996.88	410.25	403.49	421.13	44.42	42.05	46.85
6	06-Feb-21	649.57	966.56	945.94	995.45	407.23	401.67	420.61	43.87	41.82	46.71
7	07-Feb-21	649.61	971.19	948.23	993.7	401.23	402.93	419.61	44.34	42	46.55
8	08-Feb-21	649.01	967.43	944.32	994.8	413.22	404.17	424.22	43.94	41.75	46.72
9	09-Feb-21	653.62	969.42	956.27	993.85	413.88	408.7	423.73	44.06	42.81	46.56
10	10-Feb-21	655.58	974.52	947.52	997.75	415.82	405.16	425.17	44.57	42.06	46.89
11	11-Feb-21	658.18	970.95	950.42	995.54	414.31	406.04	424.48	44.13	42.04	46.77
12	12-Feb-21	654.02	971.04	944.69	998.33	414.52	404.25	425.2	44.17	41.75	46.84
13	13-Feb-21	649.07	970.61	947.15	995.95	414.51	405.28	424.51	44.29	41.94	46.67
14	14-Feb-21	648.35	967.48	942.35	996.8	413.25	403.63	424.69	43.96	41.68	46.74
15	15-Feb-21	649.56	975.75	951.71	994.79	416.53	406.96	424.13	44.72	42.39	46.5
16	16-Feb-21	644.66	972.98	943.12	993.6	415.59	403.79	423.82	44.63	41.97	46.64
17	17-Feb-21	646.01	966.25	947.19	991.76	412.85	405.08	423.04	43.88	41.91	46.42
18	18-Feb-21	628.23	953.65	869.69	984.14	408.55	383.93	419.92	43.02	38.57	45.63
19	19-Feb-21	531.47	928.96	851.8	991.08	401.77	377.79	422.89	42.2	38.22	46.22
20	20-Feb-21	594.52	949.21	847.48	996.61	408.09	375.94	424.8	43.3	37.72	46.82
21	21-Feb-21	626.17	966.03	871.09	996.39	413.58	382.01	424.76	44.34	38.26	46.82
22	22-Feb-21	643.72	971.89	944.18	992.01	415.24	404.27	423.27	44.52	41.81	46.53
23	23-Feb-21	645.2	971.42	945.65	994.64	414.95	404.71	423.95	44.43	41.74	46.59
24	24-Feb-21	647.26	973.7	949.02	996.41	415.8	405.95	424.7	44.64	42.16	46.79
25	25-Feb-21	642.21	969.21	943.42	991.6	414.2	403.98	423.23	44.29	41.74	46.55
26	26-Feb-21	644.63	971.54	947.41	994.81	415.01	405.14	424.21	44.43	41.91	46.71
27	27-Feb-21	640.08	965.62	940.33	991.45	412.82	403.34	422.75	43.95	41.68	46.34
28	28-Feb-21	644.74	969.59	946.57	994.26	414.24	404.91	423.88	44.25	41.78	46.6

CEMS DAYWISE VALUES FOR THE MONTH OF MAR '2021											
S.NO.	DATE	UNIT# 2 LOAD(MW)	UNIT# 2 SOX(mg/nm3)			UNIT# 2 NOX(mg/nm3)			UNIT# 2 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Mar-21	645.25	968.64	943.86	993.05	413.86	404.09	423.72	44.15	41.75	46.65
2	02-Mar-21	650.49	969.38	948.43	994.44	414	405.61	424.35	44.15	42.05	46.72
3	03-Mar-21	612.62	954.5	837.46	993.13	409.54	373.5	423.47	43.48	37.56	46.5
4	04-Mar-21	Unit in shutdown condition									
5	05-Mar-21	Unit in shutdown condition									
6	06-Mar-21	Unit in shutdown condition									
7	07-Mar-21	Unit in shutdown condition									
8	08-Mar-21	Unit in shutdown condition									
9	09-Mar-21	Unit in shutdown condition									
10	10-Mar-21	Unit in shutdown condition									
11	11-Mar-21	Unit in shutdown condition									
12	12-Mar-21	Unit in shutdown condition									
13	13-Mar-21	Unit in shutdown condition									
14	14-Mar-21	Unit in shutdown condition									
15	15-Mar-21	Unit in shutdown condition									
16	16-Mar-21	Unit in shutdown condition									
17	17-Mar-21	Unit in shutdown condition									
18	18-Mar-21	Unit in shutdown condition									
19	19-Mar-21	Unit in shutdown condition									
20	20-Mar-21	Unit in shutdown condition									
21	21-Mar-21	Unit in shutdown condition									
22	22-Mar-21	Unit in shutdown condition									
23	23-Mar-21	Unit in shutdown condition									
24	24-Mar-21	Unit in shutdown condition									
25	25-Mar-21	Unit in shutdown condition									
26	26-Mar-21	Unit in shutdown condition									
27	27-Mar-21	Unit in shutdown condition									
28	28-Mar-21	Unit in shutdown condition									
29	29-Mar-21	Unit in shutdown condition									
30	30-Mar-21	Unit in shutdown condition									
31	31-Mar-21	Unit in shutdown condition									

CEMS DAYWISE VALUES FOR THE MONTH OF OCT '2020											
S.NO.	DATE	UNIT# 3 LOAD(MW)	UNIT# 3 SOX(mg/nm3)			UNIT# 3 NOX(mg/nm3)			UNIT# 3 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Oct-20	647.12	967.79	945.96	993.35	275.42	270.86	280.66	42.98	41.27	44.95
2	02-Oct-20	645.34	969.26	942.47	990.14	275.62	270.26	279.98	43.13	41.10	44.80
3	03-Oct-20	642.04	968.46	943.96	986.70	275.32	270.50	279.08	43.10	41.10	44.52
4	04-Oct-20	609.19	954.69	923.30	988.24	270.80	262.24	279.52	42.14	39.80	44.19
5	05-Oct-20	586.02	948.90	921.61	974.95	268.69	262.40	274.74	41.79	39.57	43.79
6	06-Oct-20	601.76	956.83	923.00	984.74	271.11	263.26	278.20	42.32	39.75	44.44
7	07-Oct-20	636.06	962.25	939.40	982.95	273.79	268.97	277.85	42.64	40.80	44.47
8	08-Oct-20	634.47	961.07	933.95	986.75	273.42	267.18	279.49	42.54	40.44	44.49
9	09-Oct-20	648.56	973.63	951.16	998.35	276.73	272.26	282.15	43.42	41.64	45.37
10	10-Oct-20	642.65	970.07	941.18	993.60	275.65	269.44	280.68	43.21	40.93	45.06
11	11-Oct-20	630.67	962.63	892.16	994.69	273.65	253.36	281.08	42.65	37.69	45.11
12	12-Oct-20	583.09	944.87	885.09	979.60	267.75	249.66	277.31	41.51	37.37	43.99
13	13-Oct-20	622.64	960.10	928.32	990.43	272.80	265.25	280.04	42.55	40.08	44.79
14	14-Oct-20	576.11	941.83	886.51	982.99	266.42	249.44	278.26	41.35	37.54	44.23
15	15-Oct-20	569.18	938.75	877.79	984.15	265.86	247.72	278.65	41.11	36.84	44.31
16	16-Oct-20	589.3	945.24	856.69	993.27	267.83	239.10	280.64	41.55	35.35	45.02
17	17-Oct-20	635.45	959.25	900.10	991.53	273.11	255.39	279.83	42.38	38.28	44.93
18	18-Oct-20	630.01	965.78	936.27	996.38	274.19	267.02	281.40	42.96	40.92	45.25
19	19-Oct-20	646.3	970.50	946.86	992.96	276.00	270.93	280.93	43.23	41.35	44.99
20	20-Oct-20	645.39	971.12	945.25	994.63	275.99	270.91	281.25	43.21	41.19	45.38
21	21-Oct-20	651.03	972.51	949.22	995.32	276.55	271.74	280.97	43.40	41.50	45.19
22	22-Oct-20	643.58	966.80	945.80	995.19	275.04	270.49	281.09	42.91	41.29	45.16
23	23-Oct-20	639.07	964.17	941.36	996.11	274.32	269.43	281.67	42.77	40.94	45.19
24	24-Oct-20	649.24	968.28	947.06	993.36	275.61	271.20	280.58	43.05	41.34	45.03
25	25-Oct-20	625.2	960.03	867.33	999.29	272.71	242.21	282.03	42.51	36.65	45.25
26	26-Oct-20	601.16	948.95	848.13	992.37	269.18	237.26	280.26	41.75	34.57	44.97
27	27-Oct-20	650.37	967.75	947.02	992.56	275.57	271.38	280.48	42.97	41.32	44.96
28	28-Oct-20	649.74	968.89	947.98	994.26	275.79	271.59	280.92	43.12	41.39	45.04
29	29-Oct-20	651.02	973.76	951.20	994.25	276.84	272.26	281.03	43.47	41.47	45.07
30	30-Oct-20	649.82	973.17	948.48	994.42	276.63	271.56	280.84	43.35	41.43	45.11
31	31-Oct-20	651.45	967.80	945.60	995.91	275.63	270.93	281.33	42.96	41.22	45.21
CEMS DAYWISE VALUES FOR THE MONTH OF NOV '2020											
S.NO.	DATE	UNIT# 3 LOAD(MW)	UNIT# 3 SOX(mg/nm3)			UNIT# 3 NOX(mg/nm3)			UNIT# 3 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Nov-20	649.38	969.46	946.2	996.41	275.85	271.14	281.4	43.11	41.26	45.25
2	02-Nov-20	650.29	970.17	954.44	998.64	276.07	272.83	282.12	43.25	41.91	45.4
3	03-Nov-20	649.26	969.28	947.91	991.37	275.84	271.64	280.11	43.05	41.37	44.88
4	04-Nov-20	648.24	969.76	946.4	992.21	275.85	271.14	280.35	43.12	41.28	45.17
5	05-Nov-20	648.76	967.31	948.84	988.92	275.41	271.73	279.65	42.9	41.46	44.44
6	06-Nov-20	645.9	974.01	943.03	995.1	276.59	269.2	281.21	43.48	41.15	45.14
7	07-Nov-20	641.68	968.92	905.58	994.26	275.42	255.97	280.95	43.12	39.03	45.03
8	08-Nov-20	634.37	966.37	878.01	997.22	274.47	247.66	281.93	42.91	36.87	45.14
9	09-Nov-20	650.02	967.53	947.72	995.92	275.5	271.5	281.17	42.88	41.37	45.23
10	10-Nov-20	522.93	969.11	947.23	995.84	275.65	270.92	281.2	43.12	41.39	45.22
11	11-Nov-20	Unit in shutdown condition									
12	12-Nov-20	Unit in shutdown condition									
13	13-Nov-20	Unit in shutdown condition									
14	14-Nov-20	595.95	962.63	888.63	995.4	272.95	249.91	281.95	42.73	37.7	45.49
15	15-Nov-20	570.3	947.32	845.46	993.47	268.03	236.87	280.64	41.68	34.72	45.16
16	16-Nov-20	598.3	955.84	857.44	993.06	270.64	239.7	280.46	42.22	35.18	45.01
17	17-Nov-20	649.17	966.5	945.19	989.78	275.26	270.8	279.85	42.85	41.19	44.75
18	18-Nov-20	649.42	971.71	944.34	997	276.31	270.59	281.52	43.26	41.13	45.3
19	19-Nov-20	650.09	971.43	946.74	998.8	276.31	271.08	282.16	43.26	41.32	45.41
20	20-Nov-20	647.2	971.36	943.94	995.18	276.13	270.37	281.13	43.28	41.11	45.18
21	21-Nov-20	648.24	969.2	946.5	993.18	275.75	271.09	280.46	43.11	41.3	45.03
22	22-Nov-20	648.43	969.81	946.26	995.98	275.9	271.02	281.21	43.21	41.36	45.23
23	23-Nov-20	648.92	970.94	947.25	995.6	276.17	271.3	281.28	43.23	41.21	45.18
24	24-Nov-20	650.04	965.95	946.99	990.24	275.23	271.37	280.37	42.87	41.32	44.74
25	25-Nov-20	649.52	968.84	948.49	996.42	275.8	271.81	281.41	43.05	41.37	45.25
26	26-Nov-20	652.32	973.84	949	993.87	276.91	271.91	281.04	43.42	41.46	45.03
27	27-Nov-20	624.19	960.98	864.78	998.99	272.78	242.9	282.64	42.6	35.84	45.38
28	28-Nov-20	567.92	946.38	853.95	994.45	267.95	238.87	280.94	41.7	35.37	45.1
29	29-Nov-20	649.77	971.36	948.4	996.38	276.29	271.84	281.35	43.27	41.41	45.26
30	30-Nov-20	649.24	968.61	946.52	995.17	275.7	271.17	281	43	41.29	45.17

CEMS DAYWISE VALUES FOR THE MONTH OF DEC '2020											
S.NO.	DATE	UNIT# 3 LOAD(MW)	UNIT# 3 SOX(mg/nm3)			UNIT# 3 NOX(mg/nm3)			UNIT# 3 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Dec-20	650.48	973.91	950.72	993.85	276.84	272.35	280.82	43.51	41.59	45.06
2	02-Dec-20	650.30	969.01	947.73	996.66	275.83	271.44	281.55	43.05	41.37	45.26
3	03-Dec-20	649.51	972.73	949.69	995.19	276.55	271.94	281.14	43.39	41.53	45.16
4	04-Dec-20	647.81	971.42	947.34	994.44	276.16	271.31	280.84	43.28	41.36	45.11
5	05-Dec-20	647.73	972.27	943.93	994.26	276.38	269.64	281.00	43.37	41.19	45.08
6	06-Dec-20	642.70	975.94	945.01	996.55	276.87	270.22	281.37	43.70	41.24	45.27
7	07-Dec-20	641.05	960.39	939.48	992.07	273.71	267.41	280.46	42.41	40.98	44.91
8	08-Dec-20	623.98	964.99	877.69	988.79	273.80	245.64	279.92	42.89	37.05	44.64
9	09-Dec-20	649.44	971.24	947.95	997.32	276.30	271.77	281.74	43.19	41.37	45.31
10	10-Dec-20	648.33	971.33	944.72	995.28	276.18	270.59	281.06	43.30	41.17	45.18
11	11-Dec-20	649.85	971.48	948.30	992.59	276.31	271.71	280.66	43.30	41.41	44.95
12	12-Dec-20	649.69	977.81	945.40	995.82	277.58	271.21	281.30	43.80	41.32	45.28
13	13-Dec-20	647.72	969.44	947.77	994.55	275.78	271.37	280.75	43.08	41.39	45.13
14	14-Dec-20	648.03	971.56	947.26	995.52	276.21	271.03	281.03	43.25	41.25	45.20
15	15-Dec-20	644.95	969.63	941.92	992.57	275.65	269.32	280.30	43.17	40.90	44.98
16	16-Dec-20	650.10	974.35	953.13	996.07	276.86	272.60	281.27	43.48	41.78	45.17
17	17-Dec-20	652.85	973.25	947.11	998.55	276.77	271.37	282.08	43.41	41.33	45.40
18	18-Dec-20	650.87	967.39	947.81	997.89	275.52	271.73	281.85	42.90	41.36	45.36
19	19-Dec-20	649.42	970.80	947.36	996.33	279.30	271.01	288.65	43.20	41.30	45.24
20	20-Dec-20	648.23	963.11	946.39	995.50	284.58	281.24	291.06	42.63	41.27	45.20
21	21-Dec-20	649.58	975.84	950.70	998.06	287.17	282.32	291.96	43.66	41.59	45.36
22	22-Dec-20	648.96	971.59	947.82	994.06	286.25	281.42	291.22	43.30	41.40	45.18
23	23-Dec-20	624.75	955.77	846.66	994.64	281.82	244.52	291.11	42.15	35.10	45.11
24	24-Dec-20	Unit in shutdown condition									
25	25-Dec-20	Unit in shutdown condition									
26	26-Dec-20	Unit in shutdown condition									
27	27-Dec-20	Unit in shutdown condition									
28	28-Dec-20	Unit in shutdown condition									
29	29-Dec-20	Unit in shutdown condition									
30	30-Dec-20	Unit in shutdown condition									
31	31-Dec-20	Unit in shutdown condition									

CEMS DAYWISE VALUES FOR THE MONTH OF JAN '2021											
S.NO.	DATE	UNIT# 3 LOAD(MW)	UNIT# 3 SOX(mg/nm3)			UNIT# 3 NOX(mg/nm3)			UNIT# 3 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Jan-21	Unit in shutdown condition									
2	02-Jan-21	Unit in shutdown condition									
3	03-Jan-21	Unit in shutdown condition									
4	04-Jan-21	Unit in shutdown condition									
5	05-Jan-21	Unit in shutdown condition									
6	06-Jan-21	Unit in shutdown condition									
7	07-Jan-21	Unit in shutdown condition									
8	08-Jan-21	Unit in shutdown condition									
9	09-Jan-21	Unit in shutdown condition									
10	10-Jan-21	Unit in shutdown condition									
11	11-Jan-21	Unit in shutdown condition									
12	12-Jan-21	Unit in shutdown condition									
13	13-Jan-21	627.70	969.99	910.69	996.66	386.04	368.88	391.84	43.18	38.97	45.23
14	14-Jan-21	655.76	973.87	951.43	998.00	387.04	383.48	393.39	43.44	41.65	45.46
15	15-Jan-21	652.16	974.13	951.36	996.00	386.96	383.31	391.36	43.50	41.66	45.22
16	16-Jan-21	655.67	974.42	949.38	995.00	387.30	381.68	393.37	43.50	41.52	45.46
17	17-Jan-21	652.16	970.15	944.99	996.88	386.13	380.77	391.63	43.16	41.36	45.28
18	18-Jan-21	656.48	973.85	954.89	998.00	387.10	383.11	393.13	43.45	41.93	45.33
19	19-Jan-21	653.74	970.45	952.45	996.65	386.38	383.36	391.56	43.18	41.76	45.26
20	20-Jan-21	652.14	974.10	946.80	997.61	386.91	381.36	391.76	43.47	41.30	45.34
21	21-Jan-21	651.92	972.08	944.89	995.22	386.55	380.95	391.13	43.35	41.26	45.16
22	22-Jan-21	649.31	974.89	946.19	996.56	386.93	381.09	391.45	43.61	41.54	45.26
23	23-Jan-21	646.84	970.32	946.66	993.93	385.93	381.33	390.71	43.18	41.29	45.08
24	24-Jan-21	653.34	970.99	945.27	996.29	386.39	380.79	391.48	43.20	41.20	45.23
25	25-Jan-21	655.15	972.95	951.21	998.00	386.84	383.43	393.36	43.38	41.63	45.41
26	26-Jan-21	646.92	970.98	939.10	996.00	385.98	381.44	391.97	43.22	40.94	45.33
27	27-Jan-21	627.84	963.64	881.14	992.25	383.67	381.99	390.37	42.73	37.04	44.95
28	28-Jan-21	647.05	976.44	950.78	995.29	387.10	381.89	391.00	43.65	41.65	45.13
29	29-Jan-21	646.97	972.70	945.02	994.70	386.40	381.31	390.83	43.39	41.22	45.14
30	30-Jan-21	645.62	974.51	945.37	993.36	386.69	380.80	390.49	43.54	41.21	45.19
31	31-Jan-21	647.39	971.08	947.11	994.51	386.11	381.14	391.16	43.25	41.35	45.23

CEMS DAYWISE VALUES FOR THE MONTH OF FEB '2021											
S.NO.	DATE	UNIT# 3 LOAD(MW)	UNIT# 3 SOX(mg/nm3)			UNIT# 3 NOX(mg/nm3)			UNIT# 3 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Feb-21	646.69	967.92	946.07	993.6	385.43	381.03	390.75	42.99	41.26	44.9
2	02-Feb-21	651.77	975.34	945.07	999.46	387.17	380.85	394.35	43.57	41.48	45.46
3	03-Feb-21	640.24	968.89	945.75	988.38	388.79	382.79	406.81	43.1	41.29	44.66
4	04-Feb-21	643.26	968.39	945.43	992.59	397.44	388.62	404.28	43.06	41.21	44.99
5	05-Feb-21	643.5	972.14	946.08	990.31	389.94	382.33	404.6	43.4	41.25	44.96
6	06-Feb-21	644.61	966.46	946.49	986.54	393.07	383.53	404.99	42.93	41.3	44.51
7	07-Feb-21	645.49	962.45	943.83	985.65	393.12	385.86	402.44	42.56	41.09	44.43
8	08-Feb-21	637.04	970.08	949.86	990.82	396.5	388.01	404.43	43.26	41.67	44.84
9	09-Feb-21	639.23	960.84	941.19	985.85	392.68	385.06	402.89	42.5	40.94	44.51
10	10-Feb-21	638.37	961.98	941.88	988.22	393.18	385.32	403.7	42.56	40.99	44.68
11	11-Feb-21	636.99	962.33	939.54	984.15	393.35	384.42	401.93	42.57	40.81	44.33
12	12-Feb-21	643.65	966.7	942.98	989.95	394.87	385.49	403.69	42.91	41.04	44.52
13	13-Feb-21	647.5	966.51	946.59	994.38	394.67	386.65	405.84	42.92	41.29	45.08
14	14-Feb-21	648.85	971.87	943.99	997.73	396.79	385.79	406.81	43.26	41.1	45.33
15	15-Feb-21	647.1	973.37	950.46	991.35	397.44	388.62	404.28	43.37	41.66	44.82
16	16-Feb-21	652.75	976.44	946.12	999.36	398.48	386.49	407.4	43.68	41.25	45.45
17	17-Feb-21	649.98	968.37	948.1	992.68	395.37	387.52	405.09	43.02	41.45	44.97
18	18-Feb-21	628.07	966.03	872.96	995.42	395.2	384.02	406.16	42.92	36.93	45.19
19	19-Feb-21	535.96	932.29	842.62	996.7	392.37	384.98	406.31	40.62	34.52	45.23
20	20-Feb-21	600.35	950.27	874.43	992.63	389.94	385.33	404.6	41.82	36.51	44.89
21	21-Feb-21	628.5	960.76	892.06	992.91	393.07	381.53	404.99	42.54	37.97	44.96
22	22-Feb-21	655.03	974.24	948.01	996.58	397.48	387.12	406.48	43.49	41.38	45.26
23	23-Feb-21	649.9	967.93	945.71	996.73	395.2	386.33	406.6	43	41.22	45.28
24	24-Feb-21	651.71	967.39	947.14	995.45	394.9	387.08	406.22	42.98	41.36	45.2
25	25-Feb-21	651.51	972.38	945.07	994.32	396.89	386.14	405.81	43.34	41.18	45.11
26	26-Feb-21	651.55	972.43	949.62	994.2	396.91	387.84	407.68	43.35	41.54	45.51
27	27-Feb-21	652.39	968.87	945.86	993.51	395.47	386.56	405.04	43.07	41.26	45.15
28	28-Feb-21	652.59	968.53	946.24	997.08	395.33	386.53	406.56	43.01	41.26	45.28
CEMS DAYWISE VALUES FOR THE MONTH OF MAR '2021											
S.NO.	DATE	UNIT# 3 LOAD(MW)	UNIT# 3 SOX(mg/nm3)			UNIT# 3 NOX(mg/nm3)			UNIT# 3 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Mar-21	652.41	968.22	948.09	992.5	395.18	387.27	404.81	43.02	41.41	44.93
2	02-Mar-21	648.59	967.11	946.19	994.51	394.88	386.54	405.76	42.88	41.26	45.11
3	03-Mar-21	651.31	964.76	947.49	989.43	393.87	387.5	403.72	42.77	41.45	44.93
4	04-Mar-21	645.78	971.51	948.46	994.89	396.75	387.43	406.05	43.28	41.44	44.93
5	05-Mar-21	646.71	967.48	943.6	995.37	395.09	385.72	406.09	42.94	41.09	44.78
6	06-Mar-21	648.31	971.4	945.28	992.41	396.62	386.19	404.87	43.28	41.19	44.93
7	07-Mar-21	648.17	969.13	948.48	995.31	395.72	387.4	406.17	43.11	41.44	45.19
8	08-Mar-21	649.64	971.15	946.72	995.29	396.47	386.69	406.11	43.26	41.29	45.18
9	09-Mar-21	648.77	966.88	946.05	991.67	394.79	386.46	404.68	42.96	41.25	45.09
10	10-Mar-21	648.38	969.58	948.66	991.28	395.88	387.51	404.5	43.11	41.46	44.86
11	11-Mar-21	647.44	967.16	945.21	995.93	394.96	386.17	406.34	42.97	41.19	45.23
12	12-Mar-21	647.91	973.47	948.14	995.07	397.45	387.38	406.1	43.43	41.43	45.17
13	13-Mar-21	648.87	971.47	950.6	996.02	396.61	388.24	406.41	43.3	41.6	45.24
14	14-Mar-21	649.38	972.07	949.02	995.07	396.84	387.62	406.05	43.33	41.48	45.16
15	15-Mar-21	649.08	969.23	949.11	990.99	395.7	387.61	404.49	43.13	41.48	44.85
16	16-Mar-21	648.34	970.7	947.6	992.35	396.32	387.05	405.02	43.22	41.43	44.96
17	17-Mar-21	648.81	968.96	945.67	995.65	395.62	386.35	406.25	43.03	41.22	45.21
18	18-Mar-21	648.36	968.56	947.67	994.18	395.46	387.2	405.79	43.03	41.46	45.11
19	19-Mar-21	648.28	967.29	947.63	993.48	394.95	387.04	405.38	42.97	41.36	45.03
20	20-Mar-21	637.15	963.82	933.72	994.39	393.97	382.93	405.68	42.7	40.48	45.09
21	21-Mar-21	638.02	964.77	944.17	990.02	394.24	385.86	403.85	42.81	41.12	44.87
22	22-Mar-21	648.46	973.51	947.73	994.89	397.44	387.12	405.99	43.49	41.38	45.1
23	23-Mar-21	648.91	967	947	997.99	394.83	386.76	406.82	42.92	41.27	45.34
24	24-Mar-21	648.67	970.63	947.67	994.62	396.27	387.12	405.88	43.23	41.38	45.13
25	25-Mar-21	648.2	969.35	946.83	989.37	395.76	386.77	403.7	43.08	41.31	44.7
26	26-Mar-21	649.11	969.12	945.27	991.52	395.67	386.23	404.52	43.11	41.2	45.12
27	27-Mar-21	648.95	971.74	946.23	993.18	396.74	386.55	405.3	43.3	41.34	45.01
28	28-Mar-21	648.84	970.71	948.63	993.12	396.29	387.45	405.25	43.15	41.45	45.16
29	29-Mar-21	649.21	972.36	947.3	992.24	396.94	386.98	405.03	43.32	41.35	44.96
30	30-Mar-21	649.46	969.12	948.35	996.1	395.67	387.24	406.36	43.06	41.28	45.23
31	31-Mar-21	648.98	970.2	947.6	996.55	396.1	387.05	406.58	43.15	41.36	45.27

CEMS DAYWISE VALUES FOR THE MONTH OF OCT '2020											
S.NO.	DATE	UNIT# 4 LOAD(MW)	UNIT# 4 SOX(mg/nm3)			UNIT# 4 NOX(mg/nm3)			UNIT# 4 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Oct-20	517.08	919.74	868.31	972.64	267.73	250.78	284.59	39.12	35.25	42.76
2	02-Oct-20	529.99	916.84	882.13	960.59	266.46	255.01	280.08	38.76	36.13	41.79
3	03-Oct-20	596.07	948.05	890.25	980.78	275.94	258.18	287.20	40.70	37.00	43.43
4	04-Oct-20	608.76	951.27	900.01	983.36	277.01	260.18	287.84	40.97	37.10	43.51
5	05-Oct-20	578.24	941.17	893.50	974.36	274.06	258.67	285.24	40.41	36.94	43.03
6	06-Oct-20	574.27	933.43	918.34	951.60	271.24	265.58	277.83	39.66	38.14	41.74
7	07-Oct-20	578.41	943.70	923.24	959.86	274.94	267.19	280.55	40.54	38.51	42.09
8	08-Oct-20	575.18	932.26	908.30	965.18	270.79	262.59	280.89	39.50	37.55	41.81
9	09-Oct-20	652.53	962.71	943.91	985.01	279.99	273.42	288.15	41.40	39.77	43.70
10	10-Oct-20	619.98	955.55	923.68	986.56	278.30	268.79	288.83	41.23	38.92	43.72
11	11-Oct-20	521.06	916.43	878.58	964.47	266.51	253.61	282.12	38.79	35.73	42.35
12	12-Oct-20	510.11	914.20	876.73	948.16	265.78	252.78	277.15	38.67	35.56	41.33
13	13-Oct-20	512.62	909.31	873.49	931.43	263.98	252.16	272.16	38.20	35.47	40.34
14	14-Oct-20	483.69	896.44	875.63	926.91	260.08	253.68	271.02	37.36	35.94	40.18
15	15-Oct-20	457.33	896.62	871.37	940.69	260.71	251.94	274.25	37.77	35.57	40.53
16	16-Oct-20	409.37	874.93	844.22	920.68	254.05	243.68	267.51	36.35	33.88	38.94
17	17-Oct-20	407.68	873.93	839.78	903.80	253.57	241.96	261.76	36.17	33.40	37.56
18	18-Oct-20	387.4	864.92	839.34	928.02	250.88	241.91	270.85	35.61	33.42	39.98
19	19-Oct-20	419.95	882.14	840.90	933.43	256.23	242.57	271.34	36.75	33.48	40.07
20	20-Oct-20	406.29	873.79	840.02	937.67	253.69	242.36	274.64	36.25	33.51	40.92
21	21-Oct-20	407.09	878.61	838.83	925.83	255.31	241.66	269.54	36.63	33.33	39.97
22	22-Oct-20	403.73	872.30	839.69	921.16	253.20	242.02	268.23	36.16	33.44	39.42
23	23-Oct-20	429.56	883.38	842.66	942.12	256.43	243.10	275.19	36.78	33.36	40.89
24	24-Oct-20	484.83	904.46	843.32	952.54	262.87	243.26	278.47	38.09	33.74	41.60
25	25-Oct-20	414.13	873.53	845.77	937.08	253.71	244.40	272.23	36.33	34.10	40.37
26	26-Oct-20	423.84	883.41	844.64	971.75	256.61	243.93	284.21	36.84	33.92	42.74
27	27-Oct-20	429.25	886.35	841.38	962.34	257.56	242.73	280.45	37.04	33.65	41.67
28	28-Oct-20	458.82	897.53	842.24	972.67	260.79	243.03	284.31	37.70	33.33	42.70
29	29-Oct-20	467.79	899.73	841.65	977.99	261.60	242.91	286.34	37.85	33.72	43.25
30	30-Oct-20	466.38	900.46	847.15	971.07	261.67	244.82	283.49	37.84	34.19	42.55
31	31-Oct-20	493.61	906.61	843.70	975.86	263.39	243.68	285.73	38.17	33.93	43.14

CEMS DAYWISE VALUES FOR THE MONTH OF NOV '2020											
S.NO.	DATE	UNIT# 4 LOAD(MW)	UNIT# 4 SOX(mg/nm3)			UNIT# 4 NOX(mg/nm3)			UNIT# 4 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Nov-20	427.98	883.47	841.36	978.89	256.64	242.69	286.53	36.87	33.63	43.26
2	02-Nov-20	447.53	892.07	836.31	972.01	259.11	240.9	284.19	37.32	33.18	42.6
3	03-Nov-20	443.16	885.15	841.76	953.38	256.61	242.78	276.79	36.7	33.89	40.61
4	04-Nov-20	486.96	912.16	843.88	980.18	265.43	243.58	287.03	38.68	34.01	43.4
5	05-Nov-20	478.57	902.39	842.67	967.97	262.06	242.94	282.54	37.86	33.82	42.23
6	06-Nov-20	413.24	877.46	843.44	954.01	254.82	243.53	278.73	36.51	33.71	41.59
7	07-Nov-20	447.16	889.56	838.34	962.44	258.18	241.79	281.38	37.07	33.44	42.16
8	08-Nov-20	447.08	893.85	838.03	961.55	259.8	241.54	280.11	37.49	33.35	41.57
9	09-Nov-20	507.34	919.08	847.91	973.13	267.38	245.22	284.64	39.09	34.32	43.03
10	10-Nov-20	496.08	913.36	840.48	975.53	265.6	242.21	285.04	38.67	33.88	42.8
11	11-Nov-20	513.18	918.72	840.7	975.47	267.09	242.35	285.28	38.9	33.52	42.94
12	12-Nov-20	523.84	923.51	842.38	979.99	268.6	243.13	286.31	39.24	33.7	43.34
13	13-Nov-20	477.8	904.85	842.04	978.67	262.97	242.75	286.52	38.09	33.76	43.28
14	14-Nov-20	375.17	860.82	840.09	898.04	249.66	242.39	261.02	35.38	33.6	37.31
15	15-Nov-20	373.17	859.89	837.35	903.48	249.33	241.9	262.68	35.31	33.56	38.08
16	16-Nov-20	376.09	864.84	838.55	907.35	251.14	241.74	263.95	35.77	33.4	38.79
17	17-Nov-20	479.29	908.62	841.68	983.74	264.36	243.07	287.95	38.49	33.8	43.53
18	18-Nov-20	512.13	919.15	846.56	979.15	267.28	244.34	286.64	38.98	33.99	43.29
19	19-Nov-20	518.83	919.85	844.24	963.42	267.4	243.61	281.68	38.92	33.41	42.22
20	20-Nov-20	507	911.18	846.97	971.94	264.44	244.72	283.85	38.28	34.12	42.53
21	21-Nov-20	538.02	928.26	849.05	986.2	269.92	245.42	288.63	39.49	34.32	43.65
22	22-Nov-20	523.62	926.17	842.42	989.12	269.64	243.1	289.55	39.51	33.75	43.85
23	23-Nov-20	552.09	934.12	842.64	981.91	271.71	243.05	287.19	39.83	33.86	43.46
24	24-Nov-20	549.11	927.23	839.5	973.84	269.64	241.96	285.04	39.5	33.49	42.97
25	25-Nov-20	523.8	922.81	843.73	982.31	268.3	243.62	287.32	39.06	33.89	43.34
26	26-Nov-20	522.22	926	844.52	979.58	269.58	243.79	286.57	39.46	33.52	43.21
27	27-Nov-20	409.2	874.4	838.38	970.34	253.77	241.52	282.74	36.24	33.42	42.57
28	28-Nov-20	466.84	897.05	837.57	977.44	260.4	241.35	285.62	37.48	33.29	42.92
29	29-Nov-20	516.21	920.92	849.98	984.33	267.9	245.52	288.26	39.07	34.14	43.64
30	30-Nov-20	567.44	938.93	849.13	978.37	273.05	245.9	285.94	40.07	34.31	43

CEMS DAYWISE VALUES FOR THE MONTH OF DEC '2020											
S.NO.	DATE	UNIT# 4 LOAD(MW)	UNIT# 4 SOX(mg/nm3)			UNIT# 4 NOX(mg/nm3)			UNIT# 4 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Dec-20	623.23	960.68	905.16	987.01	280.04	262.59	288.96	41.61	37.7	43.86
2	02-Dec-20	552.38	925.24	862.28	982.06	268.94	249.47	287.1	39.25	35.15	43.36
3	03-Dec-20	517.28	919.2	838.57	980.73	267.25	241.74	286.44	38.92	33.4	43.04
4	04-Dec-20	522.16	928.22	838.49	985.46	270.37	241.68	288.37	39.74	33.38	43.59
5	05-Dec-20	520.45	919.4	838.35	987.15	267.09	241.66	289.04	38.86	33.38	43.77
6	06-Dec-20	468.33	902.72	845.2	983.17	262.49	243.97	287.75	38.06	33.93	43.49
7	07-Dec-20	501.86	912.54	844.11	978.21	265.14	243.75	285.91	38.49	33.92	43.48
8	08-Dec-20	494.04	909.45	834.65	978.73	264.23	240.42	286.38	38.29	33.38	43.2
9	09-Dec-20	497.33	913.3	842.02	979.18	265.61	243.08	286.68	38.67	33.78	43.31
10	10-Dec-20	513.06	915.84	838.5	985.25	266.07	242.04	288.44	38.66	33.48	43.79
11	11-Dec-20	486.26	907.7	838.57	968.79	263.82	242.26	282.62	38.24	33.68	42.18
12	12-Dec-20	515.8	922.02	842.39	981.76	268.25	243.09	287.24	39.2	33.74	43.35
13	13-Dec-20	513.25	918.95	849.56	981.04	267.17	245.59	287.05	38.92	34.36	43.61
14	14-Dec-20	444.96	885.72	840.98	977.98	256.83	242.32	285.7	36.79	33.47	42.91
15	15-Dec-20	501.3	917.87	845.23	985.33	266.81	243.74	288.37	38.85	33.81	43.42
16	16-Dec-20	Unit in shutdown condition									
17	17-Dec-20	Unit in shutdown condition									
18	18-Dec-20	Unit in shutdown condition									
19	19-Dec-20	Unit in shutdown condition									
20	20-Dec-20	Unit in shutdown condition									
21	21-Dec-20	Unit in shutdown condition									
22	22-Dec-20	Unit in shutdown condition									
23	23-Dec-20	Unit in shutdown condition									
24	24-Dec-20	Unit in shutdown condition									
25	25-Dec-20	Unit in shutdown condition									
26	26-Dec-20	Unit in shutdown condition									
27	27-Dec-20	Unit in shutdown condition									
28	28-Dec-20	Unit in shutdown condition									
29	29-Dec-20	Unit in shutdown condition									
30	30-Dec-20	Unit in shutdown condition									
31	31-Dec-20	Unit in shutdown condition									

CEMS DAYWISE VALUES FOR THE MONTH OF JAN '2021											
S.NO.	DATE	UNIT# 4 LOAD(MW)	UNIT# 4 SOX(mg/nm3)			UNIT# 4 NOX(mg/nm3)			UNIT# 4 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Jan-21	Unit in shutdown condition									
2	02-Jan-21	Unit in shutdown condition									
3	03-Jan-21	Unit in shutdown condition									
4	04-Jan-21	Unit in shutdown condition									
5	05-Jan-21	Unit in shutdown condition									
6	06-Jan-21	Unit in shutdown condition									
7	07-Jan-21	Unit in shutdown condition									
8	08-Jan-21	Unit in shutdown condition									
9	09-Jan-21	Unit in shutdown condition									
10	10-Jan-21	Unit in shutdown condition									
11	11-Jan-21	Unit in shutdown condition									
12	12-Jan-21	Unit in shutdown condition									
13	13-Jan-21	Unit in shutdown condition									
14	14-Jan-21	Unit in shutdown condition									
15	15-Jan-21	Unit in shutdown condition									
16	16-Jan-21	246.64	902.24	855.69	977.84	383.41	385.36	406.33	38.04	35.25	43.20
17	17-Jan-21	468.43	904.02	841.92	971.46	383.93	380.31	404.35	38.12	33.85	42.79
18	18-Jan-21	491.77	914.53	845.19	974.22	386.11	381.08	405.34	38.84	33.84	43.04
19	19-Jan-21	497.21	912.65	842.12	967.27	385.33	380.04	403.11	38.56	33.74	42.60
20	20-Jan-21	484.99	905.52	837.33	975.07	383.08	381.34	405.19	38.09	33.31	42.93
21	21-Jan-21	470.21	902.03	836.39	978.17	383.14	381.93	405.94	37.97	33.18	43.02
22	22-Jan-21	464.05	903.00	843.36	973.38	383.73	380.43	404.30	38.17	33.83	42.62
23	23-Jan-21	463.63	896.16	842.23	970.66	380.16	380.19	403.93	37.44	33.64	42.61
24	24-Jan-21	442.00	890.59	840.51	963.11	393.73	380.60	400.71	37.29	33.67	41.73
25	25-Jan-21	398.60	872.20	841.51	957.20	388.15	380.87	398.14	36.10	33.71	40.69
26	26-Jan-21	422.68	877.61	836.60	966.94	389.45	382.03	401.38	36.30	33.22	41.48
27	27-Jan-21	449.14	893.34	837.89	964.62	394.51	388.13	403.31	37.38	33.26	42.44
28	28-Jan-21	489.98	910.28	841.07	977.78	399.63	380.74	406.33	38.40	33.69	43.21
29	29-Jan-21	485.24	906.94	843.29	980.56	398.50	380.49	406.83	38.14	33.87	43.25
30	30-Jan-21	473.72	903.97	836.60	975.69	398.46	387.03	405.48	38.15	33.22	43.02
31	31-Jan-21	467.71	898.43	835.52	977.15	380.90	388.89	405.74	37.67	33.26	43.01

CEMS DAYWISE VALUES FOR THE MONTH OF FEB '2021											
S.NO.	DATE	UNIT# 4 LOAD(MW)	UNIT# 4 SOX(mg/nm3)			UNIT# 4 NOX(mg/nm3)			UNIT# 4 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Feb-21	521.87	918.63	841.06	977.71	387.16	382.73	416.23	38.96	33.19	42.98
2	02-Feb-21	490.63	910.66	843.86	978.6	384.78	381.5	412.07	38.45	33.77	43.04
3	03-Feb-21	500.46	915.25	840.59	975.01	386.2	383.5	401.43	38.82	33.47	43.06
4	04-Feb-21	513.3	917.49	838.45	983.58	396.63	388.5	407.88	38.78	33.31	43.51
5	05-Feb-21	510.25	915.62	837.92	974.57	396.06	241.48	409.97	38.62	33.33	43.1
6	06-Feb-21	500.98	913.34	845.17	977.28	389.11	244.11	413.26	38.58	34.01	43.19
7	07-Feb-21	498.81	910.76	841.96	975.91	402.66	377.78	427.55	38.39	33.74	42.94
8	08-Feb-21	490.54	910.86	839.46	971.53	403.13	376.78	425.24	38.49	33.55	42.62
9	09-Feb-21	529.36	927.53	838.45	988.41	408.79	376.08	431.93	39.48	33.4	43.89
10	10-Feb-21	529.67	920.78	839.19	970.81	405.74	376.5	425.61	38.94	33.49	42.75
11	11-Feb-21	518.12	919.49	848.79	971.06	405.66	380.17	424.93	38.94	33.95	42.55
12	12-Feb-21	529.7	925.54	842.7	977.72	407.81	377.91	428.18	39.32	33.75	43.2
13	13-Feb-21	539.03	927.79	843.7	974.74	408.39	378.41	426.87	39.47	33.85	43.32
14	14-Feb-21	531.31	928.59	861.77	964.82	409.24	384.91	422.03	39.62	35.05	41.98
15	15-Feb-21	482.14	906.3	846.39	972.69	401.46	379.3	425.65	38.19	34.14	42.69
16	16-Feb-21	457.86	894.36	843.03	980.9	397.23	377.59	429.06	37.41	34.02	43.35
17	17-Feb-21	466.1	898.82	840.79	973.05	398.83	376.68	426.06	37.67	33.5	42.37
18	18-Feb-21	428.1	884.13	843.06	956.22	394.12	378.4	420.83	36.84	33.63	41.85
19	19-Feb-21	362.63	858.27	840.5	879.61	385.8	377.12	395.6	35.35	33.36	37.27
20	20-Feb-21	408.86	876.41	842.49	950.15	391.65	377.25	415.14	36.38	33.57	40.62
21	21-Feb-21	405.2	873.24	836.05	943.95	390.25	375.03	415.65	36.07	33.19	40.44
22	22-Feb-21	517.54	919.99	845.06	969.38	405.89	378.72	425.38	38.96	33.79	42.83
23	23-Feb-21	565.48	934.78	853.41	979.67	410.59	380.65	429	39.82	34.21	43.36
24	24-Feb-21	563.74	933.24	879.09	975.13	410.03	389.7	427	39.65	35.6	42.97
25	25-Feb-21	601.72	952.24	898.42	972.9	416.74	397.53	426.47	40.96	37.39	42.88
26	26-Feb-21	595.18	943.66	880.97	979	413.73	390.58	428.52	40.43	36.51	43.43
27	27-Feb-21	622.21	957.19	887.98	981.22	418.42	394.51	429.14	41.3	36.76	43.37
28	28-Feb-21	607.45	946.64	880.03	990.24	414.45	389.56	432.46	40.49	35.84	43.99

CEMS DAYWISE VALUES FOR THE MONTH OF MAR '2021											
S.NO.	DATE	UNIT# 4 LOAD(MW)	UNIT# 4 SOX(mg/nm3)			UNIT# 4 NOX(mg/nm3)			UNIT# 4 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Mar-21	612.79	952.83	933.01	974.47	416.96	407.01	426.62	40.98	39.01	42.89
2	02-Mar-21	609.38	949.96	926.68	968.21	415.69	405.68	424.67	40.71	38.8	42.54
3	03-Mar-21	611.59	950	927.62	971.33	415.63	407.04	425.59	40.74	39.01	42.7
4	04-Mar-21	581.55	940.8	905.14	970.07	412.98	400.84	425.83	40.28	38.05	42.78
5	05-Mar-21	620.88	954.23	918.62	980.76	416.88	403.24	429.35	40.95	38.37	43.23
6	06-Mar-21	591.31	941.8	881.6	976.21	413.08	390.91	426.87	40.31	36.13	43.37
7	07-Mar-21	584.82	937.64	883.27	973.87	411.29	391.23	425.54	39.94	36.16	42.66
8	08-Mar-21	615.72	954.36	892.63	982.9	416.94	393.86	429.32	40.99	36.63	43.74
9	09-Mar-21	651.47	964.11	945.38	979.49	420.12	411.34	427.65	41.53	39.81	43.19
10	10-Mar-21	629.1	962.33	943.32	976.15	420.8	411.86	427.72	41.74	40.03	43.12
11	11-Mar-21	594.94	940.56	868.44	978.55	412.1	386.78	428.38	40.09	35.39	43.23
12	12-Mar-21	591.14	948.13	891.04	981.16	415.35	394.32	429.56	40.71	36.76	43.46
13	13-Mar-21	560.9	937.13	894.12	963.13	412.15	396.28	422.83	40.19	37.06	42.22
14	14-Mar-21	574.93	938.16	900.39	969	412.08	398.68	424.88	40.15	37.62	42.58
15	15-Mar-21	629.12	965.48	939.08	983.75	421.98	409.01	430.3	41.97	39.37	43.59
16	16-Mar-21	621.95	956.74	935.28	981.97	418.35	408.17	429.77	41.27	39.7	43.5
17	17-Mar-21	627.29	955.47	932.84	976.58	417.39	406.94	426.78	41.05	38.99	42.89
18	18-Mar-21	639.7	967.28	941.22	986.87	422.42	410.55	431.41	42.04	39.72	43.8
19	19-Mar-21	639.81	959.6	928.63	976.82	418.67	408.1	426.91	41.3	39.34	42.92
20	20-Mar-21	602.53	944.74	876.02	978	413.56	389.48	427.18	40.36	35.87	42.97
21	21-Mar-21	447.89	888.42	845.55	953.75	395.37	379.4	420.29	37.01	33.98	41.56
22	22-Mar-21	520.61	920.89	850.39	981.43	406.21	381.78	429.24	39.04	34.6	43.38
23	23-Mar-21	482.39	904.48	840.49	983.97	400.8	376.65	430.18	38.06	33.5	43.2
24	24-Mar-21	580.26	944.88	858.95	977.86	414.52	383.79	427.9	40.57	34.85	43.04
25	25-Mar-21	621.93	953.98	935.07	983.9	416.92	407.87	430.4	40.95	39.17	43.61
26	26-Mar-21	616.64	952.13	933.54	977.2	416.34	407.55	427.51	40.89	39.12	43.05
27	27-Mar-21	646.27	964.95	943.32	986.1	420.85	410.41	431.03	41.67	39.63	43.72
28	28-Mar-21	649.06	970.24	946.24	982.79	423.37	411.47	429.18	42.16	39.82	43.35
29	29-Mar-21	606.82	945.08	878.54	978.36	413.71	389.26	427.02	40.36	35.59	43.08
30	30-Mar-21	586.15	941.76	887.34	973.88	413.21	392.68	426.88	40.31	36.44	42.96
31	31-Mar-21	583.86	941.9	878.24	972.07	413.55	389.51	426.25	40.37	35.86	42.85

CEMS DAYWISE VALUES FOR THE MONTH OF OCT '2020											
S.NO.	DATE	UNIT# 5 LOAD(MW)	UNIT# 5 SOX(mg/nm3)			UNIT# 5 NOX(mg/nm3)			UNIT# 5 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Oct-20	498.06	910.93	874.86	970.07	267.73	252.56	290.43	43.62	40.66	48.09
2	02-Oct-20	515.59	920.74	870.40	971.31	271.81	251.15	290.62	44.37	40.23	48.12
3	03-Oct-20	560.39	940.64	869.80	972.49	277.77	251.58	291.20	45.52	40.32	48.01
4	04-Oct-20	567.74	939.62	886.08	968.09	276.87	257.80	289.32	45.39	41.56	47.94
5	05-Oct-20	576.41	943.80	922.43	969.08	278.35	266.79	290.65	45.64	43.36	48.13
6	06-Oct-20	586.03	947.93	918.97	971.54	279.54	265.93	291.17	45.90	43.19	48.23
7	07-Oct-20	586.4	948.45	905.65	971.74	279.84	263.48	291.16	45.96	42.70	47.83
8	08-Oct-20	578.85	939.86	903.13	970.12	276.13	265.84	290.25	45.19	43.01	48.05
9	09-Oct-20	584.51	942.99	888.37	972.10	277.24	257.82	291.47	45.44	41.57	48.29
10	10-Oct-20	578.04	946.76	918.99	972.96	279.68	268.17	291.86	45.95	43.63	48.37
11	11-Oct-20	512.13	918.21	872.66	961.14	270.78	252.00	286.46	44.19	40.40	47.54
12	12-Oct-20	508.97	817.05	600.97	963.38	271.29	253.21	291.09	44.22	40.64	48.00
13	13-Oct-20	518.99	608.63	566.11	658.58	270.20	253.76	289.18	44.04	40.44	47.84
14	14-Oct-20	469.77	596.13	566.04	631.88	268.17	254.78	282.35	43.60	40.96	46.47
15	15-Oct-20	479.58	597.14	570.20	646.58	267.15	255.56	283.37	43.41	41.11	46.67
16	16-Oct-20	411.1	564.49	531.07	630.48	256.40	243.27	279.50	41.29	38.65	45.53
17	17-Oct-20	400.3	567.26	533.69	620.65	258.14	243.56	274.89	41.61	38.92	44.98
18	18-Oct-20	384.28	566.36	535.24	621.29	258.89	244.96	276.25	41.77	38.99	45.25
19	19-Oct-20	423.03	757.50	536.05	949.21	260.92	243.12	283.42	42.17	38.62	46.68
20	20-Oct-20	410.43	875.58	839.07	947.21	256.88	241.85	282.71	41.40	38.37	46.54
21	21-Oct-20	402.25	878.38	837.83	939.82	258.59	241.59	280.87	41.69	38.25	46.17
22	22-Oct-20	404.25	878.26	847.61	920.04	258.72	246.17	271.31	41.74	39.23	44.26
23	23-Oct-20	431.09	891.76	848.58	966.21	262.76	246.75	288.72	42.55	39.12	47.74
24	24-Oct-20	487.87	911.68	841.57	974.57	268.89	243.22	291.64	43.80	38.64	48.33
25	25-Oct-20	403.3	866.82	836.34	946.82	253.99	241.06	283.72	40.78	38.21	46.74
26	26-Oct-20	422.77	891.37	844.58	976.25	263.28	245.15	291.87	42.65	39.07	48.37
27	27-Oct-20	434.16	888.50	841.50	976.45	260.95	242.88	289.54	42.19	38.58	47.91
28	28-Oct-20	471.69	907.19	847.88	992.27	267.20	246.06	296.70	43.45	39.21	49.34
29	29-Oct-20	474.26	908.21	850.40	990.32	268.15	247.01	295.97	43.63	39.40	48.79
30	30-Oct-20	465.67	902.30	843.10	973.81	265.28	243.44	289.80	43.09	38.69	47.96
31	31-Oct-20	487.87	911.68	841.57	974.57	268.89	243.22	291.64	43.80	38.64	48.33

CEMS DAYWISE VALUES FOR THE MONTH OF NOV '2020											
S.NO.	DATE	UNIT# 5 LOAD(MW)	UNIT# 5 SOX(mg/nm3)			UNIT# 5 NOX(mg/nm3)			UNIT# 5 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Nov-20	420.45	882.81	841.80	977.64	259.55	243.91	291.72	41.91	38.76	48.34
2	02-Nov-20	449.37	899.16	839.61	981.13	264.98	243.26	294.23	43.01	38.65	48.85
3	03-Nov-20	451.22	900.92	844.18	991.69	265.79	243.99	296.33	43.19	38.80	49.27
4	04-Nov-20	488.68	912.38	842.95	977.36	268.38	244.02	288.81	43.71	38.80	47.76
5	05-Nov-20	490.85	912.73	838.10	982.73	268.32	241.60	294.39	43.68	38.32	48.88
6	06-Nov-20	416.37	885.93	841.63	965.97	261.29	244.05	289.72	42.26	38.81	47.94
7	07-Nov-20	442.47	893.14	839.53	973.62	262.49	242.66	291.48	42.48	38.53	48.30
8	08-Nov-20	467.94	908.85	852.41	975.92	268.30	248.61	290.02	43.69	39.72	48.00
9	09-Nov-20	524.60	930.72	843.90	994.05	274.64	243.20	297.57	44.94	38.64	49.51
10	10-Nov-20	496.28	915.47	836.52	991.33	269.29	241.06	297.20	43.86	38.33	49.06
11	11-Nov-20	508.25	928.54	843.93	992.19	274.86	244.26	297.65	44.97	38.85	49.53
12	12-Nov-20	503.98	915.47	843.12	975.12	268.63	244.66	291.83	43.69	38.93	48.37
13	13-Nov-20	470.22	904.99	835.96	996.60	266.15	241.21	298.86	43.23	38.24	49.77
14	14-Nov-20	381.60	871.60	841.33	919.76	256.71	242.47	273.98	41.35	38.49	44.80
15	15-Nov-20	368.18	863.32	832.12	903.17	253.80	239.94	266.85	40.78	37.99	43.37
16	16-Nov-20	367.30	864.95	836.10	909.04	254.60	241.07	271.56	40.97	38.21	44.31
17	17-Nov-20	473.02	905.79	836.90	994.70	266.38	241.48	297.73	43.28	38.30	49.55
18	18-Nov-20	510.37	923.24	841.81	992.97	271.98	244.04	297.58	44.37	38.81	49.06
19	19-Nov-20	520.13	924.84	866.12	964.77	272.21	252.27	286.67	44.44	40.45	47.33
20	20-Nov-20	513.59	924.33	844.45	995.29	272.31	244.60	297.97	44.42	38.86	49.59
21	21-Nov-20	546.10	940.08	846.62	991.27	277.54	245.48	296.32	45.52	39.10	49.26
22	22-Nov-20	523.34	925.34	843.87	994.40	272.54	244.09	298.08	44.49	38.37	49.62
23	23-Nov-20	552.08	940.23	849.24	990.67	277.06	246.95	296.94	45.39	39.71	49.39
24	24-Nov-20	577.24	944.99	849.70	998.57	278.97	246.11	299.12	45.82	39.09	49.82
25	25-Nov-20	524.90	928.31	846.58	991.34	273.47	245.73	296.26	44.69	39.15	49.25
26	26-Nov-20	516.52	926.79	844.96	992.32	273.30	244.69	297.46	44.71	38.94	49.49
27	27-Nov-20	411.22	877.75	839.13	987.77	257.61	242.70	294.97	41.51	38.54	48.99
28	28-Nov-20	462.53	900.85	835.44	981.60	264.66	240.89	293.45	42.94	38.18	48.69
29	29-Nov-20	514.79	919.93	836.86	994.95	270.20	241.64	298.20	44.06	38.33	49.64
30	30-Nov-20	554.94	947.78	872.88	993.80	280.54	257.71	298.14	46.08	41.38	49.63

CEMS DAYWISE VALUES FOR THE MONTH OF DEC '2020											
S.NO.	DATE	UNIT# 5 LOAD(MW)	UNIT# 5 SOX(mg/nm3)			UNIT# 5 NOX(mg/nm3)			UNIT# 5 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Dec-20	611.14	952.57	889.70	995.03	279.99	257.92	297.74	45.97	41.58	49.55
2	02-Dec-20	543.90	921.76	836.61	978.39	270.11	241.35	289.85	44.00	38.27	47.97
3	03-Dec-20	512.90	921.96	853.14	990.96	271.28	248.14	296.64	44.24	39.63	49.33
4	04-Dec-20	511.75	923.05	850.60	983.49	271.76	248.44	293.60	44.37	39.69	48.72
5	05-Dec-20	512.77	925.86	836.40	982.34	273.11	241.23	294.04	44.59	38.25	48.81
6	06-Dec-20	463.11	899.75	838.80	964.95	264.10	241.92	288.61	42.81	38.38	47.72
7	07-Dec-20	505.86	918.69	840.82	993.03	270.12	243.65	297.35	44.04	38.73	49.47
8	08-Dec-20	498.98	920.51	843.02	995.10	271.51	244.77	297.94	44.31	38.95	49.59
9	09-Dec-20	511.61	921.92	835.20	996.45	271.19	240.72	298.26	44.22	38.14	49.65
10	10-Dec-20	505.06	922.74	841.16	988.95	272.14	243.48	296.28	44.41	38.44	49.26
11	11-Dec-20	492.35	918.09	838.70	994.78	270.94	242.43	297.97	44.22	38.49	49.59
12	12-Dec-20	515.66	928.11	836.45	994.26	273.95	241.32	298.23	44.77	38.26	49.65
13	13-Dec-20	512.72	924.23	846.26	991.45	272.32	246.26	296.40	44.43	39.25	49.28
14	14-Dec-20	438.88	893.67	839.80	980.27	263.06	242.30	292.08	42.58	38.46	48.42
15	15-Dec-20	494.33	917.92	858.23	982.77	270.65	252.07	292.46	44.13	40.41	48.49
16	16-Dec-20	81.30	857.42	830.88	888.57	251.18	239.90	265.98	40.12	37.98	43.20
17	17-Dec-20	Unit in shutdown condition									
18	18-Dec-20	Unit in shutdown condition									
19	19-Dec-20	Unit in shutdown condition									
20	20-Dec-20	Unit in shutdown condition									
21	21-Dec-20	Unit in shutdown condition									
22	22-Dec-20	Unit in shutdown condition									
23	23-Dec-20	Unit in shutdown condition									
24	24-Dec-20	Unit in shutdown condition									
25	25-Dec-20	Unit in shutdown condition									
26	26-Dec-20	Unit in shutdown condition									
27	27-Dec-20	Unit in shutdown condition									
28	28-Dec-20	Unit in shutdown condition									
29	29-Dec-20	Unit in shutdown condition									
30	30-Dec-20	Unit in shutdown condition									
31	31-Dec-20	Unit in shutdown condition									

CEMS DAYWISE VALUES FOR THE MONTH OF JAN '2021											
S.NO.	DATE	UNIT# 5 LOAD(MW)	UNIT# 5 SOX(mg/nm3)			UNIT# 5 NOX(mg/nm3)			UNIT# 5 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Jan-21	Unit in shutdown condition									
2	02-Jan-21	317.27	936.01	842.96	991.32	385.33	380.04	403.11	45.11	38.76	49.20
3	03-Jan-21	446.83	893.12	843.16	986.04	383.08	381.34	405.19	42.43	38.75	49.12
4	04-Jan-21	505.24	916.15	843.35	986.24	383.14	381.93	405.94	43.83	38.71	48.79
5	05-Jan-21	466.52	909.60	849.06	986.83	383.73	380.43	404.30	43.79	39.19	48.06
6	06-Jan-21	503.00	922.79	853.22	992.90	386.55	380.95	391.13	44.50	39.83	49.18
7	07-Jan-21	470.32	910.92	842.20	994.85	386.93	381.09	391.45	43.89	38.63	49.06
8	08-Jan-21	420.64	886.24	845.53	990.84	385.93	381.33	390.71	42.17	38.91	49.20
9	09-Jan-21	451.22	898.79	842.39	979.63	396.00	384.40	398.88	42.94	38.52	48.37
10	10-Jan-21	373.78	865.83	843.74	886.69	397.55	383.50	398.48	40.90	38.71	43.29
11	11-Jan-21	461.99	899.88	844.65	997.59	396.03	386.50	397.40	42.89	38.81	47.78
12	12-Jan-21	484.48	911.74	843.77	991.59	395.93	385.01	398.78	43.75	38.64	49.27
13	13-Jan-21	113.56	861.42	847.59	893.12	394.57	383.53	398.74	40.44	39.00	43.54
14	14-Jan-21	Unit in shutdown condition									
15	15-Jan-21	Unit in shutdown condition									
16	16-Jan-21	264.60	916.15	854.32	982.62	387.53	399.37	405.17	44.11	39.85	48.43
17	17-Jan-21	491.64	913.68	841.62	989.82	388.81	393.66	406.31	43.78	38.53	48.96
18	18-Jan-21	452.30	922.87	844.28	995.95	391.99	384.37	408.78	44.40	38.77	49.06
19	19-Jan-21	Unit in shutdown condition									
20	20-Jan-21	Unit in shutdown condition									
21	21-Jan-21	Unit in shutdown condition									
22	22-Jan-21	Unit in shutdown condition									
23	23-Jan-21	Unit in shutdown condition									
24	24-Jan-21	Unit in shutdown condition									
25	25-Jan-21	Unit in shutdown condition									
26	26-Jan-21	Unit in shutdown condition									
27	27-Jan-21	Unit in shutdown condition									
28	28-Jan-21	Unit in shutdown condition									
29	29-Jan-21	Unit in shutdown condition									
30	30-Jan-21	Unit in shutdown condition									
31	31-Jan-21	Unit in shutdown condition									

CEMS DAYWISE VALUES FOR THE MONTH OF FEB '2021											
S.NO.	DATE	UNIT# 5 LOAD(MW)	UNIT# 5 SOX(mg/nm3)			UNIT# 5 NOX(mg/nm3)			UNIT# 5 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Feb-21	Unit in shutdown condition									
2	02-Feb-21	Unit in shutdown condition									
3	03-Feb-21	Unit in shutdown condition									
4	04-Feb-21	Unit in shutdown condition									
5	05-Feb-21	Unit in shutdown condition									
6	06-Feb-21	Unit in shutdown condition									
7	07-Feb-21	Unit in shutdown condition									
8	08-Feb-21	Unit in shutdown condition									
9	09-Feb-21	Unit in shutdown condition									
10	10-Feb-21	Unit in shutdown condition									
11	11-Feb-21	Unit in shutdown condition									
12	12-Feb-21	Unit in shutdown condition									
13	13-Feb-21	Unit in shutdown condition									
14	14-Feb-21	Unit in shutdown condition									
15	15-Feb-21	Unit in shutdown condition									
16	16-Feb-21	216.3	888.24	845.9	925.59	383.08	381.34	405.19	42.61	39.24	45.52
17	17-Feb-21	454.61	896.17	834.96	960.27	383.14	381.93	405.94	42.63	38.13	46.75
18	18-Feb-21	439.67	894.14	835.37	971.68	383.73	380.43	404.30	42.64	38.15	47.28
19	19-Feb-21	355.1	855.79	833.03	877.74	388.88	382.05	410.26	40.21	38.04	42.35
20	20-Feb-21	402.09	880.02	836.67	951.8	386.63	382.56	407.23	41.83	38.3	46.39
21	21-Feb-21	403.19	880.19	836.69	978.54	382.66	381.27	397.66	41.83	38.31	48.74
22	22-Feb-21	518.82	921.56	839.91	978.54	386.93	381.09	399.45	44.09	38.62	48.46
23	23-Feb-21	558.63	939.45	864.74	986.74	385.93	381.33	402.71	45.36	40.22	49.03
24	24-Feb-21	556.57	941.45	876.52	980.97	396.00	384.40	408.88	45.59	40.72	48.78
25	25-Feb-21	600.38	954.83	918.86	981.39	388.82	386.72	399.26	46.27	43.56	48.82
26	26-Feb-21	585.05	941.68	885.02	979.04	384.61	385.96	408.37	45.37	41.28	48.54
27	27-Feb-21	577.96	940.79	907.75	971.7	384.5	374.8	415.84	45.34	43.36	48.06
28	28-Feb-21	561.42	936.27	890.35	976.62	383.27	368.39	406.37	45.09	41.93	48.16

CEMS DAYWISE VALUES FOR THE MONTH OF MAR '2021											
S.NO.	DATE	UNIT# 5 LOAD(MW)	UNIT# 5 SOX(mg/nm3)			UNIT# 5 NOX(mg/nm3)			UNIT# 5 DUST(mg/nm3)		
		AVG	AVG	MIN	MAX	AVG	MIN	MAX	AVG	MIN	MAX
1	01-Mar-21	623.43	960.37	936.95	989.02	390.53	381.67	401.52	46.6	44.48	49.27
2	02-Mar-21	609.31	954.66	931.36	978.45	388.86	379.52	398.24	46.27	43.92	48.59
3	03-Mar-21	613.92	959.9	914.34	986.19	390.7	375	400.71	46.72	43.14	49.11
4	04-Mar-21	606.17	953.86	910.56	989.45	388.53	374.29	401.64	46.18	43.08	49.29
5	05-Mar-21	597.91	952.51	914.81	979.42	388.28	374.98	398.37	46.16	43.1	48.58
6	06-Mar-21	587.84	945.17	886.54	985.88	385.83	366.62	400.4	45.62	41.46	49.01
7	07-Mar-21	359.07	961.64	941.6	983.11	391.08	383.24	399.65	46.75	44.57	48.87
8	08-Mar-21	Unit in shutdown condition									
9	09-Mar-21	Unit in shutdown condition									
10	10-Mar-21	406.3	945.82	901.78	978.89	385.85	373.06	398.5	45.61	43.12	48.67
11	11-Mar-21	560.98	939.46	861.88	981.94	384.58	359.93	399.53	45.49	40.26	48.89
12	12-Mar-21	592.2	953.92	887.05	983.9	388.73	366.21	399.84	46.27	41.26	48.9
13	13-Mar-21	572.7	946.1	893.59	987.14	386.55	369.72	400.8	45.84	41.92	49.09
14	14-Mar-21	603.17	952.74	910.11	988.64	388.17	375.19	401.07	46.08	43.47	49.11
15	15-Mar-21	576.98	939.84	906.96	972.65	384.09	372.34	395.84	45.26	42.52	47.79
16	16-Mar-21	588.14	944.2	918.19	976.82	385.38	375.51	397.9	45.48	43.11	48.13
17	17-Mar-21	602.52	955.57	917.09	984.66	389.33	375.8	400.11	46.39	43.29	48.96
18	18-Mar-21	572.45	940.77	916.84	974.82	384.74	375.69	397.1	45.42	43.27	48.35
19	19-Mar-21	436.12	885.4	832.62	962.61	368.04	349.82	393.68	42.05	37.97	47.71
20	20-Mar-21	280.72	858.87	836.95	880.29	360.42	351.67	369.01	40.65	38.45	42.79
21	21-Mar-21	361.57	866.89	836.22	906.37	363	351.09	376.74	41.19	38.26	44.31
22	22-Mar-21	493.22	920.1	842.53	983.85	379.05	353.55	400.04	44.44	39.32	48.98
23	23-Mar-21	467.17	905.03	841.58	979.8	374.01	353.1	398.13	43.3	38.75	48.46
24	24-Mar-21	563.18	941.63	851.7	987.71	385	355.56	400.62	45.52	39.41	48.99
25	25-Mar-21	608.8	956.14	929	985	389.4	379.11	399.97	46.4	43.88	48.89
26	26-Mar-21	608.94	959.88	933.71	984.26	390.85	380.33	400.14	46.74	44.11	49
27	27-Mar-21	583.05	950.85	914.54	981.3	388.24	374.6	398.08	46.27	42.97	48.78
28	28-Mar-21	596.15	950.65	916.23	978.89	387.61	374.96	397.63	46.01	43	47.9
29	29-Mar-21	607.59	955.28	882.14	995.78	389.24	365.2	403.68	46.36	41.15	49.72
30	30-Mar-21	594.24	955.91	888.81	989.35	389.99	370.6	401.66	46.6	42.91	49.29
31	31-Mar-21	583.05	950.85	914.54	981.3	388.24	374.6	398.08	46.27	42.97	48.78

Annexure- IV

adani
Power

Ref: APML/ENV/CPCB/AFAR/22/21 **Date - 26.04.2021**

To,
Mr. S. K. Paliwal
Scientist – E, IPC – II
Central Pollution Control Board,
New Delhi

Sub: Submission of annual ash generation & utilization data for FY 2020-21

Ref: Your mail communication on dated 26.04.2021.

Dear Sir,

With reference to above subject, we are furnishing herewith annual ash generation & utilization data for FY 2020 – 21 in your prescribed format. This is for compliance of Fly Ash Notification S.O. 763(E) dated 14th September 1999 and amendment dated 3rd November 2009.

This is for your kind information & record please.

Thanking You,

Yours Faithfully,

Kanti Biswas
(Station Head)

Cc to : Regional Officer, MoEF & CC, Nagpur.
: Member Secretary, MPCB, Mumbai.

Adani Power Maharashtra Ltd
Plot A-1, Tiroda Growth Centre
MIDC Area, Tiroda
Gondia 441 911
Maharashtra, India

Tel +91 7198 25 3961
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info@adani.com
www.adanipower.com

Fly Ash Notification S.O. 2804 (E), 3rd November, 2009 – Statutory Compliance Report for the period 01.04.2020 to 31.03.2021

S. No.	Item	Reply
1	Name of Thermal Power Station	**Adani Power Maharashtra Ltd.**
2	Full address including **District & Pin code**	Plot No A – 1, MIDC, Tirora Growth Centre, MIDC- Tirora Distt. Gondia Maharashtra - 441911
3	E-mail address	kanti.biswas@adani.com
4	Name of the Nodal Officer (not below the rank of DGM / Dy. CE / or equivalent) dealing with ash/environment management and designation	Arun Pratap Singh, Asso. GM
5	Contact No.	09545554938
6	Email:	arunpratap.singh@adani.com
7	Total capacity of the Thermal Power Station (MW) along with unit-wise capacity break-up	3300 MW

A. Coal Consumption and Ash Generation in year 2020-2021 (in tonnes)

8	Coal /Lignite Consumption	11470150 MT
9	Average ash content in coal (annual)	32.96 %
10	Bottom Ash Generation	756000 MT
11	Fly Ash Generation	3024001 MT
12	**Total Ash Generation (10 + 11)**	3780001 MT

B. Ash utilization in year 2020-2021 (in tonnes)

S. No.	Purpose for which ash is utilized	From ESP Dry Ash (1)	From Pond Ash (2)	From Bottom Ash (3)	Total (1+2+3)
13	Cement industry	1082244	--	--	1082244
14	Bricks/blocks/tiles and other ash based products	130620	3360	15185	148730
15	Road and flyover embankments	30860	49945	5187	85992
16	Reclamation of low lying area	1163819	1321029	213713	2698561
17	Back filling of mines	--	--	20160	20160
18	Concrete/ mortar/ plaster				
19	Agriculture	3164	--	--	3164
20	Exports				
21	Others	427106	74000	--	501106
	Total B (13 to 21)	**2837813**	**1448334**	**254245**	**4540392**

C. Unutilised ash of year 2020-21 and previous years

22	Unutilised ash of year 2020-21 (**in tonnes**)	00
23	Unutilised ash pertaining to previous years i.e. up to 31.03.2020 (**in Million tonnes**)	7.64
24	**Total unutilised ash up to 31.03.2021 (22 + 23) (in Million tonnes)**	7.64
	a. Quantity of Ash stored in Silos	10200 MT
	b. Quantity of Ash stored in Ash Ponds	6.88 MMT
	c. Quantity of Ash stored in any other manner (**please specify type of storage and dry/wet phase**)	NA

D. Reasons for not achieving 100% ash utilisation

We have achieved more than 100% ash utilization in FY 2020 – 21.

ADANI POWER MAHARASHTRA LIMITED * TIRORA

Signature and Seal of the Plant Head
Name: Kanti Biswas
Designation: Station Head
Date:

ENVIRO ANALYSTS & ENGINEERS PVT. LTD.

NABET Accredited & MoEF (Govt. of India) approved

CIN No. : U28900MH1995PTC093129

H. O. : B-1003, Enviro House, 10th Floor, Western Edge II, Western Express Highway, Borivali (E), Mumbai - 400 066.
• Tel. : +91 22 2854 1647 / 48 / 49 / 67 / 68 • E-mail : info@eaepl.com • Website : www.eaepl.com

ENV/SWT/2020-21/095 Date: 4.02.2021

ISSUED TO:

M/s ADANI POWER MAHARASHTRA LIMITED
Plot no. - A1, Tirora Growth Center, MIDC, Tirora,
Dist.: Gondia, Maharashtra – 441 911, India

Sample Particulars : Fly Ash Sample

Sample Registration Date	: 23.01.2021	Analysis Starting Date	: 24.01.2021
Quantity received	: 2 kg	Analysis Completion Date	: 3.02.2021
Sample Type:	: Solid Waste	Sampled by	: EAEPL Representative

TEST RESULTS

Sr. No.	Test Parameters	Measurement Unit	Results
1	Alumina (as Al_2O_3)	% by mass	24.66
2	Iron Oxide (as Fe_2O_3)	% by mass	4.96
3	Silica (as SiO_2)	% by mass	57.8
4	Reactive Silica	% by mass	0.028
5	Magnesium Oxide (as MgO)	% by mass	1.57
6	Sulphur Trioxide (as SO_3)	% by mass	0.058
7	Alkalies (as Na_2O)	% by mass	3.28
8	Chloride (as Cl)	% by mass	0.033
9	Loss on ignition (as LOI)	% by mass	0.04
10	Cadmium	mg/kg	0.26
11	Chromium	mg/kg	17.7
12	Arsenic	mg/kg	0.955
13	Mercury	mg/kg	0.078
14	Selenium	mg/kg	Nil
15	Cyanide	mg/kg	Nil
16	Cobalt	mg/kg	13.2
17	Copper	mg/kg	27.1
18	Lead	mg/kg	19.8
19	Molybdenum	mg/kg	Nil
20	Nickel	mg/kg	22.6
21	Tin	mg/kg	Nil

For Enviro Analysts & Engineers Pvt. Ltd.

Authorized Signatory

ENVIRO ANALYSTS & ENGINEERS PVT. LTD.

NABET Accredited & MoEF (Govt. of India) approved

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ENV/SWT/2020-21/095 Date: 4.02.2021

ISSUED TO:

M/s ADANI POWER MAHARASHTRA LIMITED

Plot no. - A1, Tirora Growth Center, MIDC, Tirora,
Dist.: Gondia, Maharashtra – 441 911, India

Sample Particulars : Fly Ash Sample

Sample Registration Date	: 23.01.2021	Analysis Starting Date	: 25.01.2021
Quantity received	: 2 kg	Analysis Completion Date	: 3.02.2021
Sample Type	: Solid Waste	Sampled by	: EAEPL Representative

TEST RESULTS

Sr. No.	Test Parameters	Measurement Unit	Results
22	Barium	mg/kg	290
23	Calcium	mg/kg	124063
24	Iron	mg/kg	34670.40
25	Zinc	mg/kg	61.7
26	Aluminium	mg/kg	130451.40
27	Manganese	mg/kg	121.7
28	Antimony	mg/kg	Nil
29	Beryllium	mg/kg	Nil

Note: 1. Results relate to tested sample only.
2. Test report should not be reproduced partially.

REMARKS: Based upon request of party, sample was tested for above mentioned parameters only.

For Enviro Analysts & Engineers Pvt. Ltd.

Authorized Signatory

ENVIRO ANALYSTS & ENGINEERS PVT. LTD.

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CIN No. : U28900MH1995PTC093129

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• Tel. : +91 22 2854 1647 / 48 / 49 / 67 / 68 • E-mail : info@eaepl.com • Website : www.eaepl.com

ENV/SWT/2020-21/095/2 Date: 4.02.2021

ISSUED TO:

M/s ADANI POWER MAHARASHTRA LIMITED

Plot no. - A1, Tirora Growth Center, MIDC, Tirora,
Dist.: Gondia, Maharashtra – 441 911, India

Sample Particulars : Bottom Ash Sample

Sample Registration Date	: **23.01.2021**	Analysis Starting Date :	25.01.2021
Quantity received	: **2 kg**	Analysis Completion Date :	3.02.2021
Sample Type:	: **Solid Waste**	Sampled by :	EAEPL Representative

TEST RESULTS

Sr. No.	Test Parameters	Measurement Unit	Results
1	Alumina (as Al_2O_3)	% by mass	19.90
2	Iron Oxide (as Fe_2O_3)	% by mass	5.33
3	Silica (as SiO_2)	% by mass	48.52
4	Reactive Silica	% by mass	0.0125
5	Magnesium Oxide (as MgO)	% by mass	1.72
6	Sulphur Trioxide (as SO_3)	% by mass	0.076
7	Alkalies (as Na_2O)	% by mass	2.58
8	Chloride (as Cl)	% by mass	0.048
9	Loss on ignition (as LOI)	% by mass	0.0065
10	Cadmium	mg/kg	0.14
11	Chromium	mg/kg	18.8
12	Arsenic	mg/kg	0.39
13	Mercury	mg/kg	0.036
14	Selenium	mg/kg	Nil
15	Cyanide	mg/kg	Nil
16	Cobalt	mg/kg	10.8
17	Copper	mg/kg	22.4
18	Lead	mg/kg	21.2
19	Molybdenum	mg/kg	Nil
20	Nickel	mg/kg	24.4
21	Tin	mg/kg	Nil

For Enviro Analysts & Engineers Pvt. Ltd.

Authorized Signatory

ENVIRO ANALYSTS & ENGINEERS PVT. LTD.

NABET Accredited & MoEF (Govt. of India) approved

CIN No. : U28900MH1995PTC093129

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ENV/SWT/2020-21/095/2 Date: 4.02.2021

ISSUED TO:
M/s ADANI POWER MAHARASHTRA LIMITED
Plot no. - A1, Tirora Growth Center, MIDC, Tirora,
Dist.: Gondia, Maharashtra – 441 911. India

Sample Particulars : Bottom Ash Sample

Sample Registration Date	: **23.01.2021**	Analysis Starting Date :	25.01.2021
Quantity received	: **2 kg**	Analysis Completion Date :	3.02.2021
Sample Type	: **Solid Waste**	Sampled by :	EAEPL Representative

TEST RESULTS

Sr. No.	Test Parameters	Measurement Unit	Results
22	Barium	mg/kg	315
23	Calcium	mg/kg	129748
24	Iron	mg/kg	37256.70
25	Zinc	mg/kg	56.2
26	Aluminium	mg/kg	105271.0
27	Manganese	mg/kg	115.7
28	Antimony	mg/kg	Nil
29	Beryllium	mg/kg	Nil

Note: 1. Results relate to tested sample only.
2. Test report should not be reproduced partially

REMARKS: Based upon request of party sample was tested for above mentioned parameters only.

For Enviro Analysts & Engineers Pvt. Ltd.

Authorized Signatory

ENVIRO ANALYSTS & ENGINEERS PVT. LTD.

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ENV/SWT/2020-21/095 /1

Date: 4.02.2021

ISSUED TO:

M/s ADANI POWER MAHARASHTRA LIMITED

Plot no. - A1, Tirora Growth Center, MIDC, Tirora,
Dist.: Gondia, Maharashtra – 441 911. India

Sample Particulars : Pond Ash Sample

Sample Registration Date	: **23.01.2021**	Analysis Starting Date	: 25.01.2021
Quantity received	: **2 kg**	Analysis Completion Date	: 3.02.2021
Sample Type:	: **Solid Waste**	Sampled by	: EAEPL Representative

TEST RESULTS

Sr. No.	Test Parameters	Measurement Unit	Results
1	Alumina (as Al_2O_3)	% by mass	22.38
2	Iron Oxide (as Fe_2O_3)	% by mass	4.57
3	Silica (as SiO_2)	% by mass	58.82
4	Reactive Silica	% by mass	0.024
5	Magnesium Oxide (as MgO)	% by mass	1.31
6	Sulphur Trioxide (as SO_3)	% by mass	0.076
7	Alkalies (as Na_2O)	% by mass	3.13
8	Chloride (as Cl)	% by mass	0.042
9	Loss on ignition (as LOI)	% by mass	0.063
10	Cadmium	mg/kg	0.19
11	Chromium	mg/kg	16.7
12	Arsenic	mg/kg	1.04
13	Mercury	mg/kg	0.065
14	Selenium	mg/kg	Nil
15	Cyanide	mg/kg	Nil
16	Cobalt	mg/kg	12.2
17	Copper	mg/kg	24.8
18	Lead	mg/kg	19.4
19	Molybdenum	mg/kg	Nil
20	Nickel	mg/kg	21.3
21	Tin	mg/kg	Nil

For Enviro Analysts & Engineers Pvt. Ltd.

Authorized Signatory

ENVIRO ANALYSTS & ENGINEERS PVT. LTD.

NABET Accredited & MoEF (Govt. of India) approved

CIN No. : U28900MH1995PTC093129

H. O. : B-1003, Enviro House, 10th Floor, Western Edge II, Western Express Highway, Borivali (E), Mumbai - 400 066.
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ENV/SWT/2020-21/095 /I

Date: 4.02.2021

ISSUED TO:

M/s ADANI POWER MAHARASHTRA LIMITED
Plot no. - A1, Tirora Growth Center, MIDC, Tirora,
Dist.: Gondia, Maharashtra – 441 911. India

Sample Particulars : Pond Ash Sample

Sample Registration Date	: **23.01.2021**	Analysis Starting Date	: 25.01.2021
Quantity received	: **2 kg**	Analysis Completion Date	: 3.02.2021
Sample Type:	: **Solid Waste**	Sampled by	: EAEPL Representative

TEST RESULTS

Sr. No.	Test Parameters	Measurement Unit	Results
22	Barium	mg/kg	227
23	Calcium	mg/kg	120784
24	Iron	mg/kg	31944.30
25	Zinc	mg/kg	51.3
26	Aluminium	mg/kg	118390.20
27	Manganese	mg/kg	114.6
28	Antimony	mg/kg	Nil
29	Beryllium	mg/kg	Nil

Note: 1. Results relate to tested sample only.
2. Test report should not be reproduced partially.

REMARKS: Based upon request of party sample was tested for above mentioned paramcters only

For Enviro Analysts & Engineers Pvt. Ltd.

Authorized Signatory

ADANI POWER MAHARSHTRA LIMITED, TIRORA

GREEN BELT & PLANTATION DETAILS

Total Area Covered: 258 HA
Tree Planted: 513367 Nos.
Shrubs Planted: 59884 Sq. Meter
Green Carpet: 3, 22,194 Sq. Meter

Plant & Shrubs Species used for Green Belt Development

Shrubs	Tree Species
Bogunvellia	Psidium guavajava (Amarud)
Rose	Punica granatum (Anar)
Furcaria	Manilkara zapota (Chikoo)
Cassia biflora	Phyllanthus emblica (Aonla)
Lagerstromia indica	Tamarindus indica (Imali)
Shrubs	Mangifera indica (Mango)
Flower Beds.	Lemon
Lawn	Carissa carandas
Exora Tall	Bottle Brush
Golden Ficus	Casuarina
Ficus panda	Samania saman
Group plants	Ficus religeosa
Nerium Bell (Yellow Ghanti Kanher)	Casia siamia
Hibiscus	Bauhinia purpuria
Musanda	Ficus bengalensis
Nolino	Delonix regia
Furcaria	Azadiracta Indica
Junifer	Spathodia
Ficus Golden	Peltaphorum
Ficus blackiana	Delonix regia
Headge	Acacia auriculiformis
	Jackranda
	Peltaphorum
	Neolamarckia cadamba
	Palms (Coconut, Fistal palm, Royal Palm, etc)
	Ficus Golden
	Rain Tree
	Mimusops elengii
	Cassia fistula
	Tectona grandis (Teak)
	Wad (Bargad)
	Peepal
	Neem
	Bamboo
	Satparni
	Gulmohar

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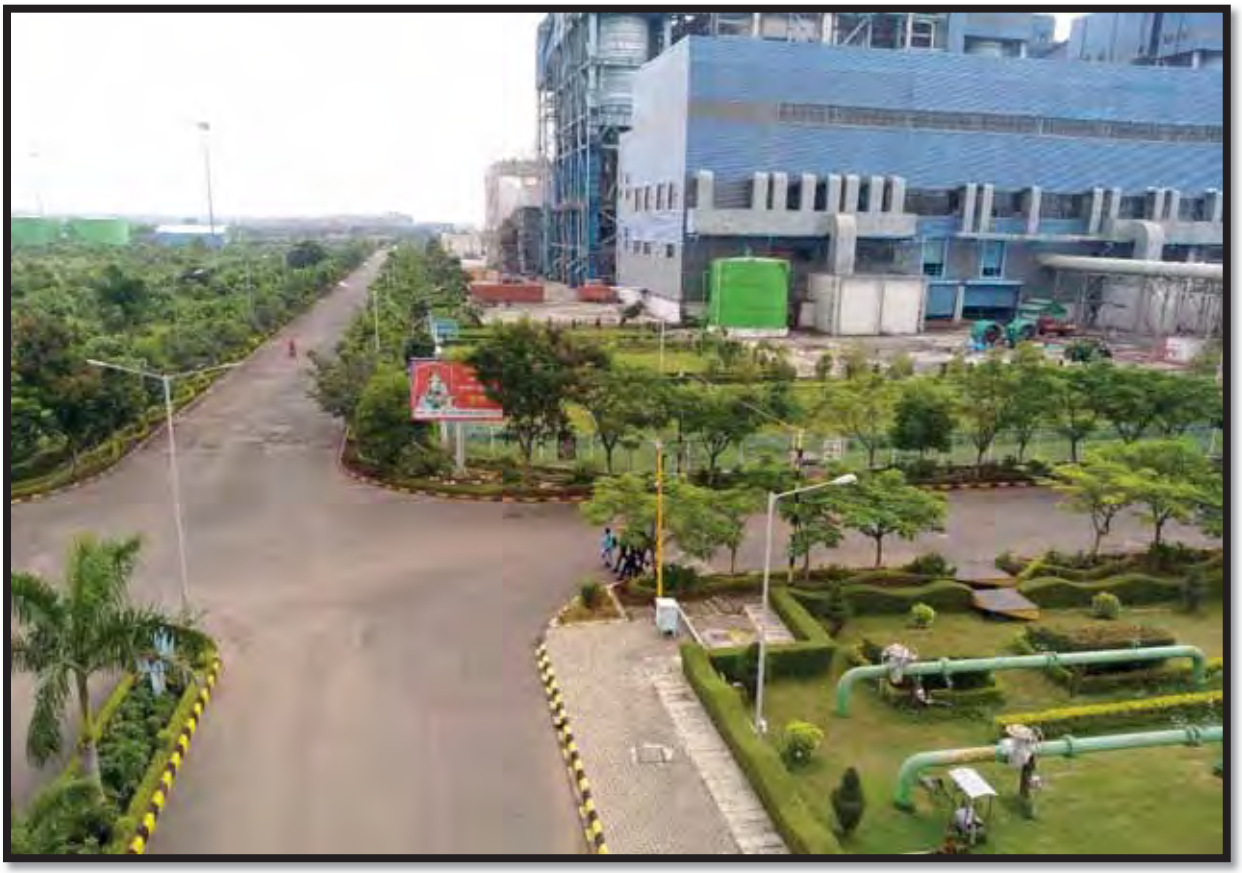

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Adani Foundation

CSR TIRODA

Six monthly report

(OCT-MAR)

FY- 2020-21

I- Education

1. Navodaya Coaching Classes-

In FY-2020-21, In COVID 19 Lockdown period, all schools and classes were closed thus AF initiated online Navoyada Coaching classes for enrolled students. This year total 25 students enrolled at 2 centers Gumadhawda and Birsi. In this six months, AF Conducted daily 2 hours of online classes and on Google meet application, Students were actively engaged during online classes. Additionally teacher also had one to one interactive session with students to solved queries and bridging other teaching gaps & followed all COVID-19 precautions. Conducted regular practice test examination to monitor the each subject scoring and progress of students under the complete supervision of Adani Foundation. Batch 2019-20- NCC- Harshal Mahendra Sonewane from Khairbodi village got selected in 2nd round at Navodaya Vidyalaya. At JNV the selected students are getting good quality modern education-including a strong component of culture inculcation of values, awareness of the environment, adventure activities and physical education. The selected students become an inspiration to other students in their village.

2. Aamchi Shala Adarsh Shala Competition-

In FY 2020-21, ASAS competition declined due to COVID-19 pandemic lockdown. Also FY-2019-20 competition evaluation process was also stopped which were supposed to complete on March-2020. As soon as the lockdown over, in the month of July-Aug-2019 evaluation process started by Samagra Shiksha, Z.P. Gondia education department.

Accordingly, in FY-2020-21 the District evaluation committee completed school evaluation process of 267 participated

schools from 89 centres. 8 first ranked schools from 8 blocks evaluated for final result. Declared 4 winner schools from Tiroda, Sadak-Arjuni, Gondia and Deori Block. 8 first ranked schools from 8 blocks evaluated for final result. Declared 4 winner schools from Tiroda, Sadak-Arjuni, Gondia and Deori Block. AF completed the disbursement of ASAS prize amount of total Rs.11 lakhs to winner schools, all winner schools got their prize amount.

FY 2019-20 Winner schools-

- **1st- Z.P. Upper Primary School, Kodelohara, Tiroda.**
- **1st- Z.P. Upper Primary School, Parsodi, Sadak Arjuni .**
- **2nd- Z.P. Upper Primary Hindi School, Chipiya, Gondia.**
- **3rd- Z.P. Upper Primary School, Sawali, Deori.**

Aamchi Shala Aadrsh Shala- Impact -

- 35% substantial increase of students shifts from private schools to Z. P. Schools.
- Continual increase in Gram Panchayat contribution by 25%.
- Gradual increase in students' attendance by 1% and students' enrollment by 4%.
- Students' selection in Navodaya Schools are significantly increased by 32%.
- Students' applicability for scholarship is increased with 29%.

FY-2019-20 Winner Schools

1st - Z.P. Upper Primary School, Kodelohara, Tiroda


1st - Z.P. Upper Primary School, Parsodi, Sadak Arjuni


2nd Z.P. Upper Primary Hindi School, Chipiya, Gondia


3rd Z.P. Upper Primary School, Sawali, Deori


3. E-Learning Package Distribution –

Adani Foundation started the E-Learning Package distribution to provide the holistic solution in technological learning, which promote the digital learning in Z.P. Schools. The program is ongoing in 126 government schools of Tiroda Block. While the schools were closed in FY-2020-21 during COVID-19, then the Kit syllabus become useful component to complete regular teaching of schools. In this six months, education department vigorously declare to conduct regular online classes by using E-learning kit. Online E-Learning classes phenomenally saved education loss of rural students. Subsequently, regular schools were opened with the reduction in severe impact of COVID-19, then E-learning syllabus has speed up the process of regular classes. School teachers have integrated the E-learning material into existing pedagogy for subject revision and teach creative subjects. E-learning animated syllabus excellently build student focus in classroom which is easily explaining difficult subject in less time.

Online E-Learning classes phenomenally saved education loss of rural students. Subsequently, regular schools were opened with the reduction in severe impact of COVID-19, then E-learning syllabus has speed up the process of regular classes. Students also learned run the subject topic in the absence of teachers. This E-learning kit not only given an exposure to the digital technology but also act as bridge in between students and backlog syllabus. AF regularly monitored the proper functioning and up-gradation of syllabus of existing Kits in schools.

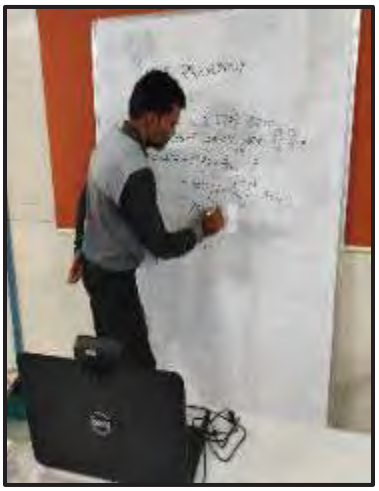
4. Scholarship for Meritorious Students: - Career counselling, Capacity building, and Scholarship.

Scholarship distributions for meritorious students have started to felicitate and appreciate the students who are doing well in their academics and also increased the participation of other students to excel in their studies and other exams. In this program we awards scholarship of Rs. 6000 per student/year to meritorious 10th class students for the period of 2 years who scored outstanding marks in SSC exam. In this period completed scholarship distribution to total 80 students, 40 top ranked students (8 student from each village) for ongoing year and 40 students from previous year.

5. Pre- Training of Youths for Army and Police services-

In FY-2020-21 corona pandemic situation couldn't stop the teaching and learning process of Police training, the motivated aspirant youths own requested AF to restart the training. Looking at corona scenario, Police training classes restarted online through google meet application, conducted regular 2 hours of theory classes as well as weekly 50 marks practice examination. With the reducing impact of corona virus, eventually physical training classes also stated by following all COVID-19 guidelines, provided tracksuits to students.

With this regular trainings and practiced till now total 12 candidates selected and got Government job and other trained students are ready to compete in exam.



II- Community Health

1. Mobile Health Care Unit (MHCU)-

At Tiroda. Adani Foundation, Mobile Healthcare Unit program is effectively ongoing in villages by providing easy accessible, affordable equal healthcare service to poor and vulnerable portion of population which brought to the patients than patients travel to service. 2 MHCUs are working in 50 villages (25 each), both MHCUs generally visits villages regularly and MHCU doctors recognizes symptoms of health related ailments, conduct screening, basic diagnosis of common diseases, prescribe medication and referrals to specialized clinics in case of further medical complications. But in the difficult time of COVID- 19 pandemic in FY-2020-21, both MHCU team worked as a Frontline Health warriors with greater speed and efficiency. They collaborated with the Government hospitals and worked intensively as a medical emergency in all Tiroda block under the guidance of Taluka Health Officer and Tahasildar as well as completed their consultation through in person visit in villages.

By taking all the COVID- 19 precautions MHCUs also devotedly provided medical consultation to Home Quarantine corona patients as well as general category patients. In lockdown period in this Six Months both MHCU doctors consulted 13225 patients 6008 Male & 7217-Female).

Enhancement of MHCU with the start of ECG services-

This year looking at the increasing cases of heart related issues and constant critical illness in old age people. MHCU upgraded their services by starting to take Electrocardiogram (ECG) test.

2. Poor patient Assistant programme-

At Tiroda, Adani Foundation supporting patients of low economic background of Tiroda, by running Poor Patient Assistant Program. To overcome the poor patience healthcare challenges faced during their critical case of illness, and increase affordability to take proper healthcare treatment. FY-2020-21, during this Six months period, in corona situation also AF collected and processed the poor patients forms & provided financial assistance to total 11 poor patients which majorly suffered with brain tumor, accident, and paralysis. Village vulnerable patients are taking benefits of financial support reimbursement scheme, fearlessly took proper treatment at best hospitals without any constrains.

3. Special Activity- Wheelchair Support to physically disable person-

Adani Foundation started Wheelchair Support program for differently disable people from nearby periphery. To The every disable individual wants to build their own life independently however disability should not come in their progressive path of life. Therefore Adani Foundation supporting by providing wheelchairs in free of cost. In this six months total 5 wheelchairs distributed to 5 physically disable people.

Sr. No.	Name & Age	Wheelchair Type
1	Mr. Vijay Gopal Kanoje (56)	E-Tricycle
2	Mr. Santosh Gote (43)	Tricycle
3	Ms. Bhagyashree Tekam (14)	Wheelchair
4	Mr. Prajwal Patle (14)	Wheelchair
5	Mrs. Jyoti Sumit Bhagat (28)	Wheelchair

International Day of Persons with Disabilities 2020- Celebrated International day of persons with disabilities on 3rd Dec 2020, on the theme of 'Not All Disabilities Are Visible'. On this occasion donated 2- Wheelchairs, and 2- E-tricycles to disable persons from nearby villages. Also online webinar session was conducted by Dr. Mohabe, Civil Surgeon, Gondiya for disable persons of nearby villages and spread the information about the various Government schemes for person with Disabilities and process of registration.

5. COVID-19 Relief Work-

Adani Foundation, Tiroda rigorously provided COVID-19 relief work to the frontline health worriers and the needy people throughout the year which helped them to performed their services in better way. The relief work benefitted to 17 village Grampanchayat and 18-19 Government offices of Tiroda and Gondia, includes hospitals, police stations, RTO, RFO, DFO, Nagar Parishad, Collector offices, Z.P Office, Registrar office, etc.

A. 24*7 Ambulance Service-

In COVID-19 pandemic situation, on the behalf of Government Hospital Gondia, 2 MHCUs were obstinately worked as an Ambulance to transport COVID patients and suspected patients from villages to the COVID treatment Centre and District Hospital. Transported total 3032 corona patients and their family members.

B. PPE Kit Support-

Doctors, police force, which constitutes an important section of the frontline workers tackling the Covid-19 pandemic, thus to protect them from infections, AF provided 215 personal protective equipment kit to medical and paramedical team of Government Hospitals.

C. Installed 12655 liter capacity Oxygen Storage Tank-

For COVID-19 relief Installed Oxygen Storage Tank of total 12655 liter capacity at Gondia Gov. Hospital, which will help to reduce the shortage of oxygen supply during an emergency.

D. Supported in village Sanitization-

AF supported for village sanitization activity, provided about 2186 liter sodium hypochlorite solution to Tiroda Nagar Parishad and 17 Gram Panchayats.

F. Other Healthcare Support to Corona frontline Warriors-

5670	• 3 ply mask distributed
574 L	• Liquid Handwash distributed in community
4320	• Hand Gloves to Corona frontline workers
475	• N-95 masks distributed

III- Sustainable Livelihood Development

1. Organic System Rice Intensification (SRI) –

An organic System of Rice Intensification (SRI) is a methodology aimed at increasing the yield of rice produced in farming. It is a low water, less labor-intensive method that uses younger seedlings singly spaced and typically hand weeded with special tools. At Tiroda, organic SRI paddy cultivation method is ongoing since year 2013-14, in last year 2019-20 area under organic SRI had reached upto 20191 Acres with 10000 farmers and got the yield of 14.45quintal/acre however far below the standard SRI yield. Thus, to reach the SRI standard yield of 25-30 quintal/acre, this FY-2020-21 we have developed SRI demonstration plot with 37 framers over 37 acres of land. Selected SRI progressive farmers, implemented and demonstrated 100% principles of SRI and Cultivated organic SRI paddy.

In this period framers completed the harvesting of Organic SRI. With this proper technique this year an organic rice production goes to 24.74 quintal/ acre which is increased by 11.60 quintal/kg as compared to traditional method. Saved the input cost by 77.46%/acre, through sell earned an income of Rs. 62042/acre with the net profit of Rs. 38642/acre. This year SRI method has increased the production by 87.76% and net profit by 94% in comparison with traditional method.

SRI Organic farming Exposure Visit to Demo Plot- During the period of organic SRI harvesting stage, AF conducted SRI demo plot visit of Non-SRI Farmers to plausibly show the comparison between SRI and Conventional paddy crops. Conducted 11 exposure visits at the SRI demo plots in 11 villages, total 379 farmers (M-201, F-178) have visited the plots. The demonstration highlighted the SRI crop results like- tillers growth, roots growth, Panicle growth. SRI panicle-weight, healthy grain size, all grown incredibly much bigger than conventional paddy.

2. Organic Based Integrated Farming-

At site Tiroda in FY- 202O-20, initiated Organic Based Integrated Farming on pilot basis to increase economic source of small and marginal farmers through multi-cropping integrated organic based farming by optimum utilization of locally available resources. Lemon and Tur (pigeon pea) crops planted as an organic integrated farming. Thus to set up an integrated farming model project, AF selected 8 active famers, one acre of land each and having water source for irrigation. The project inaugurated with start of land preparation work. Under the AF guidance farmers completed land preparation work of ploughing, pit digging and layout marking for systematic plantation. Accordingly, prepared nursery of Tur crop and 880 PDKV Sarbati Lime Saplings provided to framers by AF. Subsequently, after completion of land preparation work, Tur plant and Sarbati Lime saplings planted by 8 farmers over 8 acres of land. The fencing work also carried out to protect the crops. Tur crop gives seasonal production within 4-5 months thus farmers get the Tur Production of 1 quintal/acre. Whereas one year old Lemon samplings are growing healthily and will starts production after 3-4 years of plantation.

Supported flood affected farmers- Oil Seeds Cultivation:-

Supported 200 flood affected framers by providing support of Zero Till Drill machine and technical guidance to sow rabi crops-Oil seeds- Safflower and Mustered. Farmers started to take Rabi oil seeds crops, 4 farmers have completed the Safflower seeds sowing with the help of Zero Till Drill Machine over 4 acres of land.

3. TFPCL-Milk Collection and Chilling Centre (MC&CC)-

Adani Foundation started the Dairy Development activity through Tiroda Farmers Producers Company Limited (TFPCL) with an objective to establish assured market & price for milk & value addition by adopting multiple marketing channels. Thus established 3 Milk Collection and Chilling Centers (MC&CC) at Chikhali, Berdipar and Kawalewada.

In this FY- 2020-21, completed the MC&CC infrastructure construction work. TFPCL established their own dairy brand “Anuradha Diary” which operated under supervision of Adani Foundation. Started full functional three Milk Collection and Chilling Centers (MC&CC) at respective villages and named the “TFPCL’s Anuradha Dairy” Milk Collection and Chilling Centre. By following all the COVID-19 guidelines all centers inaugurated in Oct-2021 and started milk collection from nearby dairy farmers.

In Tiroda, Anuradha Diary become a trustworthy dairy to farmers because of its systematic operations and functioning, maintained transparency with proper rate chart, provided milk rate as per the FAT, SNF and CLR parameters, provides instant receipt of sold milk, online payment to farmers account at 10 days interval. These special features of Anuradha dairy are very convenient and accessible for dairy farmers business which attracts more number of farmers. MC&CC getting tremendous response from focused 17 villages. Initially received the milk 200-300 liter per day within 2-3 months per day milk collection reached up to 1200lit/day.

4. Animal Husbandry related Initiatives –

At Tiroda, under the initiatives of Animal Husbandry two Livestock Development Centers (LDC) are functional at Khairbodi and Kawalewada locations with the support of BAIF which covering 26 villages. The objective is to develop livelihood of the farmers through breed improvement program. The LDCs are providing the services like Artificial Insemination (AI), Sorted Semen Sex (SSS) AI, and Pregnancy Diagnose (PD) as well as cattle health checkup camps.

Sr. no.	Activity	Oct-Mar	Cumulative 2021-22
1	AI	521	1229
2	AI (Sorted Sex semen)	539	843
3	PD	486	1069
4	PD (Sorted Sex semen)	240	444
5	Fodder seeds	213	213
6	Meeting	0	0
7	Training	0	0
8	Cattle Health Check-up Camps	10	10
9	Calving	323	639
10	SSS Calving	96	108
11	Hybrid Nepier fodder	0	43
12	Vaccination in villages	0	10
13	Azola Demonstration	28	28

4.1 . Conducted Cattle Health Check-up Camps-

10 Infertility cum cattle health checkup camps were organized on Dec - 2020 in 10 villages, 408 livestock holders benefitted, 2476 Livestock checked in camps. And provided the service of Deworming, Ticks, Parasites Demolition, Infertility Checkups, weakness treatments, and General Treatments.

4.2 Fodder Demonstration and Cultivation

LDCs are promoting scientific fodder cultivation practices to developed healthy fodder feed management practices of livestock. Framers are cultivated Hybrid Nepeir Fodder and Azolla Fodder. The good quality of adequate fodder round the improving year milk productivity as well as animal health.

- **Hybrid Nepier Fodder Cultivation-** AF Promoted the cultivation of Hybrid Nepier green Fodder which is cultivated in minimum expenses, has high nutritional value with round year availability. This year 43 farmers planted Hybrid Nepier Green Fodder. Livestock get healthy fodder throughout the year and farmers saving expenses on fodder.

- **Azolla Fodder Cultivation-** This year AF newly started Azolla Fodder Cultivation, conducted demonstration at Khairbodi village by Livestock development Officer Dr. P. U. Sonewane. Total 28 livestock holders were trained. AF provided Azolla fodder cultivation material HDPE Sheet, Poly Sheet, Poly net and Azolla Culture & Mineral Mixture to 28 farmers. 28 farmers from 12 villages are successfully growing Azolla fodder.

4.3 Cow Based Livelihood-

Adani foundation intensively taken an initiative for promoting organic farming through cow based livelihood in our project area under the Sustainable Livelihood Development initiatives. The project has been implementing with the collaboration of organization- Gau-Vigyan Anusandhan Kendra, Deolapar. Objective to promote organic farming and reduce the cost of cultivation and increase the production. Local Cow based farming in the villages which mainly focuses on utilization of Cow dung and Cow urine. During this period 21 framers visited Gau Vigyan Anusandhan Kendra, Deolapar, completed training and brought 32 Bullocks in free of cost.

4.4 Kitchen Garden- Adani Foundation Kitchen Garden program promoting relatively easy way of getting equilibrate nutrients to families. Kitchen Garden in backyard of rural households increased the availability and accessibility of nutrition riche food products and it add to family nutrition. During this period AF provided 4000 seeds packets to 4000 households. The seeds covered Spinach, Lady Finger, Bottle Gourd, Carrot, Carrot, Tomato, Corn, Chili, Bitter Gourd, Lal Bhaji, etc.

5. Drip Irrigation Programme "Pearl Drops"

Drip Irrigation program supporting the window women farmers of drought prone Amravati Region who had suffered with unexpected loss of their spouse because of farmers suicide. AF supporting such women who are affecting the severe crop damage of orange and cotton because of drought and lack of irrigation facilities. Thus AF provided support for installation of Drip Irrigation Facility in their farm. This FY-2020-21, we supported total 31 women widow farmers of Amravati region till now total 82 women farmers benefitted. Our support provided great relief to them, in minimum investment they not only saved their crop but also harvest an optimum yield of cotton and orchid orange. This benefits boosting women confidence that was necessary to cope with the loss and lead a life of dignity and self-reliance.

6. Lac Cultivation-

AF promoting scientific method of lac cultivation to the group of farmers who has access to Lac Host- Palas trees. In FY-2020-21, the lac production is ongoing, 200 farmers inoculated the brood lac over 6000 trees and harvested summer crop and winter crops. From one tree they are getting 4kg-5kg of lac, and also get good price and market at Gondia getting the price of Rs. 100-200/kg and sells it to nearby Lac Processing market of Gondia, Aamgaon and Salekasa. Through sell framers earned net profit of Rs. 5950/- in single harvesting.

7. Income generation activities

7.1 Lac Bangles Making – Adani Foundation Supporting 45 SHG women for Lac Bangle Making. Women are making new designs of lac Kada and Bangles. Lac Bangle making Programme are ongoing through Buy back. We have completed the registration process of "Aadhirakshi" brand of women farmer Producer Company on amazon.in, and selling is ongoing. Women are making it on demand by women from nearby villages. New designed 'Veni Bangles, Stone and Multicolor Bangles are making on demand by women from nearby villages.

7.2 Agarbatti Production-

Under Women Income Generation activities AF provided total 20 Agarbatti Machines in 5 villages (Garada, Ramatola, Tikaramtola, Mendipur, & Gumadhawada) Total 60 SHG women are involved in Agarbatti production business, AF also prepared a strong base of buy back in the market to sell the Agarbatti. Incense sticks are used by many communities in the world daily for performing worships and for special occasion. In our country uses of incense stick is a daily routine for their puja ceremonies, which created high demand in the market. The Corona didn't affect the Agarbatti business. In COVID-19 pandemic situation Agarbatti production was started in boom, as all the women and family members were home. In an unemployment situation, an Agarbatti production become the major income source of SHG women and their families. All members regularly produced the Agarbatti and sold in the Gondia market through buy back policy. In this FY- 2020-21, during this six months total **36780 Kg** Agarbatti Produced and sold in a rate of **Rs. 1983910/-**

7.3 Mushroom Cultivation: -

The indoor oyster mushroom farming is a kind of business which can earn big profits in just a few weeks with basic training and low capital investment. In this year our trained 100 SHG women are skillfully Cultivated Oyster Mushrooms at their home during the season. They actively started preparation before the start of winter, collected and preserved paddy straw after the rice harvesting. Started the cultivation from Sep- Mar for the period of 7 months. The Mushroom seeds/spawns prepared at the AF Mushroom Spawn Unit and provided to the Mushroom Cultivators. SHG women were benefitted with this best quality spawns, through which they cultivated best quality of Oyster Mushrooms and sold it to nearby market. This year women has increased the number of beds for cultivation and generated profit. Mushroom cultivation sprouting the better livelihood of women.

- **During this Six month Mushroom has been cultivated on total 3577 beds.**
- **Produced 8942.5 kg of Oyster Mushroom.**
- **Women earned Net Profit- Rs. 1243520/-**

7.4 Vegetable Van-

In FY 2020-21, Adani Foundation newly launched support to Vegetable Van/Cart for women SHG members under the SLD- Income Generation Activities. With an objective to enhance livelihood of SHG members, promote organic food for better health and ensure an availability & accessibility of fresh organic vegetables for surrounding community.

Started Vegetable Cart-

- Installed full functional Vegetable Cart in front of Shantigram Township, Berdipar.
- Inaugurated Vegetable cart in on 17th Oct 20 by respected Mrs. Ratna K. Biswas Madam, the organic vegetables selling started in full swing.
- 3 SHG women are handling the Cart and keeping fresh seasonal vegetables & fruits from of the village Kitchen gardens.
- The cart is getting tremendous response from the Township Residences. Through selling women are earning profit of Rs.200-300/day.

IV. Community Infrastructure Development (CID)

1. Construction and Repairing of Schools and Aanganwadi

School buildings, classrooms, playgrounds and libraries are the most important aspect of school infrastructure. Spacious and refurbished buildings and well - ventilated classrooms are must in schools for effective teaching and learning. Thus Adani Foundation has been helping to reconstruct and repair old school classroom which are not fit to use. This FY-2020-21 completed classroom construction work at Kawalewada School.

2. Construction of Community Hall-

In this year AF completed the construction of Community hall at Khairbodi village at the central public location of village, now community can easily gather for group activity, public information and other, which is increasing community togetherness.

3. Toilet Construction Work in Schools-

Adani foundation intervened and constructed good quality toilets only on the condition that the school will provide water facility for same. We also repaired many toilets which were in bad state and made them usable once again. This year we constructed Toilet at Z.P. School, Sukali. This has provided relief to all students especially girls and school management committee understood the importance of sanitation.

4. Water Conservation - Soil Bund Construction

AF with the support if community participation has built the Soil Bund on water stream of Chikhali village. Bund will help to store the water and more number of farmers will able to cultivate the Rabi crops. Total 22 pumps installed by farmers, around 170 acre land covered and more than 78 farmers are getting benefit.

4.1 Promotion of Fishing under Water Conservation Program

To promote the aquatic base livelihood, we provided fish-fingerlings to Grampanchayat-Gumadhawda village to increase fish farming our rejuvenated water pond of the village. Provided 1000 fingerlings of Rohu, Katla and Mrigal fish and transferred it to pond. Now villagers catching the grown fish and earning income by selling it.

E. Gram Unnati Manch

This FY-2020-21 initiate the formation of Gram Unnati Manch in village aiming to make them Ideal Model Villages. Holding an objective create an enabling environment for the care, welfare and development of Community, minimizing negative consequences and building upon good values of society. To increase participation and decision making of community in AF guided development work. To involve people in planning, executing, monitoring & evaluation and documentation process of all AF and public development programs. This year Gram Unnati Manch formation process has been started in selected 3 Tribal villages- Balapur, Sindhitola and Nandnagar and activities processed step by step followed as per the guidelines.

- Completed introductory meetings-
- Completed Discussion on Gram Unnati Manch Formation.
- Completed selection of potential members from Balapur and Sindhitola.
- Stared to conduct the meetings of Gram Unnati Manch

F. Special Activity- Day Celebration

1. National Youth Day Celebration- Adani foundation celebrated National Youth Day at Z.P. High School and Jr. College Tiroda on January 12, 2021 to honor the birth anniversary of great saint Swami Vivekanand by following all COVID-19 guidelines. On this occasion Government ITI College Tiroda also organized Poster exhibition in collage to update the youths about the lifestyle, and vital ideology of Swami Vivekanand. Celebration proceed by conducting speech competition, on spot quiz competition and book distribution to youths. The participated youths were honored by prize distribution, about 100 youths participated.

Media Coverage


गोंदिया जिल्ह्याची आयकॉन ठरली परसोडी शाळा

'आमची शाळा - आदर्श शाळा' उपक्रमात जिल्ह्यात अव्वल


Adani Foundation gives carts to women vegetable vendors


तिरोड्यातील शेतकरी करताहेत अझोला शेती


लोकमत

दिव्यांगांना ट्रायसिकल, ई-ट्रायसिकल व व्हीलचेअरचे वाटप


श्री पद्धतीने सेंद्रित भात लागवड केल्याने शेतकऱ्याच्या उत्पादनात वाढ


अदानी फाउंडेशनतर्फे राष्ट्रीय युवा दिवस साजरा


तिरोडा तालुक्यातील शेतकरी करताहेत अझोला शेती - अदानी फाउंडेशनचा पुढाकार


पशुवैद्यकीय दवाखाना इंदोरा खुर्द अंतर्गत व अदानी फाउंडेशन तिरोडा अंतर्गत ग्राम बरबसपुरा येथे पशु वंधत्व निवारण शिबिर व कृती शिबिराचे आयोजन संपन्न.

Annexure - VIII

ASDC Tiroda Training and Placement Details													
S. N.	FY Year	Trade	Candidates Training								Drop Out Candidates	Total Trained	Total Placement
			ST	SC	Minority	OBC	Gen	Male	Female	Total			
1	2017-18	Welding Technician	125	0	0	0	0	125	0	125	2	123	117
2	2017-18	Assistant Electrician	116	0	0	0	0	116	0	116	5	111	95
3	2018-19	Welding Technician	30	18	2	0	0	50	0	50	5	45	45
4	2018-19	Assistant Electrician	11	14	5	0	0	30	0	30	2	28	26
5	2019-20	Welding Technician	45	25	0	59	4	133	0	133	11	122	112
6	2019-20	Assistant Electrician	30	28	0	65	9	132	0	132	10	122	114
7	2019-20	General Duty Assistant	36	27	0	27	15	0	105	105	2	103	88
8	2020-21	Welding Technician	9	11	0	27	0	47	0	47	0	47	44
9	2020-21	Assistant Electrician	11	16	0	50	4	81	0	81	0	81	72
Total			**413**	**139**	**7**	**228**	**32**	**714**	**105**	**819**	**37**	**782**	**713**

Digital Literacy Out-reach Training Program Total 256 Trained FY 2018-19

Digital Literacy Out-reach Training Program Total 1334 Trained FY 2019-20

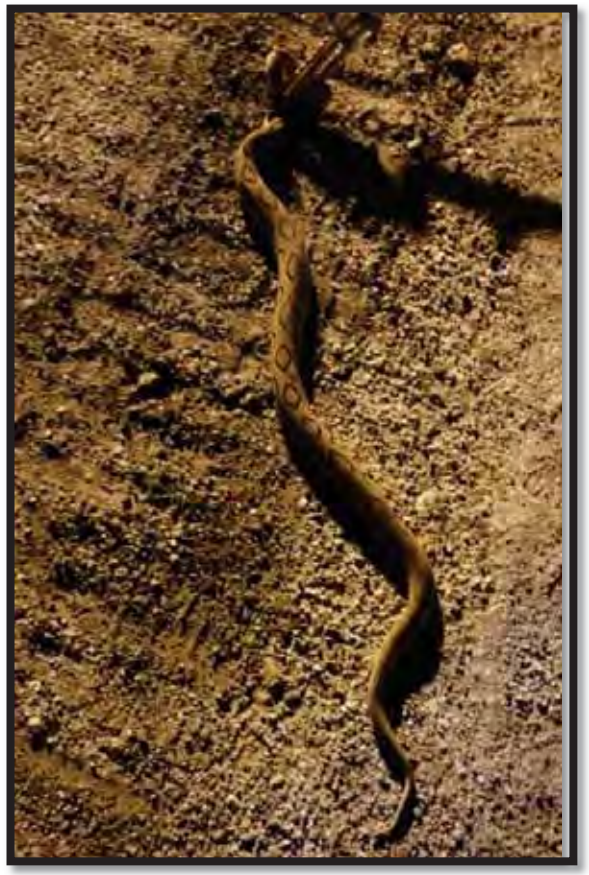
Digital Literacy and other course Online Training Program Total 573 Trained FY 2020-21

Annexure - IX

BIODIVERSITY CONSERVATION AT APML TIRODA

BIODIVERSITY GLIMPS

INDIAN COBRA



RAINBOW BOA

VENOMOUS SNAKES

ASIAN PALM CIVET

BIODIVERSITY GLIMPS

SHIKRA

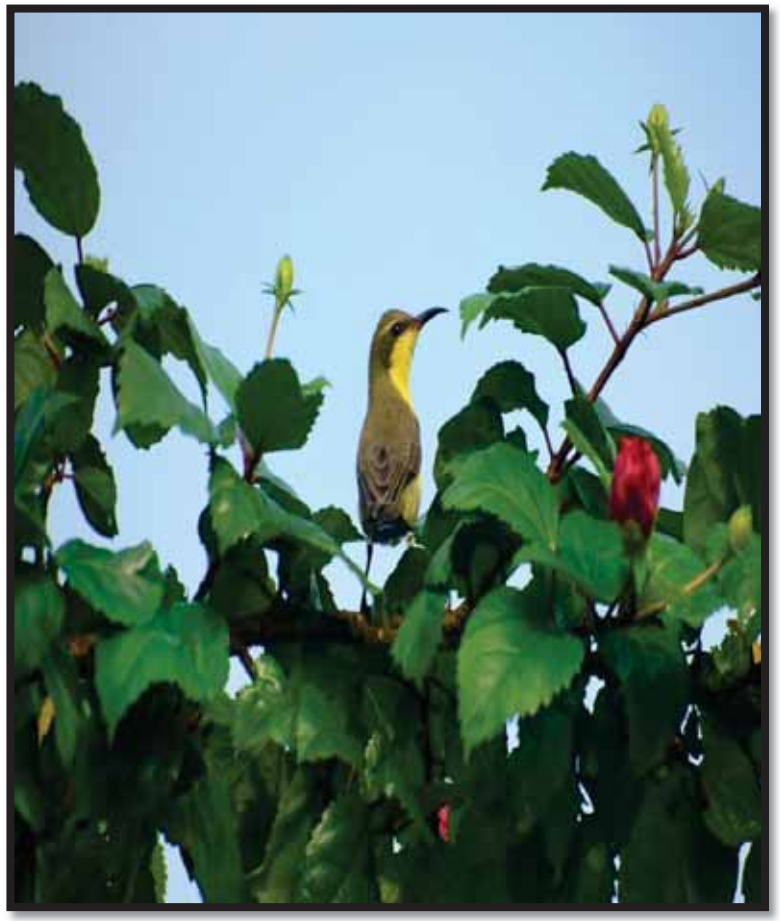
SPOTTED
OWLET

COMMON
KINGFISHER

BIODIVERSITY GLIMPS

CHARAXES BERNARDUS
BUTTERFLY

AUSTRALIAN PELICAN



PURPLE SUBIRD

BIODIVERSITY GLIMPS

ORIENTAL DARTER

RIVER LAPWING

RUDDY SHELDUCK (FEMALE)

BIODIVERSITY GLIMPS

INDIAN GREY HORNBILL

SARAS

BIODIVERSITY GLIMPS

JERDON (LEAF BIRD)

(INDIAN GOLDEN ORIOL)

PURPLE SUN BIRD

Annexure - X

EFFORTS OF FLY ASH UTILIZATION IN APML, TIRODA

FLY ASH UTILIZATION BY APML, TIRODA

1. Fly Ash Brick & Paver Manufacturing
2. Red Brick Manufacturing
3. Use in Agricultural Activity
4. Forestry
5. Reclamation of low lying areas
6. Back filling and stowing of mines
7. Cement Manufacturing through Road and Rail
8. Fine Ash Extraction & Export
9. Road & Fly Over Construction Project (All near by projects)
10. High Concentration Slurry Disposal (HCSD)
11. Bund Raising
12. Supply of Cenosphere to all renowned Customers in India
13. Carrying out study for using Bottom Ash as replacement of sand in concrete and other construction work through CIMFR, Dhanbad

APML, TIRODA FLY ASH BRICK PLANT

ADVANTAGE OF FLY ASH BRICKS/BLOCKS

M/s. Adani Power Maharashtra Limited, Tiroda set up Fly Ash Brick Plant inside Plant Premises of Capacity 10000 Nos./day. These bricks is being used for in house construction and Provided as per CSR scheme to nearby villages. We have also organized workshop & seminar for local entrepreneurs. So far more than 28 ash brick plant has been established in Gondia District. As per agreement with district administration we are not selling ash bricks. We have made agreement with 78 nos. of ash bricks manufactures of Gondia, Bhandara, Balaghat & Seoni Districts to use our Fly Ash.

Fly Ash bricks have following advantages over ordinary clay bricks:

1. Possess adequate crushing strength as a load bearing member.
2. Have cement color in appearance.
3. Are uniform in shape
4. Smooth in finish and requires no plastering for building work.
5. Are lighter in weight than ordinary clay bricks.
6. Are cheaper than ordinary clay bricks

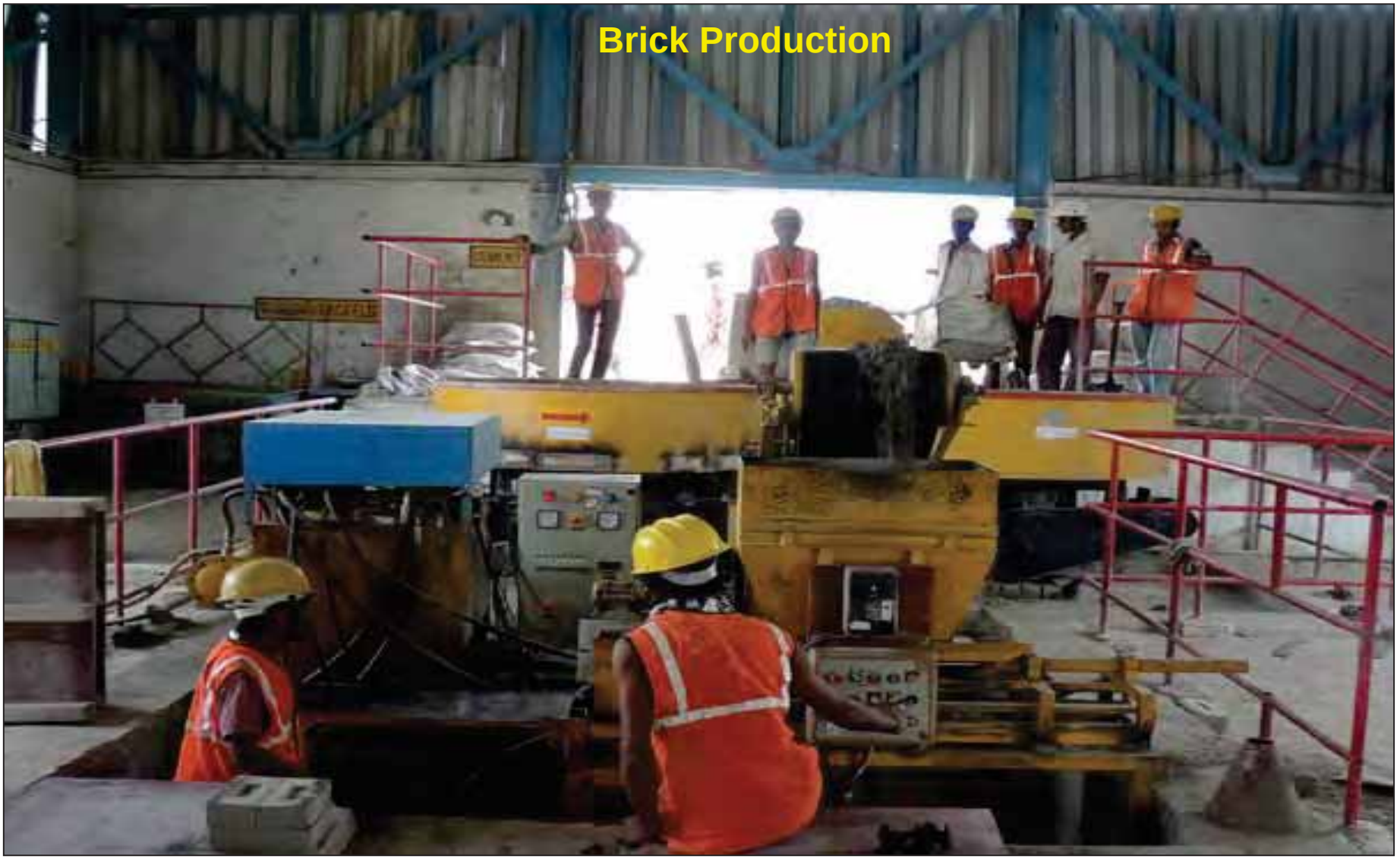
FLY ASH BRICK PLANT @ APML

FLY ASH BRICKS PLANT : APML TIRORA

adani

FLY ASH BRICKS PLANT : APML TIRORA

FLY ASH BRICKS PLANT : APML TIRORA



FLY ASH BRICKS PLANT : APML TIRORA

FLY ASH BRICKS PLANT : APML TIRORA

FLY ASH BRICKS PLANT : APML TIRORA

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FLY ASH BRICKS PLANT : APML TIRORA

USE OF BOTTOM ASH IN RED BRICK MANUFACTURING

METHOD OF FLY ASH/BOTTOM ASH/ POND ASH APPLICATION

Fly Ash mixed with local Soil can be used to manufacture burnt clay bricks. The manufacturing process is similar to conventional clay brick making process

The process as follows:

- **In clay Ash brick making soil laid first and then required quantity of fly ash/pond ash is laid over the soil**
- **Manually mixing of both the material in a dry form**
- **Add water and again mixed to make homogenous mixture**
- **Kept some time to get it digested**
- **Take homogeneous mixture in a mould**
- **Moulded brick kept for air dried for about 4 – 6 days**
- **Fire air dried bricks in a furnace and then cool & stacking**

Spreading of Ash on Clay

Wet Mixing with water

Mixing of Bottom Ash with Clay

Moulding of Fly/ Bottom Ash with Soil

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METHOD OF FLY ASH/BOTTOM ASH/ POND ASH APPLICATION

If addition of bottom ash to the red brick composition:

- **Increased Redness of the brick, having clean surface & edges**
- **Improve its compressive strength**
- **Decreased its water absorption capacity**
- **The bricks considered as environmentally safe construction products.**

Dry Bricks Ready for Furnace

Dry Bricks heated with Rise Husk

DIFFERENT COMPOSITION OF BOTTOM ASH & CLAY

Sr. No.	Ratio of Bottom Ash & Clay	Comprehensive Strength (KG/CM2)	Weight (KG)
1	50% Clay + 50% BA	49	2.15
2	60% Clay + 40% BA	35	2.0
3	60% BA + 40% Clay	36	1.7
4	50% Clay + 25% FA + 25% BA	30	1.9
5	Market Red Bricks	40	2.5

USE OF BOTTOM ASH IN CLAY BRICKS

APML ORGANIZING WORKSHOP ON FLY ASH BRICKS

Workshop on “Use of Bottom Ash in Red Brick” for Red Bricks Manufactures of Gondia, Bhandara & Balaghat Dist.

APML ORGANIZING WORKSHOP ON FLY ASH BRICKS

CONSTRUCTION OF CONCRETE BLOCK

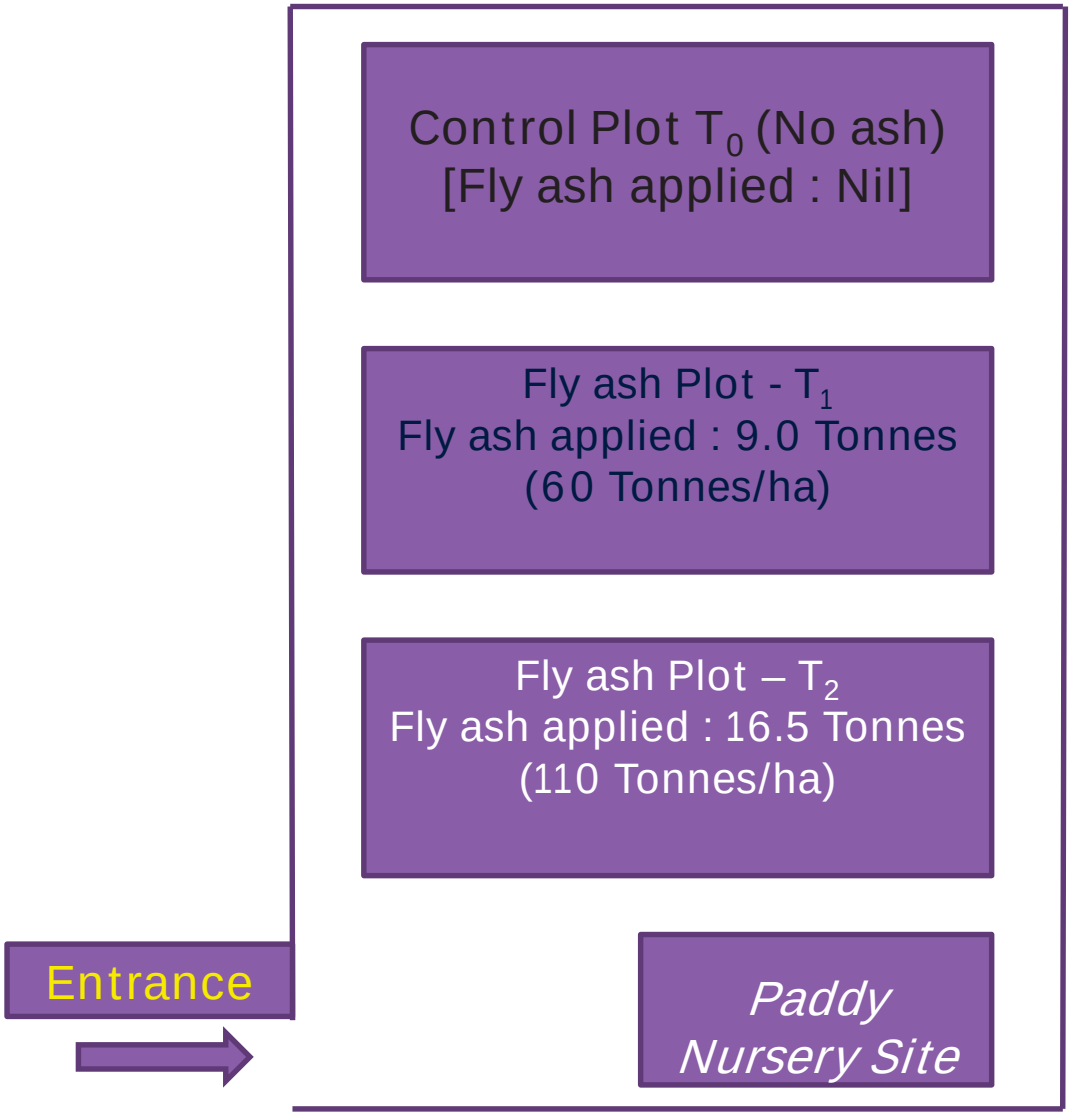
DIFFERENT COMPOSITION FOR CONCRETE BLOCK

Sr. No.	RATIO FOR M20 CONCRTE BLOCK					Comprehensive Strength (mPa)	
	CEMENT (%)	SAND (%)	BOTTOM ASH (%)	AGGREGATE (%)	FLY ASH (%)	7 DAYs	28 DAYs
1	20	0	30	50	0	14.0	19.82
2	20	15	15	50	0	15.73	20.26
3	20	0	30	25	25	17.68	18.04
4	20	15	15	10	40	13.77	17.46

USE OF FLY ASH IN AGRICULTURE

(TECHNICAL COLLABRATION WITH AMPRI, BHOPAL)

DEMONSTRATION PROJECT: USE OF ASH IN AGRICULTURE



Demonstration Field Layout
(Project Duration 2015 – 2017)

Location
Kachewani site
(Near Brick Plant)

Fly ash Application
6 – 7 May 2015

Treatment Plot Size
30m × 50m = 1,500m²

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Increase in Yield (%)

	Kharif 2015	Rabi 2015 - 16	Kharif 2016	Rabi 16 – 17
Crop	Paddy	Wheat	Paddy	Chana
Variety	Super kranti – 11	Lokvan – 1	Mahabeej – MTU – 1010	Vijay
Nursery Grow	01.07.2015	22.12.2015	01.06.2016	09.11.2016
Date of Transplantation	29.07.2015	-	02.07.2016	--
Date of Harvesting	20.09.2015	18.04.2016	13.10.2016	17.03.2017
Increase in Crop Yield:				
T1	17.34 %	11.26 %	15.91 %	20.77%
T2	21.70 %	13.59 %	27.27 %	26.74%

Land Development and Layout (May 2015)

USE OF ASH IN AGRICULTURE

Paddy Transplantation

Paddy Crop

RECCOMONDATIONS & OUTCOMES

CSIR – Advanced Material Process Research Institute (AMPRI), Bhopal revealed following recommendations/outcomes for scientific application of APML, Fly Ash in Agricultural activity:

1. The APML Fly ash has **low bulk density (1.01 g/cc), high porosity (45.88%) and high WHC (47.11%), which improve the soil physical condition and nutrient availability to soils and also reduce the irrigation water requirement**.
2. The APML Fly ash due to its presence of **high potassium and sulphur, increase their contents in soils significantly to raise crop productivity.**
3. The APML Fly ash application should be supplemented by an application of Farm Yard Manure (FYM) to soils invariably to add more organic carbon to the soils for optimum benefit.
4. The APML Fly ash has **significantly higher total and available crop micronutrients (Cu, Zn, Mn, Fe, Mo, Co and B), which increase their contents in the soils significantly to benefit the agriculture system**.
5. The **micronutrients contents in rice, wheat and chana grains increased proportionately with the rate of APML Fly ash application.**

KISAN MELA & SITE VIST OF FARMERS: USE OF ASH IN AGRICULTURE

KISAN MELA & SITE VIST OF FARMERS: USE OF ASH IN AGRICULTURE

KISAN MELA & SITE VIST OF FARMERS: USE OF ASH IN AGRICULTURE

USE OF ASH IN AGRICULTURE

Publication: Sakal (Marathi)
Edition : Gondia Today
Subject : Practical Training programme for fly ash utilization in farming

Date: 25.05. 2015
Page No: 04

फ्लाय ॲशच्या उपयोगासाठी दाखविले प्रात्यक्षिक

उत्पादन वाढीकरिता उपक्रम : शेतकऱ्यांचा सहभाग

सकाळ वृत्तसेवा

तिरोडा, ता. २४ : अदानी पॉवर महाराष्ट्र लिमिटेड तिरोडाच्या वतीने कार्यक्षेत्रात येणाऱ्या गावातील प्रगत शेतकऱ्यांकरिता पिकांचे उत्पादन वाढीसाठी शेतजमिनीत फ्लॉय ॲश उपयोगाविषयी प्रात्यक्षिक व मार्गदर्शन शिबिर घेण्यात आले.

कार्यक्रमाला प्रमुख मार्गदर्शक म्हणून प्रगत पदार्थ व प्रकम अनुसंधान संस्थान भारत सरकारचे वरिष्ठ संशोधक डॉ. मुरली तसेच अदानी पॉवर महाराष्ट्र लिमिटेड तिरोडाचे समीर मित्रा, ब्रजेशकुमार पांडे, सौ. व्ही. एस. प्रताप, एस. चक्रवर्ती, मोहन पांडे, दिलीप आचार्य, अदानी फाउंडेशनचे प्रकल्प समन्वयक सुबोधकुमार सिंग उपस्थित होते.

शिबिराच्या सुरुवातीला उपस्थित सर्व शेतकऱ्यांना प्रात्यक्षिक क्षेत्र भेटीसाठी नेऊन शेतीची मशागत करतेवेळी फ्लॉय ॲश शेतीमध्ये कशाप्रकारे मिश्रीत केली जाते हे प्रात्यक्षिकाद्वारे समजविण्यात आले. त्यानंतर कार्यक्रमाचे प्रमुख मार्गदर्शक डॉ. मुरली यांनी शेतकऱ्यांना मार्गदर्शन करताना फ्लॉय ॲश ही शेतीसाठी फायद्याची आहे. फ्लॉय ॲशमध्ये मुख्यतः नैसर्गिक सूक्ष्म पोषक तत्त्वे असतात जसे की तांबे, जस्त, लोह, मँगनीज, बोरॉन या पोषक तत्त्वांचा पिकांना फायदा होतो. तसेच शेतजमिनीत फ्लॉय ॲशच्या उपयोगामुळे पिकांच्या उत्पादनात वाढीत १५ ते २२ टक्के वाढ होते.

फ्लॉय ॲश मिश्रीत शेतजमिनीतून घेतलल्या पिकासंदर्भात राष्ट्रीय पोषण आहार संस्था हैदराबाद, भारत सरकार यांनीसुद्धा आपली गुणवत्ता मानके यावर निर्धारित केली आहे. डॉ. मुरली यांनी शेतकऱ्यांना प्रत्येक एकरात २० ते ४० टनापर्यंत फ्लॉय ॲशची मात्रा शेतजमिनीत दिल्यास पाणी रोखून धरण्यास उपयुक्त ठरते व पाण्याची बचतसुद्धा होते असे मार्गदर्शन केले. त्यानंतर अदानी पॉवर महाराष्ट्र लिमिटेडचे समीर मित्रा यांनी मार्गदर्शन करताना शेतकऱ्यांनी तंत्रशुद्ध पद्धतीने शेती करून व्यावसायिक दृष्टिकोनातून शेती करावी असा सल्ला दिला.

अदानी फाउंडेशनचे प्रकल्प समन्वयक सुबोधकुमार सिंग यांनी आपल्या मार्गदर्शनातून शेतकऱ्यांसाठी अदानी पॉवर महाराष्ट्र लिमिटेड व अदानी फाउंडेशनतर्फे शेतकऱ्यांकरिता जे कार्यक्रम राबविले जातात. कार्यक्रमामध्ये सक्रियरीत्या सहभागी होऊन यशस्वितेसाठी करण्याकरिता सहकार्य करावे असे आवाहन केले.

त्याचप्रमाणे अदानी पॉवर महाराष्ट्र लिमिटेड तिरोडा अडीच वर्षे स्वतः प्रात्यक्षिक यशस्वी करेल तदनंतर शेतकऱ्यांनी या पद्धतीने उत्पादन घेण्यास प्रेरणा देण्यात येईल असे सांगितले.

दर क्षेत्र प्रात्यक्षिक व प्रशिक्षण शिबिराला चिरेखनी, कवलेवाडा, करटी (बु.), पुजारीटोला, भिवापूर, मेंदीपूर, गराडा, खमारी, चिखली, मरारटोला, जमुनीया, धामनेवाडा, चेरडीपार आदी गावांतील प्रगत शेतकरी उपस्थित होते. या कार्यक्रमाचे संचालन ए. पी. सिंग यांनी केले. आभार उगम देशमुख यांनी मानले.

तिरोडा : अदानी समूहाने शेतकऱ्यांना फ्लॉय ॲशच्या प्रात्यक्षिक करण्यासाठी नेले त्यावेळचे चित्र.

USE OF FLY ASH IN FORESTRY

FLY ASH PROMOTIONAL & REASEARCH PARK

FLY ASH PROMOTION & RESEARCH PARK

APML, Tiroda engaged Tropical Forestry Research Institute (TFRI), Jabalpur, for carried out "Implementation Forestry Research for Ash Utilization Promotion and Development of Research Park" with following objectives:

- Technical guidance for establishment of forestry research centre at APML.
- Screen themes and thrust areas of research on Fly Ash Utilization
- Carry our of Research & Development (R&D) on various thrust area of fly ash utilization in forestry.
- TFRI, Jabalpur will set up experimental nursery, experimental plots, mist chamber, shade house and various laboratories to be developed at research park at APML, Tiroda.

APML, Tiroda also provide fly ash to forest department to raising their nursery at Tiroda.

वनपरिक्षेत्र अधिकारी, तिरोडा यांचे कार्यालय, तिरोडा

विषय- फ्लाय ॲश चा पुरवठा करणेबाबत

क्रमांक :-

तिरोडा, दिनाक :- 21/2/2017

प्रति,

स्टेशन प्रमुख,
अदानी पॉवर लि.तिरोडा

महोदय,

वनपरिक्षेत्र अधिकारी,
वनक्षेत्र तिरोडा

LOW LAYING AREA FILLING WITH FLY ASH

LOW LAYING AREA FILLING (LAND RECLAMATION)

APML, Tiroda providing fly ash for Low Laying Area Filling on request of Local Villagers as a compliance of Fly Ash Notification. Before execution of Land reclamation the following documents:

1. Request Letter from Land Owner
2. NOC from Grampachayat/Nagarparishad
3. 7/12 Copy (Land Paper)
4. Simankan (Diversion papers)
5. Naksha (Land map)
6. Affidavit on Rs. 100 Stam Paper

We ensure to not misuse of ash provided to various users.

Site Preparation

Ash Unloading at Site

Ash Dosing & Shifting

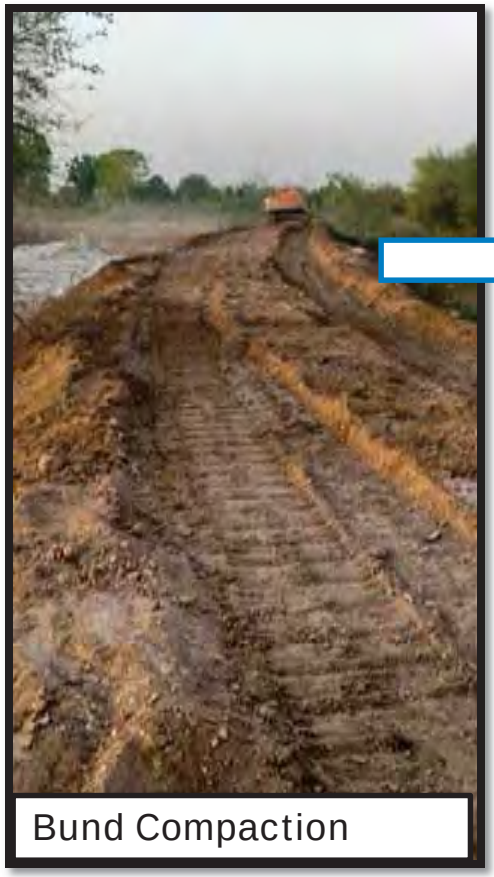
Ash Dosing & Shifting

Ash Compaction & Chaining

Soil Covering

Ash Compaction & Chaining

Soil Covering



Bund Compaction

Soil Compaction

Water at Site for Dust Suppression

FINAL COMPACTION BY ROLLER

Guava Garden Developed After Reclamation with Ash At Mendipur Village

Teak Planation Developed After Reclamation with Ash At Bhivapur Village

BOTTOM ASH USE IN MOIL, MINE STOWING

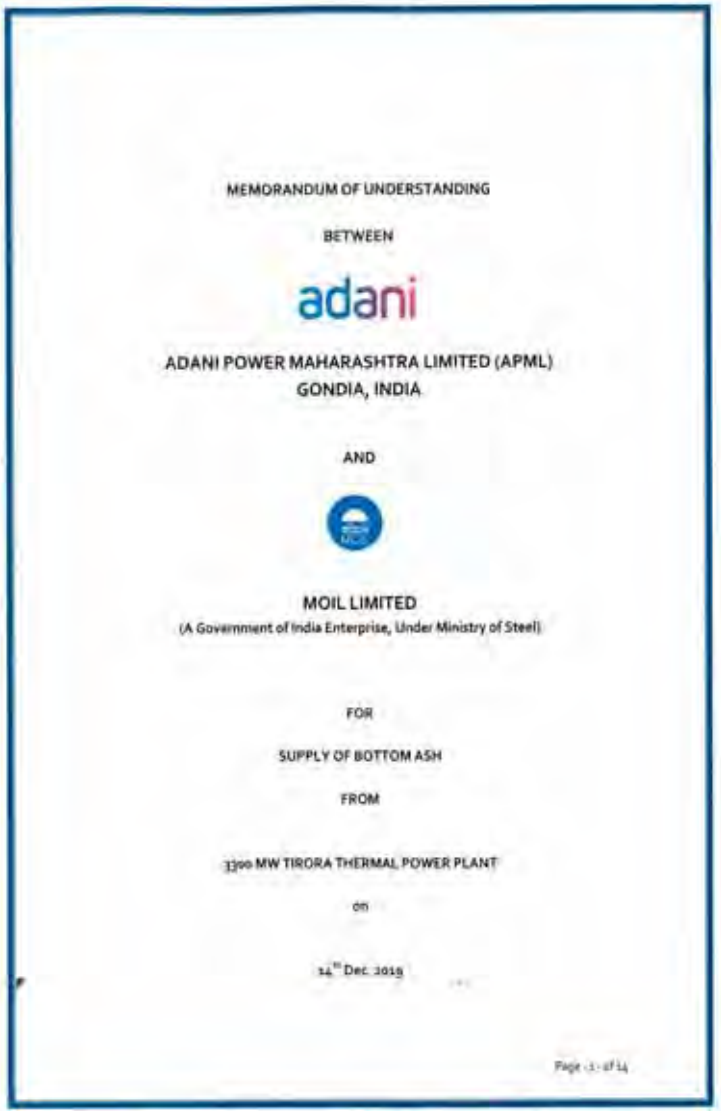
MINE STOWING AT MOIL, BALAGHAT

APML, Tiroda providing Bottom Ash to Manganese (MOIL) Ore India Limited, Balaghat for mine stowing.

MOIL, Bharweli Mine is one of the manganese ore mine which is located at Bharveli, Dist- Balaghat, Madhya Pradesh. Lowest level of this mine is 436 m which is second deepest mine of Asia. Ore Reserve is around 24.7 Million tons and Mining being done @ 0.4 Million Ton/Annum.

APML, Tiroda successfully done the study for mine stowing through Bottom Ash from CSIR – CIMFER, Dhanbad. MOIL used bottom ash for its mine stowing based on the CSIR – CIMFER, Dhanbad recommendations.

MOIL Limited signed MoU with Adani Power Maharashtra Limited (APML) for Supply of Bottom Ash of an quantity 100000 MT from the period of 17.12.2019 to 17.12.2020.



MEMORANDUM OF UNDERSTANDING

BETWEEN

adani

ADANI POWER MAHARASHTRA LIMITED (APML)
GONDIA, INDIA

AND

MOIL LIMITED
(A Government of India Enterprise, Under Ministry of Steel)

FOR

SUPPLY OF BOTTOM ASH

FROM

3300 MW TIRORA THERMAL POWER PLANT

on

14th Dec. 2019

Page 1 of 14

GROUND HOPPER AND SCREEN FOR SAND/ BA FEEDING

MINE STOWING WITH BOTTOM ASH

BOTTOM ASH DEFORMED SAND HEAP

BOTTOM ASH SLURRY WHILE STOWING

BOXN WAGON LOADING FACILITY AT APML, TIRODA

BOXN RAKE LODING FACILITY AT SILO

APML, SILOs

RAKE PLACEMENT FACILITY UNDER SILO

RAKE PLACED UNDER SILO

BOXN RAKE LODING FACILITY AT SILO

DOOR CLOSING OF RAKE FOR AVOIDING LEAKAGE/SPILLAGE DURING TRASPORTATION

TARPOULIN COVERING FOR LOADED RAKE

RAKE RADY FOR DISPATCH

FLY ASH TRANSPORTATION FROM APML, TIRODA THROUGH BCFC RACK FOR CEMENT MANUFACTURING

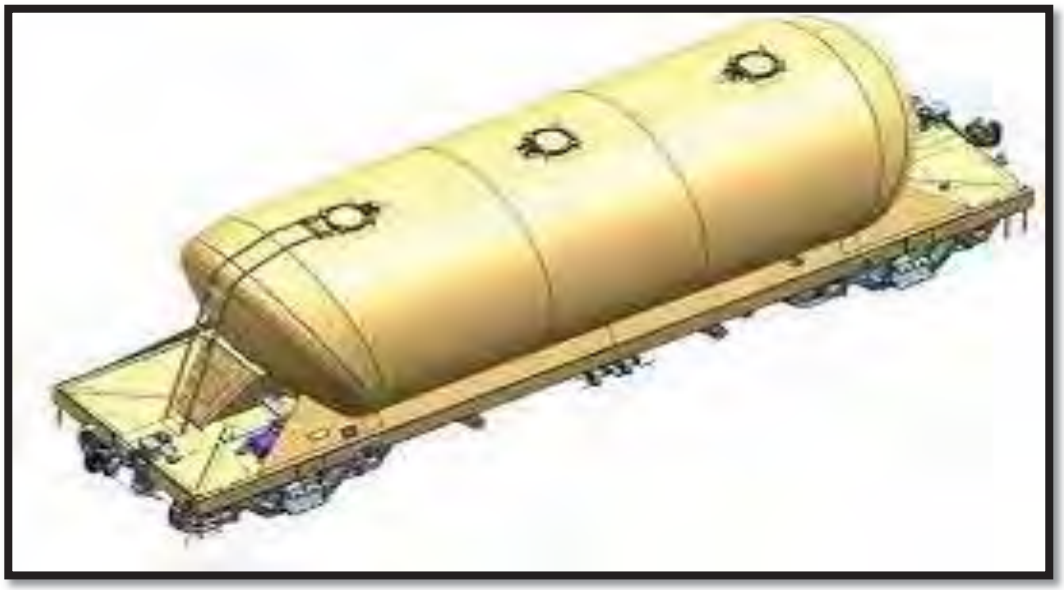
FLY ASH LOADING ON WAGON @ APML FOR CEMENT MANUFACTURING UNITS

adani

FLY ASH TRANSPORTATION FROM APML, TIRODA THROUGH BTAP RACK FOR CEMENT MANUFACTURING

FLY ASH PROMOTIONAL & REASEARCH PARK

- APML, Tiroda made agreement with some cement manufacturing unit in Satna Region for supply of fly ash through rail (BTAP wagons) from Balaghat, Nainpur & Jabalpur route.
- The proposed work of board gauging is in advanced stage of completion and will be completed by end June 20.



FLY ASH TO VARIOUS CEMENT PLANTS AND ROAD PROJECTS

- APML Tirora have been providing fly ash to various cement plants and Road project as per the requirement.
- Fly ash from APML Tirora is being lifted by some of the Cement plants which is near Nagpur and of Chandrpur cluster through bulkers.
- All near by road project have executed MOU with APML for lifting of fly ash through bulkers and pond ash through Tippers. Presently, APML is providing fly and pond ash to Seven (7) road projects.

FACILITY FOR JUMBO BAG FILLING, LOADING AND TRANSPORTATION THROUGH RAILWAY WAGONS I.E. BOXN, ETC

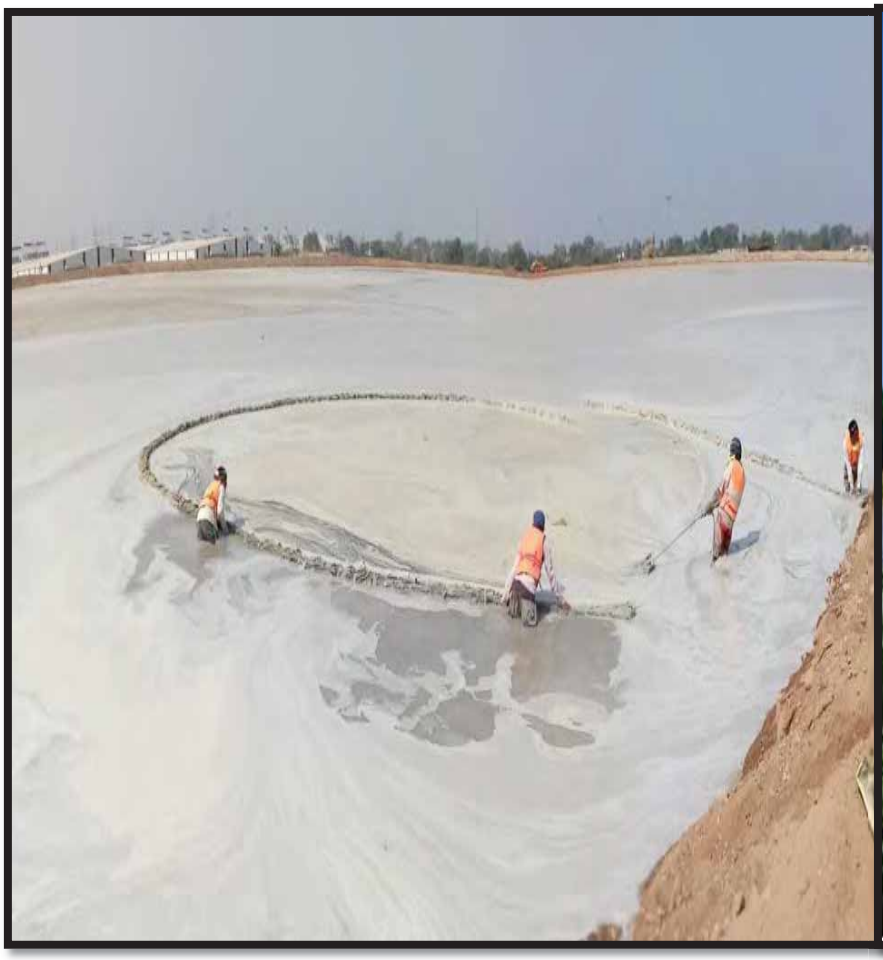
APML is having all facilities for filling of Jumbo Bags, having sufficient area for keeping stock of around Three (3) rakes material at a time and having facility to load and transport to any destination in the country.

ULTRA FINE FLY ASH UNIT SET UP AT APML, PREMISES

EXTRACTION OF ULTRA FINE FLY ASH AT APML TIRODA

CENOSPHERE HARVESTING

CENOSPHERE HARVESTING



HIGH CONCENTRATION SLURRY DISPOSAL (HCSD) SYSTEM

HIGH CONCENTRATION SLURRY DISPOSAL (HCSD) SYSTEM

- APML, Tiroda having facility of dry ash slurry disposal system called as High Concentration Slurry Disposal (HCSD) system.
- The separate dyke available for disposal of HCSD slurry.
- Mound formation done through HCSD slurry disposal system at dyke.
- After completion cover soil on the suface and developed Green Belt.

HCSD pump (GEHO) (Cap-237 M3/hr, 40 bar) - Qty 2 no's.

adani

FLY UTILIZATION FOR BUND RAISING

POND ASH USED FOR BUND RAISING

STUDIES CARRIED OUT BY APML, TIRODA FOR FLY ASH UTILIZATION

STUDIES CAARIED OUT BY APML, TIRODA

APML, Tiroda carried out the following studies for utilization of fly ash in various avenues as follows

1) **STOWING OF UNDERGROUND MINES THROUGH CSIR – CIMFER, DHANBAD**

A feasibility study has been successfully carried out on "Advice on the Suitability of Pond Ash/Bottom Ash from Tiroda, Thermal Power Project, APML for Stowing in Underground Mines" through CSIR - Central institute of Mining & Fuel Research (CIMFR), Dhanbad.

CSIR – CIMFR, Dhanbad Recommendation: ***"****Tiroda Thermal Power Station Pond Ash & Bottom can be used for filling the voids in underground mines, however considering the fine nature of pond ash it is recommended to use bottom ash which will give faster settlement & high percolations rate through the pack".*

STUDIES CAARIED OUT BY APML, TIRODA

2) USE OF FLY ASH IN AGRICULTURE THROUGH CSIR – AMPRI, BHOPAL

APML, Tiroda successfully completed a technical study on “Field Demonstration-cum-Training on Utilization of APML Fly ash in Agriculture” through CSIR – AMPRI, Bhopal under Department of Science & Technology, Govt. of India.

RECOMMONDATIONS:

- Low bulk density (1.01 g/cc), high porosity (45.88%) and high WHC (47.11%), which improve the soil physical condition and nutrient availability to soils and also reduce the irrigation water requirement.
- APML Fly Ash due to its presence of high potassium and sulphur, increase their contents in soils significantly to raise crop productivity.
- APML Fly Ash application should be supplemented by the application of Farm Yard Manure (FYM) to soils invariably to add more organic carbon to the soils for optimum benefit. APML Fly ash has significantly higher total and available crop micronutrients (Cu, Zn, Mn, Fe, Mo, Co and B), which increase their contents in the soils significantly to benefit the agriculture system.
- The micronutrients contents in rice, wheat and chana grains increased proportionately with the rate of APML Fly ash application.
- The project has generated enough momentum in the direction of safe and bulk utilization of APML Fly ash in agriculture in Tirora region. The local farmers have been motivated to utilize APML Fly ash for their benefit in agriculture.

STUDIES CAARIED OUT BY APML, TIRODA

3) FLY ASH LEACHABILITY STUDY THRUGH CSIR – NEERI, NAGPUR

APML, Tiroda engaged CSIR — National Environmental Engineering Research Institute (NEERI), Nagpur, for carried out "Fly Ash Lechability Study" in and around 15 KM of the plant premises during FY 2016 – 2017

RECOMMONDATIONS:

- The ERT (Electrical Resistivity Tomography) measurements indicate that the soil and weathered formations extend up to 7m to 12m whereas the ash filling is restricted to only 2mto 5m. There is a buffer existing between the ash filling area and the aquifer which will protect the aquifer.
- The TCLP tests indicate that parameters like As, Cr, Cd and Pb are within the regulatory limits.
- The water elution tests also indicate that the leaching of trace element is insignificant as compared to their content in the fly ash.
- The composition of trace elements in the soil sample also indicates that the concentration is within the regulatory limits.
- The data generated in the ***present study has not indicated any causal impact between ash disposal at the low lying areas and the groundwater source in its vicinity.***

Interim Report-II

Providing services for carrying out review of hydrogeological conditions for 5x660 MW thermal power plant, Tiroda, Dist-Gondia, Maharashtra

(Hydrogeology Component)

Submitted to
M/s. Adani Power Maharashtra Limited (APML), Tiroda,
Gondia District (Maharashtra)

CSIR-National Environmental Engineering Research Institute
Under Council of Scientific & Industrial Research
Nehru Marg, Nagpur – 440 020

NEERI
ISO 9001:2008

May 2021

Chapter 1

Introduction

1.1 Preamble

Adani Power Maharashtra Limited (APML) is operating 3300 MW (5 X 660 MW) coal based thermal power plant at Tiroda, Dist – Gondia, Maharashtra. The 1st unit of the plant was operational in September 2012. The other units were added subsequently in 2013 and 2014. The plant is having ash lagoons (3 nos) having High-density polyethylene (HDPE) liners for disposal. The ash dyke area is spread over approximately 156 hectares. The total ash generation during 2017-19 is about 1,27,10,910 metric ton, in that, the fly ash is about 1,01,68,727 metric ton and bottom ash is about 25,42,181 metric ton (Table-1.1).

Table 1.1: Ash Generation (MT-Metric Ton)

Year	Fly Ash	Bottom Ash	Total Ash
2017-18	28,25,523	7,06,380	35,31,904
2018-19	34,91,049	8,72,762	43,63,812
2019-20	38,52,155	9,63,039	48,15,194
Total	1,01,68,727	25,42,181	1,27,10,910

(**Source:** APML)

As far as the reuse of fly ash is concerned (Table-1.2), part of the generated ash is sent for brick making in the plant itself and is also sent to other place for making of bricks. In addition, fly ash is being used for land reclamation in the villages surrounding the APML plant. The activities including the land reclamation of low-lying areas by ash backfilling, road & bridge construction, rising of ash dyke bunds and cement manufacturing being carried out in the buffer zone of the plant area. In general 80 to 90% of generated ash being utilized for various mentioned activities (Table-1.3).The back filling at the low-lying areas is being pursued to comply with the fly ash notification, 2009 (As Amended in 2016) of the MoEF& CC of the Government of India.

Table 1.2: Ash Utilization (MT-Metric Ton)

Year	Bricks & ash-based products	Land filling purpose	Other purpose
2017-18	55,435	2,71,090	25,33,183
2018-19	57,725	5,33,112	30,94,301
2019-20	76,614	2036334	22,62,547

(**Source:** APML)

Table 1.3: Total ash Utilization per year (MT-Metric Ton)

Year	Total ash utilization	Ash utilization percentage
2017-18	28,59,707	80.79
2018-19	36,85,139	84.45
2019-20	43,75,495	90.87

(**Source:** APML)

CSIR-NEERI was assigned the task of assessing the impact of ash fill sites of Adani Power Maharashtra Limited (APML) on the water resources in the surrounding area of Tiroda village. The study was completed in 2019. Subsequently, M/S Adani desired CSIR-NEERI to provide services for review of the hydrogeological study vide Service order No.5700267218. Previously, the Hydrogeological study was carried out in 2011 by APML while seeking EC from the MoEF.

The present hydrogeological study seeks to study the groundwater scenario with respect to the pre-project scenario. The review will be done with reference to the overall groundwater level in the buffer area, the yield of the wells and the Groundwater Stage Development. A network of observation wells was set up in the study area for this purpose. The present review activity was initiated in April 2019 for three complete hydrological cycles. Initially three seasons data was corrected so far i.e. Pre'2019 and Post'2019 and Post'2020. The data could not be collected in pre-monsoon'2020 period due to the prevailing Corona Pandemic situation.

1.2 Scope of work

- The study will cover the 35 km buffer zone as well as the core zone surrounding the ash ponds of APML plant. The study will cover the pre-monsoon as well as post-monsoon season in three complete hydrological cycles and compare year-wise hydrogeological trend with base line data.
- Monitoring of ground water levels and deciphering its flow direction and quantity.
- Physiochemical analysis of groundwater quality as per BIS 10500:2012 in pre and post monsoon seasons.

- Heavy Metal analysis (As, B, Cd, Cr, Cu, Fe, Pb, Mn, Ni, Se, Zn, Hg, Co, Mo) for ground water samples collected around the study area.
- Identify & select key observation wells and monitor the concentration of trace elements like Pb, Hg and As during the study period.
- Groundwater stage development estimation as per the norms of GEC-2O15 in the proposed project area.
- Formulate the conceptual model to understand the hydrological setting.
- Submit the recommendation along with groundwater management plan based on the findings of the report.
- Submit the progress report after completion of individual hydrological cycle (post monsoon each year).

1.3 Approach of the study

A kick off meeting was arranged at the APML on 12th June, 2019, wherein presentation of the project was made before the senior management of the APML. Subsequently, discussions were held in the Environmental section wherein planning for the field activities were discussed. A reconnaissance visit took place wherein the ash disposal at the low-lying areas in the 35 km buffer was covered.

The observation well network and low-lying areas for back filling by ash were identified during the reconnaissance visit and followed by the pre-monsoon sampling.

1.4 Report layout

Chapter 2 presents the study area details

Chapter 3 presents the methodology of data collection

Chapter 4 presents the water quality data and groundwater level data generated and analysed on the basis of sampling carried out during 2019 and 2020

Chapter 5 presents the findings of the study carried out during pre and post monsoon period of 2019 and post monsoon period of 2020 and future activities planned for the period 2021-22.

Chapter 2

Study Area

2.1 Location

The Adani Power Maharashtra Limited (APML) lies in the study area between latitudes 21° 05' 34" N to 21° 43' 57" N and longitudes 79° 37' 36" E and 80° 18' 51" E. The plant is covered by the survey of India toposheet No 55 O/15 (scale: 1:50,000). The 35 km buffer zone around the plant is covered by Survey of India Toposheet (55 O/10, 55 O/11, 55 O/12, 55 O/14, 55 O/15, 55 O/16, 64 C/2, 64 C/3, 64 C/4, 64 C/6, 64 C/7, on 1:50,000 scale). The study area is located in Tiroda and surrounding villages in Gondia District of Maharashtra.

2.2 Climate

The study area experiences tropical monsoon climate with mild winter and hot summer. Rainfall in this region usually starts with the onset of monsoon by the middle of June. The southwest monsoon arrives over the district around the second week of week of June. The rainfall increases from west to east of Tiroda Tehsil. The annual average rainfall (Period 2012-2019) in Tiroda is approximately 1322 mm (Table 2.1).

Table 2.1: The rainfall (mm) distribution in the study area (2012-19)

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total rainfall (mm)
2012	3.5	7	0	8.5	1.5	101	389.3	342.4	192.5	1	25.5	0	1072.2
2013	7	27	6.5	51	0	284	737.8	508.7	71	94	0	0	1787
2014	0	61.5	26.5	52.5	27	88	699.4	193.2	129	45.8	0	0.2	1323.1
2015	2	17.5	170.5	26.5	10	300.5	255.5	407.6	208.8	0	0	0	1398.9
2016	0	10	25.5	10.5	37.5	96.0	454.5	410.0	162.0	29.0	0	0	1235
2017	0	0.0	9.5	0.0	28.5	143.5	259.0	333	85.5	28	0	0	887
2018	0.0	18.8	0.0	18.5	7.5	146.2	615	370.4	111.5	0	0	1.5	1289
2019	11.5	0	24.5	0	0	203.5	290.9	551.6	417.9	52.2	0	26.4	1579

(Source: Adani Power Maharashtra Limited**)**

The average monthly maximum temperature recorded is 42.1°C in the month of May, while the lowest average monthly temperature recorded is 13.1°C in the month of December. The study area has the hottest month during May, when daily maximum temperature rises above 42.5°C and the heat is intense. December is the coldest month, with the minimum temperature at times go down to 7°C.

Except during the monsoon season when humidity is high, the air is generally dry during the year. The summer season is the driest part of the year when relative humidity goes down to 20% or less in the afternoon.

2.3 Topography

The study area is located in the extreme north-eastern district (Gondia) of Maharashtra. The land in this part is partly undulating at higher elevation (more than 300 m on land away from river) while it becomes more or less flat near the river. The proposed site lies on the Wainganga plains. The general elevation of the study area ranges from 301.11 m to 338.4 m. The area has rocky outcrops of granites and gneisses.

2.4 Geology

Geologically, the area essentially belongs to the Archeans sediments preserved in the synclinal depressions of the landscape and is highly metamorphosed. The proposed plant site area is basically marked by the rock formations from the oldest granite and gneiss of pre-cambrian to recent alluvium. The gneisses comprise of biotite, hornblende gneiss and magnetite. The Biotite gneiss is composite in character and forms the basement for younger metamorphoses sedimentary rocks. Two types of series of rocks viz. Sausar series and Sakoli formations are found in the region.

In Tiroda region, especially the study area belongs to the Sausar series. LithologicallySausar series consist of talc granulites, mica and hornblende schist, gneiss rocks of the Sausar group contain and biotite but not chlorite. Manganese deposits are associated with rocks of this group. The rocks comprise of low grade metamorphoses such as phyllites, chlorites, muscovite and hornblende schist, quartzite, kyanite and sillimanite rocks. These are intruded by basic rocks and quartz veins. Along the bank of the river Wainganga alluvial cover varying from a few meters to 15 m thick has been observed.

Geologically the study area is mainly covered by Granite Gneiss/ Migmatite,Meta Basalt, Granite Gneiss Migmatite (Figure–2.1). In addition, the rock types namely Biotite schist, Muscovite Schist, Tonalite-Trondhjemite-Granite/ Granodiorite, Granite, Laterite, Meta Gabbro, Meta Arkose, Kyanite Sillimanite Cordierite Schist, BIF, Meta Rhyolite/ Tuff, Quartz Mica Schist, Schist, Calc Gneiss, Calc Silicate rock, Phyllite, Basalt, Foliated Granite, Amphibolite, Ultramafic rock, Chert, Quartz vein, Quartzite, Tourmaline, Meta Ultramafic, Quartz Vein, Andalusite Mica Schist, Marble, Mica Schist are existed in minor quantity.

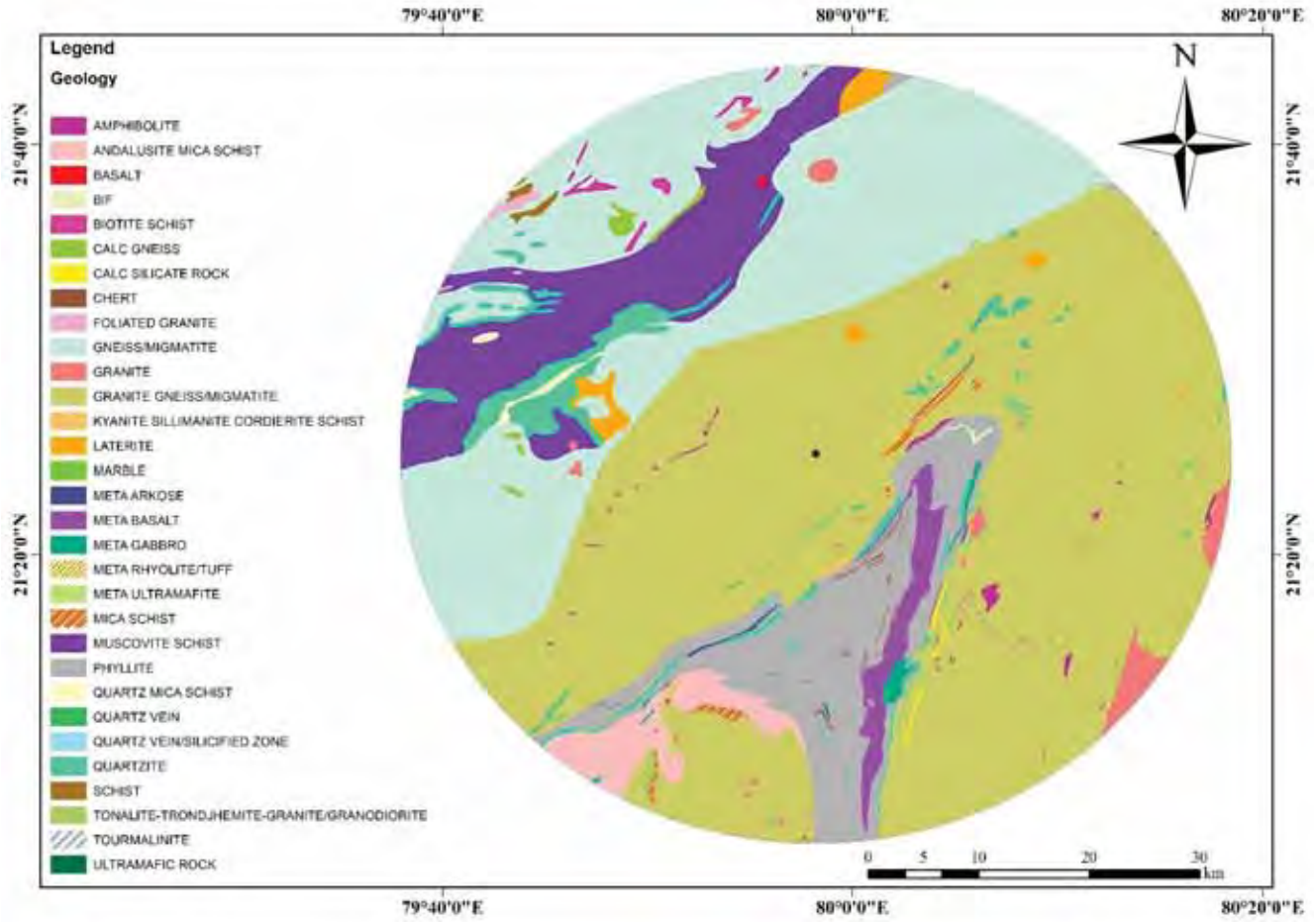


Figure 2.1:Geology map of the study area

(**Source:**https://bhukosh.gsi.gov.in/Bhukosh/Public)

2.5 Hydrogeology

The study area, covering Tirora and Gondiatalukas of Gondia district, is occupied by the crystalline rocks of Pre-Cambrian formations i.e., Granite Gneisses and Dharwars (Sausar and Sakoli group). The Pre-Cambrian crystalline rocks are the major water bearing formations in the study area. The weathered portions of crystalline rocks together with joints and fracture zones act as good aquifers (CGWB, 2013). Ground water occurs under water table conditions in the weathered mantle and then the fractured, well-jointed and sheared zones. Dug wells, dug cum bore wells and bore wells are the common ground water abstraction structures in the study area. Ground water occurs under water table conditions and semi-confined conditions in these formations. Water table conditions prevail in the weathered mantle and the fractures, jointed and sheared zones (CGWB, 2013).

Chapter 3

Methodology of data collection

3.1 General

The study envisages the following tasks

- Setting up observation well network
- Hydrochemistry of the observation well network
- Groundwater level monitoring

Accordingly, primary data has been generated by undertaking extensive field survey in the month of December 2020 (post-monsoon season). Due to existing corona pandemic situations, it was not possible to collect the pre-monsoon 2020 field data. Secondary data has been collected through interaction with Adani Power Maharashtra Limited (APML) officials and the local villagers in and around the study area.

3.2. Groundwater Sampling

The study area has been delineated on the basis of 35 km buffer zone (Figure 3.1) with the consideration of APML is core zone of the area which covers is about 3,846.5 sq. km. A network of observation wells (Table-3.1) was established in the study area during Post monsoon 2020 with including of new monitoring wells as per APML request and the co-ordinates (latitude/longitude) were noted with the help of hand-held GPS of Garmin make.

For physico-chemical parameters and heavy metal analysis, the samples were collected in pre-cleaned 500 ml and 100 ml polyethylene bottles respectively. Concentrated HNO_3 was added to the heavy metal samples for preservation. Parameters namely, pH and temperature were measured in the field itself. The physico-chemical parameters were analyzed by following the standard protocols (APHA, 2012). The heavy metal analysis was done by using ICP-OES (Model iCAP 6300 DUO, Make: Thermo Scientific). The detection limit for Fe, Mn, Zn, Pb, Cd, Cr and Cu are 0.0003 mg/L, 0.018 mg/L, 0.0002 mg/L, 0.05 mg/L, 0.009 mg/L, 0.0006 mg/L and 0.0004 mg/L respectively. The parameters namely Na and K were analyzed by Flame Photometer (Model- CL361).

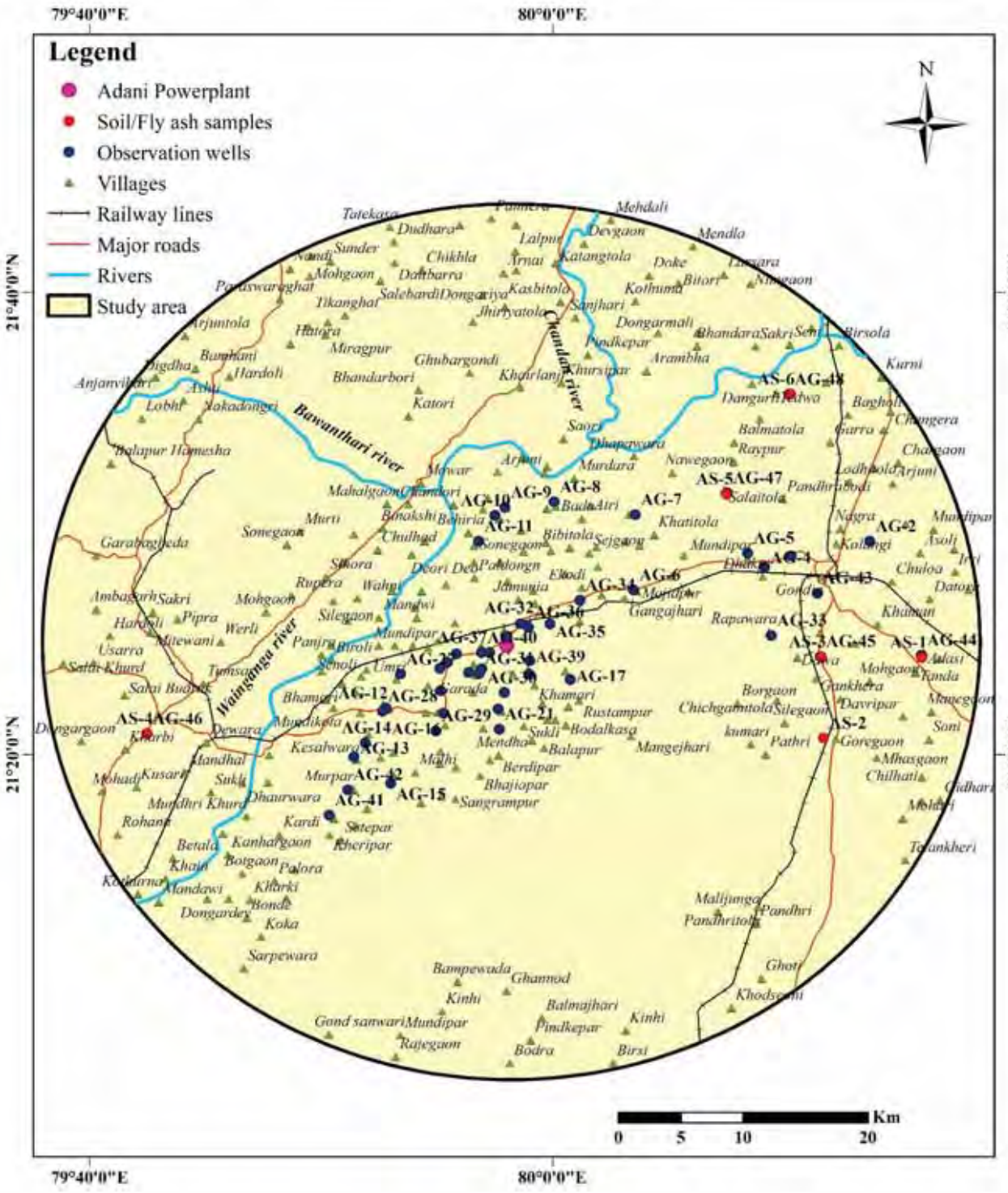


Figure 3.1: Base map of the study area

Table 3.1: Observation well network for groundwater monitoring in the study area

Sr. No	Code	Source	Latitude	Longitude	Location Description
1	AS-1	BW	N21°29'12.5"	E80°13'42.4"	**Amboora**– On road, new dumping site, RHS of Gondiya to Barbaspur road
2	AG-2	DW	N21°29' 13.6"	E80°13'42.3"	**Amboora** – On road, new dumping site, LHS of Gondiya to Barbaspur road
3	AG-3	BW	N 21°28'35.6"	E80°10'18.2"	**GondiyaKudava** – On Gondiya to Bagartula road, LHS, besides flyash dumping site, Mr.Bansodbhai Patel farm house
4	AG-4	BW	N 21°28'06.7"	E80°09'09.2"	**Dagni** – On road, RHS, opposite fly ash dumping site, Mr. Ramesh BharatlalBisen Ag. farm
5	AG-5	BW	N 21°28'42.5"	E80°08'25.8"	**Modipar** – Opposite to fly ash dumping site, at Paramatma bricks manufacturing company (Mr.JayendraPatle)
6	AG-6	HP	N21°27'06.7"	E80°03'30.3"	**Majitpur** – At Govt. Middle & Higher Ashram School, fly ash landfill activity completed during 2017 in the Ashram premises.
7	AG-7	HP	N 21°30'22.7"	E80°03'34.5"	**Dawanwada** – Opposite to Primary Health Centre (PHC), close to ash filling site, in front of police station
8	AG-8	DW	N 21°30'56.1"	E80°00'3.8"	**Gondmahadi** – At Late LaxmanraoMankarAdiwasi Ashram School (Govt. aided Trust School)
9	AG-9	HP	N 21°30'41.5"	E79°57'56.2"	**Paraswada** – Opposite to land filling site, at ZillaParishat High School premises, RHS, on road, was filling activity during 2017.
10	AG-10	DW	N 21°30'20.4"	E79°57'30.8"	**Bhagoli** – on road, LHS, Tiroda – Indora road, Opposite to ZillaParishat Primary School, near to ash filling site, (during 2017 – 2019).
11	AG-11	DW	N 21°29'13.7"	E79°56'48.6"	**Indora:Tiroda (Buzru)** – On road, behind the primary school (In between Panchayat – school).
12	AG-12	DW	N 21°22'1.3"	E79°52'49.1"	**Sarandi** – LHS on Birsi to Mundikota road, at ash fill site, agricultural land, April 2019, Mr.NitinAgasey land
13	AG-13	DW	N 21°19'54.7"	E79°51'25.05"	**Keslawada** – Mr.RamachandKukude residence, opposite to ash fill site
14	AG-14	HP	N 21°20'31.3"	E79°51'54.3"	**Baiywada** – On road, LHS towards Keslawada road, besides panchayatbhawan, at the residence

					of Mr.PandurangYaswantaraoBawankar.
15	AG-15	DW	N 21°18'46.1"	E79°52'59.9"	**Silli** – at Mr.KiranPatle site, Ag. land
16	AG-16	HP	N 21°21'48.4"	E79°55'17.2"	**Birsi**– LHS on Birsi to Adani road, end of the village
17	AG-17	DW	N 21°23'16"	E80°00'46.1"	**Indora** – situated near to ash fill site of Mr.KantilalPremlalBaghele poultry farm, agricultural fields
18	AG-18	HP	N 21°23'29.8"	E79°58'59.4"	**Biwapur**– on Tiroda to Indora road, LHS, corner point, besides village bus stop
19	AG-19	BW	N 21°22'42"	E79°57'54.8"	**Chikli** – Tiroda-Chilki, on Chikle to Tanegaon / Minda road, RHS, at Mr.AnandraoMudkkuPatle poultry farm
20	AG-20	HP	N 21°21'59.2"	E79°57'39"	**Tanegaon** – centre of the village, besides bus stop and opposite to temple as well as junior science college
21	AG-21	DW	N 21°21'6.9"	E79°57'41.5"	**Menda** – at Govt. Ashram School premesis, on road, RHS towards Birsi, 2017 ash filling site
22	AG-22	DW	N 21°22'46.5"	E79°55'9.9"	**Birsi** – at Birsi to Adani road, at Mr.SantoshRaghavathe agricultural fields
23	AG-23	HP	N 21°24'0.6"	E79°55'27.8"	**Tiroda** – at Sukudinaka, LHS on road, corner point besides welding and automobile shop
24	AG-24	DW	N 21°23'34.4"	E79°56'22.3"	**Churdi** – at Mr.MohangyanChandani agricultural fields, ash filled during 2016-17.
25	AG-25	HP	N 21°24'22.8"	E79°55'50.2"	**Tiroda** – opposite to Sahid Mishra School, at Sahid Mishra Square, Gandhi statue
26	AG-26	BW	N 21°23'44.9"	E79°55'7.7"	**Lodhitola –** at Meritorious public school, near Tiroda
27	AG-27	HP	N 21°23'30"	E79°53'25.5"	**Dhadri** – near panchayat office, MaaDurga temple, RHS, Dhadri to Umri road
28	AG-28	HP	N21°21'53.4"	E79°52'38.8"	**Sarandi**- on main road, RHS, in bus stop premises, corner point at behind the bus shelter
29	AG-29	HP	N 21°21'2.5"	E79°54'57.5"	**Bhupeswar** – in front of anganwadicentre, near village overhead water tank
30	AG-30	DW	N 21°23'44.2"	E79°56'56.3"	**Khasighat (Tiroda)** – at temple premises, on Tiroda-Churdi-Chikle road
31	AG-31	DW	N 21°23'32.1"	E79°56'49.6"	**Garada** – entrance of the village, privte well at the residence of Mr.DevrajPardii

32	AG-32	HP	N 21°25'41.4"	E79°58'36.8"	**Kachhvani -** Adani to Gonida road, near railway crossing, LHS, on road
33	AG-33	HP	N 21°25'10.2"	E80°09'27.2"	**Rapewada** – centre of the village, opposite to village library (AdarshSarvajanikVachanalay)
34	AG-34	HP	N21°26'40.4"	E80°01'10.8"	**Ekodi** – at bus stop, near MaaDurga temple and primary health centre (PHC)
35	AG-35	HP	N 21°25'40.4"	E79°59'53.2"	**Barbaspura** – near gram panchayat office
36	AG-36	BW	N21º25'31.7"	E79º58'57.6"	**APML** – at plant premises near fly ash bricks plant
37	AG-37	BW	N21°24'26.4"	E79°57'16.7"	**APML**– at China colony premises, behind the Shanti Niketan guest house
38	AG-38	HP	N 21°25'8.4"	E 79°58'1.8"	**Gumadhavada** – Opposite to Adani plant in between gate no.2 nd gate no.3, before entrance of the village, LHS on road, opposite to village bus stop
39	AG-39	HP	N 21°24'4.9"	E 79°59'0.8"	**Mehendipur**– entrance of the village, on road, besides anganwadi office
40	AG-40	DW	N 21°24'26.1"	E 79°56'55.9"	**Khairabodi**– on Tiroda to Adani main road, LHS, before plant area
41	AG-41	DW	N 21°17'23.1"	E 79°50'21"	**Sonkheri**–towards Murpur, LHS, besides nala / puliya on road.
42	AG-42	HP	N 21°18'29"	E 79°51'09"	**Murpar** – back side panchayat building, infrontofMr.MarkanKukude residence
43	AG-43	BW	N 21°26'58.1"	E 80°11'26.7"	**Gondiya** – at Ag. Market yard, SabjiMandi, RHS, entrance of the main gate
44	AG-44	HP	N 21°24'19"	E 80°15'55.9"	**Adasi**:- Besides dumping site on road, LHS in front of vijaysitugautam residence
45	AG-45	BW	N 21°24'15.7"	E 80°11'34.3"	**Dawwa:**- Opposite to Ash back filling site on main highway on road at Jay Bambeswari, Dharam kata
46	AG-46	BW	N 21°20'54.7"	E 79°42'28.8"	**Khapa**:- New Ash filling site, Mr.Sakure (Bhandar) beside new site(Khapa village Panchaya)
47	AG-47	DW	N 21°31'19"	E 80°07'33.1"	**Raipur Mines**:-Mr.Prabhakar S. Rangdale, Ag. fields besides Ash fill site well. Govt. well
48	AG-48	BW	N 21°35'35.6"	E 80°10'12.7"	**Tedva**:- Agriculture bore well, besides rice mill at Rreclamation site.

Note: AG: Sample Code, DW: Dug Well, BW: Bore Well, HP: Hand Pump, LHS: left hand side, RHS: right hand side

3.3 Groundwater Level Measurement

The observation well network (48 nos.) consisted of India Mark II hand-pumps as well as open wells (Table 3.1). The observation wells are present in the vicinity core zone and buffer zone of the ash filled low lying areas to the extent possible.

Few sampling locations are close to the disposal site i.e., ash filled low lying areas. The water levels from observation well network (Table-3.1) were obtained using Electric Contact Gauze (The Solinst 101 Water Level Meter). The groundwater level has been obtained with respect to below ground level (bgl).

3.4 Soil and Ash Sampling and Analysis

The ash and soil samples were collected at six (06) locations in the study area. The samples were packed in air tight sampling bags for their safe transportation to the laboratory. The coordinates of soil and ash sampling locations (Table-3.2) have been noted with the help of hand-held GPS.

Table 3.2: List of Soil sample / ash sample locations in the study area

(Post monsoon Period- December 2020)

Sr.No	Code	Latitude	Longitude	Location Description
1	AS-1	N 21°24'13.6"	E80°15'56.9"	Adasi:- Village panchayat land
2	AS-2	N 21°20'43.7"	E 80°11'42.2"	Goregaon
3	AS-3	N 21°24'14.4"	E 80°11'36.7"	Dawwa
4	AS-4	N 21°20'55.5"	E 79°42'27.6"	Khapa - Tumsar-Bhandara road, on road, LHS
5	AS-5	N 21°31'16"	E 80°07'31.2"	Raipur mines, rock mine, produces building stone
6	AS-6	N 21°35'36.4"	E 80°10'16.4"	Tedva:- end of the village LHS, at Dhanyotham farmers produces company

Note: AS: Sample Code, LHS: left hand side

Chapter 4

Results and Discussions

4.1 Groundwater Level

Groundwater level (Table-4.1) has been measured in the identified sources (Table-3.1) in pre-monsoon (June 2019), post-monsoon (November 2019) and post-monsoon (December 2020). The groundwater level reflects the overall groundwater scenario as regards to its withdrawal, the recharge due precipitation, recharge from agricultural return flow, seepage from water bodies etc. The groundwater level (m-below ground level) is varied in between 3.70 m (AG-17) to 14.20 m (AG-9) during pre-monsoon 2019 and 1.00 m (AG-21) to 12.96 m (AG-16) during post-monsoon 2019 (Table 4.1). The change in groundwater level from pre-monsoon 2019 to post-monsoon 2019 change in the range of 2.70 m to 1.24 m. The groundwater level (m-below ground level) varied in between 1.97 m (AG-13) to 6.80m (AG-1) during post-monsoon 2020. The change in groundwater level from post-monsoon 2019 to post-monsoon 2020 change in the range of 0.97 m to 6.16 m. The basic statistics of ground water level for pre and post monsoon seasons of 2019-20 are shown in the Table-4.2. The water level measured as below ground level has been converted to water level (above mean sea level) by subtracting the water level (bgl) from the RL of the source. The groundwater level (amsl) in the post-monsoon'2020 indicates that the groundwater flow direction is from south east to south west and north west (Figure-4.1).

Table 4.1: Groundwater level (m – below ground level) in the study area during 2019-2020*

Sr. No.	Sample Code	Pre'2019	Post'2019	Post'2020
1.	AG-1	9.91	8.05	6.80
2.	AG-2	9.50	5.46	5.84
3.	AG-3	-	-	-
4.	AG-4	-	-	-
5.	AG-5	-	-	-
6.	AG-6	11.88	5.82	-
7.	AG-7	7.87	2.50	3.20
8.	AG-8	-	-	5.26
9.	AG-9	14.20	6.49	-
10.	AG-10	8.60	3.73	4.52
11.	AG-11	6.19	1.91	2.69
12.	AG-12	5.35	3.63	4.12
13.	AG-13	6.16	2.10	1.97
14.	AG-14	11.18	4.60	-

15.	AG-15	-	1.81	2.60
16.	AG-16	10.40	12.96	3.05
17.	AG-17	3.70	2.08	2.56
18.	AG-18	7.45	5.37	5.73
19.	AG-19	-	-	-
20.	AG-20	10.20	2.53	4.91
21.	AG-21	5.80	1.00	2.70
22.	AG-22	5.96	3.93	5.19
23.	AG-23	7.42	2.44	4.04
24.	AG-4	5.36	4.20	4.84
25.	AG-25	8.41	2.13	3.15
26.	AG-26	-	-	-
27.	AG-27	-	-	6.46
28.	AG-28	7.29	5.77	4.62
29.	AG-29	9.26	3.63	3.76
30.	AG-30	5.71	4.99	5.36
31.	AG-31	7.00	5.47	6.13
32.	AG-32	9.00	3.37	-
33.	AG-33	4.90	-	5.86
34.	AG-34	9.79	3.12	-
35.	AG-35	-	-	-
36.	AG-36	-	-	-
37.	AG-37	-	-	-
38.	AG-38	10.32	6.22	3.03
39.	AG-39	7.71	2.53	4.49
40.	AG-40	6.44	1.29	2.53
41.	AG-41	-	2.50	3.16
42.	AG-42	-	2.96	4.00
43.	AG-43	-	-	-
44.	AG-44	-	-	2.10
45.	AG-45	-	-	-
46.	AG-46	-	-	-
47.	AG-47	-	-	5.83
48.	AG-48	-	-	-

*Water level could not be obtained in the well

Table 4.2: Basic statistics of groundwater level (m-below ground level) in Post-monsoon 2020

Parameters (in meter)	Pre-monsoon' 2019	Post-monsoon' 2019	Post-monsoon' 2020
Minimum water level	3.70	1.00	1.97
Maximum water level	14.20	12.96	6.80
Average level	8.03	3.10	4.209
Standard deviation	2.38	2.41	1.4

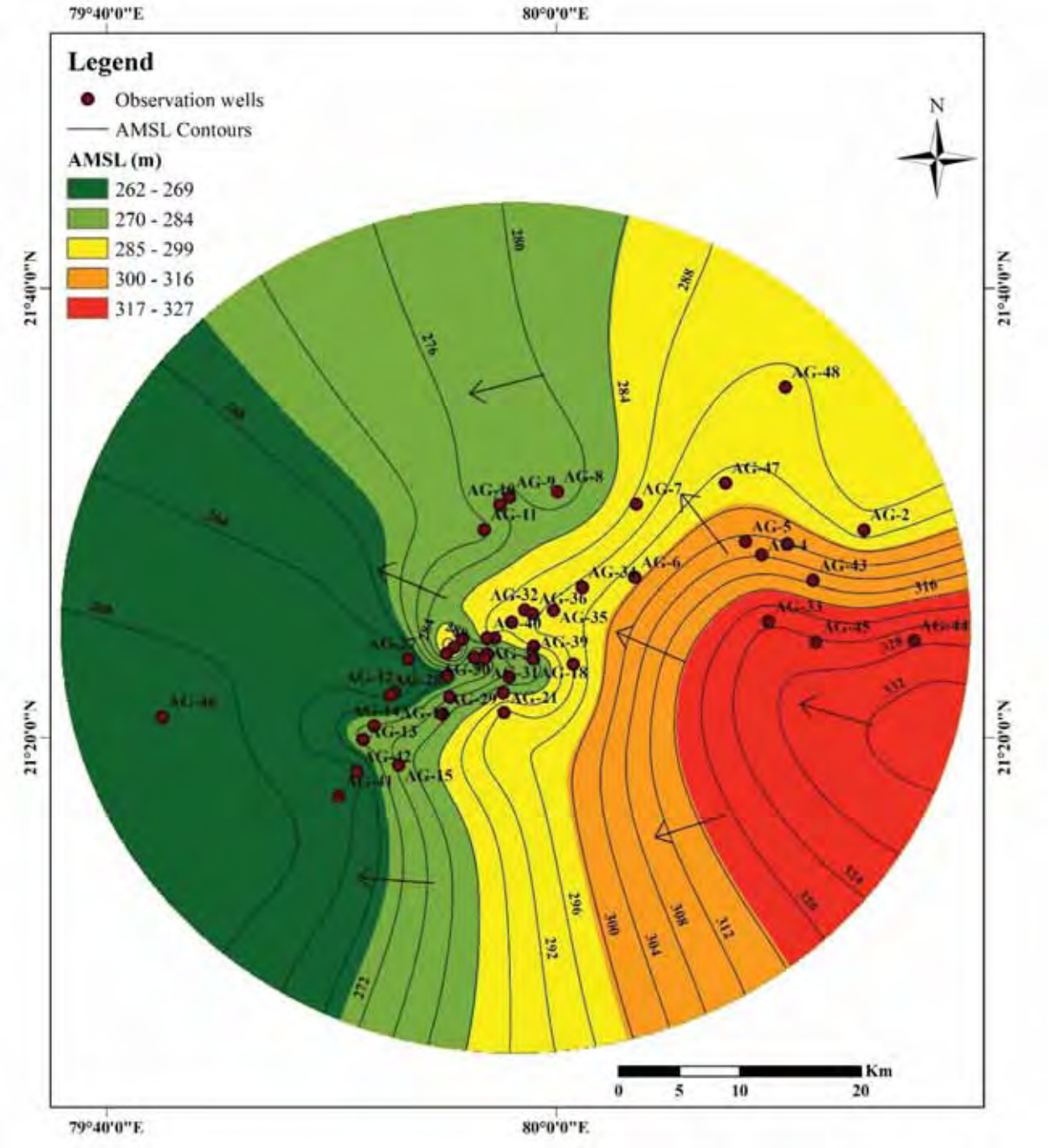


Figure 4.1: Groundwater level (m-amsl) contour plot of the study area – post monsoon'2020

4.2 Groundwater Chemistry

The samples were analysed for Physico-chemical parameters and heavy metal parameters (Tables 4.3 - 4.8) for pre-monsoon (June 2019), post-monsoon (November 2020) and post-monsoon (December 2020).

4.2.1 Pre-monsoon season (June 2019)

4.2.1.1 Physico-chemical parameters

The physico chemical parameters of water samples in pre-monsoon season are mentioned in the Table-4.3.

TDS: The TDS concentration was found within permissible limit for all the samples**.** The minimum concentration is 140 mg/L at sample code AG-1 and maximum concentration is 1518 mg/L at AG-41.

Chloride: The Chloride was concentration was within permissible limit for all the samples.The minimum concentration is 10 mg/L at sample code AG-1 and maximum concentration is 392 mg/L at AG-41.

Nitrate (NO^{3-}): The concentration of Nitrate were found to be within the permissible limit of BIS , except for samples AG-7, AG-12, AG-13, AG-14, AG-20, AG-21, AG-25, AG-26, AG-27, AG-29, AG-34, AG-35, AG-39, AG-40 which were found to be in the range of 47-574 mg/l.The minimum concentration is 0 mg/L at sample code AG-1 and maximum concentration is 574 mg/L at AG-41.

Turbidity: Turbidity concentration for all the samples was found to be within the permissible and acceptable limit of BIS except samples, AG-9 (10.2 mg/lThe minimum concentration is 0.2NTU at sample code AG-1 and maximum concentration is 10.2NTU at AG-41.

Total Hardness: The concentration of Total Hardness for all the samples were found to be within the permissible and acceptable limit of BIS except samples AG-35, AG-38 and AG-40.The minimum concentration is 100 mg/L at sample code AG-1 and maximum concentration is 920 mg/L at AG-41.

Magnesium (Mg^{2+}): Magnesium concentration for all the samples were found to be within the permissible and acceptable limit except Mg^{+} for sample code AG-35 (189

ppm) was found to above the permissible and acceptable limit of BIS.The minimum concentration is 4 mg/L at sample code AG-1 and maximum concentration is 189 mg/L at AG-41.

Sulphate (SO_4^{2-}): The concentrations of Sulphate for all the samples were found to be within the permissible and acceptable limit except samples AG-31 & AG-38 The minimum concentration is 3 mg/L at sample code AG-18 and maximum concentration is 600 mg/L at AG-38.

Fluoride (F^-): The concentration of Fluoride for all the samples were found to be within the permissible and acceptable limit except samples AG-6, AG-10, AG-11, AG-21 and AG-38 were found to be 1.5, 2.8, 1.5, 1.6 and 1.9 mg/l respectively which were above the permissible and acceptable limit of BIS.The minimum concentration is 0.2 mg/L at sample codes AG-1 & 2 and maximum concentration is 2.8 mg/L at AG-41.

4.2.1.2 Heavy metal parameters

Concentration of heavy metal parameters, namely Silver(Ag), Aluminium(Al), Arsenic(As), Cadmium(Cd), Cobalt(Co), Chromium(Cr), Copper(Cu), Manganese(Mn), Nickel(Ni), Lead(Pb), Zinc(Zn) and Mercury(Hg) were found to be Below Detection Limit(BDL) (Table-4.4).

The concentrations of Iron (Fe) in all the samples were found to be within the permissible and acceptable limit of BIS except samples AG-10 (1 ppm)& AG-13 (1.2 ppm).

4.2.2. <u>Post-monsoon season (November 2019)</u>

4.2.2.1 Physico-chemical parameters

The physico chemical parameters of water samples in post-monsoon season are mentioned in the Table-4.5.

TDS: All samples **(Figure-4.4)** were found to be within the permissible and acceptable limit except sample, AG-39 (2754 mg/l) was found to be above the

permissible and acceptable limit of BIS.The minimum concentration is 41 mg/L at sample code AG-1 and maximum concentration is 2754 mg/L at AG-41.

Chloride (Cl): The chloride concentration was within permissible and acceptable limit for all the samples.The minimum concentration is 10 mg/L at sample codes AG-1, 2 & 3 and maximum concentration is 520 mg/L at AG-41.

Nitrate (NO_3): The concentration of nitrate (No_3^-) were found to be within the permissible limit of BIS , except for sample AG-7,AG-13,AG-20, AG -25,AG -26,AG-29, AG-34,AG-35 andAG-39 which were found to be in the range of 60–180 mg/L.The minimum concentration is 1 mg/L at sample codes AG-1 to 4 and maximum concentration is 180 mg/L at AG-41.

Turbidity: Turbidity concentration for all the samples was found to be within the permissible and acceptable limit of BIS except samples, AG-2 (5.5. NTU).The minimum concentration is 0.2 at sample codes AG-1 to 10NTU and maximum concentration is 5.5NTU at AG-41.

Total Hardness: The concentration of Total Hardness for all the samples were found to be within acceptable limit of BIS except samples AG-35 (890 mg/L), AG-39 (740 mg/L).The minimum concentration is 68 mg/L at sample code AG-1 and maximum concentration is 890 mg/L at AG-41.

Magnesium (Mg^{2+}): Magnesium concentration for all the samples were found to be within the permissible and acceptable limit except Mg^+ for sample code AG-35 (180mg/L) was found to be above the permissible and acceptable limit of BIS.The minimum concentration is 5 mg/L at sample code AG-1 and maximum concentration is 180 mg/L at AG-41.

Fluoride: The concentration of fluoride(F^-) in all the sample were found to be well within the permissible and acceptable limit of BIS except for samples AG-10,AG-11, AG-13 and AG-21 which were found to be 2 mg/l. The minimum concentration is 0.2 mg/L at sample codes AG-1 to 6 and maximum concentration is 2 mg/L at AG-41.

pH, Sulphate (SO_4^{2-}) and Chloride (Cl^-) concentrationsof all the samples were found to be within the permissible and acceptable limits of BIS.

4.2.2.2 Heavy metal parameters

The Heavy metal analysis of water samples in post-monsoon season are mentioned in the Table -4.6.

The concentration of heavy metals Cd, Cr, Cu, Ni and Pb were all found to be well within the permissible and acceptable limit of BIS.

The concentration of Al in all the samples were found to be within the permissible and acceptable limit of BIS, except for samples AG-24 (0.5 ppm) and AS – surface water sample (5.8 ppm) were found above the permissible and acceptable limits of BIS.The minimumconcentration is 0.001ppmat sample code AG-29 & 30 and maximum concentration is 0.09ppm at AG-1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 28, 36, 39, 40, 41, 42, & 43.

The concentration of As in all the samples were found to be within the permissible and acceptable limits of BIS exceptsample AS (0.07 ppm) was found to be above the permissible and acceptable limits of BIS.

The concentration of Iron (Fe^{-}) were found to be within the permissible limit of BIS , except for samples AG-1, AG-2, AG-4, AG-5, AG-6, AG-7, AG-9, AG-12, AG-14, AG-16, AG-18, AG-19, AG-20, AG-23, AG-24, AG-25, AG-28, AG-29, AG-32, AG-34, AG-35, AG-36, AG-38, AG-40, AG-42, AG-43 which were found to be in the range of 1-18 ppm. The minimum concentration is 0.5ppm at sample codes AG-13, 17 & 41 and maximum concentration is 18 ppm at AG-32.

The concentration of Mn in all the samples were found to be within the permissible and acceptable limits of BIS except samples AG-4, AG-9 and AG-31 which were found to be 0.4, 0.4 and 0.5ppm respectively. The minimum concentration is 0.01ppmat sample code AG-39 and maximum concentration is 0.5 ppm at AG-31.

The concentrations of zinc (Zn) in all the samples were found to be within the permissible and acceptable limits of BIS. Whereas concentration of Zn in sample AG-9 (19.0 ppm) was found to be above the permissible and acceptable limits of BIS. The minimum concentration is 0.005ppm at sample codes AG-39 & 43 and maximum concentration is 19 ppm at AG-9.

4.2.3 Post-monsoon season (December-2020)

4.2.3.1Physico-chemical parameters

The physico chemical parameters of water samples in pre-monsoon season are mentioned in the Table-4.7.

TDS: The TDS concentration (Figure 4.2)was found within permissible limit for all the samples. The minimum concentration is 81 mg/L at sample code AG-2 and maximum concentration is 1303 mg/L at AG-35.

Chloride (Cl^-): The Chloride (Cl^-) concentration (Figure 4.3) was within permissible limit for all the samples. The minimum concentration is 5 mg/L at sample code AG-2 and maximum concentration is 425 mg/L at AG-35.

Turbidity: Turbidity concentration for all the samples was found to be within the permissible and acceptable limit of BIS except samples AS-1, AG-2, AG-6,AG-14, AG-16, AG-17, AG-18, AG-28, AG-29, AG-32and AG-44 which were found to be in the range of 1-5 NTU. The minimum concentration is 0.1NTU at sample code AG-9 and maximum concentration is 84NTU at AG-18.

Total Hardness: The concentration of Total Hardness for all the samples were found to be within the permissible and acceptable limit of BIS except sample AG-35.The minimum concentration is 70 mg/L at sample code AG-2 and maximum concentration is 880 mg/L at AG-35.

Nitrate(NO_3^-): The Nitrate concentration (Figure 4.4)were found to be within the permissible limit of BIS, except for sample AG-9, AG-12, AG-14, AG-23, AG-27, AG-33, AG-34, AG-35 and AG-39 which were found to be in the range of 60 – 180 mg/L.The minimum concentration is 2 mg/L at sample code AG-18 and maximum concentration is 89.8 mg/L at AG-35.

Sulphate (SO_4^{2-}): The Sulphate (SO_4^{2-}) concentration was within permissible limit for all the samples (Figure-4.5).The minimum concentration is 16.5 mg/L at sample code AG-31 and maximum concentration is 0.6 mg/L at AG-43.

Fluoride(F^-): The concentration of fluoride (F^-) in all the sample were found to be well within the permissible and acceptable limit of BIS. exceptfor samples AS-1, AG-10, AG-37 and AG-38 which were found to be 2 mg/l (Figure 4.6).The minimum

concentration is 0.1 mg/L at sample code AG-2 and maximum concentration is 2.3 mg/L at AG-10.

The parameters namely pH, TDS, Total Alkalinity, Calcium (Ca^{2+}), Magnesium (Mg^{2+}), Sulphate (SO_4^{2-}) and Chloride (Cl^-) concentrations of all the samples were found to be within the permissible and acceptable limits of BIS.

4.2.3.2 Heavy metal parameters

The Heavy metal analysis of water samples in post-monsoon season are mentioned in the Table-4.8.

The concentration of heavy metals Ba, Co, Cd, Cr, Cu, Ni, Pb, Zn and Hg were all found to be well within the permissible and acceptable limit of BIS.

The concentration of As in all the samples were found to be within the permissible and acceptable limits of BIS.

The concentration of Al in all the samples were found to be within the permissible and acceptable limit of BIS, except for samples AG-2 and AG-6.The minimum concentration is 0.01 ppm at sample code AG-3, AG-5, AG-7, AG-8, AG- 21, AG-40, AG-48and maximum concentration is 0.2 ppm at AG-43.

The concentration of Mn in all the samples were found to be within the permissible and acceptable limits of BIS except samples AG-2 and AG-6 which were found to be 0.4 and 0.5ppm respectively.

The concentration of Iron (Fe-) were found to be within the permissible limit of BIS, except for sample AG-6.The minimum concentration is 0.003ppm at sample code AG-48 and maximum concentration is 5.2 ppm at AG-6.

Table-4.3: Physico-chemical parameters in Pre-monsoon (June 2019)

Sr. No	Sample Code	pH	EC	TDS (mg/l)	Turbidity	Total Hardness as $CaCO_3$	Calcium as Ca^{2+}	Magnesium Mg^{2+}	Sodium	Potassium	Total alkalinity as $CaCO_3$	Phosphate as PO_4^{-2}	Fluoride as F^-	Nitrate NO^{3-}	Sulphate	Chloride
Units	**-**	**-**	**µS/cm**	**mg/L**	**NTU**	**mg/L**										
BIS 10500:2012 (Acceptable/ Permissible limit)		**6.5/8.5**	**-**	**500/ 2000**	**1/5**	**200/ 600**	**75/200**	**30/100**	**-**	**-**	**200/600**	**-**	**1.0/1.5**	**45**	**200/400**	**250/ 1000**
1	AG-1	7.6	248	149	0.4	180	32	24	10	1	152	0.6	0.4	8	16	22
2	AG-2	7.6	455	273	0.6	100	34	4	9	2	120	1.8	0.2	3	14	10
3	AG-3	7.3	239	143	0.6	252	37	38	36	1	188	1.5	0.9	9	17	52
4	AG-4	7.6	606	364	0.4	200	35	27	21	2	224	1.2	1.3	14	13	14
5	AG-5	7.5	945	567	0.8	236	78	10	37	5	220	0.9	0.5	3	46	74
6	AG-6	7.4	745	447	1.8	184	58	10	27	2	160	0.6	1.5	5	13	88
7	AG-7	7.6	639	383	0.7	220	64	14	22	3	160	2.1	0.3	84	8	70
8	AG-8	7.7	443	266	0.2	120	34	9	16	1	140	1.1	0.4	21	6	16
9	AG-9	6.9	735	441	10.2	268	48	36	18	3	176	0.7	0.3	2	34	114
10	AG-10	8.2	1254	752	0.5	156	22	24	190	2	480	1.4	2.8	6	11	100
11	AG-11	7.9	615	369	0.6	160	40	14	44	2	204	2.8	1.5	30	17	22
12	AG-12	7.9	596	358	0.4	208	30	32	29	1	188	2.1	0.5	47	44	36
13	AG-13	7.8	1067	640	0.6	424	45	75	57	1	284	1.3	1.3	95	46	92
14	AG-14	7.5	1239	743	0.9	512	107	59	43	6	216	1.0	0.5	154	41	140
15	AG-15	7.7	564	338	0.3	208	48	21	18	2	180	1.1	0.4	15	5	20
16	AG-16	7.7	627	376	0.7	228	38	32	42	6	220	2.2	0.6	2	5	40

Sr. No	Sample Code	pH	EC	TDS (mg/l)	Turbidity	Total Hardness as $CaCO_3$	Calcium as Ca^{2+}	Magnesium Mg^{2+}	Sodium	Potassium	Total alkalinity as $CaCO_3$	Phosphate as PO_4^{-2}	Fluoride as F^-	Nitrate NO^{3-}	Sulphate	Chloride
Units	**-**	**-**	**µS/cm**	**mg/L**	**NTU**	**mg/L**										
BIS 10500:2012 (Acceptable/ Permissible limit)		**6.5/8.5**	**-**	**500/ 2000**	**1/5**	**200/ 600**	**75/200**	**30/100**	**-**	**-**	**200/600**	**-**	**1.0/1.5**	**45**	**200/400**	**250/ 1000**
17	AG-17	7.6	614	368	0.8	288	29	52	22	2	268	1.4	0.7	4	22	20
18	AG-18	7.6	447	268	3.5	152	16	27	24	2	200	1.1	0.6	0	3	24
19	AG-19	7.6	456	274	0.4	180	35	22	23	2	200	0.4	0.3	2	5	12
20	AG-20	7.3	771	463	0.3	284	45	41	25	8	232	0.5	0.4	94	23	50
21	AG-21	7.7	1027	616	0.5	236	16	47	80	4	228	1.9	1.6	68	47	130
22	AG-22	7.7	684	410	0.6	164	32	20	55	1	224	1.1	0.6	7	57	46
23	AG-23	7.8	1194	716	0.4	340	72	38	28	2	168	0.7	0.5	16	66	152
24	AG-24	7.4	234	140	0.7	108	27	10	9	3	112	1.2	0.3	3	17	20
25	AG-25	7.8	1280	768	0.3	492	104	56	24	4	204	1.0	0.5	174	86	172
26	AG-26	7.4	638	383	0.4	346	51	52	24	2	172	2.3	0.4	56	21	70
27	AG-27	7.6	1668	1001	0.6	380	88	38	38	2	168	0.8	0.4	83	71	156
28	AG-28	7.5	739	443	0.9	232	59	20	51	4	340	0.9	0.3	1	15	44
29	AG-29	7.7	798	479	0.6	320	45	50	25	3	188	1.0	0.7	116	47	96
30	AG-30	7.6	675	405	0.4	176	43	16	31	1	148	0.6	0.6	4	104	56
31	AG-31	7.7	1141	685	1.0	396	118	24	32	2	120	0.5	0.2	5	408	76
32	AG-32	7.1	795	477	1.5	160	22	25	34	6	256	0.7	0.3	1	8	24
33	AG-33	7.4	534	320	2.0	154	38	14	22	3	204	1.1	0.7	18	6	22

Sr. No	Sample Code	pH	EC	TDS (mg/l)	Turbidity	Total Hardness as $CaCO_3$	Calcium as Ca^{2+}	Magnesium Mg^{2+}	Sodium	Potassium	Total alkalinity as $CaCO_3$	Phosphate as PO_4^{-2}	Fluoride as F^-	Nitrate NO^{3-}	Sulphate	Chloride
Units	**-**	**-**	**µS/cm**	**mg/L**	**NTU**	**mg/L**										
BIS 10500:2012 (Acceptable/ Permissible limit)		**6.5/8.5**	**-**	**500/ 2000**	**1/5**	**200/ 600**	**75/200**	**30/100**	**-**	**-**	**200/600**	**-**	**1.0/1.5**	**45**	**200/400**	**250/ 1000**
34	AG-34	7.5	980	588	0.6	280	43	41	34	4	212	0.5	0.4	90	37	92
35	AG-35	7.2	2530	1518	0.9	920	53	189	132	2	280	0.7	0.6	574	192	392
36	AG-36	7.2	533	320	1.6	244	45	32	17	5	200	0.6	0.4	3	17	30
37	AG-37	7.6	328	197	1.6	108	29	9	24	2	140	0.8	0.3	2	15	28
38	AG-38	7.9	1505	903	1.5	620	128	72	68	13	108	1.4	1.9	20	600	100
39	AG-39	7.5	824	494	1.1	224	38	31	64	2	220	0.6	0.4	50	37	76
40	AG-40	7.4	2070	1242	0.6	672	109	96	135	3	260	0.7	0.7	369	116	330
41	AG-41	7.9	409	245	0.4	104	16	15	90	4	192	0.7	0.8	3	14	30

Table-4.4: Heavy Metal parameters in Pre-monsoon (June 2019)

Sr. No	Sample code	Ag	Al	As	Cd	Co	Cr	Cu	Fe	Mn	Ni	Pb	Zn	Hg
	BIS Limit (ppm)	**0.1**	**0.03-0.2**	**0.01**	**0.003**		**0.05**	**0.05-1.5**	**0.3-1.0**	**0.10-0.30**	**0.02**	**0.01**	**5.0-15**	**0.001**
	ICP detection Limit (ppm)		**0.00001**	**0.007**	**0.0001**	**0.0004**	**0.01**	**0.0004**	**0.0003**	**0.0001**	**0.005**	**0.009**	**0.001**	**0.000075**
1	AG-1	ND	0.02	BDL	ND	BDL	BDL	0.007	0.2	0.2	BDL	BDL	0.06	BDL
2	AG-2	ND	0.02	BDL	ND	ND	ND	0.0005	0.2	0.08	BDL	ND	0.5	BDL
3	AG-3	ND	0.01	ND	ND	ND	ND	0.004	0.07	0.03	BDL	ND	0.3	BDL
4	AG-4	ND	0.02	BDL	ND	BDL	ND	0.009	0.3	0.05	BDL	BDL	0.8	BDL
5	AG-5	ND	0.01	ND	ND	ND	ND	0.006	0.7	0.09	BDL	ND	3.9	BDL
6	AG-6	ND	0.01	ND	ND	ND	ND	0.007	0.2	0.03	BDL	ND	0.7	BDL
7	AG-7	ND	0.02	BDL	ND	ND	ND	0.007	0.2	0.05	BDL	ND	0.08	BDL
8	AG-8	ND	0.02	BDL	ND	ND	ND	0.004	0.1	0.06	BDL	BDL	0.07	BDL
9	AG-9	ND	0.01	ND	ND	ND	ND	0.003	0.2	0.02	ND	BDL	0.03	BDL
10	AG-10	ND	0.02	BDL	ND	BDL	ND	0.001	1.0	0.04	ND	BDL	0.4	BDL
11	AG-11	ND	0.03	BDL	ND	ND	ND	0.002	0.2	0.04	ND	BDL	0.07	BDL
12	AG-12	ND	0.02	ND	ND	BDL	ND	0.005	0.1	0.04	BDL	BDL	0.8	BDL
13	AG-13	ND	0.02	ND	ND	BDL	ND	0.004	1.2	0.08	ND	BDL	0.9	BDL
14	AG-14	ND	0.03	BDL	ND	BDL	ND	0.001	0.2	0.002	BDL	BDL	0.8	BDL

15	AG-15	ND	0.02	ND	ND	BDL	ND	0.005	0.3	0.2	BDL	BDL	0.8	BDL
16	AG-16	ND	0.01	ND	ND	BDL	BDL	0.007	0.1	0.003	BDL	BDL	0.04	BDL
17	AG-17	ND	0.02	BDL	ND	BDL	ND	0.003	0.1	0.2	BDL	BDL	0.07	BDL
18	AG-18	ND	0.007	BDL	ND	BDL	ND	0.003	0.1	0.1	BDL	BDL	0.4	BDL
19	AG-19	ND	0.006	BDL	ND	BDL	ND	0.0008	0.2	0.04	BDL	BDL	0.3	BDL
20	AG-20	ND	0.04	ND	ND	BDL	BDL	0.007	0.1	0.2	BDL	BDL	0.3	BDL
21	AG-21	ND	0.03	ND	ND	ND	BDL	BDL	0.006	0.05	BDL	BDL	0.5	BDL
22	AG-22	ND	0.005	ND	ND	BDL	BDL	0.004	0.7	0.06	BDL	BDL	0.4	BDL
23	AG-23	ND	0.008	BDL	ND	ND	BDL	0.0001	0.005	0.005	BDL	BDL	0.09	BDL
24	AG-24	ND	0.006	ND	ND	BDL	BDL	0.006	0.2	0.05	BDL	BDL	2.0	BDL
25	AG-25	ND	0.03	BDL	ND	BDL	BDL	0.007	0.9	0.05	BDL	BDL	0.09	BDL
26	AG-26	ND	0.09	ND	ND	ND	BDL	0.001	0.2	0.2	BDL	ND	0.4	BDL
27	AG-27	ND	0.03	BDL	ND	ND	BDL	0.007	0.1	0.05	BDL	BDL	0.3	BDL
28	AG-28	ND	0.03	BDL	ND	ND	BDL	0.001	0.2	0.009	BDL	BDL	0.05	BDL
29	AG-29	ND	0.03	ND	ND	BDL	BDL	0.004	0.1	0.2	BDL	BDL	2.0	BDL
30	AG-30	ND	0.01	ND	ND	ND	BDL	0.005	0.1	0.04	BDL	BDL	0.09	BDL
31	AG-31	ND	0.01	ND	ND	ND	BDL	0.004	0.1	0.03	BDL	BDL	0.06	BDL
32	AG-32	ND	0.02	BDL	ND	ND	BDL	0.006	0.1	0.05	BDL	BDL	0.4	BDL
33	AG-33	ND	0.02	BDL	ND	BDL	BDL	0.003	0.1	0.03	BDL	BDL	0.4	BDL
34	AG-34	ND	0.04	ND	ND	ND	BDL	0.003	0.09	0.03	BDL	BDL	0.3	BDL
35	AG-35	ND	0.02	ND	ND	ND	BDL	0.004	0.09	0.02	ND	BDL	0.05	BDL
36	AG-36	ND	0.03	BDL	ND	ND	BDL	0.005	0.09	0.1	BDL	ND	0.06	BDL
37	AG-37	ND	0.04	ND	ND	ND	BDL	0.007	0.9	0.09	BDL	ND	0.7	BDL

38	AG-38	ND	0.02	ND	ND	ND	BDL	0.003	0.3	0.07	ND	ND	0.3	BDL
39	AG-39	ND	0.03	ND	ND	ND	BDL	0.001	0.3	0.09	BDL	BDL	0.4	BDL
40	AG-40	ND	0.03	BDL	ND	ND	BDL	BDL	0.006	0.06	BDL	BDL	0.5	BDL
41	AG-41	ND	0.03	BDL	ND	ND	BDL	BDL	0.007	0.07	BDL	BDL	0.6	BDL

BDL-Below Detection Limit; ND-Not Detected

Table-4.5: Physico-chemical parameters in post-monsoon (November 2019)

Sr. No	Sample Code	pH	EC	TDS (mg/l)	Turbidity	Total Hardness as $CaCO_3$	Calcium as Ca^{2+}	Magnesium Mg^{2+}	Sodium	Potassium	Total alkalinity as $CaCO_3$	Phosphate as PO_4^{-2}	Fluoride as F^-	Nitrate NO^{3-}	sulphate	chloride
Units	**-**	**-**	**µS/cm**	**mg/L**	**NTU**	**mg/L**										
BIS 10500:2012 (Acceptable/ Permissible limit)		**6.5/8.5**	**-**	**500/ 2000**	**1/5**	**200/ 600**	**75/200**	**30/100**	**-**	**-**	**200/600**	**-**	**1.0/1.5**	**45**	**200/400**	**250/ 1000**
1	AG-1	7.6	429	257	0.4	220	40	29	13	4	160	0.2	0.5	9	18	30
2	AG-2	7.8	68	41	5.5	148	35	14	9	2	130	0.7	0.2	4	16	10
3	AG-3	7.5	649	389	0.2	170	33	21	20	4	160	0.5	0.9	10	18	50
4	AG-4	7.8	400	240	0.6	180	32	24	20	1	160	0.8	1.2	12	10	20
5	AG-5	7.7	1072	643	0.2	248	80	12	40	6	228	0.9	0.5	3	50	80
6	AG-6	7.8	789	473	1	178	55	10	30	1	160	0.6	1	5	11	84
7	AG-7	7.9	614	368	0.2	240	72	14	26	2	180	0.6	0.2	80	8	64
8	AG-8	8	378	227	0.3	110	32	7	14	2	120	0.4	0.3	20	4	20
9	AG-9	7.4	866	520	3.4	300	56	38	20	2	180	0.4	0.2	2	30	130

Sr. No	Sample Code	pH	EC	TDS (mg/l)	Turbidity	Total Hardness as $CaCO_3$	Calcium as Ca^{2+}	Magnesium Mg^{2+}	Sodium	Potassium	Total alkalinity as $CaCO_3$	Phosphate as PO_4^{-2}	Fluoride as F^-	Nitrate NO^{3-}	sulphate	chloride
Units	**-**	**-**	**µS/cm**	**mg/L**	**NTU**	**mg/L**										
BIS 10500:2012 (Acceptable/ Permissible limit)		**6.5/8.5**	**-**	**500/ 2000**	**1/5**	**200/ 600**	**75/200**	**30/100**	**-**	**-**	**200/600**	**-**	**1.0/1.5**	**45**	**200/400**	**250/ 1000**
10	AG-10	8.3	1507	904	0.2	196	35	26	180	3	498	0.4	2	5	12	110
11	AG-11	8.3	582	349	0.3	164	39	16	48	3	200	0.6	2	29	18	20
12	AG-12	7.9	1441	865	0.3	260	48	34	60	1	220	0.4	0.4	33	42	120
13	AG-13	7.9	1199	719	0.2	410	44	72	60	2	288	0.7	2	98	48	122
14	AG-14	7.9	582	349	0.3	218	32	33	23	3	180	0.4	0.4	40	28	60
15	AG-15	7.8	167	100	0.2	132	24	17	9	1	100	0.3	0.2	9	6	10
16	AG-16	7.9	602	361	0.3	216	35	31	35	3	208	0.4	0.3	1	5	36
17	AG-17	7.8	306	184	0.3	248	27	43	18	1	198	0.8	0.6	2	13	16
18	AG-18	7.9	472	283	0.7	160	24	24	20	1	210	0.5	0.5	1	2	20
19	AG-19	7.6	489	293	0.5	198	35	26	16	1	200	0.4	0.3	3	4	16
20	AG-20	7.9	777	466	0.2	280	44	41	24	7	240	0.5	0.3	88	22	40
21	AG-21	7.9	646	388	0.2	260	24	48	34	3	210	4.2	2	28	22	82
22	AG-22	7.8	665	399	0.5	158	39	14	40	2	180	3.6	0.5	5	48	40
23	AG-23	7.7	1234	740	0.2	390	84	43	30	3	188	2.9	0.4	14	60	176
24	AG-24	8	181	109	1.2	68	19	5	11	1	78	1	0.3	2	12	16
25	AG-25	7.7	1518	911	0.5	540	112	62	28	5	240	1.2	0.5	180	90	180
26	AG-26	7.9	623	374	0.3	358	55	53	25	2	188	0.9	0.4	60	22	62

Sr. No	Sample Code	pH	EC	TDS (mg/l)	Turbidity	Total Hardness as $CaCO_3$	Calcium as Ca^{2+}	Magnesium Mg^{2+}	Sodium	Potassium	Total alkalinity as $CaCO_3$	Phosphate as PO_4^{-2}	Fluoride as F^-	Nitrate NO^{3-}	sulphate	chloride
Units	**-**	**-**	**µS/cm**	**mg/L**	**NTU**	**mg/L**										
BIS 10500:2012 (Acceptable/ Permissible limit)		**6.5/8.5**	**-**	**500/ 2000**	**1/5**	**200/ 600**	**75/200**	**30/100**	**-**	**-**	**200/600**	**-**	**1.0/1.5**	**45**	**200/400**	**250/ 1000**
27	AG-28	7	582	349	0.8	144	32	15	48	3	220	0.8	0.2	2	10	40
28	AG-29	8	810	486	0.3	338	51	50	21	2	180	0.6	0.6	110	50	92
29	AG-30	8	631	379	0.2	164	40	15	32	2	100	0.9	0.6	3	100	44
30	AG-31	8	582	349	0.3	196	38	24	22	2	120	0.3	0.2	2	50	50
31	AG-32	7.9	748	449	1.2	160	24	24	30	4	228	0.5	0.3	1	9	30
32	AG-34	7.9	1244	746	0.3	320	72	34	24	4	120	0.6	0.4	100	40	124
33	AG-35	7.8	2350	1410	0.4	890	56	180	113	20	260	0.5	0.5	100	200	370
34	AG-36	8.3	273	164	0.5	140	24	19	9	3	120	0.7	0.3	4	10	26
35	AG-37	8.2	267	160	0.5	90	24	7	12	1	80	0.8	0.3	1	11	26
36	AG-38	8	957	574	0.8	256	44	35	60	1	240	1.6	0.4	43	32	90
37	AG-39	7.9	4590	2754	0.6	740	152	86	140	5	298	1.1	0.7	98	100	520
38	AG-40	8.4	457	274	0.3	128	19	19	88	3	196	2.2	0.8	2	12	40
39	AG-41	8.2	726	436	0.3	160	32	19	22	3	160	0.8	0.7	19	12	36
40	AG-42	8.2	854	512	0.3	168	35	19	21	11	160	0.8	0.6	33	33	36
41	AG-43	8.2	556	334	0.9	140	32	14	20	10	180	0.8	0.5	21	26	10
42	AS	8.1	879	527	12	200	48	19	22	11	188	2.8	1	23	23	50

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Table-4.6: Heavy Metal parameters in Post-monsoon (November 2019)

Sr. No	Sample code	Al	As	Cd	Cr	Cu	Fe	Mn	Ni	Pb	Zn	Hg
	BIS Limit (ppm)	**0.03-0.2**	**0.01**	**0.003**	**0.05**	**0.05-1.5**	**0.3-1.0**	**0.10-0.30**	**0.02**	**0.01**	**5.0-15**	**0.001**
	ICP detection Limit (ppm)	**0.00001**	**0.007**	**0.0001**	**0.01**	**0.0004**	**0.0003**	**0.0001**	**0.005**	**0.009**	**0.001**	**0.000075**
1	AG-1	0.09	0.009	0.0009	0.03	0.01	1.6	0.03	BDL	0.009	0.1	BDL
2	AG-2	0.09	0.009	0.002	0.02	0.01	4.2	0.1	0.006	0.009	0.2	BDL
3	AG-3	0.02	0.007	0.001	BDL	0.01	0.8	0.1	0.009	0.009	0.1	BDL
4	AG-4	0.02	0.007	0.001	BDL	0.02	1.0	0.4	0.01	0.009	0.1	BDL
5	AG-5	0.09	0.009	0.0005	BDL	0.01	1.0	0.03	BDL	BDL	0.2	BDL
6	AG-6	0.09	0.009	ND	BDL	0.009	9.2	0.1	BDL	BDL	0.6	BDL
7	AG-7	0.09	0.009	0.0001	BDL	0.01	1.0	0.03	BDL	BDL	0.2	BDL
8	AG-8	0.09	BDL	0.0001	BDL	0.01	0.6	0.02	BDL	BDL	0.7	BDL

9	AG-9	0.09	ND	ND	BDL	0.01	6.7	0.4	0.006	BDL	19.0	BDL
10	AG-10	0.09	ND	ND	BDL	0.009	0.6	0.03	BDL	BDL	0.2	BDL
11	AG-11	0.09	ND	ND	BDL	0.01	0.6	0.04	BDL	BDL	0.5	BDL
12	AG-12	0.09	ND	ND	BDL	0.01	0.8	0.03	BDL	BDL	0.6	BDL
13	AG-13	0.09	ND	ND	BDL	0.03	0.5	0.04	BDL	BDL	0.2	BDL
14	AG-14	0.09	ND	ND	BDL	0.01	1.4	0.09	BDL	BDL	0.3	BDL
15	AG-15	0.09	ND	ND	BDL	0.01	0.7	0.02	BDL	BDL	0.6	BDL
16	AG-16	0.09	ND	ND	BDL	0.007	1.0	0.02	BDL	BDL	0.09	BDL
17	AG-17	0.03	ND	ND	BDL	0.008	0.5	0.2	BDL	BDL	0.08	BDL
18	AG-18	0.09	ND	ND	BDL	0.01	12.0	0.05	BDL	BDL	0.2	BDL
19	AG-19	0.09	ND	ND	BDL	0.02	2.4	0.05	BDL	BDL	0.1	BDL
20	AG-20	0.09	ND	ND	BDL	0.02	2.6	0.03	BDL	BDL	0.3	BDL
21	AG-21	0.09	ND	ND	BDL	0.01	0.8	0.03	BDL	BDL	0.1	BDL
22	AG-22	0.09	ND	ND	BDL	0.01	0.6	0.05	BDL	BDL	0.06	BDL
23	AG-23	0.008	ND	ND	BDL	0.009	1.1	0.02	BDL	BDL	0.2	BDL
24	AG-24	0.5	ND	ND	BDL	0.01	1.4	0.1	BDL	BDL	0.1	BDL
25	AG-25	0.006	ND	ND	BDL	0.01	2.3	0.05	BDL	BDL	1.4	BDL
26	AG-26	0.007	ND	ND	BDL	0.009	0.6	0.03	BDL	BDL	0.09	BDL
27	AG-28	0.009	ND	ND	BDL	0.01	2.7	0.2	BDL	BDL	0.5	BDL
28	AG-29	0.001	ND	ND	BDL	0.02	8.8	0.09	BDL	BDL	0.5	BDL
29	AG-30	0.004	ND	ND	BDL	0.01	0.7	0.02	BDL	BDL	0.08	BDL
30	AG-31	0.002	ND	ND	BDL	0.009	0.8	0.5	BDL	BDL	0.1	BDL
31	AG-32	0.001	ND	ND	BDL	0.006	18.0	0.1	BDL	BDL	0.6	BDL
32	AG-34	0.006	ND	ND	BDL	0.009	1.8	0.04	BDL	BDL	0.2	BDL
33	AG-35	0.005	ND	ND	BDL	0.02	3.3	0.03	BDL	BDL	0.1	BDL
34	AG-36	0.09	ND	ND	BDL	0.01	4.0	0.03	BDL	BDL	0.2	BDL

35	AG-37	0.03	ND	ND	BDL	0.01	0.8	0.01	BDL	BDL	0.2	BDL
36	AG-38	0.03	ND	ND	BDL	0.009	1.2	0.04	BDL	BDL	0.1	BDL
37	AG-39	0.09	ND	ND	BDL	0.007	0.8	0.01	BDL	BDL	0.05	BDL
38	AG-40	0.09	ND	ND	BDL	0.009	2.2	0.02	BDL	BDL	0.1	BDL
39	AG-41	0.09	ND	ND	BDL	0.04	0.5	0.04	BDL	BDL	0.07	BDL
40	AG-42	0.09	ND	ND	BDL	0.008	3.2	0.05	BDL	BDL	0.2	BDL
41	AG-43	0.09	ND	ND	BDL	0.006	1.0	0.05	BDL	BDL	0.05	BDL
42	AS	5.8	0.07	0.0002	BDL	0.01	4.0	0.05	0.01	BDL	0.08	BDL

BDL- Below Detection Limit; ND- Not detected

Table-4.7: Physico-chemical parameters in post-monsoon (December) 2020

Sr. No	**Sample Code**	**pH**	**EC**	**TDS**	**Turbidity**	**Total alkalinity as $CaCO_3$**	**Total Hardness as $CaCO_3$**	**Calcium as Ca^{2+}**	**Magnesium Mg^{2+}**	**Chloride as Cl^-**	**Sulphate as SO_4^{2-}**	**Nitrate NO^{3-}**	**Phosphate as PO_4^{-2}**	**Sodium as Na^+**	**Potassium as K^+**	**Fluoride as F^-**
Units		**-**	**µS/cm**	**mg/L**	**NTU**	**mg/L**										
BIS 10500:2012 (Acceptable/ Permissible limit)		**6.5-8.5**	**-**	**500-2000**	**1-5**	**200-600**	**200-600**	**75-200**	**30-100**	**250-1000**	**200-400**	**45**	**-**	**-**	**-**	**1.0-1.5**
1	**AS-1**	7	722	433	**29**	280	280	100	7.2	50	7.9	8	0.8	73	10.6	**5**

Sr. No	Sample Code	pH	EC	TDS	Turbidity	Total alkalinity as $CaCO_3$	Total Hardness as $CaCO_3$	Calcium as Ca^{2+}	Magnesium Mg^{2+}	Chloride as Cl^-	Sulphate as SO_4^{2-}	Nitrate NO^{3-}	Phosphate as PO_4^{-2}	Sodium as Na^+	Potassium as K^+	Fluoride as F^-
Units		**-**	**µS/cm**	**mg/L**	**NTU**	**mg/L**										
BIS 10500:2012 (Acceptable/ Permissible limit)		**6.5-8.5**	**-**	**500-2000**	**1-5**	**200-600**	**200-600**	**75-200**	**30-100**	**250-1000**	**200-400**	**45**	**-**	**-**	**-**	**1.0-1.5**
2	**AG-2**	7.2	135	81	**7.4**	80	70	20	4.8	5	1.7	5.2	0.3	15.2	4.2	0.1
3	**AG-3**	7.6	667	400	0.4	240	250	20	48	50	2.3	12	1.1	68.2	2.8	0.7
4	**AG-4**	7.2	584	351	0.3	260	250	36	38.4	60	2.5	13.4	0.9	73.4	4.1	1.1
5	**AG-5**	7.2	1240	744	0.4	370	360	16	76.8	90	13.2	11	0.9	115	9.3	0.4
6	**AG-6**	7.1	492	295	**23**	80	140	48	4.8	105	2.9	23	ND	72.5	5.2	0.4
7	**AG-7**	7.1	718	431	0.4	170	300	48	43.2	95	1.9	34.6	0.8	49	6.6	0.2
8	**AG-8**	7.5	586	352	0.2	200	220	40	28.8	65	3.1	20.6	0.6	72.4	6.5	0.2
9	**AG-9**	6.4	982	589	0.1	210	310	20	62.4	105	2.6	**45.3**	0.4	79.3	6.7	0.3
10	**AG-10**	8.3	1463	878	0.3	530	140	28	16.8	130	3.2	16.9	0.9	350	4.8	**2.3**
11	**AG-11**	7.5	643	374	0.5	290	230	40	31.2	25	2.3	19.6	1	88	3.4	1.2
12	**AG-12**	7.2	1088	639	0.3	270	370	32	69.6	105	9.8	**63**	0.7	103	3.2	0.3
13	**AG-13**	7.6	1114	669	0.4	390	460	44	84	120	7.7	29	0.8	150	3.9	1
14	**AG-14**	7	1524	915	10	280	480	60	79.2	275	5.8	78.9	1.1	118	15.4	0.3
15	**AG-15**	7.6	162	97	0.7	100	90	24	7.2	10	1.4	7	0.9	24.3	3.0	0.2
16	**AG-15**	7.2	702	421	20	310	230	20	43.2	70	1.7	4.3	0.7	124	8.7	0.5

Sr. No	Sample Code	pH	EC	TDS	Turbidity	Total alkalinity as $CaCO_3$	Total Hardness as $CaCO_3$	Calcium as Ca^{2+}	Magnesium Mg^{2+}	Chloride as Cl^-	Sulphate as SO_4^{2-}	Nitrate NO^{3-}	Phosphate as PO_4^{-2}	Sodium as Na^+	Potassium as K^+	Fluoride as F^-
Units		-	µS/cm	mg/L	NTU	mg/L										
BIS 10500:2012 (Acceptable/ Permissible limit)		6.5-8.5	-	500-2000	1-5	200-600	200-600	75-200	30-100	250-1000	200-400	45	-	-	-	1.0-1.5
17	**AG-17**	7.8	318	191	19	160	130	12	24.0	15	2.1	5.5	0.8	42.3	4.0	0.3
18	**AG-18**	7.3	453	272	84	210	170	20	28.8	25	0.8	2	0.8	60.9	3.9	0.4
19	**AG-19**	7.6	488	293	0.9	210	150	16	26.4	25	2.1	7.9	1.1	71.6	4.8	0.2
20	**AG-20**	7.4	730	438	0.9	200	150	24	21.6	30	2.5	28	0.5	80.4	5.6	0.5
21	**AG-21**	7.6	827	496	0.4	170	230	48	26.4	135	2.7	19.9	0.3	109	5.2	0.4
22	**AG-22**	7	656	394	0.6	220	200	16	38.4	92	4.6	4.1	0.3	111	2.3	0.5
23	**AG-23**	7.2	1158	695	4.5	250	410	76	52.8	180	6.8	53.6	0.8	91.8	5.6	0.4
24	**AG-24**	7.7	172	103	2.6	80	90	20	9.6	10	2.2	4.3	0.7	13.2	3.5	0.2
25	**AG-25**	7.1	1351	811	1.7	290	220	44	26.4	190	8.9	30.9	0.3	185	5.3	0.5
26	**AG-26**	7.5	595	357	0.7	210	260	28	45.6	75	2.6	18.2	0.4	65.3	4.8	0.4
27	**AG-27**	7.1	1665	999	1.7	370	400	40	72	225	9.6	65.9	0.7	187	100	0.7
28	**AG-28**	7.5	502	301	20	200	140	16	24	35	4.3	4.8	0.7	77.0	9.5	0.3
29	**AG-29**	7.3	905	543	7.4	220	250	32	40.8	160	5.9	35.2	ND	64.7	9.6	0.3
30	**AG-30**	7.4	650	309	0.2	200	198	16	37.9	75	4.2	2.8	0.1	86.4	2.7	0.5
31	**AG-31**	6.9	815	489	0.5	260	340	40	57.6	60	16.5	16.4	0.6	55.4	4.3	0.2

Sr. No	Sample Code	pH	EC	TDS	Turbidity	Total alkalinity as $CaCO_3$	Total Hardness as $CaCO_3$	Calcium as Ca^{2+}	Magnesium Mg^{2+}	Chloride as Cl^-	Sulphate as SO_4^{2-}	Nitrate NO^{3-}	Phosphate as PO_4^{-2}	Sodium as Na^+	Potassium as K^+	Fluoride as F^-
Units		-	µS/cm	mg/L	NTU	mg/L										
BIS 10500:2012 (Acceptable/ Permissible limit)		6.5-8.5	-	500-2000	1-5	200-600	200-600	75-200	30-100	250-1000	200-400	45	-	-	-	1.0-1.5
32	**AG-32**	7.3	696	418	42	320	220	20	40.8	35	1.2	5.1	0.4	82.8	14.5	0.3
33	**AG-33**	6.7	1410	846	4.4	220	410	80	50.4	255	6.4	52.5	0.2	147	3.5	0.5
34	**AG-34**	7.3	1033	620	0.5	270	320	16	67.2	135	2.1	53.4	0.7	136	6.6	0.5
35	**AG-35**	7.1	2190	1303	4.7	360	880	80	163	425	12.5	89.8	1.1	192	3.9	0.5
36	**AG-36**	7.8	289	173	0.4	110	90	16	12	30	1.7	2.8	0.3	45.6	3.8	0.2
37	**AG-37**	7.5	624	375	0.2	380	180	20	31.2	25	1.7	3.4	0.9	141	11.6	1.8
38	**AG-38**	7.4	869	521	1.2	290	160	24	24	95	4.3	2	1.2	170	3.5	1.6
39	**AG-39**	7	1879	1127	3.7	320	330	56	45.6	330	9.1	65.8	0.6	252	3.8	0.8
40	**AG-40**	7.8	444	267	0.4	190	140	20	21.6	25	1.9	3.8	1.2	64.3	2.9	0.5
41	**AG-41**	7.5	738	443	0.5	360	270	28	48.0	30	1.0	3.7	0.4	102	5.1	0.4
42	**AG-42**	7.4	774	464	1.3	380	260	20	50.4	60	2.1	9.1	1.3	146	8.6	0.6
43	**AG-43**	7.4	458	275	3.5	250	210	32	31.2	20	0.6	2.4	0.8	59.1	2.9	0.5
44	**AG-44**	6.9	878	527	32	230	300	40	48.0	130	4.6	38.3	1.1	115	3.3	0.5
45	**AG-45**	7.1	709	425	2.1	310	250	32	40.8	60	1.5	3.1	1.4	91.7	5.9	0.3
46	**AG-46**	7.7	621	373	0.2	310	220	24	38.4	35	1.8	8.4	1.4	105	2.5	0.8

Sr. No	Sample Code	pH	EC	TDS	Turbidity	Total alkalinity as $CaCO_3$	Total Hardness as $CaCO_3$	Calcium as Ca^{2+}	Magnesium Mg^{2+}	Chloride as Cl^-	Sulphate as SO_4^{2-}	Nitrate NO^{3-}	Phosphate as PO_4^{-2}	Sodium as Na^+	Potassium as K^+	Fluoride as F^-
Units		**-**	**µS/cm**	**mg/L**	**NTU**	**mg/L**										
BIS 10500:2012 (Acceptable/ Permissible limit)		**6.5-8.5**	**-**	**500-2000**	**1-5**	**200-600**	**200-600**	**75-200**	**30-100**	**250-1000**	**200-400**	**45**	**-**	**-**	**-**	**1.0-1.5**
47	**AG-47**	7.6	276	166	0.4	120	120	24	14.4	10	1.6	8.9	0.8	16.5	4.3	0.2
48	**AG-48**	7.2	250	150	0.2	120	108	16	16.3	20	0.8	11.8	1.4	38.2	2.9	0.4

Table-4.8: Heavy Metal parameters in Post-monsoon (December) 2020

Sr. No	Sample code	As	Al	Ba	Co	Cd	Cr	Cu	Fe	Mn	Ni	Pb	Zn	Hg
BIS Limit (ppm)		**0.01**	**0.03-0.2**	**0.7**	**-**	**0.003**	**0.05**	**0.05-1.5**	**1.0**	**0.10-0.3**	**0.02**	**0.01**	**5.0-15**	**0.001**
ICP detection Limit (ppm)		0.007	0.00001	0.0001	-	0.0001	0.01	0.0004	0.0003	0.0001	0.005	0.009	0.001	0.000001
1	**AS-1**	**0.1**	**5.4**	0.2	0.003	0.0002	BDL	0.02	0.5	0.1	ND	BDL	0.1	0.4
2	**AG-2**	0.01	**0.5**	0.02	0.0003	0.0001	BDL	0.1	0.1	**0.4**	ND	BDL	0.1	ND
3	**AG-3**	BDL	0.01	0.1	0.0005	BDL	BDL	0.005	0.01	0.1	ND	BDL	0.005	ND
4	**AG-4**	0.01	0.1	0.04	0.0009	BDL	BDL	0.05	0.02	0.1	ND	BDL	0.02	ND
5	**AG-5**	BDL	0.01	0.03	ND	BDL	BDL	0.01	0.005	0.03	ND	BDL	0.01	ND
6	**AG-6**	0.01	**0.6**	ND	0.005	0.001	BDL	0.1	**5.2**	**0.5**	ND	BDL	1.9	ND
7	**AG-7**	0.01	0.01	0.1	0.0007	0.0001	BDL	0.004	0.1	0.1	ND	BDL	0.07	ND
8	**AG-8**	BDL	0.01	0.05	0.0005	BDL	BDL	0.01	0.01	0.1	ND	BDL	0.02	ND
9	**AG-9**	BDL	0.04	0.3	0.002	BDL	BDL	0.01	0.03	0.2	ND	BDL	0.05	ND
10	**AG-10**	0.01	0.05	0.02	0.001	BDL	BDL	0.005	0.04	0.04	ND	BDL	0.01	ND
11	**AG-11**	BDL	0.04	0.01	ND	BDL	BDL	0.02	0.02	0.1	ND	BDL	0.02	ND
12	**AG-12**	BDL	0.01	0.01	0.008	0.001	BDL	0.01	0.01	0.1	ND	BDL	0.01	ND

13	**AG-13**	BDL	0.04	0.01	0.001	BDL	BDL	0.01	0.02	0.1	ND	BDL	0.01	ND
14	**AG-14**	BDL	0.02	0.04	0.001	BDL	BDL	ND	0.01	0.1	ND	BDL	0.01	ND
15	**AG-15**	BDL	0.1	0.02	ND	0.0001	BDL	0.001	0.01	0.1	ND	BDL	0.1	ND

Sr. No	**Sample code**	**As**	**Al**	**Ba**	**Co**	**Cd**	**Cr**	**Cu**	**Fe**	**Mn**	**Ni**	**Pb**	**Zn**	**Hg**
BIS Limit (ppm)		**0.01**	**0.03-0.2**	**0.7**	**-**	**0.003**	**0.05**	**0.05-1.5**	**1.0**	**0.10-0.3**	**0.02**	**0.01**	**5.0-15**	**0.001**
ICP detection Limit (ppm)		0.007	0.00001	0.0001	-	0.0001	0.01	0.0004	0.0003	0.0001	0.005	0.009	0.001	0.000001
16	**AG-16**	0.01	0.04	0.04	0.001	0.0003	BDL	0.002	0.02	0.1	ND	BDL	0.2	ND
17	**AG-17**	BDL	0.1	0.03	0.001	0.0001	BDL	0.005	0.03	0.2	ND	BDL	0.2	ND
18	**AG-18**	**0.01**	0.02	ND	0.001	0.0001	BDL	ND	0.02	0.1	ND	BDL	0.04	ND
19	**AG-19**	0.01	0.02	ND	0.002	0.0001	BDL	0.001	0.01	0.02	ND	BDL	0.01	ND
20	**AG-20**	BDL	0.02	ND	0.001	BDL	BDL	ND	0.01	0.03	ND	BDL	0.005	ND
21	**AG-21**	0.01	0.01	ND	0.0003	0.0001	BDL	0.004	0.01	0.03	ND	BDL	0.01	ND
22	**AG-22**	BDL	0.02	ND	0.001	0.0001	BDL	ND	0.01	0.02	ND	BDL	0.002	ND
23	**AG-23**	0.01	0.02	ND	ND	0.0002	BDL	0.002	0.01	0.06	ND	BDL	0.01	ND
24	**AG-24**	0.01	0.03	ND	0.002	0.0001	BDL	ND	0.005	0.04	ND	BDL	0.02	ND
25	**AG-25**	**0.01**	0.03	0.02	0.001	0.0002	BDL	BDL	0.01	0.2	ND	BDL	0.05	ND
26	**AG-26**	0.01	0.03	ND	0.001	0.0002	BDL	ND	0.005	0.04	ND	BDL	0.01	0.8
27	**AG-27**	BDL	0.02	ND	0.001	0.0001	BDL	ND	0.004	0.01	ND	BDL	0.006	ND
28	**AG-28**	BDL	0.03	ND	0.001	0.0001	BDL	BDL	0.01	0.06	ND	BDL	0.001	ND
29	**AG-29**	BDL	0.04	ND	0.001	0.0001	BDL	ND	0.01	0.1	ND	BDL	0.001	ND
30	**AG-30**	BDL	0.04	ND	0.001	0.0002	BDL	0.006	0.01	0.1	ND	BDL	0.03	ND

Sr. No	Sample code	As	Al	Ba	Co	Cd	Cr	Cu	Fe	Mn	Ni	Pb	Zn	Hg
BIS Limit (ppm)		**0.01**	**0.03-0.2**	**0.7**	**-**	**0.003**	**0.05**	**0.05-1.5**	**1.0**	**0.10-0.3**	**0.02**	**0.01**	**5.0-15**	**0.001**
ICP detection Limit (ppm)		0.007	0.00001	0.0001	-	0.0001	0.01	0.0004	0.0003	0.0001	0.005	0.009	0.001	0.000001
31	**AG-31**	BDL	0.03	ND	0.002	0.0002	BDL	ND	0.01	0.05	ND	BDL	0.01	ND
32	**AG-32**	ND	0.03	ND	0.001	0.0002	BDL	0.002	0.01	0.1	ND	BDL	0.02	ND
33	**AG-33**	BDL	0.03	ND	0.001	0.0001	BDL	ND	0.01	0.1	ND	BDL	0.01	ND
34	**AG-34**	BDL	0.03	ND	0.002	0.0002	BDL	ND	0.01	0.1	ND	BDL	0.01	ND
35	**AG-35**	BDL	0.03	ND	0.0002	0.0002	BDL	ND	0.01	0.1	ND	BDL	0.003	ND
36	**AG-36**	BDL	0.03	ND	0.001	0.0002	BDL	0.002	0.01	0.1	ND	BDL	0.005	0.004
37	**AG-37**	BDL	0.05	ND	0.001	0.0002	BDL	ND	0.004	0.01	ND	BDL	ND	ND
38	**AG-38**	BDL	0.05	ND	0.001	0.0001	BDL	ND	0.01	0.01	ND	BDL	0.002	ND
39	**AG-39**	BDL	0.06	ND	0.002	0.0002	BDL	ND	0.01	0.02	ND	BDL	0.003	ND
40	**AG-40**	BDL	0.01	ND	0.001	0.0001	BDL	0.003	0.01	0.1	ND	BDL	0.003	ND
41	**AG-41**	0.01	0.04	ND	0.001	0.0002	BDL	ND	0.01	0.03	ND	BDL	0.001	ND
42	**AG-42**	BDL	0.02	ND	0.001	0.0002	BDL	0.004	0.01	0.05	ND	BDL	0.003	ND
43	**AG-43**	BDL	0.2	ND	0.001	0.0003	BDL	0.004	0.02	ND	ND	BDL	0.5	ND

44	**AG-44**	BDL	0.02	0.1	0.0004	0.0003	BDL	ND	0.01	0.3	ND	BDL	0.4	ND
45	**AG-45**	BDL	0.02	ND	0.001	0.0003	BDL	ND	0.004	ND	ND	BDL	0.1	ND
46	**AG-46**	ND	0.02	ND	0.001	0.0002	BDL	ND	0.01	ND	ND	BDL	0.03	ND

Sr. No	**Sample code**	**As**	**Al**	**Ba**	**Co**	**Cd**	**Cr**	**Cu**	**Fe**	**Mn**	**Ni**	**Pb**	**Zn**	**Hg**
BIS Limit (ppm)		**0.01**	**0.03-0.2**	**0.7**	**-**	**0.003**	**0.05**	**0.05-1.5**	**1.0**	**0.10-0.3**	**0.02**	**0.01**	**5.0-15**	**0.001**
ICP detection Limit (ppm)		0.007	0.00001	0.0001	-	0.0001	0.01	0.0004	0.0003	0.0001	0.005	0.009	0.001	0.000001
47	**AG-47**	BDL	0.03	ND	0.001	0.0002	BDL	ND	0.01	0.1	ND	BDL	0.02	ND
48	**AG-48**	BDL	0.01	ND	0.0003	0.0002	BDL	ND	0.003	0.1	ND	BDL	0.04	ND

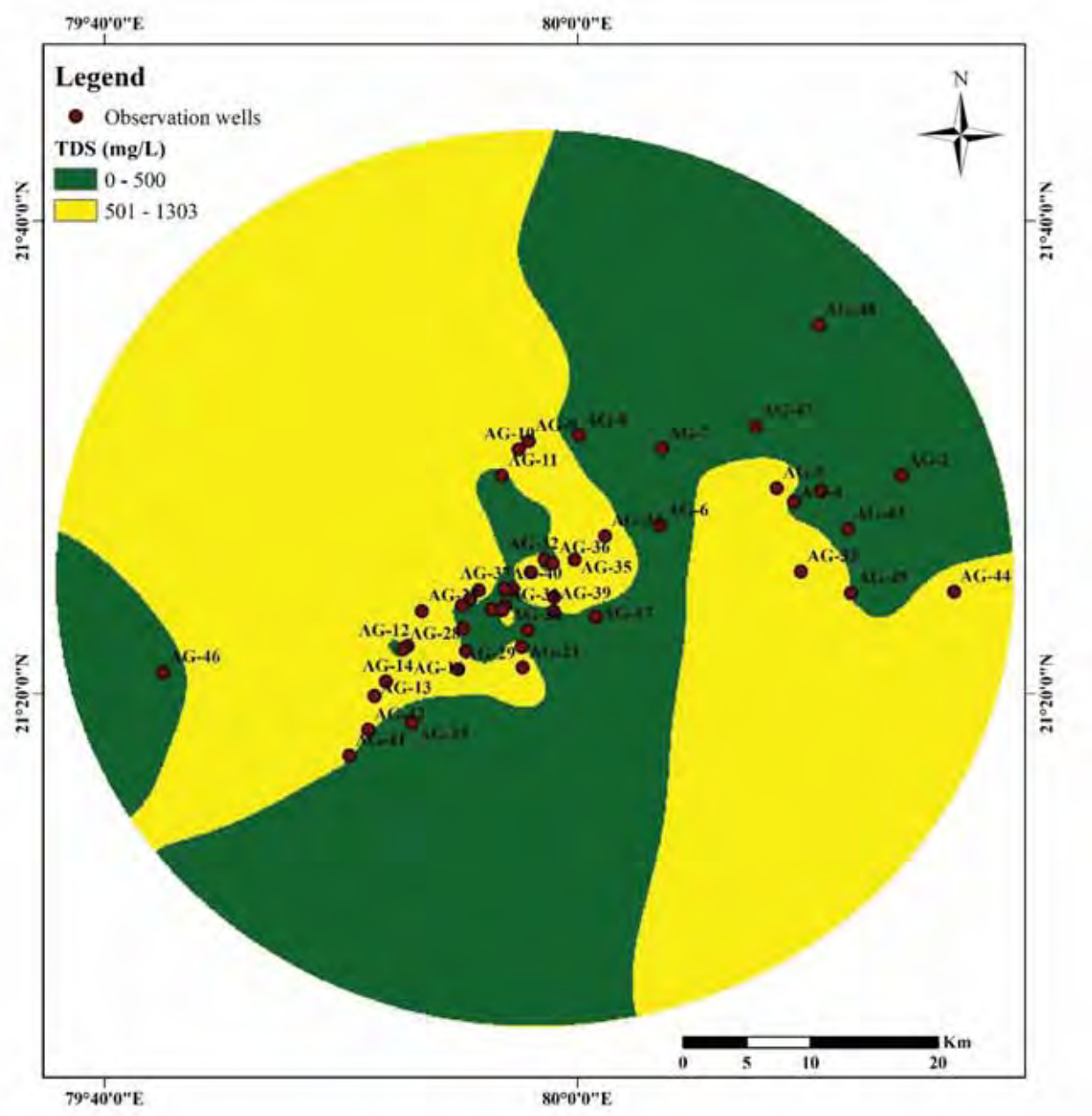

Figure 4.2: Contour plot of TDS (mg/L) concentration in the study area – Post monsoon (December) 2020

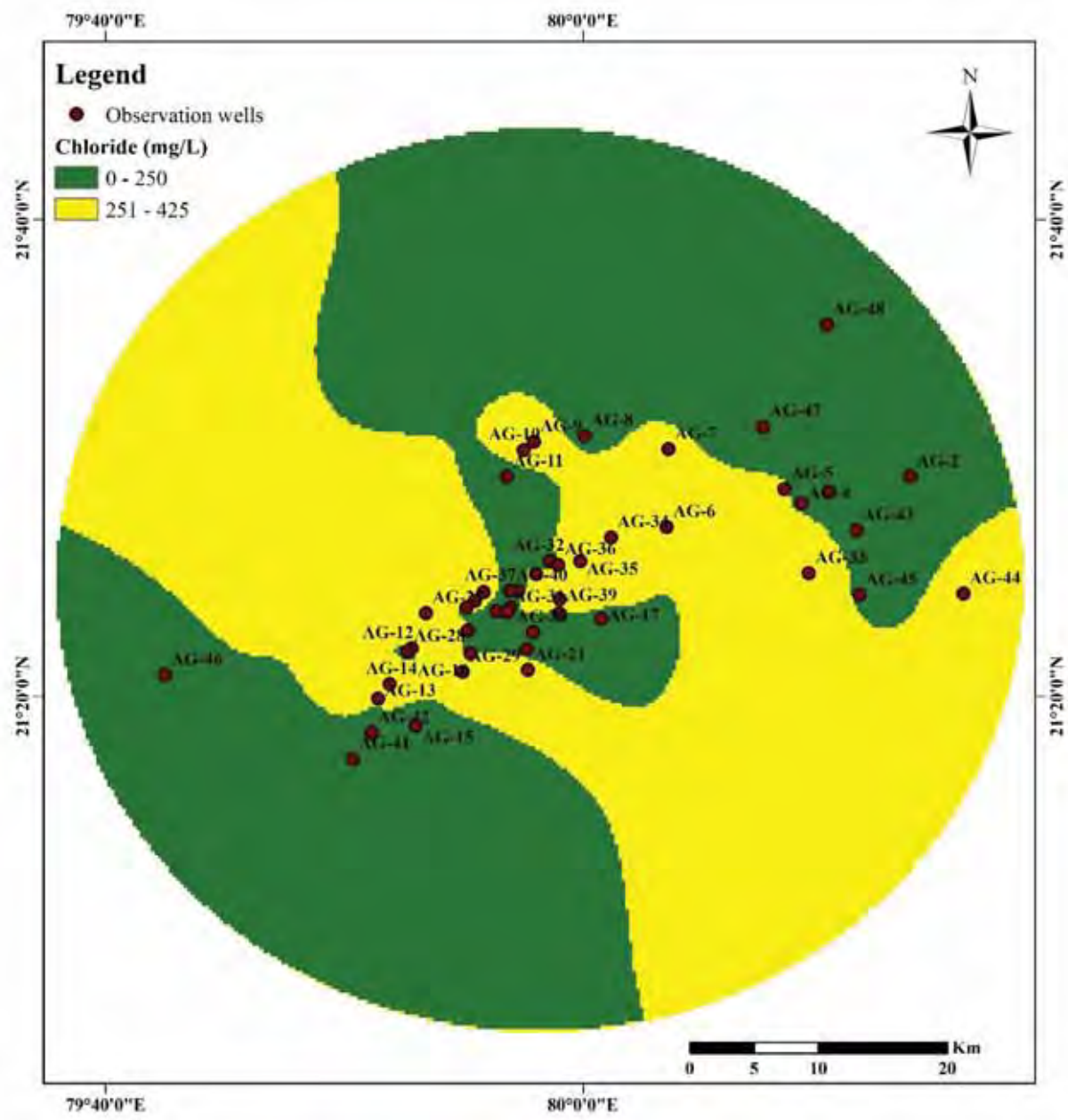

Figure 4.3: Contour plot of Chloride (mg/L) concentration in the study area – Post monsoon (December) 2020

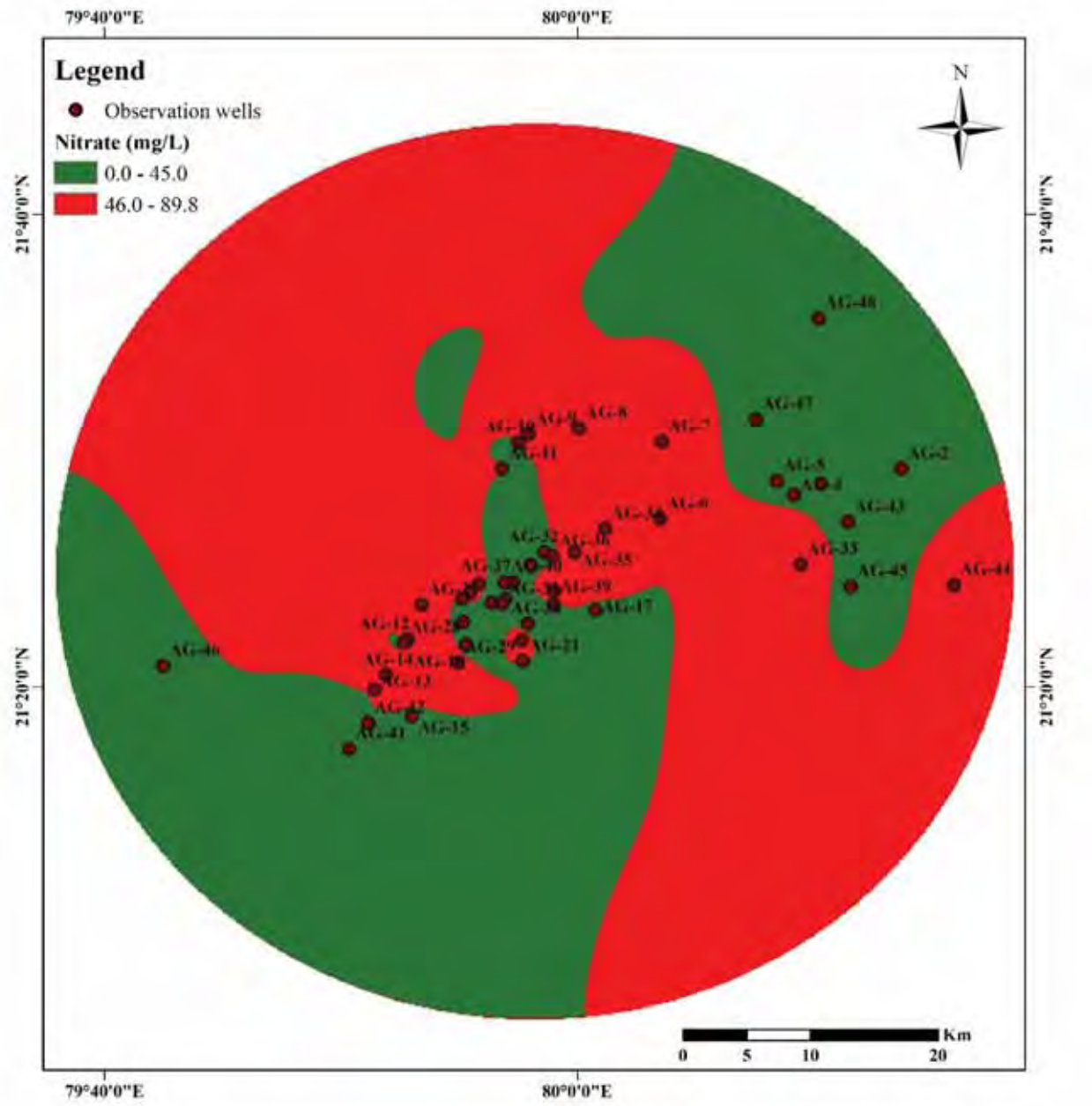

Figure 4.4: Contour plot of Nitrate (mg/L) concentration in the study area – Post monsoon (December) 2020

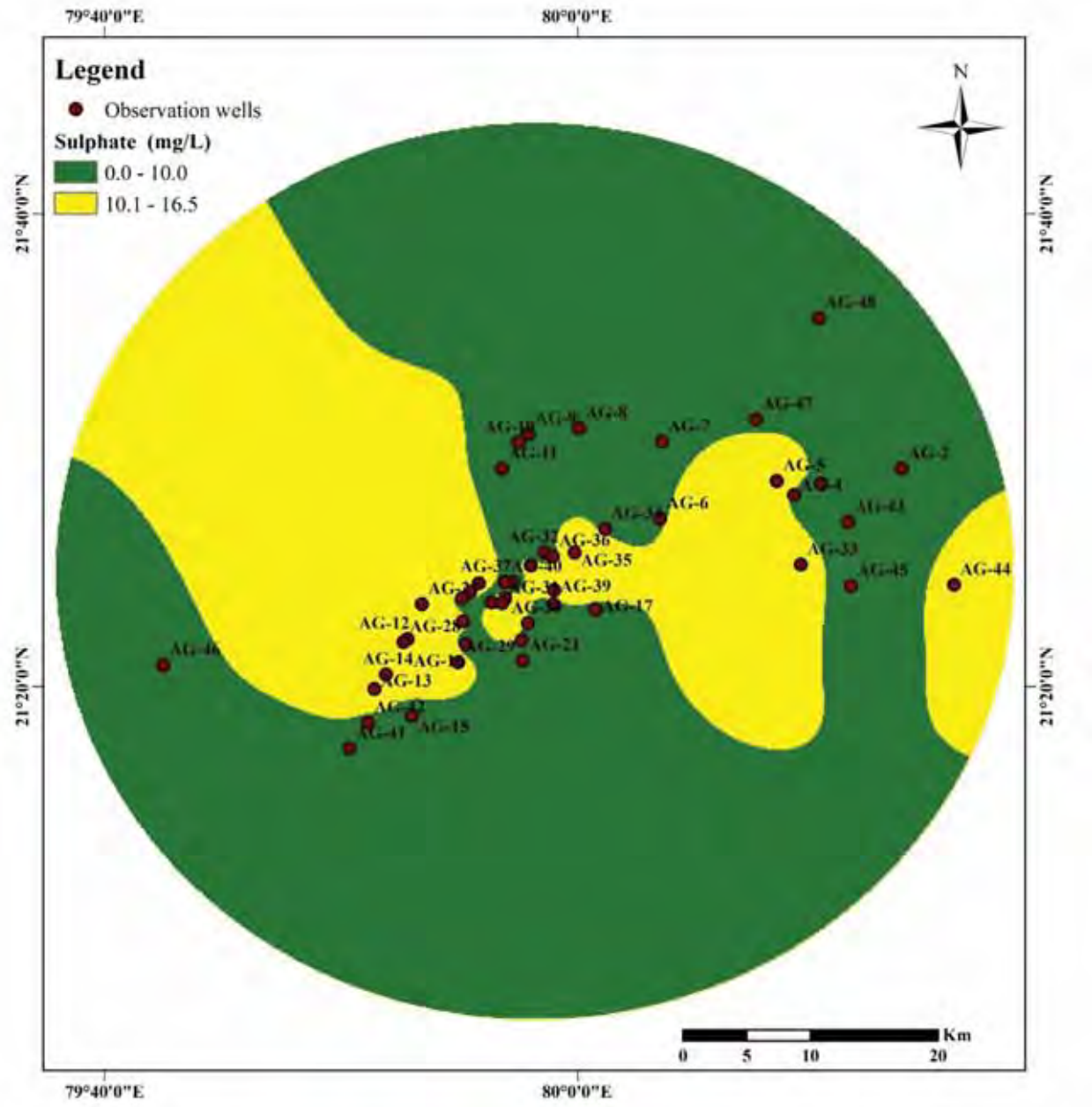

Figure 4.5: Contour plot of Sulphate (mg/L) concentration in the study area – Post monsoon (December) 2020

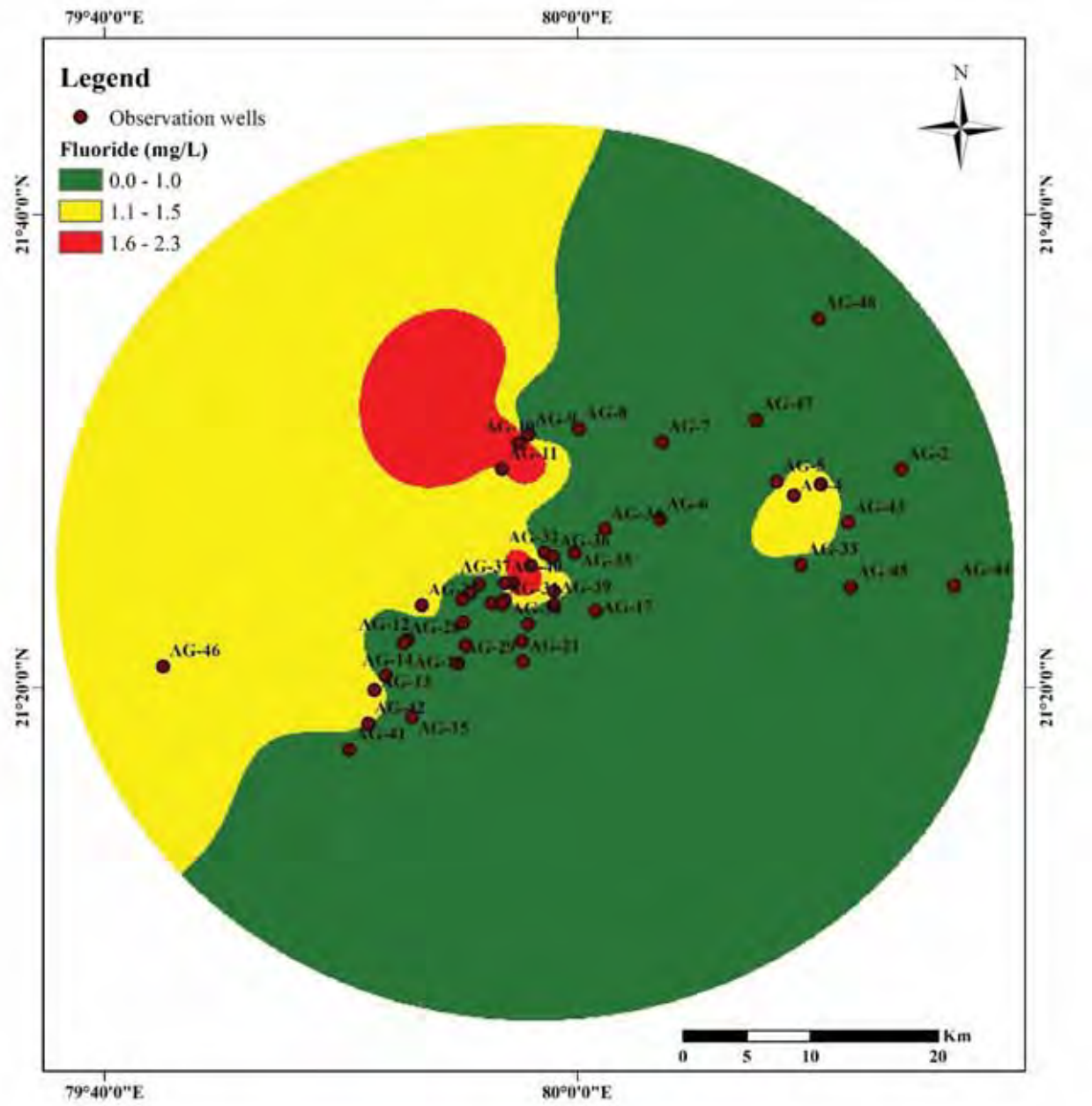

Figure 4.6: Contour plot of Fluoride (mg/L) concentration in the study area – Post monsoon (December) 2020

Chapter 5

Findings and Recommendation

5.1 Findings

June 2019 (pre-monsoon) & November 2019 (post-monsoon):

Heavy metal parameters namely As, Hg in the groundwater sources are within the drinking water standards of BIS (10500:2012). Iron concentration is high in many sources and it can be attributed to the rusting of the pipes in the hand pumps or iron content in the soil.

Physico-chemical parameters are within the permissible limit of drinking water standards of BIS (10500:2012).

The groundwater level is shallow and most of the sources have water level <10m (below ground level). The groundwater level monitoring in pre-monsoon and post-monsoon of 2019 indicates that the groundwater level has not declined with respect to the groundwater level observed in 2011 by HCPL engaged by APML.

December 2020 (post-monsoon):

The concentration of heavy metals Ba, Co, Cd, Cr, Cu, Ni, Pb, Zn and Hg were all found to be well within the permissible and acceptable limit of BIS.

The concentration of Mn and Al is high in some sources.

Physico-chemical parameters namely pH, TDS, Total Alkalinity, Calcium (Ca^{2+}), Magnesium (Mg^{2+}), Sulphate (SO_4^{2-}) and Chloride (Cl) concentrations of all the samples were found to be within the permissible and acceptable limits of BIS (10500:2012).The concentration of Turbidity and nitrate (No_3^-) is high in many sources.

The groundwater level is shallow in all the sources having water level <10m (below ground level**).**

5.2 Future activities

Pre-monsoon and post-monsoon of 2021 groundwater monitoring, sample collection and its analysis.

Comparison of the groundwater level (pre-monsoon and post-monsoon) in 2021 with the pre-project scenario in 2011.

Collection of primary and secondary data on the groundwater abstraction, yield tests for Groundwater stage development to draw comparison with respect to the stage development in the study area before construction of APML.

Ash characterization and TCLP.

REFERENCE

1. Amendment of MoEF& CC of the Government of India, 2016
2. https://bhukosh.gsi.gov.in/Bhukosh/Public

Annexure - XII

RAIN WATER HARVESTING STRUCTURE AT APML, TIRODA

RAIN WATER HARVESTING AT ADMIN BUILDING

RAIN WATER HARVESTING AT UNIT#5