adani
Power

Ref: APL/APJL/EMD/EC/MoEF/213/11/21
Date- 19/11/2021

To,

Additional Principal Chief Conservator of Forest (APCCF)
Ministry of Environment, Forest and Climate Change
Regional Office, East Central Region
Bungalow No- A-2, Shyamali Colony,
Ranchi- 834 002, Jharkhand

Sub: Six Monthly Compliance Status of Environment Clearances for Godda Thermal Power Plant at Motia, Patwa & Adjacent Villages. Godda Tehsil, Godda District in Jharkhand.

Ref: Environment Clearance Letter no: **J-13012/01/2016-IA.I (T),** Dated: **31.08.2017** & Amendment dated 03.09.2019 & 27.02.2020.

Dear Sir,

With reference to above subject, please find enclosed herewith Six Monthly Environment Clearances (EC) compliance status report along with Environmental monitoring results like Ambient Air Quality, Noise level, Water Quality & CSR report etc. for the period of **Apri'2021 to September'2021** in hard & soft (**e-mail**).

This is for your kind information & record please.

Thanking You,
Yours faithfully,
for **Adani Power (Jharkhand) Limited**

(**Santosh Kumar Singh**)
Head- Environment
Encl: as above

cc:

Member Secretary
Central Pollution control Board
Parivesh Bhavan, East Arjun Nagar
New Delhi- 110 032.

The Regional Officer,
Jharkhand Pollution Control Board,
Dumka, Jharkhand

Member Secretary,
Jharkhand Pollution Control Board
TA Division Building (Ground Floor), HEC,
Dhurwa, Ranchi-834 004 (JH)

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SIX MONTHLY COMPLIANCE REPORT OF ENVIRONMENTAL CLEARANCE (EC)

1600 (2×800) MW THERMAL POWER PLANT

At

GODDA TALUKA, GODDA DISTRICT
JHARKHAND

Submitted to:
Regional Office, East Central Zone
Ministry of Environment, Forests & Climate Change,
Central Pollution Control Board, New Delhi &
Jharkhand State Pollution Control Board, Ranchi

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Submitted By:
Environment Management Department
Adani Power (Jharkhand) Limited
Motia, Patwa & adjacent Village,
Godda Taluka, Godda District
Jharkhand

PERIOD: April'2021 – September'2021

CONTENTS

ADANI POWER (JHARKHAND) LIMITED

Introduction

Adani Power (Jharkhand) Ltd. AP(J)L, a wholly owned company of Adani Power Limited, is developing 1600 (2x800) MW Coal-based Ultra Supercritical Thermal Power Plant at Village Motia, Patwa and adjacent villages of Godda & Poraiyahaat Blocks of Godda District in Jharkhand. The power plant is based on ultra-supercritical, energy efficient & environment friendly technology.

AP(J)L has been granted Environmental Clearances & Consent to Establish by Ministry of Environment & Forest and Jharkhand state Pollution Control Board and AP(J)L has also obtained all necessary statutory / mandatory clearance respectively.

India and Bangladesh desire to enhance traditional ties of friendship, through economic cooperation. Realizing the ever increasing demand of electricity for the socio-economic development and progress, the Government of India (GoI) and Government of Bangladesh (GoB) have signed a Memorandum of Understanding (MoU) on 11 January, 2010.

As provided in the MoU, GoB and GoI shall inter-alia undertake to encourage and facilitate joint co-operation between the parties in Power generation, transmission, energy efficiency and development of various types of renewable energy;

Accordingly, Adani Power Limited (APL) on 11.08.2015 signed a MoU with Bangladesh Power Development Board (BPDB), to develop a 2X800 MW thermal power plant on BOO basis in India and supply the entire power generated to Bangladesh Power Development Board (BPDB) through a dedicated Transmission Line.

Status of the Project:

AP(J)L has been granted Environment Clearances (EC) vide Letter no: J13012/01/2016-IA.I (T) dated: 31.08.2017 and amendment in EC vide letter dated 03.09.2019 for changing the source of water form Chir River to Ganga River. AP(J)L has also been granted amended EC vide Letter No: J-13012/01/2016-IA.I (T) dated 27.02.2020 to incorporate sector specific Special Economic Zone for Power under SL.No.7(C) of Schedule as mentioned in EIA Notification, 2006.

ADANI POWER (JHARKHAND) LIMITED

Compliance status of Environmental Clearance

1600 MW (2×800 MW) Godda Thermal Power Plant

Environment Clearance Letter no: J-13012/01/2016-IA.I (T) dated: 31.08.2017 &

Its Subsequent Amendment Letter no. J-13012/01/2016-IA.I (T) dated 03.09.2019 and 27.02.2020

Si. No.	Specific Conditions	Compliance Status
(i)	Total Ash and Sulphur content in the imported coal shall not exceed 25% and 0.5% respectively.	Noted & compliance assured during operation stage of plant.
(ii)	Land acquisition shall be carried out by the State Govt. in accordance with Santhal Pargana Tenancy Act, 1949, Right of Fair Compensation and Transparency in the Land Acquisition, Rehabilitation Act, 2013 and other prevailing laws. Documents in support of land acquisition after completion acquisition process shall be submitted to this Ministry as well as concerned Regional Office.	Complied. Land already acquired & Land possession documents has already been submitted.
(iii)	As per the Revised Tariff Policy notified by Minister of Power vide dated 28.01.2016, project proponent shall explore the use of treated sewage water from the Sewage treatment plant of Municipality / local / similar organization located within 50 km radius of the proposed power project to minimize the water drawl from surface water bodies.	There are no STPs of municipality/local bodies within 50 KM of the site.
(iv)	Compliance of EC conditions, E(P) Act 1986, Rules and MoEF&CC Notifications issued time to time shall be achieved by a qualified environment officer to be nominated by the Project Head of the company who shall be responsible for implementation and necessary compliance.	Compliance assured. We have already established Environment Management Department with Senior Management at Corporate level as well as at Site.
(v)	MoEF&CC Notification S.O. 3305 (E) dated 07.12.2015 and subsequent notifications issued time to time shall be implemented with respect to specific water consumption, zero liquid discharge and revised emission standards. The PM, SO_2, NOx and Hg emissions shall not exceed 30 mg/Nm^3, 100 mg/Nm^3, 100 mg/Nm^3 and 0.03 mg/Nm^3 respectively. The specific water consumption exceed shall not exceed 2.5 m^3/MWh and zero wastewater discharge shall be achieved.	Compliance assured during operational phase of the plant. High efficiency Electrostatic Precipitators (ESP) has been considered to meet revised emission standard of <30 mg/ Nm^3 for PM. FGD & SCR are under implementation to meet revised standard of SOx & NOx Emission. TPP has been designed to meet the Specific Water consumption of less than 2.5 m^3/MWh and zero waste water discharge.

(vi)	MoEF&CC Notifications on Fly ash utilization S.O. 763(E) dated 14.09.1999, S.O. 979(E) dated 27.08.2003, S.O. 2804 (E) dated 3.11.2009, S.O. 254(E) dated 25.01.2016 and subsequent amendments shall be complied with.	Compliance assured once the project takes off. As per Fly Ash Notification, Half yearly & Annual Ash generation and utilization will be submitted to MoEF&CC, CPCB & JSPCB during operational phase of the plant.
(vii)	Separate Environmental Clearance may be obtained for the proposed Township as applicable under EIA notification 2006.	Separate Environment Clearance has been granted by SEIAA, Jharkhand for Residential Township vide letter No. EC/SEIAA/2017-18/2070/2017/207 dated 31/08/2018.
(viii)	Solar rooftops shall be installed in the surrounding villages as part of CSR activities.	Being complied. It is proposed to provide Solar lights in surrounding villages wherever feasible through Adani Foundation as part of CSR activity. Fifteen (15) Nos. of Solar Street Lights installed in 12 remotest villages and road side points in 3 blocks namely Borio, Mandro and Sahebganj which benefiting more than 10,000 rural population. CSR activities are reflected in **Annexure-II.**
(ix)	Skill mapping of the Project affected people (PAF) be carried out on a long-term basis for their livelihood generation. A report is to be submitted within 3 months to the Ministry from the date of issuance of environmental clearance.	Complied. Skill Mapping Report prepared by M/s Indian Institute of Social Welfare & Business Management (IISWBM) Kolkata has already been submitted to your good office along with compliance report. Skill Development Centers are operational and total 3358 candidates are trained under different trades viz. Welder, Fitter, Mason and Bar bender, General Duty assistant, Hospitality, Electrical, industrial Sewing Machine Operator, and Digital Literacy classes. This year 34 candidates got placed at different organization with decent packages.
(x)	Modern methods of agriculture organic forming, compost / vermiculture making and utilization, drip/direct to root irrigation to be promoted in and around the Project area.	Noted & being complied. Six village level training was conducted in core and railway line villages of Godda & Sahebganj district namely Parasi (Sondiha), Motia, Dumariya, Kauribahiyar, Govindpur and Bada Pangro to promote organic farming through Vermicomposting. Adani Foundation supported farming communities by promoting production of organic manure by installation of Vermi-Compost Bag/Vermibed across the core and pipeline

		village. 111 Vermicomposting units has been set up by 88 farmers from 14 villages of core and railway line area of TPP for their livelihood generation. In addition to above, 42 Farmers were supported with Vermi-beds for vermicomposting and supplementing their livelihood through organic farming. Detailed summarized CSR report is enclosed as **Annexure- II.**
(xi)	While implementing CSR, • Women empowerment is important. Therefore, proper skill based training/long term livelihood revenue generation be created for all of them. • Computer facilities may be provided in the school along with a trained computer teacher to inculcate computer skill among the youths. • Water supply provisions shall be made for all the bio-toilets under Swachh Bharat Abhiyan. • Preventive health programme may be preferred than the curative health programme such as nutrition development of small children and around the project.	Being Complied. • Saksham training cum sewing centre are operational at core and outreach areas to empower women. So far, more than 2500 women have been trained and benefited in sewing machine operator/ self employed tailor vertical who are engaged in producing school uniforms as well as are self-employed in stitching cloths of individual orders assisting them to uplift their socio-economic conditions. • Adani Foundation in partnership with District Administration launched Gyanodaya project to promote e-learning through Smart Classes. Gyanodaya bagged **"Indian Chamber Of Commerce (ICC) Social Impact Award - Promoting Education"** for providing quality education in remotest and untapped villages of Godda district through smart learning among 67000 students of 277 government schools. • Computer Learning Centres are operational in Motia, Rangania, Pathergama, Mahagama Jitpur & sunderpahari villages. Total beneficiaries so far is 1567Nos. • We have constructed 32 model bathrooms with soak pit in various villages towards creating awareness for cleanliness and hygiene by our program named "SWACCHAGRIH". • Curative health program being taken care under "SuPoshan" program. Detailed CSR report is attached as **Annexure – II.**
(xii)	Vision document specifying prospective plan for the site shall be formulated and submitted to the Regional Office of the Ministry within six months.	Complied. Vision document has already been submitted along with compliance report.

(xiii)	Harnessing solar power within the premises of the plant particularly at available roof tops shall be carried out and the status of implementation including actual generation of solar power shall be submitted along with half yearly monitoring report.	Noted and compliance assured. Project is under construction phase and it is proposed to utilize the roof tops of buildings which are feasible for installation of solar panels.
(xiv)	A long term study of radio activity and heavy metals content on coal to be used shall be carried out through a reputed institute and results thereof analyzed every two year and reported along with monitoring reports. 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.	Noted. Radioactivity testing result/report of two Coal samples (testing done by Board of Radiation and Isotope technology, Mumbai) from the source area already submitted along with EIA report. Further, Radioactivity Test and Heavy Metal study report will be submitted during the plant operation. There is no proven technology to monitor radioactivity at plant level on continuous basis. Periodic test report will be submitted during operational phase of the plant.
(xv)	Online continuous monitoring system for stack emission, ambient air and effluent shall be installed.	Noted & compliance assured. AP(J)L has proposed to install Online Continuous Emission Monitoring System & Effluent Quality monitoring system. The monitoring system will be installed before COD.
(xvi)	High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that a particulate emission does not exceed 30 mg/Nm^3 as would be notified by the Ministry, whichever is stringent. 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 along with an environment friendly sludge disposal system.	Noted. High efficiency Electrostatic Precipitators (ESP) will be installed in each boiler to meet PM emission of less than 30 mg/Nm^3. Dust extraction system (Cyclone followed by bag filters) in coal crusher and coal transfer area (JNTs), rain gun type dust suppression system in coal yard and dry fog type dust suppression system in belt conveyor have been proposed.
(xvii)	Adequate dust extraction system such as cyclones / bag filters and water spray system in dusty areas in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	Dust extraction system with Bag filter in Crusher House is proposed. Pneumatic ash handling system with bag filters for ash handling & water sprinkling system will be provided in Coal yard.
(xviii)	Monitoring of surface water quantity and quality shall be regularly conducted and records maintained shall be submitted to the Ministry regularly. Further, monitoring system shall be placed between the plant and drainage in the direction of flow of ground water and records	Compliance assured. Baseline data was collected during EIA study & Regular monitoring of Air, Water (surface & ground) is being carried out. Environmental Parameters monitoring results (including monitoring of Heavy Metals in Ground water) are

	maintained. Monitoring for heavy metals in ground water shall also be undertaken and results/findings submitted along with half yearly monitoring report.	being submitted periodically to RO, MoEFCC Ranchi, MS JSPCB, Ranchi & RO JSPCB, Dumka. Environmental monitoring reports are enclosed as **Annexure – I.**
(xix)	A well designed rain water harvesting system shall be put in place within six months, which shall comprise of rain water collection from the built up and open area in the plant premises and detailed report kept of the quantity of water harvested every year and its use.	Rain Water Harvesting (RWH) study carried out along with EIA study and already submitted. RWH plan is under implementation along with project construction.
(xx)	No water bodies including natural drainage system in the area shall be distributed due to activities associated with the setting up/operation of the power plant.	Noted & compliance assured. There are some first order streams, which will be altered. The drainage profile will be maintained from SE to NW direction along the natural drainage profile. There is an unlined (kachcha) canal passing through the site, which is diverted along the Project boundary without disturbing flow and natural drainage pattern.
(xxi)	Additional soil for leveling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.	Noted & agreed. Excavated Soil being utilized within the project site to the extent possible.
(xxii)	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Mercury and other heavy metals (As, Hg, Cr, Pb, etc.) shall be monitored in the bottom ash. No ash shall be disposed off in low lying area.	Monitoring of Mercury and other heavy metals in bottom ash assured during operational phase of the plant. Dry Ash collection, pneumatic conveying and storage (silos) facilities are being established. Unutilized ash will be disposed off in the ash dyke through HCSD.
(xxiii)	No mine void filling will be undertaken as an 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-ordinate with the State Pollution Control Board.	Noted & agreed. In case of mine void filling option undertaken during operational phase of the plant, detailed study from reputed institute shall be undertaken, adequate lining will be done and pollution control board shall be consulted.
(xxiv)	Fugitive emission of fly ash (dry and wet) shall be controlled such that no agricultural or non-agricultural land is affected. Damage to any land	Compliance assured during operational phase of the plant.

	shall be mitigated and suitable compensation provided with the local Panchayats.	To control fugitive emission, adequate water sprinkling arrangements will be made in fly ash area. TPP will provide suitable compensation, if any damage in future.
(xxv)	Green belt consisting of three tiers of plantation of native species all around plant and at least 50 m width shall be raised. Wherever 50 m width is not feasible a 20 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 80%.	Compliance assured. Green belt development / plantation and landscaping started in the available spaces along with project construction. In addition to plant area, over 363 households and Forest Office, Godda & Mahagama, were supported with fruit bearing saplings of Mango (3311), Lemon (330) and Guava (135) to conserve biodiversity and ecological restoration. Apart from above, avenue plantation (outside the plant premises) being done to improve the aesthetic look and environmental conservation. Our efforts are being made to develop more greenery in & around the plant with survival rate of more than 80%.
(xxvi)	Green belt shall also be developed around the Ash Pond over and above the Green Belt around the plant boundary.	Noted and compliance assured.
(xxvii)	The project proponent shall formulate a well laid Corporate Environment Policy and identify and designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.	Corporate HSE policy is placed & signed by the Chairman. IMS implementation & certification for the project will be implemented during plant operation.
(xxviii)	CSR schemes identified based on need assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating programmes.	CSR activities are implemented in consultation and collaboration with the community & community leaders as well as District Administration. Regular community meetings are organized in all the villages to understand the issues of community. Social development activities have been carried out for Need Based families under the CSR activities by **Adani Foundation.** Need Based Assessment Study and Development of CSR report has already been submitted along with compliance report.

		Detailed CSR report is enclosed as **Annexure- II.**
(xxix)	For proper and periodic monitoring of CSR activities, a CSR committee or a Social Audit committee or a suitable external agency shall be appointed. CSR activates shall be evaluated by an independent external agency. This evaluation shall be both concurrent and final.	Social development activities have been carried out for Need Based families under the CSR activities by **Adani Foundation.** Evaluation of CSR activities will be done during plant operation by external agency in every three years. However, an Annual Audit Plan is in place in the company which is conducted at all the sites. An internal Audit team undertakes review of the systems, process and also verifies on ground implementation of CSR activities as well as the systems. CSR report is enclosed as **Annexure- II.**
S.N	**General Conditions:**	**Compliance Status**
(i)	The treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant. Arrangements shall be made that effluents and storm water do not get mixed.	Noted. Plant layout has been designed with separate system for Storm Water drain and Effluent.
(ii)	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.	Compliance assured. Decentralized Sewage Treatment Plants are under construction stage & treated water will be reused suitably within the plant premises for green belt development. One STP of 10KLD capacity is operational and 100% treated water is being used for plantation/green belt development.
(iii)	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 the Ministry as well as to the Regional Office of the Ministry.	Fire Safety Management Plan is prepared and implemented. Fire Safety Management Plan already submitted with compliance report of October 2018 to March 2019.
(iv)	Storage facilities for auxiliary liquid fuel such as LDO/ HFO /LSHS shall be made in the plant area in consultation with Department of Explosives, 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.	Noted. The LDO/HFO/LSHS will be properly stored in designated location & minimum risk area and Department of explosive shall be consulted. Mock drills are being conducted periodically. DMP already submitted with compliance report of October 2018 to March 2019.
(v)	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Being Complied. First aid facilities, drinking water facility, Sanitation facility, Waste water disposal, solid

		wastes management and primary health facilities are being ensured at site.
(vi)	Noise levels emanating from turbine shall be so controlled such that the noise in the work zone shall be limited to 85 dB(A) from source. 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 compressors etc shall periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy/less noisy areas.	Necessary action/prevention measures have been taken care in design to maintain noise level within 85 dBA at source. High Noise areas are identified. Presently, being construction phase, Elevation Boards at MPH has been provided with mandatory Personnel Protective Equipment (PPE's). A complete medical check-up with audiometric test of workers & employees is being carried out prior their joining in the organization.
(vii)	Regular monitoring of ambient air ground level concentration of SO_2, NOx, $PM_{2.5}$ and PM_{10} and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limit, 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 shall be submitted to the regional office of this ministry. The data shall also be put on the website of the company.	Being complied. Regular monitoring of ground level concentration of Ambient Air for SO2, NOx, PM2.5 and PM10 and Hg is being carried out and monthly reports are being submitted to the MS, SEIAA & JSPCB Ranchi & RO JSPCB, Dumka. For selection of monitoring location and monitoring frequency in consultation with JSPCB, intimation letter also been submitted to the board. Monitoring frequencies are as below: • Ambient Air Quality twice in a week, • Water, wastewater quality & Noise once in Month and • Soil Quality once in a season (Except Monsoon). Periodic Environmental monitoring report is enclosed, Please refer **Annexure- I**. EC compliance report is uploaded on the company's website, www.adanipower.com
(viii)	Utilization of 100 % Fly ash generated shall be made from 4th year of operation. Status of implementation shall be reported to the regional office of the Ministry from time to time.	Noted. Ash utilization plan/schedule has been incorporated in the EIA report. Status of implementation will be reported to the Regional office, MoEF&CC regularly during plant operation.
(ix)	Provision shall be made for housing of the construction labour (as applicable) within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets. Mobile	Required hutment, drinking water, Mobile Toilets. Mobile STPs, Safe Drinking Water & Medical health care facilities, Medical health care facilities, Fuel for cooking and other

	STPs, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the construction of the project.	infrastructure has been arranged on temporary basis. Local manpower is preferred during Construction phase & hence, less necessity to build housing for the construction labour.
(x)	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. Advertisement in 10 Local News Papers was published in Hindi & English. Copy of News Paper cutting already submitted along with Oct'17 to March'2018 compliance report.
(xi)	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad / Municipal Corporation, urban local Body and the Local NGO, if any, from whom suggestions/representations, if any, received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	Complied. A copy of the Environment Clearance letter was provided to Panchayats, Zila Parisad and local Body. Acknowledgement already submitted along with compliance report. The clearance letter has been uploaded on the company website http://www.adanipower.com/
(xii)	The proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutants levels namely SPM, RSPM ($PM_{2.5}$ & PM_{10}), SO2, NOx (ambient levels as well as stack emissions shall be displayed at a convenient location near the main gate of the company in the public domain.	Being complied. Six monthly compliance status reports are being submitted to MoEF&CC, CPCB & JSPCB. Compliance status uploaded on Company's website. Digital display board is proposed to install at the main gate of the power plant, before COD. Manual Display Board is already provided at main gate showing information on Ambient Air Quality and waste details are displayed at main gate which is maintained and updated periodically. Environmental monitoring report is enclosed, **Please refer Annexure- I.**
(xiii)	The environmental 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 environmental clearance conditions and shall also be sent to the	Noted. Environment statement will be submitted to JSPCB, after obtaining the Consent to Operate (CTO).

	respective Regional Offices of the Minister by e-mail.	
(xiv)	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 and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests.	Six monthly compliance status reports are regularly submitted to MoEF&CC, CPCB & JSPCB. The same is sent by email also. Six monthly compliance report for the period of Oct'20 to Mar'21 submitted to your good office vide our letter no. APL/APJL/EMD/EC/MoEF/198/05/21 dated 18.05.2021. Compliance status updated on Company's website. https://www.adanipower.com
(xv)	The progress of the project shall be submitted to CEA on six monthly basis.	Report Submission to CEA is not applicable as Project is dedicated to Bangladesh Govt. and it is not connected to Indian Grid.
(xvi)	Regional Office of the MoEF&CC 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 reference during monitoring. Criteria pollutants levels including NO_x (from stack & ambient air) shall be displayed at the main gate of the power plant.	Noted. Copies of Environment Impact Assessment report (EIA) with Environment Management Plan already sent to Regional Office, Ranchi, vide our letter no. APJL/ENV/EC/SMR/175 /05/2018, dated-14.05.2018 Digital display board is proposed to install at the main gate of the power plant, before COD. Manual Display Board is already provided at main gate showing information on Ambient Air Quality and waste details are displayed at main gate which is maintained and updated periodically.
(xvii)	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.	Separate budget has been already allocated for Environmental protection measures. Fund for Environment management: Capital Cost: Rs. 2,225.68 Crores
(xviii)	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.	Financial closures has been achieved and disclosed. Construction work for Site development, Boundary wall, Site office, Store and other facilities started. Main Plant and other facilities already Started. Commissioning of the Plant is expected by May'2022. However due to current pandemic scenario of COVID 19 and

		subsequently 2nd Wave of COVID it may get delayed.
(xix)	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.	Noted. Full co-operation shall be extended all time.
Conditions of EC Amendment		
(i)	Stage-I Forest Clearance for diversion of 13.3293 ha for laying pipeline shall be submitted. As per Ministry's guidelines, a formal amendment will be issued after furnishing the Stage-I Clearance.	The copy of stage –I submitted before amendment. This condition stands deleted as per amended EC Vide No. J -13012/01/2016-I.A.I (T) dated 27.02.2020.
(ii)	In line with Ministry's OM dated 11.3.2010 in regard to Oil and Gas pipelines, in a similar manner, 10 trees to be planted for every tree cut in the non-forest area.	Noted. We have consulted Divisional Forest Officer (DFO), Godda vide our letter no. AP(J)L/FC/ENV/227/05/20 date 28.05.2020 to provide plantation scheme with demand note for proposed plantation. Compliance of Stage – I has already been submitted and verified by nodal officer, MoEFCC and also issued the Stage – II FC approval on 29.01.2021.
(iii)	There will be storage reservoirs for storing 15 MCM water to cater during lean season.	Noted and agreed. Compliance assured.
(iv)	Daily quantity (Average, minimum and maximum) of fresh water withdrawn from Ganga River near Sahebganj for the Power Plant shall be recorded and data base be preserved to ensure permissible drawl of fresh water from Ganga River. The source sustainability reports for withdrawal of water from Chir River and from the Ganga River shall be placed in the public domain by the proponent, either by uploading to the PARIVESH portal or its own website.	Noted & Agreed. Compliance assured once the project takes off. Source sustainability reports for withdrawal of water from Chir River and from the Ganga River has been uploaded and is already available on https://parivesh.nic.in/
(v)	As per the original EC, 33% greenbelt of plant area shall be developed. In case of any shortage of land, additional land shall be acquired to meet the condition.	Noted & compliance assured. Green belt development / plantation and landscaping started in the available spaces along with project construction. In addition to plant area, over 363 households and Forest Office, Godda & Mahagama, were supported with fruit bearing saplings of Mango (3311), Lemon (330) and Guava (135) to conserve biodiversity and ecological restoration. Apart

		from above, avenue plantation (outside the plant premises) being done to improve the aesthetic look and environmental conservation. Our efforts are being made to develop more greenery in & around the plant with survival rate of more than 80%.
(vi)	The conditions specified in the In-Principle (Stage-I) Forest Clearance dated 28.6.2019 shall be complied with. A compliance to these conditions shall also be submitted along with Six monthly compliance report. Further, copy of Formal (Stage-II) Approval shall be submitted as and when it is obtained.	Compliance of conditions mentioned in the In-Principle approval (Stage-I) Forest Clearance dated 28.06.2019 has been uploaded on https://parivesh.nic.in/. Compliance report of Stage – I Forest Clearance submitted along with EC compliance report for the period of Oct'19 to Mar'20. Stage II has been granted vide letter no. FP/JH/Others/32772/2018/4489 dated 29.01.2021. Copy of the same already submitted vide our previous compliance report.
(vii)	The total project area has now been reduced to 558 acres from 1255 acres. The remaining area (if acquired) shall be developed as greenbelt.	Noted. Power plant facilities have been reworked and total project area has now been optimized to 558 acres from 1255 acres.
(viii)	All the conditions prescribed in the permission granted by National Mission for Clean Ganga (NMCG), Ministry of Water Resources, River Development & Ganga Rejuvenation vide their letters dated 8.8.2018 and 16.11.2018 for withdrawal of 36 MCM of water from River Ganga during June to December, shall be complied with.	Noted and will be complied.
Additional Conditions (EC Amendment)		
(i)	The area of 7.7 acres (originally proposed 558 acres & Notified SEZ land: 550.23 acres) shall be developed with greenbelt. Demarcation of this land with co-ordinates and progress of greenbelt is to be submitted in the compliance report.	Noted and agreed. Green belt development / plantation and landscaping started in the available spaces along with project construction and efforts will be made to develop more greenery in & around the plant with survival rate of more than 80%.
(ii)	In para 5 of amended EC dated 03.09.2019, the period of '6 months' be read as '07 months'.	Noted.

ADANI POWER (JHARKHAND) LTD.

2*800 MW Godda Thermal Power Project

Village: Motia, Dist: Godda, Jharkhand

ENVIRONMENTAL MONITORING REPORT
PERIOD: Apr'21 – Jun'21

Go Green Mechanisms Pvt. Ltd.

Head Office & Lab: Dayal Estate, National Highway No. 8, Opp. APMC Market Gate – 1, Jetalpur, Ahmedabad – 382426

Contact: 7069072001/02

Email: lab@gogreenmechanisms.com

REPORT TITLE

COMPANY NAME:	**Adani Power (Jharkhand) Ltd.**
SITE LOCATION:	2*800 MW Godda Thermal Power Plant Village: Motia, Dist: Godda, Jharkhand
MONITORING PERIOD:	Apr'21 to Jun'21
REPORT DATE:	10.07.2021
ORIGINATED BY:	Environmental Monitoring and Analytical Team Go Green Mechanisms Pvt. Ltd.
REVIEWED BY:	Amit Badlani Director, Go Green Mechanisms Pvt. Ltd.
PREPARED BY:	Go Green Mechanisms Pvt. Ltd (GGMPL) Dayal Estate, Opp AMPC Market Gate No.1, Jetalpur-382426 Ahmedabad

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SECTION 1: FOREWORD

The protection of environment plays a crucial role in maintain 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 (Jharkhand) 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 fulfil statutory requirement and to be in tune with Environmental Preservation and sustainable development Adani Power (Jharkhand) Ltd., has retained M/S. Go Green Mechanisms Pvt. Ltd. As Environment Consultants and for various Environmental issues related to their Power Plant.

Environmental Quality Monitoring Report for the Month of Apr'21 to May'21 has been collected by Go Green Mechanisms pvt. Ltd.

Note: Environmental Quality Monitoring Report for the Month of Jun'21 has been collected by Envirotech East Pvt. Limited.

We are thankful to Adani Power (Jharkhand) Ltd. for the opportunity provided to be associated in this endeavour.

SECTION 2: LIST OF EQUIPMENTS

The list of Equipments used in the project is delineated in the following table.

Sr. No.	Name of Equipments	Make/Model
1	Respirable Dust Sampler	Ecotech Instruments / AAS 217BL
2	$PM_{2.5}$ Sampler	Ecotech Instruments & Eonair Technologies/AAS 127 & AQS 235
3	Gaseous Attachment with RDS	Ecotech Instruments / AAS 217BL
4	Sound Level Meter	Hemsun / HDB 2202
5	Weather Monitoring Station	Ambient Weather Station
6	Weighing Balance	Shimadzu /AUW220D
7	UV Visible Spectrophotometer	Systronics
8	Hot Air Oven	Patel Scientific Instruments
9	Filtration Assembly	Labline
10	Water Analysis Kit	Systronics
11	Bacteriological Incubator	Labline
12	Centi-micro Balance	Shimadzu /ATX224
13	Dissolved Oxygen Test Kit	Lutron
14	Autoclave	Patel Scientific Instruments
15	Laminar Air Flow	Labline
16	Muffle Furnace	Patel Scientific Instruments
17	Flame Photometer	Systronics /128
18	Digital colony counter	Labline
19	Microscope	Patel Scientific Instruments
20	Orbital Shaker	Labline
21	Centrifuge	Bio Lab
22	Simple Distillation Assembly	Labline
23	ICP-OES/AES	Thermo Fisher Scientific /iCAP 7400 SERIES
24	AAS	Thermo Fisher Scientific / AA 303
25	Ion Chromatography	Metrohm Herisau / 1.925.0020

SECTION 3: LIST OF PROJECT PERSONNEL

Sr. No.	Name	Qualification	Experience (Yrs)	Designation
1.	Amit Badlani	B.E. (Chemical) M.S.(Energy & Environmental Technology) M.S. (Pollution Control)	17 Yrs	Managing Director
2.	R.K.Pandey	B.Sc. Biology	16 Yrs	Project In-charge
3.	Payal Patel	M Sc. (Env. Sci.)	06 Yrs	Lab Manager
4.	Yash Goswami	Dip. Env. Engineer	11 Yrs	Field Operation - Manger
5.	Tantan Kumar	M Sc. (Env. Mgmt)	04 Yrs	Sr. Chemist
6.	Pooja Parekh	B.Sc. (Microbiology) & DMLT	01 Yr 06 Month	Lab Chemist
7.	Chandan Kumar	B.Sc. Chemistry	01 Yrs 08 months	Field Assistant

For Go Green Mechanisms Pvt. Ltd.

Amit Badlani
Managing Director

SECTION 4: EXECUTIVE SUMMARY

Adani Power (Jharkhand) Limited has undertaken the task of preparing EMP report for its 1600 (2x800) MW Godda Thermal Power Plant & Residential Township which is within the premises of TPP.

M/s. Go Green Mechanisms Private Limited, got the opportunity to prepare the Environmental monitoring Data on the basis of actual field monitoring with respect to Group I Parameters i.e. Air, Water, Soil, Noise & Meteorological on behalf of HTG Engineering Pvt. Ltd.

A Meteorological station was set up on the terrace of "Hostel Block" & Micrometeorological parameters like Ambient Temperature, Relative Humidity, Wind direction, Wind Speed, Rain fall & Barometric Pressure etc were recorded on hourly basis during the study period.

On the basis of wind direction pattern, the three locations of AAQM were selected. The concentration of gaseous pollutants, $PM_{2.5}$ were sampled and analysed for compliance to GSR 826(E) vide Notification Dated 16/11/2009.

Four numbers of Ground water samples, two numbers of Effluent water samples, one number of Surface water and one number of Surface water sample were collected to understand the overall water quality of the project area. The water parameters were sampled and analysed to check for compliance to the specifications of (IS 10500:2012 & I 2296:1982 Inland surface water Class C).

The noise level was monitored at 10 locations on Day & Night time basis, monthly as per IS 9989: RA 2001.

The main aim of the soil testing is to assess the soil quality of the area to define the present status of soil. It helps in the assessment of impact if any, due to the project activities and selection of suitable species of plants for green belt development at the project area as it works as an anti-pollution tools.

SECTION 5: CONCEPTS & METHODOLOGY

5.1 METHODOLOGY

In the present study the following are the standard methods used for collection, analysis & interpretation of data:

AAQM Sampling & analysis: "Indian Standards (IS 5182)", "Guidelines for the measurement of Ambient Air Pollutants, Vol-I, CPCB" & "USEPA" methods were used for Ambient Air sampling and analysis to study the present pollution load around the Proposed Project location.

Parameters of AAQM	Standard Methods	Analytical Instruments
PM_{10}	IS 5182 (P-23):2006	Weighing Balance
$PM_{2.5}$	GGMPL/SOP/AA/60	Weighing Balance
Oxides of Nitrogen(NOx)	IS 5182 (P-6):2006	Spectrophotometer
Oxides of Sulphur(SO_2)	IS 5182 (P-2):2009	Spectrophotometer
Mercury	Method IO 3.4:1999	ICP-OES (Hydride Generator)

Water Sampling & analysis: Similarly "Indian Standards (IS 3025)", "USEPA" and "APHA 23rd Edition were used for water sample collection and analysis.

Parameters of Water Samples	Standard Methods	Analytical Instruments
Taste	IS 3025 (Pt 08): RA 2006	-
Turbidity	APHA 23rd Edn 2017 2130 B	Turbidity Meter
Total Dissolve Solid	APHA 23rd Edn 2017 2540 C	Hot air Oven
Boron(B)	APHA 23rd Edn 2017 4500 B C	Spectrophotometer
Calcium(Ca)	APHA 23rd Edn 2017 3500 Ca B	-
Chloride(Cl)	IS 3025 (Pt 32): RA 2007	-
Fluoride(F)	APHA 23rd Edn 2017 4500 F D	Spectrophotometer
Residual Chlorine	APHA 23rd Edn 2017 4500 Cl B	Chlorine kit
Nitrate (NO_3)	IS 3025 (Pt 34): RA 2017	Spectrophotometer
Phenolic Compounds	IS 3025 (Pt 43): RA 2003	Spectrophotometer
Sulphate (SO_4)	APHA 23rd Edn 2017 4500 SO_4 E	Spectrophotometer
Total hardness ($CaCO_3$)	APHA 23rd Edn 2017 2340 C	-
Cyanide (CN)	APHA 23rd Edn 2017 4500 CN C ,E	Ion Chromatography
Selenium (Se)	IS 3025 (Pt 56): 2003	ICP-OES
pH	IS 3025 (Pt 11): RA 2006	pH Meter
Colour	IS 3025 (Pt 04): RA 2017	-
Odour	IS 3025 (Pt 05): RA 2006	-
Alkalinity	APHA 23rd Edn 2017 2320 B	-
Temperature	APHA 23rd Edn 2017 2550 B	Thermometer
Magnesium (Mg)	APHA 23rd Edn 2017 3500 Mg B	ICP-OES
Copper (Cu)	APHA 23rd Edn 2017 3111 B	ICP-OES

Iron (Fe)	APHA 23rd Edn 2017 3500 Fe B	ICP-OES
Manganese (Mn)	APHA 23rd Edn 2017 3111 B	ICP-OES
Mercury (Hg)	APHA 23rd Edn 2017 3112 B	ICP-OES (Hydride Generator)
Lead (Pb)	APHA 23rd Edn 2017 3111 B	ICP-OES
Arsenic (As)	APHA 23rd Edn 2017 3111 B	ICP-OES (Hydride Generator)
Cadmium (Cd)	APHA 23rd Edn 2017 3111 B	ICP-OES
Zinc (Zn)	APHA 23rd Edn 2017 3111 B	ICP-OES
Hexavalent Chromium	APHA 23rd Edn 2017 3500 Cr B	Spectrophotometer
Detergent	Annex K of IS 13428	Gas Stripping apparatus/ Spectrophotometer
Aluminum	IS 3025 (Pt 55): RA 2009	ICP-OES
E. Coli	IS 1622-1981: RA 2009	Bacteriological incubater/ Autoclave/ Laminar flow
Total Coliform	IS 1622: RA 2009	Bacteriological incubater/ Autoclave/ Laminar flow

Noise Level Monitoring: "Protocol for Ambient Level Noise Monitoring, IS 9989: RA 2001" was followed to monitor the Ambient Noise level surrounding the Project Site.

Parameters	Standard Methods	Analytical Instruments
Leq	IS 9989: RA 2001	Noise Level Meter

Weather Monitoring: "EPA-454/R-99-005, February 2000" was followed for micro-meteorological data collection result interpretation.

Parameters	Standard Methods	Analytical Instruments	Make/Model
Air Temperature	GGMPL/SOP/MP/01:2020	Digital sensor	Ambient Weather Station
Relative Humidity	GGMPL/SOP/MP/01:2020	Digital Sensor(Hygrometer)	
Wind Speed	GGMPL/SOP/MP/01:2020	3 Cup anemometer	
Wind Direction	GGMPL/SOP/MP/01:2020	Hall Effect (Wind Vane)	
Rain Fall	GGMPL/SOP/MP/01:2020	Tipping Bucket	

Soil sampling & analysis: "Indian Standard Method of Test for Soils (IS: 2720, IS: 14767 and IS: 5949)" were followed for soil sample collection, sample conditioning and analysis of physical chemical parameters. Hand boring method using spiral Auger was used for collection of soil samples.

Parameters	Standard Methods	Analytical Instruments
Magnesium	Method 3051A	ICP-OES
Calcium	IS 5949:2003	ICP-OES
Manganese	Method 3051A	ICP-OES
Boron	Method 3051A	ICP-OES
Copper	Method 3051A	ICP-OES

Sulphur	IS 14685	ICP-OES
Chloride	GGMPL/SOP/SOIL/45	ICP-OES
Zinc	Method 3051A	ICP-OES
Nitrogen	IS 14684: 2005	ICP-OES
Phosphorous	GGMPL/SOP/SOIL/44	ICP-OES
Potassium	Method 3051A	ICP-OES
Iron	Method 3051A	ICP-OES
Molybdenum	Method 3051A	ICP-OES

A brief account of the methodologies and matrices followed in the present study is given under different headings. All the methods were structured for the identification, collection and organization of environmental impacts data. The information, thus gathered, had been analyzed and presented in the form of a number of visual formats for easy interpretation and Marision making.

SECTION 6: PLAN FOR SAMPLING LOCATIONS

Site selection criteria play an important role in the initiation of "baseline data generation" as it provides an outlook on the type of environmental compliance and management to be adopted by the project proponent. The locations were selected on the basis of "joint site survey", "examination of toposheet of the project area", "secondary micro-meteorological data analysis" and "availability of resources" for ambient air quality monitoring & micro-meteorological monitoring.

A synopsis about the locations is as follows:

AAQM Locations	
Code	**Name of Location**
A1	Nr. Motia Village
A2	Nr. Mali Village
A3	Nr. Nayabad Village
Met Data Station	
Code	**Name of Location**
M1	Hostel Block
Water Samples	
Code	**Name of Location**
G/W-1	Motia Village
G/W-2	Mali Village
G/W-3	Nayabad Village
G/W-4	Patwa Village
E/W-1	STP Outlet plant
E/W-2	STP Outlet township
S/W-1	Ganga river
Noise Monitoring Locations	
Code	**Name of Location**
N1	At Motia Village
N2	At Mali Village
N3	At Nayabad Village
N4	At Patwa Village
N5	Nr. Adani Office
N6	Nr. BTG Area (U/C)
N7	Nr. CT Area (U/C)
N8	Nr. RW Reservoir (U/C)
N9	Nr. STP (In township)
N10	Nr. Temple (In township)
Soil Samples	
Code	**Name of Location**
S-1	Nr. Mali Village
S-2	Nr. Nayabad Village
S-3	Nr. Patwa Village

SECTION 7: METEOROLOGICAL DATA

Weather monitoring would help in keeping track of different parameters like temperature, humidity, rainfall, wind direction, wind speed & barometric pressure. Real time meteorological data is used to support a number of programs including public aviation, agricultural activity, disaster management etc.

In the present study we monitored the "ambient temperature, relative humidity, wind speed, wind direction, barometric pressure, rainfall etc.

Note: Environmental Quality Monitoring Report for the Month of Jun'21 has been collected by Envirotech East Pvt. Limited.

Figure 1: Weather Monitoring Station at Hostel Block

ADANI POWER (JHARKHAND) LIMITED

2 x 800 MW Ultra Super Critical Thermal Power Plant, Godda, Jharkhand

Site Specific Micro-Meteorological Data

LOCATION: APJL - Godda

Recording Time: 00:00 Hrs - 23:00 Hrs

Apr'21

Date	Temperature(°C)			Humidity (%)			Wind Speed(M/S)		Wind Direction (blowing from)	Barometric Pressure (mmhg)	Rainfall(mm
	Max	Min	Avg	Max	Min	Avg	Max	Avg		(Average)	Total
01.04.2021	36.2	22.1	28.5	82.0	13.0	44.4	6.3	2.5	W	742.0	0.0
02.04.2021	37.6	25.4	33.2	33.0	10.0	16.4	7.6	2.7	W	745.0	0.0
03.04.2021	38.0	21.6	30.0	40.0	10.0	25.6	4.8	1.2	SSE	746.5	0.0
04.04.2021	37.3	23.1	30.2	48.0	10.0	25.3	5.2	1.4	SE	746.1	0.0
05.04.2021	35.6	21.0	28.8	68.0	27.0	45.6	4.1	1.2	SE	747.6	0.0
06.04.2021	38.6	23.8	30.4	65.0	32.0	51.5	5.9	1.5	SE	749.5	0.0
07.04.2021	38.8	24.9	30.8	76.0	37.0	62.3	5.8	1.4	SE	748.9	0.0
08.04.2021	39.5	26.7	31.5	88.0	30.0	65.7	6.7	1.3	SE	747.8	0.0
09.04.2021	35.6	25.6	27.2	85.0	42.0	75.5	3.6	1.2	SE	748.9	0.0
10.04.2021	37.0	26.0	30.5	79.0	45.0	46.6	5.1	1.8	NE	748.6	0.0
11.04.2021	38.0	26.0	29.7	59.0	35.0	65.7	6.2	0.8	S	749.4	0.0
12.04.2021	38.2	28.1	34.6	42.0	15.0	25.2	5.5	1.5	SE	750.3	0.0
13.04.2021	40.2	23.8	32.6	58.0	13.0	28.8	7.9	1.5	SSE	749.5	0.0
14.04.2021	40.8	26.0	33.4	71.0	11.0	33.4	9.1	1.8	SSE	748.2	0.0
15.04.2021	37.8	24.6	31	85.0	33.0	59.3	4.2	0.8	NE	747.6	0.0
16.04.2021	38.0	25.4	31.0	91.0	38.0	67.6	4.0	0.9	SSE	747.9	0.0
17.04.2021	35.7	23.9	24.2	76.0	39.0	56.2	6.1	1.9	SE	747.4	0.0
18.04.2021	36.0	28.4	32.5	68.0	32.0	44.8	6.2	1.3	NNE	747.9	0.0
19.04.2021	38.1	25.3	31.7	74.0	14.0	36.7	13.3	2.7	S	746.9	0.0
20.04.2021	39.8	26.0	33.4	36.0	14.0	23.3	8.8	2.3	S	747.0	0.0
21.04.2021	39.1	19.7	30.2	99.0	34.0	62.1	20.3	1.7	SE	748.3	10.9
22.04.2021	31.3	23.0	26.9	89.0	53.0	72.2	6.2	1.1	SE	750.2	0.0
23.04.2021	37.5	21.6	30.1	86.0	17.0	48.5	7.8	1.7	SSE	749.5	0.0
24.04.2021	40.1	23.9	32.6	76.0	18.0	40.2	5.7	1.2	SSE	747.9	0.0
25.04.2021	41.4	25.0	33.3	71.0	20.0	41.0	4.7	1.0	SE	747.8	0.0
26.04.2021	40.1	26.6	32.7	65.0	21.0	40.8	5.0	1.1	NNE	747.6	0.0
27.04.2021	40.4	23.2	32.5	75.0	17.0	36.3	3.1	1.0	NNE	748.1	0.0
28.04.2021	41.7	26.0	33.6	77.0	17.0	46.0	5.0	1.2	SSE	748.7	0.0
29.04.2021	38.5	26.7	31.2	79.0	38.0	53.2	8.8	2.2	SE	749.1	0.0
30.04.2021	38.0	22.6	30.4	73.0	38.0	53.8	5.3	1.2	S	748.7	0.0
									total rainfall in mm		10.9
									Rainfall from 01.01.2021		13.2
									Rainfall from 01.06.2021		N/A

ADANI POWER (JHARKHAND) LIMITED

2 x 800 MW Ultra Super Critical Thermal Power Plant, Godda, Jharkhand

Site Specific Micro-Meteorological Data

LOCATION: APJL - Godda

Recording Time: 00:00 Hrs - 23:00 Hrs **May'**:-2021

Date	Temperature(°C)			Humidity (%)			Wind Speed(M/S)		Wind Direction (blowing from)	Barometric Pressure (mmhg)	Rainfall(mm
	Max	Min	Avg	Max	Min	Avg	Max	Avg		(Average)	Total
01.05.2021	34.1	24.9	29.1	66.0	42.0	54.2	4.8	1.2	NW	749.4	0.0
02.05.2021	35.6	24.4	28.9	77.0	44.0	62.3	2.2	0.6	NE	749.3	0.0
03.05.2021	35.2	22.6	25.5	86.0	44.0	75.4	13.1	2.2	SE	748.2	10.7
04.05.2021	30.1	22.3	25.8	92.0	59.0	75.6	4.7	1.1	NE	749.7	0.0
05.05.2021	32.0	21.4	25.9	97.0	58.0	81.0	13.3	1.4	SE	749.6	7.6
06.05.2021	30.0	21.8	24.1	96.0	66.0	85.5	3.9	0.9	E	750.6	0.0
07.05.2021	35.1	28.1	32.0	75.0	47.0	58.3	8.3	1.9	NNE	750.4	0.0
08.05.2021	33.2	24.6	29.4	84.0	55.0	69.2	2.9	0.9	ESE	749.6	21.1
09.05.2021	31.4	23.8	26.6	90.0	53.0	75.7	4.1	1.4	SSE	749.1	0.3
10.05.2021	31.1	23.2	24.4	95.0	63.0	90.0	4.2	1.3	S	748.4	0.0
11.05.2021	30.9	23.5	25.9	89.0	68.0	79.2	7.3	2.4	S	747.3	0.2
12.05.2021	33.1	19.9	25.1	97.0	57.0	83.2	10.6	1.8	S	746.7	31.8
13.05.2021	30.4	23.3	27.3	94.0	63.0	77.7	4.0	0.7	SE	746.5	3.0
14.05.2021	30.8	23.3	25.3	95.0	70.0	88.3	1.8	0.5	E	746.2	0.0
15.05.2021	37.6	28.6	33.4	75.0	41.0	58.5	4.6	1.4	SE	746.2	0.0
16.05.2021	40.1	27.2	32.8	84.0	42.0	63.7	3.0	0.8	SE	746.9	0.0
17.05.2021	40.2	36.0	37.8	55.0	41.0	47.1	3.7	0.9	S	747.2	0.0
18.05.2021	37.1	28.4	33.3	74.0	35.0	54.4	4.7	1.5	WNW	746.8	0.3
19.05.2021	36.4	27.0	31.6	82.0	44.0	61.8	6.6	1.3	NW	746.4	0.0
20.05.2021	35.3	24.7	28.2	94.0	52.0	76.3	12.9	1.5	NNE	747.0	2.3
21.05.2021	35.6	25.2	29.2	94.0	59.0	79.0	5.4	1.1	NNE	746.6	0.2
22.05.2021	36.5	26.4	30.9	94.0	52.0	73.4	3.8	0.8	NNE	747.4	0.0
23.05.2021	37.8	27.6	32.5	87.0	43.0	62.9	5.7	0.7	E	747.2	0.0
24.05.2021	37.9	27.8	32.5	82.0	45.0	65.0	5.0	1.1	NNE	746.3	0.0
25.05.2021	31.5	24.8	27.7	98.0	74.0	88.8	10.5	2.0	NNE	745.8	16.8
26.05.2021	30.6	25.7	28.1	99.0	72.0	83.4	8.4	2.4	NE	745.2	4.8
27.05.2021	29.2	24.6	26.8	99.0	83.4	89.7	6.6	2.5	NE	743.9	40.9
28.05.2021	26.5	26.5	29.1	94.0	81.0	84.2	7.7	2.5	SE	747.8	0.3
29.05.2021	33.9	26.7	30.1	94.0	67.0	81.4	5.3	1.7	SE	748.4	0.0
30.05.2021	34.8	26.8	29.6	95.0	62.0	81.8	4.3	1.3	SE	747.0	2.0
31.05.2021	32.7	25.6	28.8	97.0	72.0	86.0	6.4	0.9	SSE	745.6	9.9
									total rainfall in mm		152.2
									Rainfall from 01.01.2021		165.1
									Rainfall from 01.06.2021		N/A

ADANI POWER (JHARKHAND) LIMITED

2 x 800 MW Ultra Super Critical Thermal Power Plant, Godda, Jharkhand

Site Specific Micro-Meteorological Data

LOCATION: APJL - Godda

Recording Time: 00:00 Hrs - 23:00 Hrs **Jun'**21

Date	Temperature(°C)			Humidity (%)			Wind Speed(M/S)		Wind Direction (blowing from)	Barometric Pressure (mmhg)	Rainfall(mm
	Max	Min	Avg	Max	Min	Avg	Max	Avg		(Average)	Total
01.06.2021	34.9	22.8	28.8	98.0	67.0	86.7	18.6	1.1	NNE	745.3	9.4
02.06.2021	35.1	23.8	29.5	96.0	59.0	78.8	3.0	0.6	ESE	746.4	0.0
03.06.2021	37.3	27.9	32.2	93.0	52.0	72.2	5.2	0.8	SSE	747.0	0.0
04.06.2021	39.1	27.7	31.8	95.0	47.0	73.6	18.4	1.2	SE	746.6	7.9
05.06.2021	37.7	27.2	32.3	88.0	47.0	67.1	6.1	1.9	SSE	745.8	0.0
06.06.2021	36.5	28.0	32.3	83.0	51.0	67.6	7.7	2.5	S	745.0	0.0
07.06.2021	38.3	28.5	33.3	85.0	44.0	65.3	7.7	2.5	S	743.4	0.0
08.06.2021	39.7	27.5	31.2	88.0	61.0	72.5	6.6	2.0	SSE	742.9	0.0
09.06.2021	34.0	24.7	28.8	96.0	65.0	81.1	6.9	1.4	S	743.2	18.5
10.06.2021	34.5	25.4	28.3	97.0	88.0	88.8	7.3	1.0	SE	742.3	22.1
11.06.2021	33.9	25.3	28.4	98.0	74.0	86.6	7.2	0.8	SE	741.6	16.3
12.06.2021	29.0	24.7	26.3	99.0	70.0	97.2	3.5	0.7	NE	742.2	40.7
13.06.2021	32.5	26.0	28.3	99.0	74.0	89.8	5.4	0.8	NE	742.1	3.3
14.06.2021	33.6	26.6	28.4	97.0	79.0	90.0	5.3	0.8	ENE	740.5	8.6
15.06.2021	33.1	26.2	27.8	99.0	80.0	93.0	6.8	1.0	SE	739.8	18.8
16.06.2021	30.2	25.4	27.3	99.0	80.0	93.5	4.0	0.8	ENE	740.7	48.3
17.06.2021	29.1	25.2	27.0	99.0	78.0	89.7	5.9	1.1	ESE	742.1	18.2
18.06.2021	29.5	24.1	26.7	98.0	80.0	90.9	5.2	1.6	SE	743.6	19.1
19.06.2021	29.1	23.6	25.5	99.0	78.0	93.8	6.3	1.5	SE	744.6	26.1
20.06.2021	29.2	23.9	26.1	99.0	87.0	95.8	5.6	1.3	SE	744.7	32.0
21.06.2021	30.5	25.0	27.6	99.0	79.0	90.6	2.7	0.9	SSE	744.7	0.0
22.06.2021	34.8	25.2	29.5	98.0	68.0	83.8	4.5	1.5	SE	744.4	0.0
23.06.2021	34.0	27.2	29.9	95.0	66.0	82.2	4.8	1.8	SE	745.1	0.0
24.06.2021	33.7	26.8	29.6	95.0	64.0	83.4	4.8	1.4	SE	744.1	2.6
25.06.2021	33.2	25.2	28.5	99.0	72.0	89.7	11.6	1.0	ESE	743.3	15.7
26.06.2021	33.7	27.3	29.1	98.0	69.0	88.5	5.8	1.1	SE	744.9	7.4
27.06.2021	34.7	27.3	30.3	96.0	63.0	82.9	9.2	2.3	S	746.8	1.0
28.06.2021	36.0	25.8	29.6	94.0	61.0	85.2	9.0	2.0	S	745.8	4.6
29.06.2021	32.5	27.8	29.7	97.0	78.0	88.1	5.2	1.9	S	743.9	0.3
30.06.2021	33.3	27.5	29.5	96.0	75.0	86.0	6.4	1.9	S	742.4	0.0
									total rainfall in mm		320.9
									Rainfall from 01.01.2021		486.5
									Rainfall from 01.06.2021		320.9

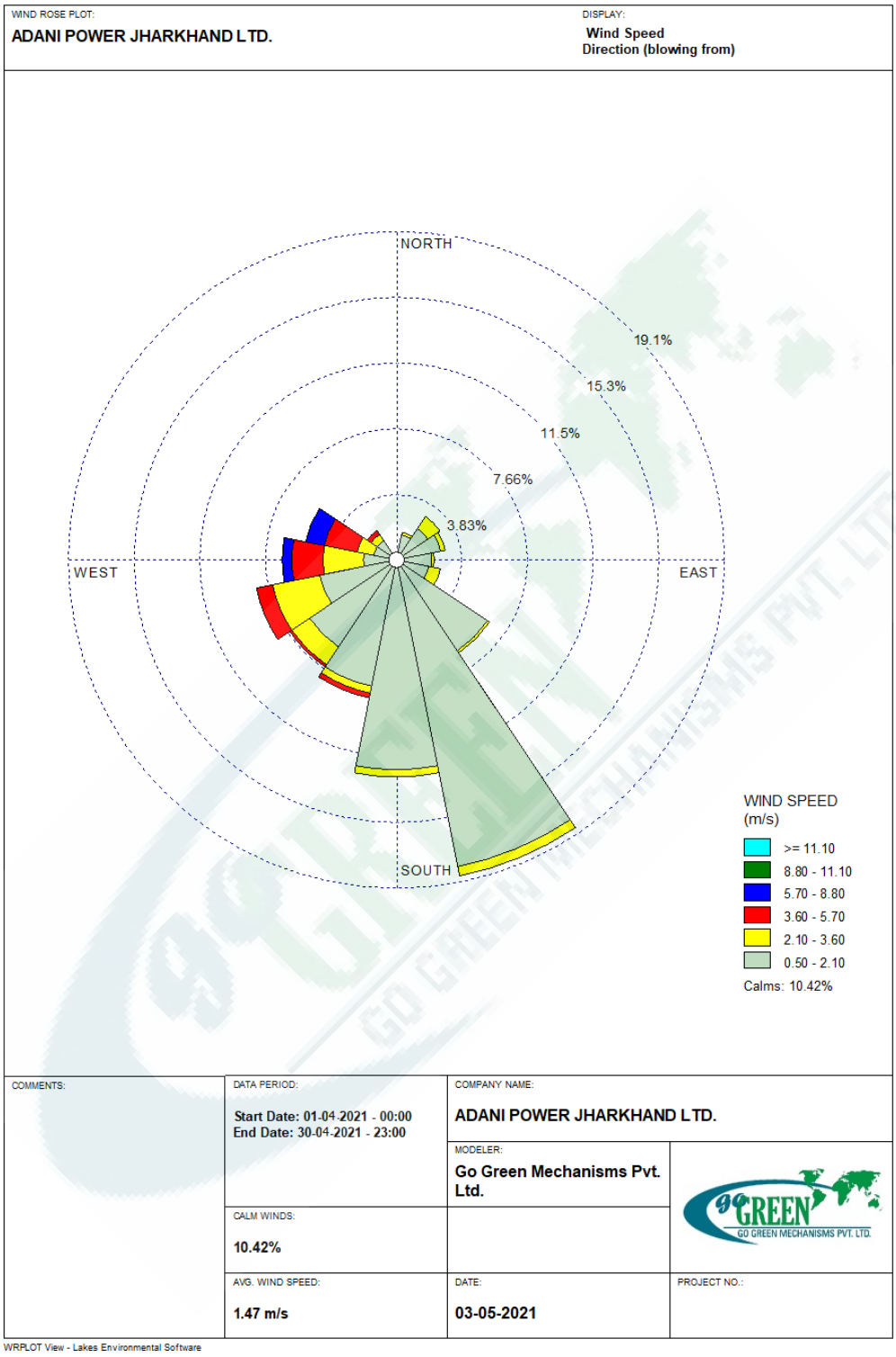


Figure 2: Windrose diagram for the month of Apr'21

It is observed from the windrose diagram for the month of Apr'21 the predominant wind direction is SSE.

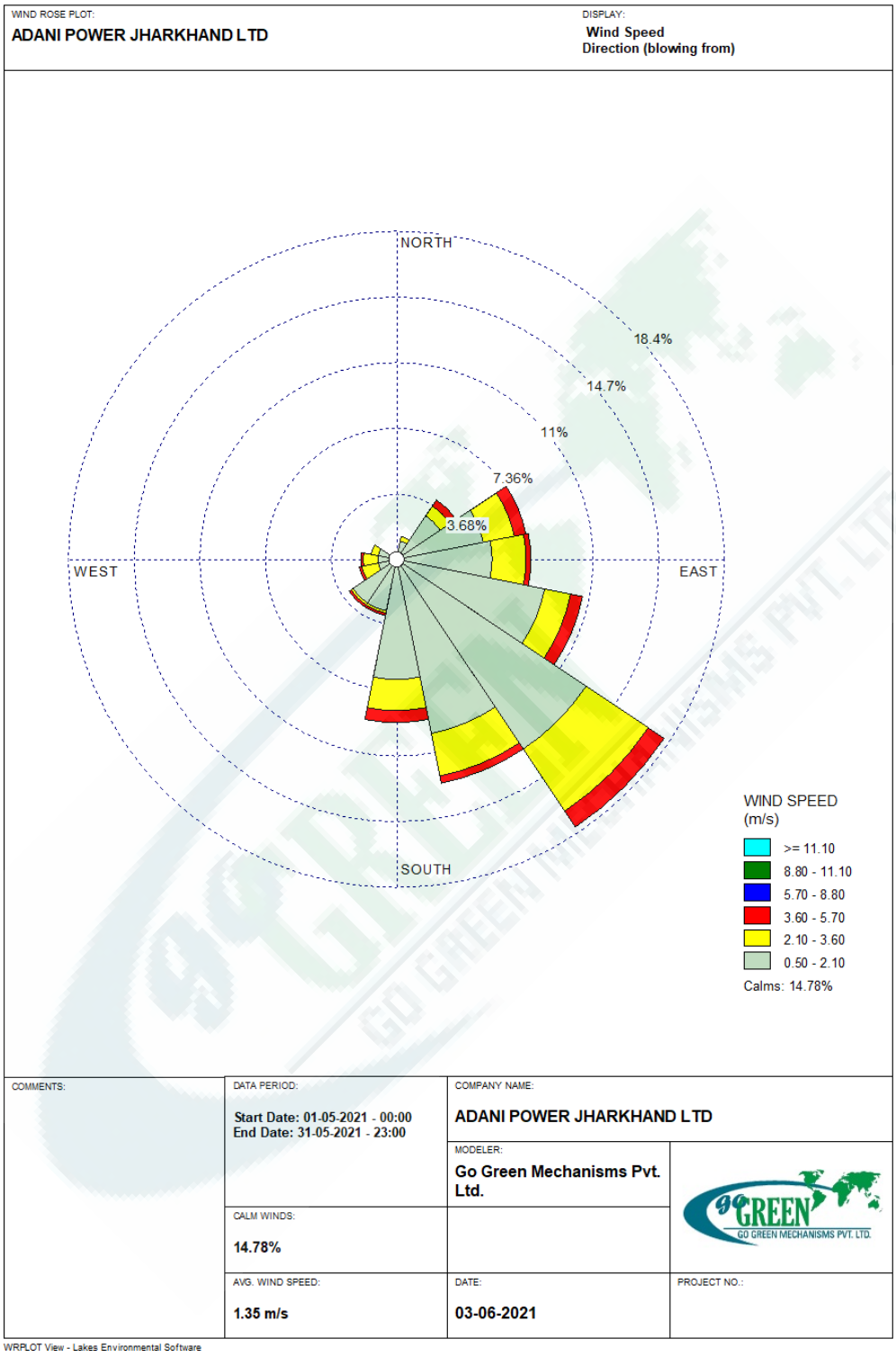


Figure 3: Windrose diagram for the month of May'21

It is observed from the windrose diagram for the month of May'21 the predominant wind direction is SE.

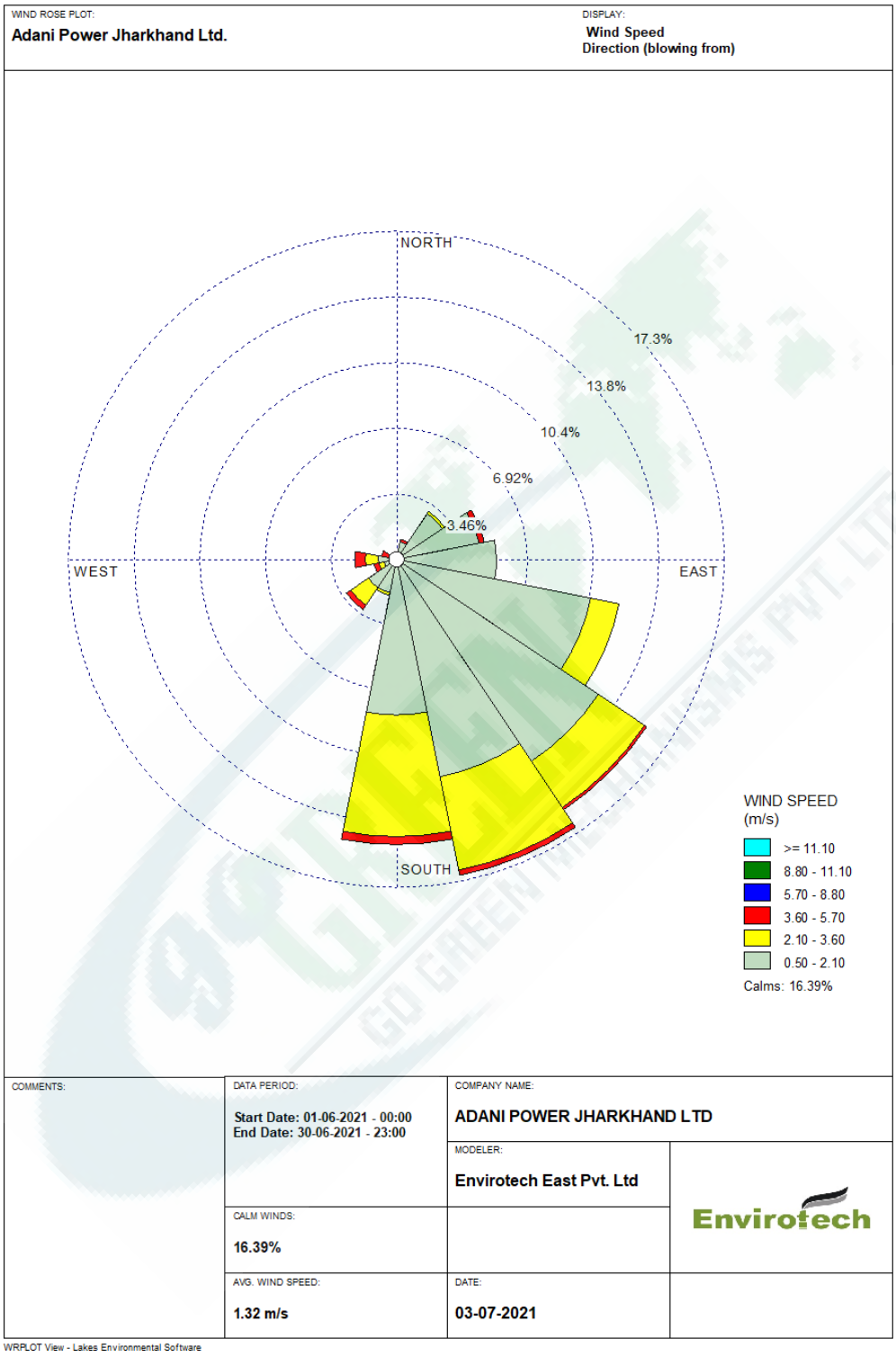


Figure 4: Windrose diagram for the month of Jun'21

It is observed from the windrose diagram for the month of Jun'21 the predominant wind direction is SSE.

SECTION 8: AMBIENT AIR MONITORING REPORT

8.1 CONCEPT & SCOPE

The Ambient Air monitoring encompasses the results and statistical evaluation of the data monitored at three different locations.

Different parameters like PM_{10}, $PM_{2.5}$, Oxides of Sulphur, Oxides of Nitrogen and Mercury are monitored for representing the ambient air quality within the study area.

8.2 FREQUENCY OF SAMPLING

The frequency of the sampling for AAQM was as follows:

PARAMETERS	FREQUENCY OF EACH LOCATION
PM10, PM2.5, Oxides of Sulphur, Oxides of Nitrogen	Twice in a week
Mercury	Once in a month

8.3 SAMPLING DURATION AS PER NAAQMs 2009

Sr. No.	Parameters	Sampling Duration (Hr.)
1	Particulate Matter (PM_{10})	24
2	Particulate Matter ($PM_{2.5}$)	24
3	Oxides of Sulphur (SO_2)	24
4	Oxides of Nitrogen (NOx)	24
5	Mercury	-

8.4 AAQM METHODOLOGY

PARAMETERS	METHODOLOGY/PRINCIPLE
Particulate Matter (PM_{10})	Air is drawn through a size-selective inlet and through a 20.3 X 25.4 cm (8 X 10 in) filter at a flow rate, which is typically 1132 L/min. Particles with aerodynamic diameter less than the cut-point of the inlet are collected, by the filter. The mass of these particles is determined by the difference in filter weights prior to and after sampling. The concentration of PM_{10} in the designated size range is calculated by dividing the weight gain of the filter by the volume of air sampled.
Particulate Matter ($PM_{2.5}$)	An electrically powered air sampler draws ambient air at a constant volumetric flow rate (16.7 lpm) maintained by a mass flow / volumetric flow controller coupled to a microprocessor into specially designed inertial particle-size separator (i.e. cyclones or impactors) where the suspended particulate matter in the $PM_{2.5}$ size ranges is separated for collection on a 47 mm polytetrafluoroethylene (PTFE) filter over a specified sampling period. Each filter is weighed before and after sample collection to determine the net gain due to the particulate matter. The mass concentration in the ambient air is computed as the total mass of collected particles in the $PM_{2.5}$ size ranges divided by the actual volume of air sampled, and is expressed in $\mu g/m^3$. The microprocessor reads averages and stores five-minute averages of ambient temperature, ambient pressure, filter temperature and volumetric flow rate.
Sulphur Dioxide (SO_2)	Sulphur dioxide from air is absorbed in a solution of potassium tetrachloromercurate (TCM). The impingers setup for the absorbance of Sulphur Dioxide from air is shown in Figure 15. A dichlorosulphitomercurate complex, which resists oxidation by the oxygen in the air, is formed. Once formed, this complex is stable to strong oxidants such as ozone and oxides of nitrogen and therefore, the absorber solution may be stored for some time prior to analysis. The complex is made to react with para-rosaniline and formaldehyde to form the intensely coloured pararosaniline methylsulphonic acid. The absorbance of the solution is measured by means of a suitable spectrophotometer.
Nitrogen Dioxide	Ambient nitrogen dioxide (NO_2) is collected by bubbling air through a solution of sodium hydroxide and sodium arsenite. The concentration of nitrite ion (NO_2) produced during sampling is determined colorimetrically by reacting the nitrite ion with phosphoric acid, sulfanilamide, and N-(1-naphthyl)-ethylenediamine dihydrochloride (NEDA) and measuring the absorbance of the highly coloured azo-dyeat 540 nm.

Figure 5: Ambient air Motoring Nr. Mali Village

Figure 6: Ambient air Monitoring Nr. Motia Village

8.5 ANALYTICAL RESULTS

Results & statistical calculations for Location- A1:

Name of Location (A1)		Nr. Motia Village			
Sr. No.	**Date of Sampling**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NOx**
Unit		$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$
GSR 826 (E)		100	60	80	80
1.	01.04.2021	70.5	34.6	15.8	19.8
2.	05.04.2021	75.4	35.5	16.4	18.3
3.	08.04.2021	64.9	29.9	12.8	16.0
4.	12.04.2021	80.1	38.7	16.5	21.2
5.	15.04.2021	84.7	39.6	17.4	20.8
6.	19.04.2021	66.9	30.8	13.7	18.7
7.	22.04.2021	67.4	31.0	14.6	20.1
8.	26.04.2021	70.2	33.4	15.0	19.7
9.	29.04.2021	68.4	32.1	14.5	20.0
10.	03.05.2021	45.4	20.7	6.7	10.2
11.	06.05.2021	65.2	29.2	10.2	13.2
12.	10.05.2021	68.4	31.7	11.3	14.7
13.	13.05.2021	60.1	26.1	11.0	13.8
14.	17.05.2021	62.7	28.4	12.4	15.2
15.	20.05.2021	56.8	24.7	9.6	12.9
16.	24.05.2021	41.6	17.8	8.2	11.7
17.	27.05.2021	28.2	13.5	BQL(QL=5)	BQL(QL=5)
18.	31.05.2021	40.1	17.4	6.4	12.0
19.	04.06.2021	52.6	22.9	8.7	12.4
20.	08.06.2021	64.1	25.4	9.4	13.7
21.	11.06.2021	28.4	12.8	BQL(QL=5)	BQL(QL=5)
22.	15.06.2021	35.4	16.8	5.8	8.6
23.	18.06.2021	23.7	13.9	BQL(QL=5)	BQL(QL=5)
24.	22.06.2021	62.1	30.4	8.1	12.1
25.	25.06.2021	42.1	21.6	6.5	12.0
26.	29.06.2021	48.6	22.5	7.7	10.7

RESULT INTERPRETATION				
No. of Observations	26	26	26	26
Min Concentration	23.7	12.8	BQL(QL=5)	BQL(QL=5)
Max Concentration	84.7	39.6	17.4	21.2
Average	56.7	26.2	11.2	15.1

Note: Environmental Quality Monitoring Report for the Month of Jun'21 has been collected by Envirotech East Pvt. Limited.

Results & statistical calculations for Location- A2:

Name of Location (A2)		Nr. Mali Village			
Sr. No.	**Date of Sampling**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NOx**
Unit		µg/m³	µg/m³	µg/m³	µg/m³
GSR 826 (E)		100	60	80	80
1.	01.04.2021	68.9	35.1	15.4	20.2
2.	05.04.2021	76.8	36.7	15.3	21.3
3.	08.04.2021	65.9	31.3	11.8	17.6
4.	12.04.2021	82.0	36.9	13.6	17.5
5.	15.04.2021	81.0	39.4	14.0	19.6
6.	19.04.2021	65.6	30.9	14.8	18.6
7.	22.04.2021	65.7	30.4	16.8	21.0
8.	26.04.2021	69.5	33.3	13.9	18.8
9.	29.04.2021	67.9	34.3	13.8	19.9
10.	03.05.2021	50.3	21.6	7.1	12.1
11.	06.05.2021	63.2	28.3	9.3	13.7
12.	10.05.2021	64.2	30.1	11.2	15.0
13.	13.05.2021	59.7	27.9	10.9	14.3
14.	17.05.2021	60.2	29.3	8.4	14.6
15.	20.05.2021	55.1	26.6	10.0	13.6
16.	24.05.2021	42.7	18.1	8.8	12.2
17.	27.05.2021	22.1	12.3	BQL(QL=5)	BQL(QL=5)
18.	31.05.2021	46.8	18.4	7.4	11.1
19.	04.06.2021	49.8	20.7	8.0	11.9
20.	08.06.2021	61.8	26.4	9.0	13.5
21.	11.06.2021	25.5	14.9	BQL(QL=5)	BQL(QL=5)
22.	15.06.2021	40.7	15.7	5.4	8.9
23.	18.06.2021	29.4	12.9	BQL(QL=5)	BQL(QL=5)
24.	22.06.2021	58.4	29.5	7.4	10.4
25.	25.06.2021	38.7	19.7	6.9	11.7
26.	29.06.2021	51.7	21.9	8.3	13.6

RESULT INTERPRETATION				
No. of Observations	26	26	26	26
Min Concentration	22.1	12.3	BQL(QL=5)	BQL(QL=5)
Max Concentration	82.0	39.4	16.8	21.3
Average	56.3	26.3	10.8	15.3

Note: Environmental Quality Monitoring Report for the Month of Jun'21 has been collected by Envirotech East Pvt. Limited.

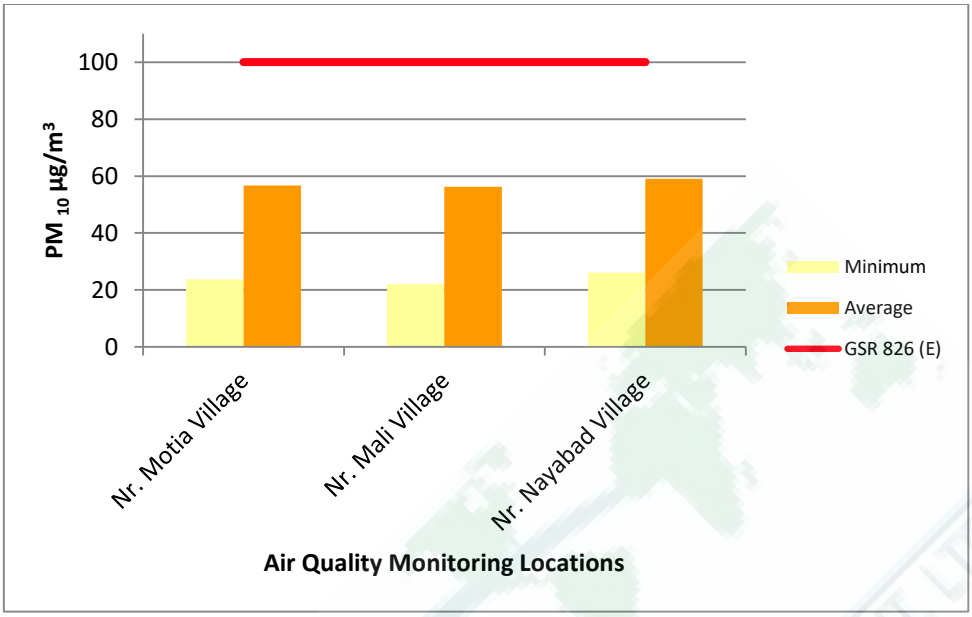
Results & statistical calculations for Location- A3:

Name of Location (A3)		Nr. Nayabad Village			
Sr. No.	**Date of Sampling**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NOx**
Unit		µg/m³	µg/m³	µg/m³	µg/m³
GSR 826 (E)		100	60	80	80
1.	01.04.2021	71.4	37.8	15.1	21.7
2.	05.04.2021	78.4	38.3	16.2	22.0
3.	08.04.2021	68.5	30.7	13.5	16.7
4.	12.04.2021	81.7	39.8	17.1	22.1
5.	15.04.2021	84.5	40.2	17.8	21.5
6.	19.04.2021	71.5	34.5	13.0	18.1
7.	22.04.2021	70.1	33.1	15.2	21.1
8.	26.04.2021	71.3	36.0	15.5	20.3
9.	29.04.2021	69.7	35.2	14.2	18.9
10.	03.05.2021	46.9	22.2	7.0	11.6
11.	06.05.2021	67.2	30.8	11.4	14.2
12.	10.05.2021	70.1	32.2	11.9	14.8
13.	13.05.2021	62.4	28.8	10.8	14.5
14.	17.05.2021	67.8	29.7	9.1	15.3
15.	20.05.2021	59.1	26.4	10.4	13.9
16.	24.05.2021	44.4	19.7	8.7	11.5
17.	27.05.2021	26.1	17.1	BQL(QL=5)	BQL(QL=5)
18.	31.05.2021	43.7	19.4	6.9	12.7
19.	04.06.2021	57.8	25.1	7.6	11.8
20.	08.06.2021	66.7	29.7	8.4	13.4
21.	11.06.2021	30.1	15.9	BQL(QL=5)	BQL(QL=5)
22.	15.06.2021	36.7	17.4	5.5	8.8
23.	18.06.2021	32.3	13.3	BQL(QL=5)	BQL(QL=5)
24.	22.06.2021	57.9	27.7	8.2	12.6
25.	25.06.2021	45.1	21.4	6.6	10.8
26.	29.06.2021	54.6	24.7	7.5	12.7

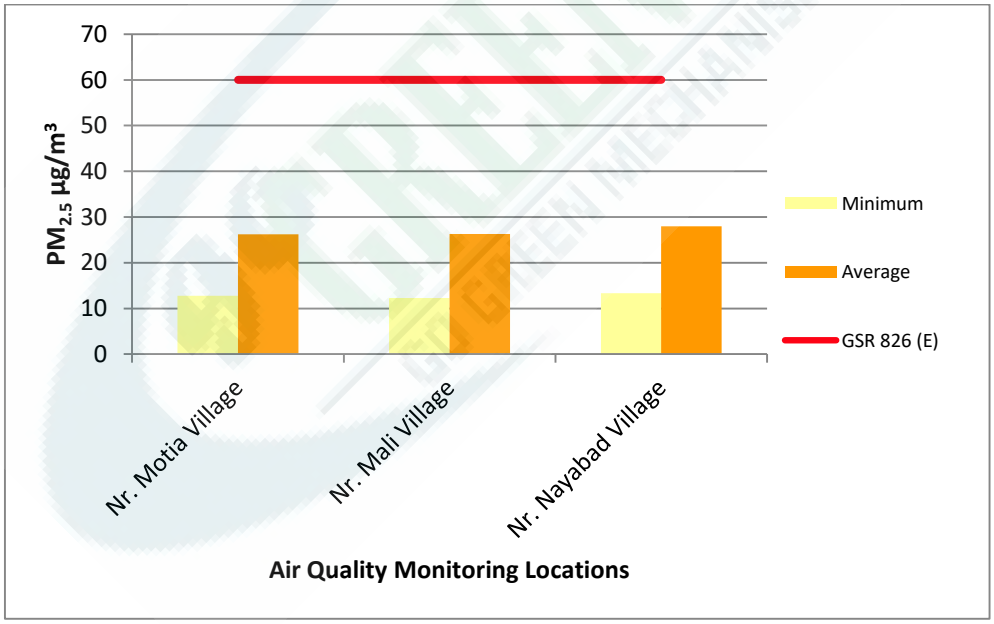
RESULT INTERPRETATION				
No. of Observations	26	26	26	26
Min Concentration	26.1	13.3	BQL(QL=5)	BQL(QL=5)
Max Concentration	84.5	40.2	17.8	22.1
Average	59.1	28.0	11.2	15.7

Note: Environmental Quality Monitoring Report for the Month of Jun'21 has been collected by Envirotech East Pvt. Limited.

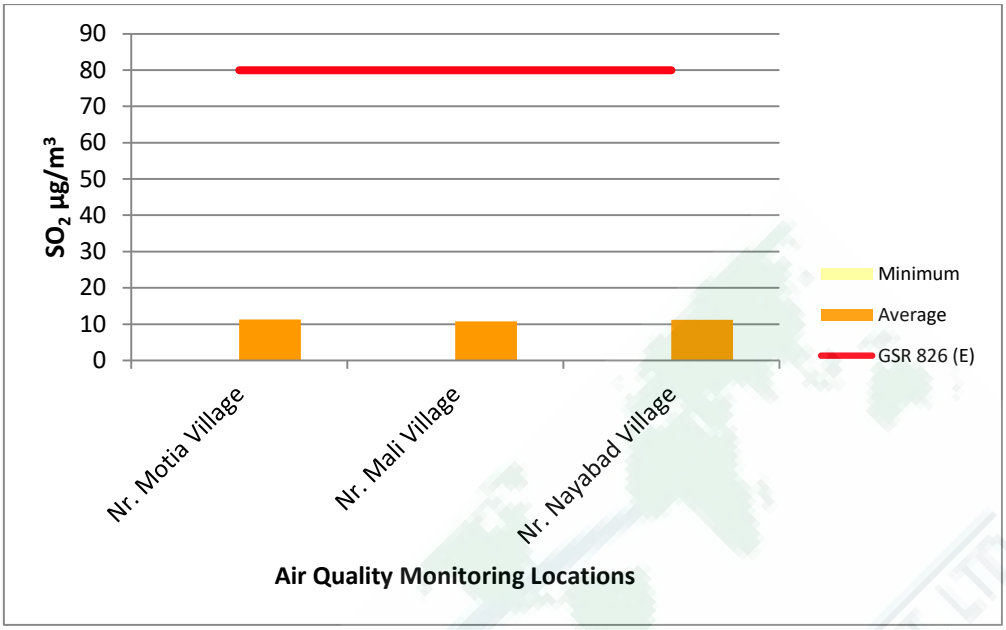
8.6 GRAPHICAL REPRESENTATION OF THE RESULTS



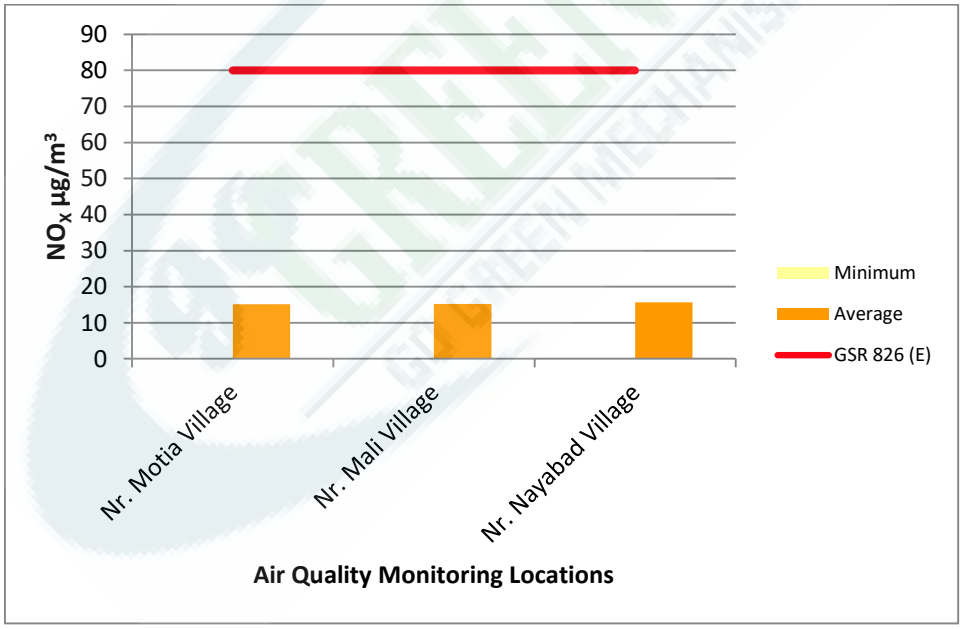
Graph 1: Particulate Matter (PM_{10})



Graph 2: Particulate Matter ($PM_{2.5}$)



Graph 3: Sulphur Dioxide (SO_2)



Graph 4: Oxides of Nitrogen (NO_x)

8.7 EXECUTIVE SUMMARY OF AAQM RESULTS

Particulate Matter (PM_{10})				
Site	**Minimum**	**Maximum**	**Average**	**GSR 826 (E)**
Nr. Motia Village	23.7	84.7	56.7	100
Nr. Mali Village	22.1	82.0	56.3	100
Nr. Nayabad Village	26.1	84.5	59.1	100

Particulate Matter ($PM_{2.5}$)				
Site	**Minimum**	**Maximum**	**Average**	**GSR 826 (E)**
Nr. Motia Village	12.8	39.6	26.2	60
Nr. Mali Village	12.3	39.4	26.3	60
Nr. Nayabad Village	13.3	40.2	28.0	60

Sulphur Dioxide (SO_2)				
Site	**Minimum**	**Maximum**	**Average**	**GSR 826 (E)**
Nr. Motia Village	BQL(QL=5)	17.4	11.2	80
Nr. Mali Village	BQL(QL=5)	16.8	10.8	80
Nr. Nayabad Village	BQL(QL=5)	17.8	11.2	80

Oxides of Nitrogen (NO_x)				
Site	**Minimum**	**Maximum**	**Average**	**GSR 826 (E)**
Nr. Motia Village	BQL(QL=5)	21.2	15.1	80
Nr. Mali Village	BQL(QL=5)	21.3	15.3	80
Nr. Nayabad Village	BQL(QL=5)	22.1	15.7	80

From all the above graphical representation it is clearly interpreted that all the values of PM_{10}, $PM_{2.5}$, SO_2 and NO_X were lower than the prescribed limits for all the stated locations.

8.8 ANALYTICAL RESULTS OF MERCURY

In this study, we also monitored some other critical pollutants like Mercury to assess the existing levels of air pollutants as well as the regional background concentration of the cluster area.
Beside these, some Heavy metal concentration in the ambient air were also monitored in and around the project area. The following tabulated pollutants were monitored once in a month.

Location	Sampling Month	Mercury (Hg)
Unit		µg/m^3
Limits as per GSR 826 Standard		NS
Nr. Motia Village	Apr'21	BQL(QL=0.02)
	May'21	BQL(QL=0.02)
	Jun'21	BQL(QL=0.02)
Nr. Mali Village	Apr'21	BQL(QL=0.02)
	May'21	BQL(QL=0.02)
	Jun'21	BQL(QL=0.02)
Nr. Nayabad Village	Apr'21	BQL(QL=0.02)
	May'21	BQL(QL=0.02)
	Jun'21	BQL(QL=0.02)

Note: NS= Not Specified

Note: Environmental Quality Monitoring Report for the Month of Jun'21 has been collected by Envirotech East Pvt. Limited.

SECTION 9: WATER ANALYSIS REPORT

9.1 CONCEPT & SCOPE

Water quality of the project area plays an important role on the socio economy of the Project. The higher concentrations of the water pollutants have serious impacts on the environment. Hence, it becomes important to assess the water quality periodically in the project vicinity.

Thus to assess the water quality of the project area, 04 locations were selected for Ground water sampling, 02 locations were selected for Effluent water sampling and 01 location was selected for surface water sampling.

The quality of Ground water samples were compared with respect to IS 3025/APHA specification, the concentration of the target analytes are within the prescribed limits.

Bacterial examination was also carried out to find out the E-Coli & Total Coliform contamination in water sources.

Note: Environmental Quality Monitoring Report for the Month of Jun'21 has been collected by Envirotech East Pvt. Limited.

9.2 METHODOLOGY

PARAMETER	PRINCIPLE OF METHEDOLOGY
PH	Measurement of pH is one of the most important and frequently used test in water chemistry. Practically every phase of water supply and wastewater treatment, e.g., acid-base neutralization, Water softening, precipitation, coagulation, disinfection and corrosion control, is pH dependent. pH is used in alkalinity and carbon dioxide measurements and many other acid-base equilibria. At a given temperature the intensity of the acid or basic character of a solution is indicated by pH or hydrogen ion activity. Alkalinity and acidity are the acid and base neutralizing capacities of a water and usually expressed in mole per liter, needed to change the pH value of a 1-L sample by 1 unit. pH as defined by Sorenson is –log $[H^+]$; it is the "intensity" factor of acidity
Turbidity	The method is based on a comparison of the intensity of light scattered by a standard reference suspension under the same condition. Higher the intensity of scattered light, the higher the turbidity of particular sample. Formazin polymer is used as the primary standard reference suspension. The turbidity of a specify concentration of formalin suspension is defined as 4000 NTU.
Chloride	In a neutral or slightly alkaline solution, potassium chromate can indicate the endpoint of the silver nitrate titration of chloride. Silver chloride is precipitated quantitatively before red silver chromate is formed.
Fluoride	The SPANDS colorimetric method is based on the reaction between fluoride and a zirconium-dye lake. Fluoride reacts with the dye lake, dissociating a portion of it into a colorless complex anion (ZrF_6^{-2}) and the dye. As the amount of fluoride increase, the color produced becomes progressively lighter. The reaction rate between fluoride and zirconium ions is influenced greatly by the acidity of the reaction mixture. If the proportion of acid in the reagent is increased, the reaction can be made almost instantaneous. Under such condition, however, the effect of various ions differs from that in the conventional alizarin methods. The selection of dye for this rapid fluoride method is governed largely by the resulting tolerance to these ions.
Sulphate	Sulphate ion (SO_4^{2-}) is precipitated in an acetic acid medium with barium chloride ($BaCl_2$) so as to form barium sulphate ($BaSO_4$) crystals of uniform size. Light absorbance of the $BaSO_4$ suspension is measured by a photometer and the SO_4^{2-} concentration is determined by comparison of the reading with a standard curve SO_4^{2-}. The absorbance of the barium sulphate formed is measured by a spectrophotometer at 450 nm.
Cd, Cu, As, Pb, Hg, Zn, Mn	Atomic absorption spectroscopy is based on absorption by ground state atoms of an element present in the sample which is atomized in the flame or graphic furnace. Depending on absorption of selected wavelength of the element the concentration is estimated. The technique provides valuable information on concentration of required elements present in the sample. Concentration are in ppm or ppb levels depending on source of sample excitation.
Iron	Iron is brought into solution, reduced to the ferrous state by boiling with acid and hydroxylamine and treated with 1,10-phenanthroline at pH 3.2 to 3.3 Three molecules of phenanthroline chelate each atom of ferrous iron to form an orange-red complex. The colored solution obeys beer's law; its intensity is independent of pH from 3 to 9. A pH between 2.9 and 3.5 insures rapid color development in the presence of an excess of phenanthroline. Color standards are stable for at least 6 months.

Hexavalent Chromium (As Cr^{+6})	This procedure measures only hexavalent chromium, Cr^{+6}. For total chromium, Determination, acid-digest the sample and follow with a suitable instrumental analysis technique. The hexavalent chromium is determined calorimetrically by reaction with diphenylcarbazide in acid solution. A red-violet colored complex of unknown composition is produced which is measured at 540 nm.
Calcium (As Ca)	When EDTA is added to water containing both calcium and magnesium it combines first with the calcium. Calcium can be determined directly with EDTA, when the pH is made sufficiently high that the magnesium is largely precipitated as the hydroxide and an indicator is used that combines with calcium only. Several indicators give a Colour change when all of the calcium has been complexed by the EDTA at a pH of 12 to 13.
Total Hardness (As $CaCO_3$)	This method depends on ability of EDTA or its disodium salt to form stable complexes with calcium and magnesium ions. When the dye Eriochrome black T (EBT) is added to a solution containing calcium and magnesium ions at pH 10.0 a wine red complex is formed. This solution is titrated with standard solution of disodium salt of EDTA, which extracts calcium and magnesium from the dye complex and the dye is changed back to its original blue Colour. Eriochrome black T is used to indicate the end-point for the titration of calcium and magnesium together.
Residual Chloride	Chlorine will liberate free iodine from potassium iodide (KI) solution at pH 8 or less. The liberated iodine is titrated with a standard solution of sodium thiosulfate ($Na_2S_2O_3$) with starch as the indicator. Titrate at pH 3 to 4 because the reaction is not stoichiometric at neutral pH due to partial oxidation of thiosulfate to sulfate.
Boron (As B)	In the presence of boron, a solution of carmine or carminic acid in concentrated sulphuric acid changes from a bright red to a bluish red or blue, Depending on the concentration of boron present.
Total Dissolved Solids	A well-mixed sample is filtered through a standard filter and the filtrate is evaporated to dryness in a weighed dish and dried to constant weight at 180°C. The increase in dish weight represents the total dissolved solids.
Nitrate	Two moles of nitrate nitrogen react with one mole of chromotropic acid to form a yellow reaction product having maximum absorbance at 410 nm.
Alkalinity (As $CaCO_3$)	Hydroxyl ions present in a sample as a result of dissociation or hydrolysis of solutes react with addition of standard acid. Alkalinity thus depends on the end point pH used. For method of determining inflection points from titration curves and the rationale for titrating to fixed pH endpoints.

Figure 7: Water Sampling Motia Village, Hand pump

Figure 8: Water Sampling Mali Village, Hand pump

Figure 9: Water Sampling Nayabad Village, Hand pump

Figure 10: Water Sampling Patwa Village Hand pump

Figure 11: Water Sampling at STP Outlet plant

Figure 12: Water Sampling at STP Outlet township

9.3 ANALYTICAL RESULTS

Date of Sampling: 12.04.2021

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Motia Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.34	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	360.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	168.7	200	600
5.	Alkalinity as $CaCO_3$	mg/L	80.0	200	600
6.	Calcium as Ca	mg/L	45.8	75	200
7.	Chloride	mg/L	31.7	250	1000
8.	Sulphate	mg/L	30.1	200	400
9.	Nitrate	mg/L	5.7	45	No Relaxation
10.	Iron	mg/L	0.19	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	13.2	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	^{0}C	33.0	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 12.04.2021

Sr. No.	Parameter	Unit	Location Mali Village	As Per IS 10500:2012 Acceptable Limit	Permissible Limit
1.	pH @ 25 °C	...	7.35	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 °C	mg/L	310.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	171.7	200	600
5.	Alkalinity as $CaCO_3$	mg/L	84.0	200	600
6.	Calcium as Ca	mg/L	45.5	75	200
7.	Chloride	mg/L	25.4	250	1000
8.	Sulphate	mg/L	42.3	200	400
9.	Nitrate	mg/L	5.0	45	No Relaxation
10.	Iron	mg/L	0.18	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	14.1	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	32.7	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 12.04.2021

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Nayabad Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.30	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	320.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	177.0	200	600
5.	Alkalinity as $CaCO_3$	mg/L	75.4	200	600
6.	Calcium as Ca	mg/L	45.5	75	200
7.	Chloride	mg/L	30.2	250	1000
8.	Sulphate	mg/L	22.3	200	400
9.	Nitrate	mg/L	5.1	45	No Relaxation
10.	Iron	mg/L	0.21	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	15.4	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	31.6	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 12.04.2021

Sr. No.	Parameter	Unit	Location Patwa Village	As Per IS 10500:2012 Acceptable Limit	As Per IS 10500:2012 Permissible Limit
1.	pH @ 25 °C	...	7.12	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	341.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	162.8	200	600
5.	Alkalinity as $CaCO_3$	mg/L	95.0	200	600
6.	Calcium as Ca	mg/L	45.5	75	200
7.	Chloride	mg/L	31.8	250	1000
8.	Sulphate	mg/L	40.1	200	400
9.	Nitrate	mg/L	6.0	45	No Relaxation
10.	Iron	mg/L	0.20	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	12	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	32.2	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 12.04.2021

Sr. No.	Parameter	Unit	Location STP Outlet (Plant)
1.	pH at 25 °C	--	7.80
2.	Colour	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	42.0
4.	Total Dissolved Solids	mg/L	495.0
5.	BOD at 27°C – 3 Days	mg/L	20.2
6.	Chemical Oxygen Demand	mg/L	80.1
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	60.3
9.	Sulphate as SO_4	mg/L	140.2
10.	Ammonical Nitrogen as NH_3	mg/L	3.5
11.	Total Kjheldal Nitrogen as TKN	mg/L	7.0
12.	Dissolved Phosphate	mg/L	1.3
13.	Aluminum (Al)	mg/L	BQL(QL=0.1)
14.	Arsenic (As)	mg/L	BQL(QL=0.02)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.01)
17.	Copper (Cu)	mg/L	BQL(QL=0.1)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.1)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 12.04.2021

Sr. No.	Parameter	Unit	Location STP Outlet (Township)
1.	pH at 25 °C	--	7.70
2.	Colour	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	35.0
4.	Total Dissolved Solids	mg/L	294.0
5.	BOD at 27°C – 3 Days	mg/L	10.1
6.	Chemical Oxygen Demand	mg/L	31.0
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	32.2
9.	Sulphate as SO_4	mg/L	134.2
10.	Ammonical Nitrogen as NH_3	mg/L	3
11.	Total Kjheldal Nitrogen as TKN	mg/L	6.5
12.	Dissolved Phosphate	mg/L	1.3
13.	Aluminum (Al)	mg/L	BQL(QL=0.1)
14.	Arsenic (As)	mg/L	BQL(QL=0.02)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.01)
17.	Copper (Cu)	mg/L	BQL(QL=0.1)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.1)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 13.04.2021

Sr. No.	Parameter	Unit	Location Ganga river
1.	pH @ 25 °C	...	7.31
2.	Turbidity	NTU	2.2
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	280
4.	Total Suspended Solids	mg/L	63
5.	Dissolved Oxygen	mg/L	7.5
6.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)
7.	Chloride	mg/L	20.3
8.	Sulphate	mg/L	41.3
9.	Nitrate	mg/L	5
10.	Fluoride	mg/L	0.47
11.	BOD at 27°C – 3 Days	mg/L	6
12.	Chemical Oxygen Demand	mg/L	23.8
13.	Residual Chlorine	mg/L	BQL(QL=0.05)
14.	Colour	Hazen	BQL(QL=1)
15.	Odour	...	Agreeable
16.	Temperature°C	°C	32.5
17.	Taste	...	Agreeable
18.	Chromium	mg/L	BQL(QL=0.02)
19.	Iron	mg/L	0.16
20.	Copper	mg/L	BQL(QL=0.02)
21.	Zinc	mg/L	BQL(QL=0.02)
22.	Cadmium	mg/L	BQL(QL=0.002)
23.	Lead	mg/L	BQL(QL=0.005)
24.	Arsenic	mg/L	BQL(QL=0.005)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 03.05.2021

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Motia Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 °C	...	7.3	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	375.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	166.6	200	600
5.	Alkalinity as $CaCO_3$	mg/L	86.0	200	600
6.	Calcium as Ca	mg/L	46.1	75	200
7.	Chloride	mg/L	32.4	250	1000
8.	Sulphate	mg/L	29.7	200	400
9.	Nitrate	mg/L	5.2	45	No Relaxation
10.	Iron	mg/L	0.2	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	12.5	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	31.5	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 03.05.2021

Sr. No.	Parameter	Unit	location	As Per IS 10500:2012	
			Mali Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 °C	...	7.2	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	336.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	175.8	200	600
5.	Alkalinity as $CaCO_3$	mg/L	90.0	200	600
6.	Calcium as Ca	mg/L	47.8	75	200
7.	Chloride	mg/L	27.1	250	1000
8.	Sulphate	mg/L	43.6	200	400
9.	Nitrate	mg/L	5.4	45	No Relaxation
10.	Iron	mg/L	0.21	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	13.7	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	32.0	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 03.05.2021

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Nayabad Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 °C	...	7.28	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	340.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	181.6	200	600
5.	Alkalinity as $CaCO_3$	mg/L	80.1	200	600
6.	Calcium as Ca	mg/L	42.4	75	200
7.	Chloride	mg/L	33.1	250	1000
8.	Sulphate	mg/L	25.5	200	400
9.	Nitrate	mg/L	5.4	45	No Relaxation
10.	Iron	mg/L	0.22	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	18.4	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	32.1	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 03.05.2021

Sr. No.	Parameter	Unit	Location	As Per IS 10500:2012	
			Patwa Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 °C	...	7.2	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	325.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	163.8	200	600
5.	Alkalinity as $CaCO_3$	mg/L	102.0	200	600
6.	Calcium as Ca	mg/L	43.5	75	200
7.	Chloride	mg/L	32.4	250	1000
8.	Sulphate	mg/L	42.3	200	400
9.	Nitrate	mg/L	5.5	45	No Relaxation
10.	Iron	mg/L	0.22	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	13.4	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	31.4	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 03.05.2021

Sr. No.	Parameter	Unit	Location STP Outlet (Plant)
1.	pH at 25 °C	--	7.70
2.	Colour	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	40.0
4.	Total Dissolved Solids	mg/L	505.0
5.	BOD at 27°C – 3 Days	mg/L	19.7
6.	Chemical Oxygen Demand	mg/L	78.8
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	56.6
9.	Sulphate as SO_4	mg/L	145.8
10.	Ammonical Nitrogen as NH_3	mg/L	3.6
11.	Total Kjheldal Nitrogen as TKN	mg/L	7.1
12.	Dissolved Phosphate	mg/L	1.8
13.	Aluminum (Al)	mg/L	BQL(QL=0.1)
14.	Arsenic (As)	mg/L	BQL(QL=0.02)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.01)
17.	Copper (Cu)	mg/L	BQL(QL=0.1)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.1)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 03.05.2021

Sr. No.	Parameter	Unit	Location STP Outlet (Township)
1.	pH at 25 °C	--	7.60
2.	Colour	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	31.0
4.	Total Dissolved Solids	mg/L	310.0
5.	BOD at 27°C – 3 Days	mg/L	9.5
6.	Chemical Oxygen Demand	mg/L	29.8
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	33.1
9.	Sulphate as SO_4	mg/L	130.4
10.	Ammonical Nitrogen as NH_3	mg/L	2.7
11.	Total Kjheldal Nitrogen as TKN	mg/L	6.8
12.	Dissolved Phosphate	mg/L	1.1
13.	Aluminum (Al)	mg/L	BQL(QL=0.1)
14.	Arsenic (As)	mg/L	BQL(QL=0.02)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.01)
17.	Copper (Cu)	mg/L	BQL(QL=0.1)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.1)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 04.05.2021

Sr. No.	Parameter	Unit	Location Ganga river
1.	pH @ 25 °C	...	7.27
2.	Turbidity	NTU	1.8
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	261
4.	Total Suspended Solids	mg/L	55
5.	Dissolved Oxygen	mg/L	7.0
6.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)
7.	Chloride	mg/L	19.1
8.	Sulphate	mg/L	38.7
9.	Nitrate	mg/L	5.1
10.	Fluoride	mg/L	0.44
11.	BOD at 27°C – 3 Days	mg/L	5.8
12.	Chemical Oxygen Demand	mg/L	24.8
13.	Residual Chlorine	mg/L	BQL(QL=0.05)
14.	Colour	Hazen	BQL(QL=1)
15.	Odour	...	Agreeable
16.	Temperature°C	°C	31.6
17.	Taste	...	Agreeable
18.	Chromium	mg/L	BQL(QL=0.02)
19.	Iron	mg/L	0.17
20.	Copper	mg/L	BQL(QL=0.02)
21.	Zinc	mg/L	BQL(QL=0.02)
22.	Cadmium	mg/L	BQL(QL=0.002)
23.	Lead	mg/L	BQL(QL=0.005)
24.	Arsenic	mg/L	BQL(QL=0.005)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 04.06.2021

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Motia Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 °C	...	7.4	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	403.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	180.2	200	600
5.	Alkalinity as $CaCO_3$	mg/L	74.0	200	600
6.	Calcium as Ca	mg/L	50.1	75	200
7.	Chloride	mg/L	36.4	250	1000
8.	Sulphate	mg/L	30.7	200	400
9.	Nitrate	mg/L	5.0	45	No Relaxation
10.	Iron	mg/L	0.19	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	13.4	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	mg/L	32.4	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of Jun'21 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 04.06.2021

Sr. No.	Parameter	Unit	Location	As Per IS 10500:2012	
			Mali Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 °C	...	7.3	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	310.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	152.0	200	600
5.	Alkalinity as $CaCO_3$	mg/L	83.0	200	600
6.	Calcium as Ca	mg/L	44.9	75	200
7.	Chloride	mg/L	24.9	250	1000
8.	Sulphate	mg/L	39.8	200	400
9.	Nitrate	mg/L	5.1	45	No Relaxation
10.	Iron	mg/L	0.19	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	9.7	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	31.4	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of Jun21 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 04.06.2021

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Nayabad Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 °C	...	7.15	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	315.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	167.6	200	600
5.	Alkalinity as $CaCO_3$	mg/L	76.9	200	600
6.	Calcium as Ca	mg/L	40.9	75	200
7.	Chloride	mg/L	28.9	250	1000
8.	Sulphate	mg/L	23.9	200	400
9.	Nitrate	mg/L	6.0	45	No Relaxation
10.	Iron	mg/L	0.21	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	15.9	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	31.6	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of Jun'21 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 04.06.2021

Sr. No.	Parameter	Unit	Location	As Per IS 10500:2012	
			Patwa Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 °C	...	7.25	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	295.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	147.7	200	600
5.	Alkalinity as $CaCO_3$	mg/L	93.0	200	600
6.	Calcium as Ca	mg/L	39.7	75	200
7.	Chloride	mg/L	30.4	250	1000
8.	Sulphate	mg/L	40.3	200	400
9.	Nitrate	mg/L	4.8	45	No Relaxation
10.	Iron	mg/L	0.18	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	11.8	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	32.1	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of Jun'21 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 04.06.2021

Sr. No.	Parameter	Unit	Location STP Outlet (Plant)
1.	pH at 25 °C	--	6.90
2.	Colour	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	45.0
4.	Total Dissolved Solids	mg/L	485.0
5.	BOD at 27°C – 3 Days	mg/L	17.8
6.	Chemical Oxygen Demand	mg/L	72.4
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	54.7
9.	Sulphate as SO_4	mg/L	139.7
10.	Ammonical Nitrogen as NH_3	mg/L	3.2
11.	Total Kjheldal Nitrogen as TKN	mg/L	6.9
12.	Dissolved Phosphate	mg/L	1.5
13.	Aluminum (Al)	mg/L	BQL(QL=0.1)
14.	Arsenic (As)	mg/L	BQL(QL=0.02)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.01)
17.	Copper (Cu)	mg/L	BQL(QL=0.1)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.1)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of Jun'21 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 04.06.2021

Sr. No.	Parameter	Unit	Location STP Outlet (Township)
1.	pH at 25 °C	--	7.80
2.	Colour	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	30.0
4.	Total Dissolved Solids	mg/L	346.0
5.	BOD at 27°C – 3 Days	mg/L	10.0
6.	Chemical Oxygen Demand	mg/L	32.1
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	30.7
9.	Sulphate as SO_4	mg/L	136.5
10.	Ammonical Nitrogen as NH_3	mg/L	3.1
11.	Total Kjheldal Nitrogen as TKN	mg/L	6.2
12.	Dissolved Phosphate	mg/L	1.2
13.	Aluminum (Al)	mg/L	BQL(QL=0.1)
14.	Arsenic (As)	mg/L	BQL(QL=0.02)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.01)
17.	Copper (Cu)	mg/L	BQL(QL=0.1)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.1)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of Jun'21 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 05.06.2021

Sr. No.	Parameter	Unit	Location Ganga river
1.	pH @ 25 °C	...	7.2
2.	Turbidity	NTU	2.0
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	242.0
4.	Total Suspended Solids	mg/L	65.0
5.	Dissolved Oxygen	mg/L	6.9
6.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)
7.	Chloride	mg/L	23.4
8.	Sulphate	mg/L	40.9
9.	Nitrate	mg/L	4.8
10.	Fluoride	mg/L	0.4
11.	BOD at 27°C – 3 Days	mg/L	6.1
12.	Chemical Oxygen Demand	mg/L	22.6
13.	Residual Chlorine	mg/L	BQL(QL=0.05)
14.	Colour	Hazen	BQL(QL=1)
15.	Odour	...	Agreeable
16.	Temperature°C	°C	32.1
17.	Taste	...	Agreeable
18.	Chromium	mg/L	BQL(QL=0.02)
19.	Iron	mg/L	0.15
20.	Copper	mg/L	BQL(QL=0.02)
21.	Zinc	mg/L	BQL(QL=0.02)
22.	Cadmium	mg/L	BQL(QL=0.002)
23.	Lead	mg/L	BQL(QL=0.005)
24.	Arsenic	mg/L	BQL(QL=0.005)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of Jun'21 has been collected by Envirotech East Pvt. Limited.

ADANI POWER (JHARKHAND) LIMITED

2X800MW ULTRA SUPER CRITICAL THERMAL POWER PLANT

GODDA JHARKHAND

GROUND WATER TABLE

LOCATION:OPEN WELL **MONTH: Apr'21**

LOCATION NAME	PLINTH HEIGHT	TOTAL DEPTH OF WELL FROM R.L	TOTAL DEPTH OF WELL FROM G.L	DEPTH OF WATER TABLE FROM G.L	WATER COLUMN	DIA- MATER	REMARK
MOTIA VILLAGE	0.70	5.90	5.2	3.7	1.5	2.15	-
MALI VILLAGE	0.50	6.20	5.7	5.3	0.4	2.25	-
NAYABD VILLAGE	0.65	6.35	5.7	5.3	0.4	1.96	-
PATWA VILLAGE	0.70	6.50	5.8	5.15	0.65	2.5	-

All values are in meter(m)

ADANI POWER (JHARKHAND) LIMITED

2X800MW ULTRA SUPER CRITICAL THERMAL POWER PLANT

GODDA JHARKHAND

GROUND WATER TABLE

LOCATION:OPEN WELL **MONTH: May'21**

LOCATION NAME	PLINTH HEIGHT	TOTAL DEPTH OF WELL FROM R.L	TOTAL DEPTH OF WELL FROM G.L	DEPTH OF WATER TABLE FROM G.L	WATER COLUMN	DIA- MATER	REMARK
MOTIA VILLAGE	0.70	5.90	5.2	3.3	1.9	2.15	-
MALI VILLAGE	0.50	6.20	5.7	5.0	0.7	2.25	-
NAYABD VILLAGE	0.65	6.35	5.7	5.0	0.7	1.96	-
PATWA VILLAGE	0.70	6.50	5.8	4.8	1.0	2.5	-

All values are in meter(m)

ADANI POWER (JHARKHAND) LIMITED

2X800MW ULTRA SUPER CRITICAL THERMAL POWER PLANT

GODDA JHARKHAND

GROUND WATER TABLE

LOCATION:OPEN WELL **MONTH: Jun'21**

LOCATION NAME	PLINTH HEIGHT	TOTAL DEPTH OF WELL FROM R.L	TOTAL DEPTH OF WELL FROM G.L	DEPTH OF WATER TABLE FROM G.L	WATER COLUMN	DIA- MATER	REMARK
MOTIA VILLAGE	0.70	5.90	5.2	1.8	3.4	2.15	-
MALI VILLAGE	0.50	6.20	5.7	3.1	2.6	2.25	-
NAYABD VILLAGE	0.65	6.35	5.7	3.0	2.7	1.96	-
PATWA VILLAGE	0.70	6.50	5.8	3.15	2.65	2.5	-

All values are in meter(m)

SECTION 10: NOISE LEVEL MONITORING

To know the background ambient noise level at the project and surrounding environment, noise level were measured at all the ambient air monitoring stations for baseline study.

The Day time & Night time average noise level data are given in tabular formats as well as in graphical form for easy interpretation.

Here, the day time means time from 06:00 am to 10:00 pm & night time means time from 10:00 pm to 06:00 am.

$$Leq = \frac{10\ \text{Log10}\ (t1 \text{x} 10^{\frac{L1}{10}} + t2\ \text{x}\ 10^{\frac{L2}{10}} + t3\ \text{x}\ 10^{\frac{L3}{10}} + ..)}{T}$$

Where Leq = Equivalent continuous noise level (dB)(A)
t1 = time at L1 (Hours)
t2 = time at L2 (Hours)
L1 = sound pressure level dB (A) at time 1
T = total time over which the Leq is required (Hours)

(N1) At Motia Village

Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Residential Area		55	55	55	45	45	45
1	16.04.2021	53.2	38.0	48.6	39.5	30.7	35.8
2	07.05.2021	54.1	37.4	47.7	41.1	31.9	36.2
3	15.06.2021	52.8	39.1	47.4	40.4	30.3	35.9

(N2) At Mali Village

Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Residential Area		55	55	55	45	45	45
1	16.04.2021	52.9	38.1	48.1	42.1	32.3	39.1
2	07.05.2021	53.8	40.1	47.8	40.7	31.8	37.8
3	15.06.2021	54.0	39.6	48.4	38.7	32.4	36.9

(N3) At Nayabad Village

Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Residential Area		55	55	55	45	45	45
1	15.04.2021	53.8	40.2	48.5	41.5	31.8	38.7
2	06.05.2021	52.3	39.4	47.3	40.5	32.9	37.6
3	14.06.2021	53.7	40.2	47.1	39.7	31.2	38.4

(N4) At Patwa Village							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Residential Area		55	55	55	45	45	45
1	15.04.2021	54.0	38.7	48.3	41.0	30.8	37.8
2	06.05.2021	52.1	37.9	47.5	40.1	32.3	38.5
3	14.06.2021	54.1	38.2	49.2	40.2	31.4	36.6

(N5) Nr. Adani Office							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	20.04.2021	53.7	41.6	48.8	42.2	34.8	39.4
2	11.05.2021	54.4	42.1	48.3	41.6	32.0	38.8
3	17.06.2021	52.7	40.6	47.9	43.1	33.2	37.1

(N6) Nr. BTG Area (U/C)							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	19.04.2021	71.5	54.9	67.7	64.5	48.6	58.7
2	10.05.2021	68.1	50.6	64.5	56.4	45.9	50.1
3	16.06.2021	70.4	53.2	65.4	58.4	49.2	51.7

(N7) Nr. CT Area							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	19.04.2021	72.5	53.4	65.8	57.8	44.5	49.9
2	10.05.2021	67.7	48.8	62.2	55.4	45.6	48.9
3	16.06.2021	71.5	51.3	63.3	56.7	44.8	49.6

(N8) Nr. RW Reservoir (U/C)							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	20.04.2021	68.4	53.9	62.9	50.1	32.9	44.2
2	11.05.2021	66.7	44.4	61.6	45.7	31.4	41.2
3	17.06.2021	65.3	46.9	62.0	49.8	34.6	43.6

(N9) Nr. STP (In township)							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	22.04.2021	54.5	39.8	49.6	42.0	33.1	38.4
2	12.05.2021	52.3	37.7	48.6	41.0	32.6	36.3
3	18.06.2021	53.4	38.5	47.8	42.3	31.1	36.5

(N10) Nr. Temple (In township)							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	22.04.2021	53.5	39.4	48.8	42.5	33.6	38.2
2	12.05.2021	54.3	38.4	47.4	40.3	32.5	37.5
3	18.06.2021	52.2	37.5	46.8	41.6	29.4	36.4

From above tabulated results it can be concluded that the noise level was within the prescribed limits throughout the monitoring period at the stated locations.

Note: Environmental Quality Monitoring Report for the Month of Jun'21 has been collected by Envirotech East Pvt. Limited.

SECTION 11: SOIL ANALYSIS

11.1 CONCEPT & SCOPE

Soil is fundamental & ultimate natural resources that full fill a number of functions & provide various services like agriculture, industrial construction & ecological habitat development etc. Some of the most significant impacts on this resource occur as a result of activities associated with the use of chemical fertilizers, unscientific construction activities, unplanned city design, unscientific land use pattern and land filling by toxic materials.

Soil analysis can determine the fertility or the expected growth potential and the nutrient deficiency and potential toxicity which help in taking cost effective Marision for the better soil management.

Location Code	Name of Location
S-1	Nr. Mali Village
S-2	Nr. Nayabad Village
S-3	Nr. Patwa Village

11.2 SOIL ANALYTICAL RESULTS

Date of Sampling: 14.05.2021

Location: Nr. Mali Village

Date of Sampling: 14.05.2021

Sr. No.	Parameter	Unit	Result	Norms
1.	Maganesium as Mg	%	45.0	NS
2.	Calcium as Ca	%	1.09	NS
3.	Magnanese as Mn	mg/kg	BQL(QL=0.1)	NS
4.	Boron as B	mg/kg	0.74	NS
5.	Cupper as Cu	mg/kg	BQL(QL=0.1)	NS
6.	Sulphur as S	%	0.081	NS
7.	Chloride as Cl	%	0.085	NS
8.	Zinc as Zn	mg/kg	5.8	NS
9.	Nitrogen as N	%	1.08	NS
10.	Phosphorous as P	%	0.045	NS
11.	Potassium as K	%	0.041	NS
12.	Iron as Fe	%	0.065	NS
13.	Molybdenum as Mo	mg/kg	BQL(QL=0.1)	NS
14.	Organic Matter	%	0.71	NS
15.	Organic Carbon	%	0.45	NS
16.	Soil Texture	-	Sandy Loam	NS
17.	Sand	%	55.0	NS
18.	Silt	%	35.0	NS
19.	Clay	%	10.0	NS

Location: Nr. Nayabad Village

Date of Sampling: 14.05.2021

Sr. No.	Parameter	Unit	Result	Norms
1.	Maganesium as Mg	%	0.55	NS
2.	Calcium as Ca	%	1.10	NS
3.	Magnanese as Mn	mg/kg	BQL(QL=0.1)	NS
4.	Boron as B	mg/kg	0.65	NS
5.	Cupper as Cu	mg/kg	BQL(QL=0.1)	NS
6.	Sulphur as S	%	0.071	NS
7.	Chloride as Cl	%	0.065	NS
8.	Zinc as Zn	mg/kg	3.5	NS
9.	Nitrogen as N	%	0.60	NS
10.	Phosphorous as P	%	0.076	NS
11.	Potassium as K	%	0.043	NS
12.	Iron as Fe	%	0.055	NS
13.	Molybdenum as Mo	mg/kg	BQL(QL=0.1)	NS
14.	Organic Matter	%	0.75	NS
15.	Organic Carbon	%	0.40	NS
16.	Soil Texture	-	Sandy Loam	NS
17.	Sand	%	62.0	NS
18.	Silt	%	25.0	NS
19.	Clay	%	13.0	NS

Location: Nr. Patwa Village				
Date of Sampling: 14.05.2021				
Sr. No.	Parameter	Unit	Result	Norms
1.	Maganesium as Mg	%	0.74	NS
2.	Calcium as Ca	%	1.3	NS
3.	Magnanese as Mn	mg/kg	BQL(QL=0.1)	NS
4.	Boron as B	mg/kg	0.64	NS
5.	Cupper as Cu	mg/kg	BQL(QL=0.1)	NS
6.	Sulphur as S	%	0.065	NS
7.	Chloride as Cl	%	0.74	NS
8.	Zinc as Zn	mg/kg	2.4	NS
9.	Nitrogen as N	%	0.95	NS
10.	Phosphorous as P	%	0.065	NS
11.	Potassium as K	%	0.061	NS
12.	Iron as Fe	%	0.049	NS
13.	Molybdenum as Mo	mg/kg	BQL(QL=0.1)	NS
14.	Organic Matter	%	0.61	NS
15.	Organic Carbon	%	0.62	NS
16.	Soil Texture	-	Sandy Loam	NS
17.	Sand	%	58.0	NS
18.	Silt	%	28.0	NS
19.	Clay	%	14.0	NS

Note: NS= Not Specified

रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

भारत का राजपत्र
The Gazette of India

असाधारण
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पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय

अधिसूचना

नई दिल्ली, 30 अगस्त, 2017

का. आ. 2836(अ).— केन्द्रीय सरकार, पर्यावरण (संरक्षण) नियम, 1986 के नियम 10 के साथ पठित, पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) की धारा 12 की उपधारा (1) के खंड (ख) और धारा 13 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए भारत सरकार के तत्कालीन पर्यावरण और वन मंत्रालय की अधिसूचना सं. का.आ. 1174 (अ), तारीख 18 जुलाई, 2007 में निम्नलिखित और संशोधन करती है, अर्थात् :—

2. उक्त अधिसूचना से संलग्न सारणी में क्रम संख्यांक 156 और उससे संबंधित प्रविष्टियों के पश्चात् निम्नलिखित क्रम संख्यांक और प्रविष्टियां अंत:स्थापित की जाएंगी, अर्थात् :—

(1)	(2)	(3)	(4)
"157	मैसर्स देवांश टेस्टिंग एंड रिसर्च लेबोरेट्रीज प्रा. लि. 94,शिवगंगा इंडस्ट्रीयल एस्टेट, लेकशरी, भगवानपुर-247661, रुड़की, जिला-हरिद्वार, उत्तराखंड ।	(1) सुश्री अर्चना सिंह (2) श्री अरविन्द खर्कवाल (3) डा. एच.एम.चौहान	09.08.2017 से 08.08.2022
158	मैसर्स नोएडा टेस्टिंग लेबोरेट्रीज, जीटी-20, सेक्टर-117, नोएडा-201304, उत्तर प्रदेश	(1) श्री गोपाल दास वर्मा (2) श्री पंकज कुमार शर्मा (3) श्री राजेश कुमार सिंह	09.08.2017 से 08.08.2022
159	मैसर्स साई यूनिवर्सल माइनिंग सर्विस, प्लाट सं0 15-डीपी2, केआईएडीबी, संकलापुरा इंडस्ट्रीयल एरिया, पानी की टंकी के पास, बेलारी मेन रोड, होसपेट-583201, जिला-बेलारी, कर्नाटक ।	(1) श्री पवन कुमार जीवीके (2) श्री डी.सुदर्शन रेड्डी (3) श्री ए.नागाराजू	09.08.2017 से 08.08.2022
160	मैसर्स बी.एस.एन्वी-टेक प्रा.लि. 12-13 1270/73, एमीटी विले, चौथा तल, सेंट एन रोड, टर्नाका, सिकंदराबाद-500017, तेलंगाना।	(1) श्री ए.वी.हनुमंथा राव (2) कुमारी सीएच.वी. तुलामी (3) श्री बी.एस.चंद्रा मूर्ती	09.08.2017 से 08.08.2022

161	मैसर्स नाईक्रोम टेस्टिंग लेबोरेट्रीजट्रीज़ एंड रिसर्च प्रा. लि. 170, जजस् बंगलो रोड, नारायणपुर, धारवाड़-580008, कर्नाटक ।	(1) श्री कृष्णा नारायण कुलकर्णी (2) श्री अंबरीश एस.सिंदगी (3) डा. मंजुला एस.पाटिल	09.08.2017 से 08.08.2022
162	मैसर्स गो ग्रीन मेकेनिज़म प्रा. लि. दयाल एस्टेट, राष्ट्रीय राजमार्ग सं. 8, एपीएमसी मार्केट के सामने, गेट-1 (दीन दयाल अनाज मंडी), बरेजा रोड, जेतलपुर, जिला-अहमदाबाद-382426, गुजरात	(1) श्री. अमित बदलानी (2) श्री खंबाटा सायरस होमांग (3) सुश्री तृप्ति पाहिया	09.08.2017 से 08.08.2022"

[फा. सं. क्यू 15018/21/2017-सीपीडब्ल्यू]

डा. मनोरंजन होता, सलाहकार

टिप्पण : मूल अधिसूचना भारत के राजपत्र, असाधारण, में अधिसूचना संख्यांक का. आ. 1174(अ), तारीख 18 जुलाई, 2007 द्वारा प्रकाशित की गई थी और अधिसूचना संख्यांक का.आ.1539(अ), तारीख 13 सितम्बर, 2007, का.आ. 1811(अ), तारीख 24 अक्तूबर, 2007, का.आ. 55(अ), तारीख 9 जनवरी, 2008, का.आ. 428(अ) तारीख 4 मार्च, 2008, का.आ. 865(अ), तारीख 11 अप्रैल, 2008. का.आ. 1894 (अ) तारीख 31 जुलाई, 2008, का.आ. 2728(अ) 25 नवम्बर, 2008, का.आ. 1356 (अ) तारीख 27 मई, 2009, का.आ.1802(अ) तारीख 22 जुलाई, 2009, का.आ.2399 (अ) तारीख 18 सितम्बर, 2009, का.आ.3122(अ) तारीख 7 दिसम्बर, 2009, का.आ. 3123(अ), 7 दिसम्बर, 2009, का.आ. 142(अ) तारीख 21 जनवरी, 2010, का.आ.619(अ) तारीख 19 मार्च, 2010, का.आ. 1662(अ) तारीख 13 जुलाई, 2010, का.आ. 2390(अ) तारीख 30 सितम्बर, 2010, का.आ. 2904(अ) तारीख 8 दिसम्बर, 2010, का.आ.181(अ) तारीख 28 जनवरी, 2011, का.आ. 692(अ) तारीख 5 अप्रैल, 2011, का.आ. 1537(अ) तारीख 6 जुलाई, 2011, का.आ.1754(अ) तारीख 28 जुलाई, 2011, का.आ. 2609(अ) तारीख 22 नवम्बर, 2011, का.आ. 264(अ) तारीख 13 फरवरी, 2012, का.आ. 1150(अ) तारीख 22 मई, 2012, का.आ. 1295(अ), 6 जून, 2012 का.आ. 2039(अ) तारीख 5 सितम्बर, 2012, का.आ. 2850(अ) तारीख 7 दिसम्बर, 2012, का.आ.592(अ) तारीख 8 मार्च, 2013, का.आ. 945(अ) तारीख 8 अप्रैल, 2013, का.आ. 2287(अ) तारीख 27 जुलाई, 2013, का.आ. 3489(अ) तारीख 26 नवम्बर, 2013, का.आ. 21(अ) तारीख 3 जनवरी, 2014, का.आ. 561(अ) तारीख 26 फरवरी, 2014, का.आ. 1190(अ) तारीख 2 जून, 2014, का.आ. 2003(अ) तारीख 9 अगस्त, 2014, का.आ.137 (अ) तारीख 12 जनवरी, 2015, का.आ. 1783(अ) तारीख 30 जून, 2015, का.आ. 2453(अ) तारीख 7 सितम्बर, 2015 का.आ. 1953(अ), तारीख 2 जून, 2016 और का.आ. 388(अ) तारीख 10 फरवरी, 2017 द्वारा उनका अन्तिम संशोधन किया गया ।

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 30st August, 2017

S.O. 2836(E).—In exercise of the powers conferred by clause (b) of sub-section (1) of section 12 and section 13 of the Environment (Protection) Act, 1986 (29 of 1986), read with rule 10 of the Environment (Protection) Rules, 1986, the Central Government hereby makes the following further amendments in the notification of the Government of India in the erstwhile Ministry of Environment and Forests, number S.O. 1174(E), dated the 18th July, 2007, namely :—

In the said notification, in the Table, after serial number 156 and the entries relating thereto, the following serial numbers and entries shall be inserted, namely:—

(1)	(2)	(3)	(4)
"157	M/s. Devansh Testing & Research Laboratory Pvt. Ltd. 94, Shiv Ganga Industrial Estate, Lakeshari, Bhagwanpur-247661, Roorkee, Dist-Haridwar, Uttarakhand.	(i) Ms. Archana Singh (ii) Shri. Arvind Kharkwal (iii) Dr. H.S. Chauhan.	09.08.2017 to 08.08.2022
158	M/s. NOIDA Testing Laboratories. GT-20, Sector-117, NOIDA-201304, Uttar Pradesh.	(i) Shri. Gopal Das Verma (ii) Shri. Pankaj Kumar Sharma (iii) Shri. Rajesh Kumar Singh.	09.08.2017 to 08.08.2022
159	M/s. Sai Universal Mining Services Plot No. 15-DP2, KIADB, Sankalapura Industrial Area, Near Water Tank, Bellary Main Road, Hospet-583201, Dist. Bellary, Karnataka .	(i) Shri. Pavan Kumar GVK (ii) Shri. D. Sudharshan Reddy (iii) Shri. A. Nagaraju.	09.08.2017 to 08.08.2022

160	M/s. B.S. Envi-Tech Pvt. Ltd. 12-13 1270/71/73, Amity Ville, 4th Floor, St. Ann's Road, Tarnaka, Secunderabad-500017, Telangana.	(i) Shri. A.V. Hanumantha Rao (ii) Ms. CH. V. Tulasi (iii) Shri. B.S. Chandra Murthy.	09.08.2017 to 08.08.2022
161	M/s. Nichrome Testing Laboratory and Research Pvt. Ltd. 170, Judges Bunglow Road, Narayanpur, Dharwad-580008, Karnataka.	(i) Shri Krishna Narayan Kulkarni (ii) Shri Ambarish S. Sindagi (iii) Dr. Manjula S. Patil .	09.08.2017 to 08.08.2022
162	M/s. Go Green Mechanisms Pvt. Ltd. Dayal Estate, National Highway No. 8, Opp. APMC Market, Gate-1 (Deen Dayal Grain Market), Bareja Road, Jetalpur, Dist-Ahmedabad-382426, Gujarat.	(i). Shri Amit Badlani (ii) Shri Khambata Cyrus Hosang (iii) Ms. Trupti Padhya.	09.08.2017 to 08.08.2022."

[F. No. Q. 15018/21/2017-CPW]

DR. MANORANJAN HOTA, Advisor

Note.-The principal notification was published in the Gazette of India, Extraordinary vide number S.O. 1174 (E), dated the 18th July, 2007 and subsequently amended vide notification numbers S.O. 1539 (E), dated the 13th September, 2007, S.O. 1811(E), dated the 24th October, 2007, S.O. 55(E), dated the 9th January, 2008, S.O. 428(E), dated the 4th March, 2008, S.O. No. 865(E), dated the 11th April, 2008, S.O. No. 1894(E), dated the 31st July,2008, S.O. No. 2728(E), dated the 25th November, 2008, S.O. 1356(E), dated the 27 th May, 2009, S.O.No. 1802(E), dated the 22nd July, 2009, S.O. No.2399(E), dated the 18th September, 2009, S.O. No.3122(E), dated the 7th December, 2009, S.O. No. 3123(E), dated the 7th December, 2009, S.O. No. 142(E), dated the 21st January, 2010, S.O. 619 (E), dated the 19th March, 2010, S.O. No.1662(E), dated the 13th July,2010, S.O. No. 2390(E), dated the 30th September, 2010, S.O. No .2904 (E), dated the 8th December, 2010 , S.O. No. 181(E), dated the 28th January, 2011, S.O.No. 692(E) dated the 5th April, 2011, S.O. No. 1754 (E), dated the 28th July, 2011, S.O. No. 2609, dated the 22nd November, 2011, S.O. No. 264(E) , dated the 13th February, 2012, S.O. No. 1150 (E) dated the 22nd May, 2012, S.O. No. 1295(E), dated the 6th June, 2012, S.O. No. 2039 (E), dated the 5th September, 2012, S.O. No. 2850 (E), dated the 7th December, 2012, S.O. No. 592 (E), dated the 8th March, 2013, S.O. No. 945(E), dated the 8th April, 2013, S.O. No. 2287 (E), dated the 26th July,2013, S.O. No. 3489(E) dated the 26th November, 2013, S.O. No. 21(E), dated the 3rd January, 2014, S.O. No. 561 (E), dated the 26th February, 2014, S.O. No. 1190(E), dated the 1st June, 2014, S.O. No. 2003(E), dated the 9th August,2014, S.O. No. 137 (E), dated the 12th January, 2015, S.O. No. 1783(E), dated the 30th June, 2015, S.O. No. 2453(E), dated the 7th September, 2015 , S.O. No. 1953(E), dated the 2nd June,2016 and S.O. No. 388(E), dated the 10th February, 2017.

RAKESH SUKUL Digitally signed by RAKESH SUKUL Date: 2017.09.01 19:23:54 +05'30'

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F. No. Q-15018/01/2016-CPW
Government of India
Ministry of Environment, Forest and Climate Change
(CP Division)

.....

Indira Paryavaran Bhavan,
Jorbagh Road, Aliganj, New Delhi-110 003

Dated: 6th April, 2017

ORDER

Subject: Recognition as Environmental Laboratory under the Environmental (Protection) Act, 1986 – regarding.

This refers to application/letter No. Nil, dated 10th December 2015 of M/s Go Green Mechanisms Pvt. Ltd. for recognition of its laboratory under the Environment (Protection) Act, 1986. Based on the recommendation of the Expert Committee for Recognition of Environmental Laboratories in its 48th meeting held on 06.02.2017 and acceptance of the terms and conditions at Annexure-III, IV and V of the Guidelines for Recognition of Environmental Laboratories by the applicant, this Ministry approves the recognition of M/s Go Green Mechanisms Pvt. Ltd., Dayal Estate, National Highway No.8, Opp. APMC Market Bareja (Deen Dayal Grain Market), Bareja Road, Jetalpur, Dist. Ahmedabad – 382 426, Gujarat for five years, as shall be notified in the Gazette of India.

2. As per information provided Vide letter dated 02.06.2016, M/s Go Green Mechanisms Private Ltd. can undertake the analysis of

(i) Water and Wastewater(*Physical Test:* Conductivity, Colour, pH, Fixed and Volatile solids, Total solids, Total dissolved solids, Total Suspended Solids, Turbidity, Temperature, Velocity & discharge Measurement of industrial effluent stream, Salinity, Settleable solids and SVI;

(ii) ***Inorganic****- General and non-metallic* : Acidity, Alkalinity, Ammonical Nitrogen, Chloride, Chlorine residual, Dissolved Oxygen, Fluoride, Total Hardness, TKN, Nitrite Nitrogen, Nitrate Nitrogen, Phosphate, Sulphate, Sulphite, Silica, Sulphide; *Trace Metals*: Boron, Cadmium, Calcium, Chromium Total, Chromium Hexavalent, Copper, Iron, Lead, Magnesium, Mercury, Nickel, Potassium, Sodium & SAR, Zinc, Arsenic, Aluminium, Manganese and Vanedium;

(iii) ***Organics*** *(General) and Trace Organics:* BOD, COD, Oil and Grease, Phenol, Pesticide i.e. (Organo-chlorine, Organo Nitrogen-Phosphorus), PAH, Organic Carbon and Carbon/Nitrogen ratio;

(iv) ***Microbiological Tests:*** Total coliform, Faecal Coliform, Faecal Streptococci, E.Coli and Total Plate Count;

(v) Ambient Air /Fugitive Emissions: : Nitrogen Dioxide , Sulphur Dioxide, Total suspended particulate matter, PM_{10}, Ammonia, Carbon Monoxide, lead, Ozone, Benzene- Toulene- Xylene (BTX), PAH, Benzo-a-pyrine, PM2.5 and VOC;

cont....

(R. N. JINDAL)
Director/निदेशक
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Min. of Environment, Forests & Climate Change
भारत सरकार, नई दिल्ली
Govt. of India, New Delhi

(vi) Stack gases/ Source Emission : Particulate matter, Sulphur Dioxide, Velocity & flow, Carbon Dioxide, Carbon Monoxide, Temperature, Oxygen, Oxides of Nitrogen, Acid mist, Ammonia, Fluoride (Particulate), Hydrochloric acid, Hydrogen Sulphide and Carbon Disulphide;

(Vii) Noise : ambient and source noise level Monitoring; and

(viii) Meteorological monitoring: Ambient temperature, Wind direction, Wind speed, Relative Humidity, Solar radiation and Rain fall.

3. The laboratory shall compulsorily participate in the Analytical Quality Control (AQC) exercise conducted by the Central Pollution Control Board (CPCB) at least once a year to ascertain the capability of the laboratory and analyses carried out and shall submit quarterly progress reports to this Ministry.

4. Periodic surveillance of the recognized environmental laboratory will be undertaken by this Ministry/ CPCB to assess its proper functioning, systematic operation and reliability of data generated at the laboratory.

5. It is also mandatory for the laboratory to renew the NABL / ISO 9001 and OHSAS accreditations and its renewal as per accreditation rules. Permission in Para 2 above is subject to such accreditation and renewal, as applicable.

(R.N. Jindal)
Director (S)
Tel. No. 011-24695246
Email: ram.jindal@nic.in

(आर. एन. जिन्दल)
(R. N. JINDAL)
निदेशक/Director
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Ministry of Environment, Forests & Climate Change
भारत सरकार, नई दिल्ली
Govt. of India, New Delhi

To

M/s Go Green Mechanisms Pvt. Ltd.
Dayal Estate, National Highway No.8
Opp. APMC Market Bareja (Deen Dayal Grain Market)
Bareja Road, Jetalpur,
Dist. Ahmedabad – 382 426, Gujarat.

Copy to:

1. Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi-110032.
2. Member Secretary, Gujarat Pollution Control Board, Paryavaran Bhawan-Sector 10-A, Gandhi Nagar- 382010, Gujarat.
3. Regional Office Nagpur, Ministry of Environment, forest and Climate Change, Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur, Maharashtra.
4. Zonal Office, Central Pollution Control Board, Parivesh Bhawan Opp.VMC Ward, Off. No-10, Subhanpura, Vadodara-390023, Gujarat.
5. IT Division, MoEF&CC, New Delhi-110003.

O/C

Issued
07/04/17

National Accreditation Board for Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

GO GREEN MECHANISMS PRIVATE LIMITED (TESTING LABORATORY)

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

DAYAL ESTATE, NATIONAL HIGHWAY NO.8, BAREJA, JETALPUR, AHMEDABAD, GUJARAT, INDIA

in the field of

TESTING

Certificate Number: TC-7073

Issue Date: 09/11/2020 **Valid Until:** 08/11/2022

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity : Go Green Mechanisms Pvt Ltd

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

Certificate of Registration

This Certificate is issued to

GO GREEN MECHANISMS PVT.LTD.

Dayal Estate, National Highway No.8, Opp. APMC market bareja (Deen Dayal Grain Market) Bareja, Jetalpur, Ahmedabad - 382426, India

Compliance With
Quality Management System

ISO 9001:2015

For the following Scope

ENVIRONMENTAL, FOOD & COMMODITY TESTING LAB

Certificate No.	:	QMS/1617/1766
Original Certificate Date	:	20-12-2018
Issue Date	:	20-12-2018
Expiry Date	:	19-12-2021

Certificate Verification http://ukacl.org.uk/certified-organization.php

Authorised Signature

For Square Quality Certification

Head Office : 101 , Dharshan Vihar, Nathupura, Burari, Delhi, India

UK Office : 20-22 Wenlock Road, London,N1 7GU,UK

UKACL

SQUARE QUALITY CERTIFICATION

This certificate doesn't provide the certified organizations with immunity from the legal obligation
This certificate remains the property of Square Quality Certification to whom it must be returned on request

Certificate of Registration

This Certificate is issued to

GO GREEN MECHANISMS PVT.LTD.

Dayal Estate, National Highway No.8, Opp. APMC market bareja (Deen Dayal Grain Market) Bareja, Jetalpur, Ahmedabad - 382426, India

Compliance With
Occupational Health and Safety Management System

OHSAS 18001:2007

For the following Scope

ENVIRONMENTAL, FOOD & COMMODITY TESTING LAB

Certificate No.	:	OHS/8699/3327
Original Certificate Date	:	20-12-2018
Issue Date	:	20-12-2018
Expiry Date	:	19-12-2021
Certificate Verification		http://ukacl.org.uk/certified-organization.php

Authorised Signature

For Square Quality Certification

Head Office : 101 , Dharshan Vihar, Nathupura, Burari, Delhi, India

UK Office : 20-22 Wenlock Road, London,N1 7GU,UK

UKACL

SQUARE QUALITY CERTIFICATION

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This certificate remains the property of Square Quality Certification to whom it must be returned on request

ADANI POWER (JHARKHAND) LTD.

2*800 MW Godda Thermal Power Project

Village: Motia, Dist: Godda, Jharkhand

ENVIRONMENTAL MONITORING REPORT
PERIOD: Jul'21 – Sep'21

Go Green Mechanisms Pvt. Ltd.

Head Office & Lab: Dayal Estate, National Highway No. 8, Opp. APMC Market Gate – 1, Jetalpur, Ahmedabad – 382426

Contact: 7069072001/02

Email: lab@gogreenmechanisms.com

REPORT TITLE

COMPANY NAME:	**Adani Power (Jharkhand) Ltd.**
SITE LOCATION:	2*800 MW Godda Thermal Power Plant Village: Motia, Dist: Godda, Jharkhand
MONITORING PERIOD:	Jul'21 to Sep'21
REPORT DATE:	11.10.2021
ORIGINATED BY:	Environmental Monitoring and Analytical Team Go Green Mechanisms Pvt. Ltd.
REVIEWED BY:	Amit Badlani Director, Go Green Mechanisms Pvt. Ltd.
PREPARED BY:	Go Green Mechanisms Pvt. Ltd (GGMPL) Dayal Estate, Opp AMPC Market Gate No.1, Jetalpur-382426 Ahmedabad

TABLE OF CONTENT

LIST OF GRAPH

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SECTION 1: FOREWORD

The protection of environment plays a crucial role in maintain 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 (Jharkhand) 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 fulfil statutory requirement and to be in tune with Environmental Preservation and sustainable development Adani Power (Jharkhand) Ltd., has retained M/S. Go Green Mechanisms Pvt. Ltd. As Environment Consultants and for various Environmental issues related to their Power Plant.

Environmental Quality Monitoring Report for the Month of Jul'21 to Aug'21 has been collected by Go Green Mechanisms pvt. Ltd.

Note: Environmental Quality Monitoring Report for the Month of Sep'21 has been collected by Envirotech East Pvt. Limited.

We are thankful to Adani Power (Jharkhand) Ltd. for the opportunity provided to be associated in this endeavour.

SECTION 2: LIST OF EQUIPMENTS

The list of Equipments used in the project is delineated in the following table.

Sr. No.	Name of Equipments	Make/Model
1	Respirable Dust Sampler	Ecotech Instruments / AAS 217BL
2	$PM_{2.5}$ Sampler	Ecotech Instruments & Eonair Technologies/AAS 127 & AQS 235
3	Gaseous Attachment with RDS	Ecotech Instruments / AAS 217BL
4	Sound Level Meter	Hemsun / HDB 2202
5	Weather Monitoring Station	Ambient Weather Station
6	Weighing Balance	Shimadzu /AUW220D
7	UV Visible Spectrophotometer	Systronics
8	Hot Air Oven	Patel Scientific Instruments
9	Filtration Assembly	Labline
10	Water Analysis Kit	Systronics
11	Bacteriological Incubator	Labline
12	Centi-micro Balance	Shimadzu /ATX224
13	Dissolved Oxygen Test Kit	Lutron
14	Autoclave	Patel Scientific Instruments
15	Laminar Air Flow	Labline
16	Muffle Furnace	Patel Scientific Instruments
17	Flame Photometer	Systronics /128
18	Digital colony counter	Labline
19	Microscope	Patel Scientific Instruments
20	Orbital Shaker	Labline
21	Centrifuge	Bio Lab
22	Simple Distillation Assembly	Labline
23	ICP-OES/AES	Thermo Fisher Scientific /iCAP 7400 SERIES
24	AAS	Thermo Fisher Scientific / AA 303
25	Ion Chromatography	Metrohm Herisau / 1.925.0020

SECTION 3: LIST OF PROJECT PERSONNEL

Sr. No.	Name	Qualification	Experience (Yrs)	Designation
1.	Amit Badlani	B.E. (Chemical) M.S.(Energy & Environmental Technology) M.S. (Pollution Control)	17 Yrs	Managing Director
2.	R.K.Pandey	B.Sc. Biology	16 Yrs	Project In-charge
3.	Payal Patel	M Sc. (Env. Sci.)	06 Yrs	Lab Manager
4.	Yash Goswami	Dip. Env. Engineer	11 Yrs	Field Operation - Manger
5.	Tantan Kumar	M Sc. (Env. Mgmt)	04 Yrs	Sr. Chemist
6.	Pooja Parekh	B.Sc. (Microbiology) & DMLT	01 Yr 08 Month	Lab Chemist
7.	Chandan Kumar	B.Sc. Chemistry	02 Yrs	Field Assistant

For Go Green Mechanisms Pvt. Ltd.

Amit Badlani
Managing Director

SECTION 4: EXECUTIVE SUMMARY

Adani Power (Jharkhand) Limited has undertaken the task of preparing EMP report for its 1600 (2x800) MW Godda Thermal Power Plant & Residential Township which is within the premises of TPP.

M/s. Go Green Mechanisms Private Limited, got the opportunity to prepare the Environmental monitoring Data on the basis of actual field monitoring with respect to Group I Parameters i.e. Air, Water, Noise & Meteorological on behalf of HTG Engineering Pvt. Ltd.

A Meteorological station was set up on the terrace of "Hostel Block" & Micrometeorological parameters like Ambient Temperature, Relative Humidity, Wind direction, Wind Speed, Rain fall & Barometric Pressure etc were recorded on hourly basis during the study period.

On the basis of wind direction pattern, the three locations of AAQM were selected. The concentration of gaseous pollutants, $PM_{2.5}$ were sampled and analysed for compliance to GSR 826(E) vide Notification Dated 16/11/2009.

Four numbers of Ground water samples, two numbers of Effluent water samples, one number of Surface water sample were collected to understand the overall water quality of the project area. The water parameters were sampled and analysed to check for compliance to the specifications of (IS 10500:2012 & I 2296:1982 Inland surface water Class C).

The noise level was monitored at 10 locations on Day & Night time basis, monthly as per IS 9989: RA 2001.

SECTION 5: CONCEPTS & METHODOLOGY

5.1 METHODOLOGY

In the present study the following are the standard methods used for collection, analysis & interpretation of data:

AAQM Sampling & analysis: "Indian Standards (IS 5182)", "Guidelines for the measurement of Ambient Air Pollutants, Vol-I, CPCB" & "USEPA" methods were used for Ambient Air sampling and analysis to study the present pollution load around the Proposed Project location.

Parameters of AAQM	Standard Methods	Analytical Instruments
PM_{10}	IS 5182 (P-23):2006	Weighing Balance
$PM_{2.5}$	GGMPL/SOP/AA/60	Weighing Balance
Oxides of Nitrogen(NOx)	IS 5182 (P-6):2006	Spectrophotometer
Oxides of Sulphur(SO_2)	IS 5182 (P-2):2009	Spectrophotometer
Mercury	Method IO 3.4:1999	ICP-OES (Hydride Generator)

Water Sampling & analysis: Similarly "Indian Standards (IS 3025)", "USEPA" and "APHA 23rd Edition were used for water sample collection and analysis.

Parameters of Water Samples	Standard Methods	Analytical Instruments
Taste	IS 3025 (Pt 08): RA 2006	-
Turbidity	APHA 23rd Edn 2017 2130 B	Turbidity Meter
Total Dissolve Solid	APHA 23rd Edn 2017 2540 C	Hot air Oven
Boron(B)	APHA 23rd Edn 2017 4500 B C	Spectrophotometer
Calcium(Ca)	APHA 23rd Edn 2017 3500 Ca B	-
Chloride(Cl)	IS 3025 (Pt 32): RA 2007	-
Fluoride(F)	APHA 23rd Edn 2017 4500 F D	Spectrophotometer
Residual Chlorine	APHA 23rd Edn 2017 4500 Cl B	Chlorine kit
Nitrate (NO_3)	IS 3025 (Pt 34): RA 2017	Spectrophotometer
Phenolic Compounds	IS 3025 (Pt 43): RA 2003	Spectrophotometer
Sulphate (SO_4)	APHA 23rd Edn 2017 4500 SO_4 E	Spectrophotometer
Total hardness ($CaCO_3$)	APHA 23rd Edn 2017 2340 C	-
Cyanide (CN)	APHA 23rd Edn 2017 4500 CN C ,E	Ion Chromatography
Selenium (Se)	IS 3025 (Pt 56): 2003	ICP-OES
pH	IS 3025 (Pt 11): RA 2006	pH Meter
Colour	IS 3025 (Pt 04): RA 2017	-
Odour	IS 3025 (Pt 05): RA 2006	-
Alkalinity	APHA 23rd Edn 2017 2320 B	-
Temperature	APHA 23rd Edn 2017 2550 B	Thermometer
Magnesium (Mg)	APHA 23rd Edn 2017 3500 Mg B	ICP-OES
Copper (Cu)	APHA 23rd Edn 2017 3111 B	ICP-OES

Iron (Fe)	APHA 23rd Edn 2017 3500 Fe B	ICP-OES
Manganese (Mn)	APHA 23rd Edn 2017 3111 B	ICP-OES
Mercury (Hg)	APHA 23rd Edn 2017 3112 B	ICP-OES (Hydride Generator)
Lead (Pb)	APHA 23rd Edn 2017 3111 B	ICP-OES
Arsenic (As)	APHA 23rd Edn 2017 3111 B	ICP-OES (Hydride Generator)
Cadmium (Cd)	APHA 23rd Edn 2017 3111 B	ICP-OES
Zinc (Zn)	APHA 23rd Edn 2017 3111 B	ICP-OES
Hexavalent Chromium	APHA 23rd Edn 2017 3500 Cr B	Spectrophotometer
Detergent	Annex K of IS 13428	Gas Stripping apparatus/ Spectrophotometer
Aluminum	IS 3025 (Pt 55): RA 2009	ICP-OES
E. Coli	IS 1622-1981: RA 2009	Bacteriological incubater/ Autoclave/ Laminar flow
Total Coliform	IS 1622: RA 2009	Bacteriological incubater/ Autoclave/ Laminar flow

Noise Level Monitoring: "Protocol for Ambient Level Noise Monitoring, IS 9989: RA 2001" was followed to monitor the Ambient Noise level surrounding the Project Site.

Parameters	Standard Methods	Analytical Instruments
Leq	IS 9989: RA 2001	Noise Level Meter

Weather Monitoring: "EPA-454/R-99-005, February 2000" was followed for micro-meteorological data collection result interpretation.

Parameters	Standard Methods	Analytical Instruments	Make/Model
Air Temperature	GGMPL/SOP/MP/01:2020	Digital sensor	Ambient Weather Station
Relative Humidity	GGMPL/SOP/MP/01:2020	Digital Sensor(Hygrometer)	
Wind Speed	GGMPL/SOP/MP/01:2020	3 Cup anemometer	
Wind Direction	GGMPL/SOP/MP/01:2020	Hall Effect (Wind Vane)	
Rain Fall	GGMPL/SOP/MP/01:2020	Tipping Bucket	

A brief account of the methodologies and matrices followed in the present study is given under different headings. All the methods were structured for the identification, collection and organization of environmental impacts data. The information, thus gathered, had been analyzed and presented in the form of a number of visual formats for easy interpretation and Marision making.

SECTION 6: PLAN FOR SAMPLING LOCATIONS

Site selection criteria play an important role in the initiation of "baseline data generation" as it provides an outlook on the type of environmental compliance and management to be adopted by the project proponent. The locations were selected on the basis of "joint site survey", "examination of toposheet of the project area", "secondary micro-meteorological data analysis" and "availability of resources" for ambient air quality monitoring & micro-meteorological monitoring.

A synopsis about the locations is as follows:

AAQM Locations	
Code	**Name of Location**
A1	Nr. Motia Village
A2	Nr. Mali Village
A3	Nr. Nayabad Village
Met Data Station	
Code	**Name of Location**
M1	Hostel Block
Water Samples	
Code	**Name of Location**
G/W-1	Motia Village
G/W-2	Mali Village
G/W-3	Nayabad Village
G/W-4	Patwa Village
E/W-1	STP Outlet plant
E/W-2	STP Outlet township
S/W-1	Ganga river
Noise Monitoring Locations	
Code	**Name of Location**
N1	At Motia Village
N2	At Mali Village
N3	At Nayabad Village
N4	At Patwa Village
N5	Nr. Adani Office
N6	Nr. BTG Area (U/C)
N7	Nr. CT Area (U/C)
N8	Nr. RW Reservoir (U/C)
N9	Nr. STP (In township)
N10	Nr. Temple (In township)

SECTION 7: METEOROLOGICAL DATA

Weather monitoring would help in keeping track of different parameters like temperature, humidity, rainfall, wind direction, wind speed & barometric pressure. Real time meteorological data is used to support a number of programs including public aviation, agricultural activity, disaster management etc.

In the present study we monitored the "ambient temperature, relative humidity, wind speed, wind direction, barometric pressure, rainfall etc.

Note: Environmental Quality Monitoring Report for the Month of Sep'21 has been collected by Envirotech East Pvt. Limited.

Figure 1: Weather Monitoring Station at Hostel Block

ADANI POWER (JHARKHAND) LIMITED

2 X 800 MW Ultra Super Critical Thermal Power Plant, Godda, Jharkhand

Site Specific Micro-Meteorological Data

LOCATION: APJL - Godda

Recording Time: 00:00 Hrs - 23:00 Hrs **July**':-2021

Date	Temperature(°C)			Humidity (%)			Wind Speed(M/S)		Wind Direction (blowing from)	Barometric Pressure (mmhg)	Rainfall(mm
	Max	Min	Avg	Max	Min	Avg	Max	Avg		(Average)	Total
01.07.2021	28.7	23.6	26.7	99.0	83.0	90.7	5.6	1.7	SE	742.5	49.5
02.07.2021	33.3	25.4	28.6	95.0	63.0	84.3	8.5	2.0	S	743.6	0.0
03.07.2021	33.9	26.3	28.9	95.0	69.0	86.0	4.5	1.4	S	744.3	0.0
04.07.2021	35.3	24.5	29.4	99.0	66.0	84.3	7.3	1.1	SE	745.2	25.4
05.07.2021	33.8	25.3	28.2	99.0	74.0	91.1	8.6	1.3	S	745.1	19.1
06.07.2021	36.0	26.8	30.8	97.0	61.0	81.1	4.3	0.9	SSE	743.8	0.0
07.07.2021	36.0	26.7	29.0	98.0	67.0	88.1	8.9	1.5	SSE	743.5	3.8
08.07.2021	33.9	26.3	28.6	96.0	67.0	87.4	4.3	1.0	ESE	744.5	0.8
09.07.2021	34.2	26.0	29.7	98.0	68.0	85.6	4.9	0.8	SE	743.9	6.6
10.07.2021	34.4	26.5	30.6	97.0	67.0	83.1	7.7	0.9	ESE	744.0	2.8
11.07.2021	33.7	28.0	30.3	94.0	67.0	84.1	4.5	0.6	ENE	745.9	0.0
12.07.2021	36.0	27.7	30.4	94.0	61.0	82.1	5.5	1.0	SE	746.7	1.3
13.07.2021	34.7	27.4	30.1	94.0	63.0	81.8	7.7	1.5	ESE	745.8	1.0
14.07.2021	34.0	26.8	29.3	95.0	66.0	84.6	8.2	1.6	SE	746.0	0.0
15.07.2021	35.1	26.9	30.4	94.0	61.0	79.3	5.1	1.8	S	746.6	0.0
16.07.2021	35.8	27.6	30.9	93.0	59.0	79.7	5.2	1.8	S	746.8	0.0
17.07.2021	34.6	25.5	29.3	99.0	68.0	86.8	6.0	1.9	S	746.0	15.2
18.07.2021	35.3	25.9	29.0	98.0	65.0	87.2	6.8	1.2	SSE	744.7	24.9
19.07.2021	34.6	27.0	29.3	96.0	70.0	88.1	4.9	0.7	SSE	743.3	0.0
20.07.2021	28.6	24.3	27.0	99.0	87.0	94.1	6.1	0.7	ESE	743.1	35.3
21.07.2021	33.4	26.5	29.3	98.0	71.0	86.7	4.3	0.7	E	741.7	0.0
22.07.2021	35.1	27.7	31.1	94.0	62.0	79.3	4.6	0.8	E	740.5	1.8
23.07.2021	33.2	26.4	30.0	99.0	70.0	82.0	6.9	1.5	NE	740.3	8.7
24.07.2021	33.8	27.0	29.4	95.0	71.0	86.2	5.4	1.3	SE	741.7	0.2
25.07.2021	33.3	27.3	29.9	96.0	71.0	86.0	3.8	1.0	SE	742.6	1.3
26.07.2021	35.7	27.6	30.4	97.0	65.0	86.5	5.1	0.7	SE	741.0	0.0
27.07.2021	32.9	26.0	28.6	97.0	75.0	90.7	5.4	0.8	NE	740.1	12.7
28.07.2021	34.7	26.4	28.6	99.0	67.0	91.1	7.3	1.0	NE	740.0	7.9
29.07.2021	30.9	26.3	27.6	99.0	79.0	94.9	7.4	2.1	NNE	740.0	14.2
30.07.2021	28.2	25.5	27.0	99.0	87.0	93.4	8.7	2.6	NE	739.9	49.5
31.07.2021	31.2	26.7	28.7	94.0	76.0	87.5	6.1	2.1	SE	742.6	0.0

total rainfall in mm	282.0

ADANI POWER (JHARKHAND) LIMITED

2 X 800 MW Ultra Super Critical Thermal Power Plant, Godda, Jharkhand

Site Specific Micro-Meteorological Data

LOCATION: APJL - Godda

Recording Time: 00:00 Hrs - 23:00 Hrs **August**':-2021

Date	Temperature(°C)			Humidity (%)			Wind Speed(M/S)		Wind Direction (blowing from)	Barometric Pressure (mmhg)	Rainfall(mm
	Max	Min	Avg	Max	Min	Avg	Max	Avg		(Average)	Total
01.08.2021	34.0	27.4	29.4	96.0	68.0	87.9	4.6	1.1	ESE	742.3	0.0
02.08.2021	32.7.	25.9	28.8	97.0	77.0	89.9	6.1	1.0	SE	743.0	16.3
03.08.2021	34.1	26.5	28.8	99.0	71.0	90.5	7.1	0.9	SE	743.9	25.7
04.08.2021	30.4	26.7	27.9	98.0	84.0	94.0	6.6	0.9	WNW	744.4	2.5
05.08.2021	34.1	26.2	28.9	99.0	71.0	90.6	4.1	0.5	S	743.2	34.3
06.08.2021	33.3	23.8	28.9	99.0	72.0	91.7	13.3	0.6	SE	743.1	37.6
07.08.2021	35.0	26.9	29.4	97.0	67.0	88.9	8.2	0.8	ESE	744.5	5.1
08.08.2021	34.3	25.8	28.1	98.0	70.0	91.1	6.6	1.0	ESE	746.0	20.3
09.08.2021	35.9	25.7	29.3	99.0	64.0	86.9	10.7	0.7	SSE	745.8	34.8
10.08.2021	34.2	27.4	29.9	87.0	64.0	77.9	5.6	0.5	ENE	743.9	9.7
11.08.2021	29.9	27.1	28.2	91.0	79.0	86.1	4.6	1.2	ENE	743.9	0.0
12.08.2021	34.2	26.4	29.6	96.0	61.0	86.2	7.1	0.7	ENE	745.3	2.5
13.08.2021	36.8	28.0	32.0	89.0	58.0	74.1	11.2	0.9	ENE	744.3	32.0
14.08.2021	36.2	26.9	30.4	90.0	56.0	76.2	6.6	1.2	ENE	741.8	0.0
15.08.2021	39.3	27.9	31.0	88.0	51.0	75.9	6.6	1.1	ENE	742.9	0.0
16.08.2021	36.8	28.0	32.0	89.0	58.0	74.1	5.6	0.9	ENE	744.8	0.0
17.08.2021	39.1	27.9	31.0	90.0	51.0	76.0	5.6	1.0	ENE	744.9	0.0
18.08.2021	38.1	27.1	30.5	88.0	51.0	77.8	4.1	0.5	ENE	743.4	6.9
19.08.2021	37.0	26.9	30.7	90.0	52.0	75.3	8.2	2.3	ENE	743.4	0.0
20.08.2021	34.2	27.4	29.9	87.0	64.0	77.9	7.1	2.2	ENE	745.2	0.8
21.08.2021	36.2	26.9	30.4	90.0	56.0	76.2	7.1	1.9	ENE	747.2	0.0
22.08.2021	41.4	26.0	31.5	92.0	44.0	74.0	7.1	1.7	ENE	745.6	9.4
23.08.2021	36.4	25.9	30.1	92.0	56.0	78.9	10.2	1.8	ENE	744.6	7.1
24.08.2021	36.4	26.8	28.9	95.0	60.0	85.5	14.3	1.4	ENE	743.9	14.7
25.08.2021	34.2	26.4	29.6	96.0	61.0	86.2	8.7	1.4	ENE	741.9	1.5
26.08.2021	29.9	27.1	28.2	91.0	79.0	86.1	6.1	0.9	N	742.4	0.0
27.08.2021	31.4	26.9	28.7	92.0	72.0	84.2	4.1	0.7	ESE	743.7	0.0
28.08.2021	32.2	25.9	28.3	93.0	69.0	84.5	5.6	1.0	E	743.4	7.6
29.08.2021	34.3	26.2	28.9	92.0	61.0	81.0	7.1	1.2	ENE	744.1	0.5
30.08.2021	34.1	26.4	28.5	90.0	61.0	81.8	8.7	1.1	ESE	746.3	2.8
31.08.2021	34.5	26.1	29.2	91.0	62.0	79.6	7.2	1.0	SE	747.5	0.5

total rainfall in mm	272.6

ADANI POWER (JHARKHAND) LIMITED

2 X 800 MW Ultra Super Critical Thermal Power Plant, Godda, Jharkhand

Site Specific Micro-Meteorological Data

LOCATION: APJL - Godda

Recording Time: 00:00 Hrs - 23:00 Hrs

September':-2021

Date	Temperature(°C)			Humidity (%)			Wind Speed(M/S)		Wind Direction (blowing from)	Barometric Pressure (mmhg)	Rainfall(mm
	Max	Min	Avg	Max	Min	Avg	Max	Avg		(Average)	Total
01.09.2021	34.9	26.6	30.2	91.0	58.0	77.9	4.8	1.6	SE	746.7	0.0
02.09.2021	32.8	25.8	28.6	89.0	70.0	81.8	4.6	1.6	SSE	745.8	0.0
03.09.2021	35.1	25.6	29.4	91.0	62.0	79.4	2.8	0.6	ESE	744.7	5.8
04.09.2021	35.5	26.6	30.3	92.0	57.0	77.5	3.0	0.8	ESE	743.7	0.0
05.09.2021	35.4	27.6	30.2	89.0	60.0	79.1	4.7	0.6	ESE	743.8	0.0
06.09.2021	35.5	27.4	30.2	92.0	61.0	77.1	5.2	0.9	NE	745.1	0.0
07.09.2021	31.3	25.5	28.0	87.0	70.0	79.1	4.5	1.0	ESE	746.9	0.5
08.09.2021	34.0	24.8	28.7	90.0	60.0	76.3	3.9	1.0	ESE	746.4	0.0
09.09.2021	33.4	26.3	28.0	91.0	61.0	83.3	4.0	0.7	ESE	745.4	4.3
10.09.2021	33.5	25.9	29.9	94.0	61.0	77.5	4.3	0.8	NE	744.6	0.0
11.09.2021	33.9	25.9	29.4	92.0	60.0	77.3	3.9	0.9	NE	744.6	0.5
12.09.2021	34.0	25.8	25.8	89.0	61.0	81.8	6.0	0.8	NE	742.2	3.8
13.09.2021	32.9	26.6	28.7	87.0	62.0	77.5	6.1	1.1	NE	742.2	1.8
14.09.2021	28.5	25.6	27.0	91.0	77.0	83.2	5.0	1.0	NE	744.4	22.4
15.09.2021	29.3	24.7	27.3	92.0	75.0	82.6	5.3	1.3	ESE	746.1	22.8
16.09.2021	33.6	25.9	28.8	89.0	59.0	78.3	6.1	1.4	SE	745.2	0.0
17.09.2021	34.8	26.5	28.4	89.0	58.0	80.3	5.0	1.0	ESE	744.6	6.4
18.09.2021	32.4	25.5	27.4	90.0	68.0	83.3	5.4	0.8	ESE	745.9	8.4
19.09.2021	34.1	25.1	28.7	91.0	60.0	79.9	4.8	0.7	ESE	746.9	2.5
20.09.2021	33.1	26.5	29.1	91.0	60.0	76.8	3.9	0.8	ENE	746.4	0.0
21.09.2021	31.5	25.6	27.6	89.0	64.0	79.0	7.7	0.8	NE	745.6	3.1
22.09.2021	32.0	24.9	26.8	89.0	63.0	81.9	7.3	1.2	NE	745.2	5.3
23.09.2021	32.8	25.7	28.4	89.0	60.0	78.1	3.6	0.9	ESE	745.5	0.0
24.09.2021	33.9	25.7	29.3	90.0	60.0	78.0	3.8	0.7	E	746.8	0.0
25.09.2021	34.7	27.0	30.3	90.0	55.0	76.4	3.4	0.7	ESE	745.7	0.0
26.09.2021	35.6	26.8	29.4	91.0	54.0	77.9	5.9	0.7	ESE	745.3	0.0
27.09.2021	33.7	24.0	27.5	93.0	62.0	82.4	6.1	0.7	NE	745.6	31.2
28.09.2021	31.3	24.5	26.3	94.0	65.0	85.9	5.2	0.6	NE	747.2	9.2
29.09.2021	28.1	24.9	26.6	91.0	74.0	81.1	5.0	0.8	ENE	747.4	0.3
30.09.2021	26.6	24.5	25.4	91.0	85.0	89.1	3.4	0.5	ESE	748.2	36.5

total rainfall in mm	164.8

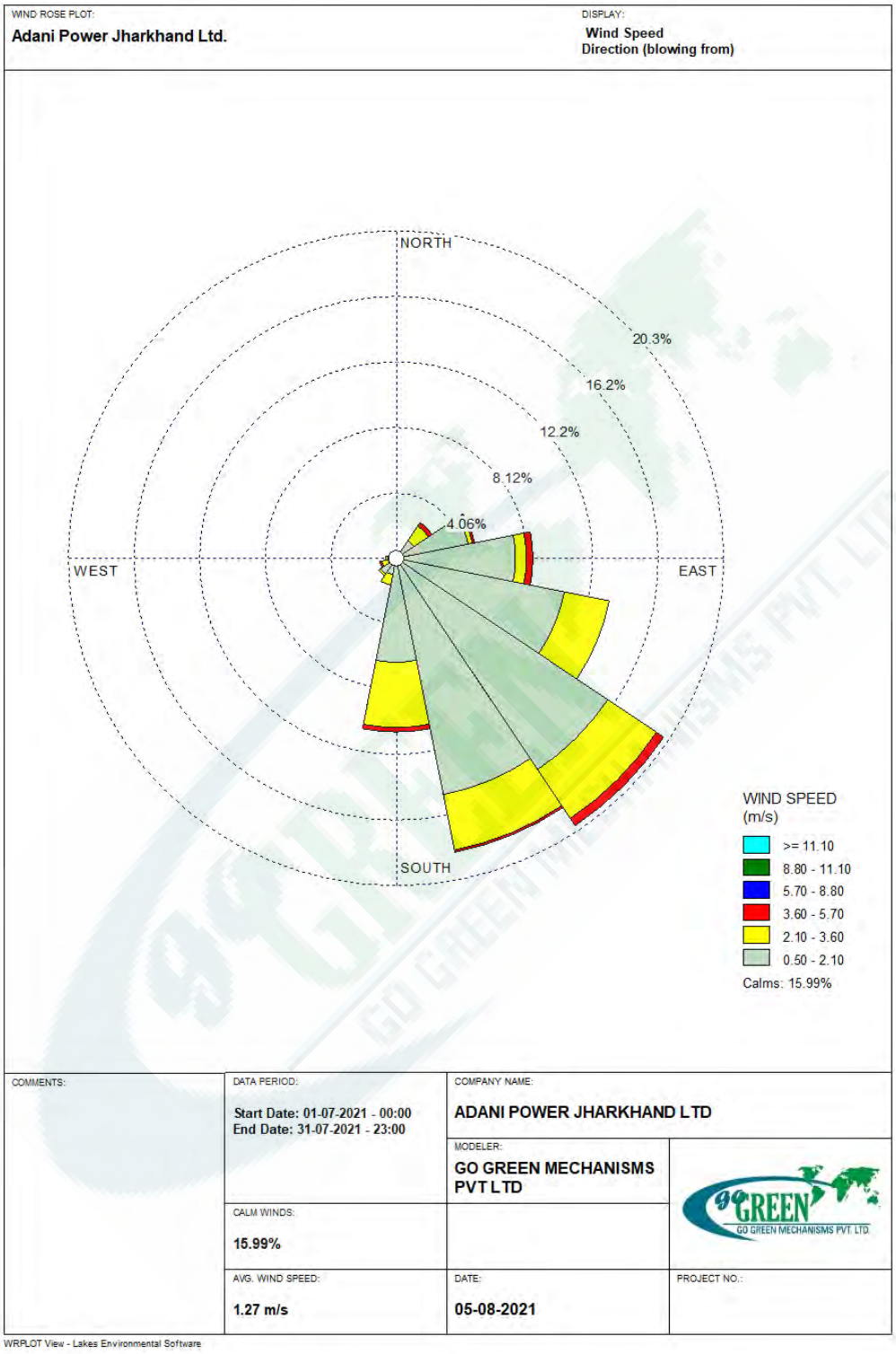


Figure 2: Windrose diagram for the month of Jul'21

It is observed from the windrose diagram for the month of Jul'21 the predominant wind direction is SE.

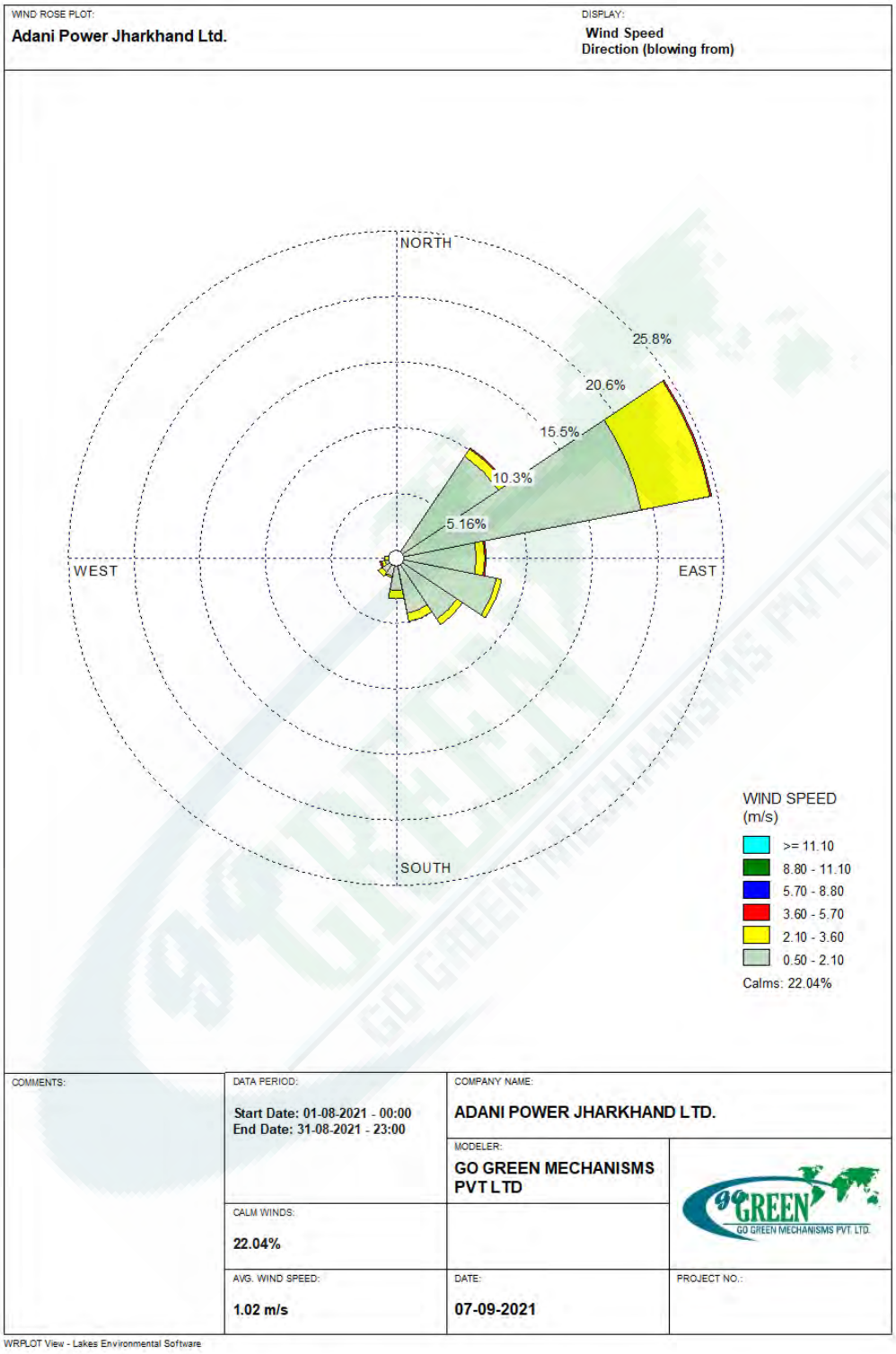


Figure 3: Windrose diagram for the month of Aug'21

It is observed from the windrose diagram for the month of Aug'21 the predominant wind direction is ENE.

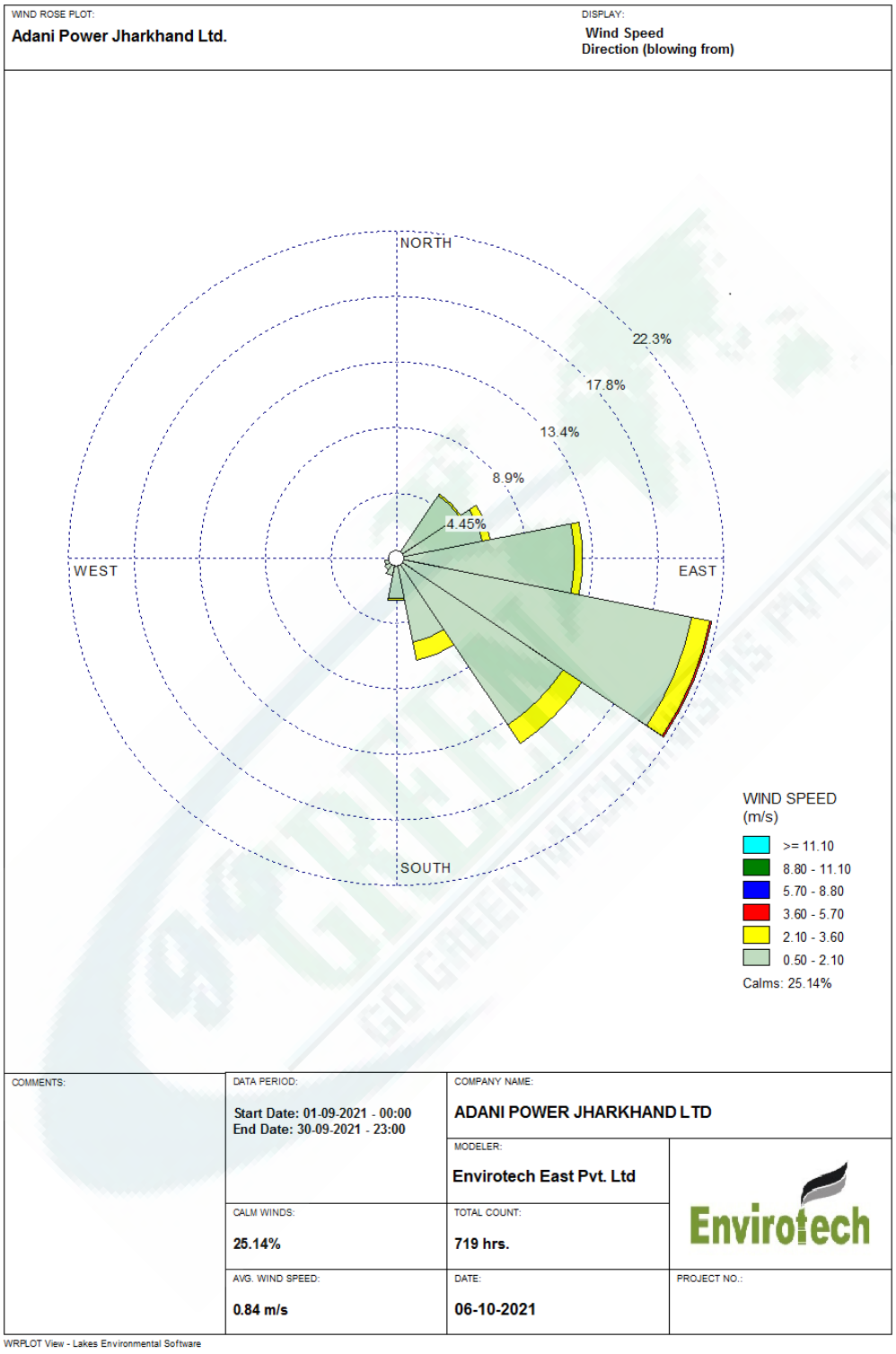


Figure 4: Windrose diagram for the month of Sep'21

It is observed from the windrose diagram for the month of Sep'21 the predominant wind direction is ESE.

SECTION 8: AMBIENT AIR MONITORING REPORT

8.1 CONCEPT & SCOPE

The Ambient Air monitoring encompasses the results and statistical evaluation of the data monitored at three different locations.

Different parameters like PM_{10}, $PM_{2.5}$, Oxides of Sulphur, Oxides of Nitrogen and Mercury are monitored for representing the ambient air quality within the study area.

8.2 FREQUENCY OF SAMPLING

The frequency of the sampling for AAQM was as follows:

PARAMETERS	FREQUENCY OF EACH LOCATION
PM10, PM2.5, Oxides of Sulphur, Oxides of Nitrogen	Twice in a week
Mercury	Once in a month

8.3 SAMPLING DURATION AS PER NAAQMs 2009

Sr. No.	Parameters	Sampling Duration (Hr.)
1	Particulate Matter (PM_{10})	24
2	Particulate Matter ($PM_{2.5}$)	24
3	Oxides of Sulphur (SO_2)	24
4	Oxides of Nitrogen (NOx)	24
5	Mercury	-

8.4 AAQM METHODOLOGY

PARAMETERS	METHODOLOGY/PRINCIPLE
Particulate Matter (PM_{10})	Air is drawn through a size-selective inlet and through a 20.3 X 25.4 cm (8 X 10 in) filter at a flow rate, which is typically 1132 L/min. Particles with aerodynamic diameter less than the cut-point of the inlet are collected, by the filter. The mass of these particles is determined by the difference in filter weights prior to and after sampling. The concentration of PM_{10} in the designated size range is calculated by dividing the weight gain of the filter by the volume of air sampled.
Particulate Matter ($PM_{2.5}$)	An electrically powered air sampler draws ambient air at a constant volumetric flow rate (16.7 lpm) maintained by a mass flow / volumetric flow controller coupled to a microprocessor into specially designed inertial particle-size separator (i.e. cyclones or impactors) where the suspended particulate matter in the $PM_{2.5}$ size ranges is separated for collection on a 47 mm polytetrafluoroethylene (PTFE) filter over a specified sampling period. Each filter is weighed before and after sample collection to determine the net gain due to the particulate matter. The mass concentration in the ambient air is computed as the total mass of collected particles in the $PM_{2.5}$ size ranges divided by the actual volume of air sampled, and is expressed in $\mu g/m^3$. The microprocessor reads averages and stores five-minute averages of ambient temperature, ambient pressure, filter temperature and volumetric flow rate.
Sulphur Dioxide (SO_2)	Sulphur dioxide from air is absorbed in a solution of potassium tetrachloromercurate (TCM). The impingers setup for the absorbance of Sulphur Dioxide from air is shown in Figure 15. A dichlorosulphitomercurate complex, which resists oxidation by the oxygen in the air, is formed. Once formed, this complex is stable to strong oxidants such as ozone and oxides of nitrogen and therefore, the absorber solution may be stored for some time prior to analysis. The complex is made to react with para-rosaniline and formaldehyde to form the intensely coloured pararosaniline methylsulphonic acid. The absorbance of the solution is measured by means of a suitable spectrophotometer.
Nitrogen Dioxide	Ambient nitrogen dioxide (NO_2) is collected by bubbling air through a solution of sodium hydroxide and sodium arsenite. The concentration of nitrite ion (NO_2) produced during sampling is determined colorimetrically by reacting the nitrite ion with phosphoric acid, sulfanilamide, and N-(1-naphthyl)-ethylenediamine dihydrochloride (NEDA) and measuring the absorbance of the highly coloured azo-dyeat 540 nm.

Figure 5: Ambient air Motoring Nr. Mali Village

Figure 6: Ambient air Monitoring Nr. Motia Village

8.5 ANALYTICAL RESULTS

Results & statistical calculations for Location- A1:

Name of Location (A1)		Nr. Motia Village			
Sr. No.	**Date of Sampling**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NOx**
Unit		µg/m³	µg/m³	µg/m³	µg/m³
GSR 826 (E)		100	60	80	80
1.	01.07.2021	20.7	12.4	BQL(QL=5)	BQL(QL=5)
2.	05.07.2021	31.6	15.1	6.7	9.8
3.	08.07.2021	46.9	20.4	7.1	10.3
4.	12.07.2021	55.4	25.4	7.6	11.5
5.	15.07.2021	65.8	28.6	7.9	12.3
6.	19.07.2021	26.8	14.8	BQL(QL=5)	BQL(QL=5)
7.	22.07.2021	40.3	18.2	6.8	10.8
8.	26.07.2021	38.9	17.5	8.1	10.1
9.	29.07.2021	21.7	12.7	BQL(QL=5)	BQL(QL=5)
10.	02.08.2021	23.4	12.4	BQL(QL=5)	BQL(QL=5)
11.	05.08.2021	19.6	10.2	BQL(QL=5)	BQL(QL=5)
12.	09.08.2021	22.6	12.6	BQL(QL=5)	BQL(QL=5)
13.	12.08.2021	27.6	15.2	5.4	8.4
14.	16.08.2021	52.4	18.4	7.4	11.9
15.	19.08.2021	56.9	20.4	6.7	12.2
16.	23.08.2021	30.5	16.4	6.6	10.4
17.	26.08.2021	57.7	26.4	8.1	11.8
18.	30.08.2021	44.3	19.6	7.5	12.1
19.	03.09.2021	50.1	22.4	6.4	11.5
20.	07.09.2021	57.8	26.7	7.8	12.4
21.	10.09.2021	52.1	22.1	8.4	10.9
22.	14.09.2021	32.9	15.9	6.1	8.9
23.	17.09.2021	52.9	25.3	8.3	11.8
24.	21.09.2021	59.6	25.8	9.1	13.4
25.	24.09.2021	65.4	28.4	9.0	14.5
26.	28.09.2021	23.5	13.5	BQL(QL=5)	BQL(QL=5)

RESULT INTERPRETATION				
No. of Observations	26	26	26	26
Min Concentration	19.6	10.2	BQL(QL=5)	BQL(QL=5)
Max Concentration	65.8	28.6	9.1	14.5
Average	41.4	19.1	7.4	11.3

Note: Environmental Quality Monitoring Report for the Month of Sep'21 has been collected by Envirotech East Pvt. Limited.

Results & statistical calculations for Location- A2:

Name of Location (A2)		Nr. Mali Village			
Sr. No.	**Date of Sampling**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NOx**
Unit		µg/m³	µg/m³	µg/m³	µg/m³
GSR 826 (E)		100	60	80	80
1.	01.07.2021	23.7	14.3	BQL(QL=5)	BQL(QL=5)
2.	05.07.2021	34.8	16.5	5.9	8.7
3.	08.07.2021	40.5	19.7	5.6	8.0
4.	12.07.2021	51.6	26.4	7.7	11.9
5.	15.07.2021	61.7	26.7	8.2	12.8
6.	19.07.2021	25.8	15.0	BQL(QL=5)	BQL(QL=5)
7.	22.07.2021	35.9	15.7	6.4	9.7
8.	26.07.2021	36.9	16.8	7.4	12.2
9.	29.07.2021	25.7	13.4	BQL(QL=5)	BQL(QL=5)
10.	02.08.2021	20.1	13.4	BQL(QL=5)	BQL(QL=5)
11.	05.08.2021	17.6	11.4	BQL(QL=5)	BQL(QL=5)
12.	09.08.2021	22.2	13.0	BQL(QL=5)	BQL(QL=5)
13.	12.08.2021	25.9	13.8	5.9	8.7
14.	16.08.2021	48.7	20.5	7.6	12.7
15.	19.08.2021	62.1	24.9	8.1	12.1
16.	23.08.2021	28.7	24.6	7.7	11.7
17.	26.08.2021	60.2	25.8	8.0	12.5
18.	30.08.2021	38.6	18.5	8.3	13.7
19.	03.09.2021	46.4	23.7	7.7	10.5
20.	07.09.2021	51.9	23.9	6.8	11.6
21.	10.09.2021	48.6	20.7	7.0	9.9
22.	14.09.2021	29.9	14.4	5.9	8.6
23.	17.09.2021	48.9	21.8	6.6	9.7
24.	21.09.2021	55.9	27.5	8.1	12.0
25.	24.09.2021	61.8	25.9	8.7	13.1
26.	28.09.2021	24.8	12.7	BQL(QL=5)	BQL(QL=5)

RESULT INTERPRETATION				
No. of Observations	26	26	26	26
Min Concentration	17.6	11.4	BQL(QL=5)	BQL(QL=5)
Max Concentration	62.1	27.5	8.7	13.7
Average	39.6	19.3	7.2	11.1

Note: Environmental Quality Monitoring Report for the Month of Sep'21 has been collected by Envirotech East Pvt. Limited.

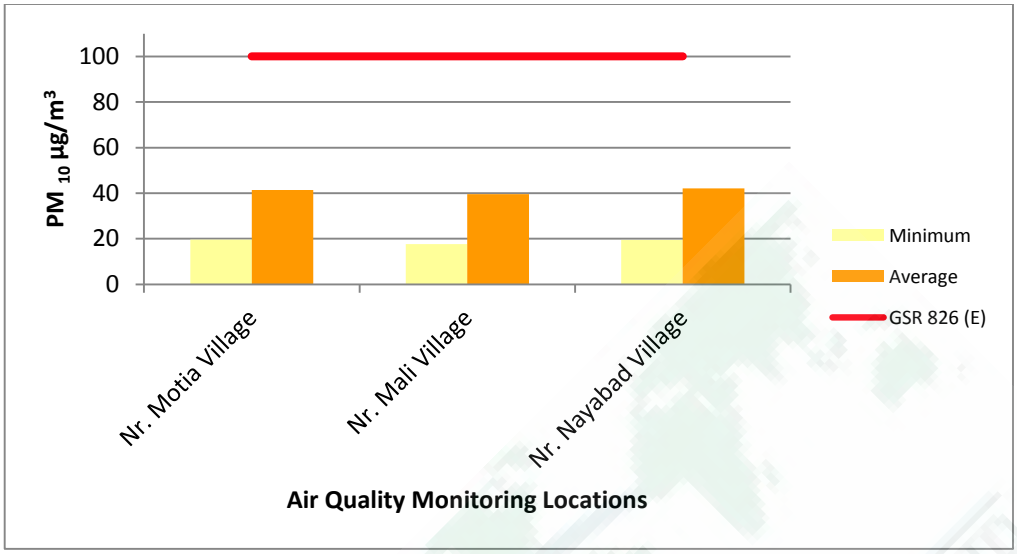
Results & statistical calculations for Location- A3:

Name of Location (A3)		Nr. Nayabad Village			
Sr. No.	**Date of Sampling**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NOx**
Unit		µg/m³	µg/m³	µg/m³	µg/m³
GSR 826 (E)		100	60	80	80
1.	01.07.2021	19.4	13.7	BQL(QL=5)	BQL(QL=5)
2.	05.07.2021	32.9	15.6	6.0	8.3
3.	08.07.2021	50.2	20.1	6.6	9.5
4.	12.07.2021	57.9	23.2	7.2	10.2
5.	15.07.2021	66.4	28.8	8.4	13.1
6.	19.07.2021	28.5	14.9	BQL(QL=5)	BQL(QL=5)
7.	22.07.2021	41.6	19.8	7.0	11.4
8.	26.07.2021	38.7	18.6	6.9	9.4
9.	29.07.2021	22.4	11.6	BQL(QL=5)	BQL(QL=5)
10.	02.08.2021	26.9	13.9	BQL(QL=5)	BQL(QL=5)
11.	05.08.2021	20.4	10.5	BQL(QL=5)	BQL(QL=5)
12.	09.08.2021	22.6	12.3	BQL(QL=5)	BQL(QL=5)
13.	12.08.2021	30.1	14.2	5.1	9.4
14.	16.08.2021	60.4	21.6	8.4	12.8
15.	19.08.2021	66.7	29.7	6.9	13.2
16.	23.08.2021	32.9	14.4	6.6	10.9
17.	26.08.2021	55.4	23.9	7.4	11.6
18.	30.08.2021	48.9	20.9	7.0	10.6
19.	03.09.2021	47.6	24.6	6.9	11.7
20.	07.09.2021	55.6	21.9	7.1	12.6
21.	10.09.2021	43.9	19.8	6.2	10.1
22.	14.09.2021	30.4	15.8	6.7	9.4
23.	17.09.2021	46.9	20.4	7.4	10.3
24.	21.09.2021	60.7	27.4	7.9	12.8
25.	24.09.2021	67.4	27.9	8.0	13.7
26.	28.09.2021	20.9	11.9	BQL(QL=5)	BQL(QL=5)

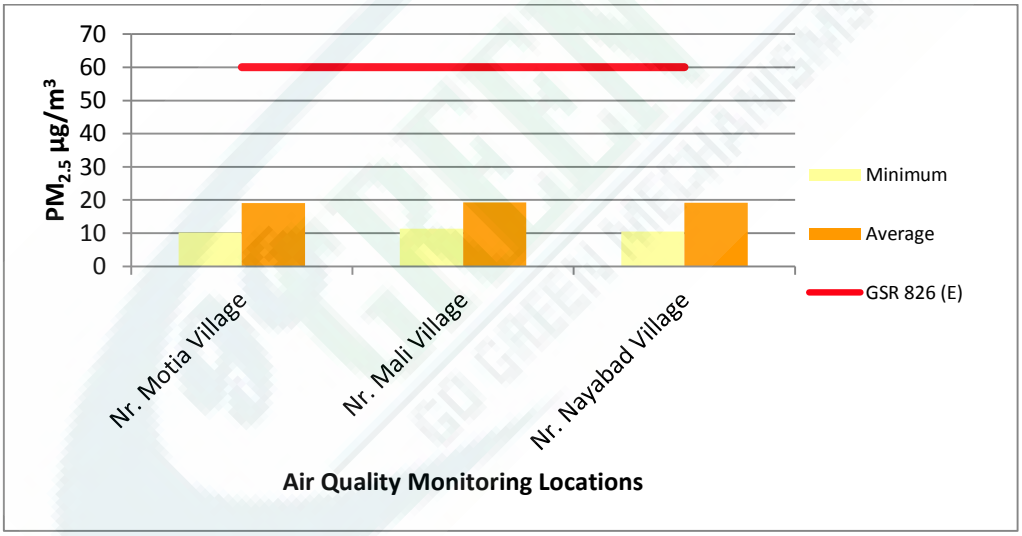
RESULT INTERPRETATION				
No. of Observations	26	26	26	26
Min Concentration	19.4	10.5	BQL(QL=5)	BQL(QL=5)
Max Concentration	67.4	29.7	8.4	13.7
Average	42.1	19.1	7.0	11.1

Note: Environmental Quality Monitoring Report for the Month of Sep'21 has been collected by Envirotech East Pvt. Limited.

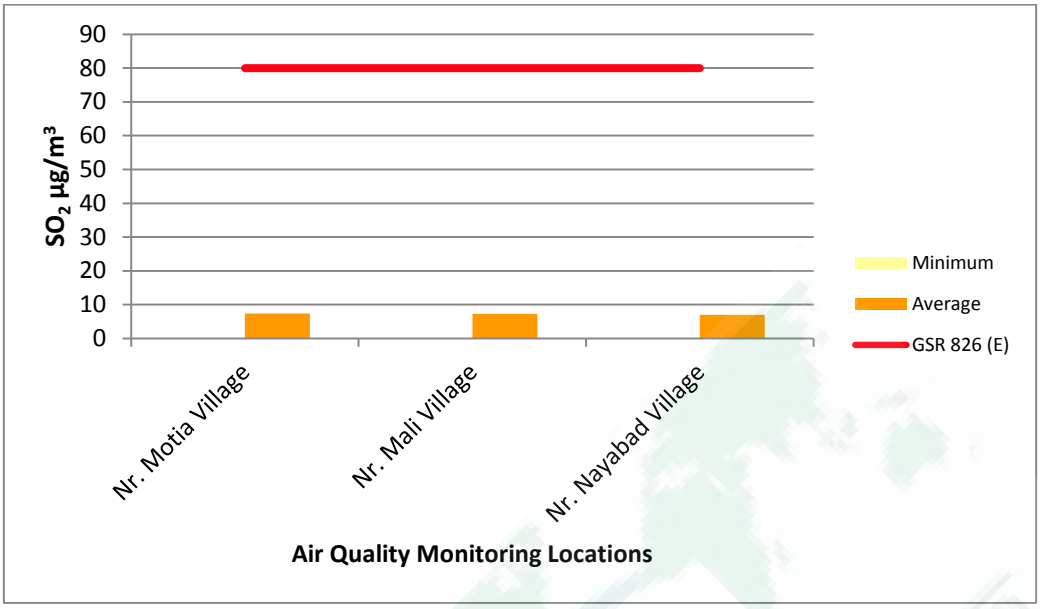
8.6 GRAPHICAL REPRESENTATION OF THE RESULTS



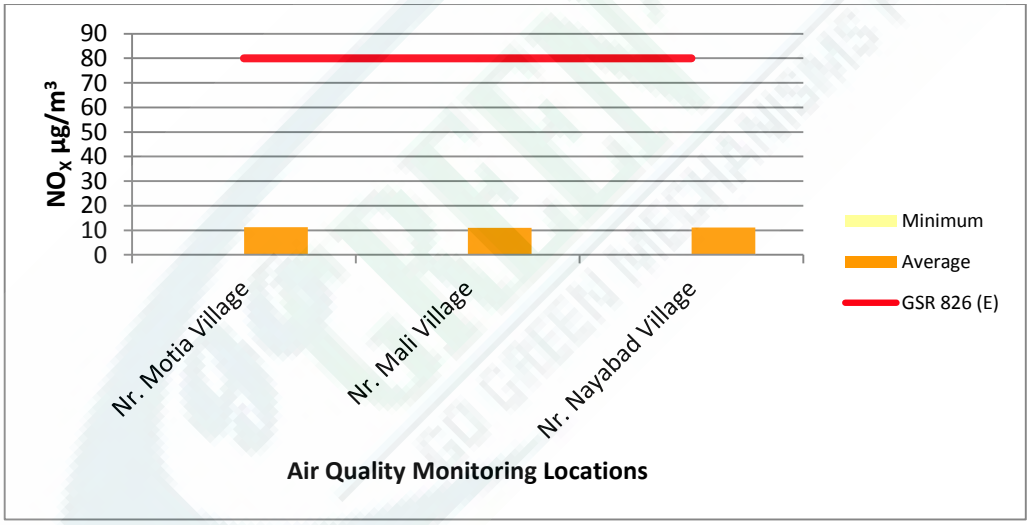
Graph 1: Particulate Matter (PM_{10})



Graph 2: Particulate Matter ($PM_{2.5}$)



Graph 3: Sulphur Dioxide (SO_2)



Graph 4: Oxides of Nitrogen (NO_x)

8.7 EXECUTIVE SUMMARY OF AAQM RESULTS

Particulate Matter (PM_{10})				
Site	**Minimum**	**Maximum**	**Average**	**GSR 826 (E)**
Nr. Motia Village	19.6	65.8	41.4	100
Nr. Mali Village	17.6	62.1	39.6	100
Nr. Nayabad Village	19.4	67.4	42.1	100

Particulate Matter ($PM_{2.5}$)				
Site	**Minimum**	**Maximum**	**Average**	**GSR 826 (E)**
Nr. Motia Village	10.2	28.6	19.1	60
Nr. Mali Village	11.4	27.5	19.3	60
Nr. Nayabad Village	10.5	29.7	19.1	60

Sulphur Dioxide (SO_2)				
Site	**Minimum**	**Maximum**	**Average**	**GSR 826 (E)**
Nr. Motia Village	BQL(QL=5)	9.1	7.4	80
Nr. Mali Village	BQL(QL=5)	8.7	7.2	80
Nr. Nayabad Village	BQL(QL=5)	8.4	7.0	80

Oxides of Nitrogen (NO_x)				
Site	**Minimum**	**Maximum**	**Average**	**GSR 826 (E)**
Nr. Motia Village	BQL(QL=5)	14.5	11.3	80
Nr. Mali Village	BQL(QL=5)	13.7	11.1	80
Nr. Nayabad Village	BQL(QL=5)	13.7	11.1	80

From all the above graphical representation it is clearly interpreted that all the values of PM_{10}, $PM_{2.5}$, SO_2 and NO_X were lower than the prescribed limits for all the stated locations.

8.8 ANALYTICAL RESULTS OF MERCURY

In this study, we also monitored some other critical pollutants like Mercury to assess the existing levels of air pollutants as well as the regional background concentration of the cluster area.
Beside these, some Heavy metal concentration in the ambient air were also monitored in and around the project area. The following tabulated pollutants were monitored once in a month.

Location	Sampling Month	Mercury (Hg)
Unit		µg/m^3
Limits as per GSR 826 Standard		NS
Nr. Motia Village	Jul'21	BQL(QL=0.02)
	Aug'21	BQL(QL=0.02)
	Sep'21	BQL(QL=0.02)
Nr. Mali Village	Jul'21	BQL(QL=0.02)
	Aug'21	BQL(QL=0.02)
	Sep'21	BQL(QL=0.02)
Nr. Nayabad Village	Jul'21	BQL(QL=0.02)
	Aug'21	BQL(QL=0.02)
	Sep'21	BQL(QL=0.02)

Note: NS= Not Specified

Note: Environmental Quality Monitoring Report for the Month of Sep21 has been collected by Envirotech East Pvt. Limited.

SECTION 9: WATER ANALYSIS REPORT

9.1 CONCEPT & SCOPE

Water quality of the project area plays an important role on the socio economy of the Project. The higher concentrations of the water pollutants have serious impacts on the environment. Hence, it becomes important to assess the water quality periodically in the project vicinity.

Thus to assess the water quality of the project area, 04 locations were selected for Ground water sampling, 02 locations were selected for Effluent water sampling and 01 location was selected for surface water sampling.

The quality of Ground water samples were compared with respect to IS 3025/APHA specification, the concentration of the target analytes are within the prescribed limits.

Bacterial examination was also carried out to find out the E-Coli & Total Coliform contamination in water sources.

Note: Environmental Quality Monitoring Report for the Month of Sep'21 has been collected by Envirotech East Pvt. Limited.

9.2 METHODOLOGY

PARAMETER	PRINCIPLE OF METHEDOLOGY
PH	Measurement of pH is one of the most important and frequently used test in water chemistry. Practically every phase of water supply and wastewater treatment, e.g., acid-base neutralization, Water softening, precipitation, coagulation, disinfection and corrosion control, is pH dependent. pH is used in alkalinity and carbon dioxide measurements and many other acid-base equilibria. At a given temperature the intensity of the acid or basic character of a solution is indicated by pH or hydrogen ion activity. Alkalinity and acidity are the acid and base neutralizing capacities of a water and usually expressed in mole per liter, needed to change the pH value of a 1-L sample by 1 unit. pH as defined by Sorenson is –log $[H^+]$; it is the "intensity" factor of acidity
Turbidity	The method is based on a comparison of the intensity of light scattered by a standard reference suspension under the same condition. Higher the intensity of scattered light, the higher the turbidity of particular sample. Formazin polymer is used as the primary standard reference suspension. The turbidity of a specify concentration of formalin suspension is defined as 4000 NTU.
Chloride	In a neutral or slightly alkaline solution, potassium chromate can indicate the endpoint of the silver nitrate titration of chloride. Silver chloride is precipitated quantitatively before red silver chromate is formed.
Fluoride	The SPANDS colorimetric method is based on the reaction between fluoride and a zirconium-dye lake. Fluoride reacts with the dye lake, dissociating a portion of it into a colorless complex anion (ZrF_6^{-2}) and the dye. As the amount of fluoride increase, the color produced becomes progressively lighter. The reaction rate between fluoride and zirconium ions is influenced greatly by the acidity of the reaction mixture. If the proportion of acid in the reagent is increased, the reaction can be made almost instantaneous. Under such condition, however, the effect of various ions differs from that in the conventional alizarin methods. The selection of dye for this rapid fluoride method is governed largely by the resulting tolerance to these ions.
Sulphate	Sulphate ion (SO_4^{2-}) is precipitated in an acetic acid medium with barium chloride ($BaCl_2$) so as to form barium sulphate ($BaSO_4$) crystals of uniform size. Light absorbance of the $BaSO_4$ suspension is measured by a photometer and the SO_4^{2-} concentration is determined by comparison of the reading with a standard curve SO_4^{2-}. The absorbance of the barium sulphate formed is measured by a spectrophotometer at 450 nm.
Cd, Cu, As, Pb, Hg, Zn, Mn	Atomic absorption spectroscopy is based on absorption by ground state atoms of an element present in the sample which is atomized in the flame or graphic furnace. Depending on absorption of selected wavelength of the element the concentration is estimated. The technique provides valuable information on concentration of required elements present in the sample. Concentration are in ppm or ppb levels depending on source of sample excitation.
Iron	Iron is brought into solution, reduced to the ferrous state by boiling with acid and hydroxylamine and treated with 1,10-phenanthroline at pH 3.2 to 3.3 Three molecules of phenanthroline chelate each atom of ferrous iron to form an orange-red complex. The colored solution obeys beer's law; its intensity is independent of pH from 3 to 9. A pH between 2.9 and 3.5 insures rapid color development in the presence of an excess of phenanthroline. Color standards are stable for at least 6 months.

Hexavalent Chromium (As Cr^{+6})	This procedure measures only hexavalent chromium, Cr^{+6}. For total chromium, Determination, acid-digest the sample and follow with a suitable instrumental analysis technique. The hexavalent chromium is determined calorimetrically by reaction with diphenylcarbazide in acid solution. A red-violet colored complex of unknown composition is produced which is measured at 540 nm.
Calcium (As Ca)	When EDTA is added to water containing both calcium and magnesium it combines first with the calcium. Calcium can be determined directly with EDTA, when the pH is made sufficiently high that the magnesium is largely precipitated as the hydroxide and an indicator is used that combines with calcium only. Several indicators give a Colour change when all of the calcium has been complexed by the EDTA at a pH of 12 to 13.
Total Hardness (As $CaCO_3$)	This method depends on ability of EDTA or its disodium salt to form stable complexes with calcium and magnesium ions. When the dye Eriochrome black T (EBT) is added to a solution containing calcium and magnesium ions at pH 10.0 a wine red complex is formed. This solution is titrated with standard solution of disodium salt of EDTA, which extracts calcium and magnesium from the dye complex and the dye is changed back to its original blue Colour. Eriochrome black T is used to indicate the end-point for the titration of calcium and magnesium together.
Residual Chloride	Chlorine will liberate free iodine from potassium iodide (KI) solution at pH 8 or less. The liberated iodine is titrated with a standard solution of sodium thiosulfate ($Na_2S_2O_3$) with starch as the indicator. Titrate at pH 3 to 4 because the reaction is not stoichiometric at neutral pH due to partial oxidation of thiosulfate to sulfate.
Boron (As B)	In the presence of boron, a solution of carmine or carminic acid in concentrated sulphuric acid changes from a bright red to a bluish red or blue, Depending on the concentration of boron present.
Total Dissolved Solids	A well-mixed sample is filtered through a standard filter and the filtrate is evaporated to dryness in a weighed dish and dried to constant weight at 180°C. The increase in dish weight represents the total dissolved solids.
Nitrate	Two moles of nitrate nitrogen react with one mole of chromotropic acid to form a yellow reaction product having maximum absorbance at 410 nm.
Alkalinity (As $CaCO_3$)	Hydroxyl ions present in a sample as a result of dissociation or hydrolysis of solutes react with addition of standard acid. Alkalinity thus depends on the end point pH used. For method of determining inflection points from titration curves and the rationale for titrating to fixed pH endpoints.

Figure 7: Water Sampling Motia Village, Hand pump

Figure 8: Water Sampling Mali Village, Hand pump

Figure 9: Water Sampling Nayabad Village, Hand pump

Figure 10: Water Sampling Patwa Village Hand pump

Figure 11: Water Sampling at STP Outlet plant

Figure 12: Water Sampling at STP Outlet township

9.3 ANALYTICAL RESULTS

Date of Sampling: 05.07.2021

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Motia Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.25	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	384.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	164.9	200	600
5.	Alkalinity as $CaCO_3$	mg/L	72.0	200	600
6.	Calcium as Ca	mg/L	45.6	75	200
7.	Chloride	mg/L	37.1	250	1000
8.	Sulphate	mg/L	28.7	200	400
9.	Nitrate	mg/L	6.0	45	No Relaxation
10.	Iron	mg/L	0.18	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	12.4	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	^{0}C	31.6	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 05.07.2021

Sr. No.	Parameter	Unit	Location Mali Village	As Per IS 10500:2012 Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.26	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	345.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	163.6	200	600
5.	Alkalinity as $CaCO_3$	mg/L	91.0	200	600
6.	Calcium as Ca	mg/L	46.9	75	200
7.	Chloride	mg/L	25.7	250	1000
8.	Sulphate	mg/L	40.1	200	400
9.	Nitrate	mg/L	5.0	45	No Relaxation
10.	Iron	mg/L	0.2	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	11.3	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	31.9	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 05.07.2021

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Nayabad Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.20	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	326.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	179.8	200	600
5.	Alkalinity as $CaCO_3$	mg/L	80.1	200	600
6.	Calcium as Ca	mg/L	44.3	75	200
7.	Chloride	mg/L	30.1	250	1000
8.	Sulphate	mg/L	25.6	200	400
9.	Nitrate	mg/L	4.7	45	No Relaxation
10.	Iron	mg/L	0.2	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	16.8	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	32.6	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 05.07.2021

Sr. No.	Parameter	Unit	Location	As Per IS 10500:2012	
			Patwa Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.32	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	316.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	161.5	200	600
5.	Alkalinity as $CaCO_3$	mg/L	99.0	200	600
6.	Calcium as Ca	mg/L	42.6	75	200
7.	Chloride	mg/L	31.6	250	1000
8.	Sulphate	mg/L	41.1	200	400
9.	Nitrate	mg/L	5.6	45	No Relaxation
10.	Iron	mg/L	0.21	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	13.4	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	31.9	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
32.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
33.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 05.07.2021

Sr. No.	Parameter	Unit	Location STP Outlet (Plant)
1.	pH at 25 °C	--	7.40
2.	Colour	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	38.0
4.	Total Dissolved Solids	mg/L	452.0
5.	BOD at 27°C – 3 Days	mg/L	21.4
6.	Chemical Oxygen Demand	mg/L	75.6
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	55.6
9.	Sulphate as SO_4	mg/L	142.7
10.	Ammonical Nitrogen as NH_3	mg/L	2.9
11.	Total Kjheldal Nitrogen as TKN	mg/L	7.5
12.	Dissolved Phosphate	mg/L	1.2
13.	Aluminum (Al)	mg/L	BQL(QL=0.1)
14.	Arsenic (As)	mg/L	BQL(QL=0.02)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.01)
17.	Copper (Cu)	mg/L	BQL(QL=0.1)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.1)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 05.07.2021

Sr. No.	Parameter	Unit	Location STP Outlet (Township)
1.	pH at 25 °C	--	7.60
2.	Colour	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	35.0
4.	Total Dissolved Solids	mg/L	332.0
5.	BOD at 27°C – 3 Days	mg/L	9.6
6.	Chemical Oxygen Demand	mg/L	33.6
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	31.4
9.	Sulphate as SO_4	mg/L	132.3
10.	Ammonical Nitrogen as NH_3	mg/L	2.8
11.	Total Kjheldal Nitrogen as TKN	mg/L	5.5
12.	Dissolved Phosphate	mg/L	1.4
13.	Aluminum (Al)	mg/L	BQL(QL=0.1)
14.	Arsenic (As)	mg/L	BQL(QL=0.02)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.01)
17.	Copper (Cu)	mg/L	BQL(QL=0.1)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.1)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 06.07.2021

Sr. No.	Parameter	Unit	Location Ganga river
1.	pH @ 25 ^{o}C	...	7.3
2.	Turbidity	NTU	2.2
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	276.0
4.	Total Suspended Solids	mg/L	68.0
5.	Dissolved Oxygen	mg/L	7.3
6.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)
7.	Chloride	mg/L	22.7
8.	Sulphate	mg/L	42.6
9.	Nitrate	mg/L	5.0
10.	Fluoride	mg/L	0.44
11.	BOD at 27°C – 3 Days	mg/L	5.8
12.	Chemical Oxygen Demand	mg/L	24.0
13.	Residual Chlorine	mg/L	BQL(QL=0.05)
14.	Colour	Hazen	BQL(QL=1)
15.	Odour	...	Agreeable
16.	Temperature°C	°C	31.8
17.	Taste	...	Agreeable
18.	Chromium	mg/L	BQL(QL=0.02)
19.	Iron	mg/L	0.18
20.	Copper	mg/L	BQL(QL=0.02)
21.	Zinc	mg/L	BQL(QL=0.02)
22.	Cadmium	mg/L	BQL(QL=0.002)
23.	Lead	mg/L	BQL(QL=0.005)
24.	Arsenic	mg/L	BQL(QL=0.005)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 09.08.2021

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Motia Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.3	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	355.0	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	171.0	200	600
5.	Alkalinity as $CaCO_3$	mg/L	79.0	200	600
6.	Calcium as Ca	mg/L	48.7	75	200
7.	Chloride	mg/L	32.1	250	1000
8.	Sulphate	mg/L	30.8	200	400
9.	Nitrate	mg/L	5.1	45	No Relaxation
10.	Iron	mg/L	0.2	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	12.0	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	30.2	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Silica (Si)	mg/L	8.9	NS	NS
32.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
33.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
34.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: NS - Not Specified

Date of Sampling: 09.08.2021

Sr. No.	Parameter	Unit	location	As Per IS 10500:2012	
			Mali Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.18	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	324	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	157.8	200	600
5.	Alkalinity as $CaCO_3$	mg/L	79.0	200	600
6.	Calcium as Ca	mg/L	42.1	75	200
7.	Chloride	mg/L	26.7	250	1000
8.	Sulphate	mg/L	38.9	200	400
9.	Nitrate	mg/L	4.8	45	No Relaxation
10.	Iron	mg/L	0.18	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	12.8	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	30.7	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Silica (Si)	mg/L	9.7	NS	NS
32.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
33.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
34.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: NS - Not Specified

Date of Sampling: 09.08.2021

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Nayabad Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.30	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	355	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	174.4	200	600
5.	Alkalinity as $CaCO_3$	mg/L	82.4	200	600
6.	Calcium as Ca	mg/L	45.1	75	200
7.	Chloride	mg/L	27.8	250	1000
8.	Sulphate	mg/L	26.2	200	400
9.	Nitrate	mg/L	5.3	45	No Relaxation
10.	Iron	mg/L	0.19	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	15	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	30.8	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Silica (Si)	mg/L	11.2	NS	NS
32.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
33.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
34.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: NS - Not Specified

Date of Sampling: 09.08.2021

Sr. No.	Parameter	Unit	Location	As Per IS 10500:2012	
			Patwa Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.2	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	305	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	143.6	200	600
5.	Alkalinity as $CaCO_3$	mg/L	104	200	600
6.	Calcium as Ca	mg/L	36.9	75	200
7.	Chloride	mg/L	32.7	250	1000
8.	Sulphate	mg/L	37.8	200	400
9.	Nitrate	mg/L	5	45	No Relaxation
10.	Iron	mg/L	0.17	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	12.5	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	32.5	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Silica (Si)	mg/L	12.2	NS	NS
32.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
33.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
34.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: NS - Not Specified

Date of Sampling: 09.08.2021

Sr. No.	Parameter	Unit	Location STP Outlet (Plant)
1.	pH at 25 °C	--	7.10
2.	Colour	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	44
4.	Total Dissolved Solids	mg/L	509
5.	BOD at 27°C – 3 Days	mg/L	22.1
6.	Chemical Oxygen Demand	mg/L	80.4
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	61.8
9.	Sulphate as SO_4	mg/L	145.8
10.	Ammonical Nitrogen as NH_3	mg/L	3.3
11.	Total Kjheldal Nitrogen as TKN	mg/L	8.1
12.	Dissolved Phosphate	mg/L	1.1
13.	Aluminum (Al)	mg/L	BQL(QL=0.1)
14.	Arsenic (As)	mg/L	BQL(QL=0.02)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.01)
17.	Copper (Cu)	mg/L	BQL(QL=0.1)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.1)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 09.08.2021

Sr. No.	Parameter	Unit	Location STP Outlet (Township)
1.	pH at 25 °C	--	7.30
2.	Colour	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	28
4.	Total Dissolved Solids	mg/L	298
5.	BOD at 27°C – 3 Days	mg/L	10.4
6.	Chemical Oxygen Demand	mg/L	32.4
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	30.4
9.	Sulphate as SO_4	mg/L	119.8
10.	Ammonical Nitrogen as NH_3	mg/L	3
11.	Total Kjheldal Nitrogen as TKN	mg/L	6.4
12.	Dissolved Phosphate	mg/L	0.9
13.	Aluminum (Al)	mg/L	BQL(QL=0.1)
14.	Arsenic (As)	mg/L	BQL(QL=0.02)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.01)
17.	Copper (Cu)	mg/L	BQL(QL=0.1)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.1)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 10.08.2021

Sr. No.	Parameter	Unit	Location Ganga river
1.	pH @ 25 °C	...	7.2
2.	Turbidity	NTU	1.9
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	254.0
4.	Total Suspended Solids	mg/L	59.0
5.	Dissolved Oxygen	mg/L	6.7
6.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)
7.	Chloride	mg/L	20.6
8.	Sulphate	mg/L	41.6
9.	Nitrate	mg/L	4.4
10.	Fluoride	mg/L	0.4
11.	BOD at 27°C – 3 Days	mg/L	6.0
12.	Chemical Oxygen Demand	mg/L	21.6
13.	Residual Chlorine	mg/L	BQL(QL=0.05)
14.	Colour	Hazen	BQL(QL=1)
15.	Odour	...	Agreeable
16.	Temperature°C	°C	31.5
17.	Taste	...	Agreeable
18.	Chromium	mg/L	BQL(QL=0.02)
19.	Iron	mg/L	0.2
20.	Copper	mg/L	BQL(QL=0.02)
21.	Zinc	mg/L	BQL(QL=0.02)
22.	Cadmium	mg/L	BQL(QL=0.002)
23.	Lead	mg/L	BQL(QL=0.005)
24.	Arsenic	mg/L	BQL(QL=0.005)
25.	Silica (Si)	mg/L	8.6

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Date of Sampling: 05.09.2021

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Motia Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.4	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	375	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	181.4	200	600
5.	Alkalinity as $CaCO_3$	mg/L	86	200	600
6.	Calcium as Ca	mg/L	50.4	75	200
7.	Chloride	mg/L	33.4	250	1000
8.	Sulphate	mg/L	27.8	200	400
9.	Nitrate	mg/L	6.1	45	No Relaxation
10.	Iron	mg/L	0.17	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	13.5	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	mg/L	32.4	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Silica (Si)	mg/L	9.4	NS	NS
32.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
33.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
34.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of Sep'21 has been collected by Envirotech East Pvt. Limited.

Note: NS – Not Specified

Date of Sampling: 05.09.2021

Sr. No.	Parameter	Unit	Location	As Per IS 10500:2012	
			Mali Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.3	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	355	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	162.3	200	600
5.	Alkalinity as $CaCO_3$	mg/L	84	200	600
6.	Calcium as Ca	mg/L	45.7	75	200
7.	Chloride	mg/L	24.6	250	1000
8.	Sulphate	mg/L	40.4	200	400
9.	Nitrate	mg/L	5.3	45	No Relaxation
10.	Iron	mg/L	0.16	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	11.7	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	29.9	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Silica (Si)	mg/L	8.4	NS	NS
32.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
33.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
34.	Total Coliform	MPN/100 mL	Absent	-	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of Sep21 has been collected by Envirotech East Pvt. Limited.

Note: NS – Not Specified

Date of Sampling: 05.09.2021

Sr. No.	Parameter	Unit	Locations	As Per IS 10500:2012	
			Nayabad Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.16	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	334	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	164	200	600
5.	Alkalinity as $CaCO_3$	mg/L	46.1	200	600
6.	Calcium as Ca	mg/L	41.6	75	200
7.	Chloride	mg/L	30.8	250	1000
8.	Sulphate	mg/L	22.9	200	400
9.	Nitrate	mg/L	4.8	45	No Relaxation
10.	Iron	mg/L	0.2	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	14.6	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	31.5	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Silica (Si)	mg/L	10.5	NS	NS
32.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
33.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
34.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of Sep'21 has been collected by Envirotech East Pvt. Limited.

Note: NS – Not Specified

Date of Sampling: 05.09.2021

Sr. No.	Parameter	Unit	Location	As Per IS 10500:2012	
			Patwa Village	Acceptable Limit	Permissible Limit
1.	pH @ 25 ^{o}C	...	7.18	6.5 to 8.5	No Relaxation
2.	Turbidity	NTU	BQL(QL=0.1)	1	5
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	298	500	2000
4.	Total Hardness as $CaCO_3$	mg/L	154.6	200	600
5.	Alkalinity as $CaCO_3$	mg/L	96	200	600
6.	Calcium as Ca	mg/L	39.8	75	200
7.	Chloride	mg/L	30.1	250	1000
8.	Sulphate	mg/L	40	200	400
9.	Nitrate	mg/L	4.7	45	No Relaxation
10.	Iron	mg/L	0.2	0.3	No Relaxation
11.	Fluoride	mg/L	BQL(QL=0.1)	1	1.5
12.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)	-	-
13.	Zinc (Zn)	mg/L	BQL(QL=0.02)	5	15
14.	Magnesium (Mg)	mg/L	13.4	30	100
15.	Residual Chlorine	mg/L	BQL(QL=0.05)	0.2	1
16.	Colour	Hazen	BQL(QL=1)	5	15
17.	Odour	...	Agreeable	Agreeable	Agreeable
18.	Temperature°C	°C	30.2	-	-
19.	Taste	...	Agreeable	Agreeable	Agreeable
20.	Phenolic Compounds	mg/L	BQL(QL=0.001)	0.001	0.002
21.	Cyanide	mg/L	BQL(QL=0.025)	0.05	No Relaxation
22.	Aluminum (Al)	mg/L	BQL(QL=0.02)	0.03	0.2
23.	Arsenic (As)	mg/L	BQL(QL=0.005)	0.01	0.05
24.	Boron (B)	mg/L	BQL(QL=0.05)	0.5	1
25.	Cadmium (Cd)	mg/L	BQL(QL=0.002)	0.003	No Relaxation
26.	Copper (Cu)	mg/L	BQL(QL=0.02)	0.05	1.5
27.	Lead (Pb)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
28.	Manganese (Mn)	mg/L	BQL(QL=0.05)	0.1	0.3
29.	Mercury (Hg)	mg/L	BQL(QL=0.0005)	0.001	No Relaxation
30.	Selenium (Se)	mg/L	BQL(QL=0.005)	0.01	No Relaxation
31.	Silica (Si)	mg/L	11.9	NS	NS
32.	Detergent	mg/L	BQL(QL=0.05)	0.2	1
33.	E.Coli (MPN/100 ml)	MPN/100ml	Absent	Absent	Absent
34.	Total Coliform	MPN/100 mL	Absent	_	Absent

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of Sep'21 has been collected by Envirotech East Pvt. Limited.

Note: NS – Not Specified

Date of Sampling: 05.09.2021

Sr. No.	Parameter	Unit	Location STP Outlet (Plant)
1.	pH at 25 °C	--	7.30
2.	Colour	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	40
4.	Total Dissolved Solids	mg/L	445
5.	BOD at 27°C – 3 Days	mg/L	23.6
6.	Chemical Oxygen Demand	mg/L	85.4
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	56.7
9.	Sulphate as SO_4	mg/L	140
10.	Ammonical Nitrogen as NH_3	mg/L	3.1
11.	Total Kjheldal Nitrogen as TKN	mg/L	7.6
12.	Dissolved Phosphate	mg/L	1.5
13.	Aluminum (Al)	mg/L	BQL(QL=0.1)
14.	Arsenic (As)	mg/L	BQL(QL=0.02)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.01)
17.	Copper (Cu)	mg/L	BQL(QL=0.1)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.1)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of Sep'21 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 05.09.2021

Sr. No.	Parameter	Unit	Location STP Outlet (Township)
1.	pH at 25 °C	--	7.40
2.	Colour	CU	BQL(QL=1)
3.	Total Suspended Solids	mg/L	31
4.	Total Dissolved Solids	mg/L	314
5.	BOD at 27°C – 3 Days	mg/L	8.9
6.	Chemical Oxygen Demand	mg/L	30.6
7.	Oil & Grease	mg/L	BQL(QL=2)
8.	Chloride	mg/L	32.4
9.	Sulphate as SO_4	mg/L	134.2
10.	Ammonical Nitrogen as NH_3	mg/L	2.8
11.	Total Kjheldal Nitrogen as TKN	mg/L	7.2
12.	Dissolved Phosphate	mg/L	1.2
13.	Aluminum (Al)	mg/L	BQL(QL=0.1)
14.	Arsenic (As)	mg/L	BQL(QL=0.02)
15.	Boron (B)	mg/L	BQL(QL=0.1)
16.	Cadmium (Cd)	mg/L	BQL(QL=0.01)
17.	Copper (Cu)	mg/L	BQL(QL=0.1)
18.	Lead (Pb)	mg/L	BQL(QL=0.02)
19.	Manganese (Mn)	mg/L	BQL(QL=0.1)
20.	Mercury (Hg)	mg/L	BQL(QL=0.001)

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of Sep'21 has been collected by Envirotech East Pvt. Limited.

Date of Sampling: 07.09.2021

Sr. No.	Parameter	Unit	Location Ganga river
1.	pH @ 25 °C	...	7.15
2.	Turbidity	NTU	2
3.	Total Dissolved Solids @ 180 ^{0}C	mg/L	295
4.	Total Suspended Solids	mg/L	71
5.	Dissolved Oxygen	mg/L	7.1
6.	Hexavalent Chromium as Cr^{6+}	mg/L	BQL(QL=0.01)
7.	Chloride	mg/L	21.6
8.	Sulphate	mg/L	43.6
9.	Nitrate	mg/L	4.9
10.	Fluoride	mg/L	0.53
11.	BOD at 27°C – 3 Days	mg/L	5.5
12.	Chemical Oxygen Demand	mg/L	23.6
13.	Residual Chlorine	mg/L	BQL(QL=0.05)
14.	Colour	Hazen	BQL(QL=1)
15.	Odour	...	Agreeable
16.	Temperature°C	°C	32.5
17.	Taste	...	Agreeable
18.	Chromium	mg/L	BQL(QL=0.02)
19.	Iron	mg/L	0.16
20.	Copper	mg/L	BQL(QL=0.02)
21.	Zinc	mg/L	BQL(QL=0.02)
22.	Cadmium	mg/L	BQL(QL=0.002)
23.	Lead	mg/L	BQL(QL=0.005)
24.	Arsenic	mg/L	BQL(QL=0.005)
25.	Silica(Si)	mg/L	12.4

The above tabulated results reveal that the concentration of the target analyte is found to be within the prescribed limits.

Note: Environmental Quality Monitoring Report for the Month of Sep'21 has been collected by Envirotech East Pvt. Limited.

Note: NS – Not Specified

ADANI POWER (JHARKHAND) LIMITED

2X800MW ULTRA SUPER CRITICAL THERMAL POWER PLANT

GODDA JHARKHAND

GROUND WATER TABLE

LOCATION:OPEN WELL **MONTH: JULY '2021**

LOCATION NAME	PLINTH HEIGHT	TOTAL DEPTH OF WELL FROM R.L	TOTAL DEPTH OF WELL FROM G.L	DEPTH OF WATER TABLE FROM G.L	WATER COLUMN	DIA- MATER	REMARK
MOTIA VILLAGE	0.70	5.90	5.2	1.7	3.5	2.15	-
MALI VILLAGE	0.50	6.20	5.7	2.85	2.85	2.25	-
NAYABD VILLAGE	0.65	6.35	5.7	2.8	2.9	1.96	-
PATWA VILLAGE	0.70	6.50	5.8	2.85	2.95	2.5	-

All values are in meter(m)

ADANI POWER (JHARKHAND) LIMITED

2X800MW ULTRA SUPER CRITICAL THERMAL POWER PLANT

GODDA JHARKHAND

GROUND WATER TABLE

LOCATION:OPEN WELL **MONTH: August ’2021**

LOCATION NAME	PLINTH HEIGHT	TOTAL DEPTH OF WELL FROM R.L	TOTAL DEPTH OF WELL FROM G.L	DEPTH OF WATER TABLE FROM G.L	WATER COLUMN	DIA- MATER	REMARK
MOTIA VILLAGE	0.70	5.90	5.2	1.5	3.7	2.15	-
MALI VILLAGE	0.50	6.20	5.7	2.6	3.1	2.25	-
NAYABD VILLAGE	0.65	6.35	5.7	2.55	3.15	1.96	-
PATWA VILLAGE	0.70	6.50	5.8	2.55	3.25	2.5	-

All values are in meter(m)

ADANI POWER (JHARKHAND) LIMITED

2X800MW ULTRA SUPER CRITICAL THERMAL POWER PLANT

GODDA JHARKHAND

GROUND WATER TABLE

LOCATION:OPEN WELL **MONTH: Sep '2021**

LOCATION NAME	PLINTH HEIGHT	TOTAL DEPTH OF WELL FROM R.L	TOTAL DEPTH OF WELL FROM G.L	DEPTH OF WATER TABLE FROM G.L	WATER COLUMN	DIA- MATER	REMARK
MOTIA VILLAGE	0.70	5.90	5.2	1.47	3.7	2.15	-
MALI VILLAGE	0.50	6.20	5.7	2.55	3.1	2.25	-
NAYABD VILLAGE	0.65	6.35	5.7	2.50	3.15	1.96	-
PATWA VILLAGE	0.70	6.50	5.8	2.55	3.25	2.5	-

All values are in meter(m)

SECTION 10: NOISE LEVEL MONITORING

To know the background ambient noise level at the project and surrounding environment, noise level were measured at all the ambient air monitoring stations for baseline study.

The Day time & Night time average noise level data are given in tabular formats as well as in graphical form for easy interpretation.

Here, the day time means time from 06:00 am to 10:00 pm & night time means time from 10:00 pm to 06:00 am.

$$Leq = \frac{10\ \text{Log10}\ (t1 \text{x} 10^{\frac{L1}{10}} + t2\ \text{x}\ 10^{\frac{L2}{10}} + t3\ \text{x}\ 10^{\frac{L3}{10}} + ..)}{T}$$

Where Leq = Equivalent continuous noise level (dB)(A)
t1 = time at L1 (Hours)
t2 = time at L2 (Hours)
L1 = sound pressure level dB (A) at time 1
T = total time over which the Leq is required (Hours)

(N1) At Motia Village

Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Residential Area		55	55	55	45	45	45
1	09.07.2021	53.9	40.1	46.9	42.1	32.2	36.4
2	13.08.2021	54.3	38.6	47.9	40.8	30.9	37.1
3	24.09.2021	52.6	40.4	48.1	39.4	31.2	35.4

(N2) At Mali Village

Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Residential Area		55	55	55	45	45	45
1	09.07.2021	52.8	37.3	47.9	40.3	30.7	37.2
2	13.08.2021	53.4	38.2	48.1	41.6	31.9	37.6
3	24.09.2021	54.1	39.7	47.5	42.1	30.0	38.1

(N3) At Nayabad Village

Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Residential Area		55	55	55	45	45	45
1	08.07.2021	54.0	38.7	47.8	41.2	32.0	37.6
2	12.08.2021	52.4	37.0	47.4	42.1	33.6	37.9
3	23.09.2021	53.6	38.5	46.9	40.1	30.6	38.2

(N4) At Patwa Village							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Residential Area		55	55	55	45	45	45
1	08.07.2021	53.6	37.8	48.7	41.3	33.1	37.3
2	12.08.2021	52.5	39.4	47.7	42.0	32.6	37.5
3	23.09.2021	53.0	38.6	46.8	40.3	31.4	36.5

(N5) Nr. Adani Office							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	13.07.2021	53.7	38.1	48.1	42.0	31.8	36.5
2	17.08.2021	54.2	40.1	47.6	41.4	32.7	36.0
3	28.09.2021	52.5	36.4	46.5	40.5	31.6	36.2

(N6) Nr. BTG Area (U/C)							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	12.07.2021	72.1	55.5	64.9	60.2	45.9	54.2
2	16.08.2021	73.4	56.0	66.2	65.1	48.6	57.3
3	27.09.2021	71.6	55.8	65.2	57.4	46.2	51.6

(N7) Nr. CT Area							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	12.07.2021	69.9	53.2	62.7	58.0	42.9	50.4
2	16.08.2021	70.8	55.4	63.0	55.3	45.0	48.7
3	27.09.2021	72.4	56.2	63.3	57.1	44.6	50.2

(N8) Nr. RW Reservoir (U/C)							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	13.07.2021	68.7	47.3	62.6	50.4	33.0	42.9
2	17.08.2021	66.1	45.9	61.9	46.8	34.1	40.7
3	28.09.2021	67.5	48.7	63.4	49.4	35.6	43.1

(N9) Nr. STP (In township)							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	15.07.2021	54.1	39.5	48.0	41.7	33.5	36.9
2	19.08.2021	52.8	37.4	47.7	42.7	32.1	37.1
3	29.09.2021	54.6	38.4	47.8	40.6	31.9	35.9

(N10) Nr. Temple (In township)							
Sr. No.	Starting Date	Max Day Time	Min Day Time	Leq (Day)	Max Night Time	Min Night Time	Leq (Night)
	Unit	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
CPCB Standard for Industrial Area		75	75	75	70	70	70
1	15.07.2021	54.3	38.6	47.0	42.6	33.2	37.6
2	19.08.2021	53.1	41.0	46.6	40.4	31.8	36.7
3	29.09.2021	52.7	40.2	47.6	41.9	30.2	38.0

From above tabulated results it can be concluded that the noise level was within the prescribed limits throughout the monitoring period at the stated locations.

Note: Environmental Quality Monitoring Report for the Month of Sep'21 has been collected by Envirotech East Pvt. Limited.

Annexure - II

HALF YEARLY REPORT 2021-22

(APRIL 2021- SEPTEMBER 2021)

INTRODUCTION

The Adani Foundation, the CSR arm of Adani Group of Companies, executes Corporate Social Responsibility projects for Thermal Power Plant, Motia in four main core areas– Education, Community Health, Sustainable Livelihood Development and Community Infrastructure Development. With a people centric approach, the Foundation responds towards the emerging needs at the grass roots level aligning its activities with the Sustainable Development Goals (SDGs) with a vision to end poverty and protect and preserve planet and bring solidarity and peace among all individuals and society. Adani Foundation aims to walk with the communities, empower people to look ahead by making the right choices and securing a bright and beautiful future, together. Amidst COVID 19 outbreak, Gyanodaya program swiftly met the needs of spreading the light of education via electronic & digital media which facilitated the students to continue building their career in a new normal. On the other hand, new opportunities was created amidst outbreak through continuation of Coaching Program for preparation of Jawahar Navodaya Vidyalaya (JNV) Class 6 Entrance Examination & Gyan Jyoti Tuition Programme in TPP core and pipeline area of Godda district. Similarly, it was focused to uplift and enhance the standard of living of rural dwellers through Sustainable Livelihood Development Programme and various Health & Rural infrastructure interventions to upgrade the infrastructure of health institutions to mitigate the crisis occurred due to second wave of COVID 19 and eliminate the hurdles for preparedness for said third wave.

In this financial year Adani's CSR intervention extends to Godda and Sahebganj districts of Jharkhand state covering 192 villages of Core, Periphery, Railway Siding and Pipeline area. Apart from benefitting and engaging communities from our intervention areas, many of CSR activities were conducted in Godda town too for establishing Adani Foundation as a brand among the intellectuals of the society. The CSR Umbrella also shielded the community and public as a whole amidst Epidemic outbreak by instantly providing relief from several COVID Mitigation and Relief Program in all over district. Total population of Godda district is 13.13 lakhs, out of which population of our intervention villages is 60000 approximately. We have been able to benefit 4.53 lakhs people directly and 10.38 lakhs people indirectly across the stretch of 91 Kms ranged from Godda district to Sahebganj district passing through more than hundreds of

project affected villages by organizing various community development activities in Education, Community Health, Sustainable Livelihood and Rural Infrastructure Development verticals.

The robust team of Adani Foundation at Jharkhand comprises of dedicated professionals including Unit CSR Head, Senior Project Officer, Project Officers, Assistant Suposhan Officers, and a deputy manager-CSR from Adani Power (Jharkhand) limited and a Medical team comprises of a doctor and four Para medicos.

The progress of CSR projects/interventions from **April, 2021 to September, 2021** is described in detail as under:

DETAILED DESCRIPTION OF CSR ACTIVITIES

EDUCATION & RURAL SPORTS

Gyan Jyoti Tuition Programme (Providing Quality Education in Society)

1. **'Apna School' initiative to provide coaching classes for students:** This initiative is operational in villages falling under poor socio- economic condition namely Nayabad, Baliakitta, Parasi, Amrakanoli, Kauribihar, Kaithartikar, and Jiyajori village of core, railway line and pipeline area to provide coaching classes to the students till 5th standard and provide access to formal education to the poor and enthusiastic children.

   The total number of students getting benefitted is 220. The local teachers from the community have been engaged in the teaching. This initiative has led to improvement in learning and education of children. This coaching class is also useful to interact with the community.

   The initiative has mainly been taken in area with low literacy level i.e. below 50% literacy among Santhal and Yadav Community (Scheduled Tribes and Other Backward Classes).

SN	PROGRAM LOCATION	BLOCK	CLASS	STUDENTS
1	Nayabad	Godda	I to VIII	17
2	Baliakitta	Podaiyahat	I to V	25
3	Parasi	Podaiyahat	I to V	30
4	Amrakanoli	Poreyahat	I to V	53
5	Kauribihar	Podaiyahat	I to V	40
6	Kaithatikar	Podaiyahat	I to V	20

7	UMS Jiyajori	Mahagama	I to V	35
	TOTAL			**220**

- **Inaugural Program of Gyan Jyoti Tuition Programme:** On 21st September 2021, Adani Foundation in association with Janta Shakti Sangh had organized inaugural program of Gyan Jyoti Tuition Programme at Parasi village of Sondiha panchayat falling under Poreyahat block of Godda district. The Chief Guests present during the occasion were Sh. Maheshwari Yadav, Block Development Officer (BDO) of Poreyahat block, Mr. Manoj Prabhakar (Sr. Project Officer), Adani Foundation, Sh. Surjit Jha, President of Red Cross Society, Mr. Saurabh Parasar, Young Activist along with School Principal and Headmasters of Parasi School, Sondiha along with the participation of 75 children from the village.

  The participants including parents and children were encouraged to enroll their children in Gyan Jyoti Kendra for developing the learning abilities and skills of children and improve their academic performance. Total 30 meritorious children were enrolled after doing assessment of their performance from 23rd September 2021 at Adani Gyan Jyoti Kendra, Parasi.

2. Adani Gyan Jyoti Yojana (Group 30):- Education plays a vital role in development of society economically, socially and financially, it also helps to them strengthen, so Adani Gyan Jyoti Yojana was initiated in Motia Village in which 30 students each of 8th, 9th & 10th standard studies at the centre for their concept building. In this year, 154 children are enrolled from class 3rd standard till 10th standard in coaching program in core & pipeline villages and they are able to prepare for their upcoming examination through concept building.

SN	PROGRAM LOCATION	BLOCK	STATUS	CLASS	STUDENTS
1	Sondiha	Podaiyahat	Active	III to X	59
2	Motia	Godda	Active	IX to X	60
3	Karnu (Maniamore)	Mahagama	Active	III to VI	35
	TOTAL				**154**

Programme Outcome:

- **<u>Enrollment in Super 30- Class 10th</u>:** During the last year 2020-21, total 46 students were screened after doing assessment of their performance based on their abilities and awareness after taking examination. Out of which, 25 students of Class 10th were selected and enrolled in Gyan Jyoti Tuition Programme- Super 30 from Motia village, Harijan tola.

- **<u>Academic Performance (Session 2020-21)</u>:** All 25 students had appeared in the 10th board examination and succeeded with improved marks and passed with flying colours. All the students passed the exam with 100% passing percent securing 1st division marks. 11 students have passed with **distinction marks above 75%.** Rest, 14 students have passed the examination with 1st division marks in the range of 60% -73%. Comparatively, since program inception (2018-19), the program has shown a significant improvement in the students' performance with 100% students' under first division bracket (2020-21).

Super 30- Class 10th Results- Gyan Jyoti Tuition Programme

Academic Session	Gyan Jyoti Kendra	Students			Students			Overall Passing %
		Enrolled	Appeared	Passed	1st Division	2nd Division	3rd Division	
2018-19	Motia	30	30	30	20	8	2	**100**
2019-20	Motia	30	30	30	12	13	5	**100**
2020-21	Motia	25	25	25	25	0	0	**100**

- **<u>Passing Result of Class 10th at Panchayat Level</u>:** Baseline survey of total number of students of High School (Class 10th) of three panchayats of project area namely Motia, Sondiha, and Baksara was done followed by conduction of special coaching classes with an objective to get 100% passing result with distinction and higher marks in the JAC Board examination.

- **<u>Under Gyan Jyoti Tuition Programme & Gyanodaya, Godda</u>, students of class 10th standard of three intervention panchayats of TPP Core Area** including Motia, Sondiha, and Baksara were given special focus for the preparation of 10th Board examination for Academic Session 2020-21. In total three panchayats, **270 students** had appeared in the board examination, out of which **252 students have passed the examination with 93.33% passing percentage**. On the other hand, 157 students got 1st Division marks, 89

students got 2nd division marks and 6 students secured 3rd division marks. Overall, **62.30% students** have passed the examination with **1st division marks**.

Panchayat Wise- Class 10th Board Performance of Students								
Panchayat	**School**	**Students Enrolled**	**Students Appeared**	**Students Passed**	**1st Division**	**2nd Division**	**3rd Division**	**Overall Passing %**
Motia	High School, Motia	144	144	129	104	25	0	**89.58**
Baksara	+2 High School, Baksara	97	97	97	47	49	1	**100**
Sondiha	U.H.S Sondiha	29	29	26	6	15	5	**89.65**
Total		**270**	**270**	**252**	**157**	**89**	**6**	**93.33**

3. **Gyanodaya Project: GYANODAYA, 'Mera Mobile, Mera Vidyalaya'**, a step towards lightning in dark was launched by Adani Foundation in partnership with District Administration on August 2018 to promote e-learning through Smart Classes in Middle and Higher Secondary Government Schools for students of 6th-12th standard. Gyanodaya project has reached **280 Govt. Schools** covering 846 classes with its reach spread across **209 remote and untapped villages** of Godda district in 9 blocks of Godda district.

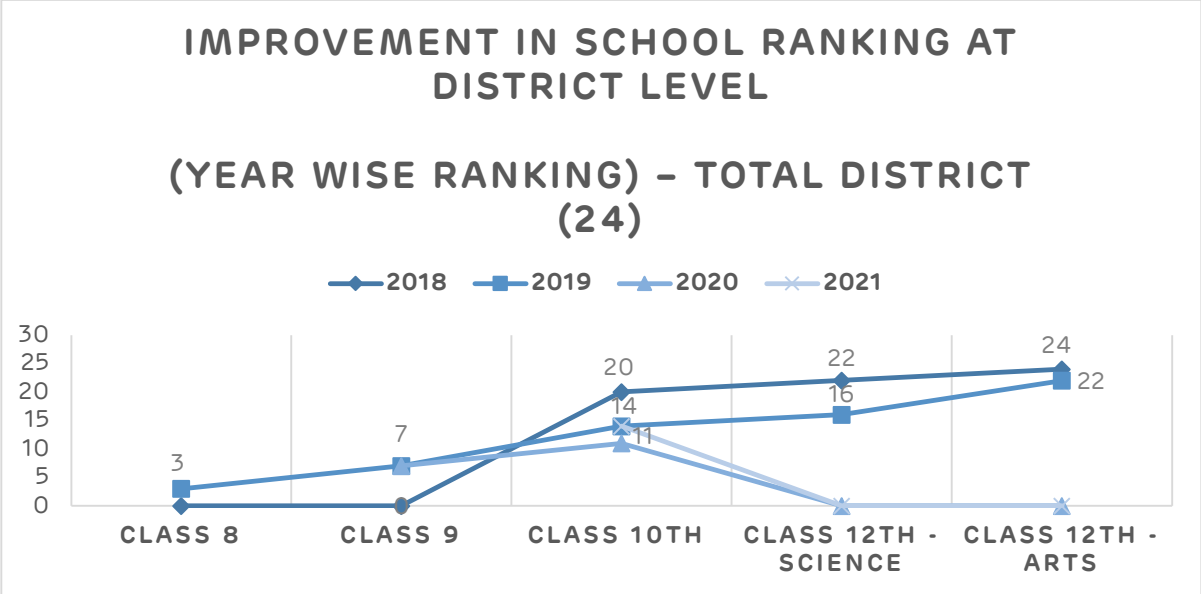
In the tenure of less than 3 years, the program has leveraged its services facilitated by over 1000 skilled teachers and benefitting more than 67,000 students directly. Transformation in their lives has been observed through multiple benefits of digital learning such as - digital skills, decision making capabilities, visual learning, cultural awareness, improved academic performance and creativity. Gyanodaya model is filling the gap of teachers' shortage by enabling students to access the smart classes with a simple touch of TV remote.

Outreach of Gyanodaya: Gyanodaya program has created its impact in **138** Middle Schools**, 103** High Schools, **10** Plus 2 Schools, **17** KGBVs, **7** Welfare Association Schools, and **5** JEE/NEET Centres, respectively.

Block	Middle schools	High Schools	Plus2 Schools	KGBVs	Welfares	JEE/NEET Centres	Aggregate
Godda	42	24	3	2	0	3	**74**
Sunderpahari	3	5	0	2	3	NA	**13**
Podaiyahat	30	16	3	2	0	NA	**51**
Pathargama	24	6	1	2	0	1	**34**
Basantrai	9	5	0	1	0	NA	**15**
Mahagama	13	17	2	2	0	1	**35**
Boarijore	3	8	0	2	4	NA	**17**
Mehrama	6	11	0	2	0	NA	**19**
Thakurgangti	8	11	1	2	0	NA	**22**
Total	**138**	**103**	**10**	**17**	**7**	**5**	**280**

Programme Outcome

1. **Improvement in School Ranking at District Level:** The magnificent attempt of Gyanodaya has resulted into improvement in overall performance of education of Godda District after the year 2018. The School Ranking has improved significantly in the year 2020 as compared to previous years' performance.



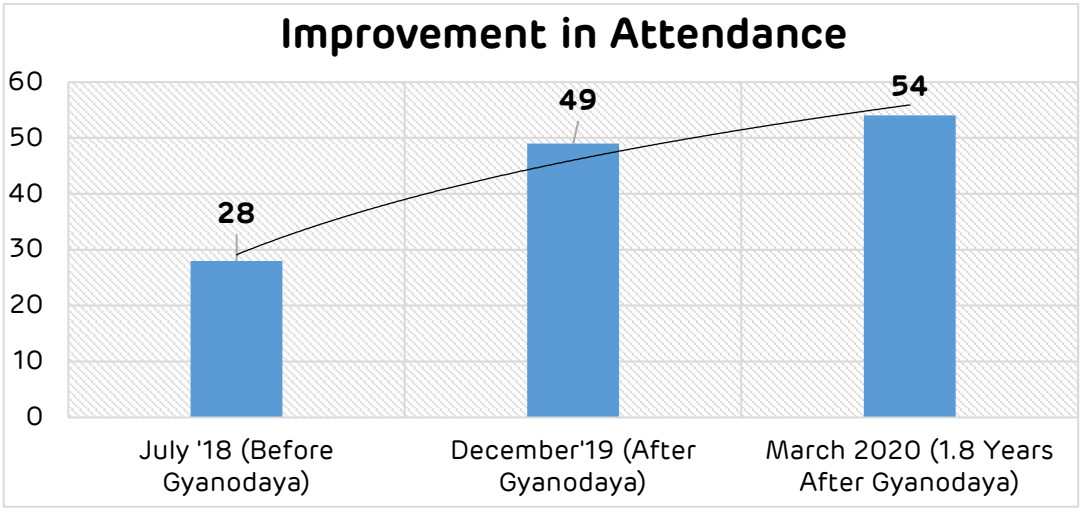
**No Examination held of Class 8th and Class 9th in 2018*

a) Class 9th standard upholds **7th** rank position in the year 2019 & **2020** as compared to **21st position** in the year 2018-19
b) The figures improved from 20th rank (2018) to 14th rank (2019) to **11th** rank in the year **2020** of Class 10th, while, the position went to 14th rank in 2021.
c) 22nd rank (2018) to **16th** rank **(2019)** in class 12th (Science) and
d) 24th rank (2018) to **22nd** rank **(2019)** in class 12th (Arts)
e) Class 8th stands at **3rd** rank (2019) among 24 districts of Jharkhand state.

2. **Increase in Attendance Rate of Students:** The visually appealing, easy-to-grasp and retainable concepts covered in the study materials has led to 170% increase in the class-wise attendance comparing the figures of past years (July 18) from 20% attendance to **54%** (March 2020). A significant reduction in dependency on tuition classes has been observed all across the blocks which will thereby increase the faith of students and parents likewise on government schools. The growth in the class-wise attendance has been a result of making learning engaged and interactive using conceptualized and animated concept videos being taught under the Gyanodaya model.

   No classes were held due to outbreak.

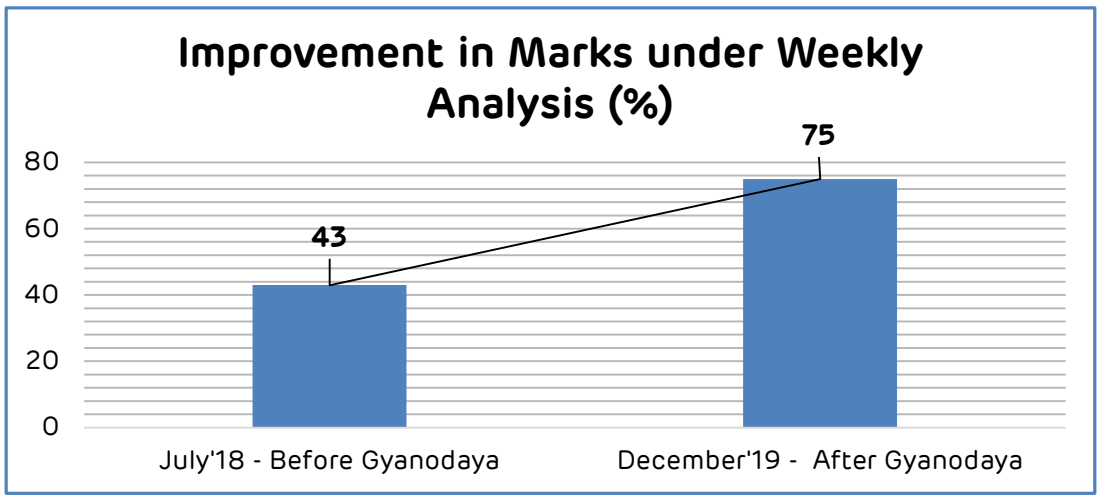
Improvement in Attendance after implementation of Gyanodaya	
July-18 (Before Gyanodaya)	**March 2020 (1.8 Years After Gyanodaya)**
20-30%	54%



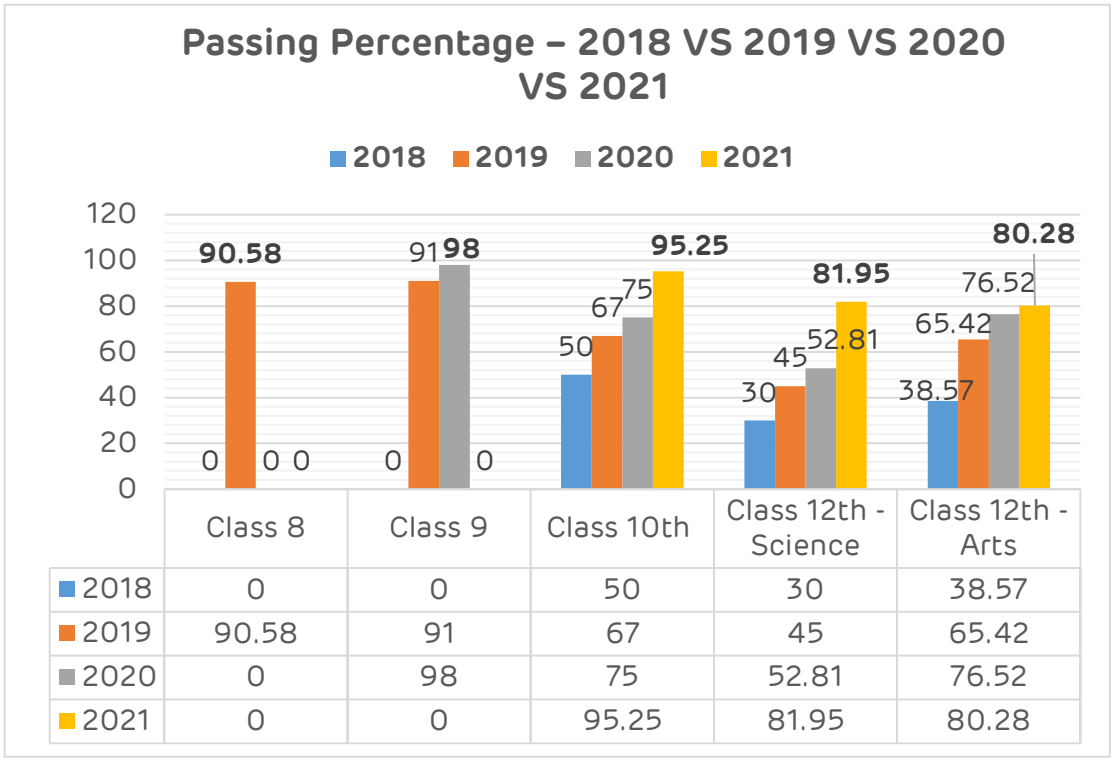
3. **Improvement in Marks of Students:** Prior to educational initiative of Gyanodaya, the students used to fall under 30-40% marks bracket which has now shifted to **70-75%** marks bracket on an average due to better understanding and retention of basic concepts and a daily quiz after every video.

Impact of Gyanodaya project on Results is as given below:

July-18 (Before Gyanodaya)	**December 2019 (1.6 Years After Gyanodaya)**
Improvement in Marks under Weekly Analysis	
30% - 40%	70-75 %



4. **Increase in Passing Percentages:** With the advent of Gyanodaya, the passing percentage of students of Class 10th and Class 12th has increased progressively in the year 2021 as compared to previous three consecutive years 2020, 2019 and 2018.



	Class 8	Class 9	Class 10th	Class 12th - Science	Class 12th - Arts
2018	0	0	50	30	38.57
2019	90.58	91	67	45	65.42
2020	0	98	75	52.81	76.52
2021	0	0	95.25	81.95	80.28

**Year Wise Passing %*

i. **Class 10th:** The passing percentage of students has increased in 2021 **(95.25%)** as compared to status of 2020 (75%), 2019 (67%) & 2018 (50%) of the students of Class 10th

ii. **Class 12th (Science):** The passing % of Intermediate students has improved significantly as compared to figures of 30% in the year 2018, 45% (2019), 52.81 % (2020) to major improvement of **81.95% (2021)** in Intermediate (Science)

iii. **Class 12th (Arts):** The passing % has also improved from 38.57% (2018) to 65.42% (2019) to 76.52% (2020) to **80.28% (2021)** in Intermediate (Arts) Stream.

iv. **Class 9th:** Passing percentage increased from 91% (2019) to **98%** in the year **2020,**

v. On the other hand, the passing percentage of **class 8th** students is **90.58%** in the year **2019**.

Class-wise Improvement in Passing Percentages					
Academic Year	**Class 8th**	**Class 9th**	**Class 10th**	**Class 12th Science**	**Class 12th Arts**
2017-2018	0	0	50	30	38.57
2018-2019	90.58	91	67	45	65.42
2019-2020	NA	98	75	52.81	76.52
2020-2021	NA	NA	95.25	81.95	80.28
% Increase	NA	**7.69**	**90.5**	**173.2**	**108.1**

**Exams were not conducted of class 8th & 9th on 2018*

***% increase figure from 2018 to 2021*

❑ Gyanodaya Initiatives during COVID 19 Epidemic

- **Gyanodaya Godda - Mera Mobile Mera Vidyalaya:** In the view of prevailing Covid-19 pandemic, District Administration Godda in collaboration with Adani Foundation launched a personalized online learning platform called "Gyanodaya Godda - Mera Mobile Mera Vidyalaya" App for students studying in class I to XII. The app contains amended learning materials, video lectures, sample papers, doubt discussion group, test, quizzes and many more based on Jharkhand Board syllabus. The app has better course animated video lectures which enables the students to understand the subject matter easily and well. Uploaded more than 330 Chapters & 2500 Videos til September'21. The app offers original content, watch and learn videos, animations and interactive simulations that help students grasp things easily.

- **Gyanodaya YouTube Channel: Gyanodaya YouTube Live class** for the students studying in class 10th and 12th. Live class benefits can be availed by the students of any district of Jharkhand state. The syllabus of live class is based on Jharkhand Board. So far, **26,104 Views from 1st September to 30th September 2021 in last 30 days.**

- **Gyanodaya DD Jharkhand:** The Department of Education, of Jharkhand state has collaborated at state level, to telecast Gyanodaya classes on DD Jharkhand from 28th June 2021 onwards keeping in view second & third wave of COVID 19. Daily 2 hours of content is broadcasted through DD Jharkhand for students of Class 1st to Class 12th standard residing in remote areas of Jharkhand. It is instrumental in cases where students do not have access to a smart phone or high speed internet access.

  During last year 2020-21, it benefitted over 1 lakh children including both school going students and out of school children from all across the districts of Jharkhand state. It also created a learning space which enriched their knowledge in an inclusive manner for both parents and their wards at home.

❑ **Regular School Visits:** The Schools are reopened of classes 6 to 8 as per decision of the Ministry of Education. Gyanodaya team is continuously visiting schools and verifying following checklist. Discussion was also held with DC Godda with Gyanodaya Team regarding Drop out and Transition rate. Total 43 Schools has been covered including 5 Primary School, 20 Middle School, 1 Upper Middle School, 15 High School, 1 Plus 2 School, and 1 KGBV at Mahagama during the month.

- **Delivery of Gyanodaya Equipments:** Four new High Schools of Godda block including UHS Makhni, UHS Sundar more, UHS Gaychhand and UHS Nipaniya were delivered Gyanodaya Equipments (TV, Inverter, Battery) in September'21.

4. IIT JEE Coaching Classes: The district administration has provided an opportunity to financially weak and meritorious students of the district to access free coaching of IIT JEE entrance exam preparation. The Gyanodaya team has started IIT JEE coaching classes from 14th September 2021 at +2 HS Godda. Out of 22 identified candidates, 17 students has been registered for session 2021-22 and attending the coaching classes regularly.

Awards and Honours

- **Notable Appreciation of Gyanodaya by UNDP & Prime Minister Of India**

The Hard work and perseverance pays off for entire team of Gyanodaya Program. Earlier, it has been appreciated by many dignitaries at **National Level by NITI Aayog**, the **Government of Jharkhand and Education Department**. It had also bagged **"Indian Chamber of Commerce (ICC) Social Impact Award -Promoting Education"** on **12th March 2021** at **Kolkata** on improving the standard of education of the children of Godda district. Nonetheless, the incredible performance of Gyanodaya has left its mark at United Nations level through the publication of "Success Story of Gyanodaya" in transforming the lives of children from the darkness to a ray of hope in the **United Nations Development Programme (UNDP) Report.** The same was appreciated by the **Prime Minster of India (PMO), Shri Narendra Modi** through his twitter account on **12th June, 2021** in the early morning at 8:34 a.m.

- **Celebration of Teachers Day:** Teachers Day was celebrated on 5th September 2021 in Middle School, Parasi to applaud and laud the teachers for their constant support and sacrifices. The people associated in the field of education and who have devoted their life in building secure and bright future of children residing in remote villages through their persistence, hard work, and dedication were honored and felicitated with mementos as a token of love.

  During the occasion, co-curricular activities was also organized, including quiz contest, and essay writing with participation of 50 students from two schools, MS Maldih from Khatnai panchayat, Godda block and MS Parasi from Sondiha

panchayat, Poreyahat block of Godda district. 10 students were awarded with shields and mementos who came up with best of writing and won the contest.

5. **Super 200 Program:** All over total 223 students are identified and are being contacted for super 200 classes. District Administration has been requested to depute some teachers for the successful conduction of classes. Selected students will be getting the opportunity to join online live class, and can avail the facilities like daily assessment, one to one interaction with teachers, study materials etc.

6. **Coaching Program for JNV Class 6 Entrance Examination:** In January 2020, Coaching Program was initiated for the preparation of Jawahar Navodaya Vidyalaya (JNV) Class 6 Entrance Examination amidst Epidemic. The program objective was to nurture the underprivileged students in particular, to bring them at par with others in the development of conducive environment and get 100% improved academic performance of students.

Methodology Adopted

- **a.** Special coaching classes by teachers (Offline mode) at 8 different locations at village level and online access to learning materials by students (self-study) are followed.
- **b.** The preparation of the examination included arrangement of learning materials, stationery items and miscellaneous items for the same.
- **c.** Weekly tests are conducted by teachers for evaluation of students' performance.

Program Output

- **a.** 1312 number of students issued with G-suite ID for accessing online learning material.
- **b.** Out of which, 113 students were provided coaching classes at eight centers facilitated by Adani teachers.

Navodaya Coaching Details			
S.I	**Block**	**Centre Name**	**Students Enrolled**
1	Godda	MS Motiya	18
2	Poreyahat	MS Sondiha	13
3	Poreyahat	MS Baksara	16
4	Poreyahat	MS Birniya	15
5	Godda	Dumariya	9

6	Godda	PS Kaithatikar	14
7	Mahagama	UMS Maniyamore	19
8	Thakurgangti	UMS Baniyadih	9
Total			**113**

Examination Timeline: The program was scheduled to run for 3 months duration prior to scheduled examination in the month of April 2021 of Academic Session 2021-22. However, due to second wave of COVID 19, the examination date was extended in the month of August 2021 as per the decision of Ministry of Education.

Program Outcome: On 11th August 2021, 73 students out of total 113 students had appeared in the examination. The result of Navodaya Vidyalaya Samiti was declared on 27th September 2021. **Out of 73 students, 2 students (Boni Murmu from Gangta village- Motia center & Tripti Kumari from Jajalpur village- Maniyamore center)** have cleared the examination and selected for the admission in JNV for Academic Session 2021-22.

Enrollment for Session 2022-23: Process of Baseline survey, social mobilization and selection of meritorious children is going on for Academic Session 2022-23 with a focus to add more number of children in the basket of success.

7. School Education Sponsorship Program

Context: Jitpur coal block is in north-western part of Chuperbita Basin of Rajmahal coal field in Godda district of Jharkhand. Around, 70 % of population are PVTGs including Santhal and Paharia tribes who resides in outskirts area in rural Godda depending upon traditional culture and lifestyles for their survival. Rain fed farming, NTFPs collection, and wage labor in coal mines during drought period is their only, source of earning and substantial number of people falls under below poverty lines. Due to lack of income, illiteracy, agriculture debt; lack of awareness about their rights and basic provisions, alcoholism and superstitions enters them in vicious circle of poverty.

Also, the tribal children cannot access to basic education due to poor socio and economic condition of their families. They are rather engaged in agriculture, labor, livestock grazing, and monotonous work of households. In times of

nurturing with education and constructive environment, their childhood is lost in solitude and despair with chain of hardships and labor. Also, due to no availability of adequate school and school teachers, there was 100% incidence of dropout in schools.

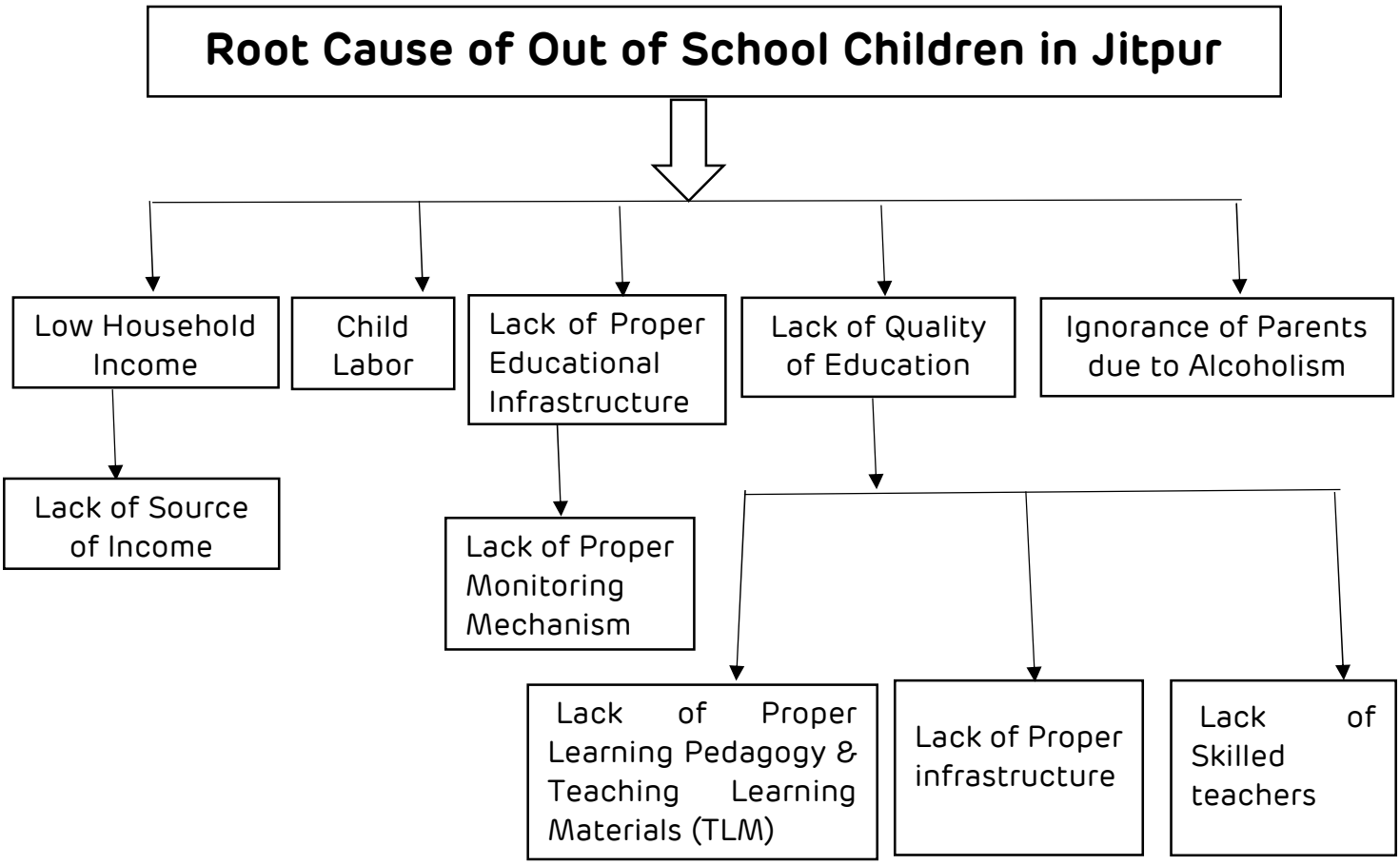


Fig. 1 Root Causes of Drop out of Children in Jitpur coal mines area

Intervention: To reduce the plight of families and overcome difficulties, and reduce dropout rate of tribal children, Adani Foundation team launched *School Education Sponsorship Program* in the year 2016 to provide 100% Education Support for one ward each from 300 Project Affected Families of Jitpur mines to reduce dropout by focusing on quality education and thereby regular attendance of students and ensure 100% literacy in new generation.

Services under Umbrella of Education Sponsorship Program

Under this programme, 100% Educational support is provided which comprises of (a) School Fees, (b) Books, (c) Stationary items, (d) Accommodation facilities, and (e) Fooding and Logistic facilities

i. **School Fees:** The School fees of each children are paid by Adani Foundation under Financial Support for education of children.
ii. **Accommodation facilities:** The students are permitted residential facilities on annual basis for the duration of regular academic session.
iii. **Fooding and Logistic facilities**: The fooding and conveyance facilities are also provided for the children to gain access to schools coming from remote villages. Children are provided three times nutritious and healthy food keeping in safety and security as utmost priority.
iv. **Teaching Learning Tools and Materials** such as Books, Stationary items, and related needs are taken care of each children going to school under umbrella of Education Sponsorship Program.
v. **Skilled Teachers:** Highly qualified and well-versed teachers in nutshell of teaching sector grooms' students towards their better and bright future.

Annual Investment on Building Bright Future of Children

The annual expenses on each child are borne by Adani Foundation. The unit cost of each child ranges from 1500 to 2000 per month i.e., investment of Rs. 24000 annual expense on each child. During the last financial year 2020-21, total thirty-three lakhs for 275 tribal children was supported by Adani Foundation (Negotiated rate due to COVID 19).

Table 1 Financial Investment on Education of Children

Year	Enrolled Students	Expenses per month/ward	Total Expenditure (in Lakhs)
2016-17	155	1500	**27.90**
2017-18	275	1750	**57.75**
2018-19	275	2000	**66.00**
2019-20	275	2000	**66.00**
2020-21	275	1000	**33.00**

Triggers of Adani Foundation

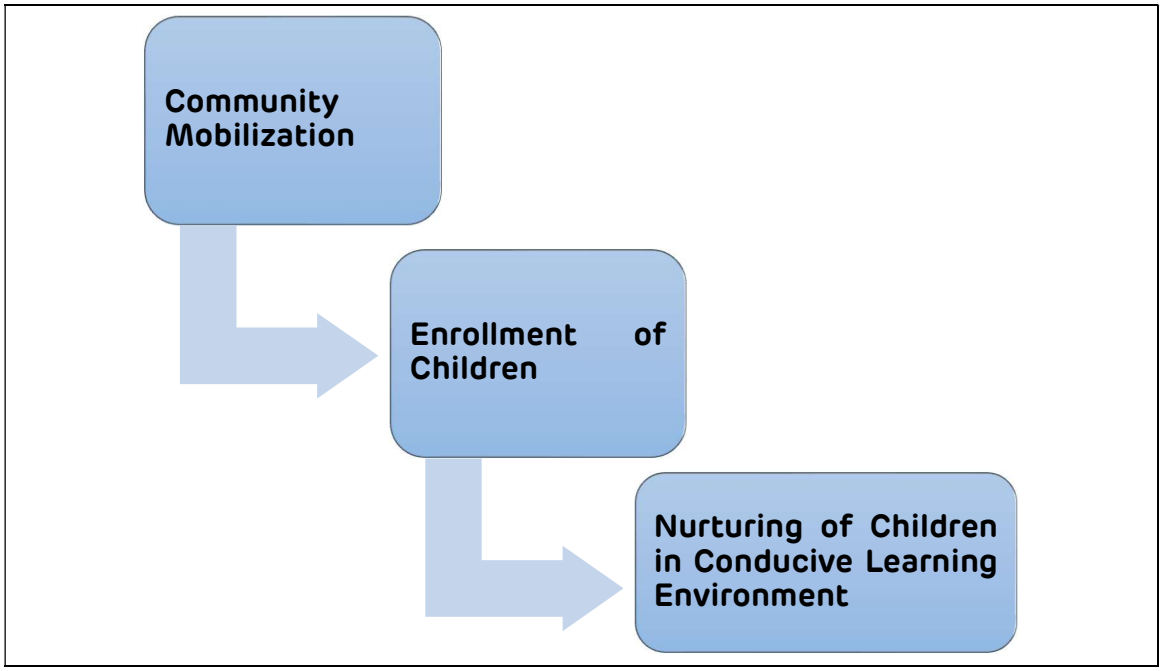


Fig. 2 Process of Intervention

I. **Community Mobilization:** The families were approached to inform, educate, and sensitize on provisions and importance of Residential School Facility under this programme. The community were mobilized with support of Village Resource Person, Community Leaders and active persons which helped disseminate knowledge regarding the services.

II. **Enrolment:** On June 2016, the parents of 155 wards were convinced in each family to enrol their children in educational institutions who were further, admitted in reputed private schools fulfilling all amenities (Table 3). In the first year, it was challenging to retain the enrolled students and attend regular classes, AF team put dire efforts to stabilize and continue the regular course.

Table 2 VILLAGE WISE ENROLLED CHILDREN FROM PROJECT AFFECTED FAMILIES (PAF)

SN	Village	Enrolled (2020-21)	Total No. of Wards
1	Dahubera	29	29
2	Pakeri	13	13

3	Dandagora	20	20
4	Dumarpalam	29	29
5	Jitpur	84	84
6	Kairajori	22	22
7	Paharpur	64	64
8	Sunder Pahari	07	07
9	Telvita	07	07
Total		**275**	**275**

Gradually, with quality learning pedagogy used by teachers and facilities provided to students helped hold children who attended classes with their own interest, effortlessly. It led to link a greater number of children in the succeeding years with enrolment of total 275 children from 275 families in current duration (Table 2 & 3).

Table 3 YEAR WISE PROGRESS IN ENROLLMENT OF TRIBAL CHILDREN UNDER EDUCATION SPONSORSHIP PROGRAM

2016-17	2017-18	2018-19	2019-20	2020-21
155	275	275	275	275

II.1 Enrolment of Children in Schools: The children are enrolled in different Private Schools as per their interest, suitability, and convenience from respective villages. 132 students are learning in Veena Bharti Residential School, 73 students are learning in Viswa Bharti Mission School, 33 students in Nav Prabhat Mission School, and 37 students in Evergreen Bhartiya Charitable Trust (Table 4).

Table 4 School Wise Enrolled Children under Education Residential Program

SN	School	Location	No. of Students
1	Evergreen Bhartiya Charitable Trust	Tiyodih, Sunderpahari Road, Godda	37
2	Viswa Bharti Mission School	Hanuman Nagar, Pakur Road, Godda	73

3	Veena Bharti Residential School	Gunghasa, Poriyahat, Godda	132
4	Nav Prabhat Mission School	Godda	33
Total Students			**275**

II.2 Students Enrolled in Elementary, Primary and Middle Schools: The objective of mainstreaming the poorer tribal children in formal education system has been reached by admitting children in reputed and qualified Private Schools in Godda district of Jharkhand. The commitment to link the tribal children of unheard and marginalized families are fulfilled assuring *"Equal Right of Education for Every Child".*

Table 5 Class Wise Students under Education Sponsorship Programme

SN	School/Class	Number of Students										Total
		Nursery	L.K. G	U.K. G	I	II	III	IV	V	VI	VII	
1	Evergreen Bhartiya Charitable Trust	0	0	5	0	14	4	4	6	3	1	**37**
2	Viswa Bharti Mission School	0	8	19	17	21	3	4	1	0	0	**73**
3	Veena Bharti Residential School	0	21	31	29	22	14	5	5	4	1	**132**
4	Nav Prabhat Mission School	0	0	6	15	12	0	0	0	0	0	**33**
Total		**0**	**29**	**61**	**61**	**69**	**21**	**13**	**12**	**7**	**2**	**275**

Class Wise Enrolment of Children: Out of total 275 children studying under Education Residential/Sponsorship Programme, presently, 29 students are studying in L.K.G., 61 students are studying in U.K.G., 61 students in class 1, 69 students in Class 2, 21 students in class 3, 13 students in class 4, 12 students in class 5, 7 students in class 6^{th} and 2 students are studying in class 7^{th} (Table 5).

Project Outcome & Impact

i. **Reduction in Drop Out Rate & Attendance rate of students:** Dropout rate of students studying in schools sponsored by Adani Foundation for the development of children has reduced to 0%. For the last five years of

intervention, the program has effectively retained the 275 students in schools with 100% attendance rate. In the year, 2020-21, the program was facilitated through online coaching by teachers for students having smart phones. On the other hand, the children with no access of smart phones were provided coaching and needful preparation at village level (Table 6).

Table 6 Details of Dropout & Attendance Rate of Students

Academic Session	Total Students	Dropout Rate (%)	Attendance Rate (%)
2016-17	155	0	100
2017-18	275	0	100
2018-19	300	0	100
2019-20	300	0	100
2020-21	300	0	100

ii. **Average Marks of Students:** The average marks scored by each student in the year 2019-20 was **74.31%.** On the other hand, the highest average mark **78.62%** was attained by students of Nav Prabhat Mission School. Relatively, the average marks secured by the students in the last year 2020-21 has dropped down to 59.76% with again leading performance of students of Nav Prabhat Mission School scoring **72.30%** average marks (Table 7).

iii. **Overall Passing % of Students:** All 275 enrolled children under Sponsorship Programme had appeared in the examination since previous four consecutive years and all the students had passed the examination with 100% passing percentage. Their parents are no longer forcing their wards to engage them in farming and other activities. The children have also become a social agent who passes the message for development of conditions of other children living in their villages and debarring the culture of alcoholism by people in the community for betterment of their society (Table 8).

Table 7 Academic Performance of Students of Session

SN	School	Average Marks of Students (%)	
		2019-20	2020-21
1	Evergreen Bhartiya Charitable Trust	74	43.34

2	Viswa Bharti Mission School	72.78	64.93
3	Veena Bharti Residential School	71.85	58.37
4	Nav Prabhat Mission School	78.62	72.30
Average Marks		**74.31**	**59.76**

Table 8 Year Wise Overall Passing % of Students

Academic Session	Total Students	Students			Overall Passing %
		Enrolled	Appeared	Passed	
2016-17	155	155	155	155	100%
2017-18	275	275	275	275	100%
2018-19	300	275	275	275	100%
2019-20	300	275	275	275	100%
2020-21	300	275	275	275	100%

iv. **Achievements (2020-21):** The academic performance of students in this year 2020-21 came out in range of medium to moderate range with slight improvement in marks secured by students under the category of 1st division, 2nd division and 3rd division marks. Out of total 275 children, **119 students (43.27%) got 1st Division marks**, **90 students (32.73%) secured 2nd division marks and 66 students (24%) secured 3rd division marks** respectively (Table 9).

Table 9 Academic Performance of Students- 2020-21

SN	SCHOOL	Total Students	1st Division (Students)		2nd Division (Students)		3rd Division (Students)	
			Number	%	Number	%	Number	%
1	Evergreen Bhartiya Charitable Trust	37	0	0.00	1	2.70	36	97.30
2	Viswa Bharti Mission School	73	41	56.16	20	27.40	12	16.44
3	Veena Bharti Residential School	132	47	35.61	67	50.76	18	13.64

4	Nav Prabhat Mission School	33	31	93.94	2	6.06	0	0.00
TOTAL		**275**	**119**	**43.27**	**90**	**32.73**	**66**	**24.00**

8. Education Support to Palni

- **Story of Palni Kumari:** Palni Kumari of Simdega, Jharkhand is a teenager nurtured by her only mother in family. At her minor age of 1.5 years, she lost her father. However, Palni and her mother did not lose the courage and showed remarkable resilience in dealing with the difficult situations. It is righty said, age is just a number if we envision to achieve our ambitions debarring all the obstacles and hurdles in the path.

  Her perseverance and tenacity, led to pass the class 6th examination with 75% distinction marks and currently studying in 7th class standard. With a dream to fly high, she aspire to become Nurse and serve the poorer people along with the responsibilities of her mother in her shoulder. Together, Palni and her mother earn their bread and butter and paying school fees by selling chickpeas at the roadside of her locality

- **Adani Foundation Support for Palni's Education:** The Chairman of Adani Group, Hon'ble, Shri Gautam Adani has taken up the Noble work by taking the responsibilities of educating Palni, girl from a small town, Simdega to fulfil her dream of becoming a Nurse. For five years' of duration, Adani Foundation will discharge the duty of Educating Palni Kumari and nurture her in a healthy environment.

Capacity Building Programme

1. **Quiz Contest Program-Under Capacity Building & Competitions-** Gyan Jyoti Tuition Program, the Education Team (Gyan Jyoti Kendra Motia) had organized Two Days Quiz Contest Program on 29th August 2021, among 9th & 10th Class Students, participated by 42 students during this program. The program was organized in two steps 1) written test 2) oral test in which final 9 students selected for final round.

2. **Drawing Competition Program-Under Gyan Jyoti Tuition Program,** the education team at Gyan Jyoti Kendra, Kauribihar had organized Drawing Competition Program on 15th September 2021 participated by 25 students. Every week on Saturday, Recreational cum Co- Curricular activity is organized in each eight Gyan Jyoti Center to develop the personality of children and their overall growth & development. It helps to build up their confidence, inculcate values and culture of discipline and new energy for their aspirational career by crafting their imaginations through art and craft.

Supporting Sports Events

1. **Sports Kit Distribution:** 20 Sports kit were distributed to Sports team comprising of football, and volley ball including Football, Boots, Jersey and, Shoes to more than 7 youth groups under rural youth engagement program to promote recreational activity and sports events in core, and pipeline villages of Godda, and Boarijor block of Godda district. It helped them in regular practice and a means of recreation. The distribution of kit help youth in more engaged in constructive activity.

Sports Kit Distribution					
Particulars	**Date**	**Village**	**Block**	**Quantity**	**No. Of Team**
Football Kit	04.06.21	Jhirli	Boarijor	1	1
Football Kit	17.06.21	Ranidih	Boarijor	1	1
Football Kit	July 2021	Ranidih	Boarijor	1	1
Football Kit	July 2021	Dakaita	Boarijor	1	1
Football Kit	August 2021	Ranidih	Boarijor	1	1
Football Kit	August 2021	Telgama	Boarijor	1	1
Volleyball Kit (Shoes)	27.09.21	Godda	Godda	14	1
Total				**20**	**7**

2. **Sports Tournament:** Three sports tournament including Football, Badminton and general sports were organized with coverage of 17 villages of core, and pipeline areas of Godda & Sahebganj district involving children & youths to instill them with confidence, develop their personality and motivate them for shaping bright future. More than 146 players and 2000 audiences had participated and cheered their favorite team from nearby villages, maintaining safety protocols.

Sports Tournament						
SN	**Sports**	**Date/Month /Year**	**No of Villages/ locations**	**No. of Participants**	**No. of Players**	**Average Audience Size**
1	Football tournament	26.06.21	4	4 teams	60	300
2	Badminton tournament- National Sports Day	29.08.21	12	46 teams	46	800
3	Sports Tournament- National Sports Day	29.08.21	1	6 teams	40	450
Total			**17**		**146**	**1550**

COMMUNITY HEALTH PROGRAMME

Mobile Health Care Unit (MHCU)

During Half Financial Year 2021-2022 (April- September 2021), four Mobile Health Care Units have together catered to **14,914** patients so far from the Core, Periphery, Railway line and Pipeline villages. Adani Foundation runs its own MHCU in core villages, while it has partnered with Helpage India and Wockhardt Foundation to extend primary medical services in periphery and pipeline villages respectively. All of these four MMUs provide services in the villages as per schedule through a team of a Doctor, a Pharmacist, an ANM, and a Social Protection Officer. AF supported mobile medical facilities goes a long way to ensure access of poor people to quality primary health care services at their doorstep. The services provided at doorsteps during COVID 19 has been instrumental in protecting the health of the individuals of all age group and gender.

- **Mobile Health Care Unit in Core villages:** During the Half Financial Year, April-September 2021, Adani operated Mobile Health Care Unit in core villages of TPP area have conducted medical camp along with disbursement of free medicines at 9 locations covering 13 villages along with for labourers working at Site office on daily basis to cater medical needs of the villagers at grassroots. Moreover, the MHCU was catalyst to mitigate the turbulence of 2nd wave of COVID 19 by regulating 24 hours emergency services from Ambulance at Site Office, Motia for nearby project affected areas.

  Total **1858** patients including **908** males, **622** females & **328** children have been served in this year.

Patients treated by Adani Operated MHCU- Core on April-Sep 2021					
SN	**Month**	**Males**	**Females**	**Children**	**Total**
1	April	192	64	33	**289**
2	May	80	19	10	**109**
3	June	73	23	6	**102**
4	July	114	83	48	**245**
5	August	207	171	109	**487**
6	September	242	262	122	**626**
Gross Total		**908**	**622**	**328**	**1858**

- **Helpage India operated MHCU for Periphery Villages:** Helpage India operated MHCU delivered medical services in 26 periphery villages coming under buffer zone 1 and railway siding villages of Adani Power Plant. MHCU was operational at 17 sites covering 26 locations benefitting over total **4085** patients including **1277** males, **1345** females and **1463** children. Apart from sites visit, to cope up and mitigate the impact of COVID 19, Ambulance services was made available for COVID 19 cases at Godda district.

Patients treated by Helpage India MHCU on April-Sep 2021					
SN	**Month**	**Males**	**Females**	**Children**	**Total**
1	April	171	207	154	**532**
2	May	0	0	0	**0**
3	June	0	0	0	**0**
4	July	91	75	96	**262**
5	August	542	500	596	**1638**
6	September	473	563	617	**1653**
Gross Total		**1277**	**1345**	**1463**	**4085**

- **Wockhardt Foundation operated MHCU for Pipeline Villages in Godda:** Adani supported Wockhardt Foundation MHCU team commenced its operation for pipeline area in the villages of Godda district since October '18. Total **6485** patients including **2425** males, **2571** females and **1489** children in 42 villages from 4 blocks namely, Mahagama, Boarijor, Pathargama and Thakurgangti were treated and disbursed free medicines. The camp was conducted adhering to COVID 19 safety protocols by Medical team and the community.

Patients treated by Wockhardt Foundation (Godda) MHCU on April-Sep 2021					
SN	**Month**	**Males**	**Females**	**Children**	**Total**
1	April	318	333	231	**882**
2	May	0	0	0	**0**
3	June	59	61	54	**174**
4	July	556	475	356	**1387**
5	August	677	699	352	**1728**
6	September	815	1003	496	**2314**
Gross Total		**2425**	**2571**	**1489**	**6485**

- **Wockhardt Foundation operated MHCU for Pipeline Villages in Sahebganj:** Adani supported Wockhardt Foundation MHCU team commenced its operation for pipeline area villages of Sahebganj district since 21st September '18. Total **2486** patients including **883** males, **1103** females and **500** children were treated till September in 40 villages from 4 blocks viz. Mandro, Borio, Sahebganj and Taljhari (Boha village) in total 60 stoppages.

Patients treated by Wockhardt Foundation (Sahebganj) MHCU on April-Sep 2021					
SN	**Month**	**Males**	**Females**	**Children**	**Total**
1	April	167	214	125	**506**
2	May	0	0	0	**0**
3	June	0	0	0	**0**
4	July	167	169	78	**414**
5	August	426	570	249	**1245**
6	September	123	150	48	**321**
Gross Total		**883**	**1103**	**500**	**2486**

2. Health & Wellness Center/Clinic in Motia: The **Covid Sample Collection Center** is operational at the Primary Health Center (PHC) in Motia village has swiftly cope up with the need of detecting COVID 19 infection in the individual and provide instant medications and counselling to them. The Medical team has bravely come forward in shielding their community from the threat and attack of COVID virus and continued imparting and disseminating the knowledge and generating awareness

about the new variants of Covid and their complexities to poor people living in remote areas.

3. Specialized Medical Camps: In this Financial Year, Adani Foundation endeavored to cater health needs in a specific health issues of the masses amidst Epidemic outbreak by adhering to safety protocols. Adani Foundation has organized **10 Specialized Health Camp- Eye Camp** and delivered services in 27 villages of four blocks of Godda district namely Godda, Poreyahat, Thakurgangti and Mahagama. Specialized Medical Camps were organized with the objective to provide critical and specialized health care services in villages to cater untreated illness/ medical issues concerning women/ girls and children, elders, laborers and drivers of plant site and eye patients for whom access to safe and standard health services remains a challenge.

Screening of Patients: The Eye Camp included screening and detection of eye issues and its diagnosis during the Eye Camp and medicines were disbursed to the patients followed by proper guidance and counselling. Total **1357 patients** including **626 males, 642 females and 89 children** were screened and diagnosed and served more than 7000 families during the eye camp.

Details of Specialized Medical Camps

SN	Block	Village	Date	Specialization	Patients treated			
					Male	Female	Children	Total
1	Godda	Motia	18.08.2021	Eye Camp	70	81	3	**154**
2	Poreyahat	Sondiha	19.08.2021	Eye Camp	65	34	13	**112**
3	Poreyahat	Basantpur	20.08.2021	Eye Camp	87	61	6	**154**
4	Godda	Kauribihar	21.08.2021	Eye Camp	63	67	1	**131**
5	Godda, Poreyahat	Nayabad & Gumma	08.09.2021	Eye Camp	55	64	5	**124**
6	Poreyahat	Belbarna & Gumma Santhali	09.09.2021	Eye Camp	40	35	4	**79**
7	Poreyahat	Baksara	10.09.2021	Eye Camp	55	74	4	**133**
8	Thakurgangti	Samda	14.09.2021	Eye Camp	76	94	3	**173**
9	Mahagama	Maniyamore	15.09.2021	Eye Camp	67	90	37	**194**
10	Mahagama	Jiyajori	16.09.2021	Eye Camp	48	42	13	**103**
Total					**626**	**642**	**89**	**1357**

4. **Vaccination Drive at PHC, Motia:** Vaccination Drive at Primary Health Center (PHC), Motia has been initiated by CSR Medical team supported by District Administration to protect and shield the individuals dwelling in project affected villages through Vaccination cum Awareness Program. Vaccination dose is being given as per the availability of Vaccine- COVISHIELD and COVAXIN to rural population of the age group between 18-44 years and above 45 years of age of the intervention villages.

5. **Support of Supplementary Food to Malnutrition Treatment Centre (MTC):** Adani Foundation has worked for the cause of improving the status of malnutrition under the India's flagship programme of National Nutrition Mission (POSHAN Abhiyan) by facilitating with adequate Micronutrient-Fortified Foods or Super Food in Malnutrition Treatment Centre (MTC) at Sunderpahari & Boarijore. As per **survey analysis (October-December 2020) by National Health Mission, Jharkhand,** the MTC Centre at Sunderpahari and Boarijore situated in Godda district of Jharkhand is operational contributing **57%** and **67%** in recovery of SAM children into healthy state.

The challenges faced by the rural tribes due to financial inabilities to sustain their livelihood with food and nutritional security and several other factors leads to malnutrition especially among the children and anaemia among the women. The noble motive of this intervention emphasises to protect and save the lives of the malnourished children by providing supplementary nutritional care to the mothers and achieving the objectives of **Anemia Mukt Bharat Programme.** The Essential supplementary food was supported to MTC includes Chickpeas (Chana), Flattened rice (Chura), Sattu, Jaggery and Puffed Rice for the Mothers of children admitted for 15 days' duration. On an average, **300 Supplementary food packets is provided for mothers per month per MTC (15 days* 10 beds* 2 cycle per month).**

6. **Support of Growth Monitoring Device for Anganwadi Centres (AWCs):** Adani Foundation with consistent endeavor for the cause of combating malnutrition and aligning the vision of making Anemia Mukt Bharat, the Women & Child Development department of Godda, has been supported with 201 Growth Monitoring Devices. On **25th August 2021**, **Deputy Development Commissioner (DDC), Godda** was handed over the Growth Monitoring Devices with an objective to channelize one Anganwadi in each panchayat (total 201 panchayats) of Godda

district under Model Anganwadi Programme. The devices including, i. Infantometer, ii. Stadiometer, iii. Baby Weight Machine, iv. Baby Hanging/Suspension Weighing Scales with Weighing Trouser for Baby, and v. Body Weight Machine (Mother) will be instrumental in screening and combating the malnutrition enabling 100% Malnutrition Free villages of Godda, one of the aspirational districts of Jharkhand.

7. Relief Program against Pandemic COVID 19: COVID Relief & Mitigation program was continued by Adani Foundation to cope up with second wave of COVID 19 and to ensure safety and protection of every individual and community from Pandemic. Adani Foundation, District Administration & Municipal Corporation of Godda & Dumka district worked jointly to fight battle against infection of COVID 19 through several interventions:

1. **Support of Essential Commodities & Food Packets to COVID Affected Population:** Adani supported more than 2500 migrant laborers and poorer of core & pipeline villages of Godda district by responding to the subsistence needs & delivered essential commodities & food packets for their families amidst COVID 19.

2. **Equipment Support for COVID Care Center (CCC)/ Health Institution:** Adani has undertaken to support the District Administration and Health Department of Godda and Dumka district to protect and Safeguard the citizens and community.

    i. **Support of Oxygen Cylinder:** 500 Oxygen Cylinder delivered to District Administration of Godda and Dumka district (250 O.C. each).
    ii. **Support of Oximeter:** 900 Oximeter delivered to District Administration of Godda district.
    iii. **Ventilators Support for Health Institution:** Adani has handed over 20 Ventilators on 27th June 2021 for Dumka Hospital amidst the second wave of Covid 19 Pandemic, crucial for declining the incidence of fatalities.

3. **Support to Hospitals- Oxygen Piping Connection:** Adani has undertaken to support the District Administration and Health Department to protect and safeguard the citizens and community through Oxygen piping work during the second wave of Covid 19. Oxygen piping work will mitigate the crisis of Oxygen which is one of the latest COVID bottleneck at this juncture. More than 500 Oxygen Beds has been set up and made operational through oxygen piping

connection work in eight hospitals located in Godda, Sahebganj, Pakur and Dumka district of Jharkhand state.

SN	Location	No. Of Bed Connecting
1	Sadar Hospital, Godda	146
2	Dakaita (Mahagama) Hospital	8
3	Thakurgangti CHC	16
4	Mehrama CHC	20
5	Sahebganj Hospital	50
6	RINCHI Trust Hospital Littipara, Pakur	72
7	Dumka	200
8	Poreyahat Hospital	50
Total		**562**

4. **Oxygen Plant Installation at Dumka:** Adani has continued amidst COVID-19 outbreak to fight together with District Administration of Godda and Dumka to Protect and Safeguard the citizens and community in spatial against new variant of Covid-19 through initiatives such as:

   i. Installation of Oxygen Plant with 50 ICU Beds at Dumka Medical College Hospital.
   ii. The Hospital administration were supported with several medical instruments in tune of Rs. 4 crores.

Review by District Administration, Dumka

The progress of work was minutely inspected by **Honorable Deputy Commissioner (DC), Dumka, Smt Rajeshwari B** on **16th June 2021** along with team of Adani Power (Jharkhand) Limited & Adani Foundation. The intervention will aid in saving the lives and bridge the gap of oxygen deficiency due to financial inabilities of poorer and delay in implementation at District level during second and the upcoming third wave.

5. **Capacity Building & Orientation- Oxygen Plant Orientation- Training at Dumka Hospital:** On 21st September 2021, Oxygen Plant Orientation-

Training was facilitated to the Management & Medical staffs of Dumka Hospital facilitated by team of Electrical, Fire & Safety department from Godda site. The session provided the staffs an in-depth information & practical knowledge through the demonstration of operating oxygen plant in the period of crisis and emergency. Dos and don'ts of operating and handling the system was also briefed to the Medical team of Dumka Hospital.

8. Medical Support and **health checkup** services are carried out by Ambulance and Medical team of Adani Foundation, Godda providing immediate ambulance services in affected region of Godda district.

9. Solar Street Light Installation at Pipeline area, Sahebganj: Under Village Infrastructure Development programme, 15 solar street lights was installed in 12 remotest villages and road side point in three blocks namely, Borio, Mandro, and Sahebganj of Sahebganj district, benefitting more than 10,000 rural population. Solar Street light serves throughout lifetime for community and their upcoming generation. It lighten up the villages and assist the poorer households to commute from one place to another with safety. Health and Life of each individual is also, safeguarded and less incidence of road accidents and other turbulence in the region. The children, women and elders will be benefitted serving largely to the community.

SN	Location	Block	Unit	Population	Duration
1	Shivmandir Jirwawadi	Borio	1	3000	June'21
2	Jirwawadi O. P.	Borio	1	500	June'21
3	Musaffil Police Station	Sahebganj	2	700	June'21
4	Chota Tetariya Ashram	Borio	1	1000	June'21
5	Teliagadhi Majar	Mandro	1	800	June'21
6	Maa Khasi Sthan (Gadhi)	Mandro	1	2000	June'21
7	Mukh Badhir School	Sahebganj	1	150	June'21
8	Lalatok Karmabi (Pahad)	Mandro	3	130	June'21
9	Ranger Office (Nursery)	Sahebganj	1	80	June'21
10	DFO Office Nursery	Borio	1	90	July'21
11	Lohanda Bedi	Borio	1	750	July'21
12	Bada Lohanda	Borio	1	1200	July'21
Total			**15**	**10400**	

Health Awareness Programmes

10. Suposhan Program

Support Program for Sustained Health and Nutrition (SuPoshan): SuPoshan programme, a flagship programme of Adani Foundation, was launched in Godda in January '17 with an objective to reduce the occurrence of malnutrition & anemia amongst children, adolescent girl, pregnant & lactating women within three years of implementation period, Suposhan project has reached out to over 8000 direct beneficiaries. Malnutrition among children of 0 to 5 years has reduced by over 90% i.e. 271 children out of 299 became healthy while Anemia has reduced by more than 46 % i.e. over 813 out of 1758 adolescent girls of 10 to 19 years and women in reproductive age group have become healthy as per Universal HB screening and rest falls under Moderately Anemic Range.

The program has been able to achieve set goals by administering program inputs with target groups such as regular focused group discussions, awareness events, family counseling on topics to bring about change in behavior pattern within the community and raise awareness on various related issues like feeding practices for newborn, introduction of complementary feeding, pregnancy care, health and hygiene, facts and myths related to menstruation cycle, diet and care during sickness, effective methods and habits of cooking, etc. Activities like Hb screening, promoting IFA tablet to anemic girls and women, check-up by pediatrician and MHCU doctor, immunization in VHND, vegetable seeds support too contributed to bring about improvement in health status of malnourished children, girls and women.

11. Dustbin Distribution- Swachhata Abhiyan:

Inculcating Culture of Cleanliness and Sanitation, Swachhata Abhiyan was conducted in villages of TPP core area on 21st September 2021. With an objective to make Universal, affordable and sustainable access to WASH which is a key public health issue and is the focus of the first two targets of *Sustainable Development Goal 6 (SDG 6) - Clean Water & Sanitation*. The School Headmasters took lead to use dustbins provided by Adani Foundation in their schools and guided the students about the core elements of WASH (water, sanitation and hygiene). Six schools of core villages were provided with seven dustbins under Swachhata Abhiyan.

SN	Village	School	Units
1	Motia	MS Motia	1
2	Motia	HS Motia	1

3	Dumaria	MS Dumaria	1
4	Patwa	UMS Patwa	1
5	Sondiha	UHS Sondiha	2
6	Baksara	Plus 2 Baksara	1
Total			**7**

Awareness Programmes

- **Telephonic Follow up & Counselling:** Due to epidemic, telephonic mode has been started to counsel the target groups including Children, Adolescent Girls, Pregnant Women on topic such as Anaemia, Nutrition & Hand wash; Immunisation, Importance of MCP Card, etc.

- **Follow-up of Sanginis: -** Sanginis were taught through telephonic communication for creating awareness on management of COVID 19 situation and family counseling of target groups. Also, counselled on dietary requirements for the adolescent's health and improve the anaemic ratio during using the home base available product like Sprouted seeds, Moringo leaf, using Pulses and other iron reached vegetables.

- **Importance of Hand wash and Social Distancing: -** Sanginis took a lead to guide their community on various measures to fight and tackle with Covid 19, manage social distancing, local measures to boost immunity system, and made aware about hand wash practice through demonstration.

- **E- Learning Course: -** Due to lock down effect of Covid pandemic Suposhan team along with Sangini did E–Learning Courses for time utilization and knowledge purpose.

Awareness Events

The community level events were postponed due to COVID 19 suspected cases in the region. Social distancing was maintained along with no social gathering comprising of maximum 4-5 participants during the event. Various awareness events like celebration of world breastfeeding week, national nutrition month, world environment day, etc. were conducted spreading the message in the community. Various competitions were organized under SuPoshan which play an effective role in spreading the message for care of pregnant lady, signs of malnutrition, right food and care for malnourished child and importance of

hygiene/ sanitation and timely vaccination for good health of child and family to masses as it easily draws attention of public and conveys messages through Banner on MHCU, Slogan writing, Pamphlet, etc. in local language. Activities to stimulate thinking among participants were also conducted on topics such as significance of nutrition and its constituents in regular diet, vitality and method of hand washing, pregnancy care, proper latching and breastfeeding, nutritional requirement and its impact on newborn health, etc.

SN	Event Name	Mode	Date/Duration
1	**World Environment Day**	Village level	5th June 2021
2	**World Breastfeeding Week**	Village level	1st Aug'21-7th August'21
3	**National Nutrition Month**	Village level	1st-30th September 2021
Total			

**Conducted with precautions and safety face masks and sanitizer*

Medical Services

- **Health Awareness:** with collaborative efforts of Adani Foundation & Helpage India in Peripheral & Railway Line village area to provide support for better community health. Health Awareness Program are organised in area to aware rural people about harmful diseases, maintenance of cleanliness, direction for balance diet which help them to fight from diseases and the COVID 19 virus affecting the populations at large scale followed by all safety norms. School children and community persons have become more vocal with active approach towards curbing diseases and sharing of such valuable information among community.

- **Critical Health cases:** Diagnosis of critical cases of laborers working in TPP (site office) is done by CSR Medical Team regularly in an emergency manner.

- **Ambulance Facility to Poor Patients**: Families from 13 core villages have been benefitted from this initiative of Adani whose families remain loyal and grateful to company for the support provided by us in times of distress. Ambulance service is given to poor people belonging to TPP area in times of medical emergency or for transfer of critical patients to higher centre and also for COVID health check-up,

doing home quarantine and quarantine center and treatment like Bhagalpur, Deoghar, Ranchi, and Patna & Other nearby hospitals.

Seasonal Assistance

- **Support for drinking water facility:** AF supported with drinking water facility in Intermediate College, Mahagama (1 RO Water Purifier of 20 LPH) and Community Health Centre (CHC), Mahagama (1 RO Water Purifier of 100 LPH). It will serve to over 1100 students, college staffs and hospital patients, with availability of clean & safe drinking water facility. It will also facilitate in improving the quality of education and delivery of health services in a better manner with better health and hygiene.

- **Cloths Donation Drive- Joy of Giving Week:** Adani Ports & Logistics with support of Adani Foundation had initiated Joy of Giving Week to bring smile in face of unprivileged groups of society by undertaking Cloths Donation Drive on 3rd August 2021 in the most deprived and backwards villages of TPP area. 62 tribals of Nayabad village were benefitted with cloths including Pant, T-Shirt, Jeans, and Jacket.

- **Relief Materials to Affected Families from Natural Hazards (Tarpaulin Distribution):** Under Welfare Support, Relief Materials are distributed to support families affected from natural hazards or manmade calamities for the safety of their health and lives. 30 poorer households of Kauribihar village of Pairidih panchayat were assisted with tarpaulin to live in the shelter with safety during rainy season and protect themselves from uncertain circumstances.

- **Material Support to Community:** The distribution of these materials has helped us to build positive image of Adani amongst people of Godda as well as strengthen our ties with key stakeholders during Pandemic. During the year, Adani Foundation distributed various materials and reach out to more than 200 direct beneficiaries.

Seasonal Assistance to Community							
SN	**Project Area**	**Distribution duration**	**No of Villages/ locations**	**Name of block**	**No. of block**	**No of HHs/families**	**No. of Beneficiaries**
Material Support to Community: Tarpaulin (Rain Affected Families)							
1	Core Area	July'21	1	Godda	1	30	150
Total			**1**		**1**	**30**	**150**

- **Team Participation in cultural event:** Adani Foundation supported the local villagers in organizing festivals and social events to strengthen ties and build

relation with community. It emphasizes to celebrate the cultural program with huge joy and enthusiasm among the rural people. Social occasion program such as Sawan Mahotsav, Dusshera, Harinam Sankirtan, etc. was celebrated in the villages.

Welfare Support

- **Assistance in Health, Marriage and Death:** Adani provides financial support to poor people for such events which require huge expense such as marriage ceremony, educational needs, major illness including hospitalization of patient, death of a person. **115** beneficiaries from 15 villages have been extended financial support to the tune of **Rs. 14,08,369/-**

SN	Support Cause	No. of beneficiaries	Supported Amount
1	Health Support	30	410919
2	Others Support	3	25000
3	Marriage Support	20	79000
4	Death Support	31	163500
5	Education Support	9	198250
6	Social Occasion Support	22	531700
	Total	**115**	**1408369**

SUSTAINABLE LIVELIHOODS

1. **Adani Skill Development Centre:** Adani Skill Development Centre- ASDC, Godda was inaugurated by Executive Director AF- Education and Skills on 27th September 2018. Total Eight trades viz. Welder, Fitter, Mason and Bar bender, General Duty assistant, Hospitality, Electrical, industrial Sewing Machine Operator, and Digital Literacy classes is operational in which over **3358** candidates were trained and benefitted till Financial Year 2021-22.

Trainees Enrolled and Benefitted in Various Trades at ASDC						
S. N	Trade	Year 18-19	Year 19-20	Year 20-21	Year 21-22	Total
		No. of trainees benefitted in 1st Batch	No. of trainees benefitted in 2nd Batch	No. of trainees benefitted in 3rd Batch	No. of trainees benefitted in 4th Batch	
1	Fitter (2 year)	29	91	64	130	**314**
2	Welder	30	35	43	24	**132**
3	Ass. Electrician (2 year)	30	50	65	50	**195**
4	Hospitality	30	65	55	53	**203**
5	Digital Literacy	257	985	432	319	**1993**
6	G.D.A.	30	175	72	73	**350**
7	Bar Bending	30	80	25	36	**171**
Total		**436**	**1481**	**756**	**685**	**3358**

- **Enrollment in New Batch in 2021-22:** In this year, new training batch of Domain and Non-Domain Business trades was started amidst COVID 19 from June'21. Due to outbreak, online training classes at ASDC is operational in Business Trades viz. Fitter, Bar-Bender, Asst. Elec., Welder, GDA, SMO, F&B, trade. Eight batch is operational consisting of 819 candidates provided online training under **Skilling India Program of National Skill India Corporation**. Self-learning model has been initiated amidst COVID 19 from which candidate learns through the learning materials given in the link and after the completion of course will appear on examination to assess their performance followed by certification of the candidates duly provided by NSDC.

ADMISSIONS APRIL '21 TILL SEPTEMBER '21								
SN	**TRADE**	**Apr'21**	**May'21**	**June'21**	**July'21**	**Aug'21**	**Sep'21**	**Total**
NON- DOMAIN								
1	Digital Literacy	0	0	5	18	58	238	**319**
DOMAIN								
2	Bar-Bender	0	0	0	0	13	23	**36**
3	Fitter Mechanical Assembly	0	0	14	15	25	76	**130**
4	GDA	0	0	0	7	8	58	**73**
5	SMO	0	0	36	23	13	62	**134**
6	Welder	0	0	0	1	7	16	**24**
7	F&B	0	0	0	6	13	34	**53**
8	Asst. Electrician	0	0	0	8	10	32	**50**
Grand Total		**0**	**0**	**55**	**78**	**147**	**539**	**819**

- **On Job Training & Placement of Saksham Trainees at ASDC**

  This year, the candidates bagged the offer and got placed at different reputed organization of their domain field. Total **34 candidates** of Fitter (18), Asst. Electrician (3), F & B (11), and Welder (2) trade joined the organization with decent package. The candidates are thankful to ASDC and have expressed gratitude to Adani for such an opportunity.

Placement of Trainees at ASDC (April'21-Sep'21)						
S No	**Trade**	**No of Trainees**	**Location**	**Company Name**	**Salary per Month**	**CTC (In lakhs)**
1	Fitter	2	Ahmedabad	JBM	11000	1.32
2	Fitter	2	Godda	OM Engineering workshop	8000	0.96
3	Fitter	1	Godda	GBT (Gramin Bikash Trust)	7500	0.90

4	Fitter	1	Mundra	Adani Port & Special Economic zone (SEZ)	13200	1.58
5	F & B	5	Godda	Cogent E Service	10000	1.20
6	Fitter	3	Uttarakhand	Micro Turner	13000	1.56
7	Welder	2	Uttarakhand	Micro Turner	13000	1.56
8	F & B	5	Godda	Adani Power (Jh.) Ltd.	8000	0.96
9	F & B	1	Ahmedabad	Jay Bharat Maruti (JBM)	8000	0.96
10	Fitter	9	Ahmedabad	Jay Bharat Maruti (JBM)	14000	1.68
11	Asst. Electrician	3	Ahmedabad	JBM	13000	1.56
	Total Trainees Placed---34					

2. **Vermicomposting production by Farmers:** Vermicomposting production has been started with an objective to enable farmers to become Vermi-Entrepreneurs to boost their income and uplift their socio-economic condition and promotion of Sustainable Livelihood practices among farmers in TPP core and railway line areas. In previous year, 2020-21, the farmers were encouraged to set up vermicomposting units for doing organic based farming and entrepreneurship. The program has trained **227 farmers**, out of which **88 farmers (38.76%)** from **14 villages** had installed total **111 Vermicomposting units** in their backyards or shaded area at their home during last year.

   i. **Village level training on Vermicomposting:** Six village level training (Theoretical & On-Field Demonstration) on Vermicomposting was conducted from 15th September'21 to 23rd September'21 in six core, railway line and pipeline villages of Godda & Sahebganj district namely Parasi (Sondiha), Motia, Dumaria, Kauribahiyar, Govindpur, and Bada Pangro disseminating information & in-depth knowledge to more than 300 landless, small & marginal farmers. The organic step emphasises on capacitating the farmers with technical knowledge of organic farming, its significance and importance on improving socio-economic and ecological conditions. The farmers are encouraged to become *Vermi-Entrepreneurs* to supplement their livelihood with increased monetary income on annual basis in a sustained manner.

Training Details on Vermicomposting				
SN	**Date**	**Panchayat**	**Village**	**Farmers**
1	15.09.21	Sondiha	Parasi, Sondiha	50
2	16.09.21	Motia	Motia	50
3	17.09.21	Dumaria	Dumaria	50
4	19.09.21	Pairidih	Kauribahiyar	30
5	23.09.21	Murlitok	Govindpur, Mahagama	50
6	23.09.21	Bada Taufir	Bada Pangro, Sahebganj	50
Total				**280**

ii. Support of Vermibed & Setup of Vermicomposting Units: 42 farmers of Kauribahiyar, Dumaria, Motia, and Parasi village were supported with Vermibed for doing Vermicomposting and supplementing their livelihood through organic farming and entrepreneurship. So far, **55 farmers** of core & railway line villages have setup 69 Vermicomposting units through Windrow method and use of Vermibed in this year.

Installation of Vermicomposting Units				
SN	**Village**	**Farmer**	**Unit**	**Phase**
1	MALINI	1	2	April- July'21
2	DUMARIA	4	9	April- July'21
3	KURMAN	1	4	April- July'21
4	MOTIA	3	4	April- July'21
5	PATWA	3	3	April- July'21
6	PAKADIA	1	5	April- July'21
Total (a)		**13**	**27**	
Vermibed Distribution				
1	KAURIBAHIYAR	10	10	Sep'21 onwards
2	DUMARIA	16	16	
3	MOTIA	5	5	
4	PARASI	11	11	
Total (b)		**42**	**42**	
Total		**55**	**69**	

3. **Plantation on World Environment Day:** World Environment Day was celebrated on 5th June'21 in plant premises and near Primary Health Centre, Motia among the community to protect the environment and preserve the Mother Earth. Adani Foundation and Medical team encouraged the community to promote afforestation to preserve our Planet, Earth. Saplings of five Ashok and Neem tree was planted by the team members and the community near Primary Health Centre, Motia.

   Plantation of trees enables the human being to survive in a toxic and pollution free environment with inhalation of fresh and pure air and a gift to our 'Mother Earth'. On an average, one tree produces nearly 260 pounds of oxygen each year. Plantation of a tree acts as a detoxification agent and heals and cures many diseases and infection.

4. **Plantation of Horticulture plants: Promote Environment Conservation, Ecological Restoration and Conservation of Biodiversity**
   With, the motto of 'People and Planet', the community were educated to spread awareness on the significance of Plantation with the sustenance of livelihood of the flora and fauna and enlighten the lives of the poorer and downtrodden community. Over 363 households and Forest Office, Godda & Mahagama, were supported with fruit bearing saplings of Mango (3311), Lemon (330) and Guava (135) to supplement their livelihood and improve their health and well- being.

   The community praised Adani Foundation for its continued support for Plantation of trees helps to make the environment cleaner and ensure fresh air around us. Also, the women and adolescents were made aware and sensitized to include nutritional diet in daily routine to reduce occurrence of malnutrition among children and anaemia in adolescents.

5. **Financial Support for Volunteers and Project Affected Families:** This year Jitpur mines has continued to support 370 families project affected families at the rate Rs. 1440/- per month towards livelihood engagement. Also, Rs.1, 65,201 Monthly Honorarium payments for Volunteer was continues this year. These volunteers help the Adani team for field mobilization and also help to maintain positivity in the Project affected Villages.

6. **Celebration of Birthday of Honorable 'Chairman, Adani Group, Shri Gautam S. Adani (GSA)':** On the auspicious occasion on 24th June 2021 of the birthday of our very precious, Honorable Chairman, Adani Group, Shri Gautam

S. Adani, Adani Parivar at Godda had planted more than 50 trees including Peepal, Banyan, etc. near the villages of Thermal Power Plant (TPP) Area. The noble objective was to wish and bless him for a healthy and bright future and continue giving the lives to his family with goodness like a plant embodies oxygen to the human mankind. With, the motto of 'People and Planet', the community were educated to spread awareness on the significance of Plantation with the sustenance of livelihood of the flora and fauna and enlighten the lives of the poorer and downtrodden community.

7. **Social Presentation at Group level – Chief Guest Visit- Adani Investor Group: Visit of Chief Guest- Adani Investor Group from Ahemdabad (H.O)** was done at Godda site for enabling the team to understand **CSR activities on Local and Rural Infra development on 8th and 9th of July 2021** comprising of team of six delegates namely, 1.Mr. Rakesh Tiwary – CFO, Adani electricity Mumbai ltd., (based out of Mumbai), 2. Mr. Sandesh S Shinde – AVP – Finance and Accounts, Adani electricity Mumbai (based out of Mumbai), 3. Mr. Sanjay Poddar – VP – Finance controller – Adani Transmission ltd., 4. Mr. Sanjay Chauhan – VP – Finance Controller – Adani Ports and SEZ ltd., 5. Mr. D. Balasubramanyam – VP – Group Head IR, Adani group, 6.Mr. Satya Prakash Mishra – Senior Manager – IR, APSEZ.

It was a **two days' review visit on 8th & 9th July 2021**, in which the team reviewed and interacted with the stakeholders of CSR initiatives of core Program **Education, Community Health Programme (CHP), Sustainable Livelihood Development, and Rural Infrastructure Development (RID)** consisting of Pond Deepening, Gyanodaya & Super 200 Program, IIT- JEE Student, teaching staffs. They had also visited the Anganwadi centre at Motia, Vaccination centre & Covid -19 Sample Collection Centre visit at Motia, interacted with beneficiary of Medical camp and OPD at Motia PHC Centre. The team also got to assess the impact created in the lives of beneficiaries of Farm & Fish Pond, Integrated farming model at Dumaria, Vermi-compost unit and Suposhan Vatika which supplemented their livelihood, & improved nutritional level.

Nonetheless, the intervention done in the distress period amidst COVID 19 in Sadar Hospital was also examined and interacted with Doctors and the frontline health workers. The SHG model of Uniform Stitching & Production was also reviewed at a glance at ITI Siktia centre visit and interacted with SHG group member of Phoolo Jhano Saksham Aajeevika Sakhi Mandal. While on 9th July, the team reviewed the ongoing project activities in pipeline area of Godda district including MHCU – Wockhardt Foundation, Patient Shed and Labour Room development, Well Renovation, Manjhisthan, MHCU, Bathroom and other RID structures.

8. Silver Jubilee (25 years) Adani Foundation Day Celebration

Adani Foundation Day was celebrated on **11th August 2021** marking **Silver Jubilee (25 years)** at site level. The message of Adani Foundation was spread among the community by joining hands with the masses and instilling values and spirit which signifies Unity, Peace, Solidarity and Holistic Development. Adani Foundation Day was celebrated at Baksara village of Poreyahat block, Godda district by site team and stakeholders including rural beneficiaries, PRI members, District level officials and community.

It was a festive occasion to celebrate with great joy and enthusiasm by filling the colours of hope and dreams of success, worshiping the human identity and integrity, and encouraging the values of everyone. On the occasion, poem recital and tribal dance was organized followed by plantation by community with a gesture to showcase the legacy of Adani Foundation. All community members put forth their well wishes and expressed their heartfelt gratitude to Adani Foundation on breaking the taboos and hurdles of their lives and becoming the foundation for the development of human mankind.

RURAL INFRASTRUCTURE DEVELOPMENT

Water Conservation, Ground water recharge

1. **Deepening work of Ponds:** Pond plays a crucial role in the functioning of natural cycle with enhancement of livelihood of human mankind, and natural species of flora and fauna. It enhances the soil moisture in the agricultural land, increases the water storage capacity of other harvesting structures and recharges ground water level in catchment area enabling access to drinking water namely wells, community wells and hand pumps.

   Pond Deepening work caters to multipurpose usage in relation to livelihood generation for poorer households and community, and water security which entails the reliable availability of an acceptable quantity and quality of water for health, livelihoods and production, coupled with an acceptable level of water-related risks. It also promotes Environment Conservation & Protection, Ecological Restoration

and increase access to Water Commons and other Common Pool Resources (CPRs) in the villages.

In last year 2020-21, pond deepening work was carried out in five ponds of four villages falling under core area. More than 400 farmers availed benefits from pond deepening for doing irrigation in their agricultural land of 607.5 acres along with enhanced soil fertility and restoration of ecology. Impact Assessment was also conducted in aspirational villages including short documentary, and Pani Chaupal to assess the impact leveraged to farmers, and community.

In this year, two pond deepening in Petbi and Gangta village will be initiated to benefit the farmers and community for channelizing economic as well as domestic, cultural and religious activities in villages.

Sr No.	Name of Pond	Village	Status
1	Petbi Pond	Petbi	To be started
2	Barkabandh Pond	Gangta	To be started

Drinking Water Facility

1. **Drinking water facility in villages –Borewell, Community Well etc.:** 1 Borewell was installed at Kauribihar village of core area and 60 wells were renovated in 20 villages of core & pipeline area. The work will facilitate the government functionaries and community during the summer season and all of the year for drinking & domestic use.

2. **Installation, Renovation & Repairing Work of 490 Hand pumps & Hand pump Platform:** Hand pumps are primary source for drinking water and other domestic need in the TPP area. Adani Foundation has been taken up the hand pumps maintenance and repairing work of hand pumps, its installation and construction of hand pump platform in 6 blocks including core, railway line and pipeline villages. With this work, we are ensuring 100% functionality of the hand pumps in the area. This year we have renovated and repaired 477 hand pumps in villages of Godda, Podaiyahat, Thakurgangti, Mahagama, Mehrama & Boarijor blocks of core, railway & pipeline area and 13 hand pump was installed in core (Gumma & Rangania) and pipeline villages benefitting more than 1 lakh rural population. Branding of hand pumps repaired by Adani Foundation are also been done for its recognitions and better monitoring.

Educational infrastructure Development

1. **Construction of 06 Class room** is going on at High School, Motia to provide infrastructure for students to learn in a proper proximity. Also it is helpful to create a better educational environment in the campus. Ongoing.

2. **Construction of Gate at +2 School at Baksara:** To provide better rural infrastructure to enable access to educational institutions for 300 rural children.

3. **Construction of Canteen at Police Line**, Gumma village of railway line area to provide better infrastructure for the government functionaries and delegates. Ongoing.

4. **Construction of Gate at SBSSPJ College, Pathargama Block** to provide better rural infrastructure to enable access to educational institutions for rural children

Health and Sanitation infrastructure Development

Good Health and Well-being is an important indicator of development of individuals, groups, family and society. It also contributes towards achievement of Sustainable Development Goals, ***SDG*** *3 "Ensure* ***healthy*** *lives and promote well-being for all at all ages".* However, due to weakened health institutions, the people faces many difficulties and challenges in availing the public health care services. Ultimately, it results into miserable health conditions and other uncertain situations for whole family due to low household income to afford medical expenses of private hospitals. Similarly, due to defunct and damaged health infrastructure, the operational deliverables in line gets adjourned, affecting the health of the people.

1. **Renovation of Doctor's Quarter & 2 Hospital Building at Thakurgangti Hospital:** Renovation work of hospital building & Doctor's Quarter at Thakurgangti Hospital was done to channelize the functioning of hospital at the earliest to serve the public of pipeline area in large number. It will benefit all stakeholders including the patients, hospital staff and other indirect stakeholders. It will also build more trust and solidarity among public and community.

2. **Construction of Waiting Shade & Labour Room at Mahagama Hospital:** The infrastructure of hospital at Mahagama was in a poor, and defunct condition. There was no seating arrangement facility for the indoor and outdoor patients, and medical and supporting staffs due to which the people suffers in manifolds. Construction of Waiting Shed & Labour Room at Mahagama Hospital helped them to operate all health services in a better manner.

Other Village development structures

1. **Construction of 32 Model Bathroom & Soak pit near Handpump:** As we are working towards creating awareness for cleanliness and hygiene by our program named "SWACCHAGRIH" with aim to aware and engage people in creating cleanliness culture. Some time ago people had not toilets facility in their village and they were using open places for toilet which invites unhygienic condition and diseases among the people. To get rid of from this issue we have constructed model bathrooms with soak pit near hand pump in 9 villages of two blocks namely Mahagama, Boarijor of pipeline area to provide better rural infrastructure in the villages and educational institutions.

S.N.	Duration	Block	Village	No. Of Bathroom	Total HHs	Beneficiary
1	Jun-21	Mahagama	Kaithia	1	50	250
2	Jun-21	Boarijor	Dhankunda	1	40	200
3	Jun-21	Boarijor	Dhamni	2	80	400
4	Jun-21	Boarijor	Jhirli (Pradhan Tola)	13	520	2600
5	Jun-21	Boarijor	Jhirli (Neem Tola)	2	60	300
6	Jun-21	Boarijor	Jhirli (Gandhi Tola)	1	45	225
7	Jul-21	Boarijor	Goradih	4	160	800
8	Jul-21	Boarijor	Madhuchak	1	40	200
9	Aug-21	Boarijor	Goradih	4	120	600

10	Sep-21	Boarijor	Jhirli	2	100	500
11	Sep-21	Boarijor	Dhankunda	1	60	300
Total			**9**	**32**	**1275**	**6375**

2. **Construction of 14 Seating Place (Chabutra) in villages:** Construction of 14 Seating place has been done in 10 pipeline villages. Normally village not having common places in the village for seating purpose for elders and senior citizens. This is being used by the common people in the village for seating purpose.

SN	Village	Block	Unit	Status
1	Telgama	Mahagama	2	Completed-June'21
2	Rahabaria	Boarijor	1	
3	Kamaldori	Boarijor	1	
4	Bhagakol	Thakurgangti	1	
5	Hijri	Boarijor	1	Completed-July'21
6	Baghakol	Thakurgangti	1	
7	Jhirli	Boarijor	1	
8	Deoghar More	Thakurgangti	1	Completed-Aug'21
9	Goradih	Boarijor	1	
10	Goradih	Boarijor	1	Completed-Sep'21
11	Jhirli Nim Tola	Boarijor	1	
12	Dhankunda	Boarijor	1	
13	Dhankunda	Boarijor	1	
	Total		**14**	

3. **Construction of Conference Hall a**t Sibu Soren Janjatiya Inter College, Borio Block (Ongoing) **& Construction of Cultural Stage** at Ranidih (Saroni) for organizing community level program.

4. **Renovation of Community Hall at TPP area for Community Programs** for Promotion of cultural activity and local events at village level for community. It helps share peace and harmony among community. As we are committed to provide better community structures to the village, we have renovated 2 community halls in Choti Baksara, Laiya Tola village, and Choti Baksara, Yadav Tola of core area. This hall is also being used for community purpose.

5. **Renovation of Village Welcome Gate** at Pipeline area in Kakhana Village to provide better rural infrastructure in the villages and doing better planning and implementation of village development work.

6. **Construction of Drains:** Construction of 250m Drain at near Plant Main Gate area (Market area). To provide better rural infrastructure in the villages.

7. **Construction of Shed at Singhswar Dham** in our TPP area.

8. **Construction of RCC Box Culvert at Mahagama Pipeline area:** To provide better infrastructure facilities to the villagers. In Mahagama block, there was a problem of drainage blockage which affects the socio-economic and environmental conditions with occurrence of pollutants, passage of polluted water in the roads, agriculture land and other areas, impacting the economic activities of the villagers. Therefore, a RCC Box Culvert was constructed to minimize the drudgery and problems of the villagers and benefiting the stakeholders at manifold.

9. **Renovation and construction of 16 community structures:** We have taken up the renovation of community structures like Temples (9) /Puja Sthal/ Manjhisthan (7)/ Satsang Bhawan/Sidhu Kanhu Shade etc. in core, railway line and pipeline villages. People of our area having big faith for these temples and other places. So many people are visiting daily for religious purpose at the temple.

Annexure – III

Green Belt Development

Green Belt Development

Green Belt

Green Belt Development

Green Belt Development in Progress

Road Side Plantation (Outside the Plant)

Distribution of Plant Saplings to Villagers

Distribution of Plant Saplings to Villagers

Distribution of Plant Saplings to Villagers

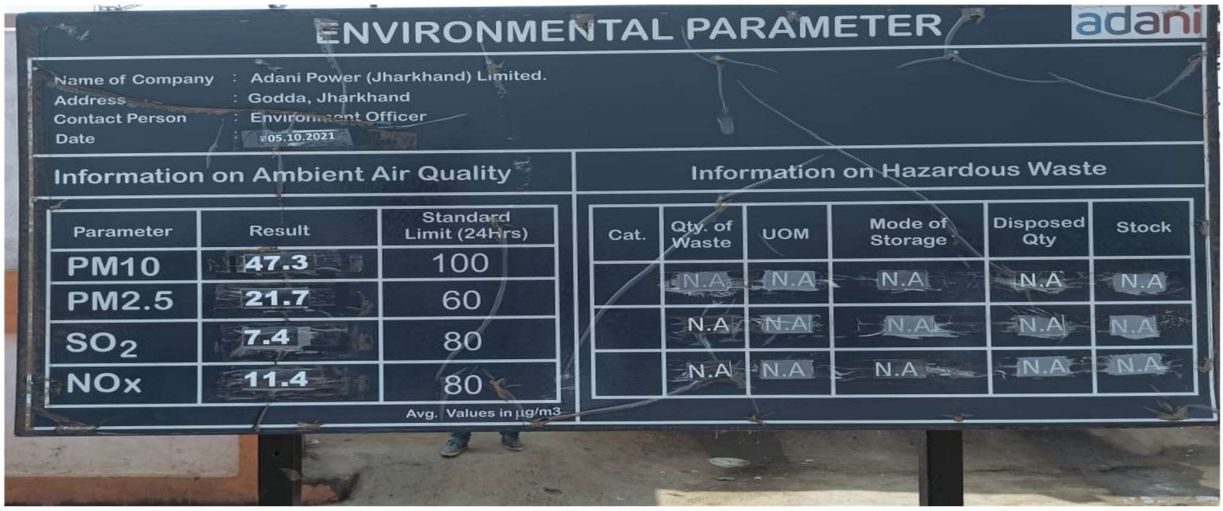
Use of Fly Ash Bricks/Blocks

Water sprinkling on road to reduce fugitive emission

Water sprinkling on road to reduce fugitive emission

Green Carpet

Concrete Road which help to reduce fugitive emission



Display Board at Main Gate