



## Power

Ref: APL/APJL/EMD/EC/MoEFCC/213/11/23  
Date- 23/11/2023

To,

**Additional Principal Chief Conservator of Forest**  
**Ministry of Environment, Forest and Climate Change**  
Regional Office, East Central Region  
Second Floor, Headquarter-Jharkhand State Housing Board,  
Harmu Chowk, Ranchi- 834 002, Jharkhand

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

Ref: Env. Clearance Letter no: EC/SEIAA/2017-18/2070/2017/207, dated: 31.08.2017

Dear Sir,

With reference to above subject, please find enclosed herewith Six-monthly Environment Clearances (EC) compliance status report of **Residential Township** along with Environmental monitoring results like Ambient Air Quality, Noise level, Water Quality, green belt development & CSR progress report etc. for the period of **April'2023 to September'2023** in soft (e-mail).

This is for your kind information & record please.

Thanking You,

Yours faithfully,

for **Adani Power (Jharkhand) Limited**

**(Santosh Kumar Singh)**

**Authorized Signatory**

**Encl:** as above

**cc:**

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

**State Level Environment Impact Assessment Authority (SLEIAA)**  
Dhurwa Nursery Complex,  
Ranchi – 834 004, Jharkhand

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

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

Adani Power (Jharkhand) Ltd  
Adani Corporate House  
Shantigram, S G Highway  
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# SIX MONTHLY COMPLIANCE REPORT OF ENVIRONMENT CLEARANCE (EC)

FOR

**Residential Township of  
1600 (2x800) MW Godda Thermal Power Plant**

At

**Godda Taluka, District- Godda  
Jharkhand**

*Submitted to:*

**Integrated Regional Office, Ranchi  
Ministry of Environment, Forest and Climate Change  
State Level Environment Impact Assessment Authority  
Central Pollution Control Board, New Delhi &  
Jharkhand State Pollution Control Board, Ranchi**



*Submitted by:*

**Environment Management Department**

**Adani Power (Jharkhand) Limited**

**Motia, Patwa & adjacent village,  
Godda Taluka, Godda District  
Jharkhand**

**Period: April'2023 to September'2023**

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## **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 & Poraiyahat 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 business

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.

**Adani Power (Jharkhand) Ltd. has been granted Environment Clearances (EC) for Residential Complex from State Environment Impact Assessment Authority (SEIAA), Jharkhand vide letter no. EC/SEIAA/2017-18/2070/2017/207 dated 31.08.2018.**

**Consent to Establish (CTE):** Consent to Establish (CTE/NOC) issued from Residential Complex Jharkhand State Pollution Control Board vide letter no.: JSPCB/HO/RNC/CTE-3502450/2018/1117 dated: 01.11.2018.

**Consent to Operate (CTO):** Consent to operate renewed from JSPCB for residential township vide letter no. JSPCB/HO/RNC/CTO-16595623/2023/1464 DATED 19.08.2023 valid till 30.09.2025. Earlier CTO was valid till 30.09.2023.

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### Compliance status of Environmental Clearance

Residential Township for Godda Thermal Power Plant

Vide letter no: **EC/SEIAA/2017-18/2070/2017/207** dated **31.08.2018**.

SL. No.	Specific Conditions	Compliance Status
<b>PART – A. SPECIFIC CONDITIONS</b>		
1	<p>This Environmental Clearance is valid subject to the following condition below-</p> <p>That this project has -</p> <ol style="list-style-type: none"> <li>a. Obtained all legal rights to operate at concerned place.</li> <li>b. Complied with all existing concerned laws of the land and</li> <li>c. Complied with the decisions of SEIAA on the issue of Environmental Clearance till date.</li> </ol>	<p>Noted &amp; agreed.</p> <p>Applicable legal rights obtained to operate residential township.</p>
<b>PART B - GENERAL CONDITIONS</b>		
<b>1. Pre- Construction Phase</b>		
i.	<p>Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel (kerosene/gas) for cooking, safe drinking water, medical health care, etc. The housing may be in the form of temporary structures to be removed after completion of the project.</p>	<p>Required hutment, drinking water, medical facilities and other infrastructure has been arranged within the site during construction phase. Local manpower was preferred during Construction phase &amp; hence, less necessity to build housing for the construction labour. Photographs of infrastructure facilities submitted with previous compliance report.</p>
ii.	<p>Provision of drinking water, wastewater disposal, solid wastes management and primary health facilities shall be ensured for labour force. Proper sanitation facilities shall be provided at the construction site to prevent health related problems. Domestic as well as sanitary wastes from construction camps shall be cleared regularly.</p>	<p>Complied.</p> <p>Required basic amenities like Drinking water facility, Sanitation facility, cleaning of construction camps, Wastewater disposal, solid wastes management and primary health facilities was already ensured during project construction phase.</p>
iii.	<p>Adequate safety measures shall be adopted for the construction workers.</p>	<p>Complied.</p> <p>Fire &amp; Safety Management Plan had already been submitted with compliance report of October 2018 to March 2019.</p>
iv.	<p>All the labourers to be engaged for construction works shall be screened for health and adequately treated before issue of work permits. The contractor shall ensure periodic health check-up of construction workers.</p>	<p>Complied.</p> <p>Before deploying construction manpower at site, proper health check-up, vertigo test (for height work) and induction program on safety carried out on regular basis.</p>

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v.	Fencing of the project boundary before start of construction activities.	Complied.  Boundary wall of the project (residential Township) is completed.
vi.	Use of energy efficient construction materials shall be ensured to achieve the desired thermal comfort.	Complied.  LED lights, Fly Ash bricks and aerated concrete blocks are used in construction of Township. Photographs already submitted with previous compliance report.
vii.	Use of fly ash-based bricks/blocks/tiles/products shall be explored to the maximum extent possible.	Complied.  We have put our best efforts and used fly Ash based bricks, AAC blocks and pavers to the extent maximum for the construction of residential township. Photographs were submitted along with last compliance report.
viii.	Layout of proposed buildings and roads within premises etc. shall be made in such a way that it shall cause minimum disturbance to existing flora and fauna. Appropriate green belt shall developed to compensate the habitat loss of tree cutting (if any) from competent authority as per prevailing Act/Rules. The exotic species existing within the existing premises, if any, shall be protected. The greening programme shall include plantation of both exotic and indigenous species.	As such there was no wild species (flora and fauna) in the project however layout has been designed keeping greenbelt requirement to the maximum extent possible which includes both exotic and indigenous species.  Green belt development completed, and details enclosed as <b>Annexure – III</b> .
ix.	Dedicated pedestrian paths shall be provided along the proposed Buildings. Appropriate access shall be provided for physically challenged people in the Pedestrian Paths.	Complied.  Dedicated pedestrian paths provided along the buildings. Required access (elevator) provided for physically challenged peoples.
x.	The design of service roads and the entry and exit from the buildings shall conform to the norms & standards prescribed by the State Public Works Department.	Complied.  Proper entry and exit from buildings are maintained.
xi.	The road system shall have the road cross sections for general traffic, exclusive ways for public mass transport (bus) system, pedestrian paths and ways, utility corridors and green strip.	Complied.  Access Road constructed and parking space provided. Green strips developed. Please refer <b>Annexure- III</b> for green belt development.
xii.	Topsoil excavated during construction activities should be stored for use in horticulture/landscape development within the project site. Balance top soil should be disposed at in planned manner for use elsewhere adequate erosion and sediment control	Complied.  Excavated top soil has been utilized in surface levelling for internal road construction, landscaping and Horticulture activities.

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	measures to be adopted before ensuing construction activities.																
xiii.	Prior permission should be obtained from the competent authority for demolition of the existing structure, if any. Waste recycling plans including top soil should be developed prior to beginning of demolition and construction activity. The plans should identify wastes to be generated and designate handling, recycling and disposal method to be followed.	<p>Complied.</p> <p>This is greenfield / new construction project and had no establishment present at site hence, there was no scope for any demolition.</p> <p>Efforts were taken to reduce the quantity of the generated waste by judicious use of the resources while project construction.</p> <p>Mechanical equipment had been engaged for handling and movement of materials to avoid human handling. This ensured that there were no spillages on the ground. AAC blocks (fly ash based) being used for construction which also generate meagre quantity of waste as compared to conventional red bricks.</p> <p>Therefore, waste generated during construction phase was minimum and managed effectively by utilizing in surface levelling for internal road construction and Horticulture activities.</p>															
xiv.	Disposal of muck including excavated material during construction phase should not create any adverse effects in the neighbourhood and the same shall be disposed of taking the necessary precautions for general safety and health aspects.	<p>Suitable measures were ensured to manage the muck / excavated material. Excavated materials utilized in filling &amp; surface levelling for internal road construction and Horticulture activities.</p> <p>Precautionary actions such as pest control are taken care for health and safety aspects. Time to time sanitization and vaccinations (with booster dose) also ensured to combat COVID – 19 pandemics.</p>															
xv.	<p>The project proponent should advertise in at least two local newspapers widely circulated in the region, one of which should in the vernacular language, informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Environment Impact Assessment Authority, Jharkhand and the same matter also be sent to Jharkhand State Pollution Control Board (J.S.P.C.B.),</p> <p>Ranchi. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should</p>	<p>Complied.</p> <p>EC advertisement has already been circulated in below mentioned Newspapers</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Name of Newspaper</th> <th style="text-align: center;">Dated</th> <th style="text-align: center;">Pg. no.</th> </tr> </thead> <tbody> <tr> <td>Dainik Jagaran Godda, Bhagalpur</td> <td style="text-align: center;">11-9-2018</td> <td style="text-align: center;">04</td> </tr> <tr> <td>The Times of India, Ranchi</td> <td style="text-align: center;">11-9-2018</td> <td style="text-align: center;">03</td> </tr> <tr> <td>Hindustan Devghar</td> <td style="text-align: center;">11-9-2018</td> <td style="text-align: center;">05</td> </tr> <tr> <td>Prabhat Khabar Devghar</td> <td style="text-align: center;">11-9-2018</td> <td style="text-align: center;">05</td> </tr> </tbody> </table>	Name of Newspaper	Dated	Pg. no.	Dainik Jagaran Godda, Bhagalpur	11-9-2018	04	The Times of India, Ranchi	11-9-2018	03	Hindustan Devghar	11-9-2018	05	Prabhat Khabar Devghar	11-9-2018	05
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	be forwarded to the Regional Office of this Ministry at Ranchi.	Copy of EC advertisement has already submitted along with compliance report for the period of October 2018 to March 2019.
xvi.	Risk assessment study along with Disaster Management Plan (DMP) shall be prepared. The mitigate measures for disaster prevention and control shall be prepared and get approval from competent authority. All other statutory clearances/licenses/permissions from concerned State Governments Departments, Boards and Corporations shall be obtained for directions issued by Central Government/State Government, Central Pollution Control Board/Jharkhand State Pollution Control Board.	Necessary NOC, clearances & permissions has already been taken.  Fire & Safety Plan & Disaster Management Plan (DMP) has already been submitted along with compliance report for the period of October 2018 to March 2019.
xvii.	Baseline Environmental Condition of Project area i.e. Monitoring of AAQ as per NAAQS 2009, Monitoring of Ambient Noise Level & Analysis of Ground Water Samples should be conducted and report should be submitted to State Environment Impact Assessment Authority (SEIAA), Jharkhand and Jharkhand State Pollution Control Board (JSPCB), Ranchi prior to start of construction activities.	Being Complied.  Baseline Environmental Monitoring Report as per NAAQS 2009, Ambient Noise Level & Analysis of Ground/surface Water Samples are being submitted to SEIAA, Jharkhand on monthly basis and along with EC compliance report.  Monthly Monitoring report also being submitted Regularly to State Environment Impact Assessment Authority (SEIAA), Jharkhand and Jharkhand State Pollution Control Board (JSPCB), Ranchi and JSPCB, Dumka.  Environmental Monitoring Report is enclosed as <b>Annexure -I</b>
<b>II. Construction Phase</b>		
i.	It shall be ensured that the construction debris is properly stored on the site prior to disposal. Such requirements shall be made part of the contractor agreement.	Complied.  Excavated material has been utilized in landscaping & surface levelling for internal road construction and Horticulture activities.
ii.	All the top soil excavated during construction activities shall be stored for use in horticulture/landscape development within the project site. Proper erosion control and sediment control measures shall be adopted.	Complied.  Excavated top soil utilized suitably at site for development of horticulture/ landscape & road construction.
iii.	Earth material generated from excavation shall be reused to the maximum possible extent as filling material during site development. The construction debris and surplus excavated material shall be disposed off by mechanical	Complied.  Excavated soil has been reused suitably within project premises in filling and surface



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	transport through the Ranchi Municipal Corporation.	levelling for internal road construction and Horticulture activities.
iv.	Disposal of muck, including excavated material during construction phase, shall not create any adverse effects on the neighbouring communities and shall be disposed off taking the necessary precautions for general safety and health aspects.	Suitable measures are ensured to manage the muck / excavated material. Necessary precautionary actions are already taken to take care of health and safety aspects and no adverse effect on neighbouring community was observed during construction phase.
v.	Low Sulphur diesel generator sets should be used during construction phase. Diesel generator sets during construction phase shall have acoustic enclosures and shall conform to Environment (Protection) Rules, 1986 prescribed for noise emission standards.	Complied during construction stage.
vi.	All vehicles/equipment deployed during construction phase shall be ensured in good working condition and shall conform to applicable air and noise emission standards. These shall be operated only during non-peaking hours.	Complied.  PUC records of deployed vehicles were ensured while project construction phase.
vii.	Ambient noise levels shall conform to the standards prescribed by MoEFCC, Govt. of India.	Monitoring of noise level being done and results are well within the stipulated norms.  Environmental Monitoring report is enclosed as <b>Annexure -I</b>
viii.	The protective equipment such as nose mask, earplugs etc. shall be provided to construction personnel exposed to high noise levels.	Complied.  Use of safety PPEs/ gadgets were ensured during construction stage.
ix.	Construction spoils, including bituminous material and other hazardous materials including oil from construction equipment must not be allowed to contaminate soil/ground water. The dumpsites for such material must be secured so that they shall not leach into the ground water.	Complied.  Excavated Soil and Construction debris generated from construction activities was stored within the project site.  It was ensured that construction spoils, including bituminous material and other hazardous materials including oil etc. doesn't contaminate watercourses.  The dumpsites for such material are secured so that it will not leaching into the ground water. The storage Diesel drums were kept on the Secondary Containments to prevent contamination of land and protect natural resources.
x.	Proper and prior planning, sequencing and scheduling of all major construction activities shall be done. Construction material shall be stored in covered sheds. Truck carrying soil,	Complied.  Construction materials were stored in covered shed and transportation of materials

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	sand and other construction materials shall be duly covered to prevent spilling and dust emission. Adequate dust suppression measures shall be undertaken to control fugitive dust emission. Regular water sprinkling for dust suppression shall be ensured.	by covered vehicles ensured during construction stage.  Pucca road and pavement is constructed to prevent fugitive dust emission.  Water sprinkling for dust suppression was done regularly during construction stage.
xi.	Use of Ready-Mix concrete is recommended for the project.	Complied.  Ready-Mix concretes had been used for concreting during construction phase.
xii.	Accumulation/stagnation of water shall be avoided ensuring vector control.	Complied.  Necessary drainage is constructed to avoid accumulation / stagnation of water.
xiii.	Regular supervision of the above and other measures shall be in place all through the construction phase so as to avoid disturbance to the surroundings.	Regular supervision/monitoring already ensured to avoid any disturbance to the surroundings during construction phase.
xiv.	Water during construction phase should be preferred from Municipal supply.	Complied.  Water Resource Department, Govt. of Jharkhand has granted construction water allocation from Liljhi River during construction phase.
xv.	All directions of the Airport Authority, Director of Explosives and Fire Department etc. shall be complied.	Noted.  Compliance assured.
xvi.	Unskilled construction labourers shall be recruited from the local areas.	Complied during construction phase.
xvii.	Provisions shall be made for the integration of solar water heating system.	Noted & Compliance assured.  Provisions has been kept for solar water heating system.
xviii.	Provision of vermin-composting for the biodegradable solid wastes generated from the proposed extension buildings as well as the large amount of biomass that shall be available from the tree plantation shall be made.	Noted.  AP(J)L supporting nearby village farmers to become Vermi- Entrepreneur to boost their income and up-lift socio economic status by promoting Vermicomposting.  Since last F.Y: 20 small & marginal farmers were supported with 25 units of Vermibed along with training on organic farming and Vermicomposting in 6 core villages namely, Motia, Baliakitta, Baksara, Dumaria, Jajalpur and Sarwa through CSR activities. Detailed CSR report is enclosed as <b>Annexure - II</b> .
xix.	Monitoring of ground water table and quality once in three months shall be carried out.	Being complied.

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	Construction of tube wells, bore wells shall be strictly regulated.	Ground water monitoring is being carried out by NABL accredited third party consultant, monitoring report is enclosed as <b>Annexure-I</b>
xx.	Permeable (porous) paving in the parking areas, and walkways should be used to control surface runoff by allowing storm water to infiltrate the soil and return to ground water.	Complied. Permeable (porous) Paving in parking areas has been implemented.
xxi.	All intersections shall be designed and developed as roundabouts.	Complied. Main intersection of township has been designed and developed as roundabout.
xxii.	All utility lines (electricity, telephone, cable, water supply, sewage, drainage, etc. shall be laid below ground level. Ducts shall be provided along and across the roads to lay the utility lines. Major trunk (water/sewerage) lines are to be laid along the utility corridor.	Complied. Utility lines laid below ground level.
xxiii.	The road drainage shall be designed to enable quick runoff of surface water and prevent water logging.	Road drainage has been completed for quick runoff to prevent water logging.
xxiv.	Adequate provision shall be made to cater the parking needs. Parking spaces standards as given in "Manual on Norms and Standards for Environmental Clearance of Large Construction Projects" issued by Ministry of Environment and Forest Government of India shall be adopted.	Noted and Agreed Adequate parking space provision has been provided in the Residential Township.
xxv.	Rest room facilities shall be provided for service population.	Complied. Adequate number of rest rooms are constructed for service population.
xxvi.	Monitoring of AAQ as per NAAQS 2009, Monitoring of Ambient Noise Level & Analysis of Ground Water Samples, should be conducted and report should be submitted on monthly basis to SEIAA, Jharkhand & Jharkhand State Pollution Control Board (J.S .P.C.B.), Ranchi.	Being Complied. Monitoring of AAQ as per NAAQS 2009, Monitoring of Ambient Noise Level & Analysis of Ground/surface Water Samples & DG Stack monitoring being carried out by NABL accredited third party consultant. Environmental monitoring reports being submitted to State Environment Impact Assessment Authority (SEIAA), Jharkhand and Jharkhand State Pollution Control Board (JSPCB), Ranchi and JSPCB, Dumka on monthly basis as well as with six monthly Environment Clearance compliance report. Environmental Monitoring Report enclosed as <b>Annexure -I</b>
<b>Water Body Conservation</b>		
i.	Water body falling within premises (if any) shall not be lined or no embankment shall be cemented. The water bodies, if any, shall be	There is no water body within premises of residential complex.

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	kept in natural conditions without disturbing the ecological habitat.	
ii.	Improvement or rehabilitation of existing nallas (if any) shall be carried out without disturbing the ecological habitat.	There is no nalla within residential complex premises.
<b>III. Post Construction/Operation Phase</b>		
i.	The environmental safeguards and mitigation measures contained in the application shall be implemented in letter and spirit.	<p>Complied.</p> <ul style="list-style-type: none"> <li>• Solid waste handling facilities such as waste bins (Biodegradable and No-biodegradable) across the buildings are provided.</li> <li>• STP is operational to treat domestic sewage and treated water being utilized for Green Belt Development.</li> <li>• Roads, Drains &amp; Rainwater Harvesting ponds are constructed.</li> <li>• Green Belt development and being maintained.</li> <li>• Drip irrigation system established to save water.</li> </ul>
ii.	<p>All the conditions, liabilities and legal provisions contained in the Environmental Clearance shall be equally applicable to the successor management of the project in the event of the project proponent transferring the ownership, maintenance of management of the project to any other entity. Ground water shall not be abstracted without prior permission from the competent authority.</p>	Water requirement of residential township being met from the water treatment plant of Thermal Power Plant.
iii.	The storm water management plan shall be implemented in such a manner that the storm water is discharged through an existing dedicated Storm Water Outfall only.	<p>Complied.</p> <p>Adequate storm water drainage established in residential township.</p>
iv.	The height of the stack of the DG sets should be as per norms of Central Pollution Control Board (C.P.C.B.), New Delhi.	<p>Complied.</p> <p>DG set stack height maintained as per the norms. photograph evidence already submitted with previous compliance report.</p>
v.	Medical (First-Aid) facility must be provided for visitors & employees. Para-medical staff should be attached as Medical facility provider.	<p>Complied.</p> <p>Medical (First-Aid) facility available for visitors and employees. Authorization of BMW (Non-bedded) issued from JSPCB vide letter no. JSPCB/RO/DMK/BMW-9456865/2021/8 dated 05.03.2021.</p>
vi.	Plantation along the side of the buildings & roads and in the open spaces shall be developed to act as sinks of air pollutants. The plantation	Complied.

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	of trees shall be completed in the construction stage. The plantations shall consist of mixture of available indigenous, fast growing and sturdy species of trees, shrubs and herbs. Preferential plantation of flowering trees with less timber and fruits value shall be carried out.	<p>Plantation and green carpeting developed in 33% area.</p> <p>Indigenous, fast growing species with good aesthetic look used for plantation.</p> <p>Apart from above, we are also doing plantation in surrounding area (outside township) in terms of Avenue Plantation and distribution of saplings to villagers, which will help to enhance green cover in the surroundings. Green Belt photographs with species details are enclosed as <b>Annexure – III.</b></p>
vii.	Two chambered container or two separate containers (one for recyclable wastes and other for all organic and compostable wastes) shall be placed at appropriate distance on the roadsides and inside the building. Covered dustbins/garbage collector in convenient places to collect the Municipal solid wastes shall be provided.	<p>Complied.</p> <p>Separate covered dust bins for Bio-degradable and non-biodegradable waste provided in proximate to each building and being disposed off as per MSW – Rule 2016. Photograph evidence already submitted with previous compliance report.</p>
viii.	<p>Proper composting / vermi-composting of municipal solid wastes shall be carried out.</p> <p>All municipal solid wastes shall be segregated, collected, transported, treated and disposed as per provisions of the Municipal Solid Wastes (Management and Handling) Rules, 2000 (As amended).</p>	<p>Compliance assured.</p> <p>Separate covered dust bins for Bio-degradable and non-biodegradable waste provided in proximate to each building and being disposed off as per MSW – Rule 2016.</p>
ix.	The use of hand gloves, shoes and safety dress for all waste collectors and sorters shall be enforced	<p>Complied.</p> <p>Use of mask, hand gloves, shoes and safety dress (reflecting jackets) by waste collectors are being ensured.</p>
<b>IV. Entire Life of the Project</b>		
i.	The project proponent should implement Environmental Monitoring Programme as per details submitted in EMP.	<p>Being complied.</p> <p>Environmental monitoring reports being submitted to State Environment Impact Assessment Authority (SEIAA), Jharkhand and Jharkhand State Pollution Control Board (JSPCB), Ranchi and Dumka on monthly basis.</p>
ii.	No expansion/modification activity should be carried out obtaining prior Environmental Clearance as per EIA Notification 2006.	<p>Noted &amp; Agreed</p> <p>Clearance &amp; permission will be taken from respective authority before making any changes or modification/expansion in future, if required.</p>
iii.	Monitoring of AAQ as per NAAQS 2009, Monitoring of Ambient Noise Level &	Being Complied.

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	<p>Analysis of Ground Water Samples, Monitoring of Stock Emissions &amp; Testing of emission from DG sets should be conducted and report should be submitted on monthly basis to SEIAA, Jharkhand &amp; JSPCB, Ranchi.</p>	<p>Monitoring of AAQM as per NAAQS 2009 &amp; Monitoring of Ambient Noise Level, Analysis of Ground/surface Water Samples &amp; DG set Stack monitoring are being carried out by third party NABL approved consultant. Environmental monitoring reports being submitted to State Environment Impact Assessment Authority (SEIAA), Jharkhand and Jharkhand State Pollution Control Board (JSPCB), Ranchi and Dumka on monthly basis.</p> <p>Environmental Monitoring reports enclosed as <b>Annexure-I</b></p>
<b>PART C- SPECIFIC CONDITIONS</b>		
<b>I. Pre-Construction Phase</b>		
i.	<p>Project Proponent should obtain prior consent to establish (NOC) under Section 25 &amp; 26 of the Water (Prevention &amp; Control of Pollution) Act' 1974 and under Section 21 of the Air (Prevention &amp; Control of Pollution) Act' 1981 from State Pollution Control Board before start of construction activities.</p>	<p>Complied.</p> <p>JSPCB has granted Consent to Establish/NOC vide letter No. JSPCB/HO/RNC/CTE-3502450/ 2018/ 1117 dated- 01.11.2018.</p> <p>Consent to operate renewed from JSPCB for residential township vide letter no. JSPCB/HO/RNC/CTO-16595623/2023/ 1464 dated 19.08.2023 valid till 30.09.2025.</p>
ii.	<p>It was also advised that CSR activity of the Project Proponent should be measurable and quantifiable, and it should be visible even after the completion of the project. The Project Proponent was also directed to deposit 10% of the CSR cost (2.5% of the total project cost). The security deposit is imposed to ensure the proper performance/ implementation of the committed CSR activities.</p>	<p>Being complied.</p> <p>CSR progress &amp; implementation Report along with CSR activities is enclosed as <b>Annexure - II</b>.</p>
iii.	<p>Project Proponent should obtain prior permission for ground water withdrawal from CCWA/CGWB if applicable.</p>	<p>Noted.</p> <p>Water requirement of residential township being met from the water treatment plant of Thermal Power Plant.</p> <p>Prior permission for ground water withdrawal from CCWA/CGWB will be taken if ground water required for domestic purpose.</p>
iv.	<p>Construction shall conform to the requirements of local seismic regulations. The project proponent shall obtain permission for the plans and designs including structural design,</p>	<p>Buildings are designed as per seismic regulations.</p>

## Adani Power (Jharkhand) Limited

	standards and specifications of all construction work from concerned authority.	
v.	Use of energy efficient construction materials to achieve the desired thermal comfort shall be incorporated. The desired level of roof assembling "U" factor and insulation "R" value must be achieved. Roof assembling "U" factor for the top roof shall not exceed 0.4 watt/sq.m./degree centigrade with appropriate modifications of specifications and building technologies. The provisions of National Building Code 2005 shall be strictly followed.	Complied.  Buildings are designed as per National Building code 2005 provision for thermal comfort and roof insulation done for better energy efficiency.
vi.	Street/Corridor lighting shall be energy efficient. The High Pressure Sodium Vapour (HPSV) Lamps & Compact Fluorescent Lamps (CFL) along Building premises shall be provided. High intensity, high mast lights to be installed at few strategic points. Solar energy may be used for outdoor lighting.	Complied.  In place of HPSV & CFL, latest LED lightings are used in building premises which will reduce power load and conserve energy.
vii.	Reduction of hard paving-onsite (Open area surrounding all buildings) and/or provision of shades on hard paved surfaces to minimize heat island effect and imperviousness of the site should be undertaken.	Complied.
viii.	All proposed air/conditioned buildings should follow the norms proposed in the ECBC regulations framed by the Bureau of Energy Efficiency.	Being followed.  Thermal comfort of building and energy efficient lighting and electrical system being ensured as per ECBC regulations.
ix.	Monitoring of AAQ as per NAAQs 2009, Monitoring of Ambient Noise Level & Analysis of Ground Water Samples, Monitoring of Stack Emissions from DG sets should be conducted, and reports should be submitted on monthly basis to State Pollution Control Board (SPCB).	Being complied  Monthly Environmental Monitoring report is being submitted to State Environment Impact Assessment Authority (SEIAA), Jharkhand and Jharkhand State Pollution Control Board (JSPCB), Ranchi and JSPCB, Dumka.  Monitoring reports are enclosed as <b>Annexure -I</b>
x.	Project proponent shall install Wind Augmentation and Air Purifying Unit (4 Units at one location in Godda) on Pilot basis to deal with particulate matter pollution.	At present water sprinkling and sweeping of pucca roads is being done to control dust and particulate matter at site.  Options shall be explored for Wind Augmentation and Air Purifying Units on pilot basis to deal with particulate matter, if required.

## Adani Power (Jharkhand) Limited

<b>II. Construction Phase</b>		
i.	All the conditions laid down in NOC issued by SPCB should be strictly complied with during entire construction cycle of the Project.	NOC/CTE/CTO Conditions are being Complied.  Consent to operate renewed from JSPCB for residential township vide letter no. JSPCB/HO/RNC/CTO-16595623/2023/1464 dated 19.08.2023 valid till 30.09.2025.
ii.	The water treatment plant shall be provided for treatment of water. The treatment shall include screening, sedimentation, filtration and disinfections. Appropriate arrangement shall be made for treatment and reuse of backwash water of filtration plant.	Sewage treatment plant has been installed which includes screening, sedimentation, filtration and disinfection. Treated water from STP being used for Horticulture /plantation through automated irrigation system.
iii.	Project proponent shall 'provide adequate measuring arrangement at the inlet point of water uptake and at the discharge point for the measurement of water utilized in different categories and monitoring daily water consumption.	Being complied.  Monitoring of daily water (domestic) consumption ensured.
iv.	Regular water sprinkling shall be done all around the site to minimize fugitive dust emission during construction activities.	Being followed.  Water sprinkling was provided to all around the site to minimize fugitive dust emission during construction phase.
v.	Rain water harvesting structures should be provided as per submitted Plan.	Complied.  Rain water harvesting (RWH) system for roof run-off and surface run-off has been designed and implemented.  For roof top rainwater collection, all the water from roofs is collected through roof water drainage pipe and discharge in to storm water drain. The storm water drainages system is connected to Rain-Water Harvesting ponds for reuse. Photograph evidence already submitted with previous compliance report.
<b>III. Post Construction/Operation Phase</b>		
i.	Project Proponent should obtain prior consent to operate under Air Act, 1981 & Water Act, 1974 from State Pollution Control Board before commissioning of the project.	Complied.  Consent to operate obtained from JSPCB before commissioning of residential township vide letter no. JSPCB/HO/RNC/CTO-8554195/2020/1597 dated 29.09.2020. The same is renewed by JSPCB vide letter no. JSPCB/HO/RNC/CTO-



## Adani Power (Jharkhand) Limited

		16595623/2023/1464 DATED 19.08.2023 valid till 30.09.2025. Earlier CTO was valid till 30.09.2023.
ii.	Water saving practices such as usage of water saving devices/fixtures, low flushing systems, sensor-based fixtures, auto control walls, pressure reducing devices etc. should be adopted.	Noted.  As a water saving practices, we have opted for water saving fixtures and low flushing system.
iii.	Water budget should be adopted as per the plan submitted in the supplementary Form-I A & EMP.	Noted and agreed.
iv.	All the generated domestic effluent should be sent to ETP/STP for treatment & further recycling & reuse.	Being Complied.  Sewage Treatment Plant established to treat domestic wastewater and treated water is being utilized for plantation/green belt development.
v.	Treated water recovered from STP would be used for flushing the toilets, gardening purpose, make up water in air conditioning systems, etc. As proposed, Fluidized Bed Reactor (FBR) type sewage treatment plant should be installed. The Sewage Treatment Plant shall be ensured before the completion of Building Complex.	Complied.  FBR type STP established in township.  Duel Flushing system / plumbing is provided.  Treated water from STP being used in Gardening/plantation.
vi.	Rainwater from open spaces shall be collected and reused for landscaping and other purposes. Rooftop rainwater harvesting shall be adopted for the proposed Buildings. Every building of proposed extension project shall have rainwater-harvesting facilities. Before recharging the surface runoff, pre-treatment must be done to remove suspended matter and oil and grease.	RWH plan is implemented, and provision kept for collected rainwater to reuse for landscaping.
vii.	Municipal solid wastes generated in the proposed extension buildings shall be managed and handled in accordance with the compliance criteria and procedure laid down in Schedule- II of the Municipal Wastes (Management and handling) Rules, 2000 (As amended).	Being complied.  Separate covered dust bins for Bio-degradable and non-biodegradable waste placed in proximate to each building and being disposed off as per Municipal Wastes (Management and handling) Rules.
viii.	The standard for composting & treated leachates as mentioned in Schedule-IV of the Municipal Wastes (Management and handling) Rules, 2000 (As amended) shall be followed.	Noted  We have tie-up with private participation who is segregating and recycling all the recyclable waste such as newspaper, aluminium cans, glass bottles, iron scrap and plastics etc. and dispose off through solid waste management facility developed at Godda.
ix.	All hazardous wastes shall be segregated, collected, transported, treated and disposed as	Not applicable under Schedule - I of Hazardous and Other Wastes (Management

## Adani Power (Jharkhand) Limited

	per provisions of the Hazardous Wastes (Management and Handling) Rules, 1989 (As amended).	and Transboundary Movement) Rules, 2016 and as amended.
x.	Recycling of all recyclable wastes such as newspaper, aluminium cans, glass bottles, iron scrap and plastics etc. shall be encouraged through private participation. Project proponent shall take appropriate action to ensure minimum utilization of plastic carry bags and plastic small containers etc. within the proposed buildings shall be ensured.	Noted & being complied.  We have tied up with private participation who is segregating and recycling all the recyclable waste such as newspaper, aluminium cans, glass bottles, iron scrap and plastics etc. and dispose off through solid waste management facility developed at Godda.
xi.	Project proponent shall operate and maintain the sewage collection/conveyance system, sewage pumping system and sewage treatment system regularly to ensure the treated water quality within the standards prescribed by Ministry of Environment and Forests, Government of India.	Noted and being followed.  Treated water quality is well within the norms. Analysis report enclosed as <b>Annexure - I</b> .
xii.	Properly treated and disinfected (Ultra-Violet Treatment) sewage shall be utilized in flushing the toilets, gardening purpose, make up water in air conditioning systems etc.	Being complied  Properly treated and disinfected (Hypochlorite Treatment) sewage being utilized in gardening.
xiii.	Non-mixing of faecal matter with the municipal solid wastes shall be strictly ensured.	Noted & complied.
xiv.	Non-mixing of sewage/sludge with rainwater shall be strictly ensured.	Noted  Separate closed sewerage system established, and separate storm water drain is established.
xv.	Noise barriers shall be provided at appropriate locations so as to ensure that the noise levels do not exceed the prescribed standards. D.G. sets shall be provided with necessary acoustic enclosures as per Central Pollution Control Board norms.	Noted.  It is ensured that noise level do no exceed the prescribed standards.  Also, DG set provided only for emergency power back up purpose during blackouts and the chances of same is very remote.
xvi.	Back up supply shall be based on natural Gas/cleaner fuel subject to their availability.	Noted.
xvii.	The project proponent shall resort to solar energy at least for street lighting and water heating for Proposed Building Complex, gardens/park areas.	Noted.  Solar Street Lights are under procurement stage. implementation status will be informed along with upcoming compliance report.
xviii.	During maintenance, energy efficient electric light fittings & lamps- low power ballasts, low consumption high power luminaries, lux level	Complied.

## Adani Power (Jharkhand) Limited

	limiters & timers for street lighting shall be provided.	Energy efficient equipment's/light (LED) installed. LDR/Timer are provided in streetlights
xix.	A report on the energy conservation measures confirming to energy conservation norms finalized by Bureau of Energy Efficiency should be prepared incorporating details about building materials & technology, "R" and "U" factors etc.	Buildings are designed as per National Building code 2005 provision for thermal comfort and roof insulation done with provision for better energy efficiency
xx.	Monitoring of AAQ as per NAAQS 2009, Monitoring of Ambient Noise Level & Analysis of Ground Water Samples, Monitoring of Stack Emissions from DG sets & Testing of Untreated & treated effluent samples of STPs should be conducted and report should be submitted on monthly basis to SPCB.	Being complied.  Monitoring of AAQM as per NAAQS 2009 & Monitoring of Ambient Noise Level, Analysis of Ground/surface Water Samples are being carried out by third party NABL approved consultant. Environmental monitoring reports being submitted to State Environment Impact Assessment Authority (SEIAA), Jharkhand and Jharkhand State Pollution Control Board (JSPCB), Ranchi and JSPCB, Dumka on monthly basis. DG set is only for emergency back up and DG stack monitoring report is enclosed as <b>Annexure -I</b>
<b>IV. Entire Life of the Project</b>		
i.	All the conditions laid down in NOC & consent to operate issued by SPCB should be strictly complied with during entire life cycle of the project.	Noted & Compliance assured.
ii.	Monitoring of Ambient Noise Level & Analysis of Ground Water Samples, Monitoring of Stack Emissions from DG Sets & Testing of Untreated & treated effluent samples of STPs should be conducted and reports should be submitted 'on monthly basis to SPCB.	Monitoring of Ambient Noise Level & Analysis of Ground Water Samples, STP water analysis being done and report submitted to SEIAA Jharkhand and JSPCB Ranchi and Dumka on monthly basis.  DG set provided only for emergency power backup purpose during blackouts and the chances are very remote. However, DG set stack emission monitoring also done, and report included with environmental monitoring reports.  Environmental Monitoring reports are enclosed as <b>Annexure -I</b>
iii.	The project authorities shall ensure that the treated effluent and stack emissions from the unit are within the norms stipulated under the EPC rules or SPCB whichever is more stringent. In case of process disturbances/failure of pollution control equipment adopted by the unit, the respective unit shall be shut down and shall not be	Treated STP water is well within the stipulated norms.  DG set provided only for emergency power backup purpose during blackouts and the chances are very remote. However, DG set stack emission monitoring also done, and

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	restarted until the control measures are rectified to achieve the desired efficiency.	report included with environmental monitoring reports.
iv.	The overall noise levels in and around the project area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules 1989 viz. 75 DBA (day time) and 70 DBA (night time).	Being complied.  Noise level being maintained well within the stipulated norms prescribed under EPA Rules 1989 viz. 75 DBA (day-time) and 70 DBA (night time).  Monitoring reports enclosed as <b>Annexure - I</b>
v.	The project authorities shall provide requisite funds for both recurring and nonrecurring expenditure to implement the conditions stipulated by SEIAA, Jharkhand with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	Noted & Compliance assured.  Separate fund has been earmarked for environment management.
vi.	Plantation along the side of the buildings & roads and in the open spaces shall be developed to act as sinks of air pollutants. The plantation of trees shall be completed in the construction stage. The plantations shall consist of mixture of available indigenous, fast growing and sturdy species of trees, shrubs. 15% of the total plot area shall be used for plantations.	Complied.  More than 33% area covered under Green Zone.  Green belt / plantation developed along with project construction & during operation and efforts are made to develop more greenery in & around the residential township with survival rate of more than 80%.  Apart from above, we are also doing plantation in surrounding area in terms of Avenue Plantation and distribution of saplings to villagers, which will help to enhance green cover in the surroundings.  Green belt details are enclosed as <b>Annexure -III.</b>
vii.	Whenever developer will hand over building to the society, the developer must mention in the agreement or sale deed that 15% green belt area of total plot area should mentioned & Environmental Conditions given by SEIAA, Jharkhand has to be complied.	Complied.  Green belt developed in 33% of total plot area. Green belt details are enclosed as <b>Annexure -III.</b>
viii.	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat,  ZilaParishad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance	Complied.

## Adani Power (Jharkhand) Limited

	letter shall also be put on the website of the company by the proponent.	
ix.	The funds earmarked for the environmental protection measures shall not be diverted for other purposes.	Noted Compliance assured.
x.	In case of any changes in the scope of the project, the project shall require a fresh appraisal by the SEAC/SEIAA.	Noted & agreed
xi.	The SEAC/SEIAA, Jharkhand will have the right to amend the above conditions and add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.	Noted & agreed
xii.	It shall be mandatory for the project management to submit six (06) monthly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard copies and soft copies to the regulatory authority concerned Regional Office of MoEFCC at Ranchi and Jharkhand State Pollution Control Board (J.S.P.C.B.), Ranchi.	Being complied.  Last six-monthly compliance report for the period of October'2022 – March'23 submitted vide. Letter no. APL/APJL/EMD /EC/MoEFCC/223/05/23 dated 22.05.2023.
xiii.	Any appeal against this Environmental Clearance shall lie with the National Green Tribunal (NGT), if preferred within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.	Noted.

**I<sup>ST</sup> HALF YEARLYS ENVIRONMENTAL  
MONITORING REPORT**

**(APRIL 2023 TO SEPT 2023)**

**of**

**ADANI POWER (JHARKHAND) LTD.  
2\*800 MW GODDA THERMAL POWER  
PROJECT  
VILLAGE: MOTIA, DISTRICT-GODDA,  
JHARKHAND**

**CONDUCTED BY:**

**M/s Vibrant Techno Lab Pvt. Ltd.**

**Add: SC-40, 3<sup>rd</sup> Floor, Narayan Vihar S,  
Ajmer Road**

**Jaipur (Rajasthan)**

***(Recognized by MoEF & CC, NABL Government of  
India)***

***PREFACE***

The growing concern for environment protection and the passing of various environmental legislations have increased the responsibilities of Ministry of Environment, Forest & Climate change, Pollution Control boards in many folds. Besides enforcing the various environmental legislations MoEF&CC, CPCB & SPCB strive to propagate the necessity awareness regarding the various legal provisions and environmental protection measures in the country.

Electric Power scenario has occupied a significant place in the development program of the country Development and environment can neither be separated nor ignored. In fact, they are complimentary to each other. These issues have become a concern of the community, particularly the environment impact due to industries in the developing countries.

However, the prerequisite for sustainable development is judicious planning of environmental status, likely impacts of the approach adopted on the environment including inhabitants of the locality, availability of the eco-friendly technology, emerging waste disposal and waste utilization processes, techniques of land reclamation for the restoration of aesthetic beauty and soon.

Adani Power (Jharkhand) Ltd. 2\*800 MW Godda Thermal Power Project Located at Village: Motia, District-Godda, Jharkhand, India, has engaged **M/s Vibrant Techno lab Pvt. Ltd. (Raj.)** to provide Environmental services in respect of ambient air quality monitoring, stack emission, noise level monitoring & Sampling and Analysis of ground water quality, surface water quality, treated effluent sewage, effluent water from ETP, and soil as per guidelines of MoEF & CC an CPCB Gazette Notification.

**M/s Vibrant Techno lab Pvt. Ltd. (Raj.)** has deployed entirely its own personnel, facilities and expertise for doing this service, Sampling/Monitoring Stations were identified by the Environmental Officer of Adani Power (Jharkhand) Ltd. The samples were analyzed Partly at site and partly at our MoEF Recognized laboratory situated a Jaipur (Rajasthan).

This report presents the data generated for the period from April 2023 to Sept 2023 i.e., for 1<sup>st</sup> Half Yearly which includes sampling locations, Methodology, testing procedure and compilation for the Environmental parameters i.e., Air, Water, Soil & Noise with a view to evaluate the impact due to the thermal power plant activities.

During the course of our operations for the above task, the staff and management of Adani Power (Jharkhand) Ltd. were extremely co-operative. We are grateful to them for their invaluable support and assistance rendered to us during the course of the sampling and monitoring.

**Date: 9.11.2023**

**Authorized Signatory**

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<b>Annexure -4</b>	Meteorological Data



## **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 fulfill statutory requirement and to be in tune with Environment Preservation and sustainable Adani Power (Jharkhand) Ltd. has retained M/s Vibrant Techno Lab Pvt. Ltd. As Environment Consultants and for various Environmental issues related to their Power Plant.

Environmental Quality Monitoring Report for the Month of April 23 to Sept 2023 has been collected by M/s Vibrant Techno Lab Pvt. Ltd.

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

**SECTION 2: LIST OF EQUIPMENTS**

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

<b>SR. No.</b>	<b>NAME OF EQUIPMENTS</b>	<b>MAKE/MODEL</b>
1.	Respirable Dust Sampler	Enviro Instruments EI-142
2.	Fine Particulate Sampler	Enviro Instruments EI-133
3.	Gases Sampling Attachment	Enviro Instruments EI-061
4.	Sound Level Meter	Mextech
5.	Stack Monitoring kit	Enviro Instruments EI-106
6.	Combo Sampler	Enviro Instruments EI-205
7.	Digital Balance	Dig. Thermo Hygrometer
8.	UV Visible Spectrophotometer	Systronics.,117
9.	Hot Air Oven	Smita Scientific, Cat. No. SHAO-2S/G
10.	Bacteriological Incubator	Smita Scientific, Cat. No. SLBI-2
11.	pH Meter	Systronics.,361
12.	Dissolved Oxygen Test Kit	Lutron
13.	Autoclave Automatic	Smita Scientific, Cat. No. SAUV-2
14.	Horizontal Laminar Air Flow	Smita Scientific, Cat. No. SHLF-1 SG
15.	Muffie Furnace	<b>Smita Scientific, Cat. No. SMFF-3S/G</b>
16.	Conductivity Meter	Systronics, 304
17.	Phase Contrast Microscope	Kane International
18.	COD Digester	Smita Scientific, Cat. No. SCOD-3

**Project Name: Adani Power (Jharkhand) Ltd.**

**2\*800 MW Godda Thermal Power Project Located at village: Motia, District-Godda, Jharkhand**

***1st Half Yearly Environmental Monitoring Report***

**SECTION 3: LIST OF PROJECT PERSONNEL**

<b>S.No.</b>	<b>Name</b>	<b>Qualification</b>	<b>Experience (Yrs.)</b>	<b>Designation</b>
<b>1.</b>	Rajkumar Yadav	MSc. Agriculture	14	Lab Incharge QM
<b>2.</b>	Raja Manish	MSc. Organic Chemistry	2.5	Senior Analyst
<b>3.</b>	Rajiv Das	BSc. Chemistry	2.0	Senior Field Analyst
<b>4.</b>	Umesh Sharma	MSc. Pharmaceutical Chemistry	12.0	Technical Manager

#### **SECTION 4: EXECUTIVE SUMMARY**

Adani Power (Jharkhand) Ltd. 2\*800 MW Godda Thermal Power Project Located at Village: Motia, District-Godda, Jharkhand, India, has engaged M/s Vibrant Techno lab Pvt. Ltd. (Raj.) to provide Environmental services in respect of ambient air quality monitoring, stack emission, noise level monitoring & Sampling and Analysis of ground water quality, surface water quality, treated effluent sewage, effluent water from ETP, and soil as per guidelines of MoEF & CC an CPCB Gazette Notification.

Three Location of AAQM were selected for six months (i.e., April to Sept 2023). Pollutants (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub>, NO<sub>x</sub>) Concentration observed maximum during April to July then it started decreasing from July to Sept due to Monsson season. PM<sub>2.5</sub> varies from 18.74 to 47.4 µg/m<sup>3</sup> & PM<sub>10</sub> varies from 35.94 to 70.97 µg/m<sup>3</sup>. All the concentration of Air quality for all parameters was found within NAAQS. Stack monitoring was also done & results are within the limit **(Report has been attached as Annexure-3)**.

Four number of Ground water sample, one Surface water sample & STP Treated & Untreated Water samples was collected to understand the overall water quality of the project area. The brief has been discussed in section 8 of the report. **(Report has been attached as Annexure-3)**.

Ambient Noise Monitoring was done on 10 stations for day & night which is also within limit. The Summary of the result has been analyzed & interpreted in section 9. **(Report has been attached as Annexure-3)**.

**SECTION 5: CONCEPT & 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.

<b>PARAMETERS OF AAQM</b>	<b>STANDARDS METHODS</b>
PM10	IS 5182 (P-24):2019
PM2.5	IS: 5182 (P-23), 2006
Oxides of Nitrogen (NOx)	IS: 5182 (P-6), 2006
Oxides of Sulphur (Sox)	IS: 5182 (P-2), 2001
Carbon Monoxides	IS: 5182 (P-10)1999
Ammonia	3rd ed., 1988 Method No.401
Lead	IS: 5182 (P-22): 2004
Benzene	IS: 5182 (P-11), 2006
Benzo pyrene	IS: 5182(P-12), 2004
O3	IS: 5182(P-9):1974
Nickel	USEPA Compendium IO -3.2, 1999
Arsenic	3rd ed.,1988 Method No.302
Mercury	VTL/STP/02

<b>PARAMETERS OF STACK MONITORING</b>	<b>STANDARDS METHODS</b>
Particulate Matter (PM)	IS: 11255 (P-1): 1985, RA 2019
Oxide of Nitrogen (as NO2)	IS- 11255 (P-7);2005, RA- 2017
Sulphur Dioxide (as SO2)	IS: 11255(P- 2): 1985, RA 2019
Mercury (Hg)	USEPA 29::1996

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

<b>PARAMETERS OF WATER SAMPLE</b>	<b>STANDARD METHODS</b>
pH (at 25 0C)	IS 3025 (P-11): 2022
Colour	IS 3025(P-4): 2021

Turbidity	IS 3025 (P-10): 1984, RA: 2017
Odour	IS 3025 (P-5)1983
Taste	IS 3025(P-8) 1984
Total Hardness as CaCO <sub>3</sub>	IS: 3025 (P-21): 2009, RA: 2019
Calcium as Ca	IS: 3025 (P-40): 1991, RA: 2019
Alkalinity as CaCO <sub>3</sub>	IS: 3025 (P-23): 1986, RA: 2019
Chloride as Cl	IS: 3025(Part 32):1988, RA:2019
Cyanide as CN	IS: 3025 (P-27)1986
Magnesium as Mg	IS: 3025 (P-46): 1994, RA: 2019
Total Dissolved Solids	IS 3025 (P-16): 1984RA: 2017
Sulphate as SO <sub>4</sub>	IS: 3025 (P-24): 1986 Sec.1 RA: 2022
Fluoride as F	APHA (23rd Edition), 4500FD:2017
Nitrate as NO <sub>3</sub>	IS: 3025 (P-34): 1988, (Chromotropic Method) RA: 2022
Iron as Fe	APHA (23rd Edition),3113B: 2017
Aluminum as Al	IS 3025 (P-55):2003, RA: 2019
Boron	APHA (23rd Edition) 4500B: 2017
Total Silica	IS: 3025 (P-35):1888,RA: 2003
Phenolic Compounds	APHA 23rd Edition,2017, 5530 C
Anionic Detergents as MBAS	APHA 23rd Edition,2017, 5530 C
Zinc as Zn	APHA (23rd Edition), 3030D,3113B: 2017
Copper as Cu	APHA (23rd Edition),3113B: 2017
Manganese as Mn	APHA (23rd Edition)3030D,3113B: 2017
Cadmium as Cd	APHA (23rd Edition)3030D,3113B: 2017
Lead as Pb	APHA (23rd Edition)3030D,3113B: 2017
Selenium as Se	APHA (23rd Edition)3114C,2017
Arsenic as As	APHA (23rd Edition),3114C,2017
Mercury as Hg	APHA (23rd Edition)3114C,2017
Hexa Valent Chromium	APHA (23rd Edition)3500 Cr B:2017
Residual Free Chloren	IS :3025(P-26): 2021
Temperature	IS :3025(P-9):1984, RA:2017
Total Coliform	IS:15185: 2016
E. coli	IS:15185: 2016

<b>PARAMETERS OF STP TREATED &amp; UNTREATED WATER</b>	<b>STANDARD METHODS</b>
pH (at 25 0C)	IS 3025 (P-11): 2022
Total Dissolved Solids	IS 3025 (P-16): 1984RA: 2017
Total Suspended Solids	IS 3025 (P-17): 2022
Oil &Grease	IS 3025 (P-39):2021
BOD (3days at 27 °c)	IS 3025(P-44):1984, RA:2019
COD	IS: 3025 (P-58): 2006, RA: 2017

**Project Name: Adani Power (Jharkhand) Ltd.**

**2\*800 MW Godda Thermal Power Project Located at village: Motia, District-Godda, Jharkhand**

***1st Half Yearly Environmental Monitoring Report***

**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.

<b>PARAMETERS</b>	<b>STANDARD METHODS</b>
Leq	IS 9989-1981 RA: 2020

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 decision 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 LOCATION**

- Near Nayabad Village (Close to plant boundary)
- Near Mali Village (Close to plant boundary)
- Near Motia Village (Close to plant boundary)

### **STACK MONITORING LOCATION**

- Unit-01
- Unit-02
- D.G Set Township

### **GROUND WATER SAMPLE'S LOCATION**

- Mali Village
- Motiya Village
- Naya Bad Village
- Patwa Village

### **SURFACE WATER LOCATION**

- Ganga River

### **STP TREATED & UN-TREATED WATER REPORTS LOCATIONS**

- STP Outlets (Township)
- STP Outlets (Plant)
- STP Inlet (Township)
- STP Inlets (Plant)



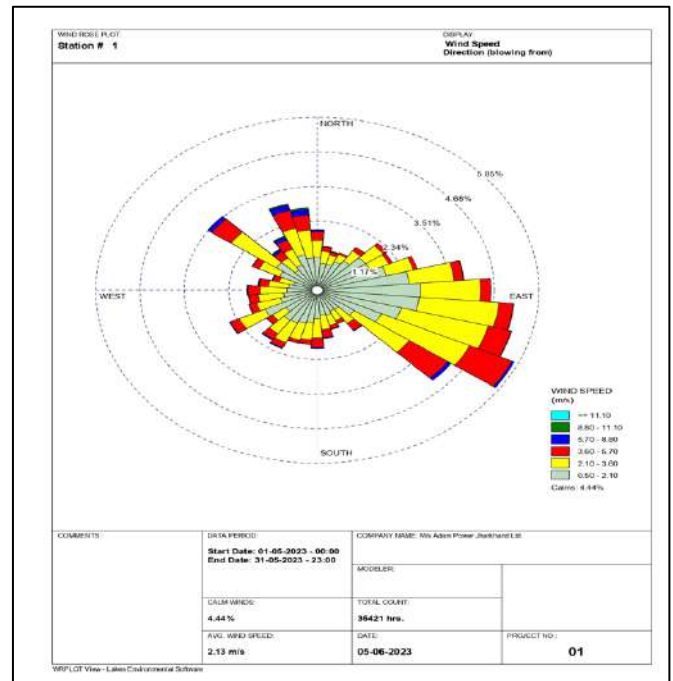
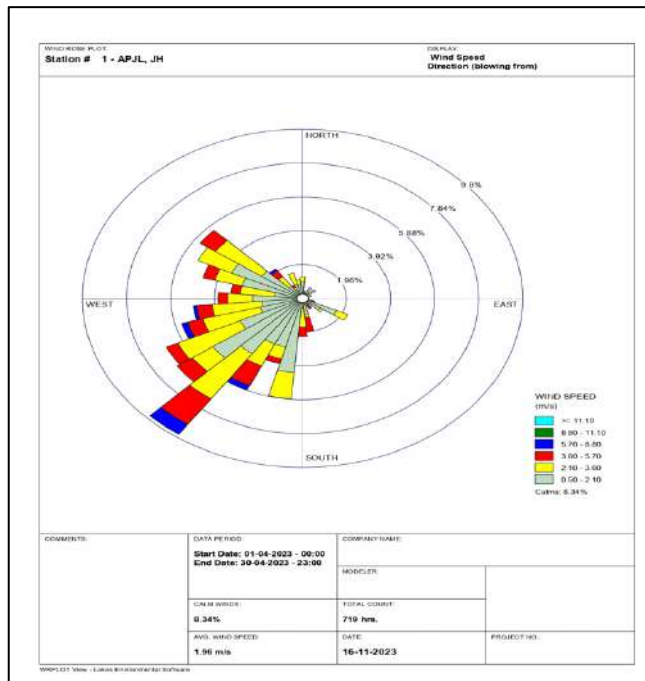
**SECTION-7: METEOROLOGICAL DATA**

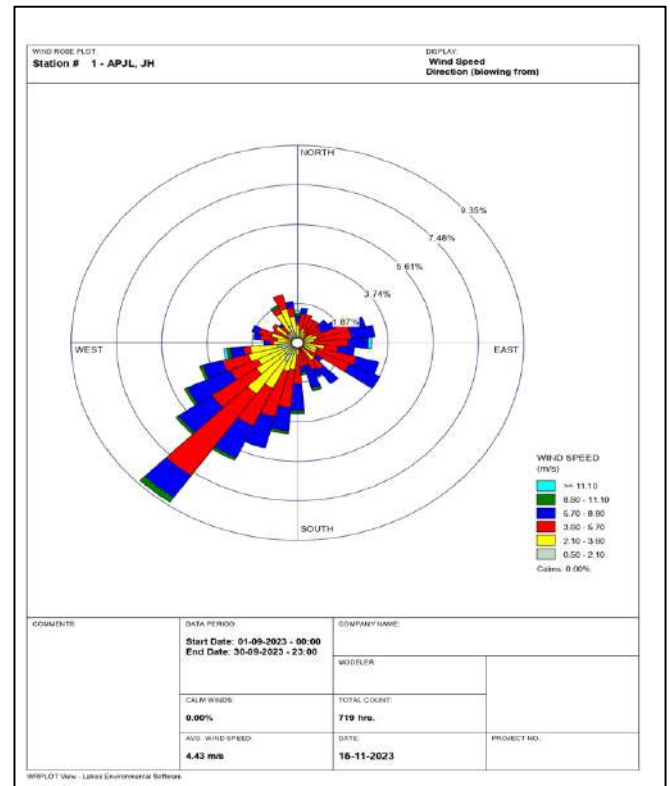
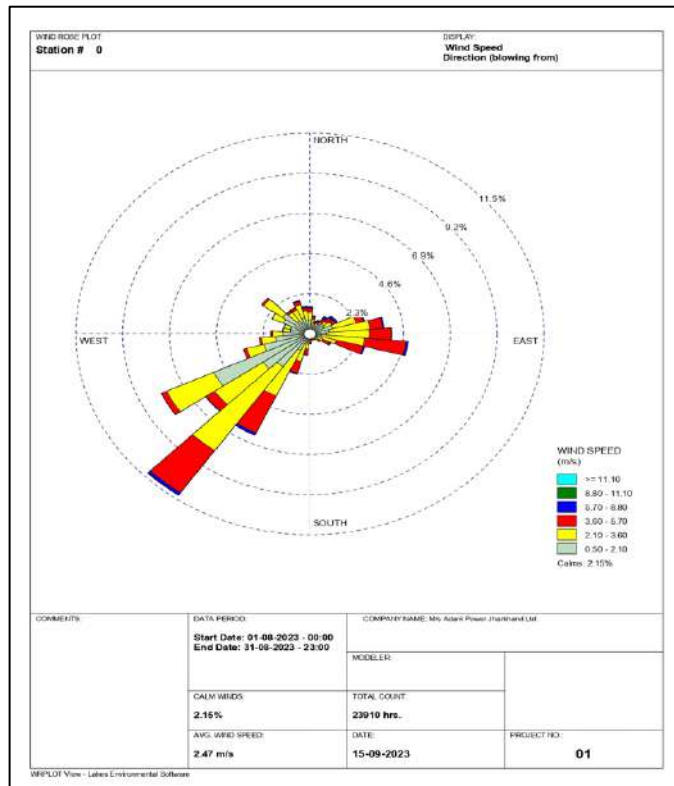
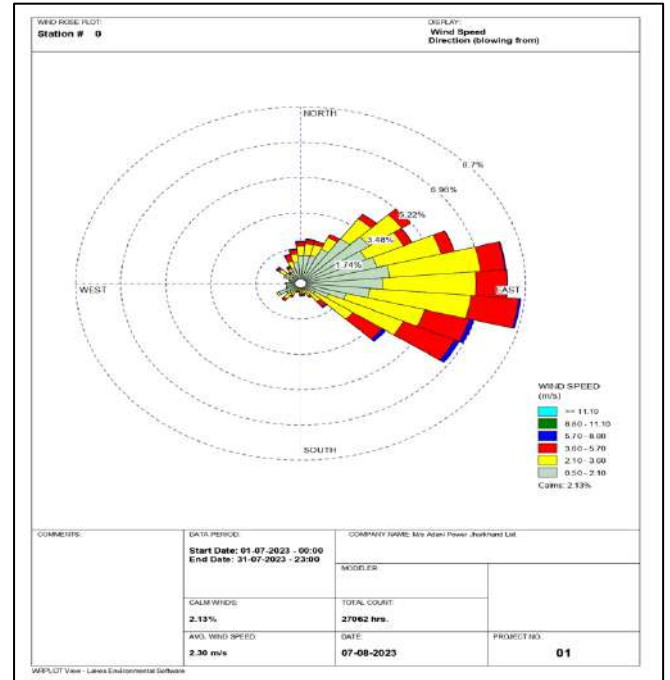
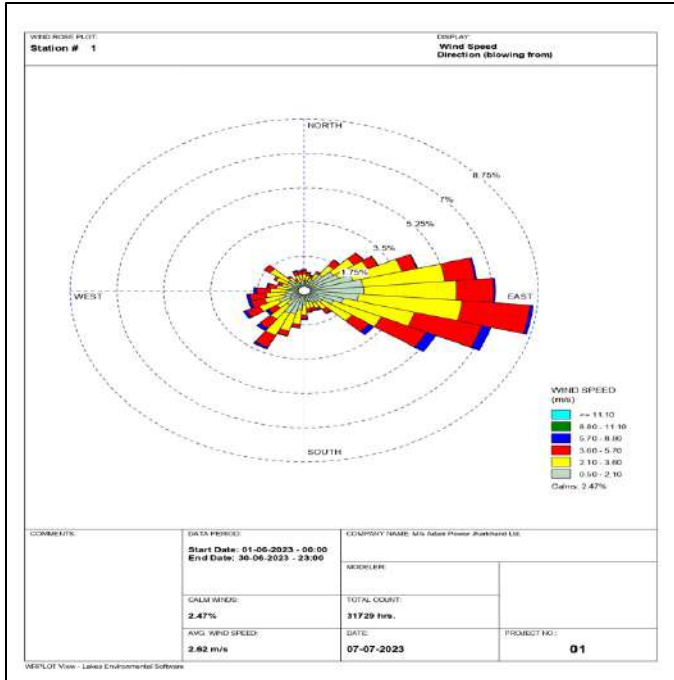
Weather monitoring would help in keeping track of different parameters like temperature, humidity, rainfall, wind direction, wind speed & barometric pressure. Real time meteorological data is used to support a number of programs including public aviation, agricultural activity, disaster management etc.

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

**Meteorological Data (April-2023 to Sept-2023)**

Month	Air Temperature (°C)		Humidity (%)	Mean Wind Speed (Kmph)
	Daily Max.	Daily Min.		
April	38.29	23.83	37.64	2.04
May	38.61	24.82	52.92	2.16
June	40.09	28.33	57.89	2.76
July	35.32	27.26	78.40	3.28
Aug	33.16	26.42	66.13	2.15
Sept	33.30	26.26	84.68	1.70





**Fig 1: Wind Rose Diagram**

**SECTION 8: AMBIENT AIR MONITORING REPORT****8.1 Concept & Scope**

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

Different parameters like PM<sub>10</sub>, PM<sub>2.5</sub>, 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:

<b>PARAMETERS</b>	<b>FREQUENCY OF EACH LOCATIONS</b>
PM <sub>10</sub> , PM <sub>2.5</sub> , Oxides of Sulphur, Oxides of Nitrogen	Twice in a week
Mercury	Once in a month

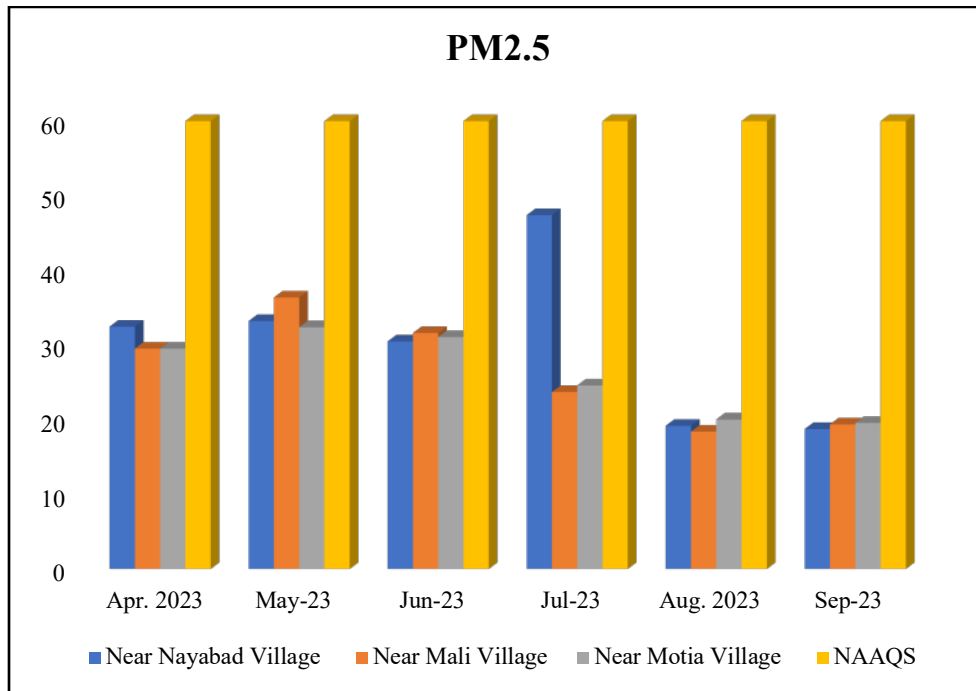
**7.3 SAMPLING DURATION AS PER NAAQMS 2009**

<b>S. No.</b>	<b>Parameters</b>	<b>Sampling Duration (Hr.)</b>
1.	Particulate Matter (PM <sub>10</sub> )	24
2.	Particulate Matter (PM <sub>2.5</sub> )	24
3.	Oxides of Sulphur (SO <sub>x</sub> )	24
4.	Oxides of Nitrogen (NO <sub>x</sub> )	24
5.	Mercury	24

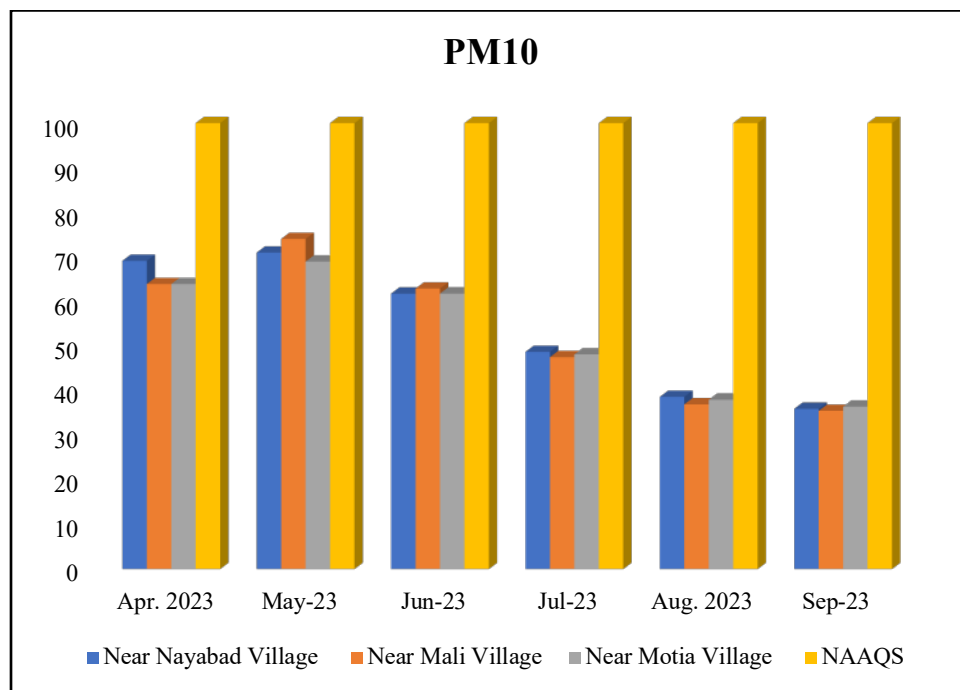
## 8.4 AAQM METHODOLOGY

PARAMETERS	METHODOLOGY/PRINCIPLE
<b>Particulate Matter (PM<sub>10</sub>)</b>	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 <sub>10</sub> in the designated size range is calculated by dividing the weight gain of the filter by the volume of air sampled.
<b>Particulate Matter (PM<sub>2.5</sub>)</b>	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 <sub>2.5</sub> 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 <sub>2.5</sub> size ranges divided by the actual volume of air sampled, and is expressed in ug/m <sup>3</sup> . The microprocessor reads averages and stores five-minute averages of ambient temperature, ambient pressure, filter temperature and volumetric flow rate.
<b>Sulphur Dioxide (SO<sub>2</sub>)</b>	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 colored pararosaniline methyl sulphonic acid. The absorbance of the solution is measured by means of a suitable spectrophotometer.
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>	Ambient nitrogen dioxide (NO <sub>2</sub> ) is collected by bubbling air through a solution of sodium hydroxide and sodium Arsenite. The concentration of nitrite ion (NO <sub>2</sub> <sup>-</sup> ) produced during sampling is determined calorimetrically by reacting the nitrite ion with phosphoric acid, sulfanilamide, and N-(1-naphthyl)-ethylenediamine dihydrochloride (NEDA) and measuring the absorbance of the highly colored azo dye at 540 nm.

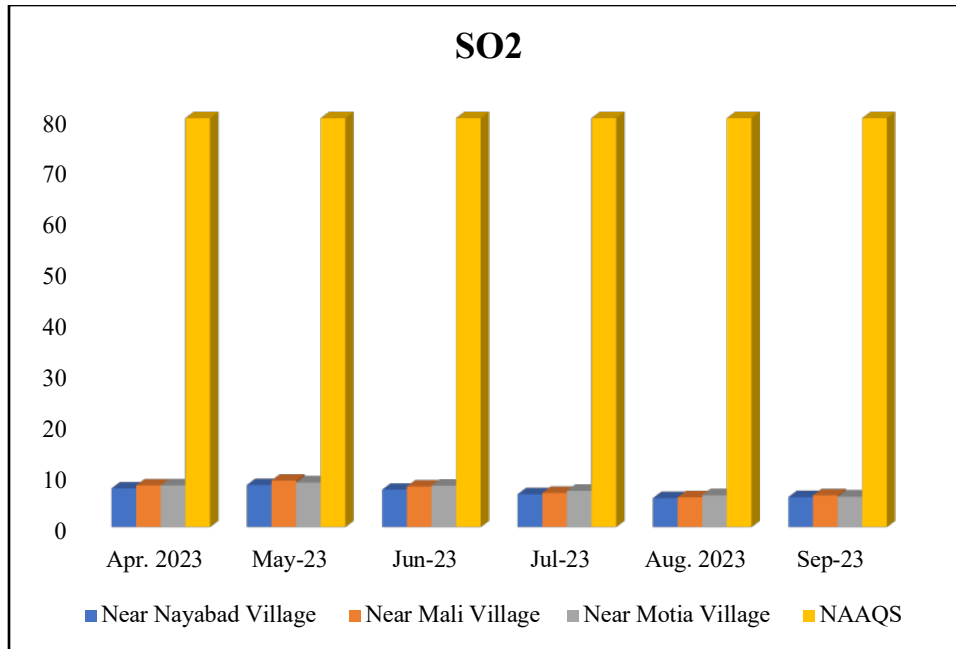
### 8.5 Graphical Representation



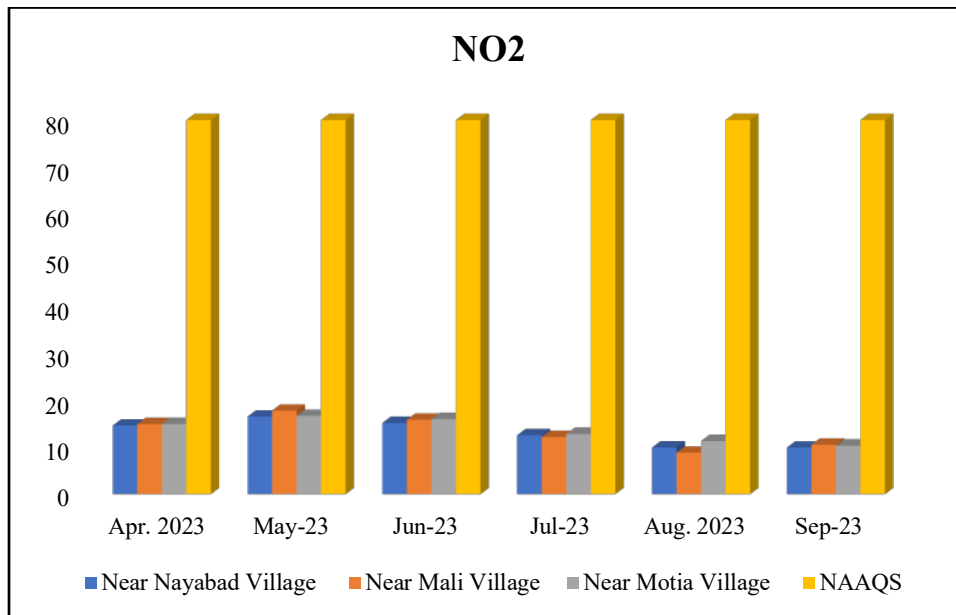
Graph 1: Particulate Matter (PM<sub>2.5</sub>)



Graph 2: Particulate Matter (PM<sub>10</sub>)



Graph 3: Particulate Matter (SO<sub>2</sub>)



Graph 4: Particulate Matter (NO<sub>2</sub>)

### 8.6 Summary

From all the above graphical representation it is clearly interpreted that all the values of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> were lower than the prescribed limits for all the stated locations.

Fugitive Emission, Fly Ash & Bottom Ash **Reports has been attached as Annexure-3**

## **SECTION 9: WATER ANALYSIS**

Ground water Sample was collected for Four Location & One Surface water Sample Location.

### **Analysis results of ground water reveal the following:**

- pH- 7.07 to 7.42
- TDS- 310 to 558 mg/l
- Fluoride (F) - 0.23 to 0.35 mg/l
- Total Hardness as CaCO<sub>3</sub> – 190 to 295 mg/l
- Chlorides- 25.0 to 64.61 mg/l
- Nitrates – 19.32 to 27.4 mg/l
- Iron – 0.21 to 0.29 mg/l

### **Analysis results of Surface Water reveal the following:**

- pH 7.26 to 7.30
- Total Hardness 125 to 132 mg/L.
- Total Dissolved Solids 258 to 310 mg/L.
- Chlorides 35.61 to 38.6 mg/L
- Fluoride 0.29 to 0.36 mg /L
- Nitrate 5.12 to 6.20 mg L
- Iron 0.20 mg/L

✚ Ground & surface water sample were found to be slightly Neutral to basic in nature at all location.

✚ In study area, water quality has been observed to vary considerably between the sampling locations. Mostly the parameters fall within the permissible limits of drinking water standards (IS 10500:2012).

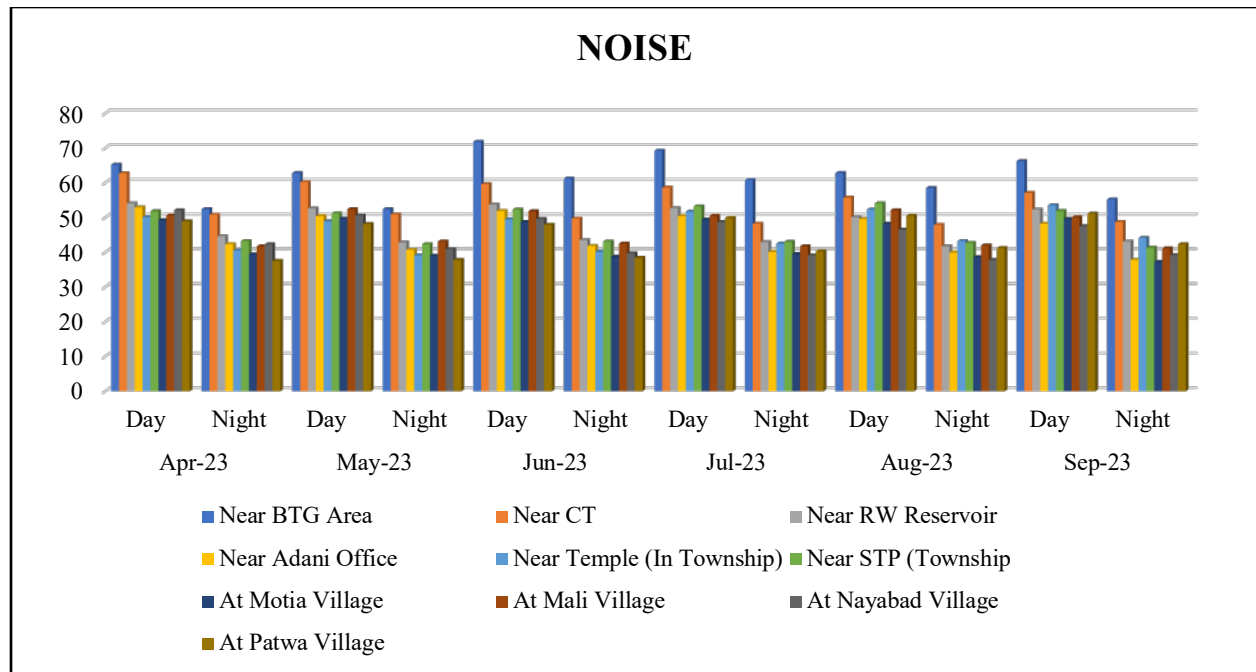
**SECTION 10: NOISE MONITORING ANALYSIS****Summary Report from April to Sept 2023**

S.NO.	Location	April 2023		May - 2023		June - 2023		July - 2023		Aug-2023		Sep-2023	
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
1.	Near BTG Area	65.2	52.4	62.8	52.4	71.8	61.2	69.2	60.8	62.8	58.5	66.2	55.2
2.	Near CT	62.7	50.8	60.2	50.9	59.6	49.7	58.6	48.2	55.7	47.9	57.1	48.7
3.	Near RW Reservoir	54.1	44.6	52.6	42.8	53.7	43.5	52.7	42.9	50.1	41.7	52.3	43.1
4.	Near Adani Office	52.9	42.3	50.4	40.7	51.9	41.8	50.4	40.1	49.6	39.9	48.2	37.8
5.	Near Temple (In Township)	50.1	40.5	48.9	39.1	49.5	40.2	51.7	42.5	52.3	43.2	53.5	44.1
6.	Near STP (Township)	51.8	43.2	51.2	42.3	52.3	43.1	53.2	43.0	54.1	42.7	51.9	41.3
7.	At Motia Village	49.2	39.4	49.7	39.0	48.7	38.7	49.4	39.5	48.2	38.6	49.6	37.2
8.	At Mali Village	50.6	41.7	52.4	43.1	51.8	42.5	50.5	41.7	52.1	42.0	50.1	41.1
9.	At Nayabad Village	52.1	42.3	50.6	40.9	49.6	39.7	48.7	39.1	46.5	37.8	47.5	39.2
10.	At Patwa Village	48.9	37.5	48.1	37.8	47.9	38.4	49.9	40.3	50.5	41.2	51.1	42.3

**Interpretation**

- The (Leq) noise levels at all sites are found to be 46.5 to 71.8 Leq. (dB) A for day and 37.2 to 61.2 Leq. (dB) A night time respectively. The values are found to be fairly low w.r.t. Industrial.
- The noise levels at all location are well below the NAAQS standards w.r.t noise.





**Graph 5: Ambient Noise Monitoring data**

Category of Zones	Leq in dB (A)	
	Day	Night
<b>Industrial</b>	<b>75</b>	<b>70</b>
<b>Commercial</b>	<b>65</b>	<b>55</b>
<b>Residential</b>	<b>55</b>	<b>45</b>
<b>Silence Zone</b>	<b>50</b>	<b>40</b>

1. Day Time is from 6.00 AM to 10.00 PM.  
 2. Night Time is reckoned between 10.00 PM to 6.00 AM.  
 3. Silence Zone is defined as an area up to 100 m around premises of Hospitals, Educational and Courts. Use of vehicle horn, Loudspeaker and bursting of crackers is banned in these zones.  
 Note: Mixed categories of areas be declared as one of the four above mentioned categories by the competent Authority and the corresponding standards shall apply

**Fig 3: Ambient Noise Standards**

**SECTION 11: WASTE WATER ANALYSIS**

**Summary Report from April to Sept 2023**

S.NO.	Parameter	Apr. 2023				May 2023			June 2023		
		STP Outlet (Township)	STP Outlet (Plant)	STP Inlet (Township)	STP Inlet (Plant)	STP Outlet (Township)	STP Outlet (Plant)	ETP Outlet	STP Outlet (Township)	STP Outlet (Plant)	ETP Outlet
1.	pH	6.98	7.06	6.71	7.13	7.22	7.26	7.40	7.29	7.32	7.45
2.	TDS	682.5	645.7	671	630	726.8	682.7	690.0	745.1	698.7	675.0
3.	TSS	26.1	21.6	62.9	57.6	26.1	22.3	15.2	27.2	21.9	14.7
4.	O&O	4.3	4.1	8.9	7.6	5.2	4.1	BLQ	5.8	4.6	BLQ
5.	BOD	21.10	18.6	52.9	45.6	23.10	18.14	9.0	25.12	19.42	8.0
6.	COD	70.2	62.9	265.4	238.7	80.6	75.5	40.08	90.0	70.0	40.0

S.NO.	Parameter	July. 2023						Aug. 2023			Sep. 2023		
		ETP Outlet	ETP Inlet	STP Outlet (Township)	STP Outlet (Plant)	STP Inlet (Township)	STP Inlet (Plant)	ETP Outlet	STP Outlet (Township)	STP Outlet (Plant)	ETP Outlet	STP Outlet (Township)	STP Outlet (Plant)
1.	pH	7.42	7.14	7.32	7.29	7.69	7.10	7.39	7.29	7.25	7.92	7.32	7.31
2.	TDS	697.0	585.0	758.9	684.2	725.0	652.0	712.0	742.8	652.1	698.0	752.2	643.1
3.	TSS	15.1	56.6	30.4	19.8	58.6	55.1	14.5	29.5	17.5	13.9	32.1	15.8
4.	O&O	BLQ	BLQ	6.2	4.3	9.3	7.9	BLQ	5.9	4.1	BLQ	6.1	3.9
5.	BOD	8.1	12.2	27.4	18.1	57.1	48.1	7.8	26.4	16.4	7.5	27.4	15.1
6.	COD	50.0	80.6	92.8	65.9	275.2	260.0	48.2	91.8	72.4	46.5	92.3	75.7

**Interpretation**

- pH- 6.98 to 7.92
- TSS – 13.9 to 62.9 mg/l
- BOD -7.5 to 57.1 mg/l
- COD – 40.0 to 275.2 mg/l

**SECTION 12: STACK MONITORING ANALYSIS****Summary Report from April to Sept 2023**

S.NO.	Month	Unit -I				Unit -II				DG Set Township				
		PM	NO2	SO2	Hg	PM	NO2	SO2	Hg	PM	NOX	SO2	HC	CO
1.	Apr. 2023	16.20	73.14	BLQ	BLQ	--	--	--	--	--	--	--	--	--
2.	May 2023	16.11	49.60	58.10	BLQ	--	--	--	--	0.18	1.21	0.41	1.82	0.27
3.	June 2023	15.28	48.42	62.4	BLQ	13.4	66.0	84.0	BLQ	--	--	--	--	--
4.	July 2023	16.21	52.63	66.1	BLQ	12.3	63.9	86.0	BLQ	--	--	--	--	--
5.	Aug. 2023	15.24	50.86	63.8	BLQ	11.9	64.7	83.0	BLQ	--	--	--	--	--
6.	Sep 2023	18.90	46.58	60.53	BLQ	21.50	62.31	79.0	BLQ	--	--	--	--	--

From all the above monitoring results, it is clearly interpreted that all the values of PM, SO<sub>2</sub> and NO<sub>2</sub> were lower than the prescribed limits for all the stated locations.

## SECTION 13: SOIL QUALITY ANALYSIS

### Soil Analysis Report

Sr	Parameter	Village- Motia	Village- Mali	Village- Patwa	Unit
1.	pH	7.78	7.65	7.82	--
2.	Conductivity	0.298	0.274	0.314	mS/cm
3.	Chloride as Cl	210.00	189.12	235.21	mg/kg
4.	Calcium as Ca	385.42	355.31	407.25	mg/kg
5.	Sodium as Na	42.58	38.72	48.92	mg/kg
6.	Potassium as K	155.1	127.9	175.4	kg/hect
7.	Organic Matter	0.72	0.62	0.78	%
8.	Magnesium as Mg	145.10	92.98	165.78	mg/kg
9.	Available Nitrogen as N	256.03	195.04	288.43	kg/hect.
10.	Available Phosphorus	25.27	19.56	29.47	kg/hect.

### Summary

All the results showing above for 3 Locations are within limit.

- pH -7.65 to 7.82
- Conductivity – 0.274 to 0.314 mS/cm
- Organic Matter – 0.62 to 0.78 %
- Nitrogen – 195.04 to 288.43 kg/hect.

**CALIBRATION CERTIFICATE**

VTL/FPS/01

Page No. 2 of 2

Certificate / ULR no :

CC354823000000051F

Duc Details		DUC Fitted in instrument	
Instrument Name :	Data Logger (Flow)	Name:	Fine Particulate Sampler
Make:	Atsel/SP112	Make:	Thermo
Model:	-----	Mode:	TEI-121MFC
Serial No :	260-E-22	Serial No :	FPST-260-E-22
I.D No. :	VTL/FPS/01	Location:	Lab
Range :	16.67 lpl ( ±2%)	Parameter	Fluid Flow
Least Count	0.01 lpm	Visual Insp.	ok

Standard(S) used, Associated Uncertainty & traceability of Standard(s) Used:

S.no.	Name	S.no/ID no.	Range	Uncertainty ( ± % )	Traceability	Validity
1	Gas Flow Calibrator	2170	1 - 100 lpm	1.15 & 1.10	CC3444220000 00760F	13-09-2023
2	Digital Temp. Indicator	NCL/FF/TI/08	0 - 50 °C	0.45°C	CC3421220000 00066F	07-08-2023

Environmental Condition:	Temperature 25±3°C	Humidity 50±15%rh	B.Pressure	Reference Standard	Calibration Procedure number
	22.8	51	735.4	ASTM D3195-90	CI (FF)-03

**CALIBRATION RESULTS**

S.no.	Average Duc Reading (lpm)	Average Standard Readings (lpm)	Error (±% F.S)	Expanded Uncertainty (±%)
1	16.68	16.66	0.12	2.50
2	16.66	16.63	0.19	2.50
3	16.65	16.62	0.18	2.50
4	16.68	16.66	0.13	2.50
5	16.67	16.65	0.13	2.50

Note:

1. This Certificate refers only to the particular item submitted for calibration.
2. This Certificate shall not be reproduced, except in full, without the written permission of Chief Executive Noida Caltech Lab Dadri Noida.
3. Results Reported are valid at the time of and under the stated conditions of measurement.
4. Laboratory Standards are traceable to National Standards.
5. The Estimated Expanded Uncertainty has been calculated at 95% Confidence level with Coverage factor k =2.
6. Decision Rule : Not Required

Calibration Engineer's Signature

*Ranjan*

Approved by : sushil  
Noida Quality Technical Manager  
*Sushil*



# NOIDA CALTECH LAB

<b>Calibration Certificate</b>		Formate No: 22 F Page No. 1 of 2
CERTIFICATE ISSUED TO :	Calibration Certificate /ULR No. :	CC354823000000051F
M/S Vibrant Techno Lab Pvt. Ltd. SC-40, 3rd Floor, Narayan Vihar, Blocks, Ajmer Road, Jaipur 302020.	Service Request number :	NCL23/08
	Date of Receive:	04.05.2023
	Calibration Date :	04.05.2023
	Calibration Due Date :	04.05.2024
	Date of Issue :	10.05.2023
Equipment Fine Particulate Sampler		
CUSTOMER REFERENCE NO :		
Kind Attention : -----	Contact No:	±91 -----
E- Mail: -----		

Certificate Issued By:

sushil kumar Quality Technical  
Manager





# ENVIRO INSTRUMENTS

(An ISO 9001:2015 Certified Company)

Head Office : A-04, Sigma-IV, Greater Noida (Gautam Buddha Nagar) U.P.-201310 (India)

Mobile: +91-7982443735, +91-7701969007, +9412833339 | Phone : 0120-2395648

E-mail: enviroinstruments@gmail.com | Website : www.enviroinstrument.com



XTL/FPS/04

## Calibration Certificate

Certificate No:	EI/FF/212	Page	1 of 1
SRF No:	2023/13	Field:	Fluid Flow
SRF Date	29.05.2023	ULR No.:	CC35812300000455F
Company Name & Address		Calibration Date:	29.05.2023
M/S, Vibrant Techno Lab Private Limited 3rd Floor, Plot No.: -SC 40, Narayan Vihar, Block S, Ajmer Road, Jaipur - 302020 Rajasthan (India)		Due Date :	28.05.2024
		Issue Date :	10.06.2023
		DUC Details	
Instrument Name	Rotameter	NAME / Sr. No	PM2.5 Sampler / 365 - C - 23
Make	-	Make / Model No.	Enviro Instruments / EI - 133
Model	-	ID. No.	-
Sl. No.	J22157	DUC Condition	Ok
Range	0 - 30 lpm	Location	Lab
Resolution	0.5 lpm	Calibration Performed at	Site

### Standard Equipments Used (Traceable to National Standard)

Sr. No.	Instrument Name	Calibrated By	Sl.No. / ID.No.	URL No. / Cal. Certificate No.	Date of Calibration	Due. On date
1	Flow Calibrator	CSIR, NPL, New Delhi	4519 / EI/FF/02	23031822/D1.08/C-117	31.03.2023	31.03.2024

### Environment Condition

Temperature (°C)	B.Pressure (mmHg)	Humidity %RH	Reference Standard	Calibration Procedure No.
25.1	740.5	60	ASTM D 5337-04, 3195-90	EI/WI/FF/05

### Calibration Results For Flow of Rotameter

S.No.	Test Meter Measured Flow (lpm)	Reference True Measured flow (lpm)	Error (%)
1	16.5	16.861	-2.14
2	16.5	16.870	-2.19
3	16.5	16.881	-2.26
4	16.5	16.890	-2.31
5	16.5	16.885	-2.28

Expanded Uncertainty ± 2.59 % at 95% confidence Level (K = 2)

- Notes :-
- The Calibration results reported in this certificate valid at the time of and under the stated conditions of measurement
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  - This Certificate shall not be reproduced except in full , without written approval of the laboratory.
  - This certificate is intended of only for guidance and not for legal purpose or for advertisement.
  - The Results Reported are Only for the Item Under Calibration.
  - The Reported Results are Traceable to National Standard.



Checked By	Authorized By
 SAURYA NIGAM (Technical Manager)	 DEVENDRA SINGH (Quality Manager)



# ENVIRO INSTRUMENTS

(An ISO 9001:2015 Certified Company)

Head Office : A-04, Sigma-IV, Greater Noida (Gautam Buddh Nagar) U.P.-201310 (India)

Mobile: +91-7982443735, +91-7701969007, +9412833339 | Phone : 0120-2395648

E-mail: enviroinstruments@gmail.com | Website : www.enviroinstrument.com



## Calibration Certificate

Certificate No:	EI/ET/88	Page	1 of 1
SRF No:	2023/13	Field:	Electro-Technical
SRF Date	29.05.2023	ULR No.:	CC358123000000456F
Company Name & Address	Calibration Date:		29.05.2023
M/S, Vibrant Techno Lab Private Limited 3rd Floor, Plot No.: -SC 40, Narayan Vihar, Block S, Ajmer Road, Jaipur - 302020 Rajasthan (India)	Due Date :	28.05.2024	
	Issue Date :	10.06.2023	

### DUC Details

Instrument Name	Time Totalizer	Name / Sr. No.	PM2.5 Sampler / 365 - C - 23
Sr. No.	T - 365	Make / Model	Enviro Instruments / EI - 133
Make		ID. No.	-
Model No.	-	DUC Condition	Ok
Range	0 - 99999.99 hr.	Location	Lab
Resolution	0.01 hr.	Calibration Performed at	Site

### Standard Equipments Used (Traceable to National Standard)

Sr. No.	Instrument Name	Calibrated By	SINO./IDNo.	URL No. /Cal. Certificate No	Date of Calibration	Due. On date
1	Universal Digital Timer	A.V Industries, Faridabad	01-DTA - 2019 EICL/ET/01	CC322323000000025F / 0025	27.01.2023	26.01.2024

### Environment Condition

Temperature °C	B.Pressure (mmHg)	Humidity %RH	Reference Standard	Calibration Procedure No.
24.1	740.5	54	IS 10996	EI/WI/ET/02

### Calibration Results

DUC has been calibrated for following Parameter (S) ranges (S)

S.No.	Displayed Value on DUC (min)	Std. Reading Time (min.)	Error (min.)	Expanded Uncertainty at 95 % of Confidence Level (k =2) ±
1	0.50 (30.00)	30.005	-0.005	23.26 Sec

#### Notes :-

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- The Reported Results are Traceable to National Standard.

Checked By

Authorized By

SAURAG NIGAM  
(Technical Manager)

DEVENDRA SINGH  
(Quality Manager)





# ENVIRO INSTRUMENTS

(An ISO 9001:2015 Certified Company)



Head Office : A-04, Sigma-IV, Greater Noida (Gautam Budh Nagar) U.P.-201310 (INDIA)

Mobile : +91-7982443735, +91-8287938780, +91-9412833339 | Phone : 0120-2395648

E-mail : enviroinstruments@gmail.com | Website : www.enviroinstruments.com

XTL/UM/03

## Calibration Certificate

Certificate No:	EI/ME/565	Page	1 of 1
SRF No:	2022/352	Field:	Mechanical
SRF Date	02.11.2022	ULR No.:	CC318422000007214F
Company Name & Address		Calibration Date:	02.11.2022
M/s,Vibrant Techno Lab Private Limited 3rd Floor, Plot No. SC - 40, Narayan Vihar, Blocks, Ajamer Road Jaipur - 302010 Rajasthan India		Due Date :	01.11.2023
		Issue Date :	04.11.2022

### DUC Details

Instrument Name	Sound Level Meter	Sr. No.	202115020
Make	HTC	ID No.	-
Model No.	SL - 1352	Location	Lab
Range	30-130 dB	DUC Condition	OK
Resolution	0.1 dB	Calibration Performed at	Lab

### Standard Equipments Used (Traceable to National Standard)

Sr. No.	Instrument Name	Calibrated By	SINo./IDNo.	URL No. /Cal. Certificate No.	Date of Calibration	Due. On date
1	Sound Level Calibrator	FCRI Palakkad (Kerala)	Q630250 EICL/ME/01	CC239522110000465F / FCRI/EQL/22-23/232	18.10.2022	---

Environment Condition	Temp.	Humidity	B.Pressure	Reference Standard	Calibration Procedure No.
	24.6 °C	60 %RH	741.3 mmHg	IS:15575(2):2005/ IEC61672-2(2003)	EI/WI-Mech-03

### Calibration Results :

S.No.	DUC Reading (dBA)	Std. Reading (dBA)	Error(%)	Expanded Uncertainty(±)
1	93.7	93.9	-0.21	0.22 dB
2	113.6	114.1	-0.44	0.22 dB

The Reported Uncertainty is at the coverage factor  $k = 1.96$  which corresponds to a coverage probability of approximately 95% for a normal distribution.

### Notes :-

- The Calibration results reported in this certificate valid at the time of and under the stated conditions of measurement
- The Laboratory accepts responsibility for content of this certificate.
- This Certificate shall not be reproduced except in full , without written approval of the laboratory.
- This certificate is intended of only for guidance and not for legal purpose or for advertisement.
- Any complaint about this certificate should be communicated in writing within 7 days of its issue.
- Total liability of enviro instrument will be limited to the invoiced amount only.
- In case of feedback/complaints please send an email at enviroinstruments@gmail.com

### Authorized By

Ashish Kumar Verma  
(Chief Executive Officer)





# ENVIRO INSTRUMENTS

(An ISO 9001:2015 Certified Company)

Head Office : A-04, Sigma-IV, Greater Noida (Gautam Buddh Nagar) U.P.-201310 (India)

Mobile: +91-7982443735, +91-7701969007, +9412833339 | Phone : 0120-2395648

E-mail: enviroinstruments@gmail.com | Website : www.enviroinstrument.com



VTL/NM/04

## Calibration Certificate

Certificate No:	EI/ET/97	Page	1 of 1
SRF No:	2023/13	Field:	Mechanical
SRF Date	29.05.2023	ULR No.:	CC358123000000477F
Company Name & Address	Calibration Date:		29.05.2023
M/S, Vibrant Techno Lab Private Limited 3rd Floor, Plot No.: -SC 40, Narayan Vihar, Block S, Ajmer Road, Jaipur - 302020 Rajasthan (India)	Due Date :		28.05.2024
	Issue Date :		10.06.2023

### DUC Details

Instrument Name	Sound Level Meter	Sr. No.	-
Make	Mextech	ID No.	-
Model No.	SL - 4012	Location	Lab
Range	30 - 130 Db	DUC Condition	OK
Resolution	0.1 dB	Calibration Performed at	Site

### Standard Equipments Used (Traceable to National Standard)

Sr. No.	Instrument Name	Calibrated By	SINo./IDNo.	URL No. /Cal. Certificate No.	Date of Calibration	Due. On date
1	Sound Level Calibrator	FCRI Palakkad (Kerala)	Q630250 EICL/ME/01	CC239522110000465F / FCRI/EQL/22-23/232	18.10.2022	---

### Environment Condition

Temperature °C	B.Pressure (mmHg)	Humidity %RH	Reference Standard	Calibration Procedure No.
25.1	740.5	60	IS:15575(2):2005/ IEC61672-2(2003)	EI/WI/MECH/01

### Calibration Results :

S.No.	DUC Reading (dBA)	Std. Reading (dBA)	Error(%)	Expanded Uncertainty(±)
1	93.2	93.9	-0.75	0.22 dB
2	113.3	114.1	-0.70	0.22 dB

The Reported Uncertainty is at the coverage factor k = 1.96 which corresponds to a coverage probability of approximately 95% for a normal distribution.

### Notes :-

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- The Reported Results are Traceable to National Standard.



Checked By

Authorized By

GAURAV NIGAM  
(Technical Manager)

DEVENDRA SINGH  
(Quality Manager)

**CALIBRATION CERTIFICATE**

Page No. 2 of 3

Certificate / ULR no : CC354823000000057F

Duc Details		DUC Fitted in instrument	
Instrument Name :	Orifice Manometer Flow	Name:	Respirable Dust Sampler
Make:	Thermo	Make:	Thermo
Mode:	TEL-108NL	Mode:	TEI-108NL
Serial No :	RDST-268-E-22	Serial No :	RDST-268-E-22
I.D No. :	VTL/RDS/01	Location	Lab
Range :	0.6 - 1.4 m3/min	Parameter	Flow
Least Count :	As Per Instrument	Visual Insp.	OK

Standard(S) used,Associated Uncertainty & traceability of Standard(s) Used:

S.no.	Name	S.no/ID no.	Range	Uncertainty (±)	Traceability	Validity
1	Top Loading Calibrator	26-E-22	0.6-1.4 m3/min	2.5 % m3/min	CC3184220000056 01F	12.08.2023
2	Pressure Indicator	PI- 27	0 - 1000 mmwc	15 pa	CC3184220000056 03F	12.08.2023
3	Digital Temp.Indicator	NCL/FF/TI/08	0 - 50 °C	0.45°C	CC34212200000 0066F	07-08-2023

Environmental Condition:	Temperature	Humidity	B.Pressure	Reference Standard	Calibration Procedure number
	25±3°C	50±15%rh			
	22.3	51	735.3	IS 5182 (Part -4)1999 IS:5182(Part-23)2006	CI (FF)-01

**CALIBRATION RESULTS**

SL.No.	Test piece measured Indicated flow rate (m3/min)	Reference True Measured flow rate in Calibration Curve (m3/min)	Error (±% F.S)	Expanded Uncertainty (±%)rdg.
1	0.725	0.716	0.643	3.80
2	0.850	0.838	0.857	3.80
3	0.920	0.907	0.929	3.80
4	1.200	1.188	0.857	3.80
5	1.300	1.279	1.500	3.80

Note:

- 1.This Certificate refers only to the particular item submitted for calibration.
- 2.This Certificate shall not be reproduced,except in full,without the written permission of Chief Executive Noida Caltech Lab Dadri Noida.
3. Results Reported are valid at the time of and under the stated conditions of measurement.
- 4.Laboratory Standards are traceable to National Standards.
- 5.The Estimated Expanded Uncertainty has been calculated at 95% Confidence level with Coverage factor k =2.
6. Decision Rule : Not Required

Calibration Engineer's Signature

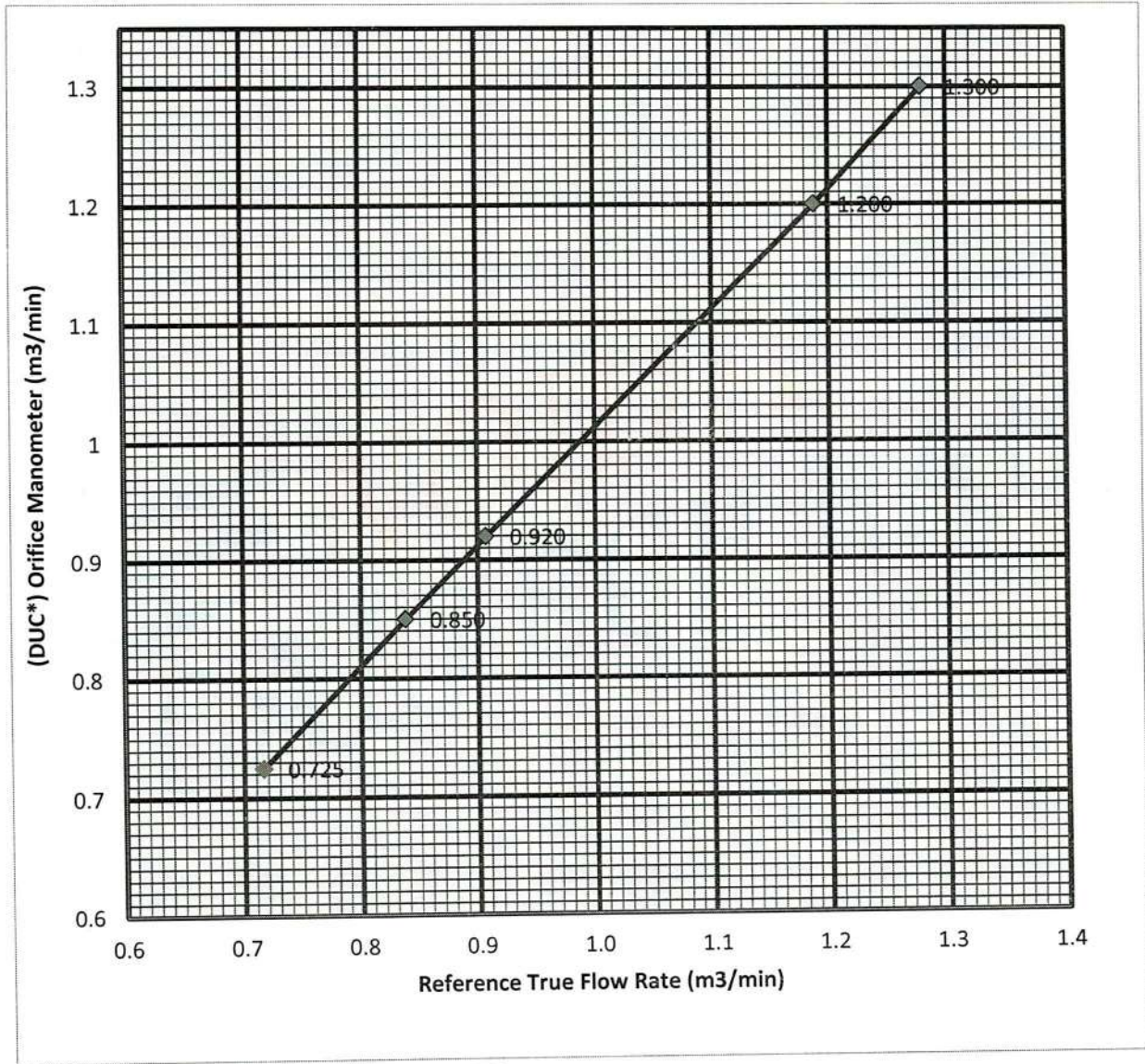
*Perish*



**CALIBRATION CERTIFICATE**

Page no.: 03 of 03  
Certificate / ULR no : CC354823000000057F

**CALIBRATION CURVE FOR ORIFICE MANOMETER**



Sl.No.	Reference True Flow Rate (m <sup>3</sup> /min)	(DUC*) Orifice Manometer (m <sup>3</sup> /min)
1	0.716	0.725
2	0.838	0.850
3	0.907	0.920
4	1.188	1.200
5	1.279	1.300

Calibration Engineer's Signature

*Rishabh*

Approved by : sushil kumar  
Quality Technical Manager  
Noida Caltech Lab  
Dadri (G.B. Nagar)



# NOIDA CALTECH LAB

<b>Calibration Certificate</b>		Formate No: 22 F
		Page 1 of 3
CERTIFICATE ISSUED TO :	Calibration Certificate /ULR No. :	CC354823000000057F
M/S Vibrant Techno Lab Pvt. Ltd. SC-40, 3rd Floor, Narayan Vihar, Blocks, Ajmer Road, Jaipur 302020.)	Service Request number :	NCL23/08
	Date of Receive:	04.05.2023
	Calibration Date :	04.05.2023
	Calibration Due Date :	04.05.2024
	Date of Issue :	10.05.2023
<b>Equipment</b> Respirable Dust Sampler		
CUSTOMER REFERENCE NO :		
Kind Attention : -----	Contact No: ±91 -----	
E- Mail: -----		

Certificate Issued By  
Sushil Kumar  
Quality/Technical  
Manager  
  
NOIDA CALTECH LAB  
Dadri (G.B. Nagar)



# ENVIRO INSTRUMENTS

(An ISO 9001:2015 Certified Company)

Head Office : A-04, Sigma-IV, Greater Noida (Gautam Buddha Nagar) U.P.-201310 (India)

Mobile: +91-7982443735, +91-7701969007, +9412833339 | Phone : 0120-2395648

E-mail: enviroinstruments@gmail.com | Website : www.enviroinstrument.com



## Calibration Certificate

Certificate No:	EI/FF/574	Page	1 of 2
SRF No:	2023/96	Field:	Fluid Flow
SRF Date	19.06.2023	ULR No.:	CC358123000001204F
Company Name & Address	Calibration Date:		21.06.2023
M/S, Vibrant TECHNO Lab Private Limited.	Due Date :		20.06.2024
3rd Floor, Plot no: - SC 40, Narayan Vihar, Block s, Ajmer road, Jaipur-302020 Rajasthan (India)	Issue Date :		30.06.2023
<b>DUC Details</b>		<b>DUC Fitted in Instrument</b>	
Instrument Name	Orifice Manometer Flow	Name / SI. No.	R.D.S. / 349 - C - 23
Make	Enviro Instruments	Make / Model No.	Enviro Instruments / EI - 142 BL
Range	0.6 - 1.5 m <sup>3</sup> /min	ID. No.	-
Resolution	0.01 & 0.025 m <sup>3</sup> /min	Location	Lab
		Calibration Performed at	Site

### Standard Equipments Used (Traceable to National Standard)

Sr. No.	Instrument Name	Calibrated By	SI.No. / ID.No.	URL No. /Cal. Certificate No.	Date of Calibration	Due. On date
1	Top Loading Calibrator	FCRI, Palakkad, Kerla	04-E-17 / EICL/TLC/05	CC2395230000000226F / CA 23 2304 06	06.04.2023	--
2	Digital Altimeter	Delhi Calibration Labotatory	EICL/FF/05	CC202221000006449F	16.03.2023	16.03.2024

### Environment Condition

Temperature °C	B.Pressure (mmHg)	Humidity %RH	Reference Standard	Calibration Procedure No.
24.4	740.5	54	IS 5182 (Part -4)1999 IS:5182(Part-23) 2006	EI/WI/FF/02

### Calibration Results For Orifice Manometer Flow

S.No.	Test piece measured Indicated flow rate (m <sup>3</sup> /min)	Reference True Measured flow rate in Calibration Curve (m <sup>3</sup> /min)	Error(%)
1	1.350	1.340	0.746
2	1.200	1.190	0.840
3	1.050	1.030	1.942
4	0.850	0.840	1.190
5	0.650	0.630	3.175

( Curve Enclosed)

Expanded Uncertainty at Range 0.6 - 1.4 m<sup>3</sup>/min ± 3.25 % at 95% confidence Level (K=2)

- Notes :-
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  - The Reported Results are Traceable to National Stardard.

Authorized By

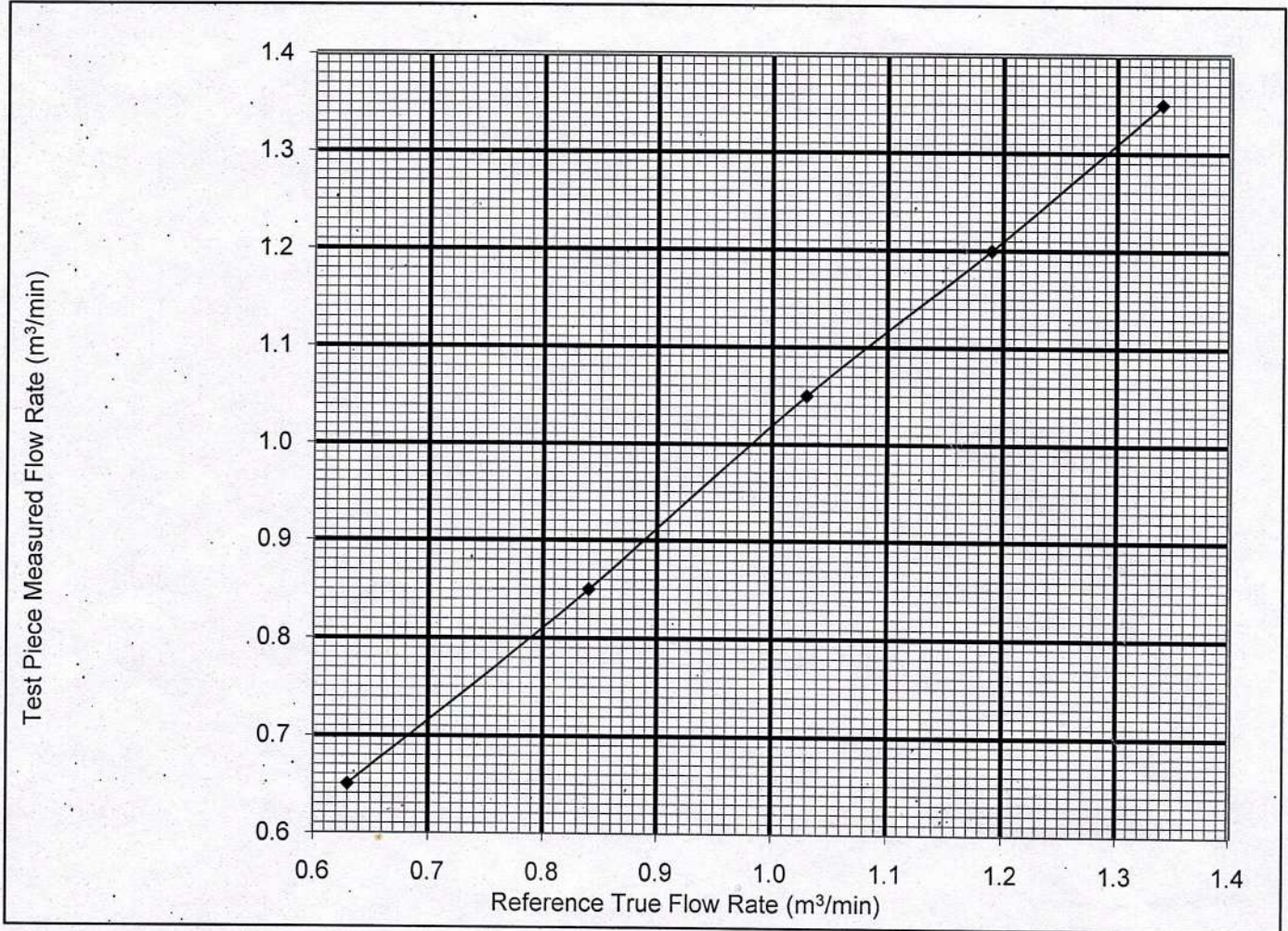
*Signature*  
 RAJURAG NIGAM  
 (Technical Manager)



Certificate No. **EI/FF/574**  
Date of Calibration :- **21.06.2023**



## CALIBRATION CURVE FOR ORIFICE MANOMETER FLOW



Sl.No.	Reference True Flow Rate (m³/min)	Test Piece Measured Flow Rate (m³/min)	Name of the Instrument/ Sr. No.	R.D.S. / 349 - C - 23
			Make / Model No.	Enviro Instruments / EI - 142 BL
			Name of the unit calibrated	Orifice Manometer Flow
			Name of the Party	<b>M/S, Vibrant TECHNO Lab Private Limited.</b> <b>3rd Floor, Plot no: - SC 40, Narayan Vihar, Block s,</b> <b>Ajmer road, Jaipur-302020 Rajasthan (India)</b>
1	1.340	1.350		
2	1.190	1.200		
3	1.030	1.050		
4	0.840	0.850		
5	0.630	0.650		

- Notes :-**
1. The Calibration results reported in this certificate valid at the time of and under the stated conditions of measurement
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  5. The Results Reported are Only for the Item Under Calibration.
  6. The Reported Results are Traceable to National Standard.

**Authorized By**

*Gaurag Nigam*  
**GAURAG NIGAM**  
(Technical Manager)



**CALIBRATION CERTIFICATE**

VTL/SMK/01

Page No. 2 of 2

Certificate / ULR no :

CC35482300000060F

Duc Details		DUC Fitted in instrument	
Instrument Name :	Rotameter	Name:	Stack Sampler
Make:	-----	Make:	Thermo
Model:	TEI-135	Mode:	TEI-130
Serial No :	F20232	Serial No :	SMKT-184-E-22
I.D No. :	VTL/SMK/01	Location	Lab
Range :	0 - 6 lpm	Parameter	Fluid Flow
Least Count :	0.1 lpm	Visual Insp.	ok

Standard(S) used, Associated Uncertainty & traceability of Standard(s) Used:

S.no.	Name	S.no/ID no.	Range	Uncertainty (± %)	Traceability	Validity
1	Gas Flow Calibrator	2170	1 - 100 lpm	1.15 & 1.10	CC34442200000 0760F	13-09-2023
2	Digital Temp. Indicator	NCL/FF/TI/08	0 - 50 °C	0.45°C	CC34212200000 0066F	07-08-2023

Environmental Condition:	Temperature	Humidity	B. Pressure	Reference Standard	Calibration Procedure number
	25±3°C	50±15%rh			
	22.1	51	735.1	ASTM D3195-90	CI (FF)-03

**CALIBRATION RESULTS**

S.no.	Duc Reading (lpm)	Average Standard Readings (lpm)	Error (±% F.S)	Expanded Uncertainty (±%)rdg.
1	1.0	1.11	-1.90	7.91
2	3.0	3.14	-2.37	5.65
3	4.0	4.12	-2.03	5.50
4	5.0	5.15	-2.53	5.38
5	6.0	6.21	-3.43	5.38

Note:

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3. Results Reported are valid at the time of and under the stated conditions of measurement.
4. Laboratory Standards are traceable to National Standards.
5. The Estimated Expanded Uncertainty has been calculated at 95% Confidence level with Coverage factor: k=2
6. Decision Rule : Not Required

Calibration Engineer's Signature

*Rakesh*



Approved by : sushil kumar  
Quality/Technical Manager

*Sushil Kumar*





# NOIDA CALTECH LAB

## Calibration Certificate

Formate No: 22 F  
Page No. 1 of 2

CERTIFICATE ISSUED TO :	Calibration Certificate /ULR No. :	CC354823000000060F
M/S Vibrant Techno Lab Pvt. Ltd. SC-40, 3rd Floor, Narayan Vihar, Blocks, Ajmer Road, Jaipur 302020.	Service Request number :	NCL23/08
	Date of Receive:	04.05.2023
	Calibration Date :	05.05.2023
	Calibration Due Date :	05.05.2024
	Date of Issue :	10.05.2023

Equipment  
Rotameter

CUSTOMER REFERENCE NO :

Kind Attention : ----- Contact No: ±91 -----  
E- Mail: -----

Certificate Issued By:

Sushil Kumar Quality/Technical  
Manager



Noida Caltech Lab Arya Nagar Puliya No.3rd, Behind the Indian Petrol Pump  
Near Surjan Farm Dadri (G.B.Nagar) U.P. 203207 (India)

Phone No. : +91- 7579332243, 9810547890, Email : noidacaltech@gmail.com | noidacaltech1@gmail.com

**CALIBRATION CERTIFICATE**

Page No. 2 of 2

Certificate / ULR no :

CC35482300000058F

Duc Details		DUC Fitted in instrument	
Instrument Name :	Rotameter	Name:	Stack Sampler
Make:	-----	Make:	Thermo
Model:	TEI-130	Mode:	TEI-130
Serial No :	L21249	Serial No :	SMKT-184-E22
I.D No. :	VTL/SMK/01	Location	Lab
Range :	0 - 60 lpm	Parameter	Fluid Flow
		Visual Insp.	ok

Standard(S) used,Associated Uncertainty & traceability of Standard(s) Used:

S.no.	Name	S.no/ID no.	Range	Uncertainty ( ± % )	Traceability	Validity
1	Gas Flow Calibrator	2170	1 - 100 lpm	1.15 & 1.10	CC34442200000 0760F	13-09-2023
2	Digital Temp.Indicator	NCL/FF/TI/08	0 - 50 °C	0.45°C	CC34212200000 0066F	07-08-2023

Environmental Condition:	Temperature 25±3°C	Humidity 50±15%rh	B.Pressure	Reference Standard	Calibration Procedure number
	22.1	52	735.4	ASTM D3195-90	CI (FF)-03

**CALIBRATION RESULTS**

S.no.	Duc Reading (lpm)	Average Standard Readings (lpm)	Error (±% F.S )	Expanded Uncertainty (±%)rdg.
1	5.0	5.22	-0.28	2.77
2	10.0	10.36	-0.45	2.57
3	30.0	30.46	-0.58	2.54
4	50.0	50.65	-0.82	2.50
5	60.0	60.61	-0.76	2.50

Note:

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3. Results Reported are valid at the time of and under the stated conditions of measurement.
- 4.Laboratory Standards are traceable to National Standards.
- 5.The Estimated Expanded Uncertainty has been calculated at 95% Confidence level with Coverage factor k =2.
- 6.Decision Rule : Not Required

Calibration Engineer's Signature

*Prakash*



Approved by: sushil kumar  
Quality/Technical Manager

*Sushil Kumar*



# NOIDA CALTECH LAB

## Calibration Certificate

Formate No: 22 F  
Page No. 1 of 2

CERTIFICATE ISSUED TO :	Calibration Certificate /ULR No. :	CC354823000000058F
M/S Vibrant Techno Lab Pvt. Ltd. SC-40, 3rd Floor, Narayan Vihar, Blocks, Ajmer Road, Jaipur 302020.	Service Request number :	NCL23/08
	Date of Receive:	04.05.2023
	Calibration Date :	05.05.2023
	Calibration Due Date :	05.05.2024
	Date of Issue :	10.05.2023

Equipment  
Rotameter

CUSTOMER REFERENCE NO :

Kind Attention : ----- Contact No: ±91 -----  
E- Mail: -----

Certificate Issued By:

sushil kumar Quality/Technical  
Manager



Noida Caltech Lab Arya Nagar Puliya No.3rd, Behind the Indian Petrol Pump  
Near Surjan Farm Dadri (G.B.Nagar) U.P. 203207 (India)

Phone No. : +91- 7579332243, 9810547890, Email : noidacaltech@gmail.com | noidacaltech1@gmail.com

**CALIBRATION CERTIFICATE**

Page No. 2 of 2

Certificate / ULR no : CC35482300000059F

Duc Details	
Name of the Equipment/Instrument	S- Type Pitot Tube
Make	-----
Model	-----
Serial Number	PT-65
I.D No.	VTL/S/01
Range :	3 - 20 m/sec.
Length	0.6 + 0.6 mtr.
Location	Lab

Standard(S) used,Associated Uncertainty & traceability of Standard(s) Used:

S.no.	Name	S.no/ID no.	Range	Uncertainty ( ± % )	Traceability	Validity
1	S Type Pitot Tube	EI-26	0.6 Metere	2.70%	CC318422000005604F	12.08.2023
2	Temperature Indicator	NCL/FF/TI/08	0 - 50 °C	± 0.45 °C	CC342122000000066F	07.08.2023
3	Diffrential Indicator	PI- 26	0 to 100 mmwc	15 pa	CC318422000005605F	12.08.2023

Environmental Condition:	Temperature	Humidity	B.Pressure	Reference Standard	Calibration Procedure number
	25±3°C	50±15%rh		ASTM 3796-90 (Reapproved 2004)	CI (FF)-02
	22.5	54	735.2		

**CALIBRATION RESULTS**

S.no.	Standard 'S' Type Pitot Tube K = 0.8664		'S' Type Pitot Tube Dynamic Pressure (mmWc)	Factor K	Expanded Uncertainty (± %)
	Dynamic Pressure (mmWc)	Air Velocity (m/s)			
1	2.0	5.07	2.1	0.8434	5.7
2	5.6	8.42	5.5	0.8734	5.7
3	13.5	13.04	13.5	0.8627	5.7
4	19.4	15.66	19.3	0.8663	5.7
5	32.3	20.19	32.2	0.8654	5.7
Averaged Coefficient (K)				0.8622	

Note:

- This Certificate refers only to the particular item submitted for calibration.
- This Certificate shall not be reproduced,except in full,without the written permission of Chief Executive Noida Caltech Lab Dadri Noida.
- Results Reported are valid at the time of and under the stated conditions of measurement.
- Laboratory Standards are traceable to National Standards.
- The Estimated Expanded Uncertainty has been calculated at 95% Confidence level with Coverage factor k =2.
- Decision Rule : Not Required

Calibration Engineer's Signature

*[Handwritten Signature]*



Approved by : sushil kumar  
Quality/Technical Manager

*[Handwritten Signature]*



# NOIDA CALTECH LAB

<b>Calibration Certificate</b>		Formate No: 22 F
		Page No. 1 of 2
CERTIFICATE ISSUED TO :	Calibration Certificate /ULR No. :	CC354823000000059F
M/S Vibrant Techno Lab Pvt. Ltd. SC-40, 3rd Floor, Narayan Vihar, Blocks, Ajmer Road, Jaipur 302020.	Service Request number :	NCL23/08
	Date of Receive:	04.05.2023
	Calibration Date :	05.05.2023
	Calibration Due Date :	05.05.2024
	Date of Issue :	10.05.2023
Equipment S - Type Pitot Tube		
CUSTOMER REFERENCE NO : -----		
Kind Attention : -----	Contact No:	±91
E- Mail: -----		

Certificate Issued By  
sushi.kumar Quality Technical  
Manager



Noida Caltech Lab Arya Nagar Puliya No.3rd, Behind the Indian Petrol Pump  
Near Surjan Farm Dadri (G.B.Nagar) U.P. 203207 (India)

Phone No. : +91- 7579332243, 9810547890, Email : noidacaltech@gmail.com | noidacaltech1@gmail.com



National Accreditation Board for  
Testing and Calibration Laboratories

**CERTIFICATE OF ACCREDITATION**

**VIBRANT TECHNO LAB PRIVATE LIMITED**

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

PLOT NO. SC 40, 3RD FLOOR, NARAYAN VIHAR S, AJMER ROAD, JAIPUR, RAJASTHAN, INDIA

in the field of

**TESTING**

Certificate Number: TC-11227

Issue Date: 20/12/2022

Valid Until:

19/12/2024

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](http://www.nabl-india.org))

Name of Legal Identity : VIBRANT TECHNO LAB PRIVATE LIMITED

Signed for and on behalf of NABL



N. Venkateswaran  
Chief Executive Officer



F.No. LB/99/7/2021-INST LAB-HO-CPCB-HO/Pvt./

1013

**Provisional Certificate**

To,

Head of Laboratory,  
M/s Vibrant Techno Lab Private Limited,  
Plot No. SC 40, 3rd Floor, Narayan Vihar S,  
Ajmer Road, Jaipur- 302020, Rajasthan,

**Subject: Recognition of M/s Vibrant Techno Lab Private Limited, Plot No. SC 40, 3rd Floor, Narayan Vihar S, Ajmer Road, Jaipur- 302020, Rajasthan, as Environmental laboratory under the Environmental (Protection) Act- 1986.**

Sir,

I am directed to refer the online application, dated 24/01/2023 for the recognition of your laboratory under Environmental (Protection) Act, 1986. Based on the recommendations of the concerned Division, approval of Competent Authority for recognition of Environmental laboratories and your acceptance of the revised terms and conditions at Annexure-III & IV of the guidelines for recognition of environmental laboratories, CPCB approves the recognition **M/s Vibrant Techno Lab Private Limited, Plot No. SC 40, 3rd Floor, Narayan Vihar S, Ajmer Road, Jaipur- 302020, Rajasthan** and shall be notified in the Gazette of India. Considering the current requirement of mandatory accreditation/ certifications of the laboratory, **this recognition shall be valid up to 19/12/2024.**

2. As sought in the aforementioned application, **M/s Vibrant Techno Lab Private Limited, Plot No. SC 40, 3rd Floor, Narayan Vihar S, Ajmer Road, Jaipur- 302020, Rajasthan** may undertake the following tests:
- Physical Tests**-Conductivity, Colour, pH, Fixed & Volatile Solids, Total Solids, Total Dissolved Solids, Total Suspended Solids, Turbidity, Temperature, Velocity & Discharge Measurement of Industrial Effluent Stream, Flocculation Test (Jar test), Settleable Solids and Sludge Volume Index.
  - Inorganic (General and Non-metallic):** Acidity, Alkalinity, Ammonical Nitrogen, Chloride, Chlorine Residual, Dissolved Oxygen, Fluoride, Total Hardness, Total Kjeldahl Nitrogen (TKN), Nitrite Nitrogen, Nitrate Nitrogen, Phosphate, Sulphate, Carbon Dioxide, Iodine, Sulphite, Silica and Sulphide.
  - Inorganic (Trace Metals):** Boron, Cadmium, Calcium, Total Chromium, Chromium Hexavalent, Copper, Iron, Lead, Magnesium, Mercury, Nickel, Potassium, Sodium, Sodium Absorption Ratio, Zinc, Arsenic, Aluminium, Manganese and Selenium.
  - Organics (General) and Trace Organics:** Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Oil and Grease, Phenolic Compounds, Pesticides (each) (Organo-Chlorine and Organo Nitrogen-Phosphorus), Surfactant, Poly-Nuclear Aromatic Hydrocarbon (PAH) each, Organic Carbon) in solid) and Carbon/Nitrogen Ratio.
  - Microbiological Test:** Total Coliform, Faecal Coliform, *E. coli*, *Faecal Streptococci* and Total Plate Count.
  - Toxicological Tests:** Bioassay Method for Evaluation of Toxicity Using Fish and Measurement of Toxicity Factor Using Zebra Fish (Dimensionless Toxicity Test).
  - Biological Tests:** Benthic Organism Identification and Count, Chlorophyll and Primary Productivity
  - Characterization of Hazardous Waste:** Preparation of Leachate (TCLP Extract/Water Extract), Toxicity and Measurement of Heavy Metals/Pesticides in the Waste/Leachate.
  - Soil/Sludge/Sediment and Solid Waste:** Boron, Cation Exchange Capacity (CEC), Electrical Conductivity, Nitrogen (Available), Organic Carbon/Matter (Chemical Method), pH, Phosphorous (Available), Phosphate (Ortho), Phosphate (Total), Potassium, SAR in Soil

Contd.

'परिवेश भवन' पूर्वी अर्जुन नगर, दिल्ली-110032

Parivesh Bhawan, East Arjun Nagar, Delhi-110032

दूरभाष/Tel : 43102030, 22305792, वेबसाइट/Website : www.cpcb.nic.in

Extract, Sodium, Soil moisture, TKN, Calorific Value, Ammonia, Bicarbonate, Calcium, Calcium Carbonate, Chloride, Exchangeable Sodium Percentage (ESP), Heavy Metals, Magnesium, Nitrate, Nitrite, PAH, Potash (available), Total Water Soluble Salt and Water Holding Capacity.

- x. **Ambient Air/ Fugitive Emissions:** Nitrogen Dioxide (NO<sub>2</sub>), Sulphur Dioxide (SO<sub>2</sub>), Total Suspended Particulate Matter, Respirable Suspended Particulate Matter PM<sub>10</sub>, Ammonia, Carbon monoxide, Chlorine, Fluoride, Non-Methane Hydrocarbon, Lead, Methane, Ozone, Polycyclic Aromatic Hydrocarbon (PAH) Benzo-a-Pyrene & others and PM<sub>2.5</sub>.
  - xi. **Stack Gases/ Source Emission:** Particulate Matter, Sulphur Dioxide, Velocity & Flow, Carbon Dioxide, Carbon Monoxide, Temperature, Oxygen, Oxides of Nitrogen, Acid Mist, Ammonia, Chlorine, Fluoride (Gaseous), Total Hydrocarbon, Carbon Disulphide and Hydrogen Sulphide.
  - xii. **Noise Level:** Noise Level Measurement (20-140 dBa) and Ambient Noise and Source Specific Noise.
  - xiii. **Meteorological:** Ambient Temperature, Wind Direction, Wind Speed, Relative Humidity and Rainfall.
3. Further, the following analysts have been approved as Government Analysts.
- i. Sh. Raj Kumar Yadav
  - ii. Sh. Nemichand
  - iii. Sh. Umesh Kumar Sharma
4. The laboratory shall compulsorily participate in the Analytical Quality Exercise conducted by the Central Pollution Control Board (CPCB) to ascertain the capability of the laboratory and analysis carried out and shall submit quarterly progress report to CPCB.
5. The surprise inspection/periodic surveillance of the recognized environment laboratory will be undertaken by CPCB to assess its proper functioning systematic operation and reliability of data generated at the laboratory.
6. It is also mandatory for the laboratory to have requisite accreditations of the ISO: 17025 and ISO:45001 and its renewal as per accreditation rules. This recognition is subject to such accreditations and renewals as applicable. The laboratory is required to apply online for further renewal of recognition through CPCB web portal after renewal of the mandatory accreditations / certifications concerned.
7. The laboratory should compulsorily follow the accepted terms and conditions. In case of serious non-compliance of any of the terms and conditions, the laboratory may be black listed for a minimum period of two years and civil/criminal proceedings, as applicable, may be initiated for performing functions on behalf of the Government in an unauthorized manner.

Yours faithfully,

 28/3/23

(Dr. K. Ranganathan)  
Scientist-E & Divisional Head  
Instrumentation laboratory

डॉ. के. रंगनथन / Dr. K. Ranganathan  
वैज्ञानिक 'ई' / Scientist 'E'  
प्रवासी जल एवं उपकरणीय प्रयोगशाला  
Dr. Head-Water & Instrumentation Laboratory  
केंद्रीय प्रदूषण नियंत्रण बोर्ड  
Central Pollution Control Board  
परिवेश, वन एवं जलवायु परिवर्तन विभाग, भारत सरकार  
(Min. Environment, Forest & Climate Change, Govt. of India)  
परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली-110032  
Parvosh Bhawan, East Arjun Nagar, Delhi-110032





**VIBRANT**

"Experience the unimaginable"

TEST REPORT

Name & Address of the Party

M/s Adani Power Jharkhand Ltd.  
2 x 800 MW Thermal Power Plant,  
Village: Motia, Dist: Godda, Jharkhand  
IS-5182 & CPCB Guidelines

Format No.: 7.8 F 02  
Party Reference No.: NIL

Analysis Protocol:

As per work order

Period of Analysis: April To Sep. 2023

Parameter Required:

Sample Description :

Ambient Air Quality Monitoring

Month	PM2.5 µg/m3	PM10 µg/m3	NO2 µg/m3	SO2 µg/m3
	IS 5182 (P-24):2019	IS: 5182 (P-23), 2006	IS: 5182(P-6),2006	IS: 5182(P-2),2001
Near Nayabad Village (Close to Plant Boundary)				
03-04/04/2023	33.6	67.5	14.7	8.21
06-07/04/2023	31.2	70.9	16.4	8.72
10-11/04/2023	34.1	69.2	15.2	7.25
13-14/04/2023	30.8	67.1	12.7	7.01
17-18/04/2023	32.3	71.2	16.6	8.12
20-21/04/2023	28.6	66.8	13.5	6.92
24-25/04/2023	36.2	71.5	12.4	7.80
27-28/04/2023	32.9	68.7	15.8	6.58
01-02/05/2023	35.5	72.8	18.2	8.64
04-05/05/2023	34.1	70.9	17.8	8.21
08-09/05/2023	31.6	68.4	13.5	7.26
11-12/05/2023	33.8	71.2	19.1	9.12
15-16/05/2023	36.2	76.7	18.5	9.68
18-19/05/2023	28.7	69.6	14.1	7.10
22-23/05/2023	32.8	67.9	16.4	8.64
29-30/05/2023	33.0	70.3	15.1	7.25
01-02/06/2023	36.8	75.1	19.1	9.12
05-06/06/2023	35.4	72.5	17.4	8.26
08-09/06/2023	33.9	67.3	16.1	7.58
12-13/06/2023	31.7	65.2	15.7	6.98
15-16/06/2023	37.2	73.6	18.2	9.48
19-20/06/2023	22.2	44.8	11.9	5.10
22-23/06/2023	33.2	69.1	15.1	7.56
26-27/06/2023	21.3	42.7	11.5	5.58
29-30/06/2023	22.7	43.0	12.1	6.24
03-04/07/2023	21.1	42.5	11.9	5.82
06-07/07/2023	22.6	44.3	12.1	6.00
10-11/07/2023	27.9	55.7	14.2	7.11
13-14/07/2023	20.7	40.7	10.8	5.98
17-18/07/2023	26.7	52.1	13.4	7.14
20-21/07/2023	26.7	58.9	13.2	6.58
24-25/07/2023	28.2	56.2	14.8	7.24
27-28/07/2023	21.7	42.8	11.1	5.98
30-31/07/2023	23.1	45.1	12.0	6.00
01-02/08/2023	17.7	33.9	9.2	5.12
04-05/08/2023	21.3	43.8	9.8	5.10
07-08/08/2023	16.9	32.6	9.0	5.08
10-11/08/2023	18.5	34.2	10.0	5.45
14-15/08/2023	23.6	55.7	12.8	6.85
17-18/08/2023	16.3	31.9	8.9	5.58

Checked By



RK Yadav  
Lab Incharge  
(Authorized Signatory)

Term & conditions PTC

Approved & Certified EPA 1986 Recognised, ISO:9001 and OHSAS:45001 Certified

Vibrant Techno Lab Pvt. Ltd.

SC-40, 3rd Floor, Narayan Vihar S, Ajmer Road, Jaipur Raj. 302020

9929108691, 9810205356, 8005707098, 9549956601

0141-2954638

bd@vibranttechnolab.com

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# TEST REPORT

**VIBRANT**  
"Experience the unimaginable"

21-22/08/2023	15.5	30.2	7.8	5.00
24-25/08/2023	18.1	34.9	10.2	6.52
28-29/08/2023	24.8	50.4	12.1	6.36
01-02/09/2023	17.2	32.8	9.8	5.86
04-05/09/2023	18.8	34.6	10.0	6.10
07-08/09/2023	16.3	29.9	9.0	5.20
11-12/09/2023	21.3	42.1	9.8	5.86
14-15/09/2023	16.8	33.8	9.9	5.98
18-19/09/2023	23.4	46.0	11.8	6.89
21-22/09/2023	15.3	28.9	8.7	5.02
25-26/09/2023	17.1	31.7	9.3	5.76
28-29/09/2023	22.5	43.7	11.4	6.08

Month	PM2.5 µg/m3	PM10 µg/m3	NO2 µg/m3	SO2 µg/m3
	IS 5182 (P-24):2019	IS: 5182 (P-23), 2006	IS: 5182(P-6),2006	IS: 5182(P-2),2001
<b>Near Near Mali Village (Close to plant boundary)</b>				
03-04/04/2023	34.2	64.6	15.1	9.10
06-07/04/2023	37.8	68.1	17.2	8.90
10-11/04/2023	36.4	66.9	16.4	7.11
13-14/04/2023	32.6	64.2	15.1	7.07
17-18/04/2023	35.1	65.8	14.2	9.04
20-21/04/2023	37.2	64.8	15.7	8.10
24-25/04/2023	34.9	66.2	14.6	7.80
27-28/04/2023	36.2	67.6	13.8	8.74
01-02/05/2023	36.4	72.8	16.1	8.12
04-05/05/2023	39.1	79.5	18.4	9.14
08-09/05/2023	35.2	71.7	15.9	7.48
11-12/05/2023	33.8	69.4	17.4	8.68
15-16/05/2023	35.9	73.1	18.6	9.87
18-19/05/2023	37.5	75.3	19.1	10.02
22-23/05/2023	38.6	77.8	19.9	10.25
29-30/05/2023	34.4	72.7	17.5	8.95
01-02/06/2023	35.2	70.5	18.1	9.10
05-06/06/2023	38.9	77.8	19.6	9.86
08-09/06/2023	36.4	72.4	17.2	8.75
12-13/06/2023	34.6	68.9	16.8	7.95
15-16/06/2023	35.9	71.7	17.0	8.21
19-20/06/2023	19.8	39.9	10.7	5.48
22-23/06/2023	38.0	76.2	19.7	9.98
26-27/06/2023	23.3	45.6	12.4	6.21
29-30/06/2023	22.3	43.1	11.7	5.98
03-04/07/2023	23.8	48.7	11.9	6.87
06-07/07/2023	20.7	41.4	10.8	5.76
10-11/07/2023	26.1	51.3	13.2	7.23
13-14/07/2023	22.5	44.5	11.6	6.25
17-18/07/2023	27.5	53.1	13.8	7.10

(Checked By)



RK Yadav  
Lab Incharge  
(Authorized Signatory)

Term & conditions PTC

Approved & Certified EPA 1986 Recognised, ISO:9001 and OHSAS:45001 Certified

## Vibrant Techno Lab Pvt. Ltd.

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9929108691, 9810205356, 8005707098, 9549956601

0141-2954638

bd@vibranttechnolab.com

www.vibranttechnolab.com

**TEST REPORT**

Month	PM2.5 µg/m3 IS 5182 (P-24):2019	PM10 µg/m3 IS: 5182 (P-23), 2006	NO2 µg/m3 IS: 5182(P-6),2006	SO2 µg/m3 IS: 5182(P-2),2001
20-21/07/2023	26.4	55.3	13.0	6.62
24-25/07/2023	25.0	50.1	13.4	7.24
27-28/07/2023	21.2	42.7	11.5	6.98
30-31/07/2023	20.1	40.6	10.9	5.89
01-02/08/2023	17.4	33.1	9.1	5.89
04-05/08/2023	21.4	42.5	11.5	5.98
07-08/08/2023	16.2	30.8	8.8	5.12
10-11/08/2023	16.0	32.7	9.0	5.86
14-15/08/2023	25.3	50.7	14.1	7.75
17-18/08/2023	16.0	32.2	9.0	5.68
21-22/08/2023	15.0	30.9	8.0	5.03
24-25/08/2023	18.6	34.1	10.2	6.08
28-29/08/2023	19.7	45.6	9.8	5.11
01-02/09/2023	18.8	35.8	10.7	6.20
04-05/09/2023	20.1	31.9	11.7	7.84
07-08/09/2023	22.9	34.5	11.9	6.68
11-12/09/2023	19.7	37.7	10.0	6.11
14-15/09/2023	17.2	33.8	9.9	5.23
18-19/09/2023	17.1	34.2	9.0	5.35
21-22/09/2023	16.2	30.4	8.6	5.05
25-26/09/2023	17.4	32.9	10.0	6.21
28-29/09/2023	25.0	48.2	13.4	7.21

Month	PM2.5 µg/m3 IS 5182 (P-24):2019	PM10 µg/m3 IS: 5182 (P-23), 2006	NO2 µg/m3 IS: 5182(P-6),2006	SO2 µg/m3 IS: 5182(P-2),2001
<b>Near Motia village (Close to plant boundary)</b>				
03-04/04/2023	30.1	65.3	14.4	8.15
06-07/04/2023	27.8	67.5	12.9	7.08
10-11/04/2023	34.3	62.2	16.5	8.10
13-14/04/2023	26.2	61.5	14.8	9.12
17-18/04/2023	32.4	66.9	15.7	8.71
20-21/04/2023	29.5	59.6	16.2	7.92
24-25/04/2023	26.8	63.8	13.2	7.68
27-28/04/2023	29.1	64.5	16.2	8.4
01-02/05/2023	33.2	69.5	17.1	9.12
04-05/05/2023	30.5	66.1	16.8	8.62
08-09/05/2023	34.2	71.6	17.9	9.69
11-12/05/2023	29.1	65.7	14.2	7.24
15-16/05/2023	32.6	68.4	16.2	9.10
18-19/05/2023	34.5	70.8	18.7	9.56
22-23/05/2023	36.1	74.5	19.3	9.21
29-30/05/2023	28.9	65.0	13.8	7.17
01-02/06/2023	35.7	70.5	18.2	9.25
05-06/06/2023	34.2	68.9	17.9	8.45
08-09/06/2023	36.5	72.4	19.1	9.10
12-13/06/2023	35.1	69.7	16.8	8.42

(Checked By)



RK Yadav  
Lab Incharge  
(Authorized Signatory)

Approved & Certified EPA 1986 Recognised, ISO:9001 and OHSAS:45001 Certified

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## TEST REPORT

# VIBRANT

"Experience the unimaginable"

15-16/06/2023	33.7	65.2	15.2	7.56
19-20/06/2023	23.1	46.3	13.5	7.21
22-23/06/2023	36.6	76.1	19.2	9.89
26-27/05/2023	21.1	42.9	11.2	5.99
29-30/06/2023	23.6	44.1	13.5	7.10
03-04/07/2023	23.7	45.7	12.7	7.89
06-07/07/2023	22.1	43.2	11.4	6.75
10-11/07/2023	26.3	51.6	13.8	7.53
13-14/07/2023	20.5	40.0	10.5	5.87
17-18/07/2023	28.2	56.8	14.7	7.75
20-21/07/2023	26.7	53.1	13.2	7.02
24-25/07/2023	29.6	58.1	15.1	8.10
27-28/07/2023	21.9	41.4	11.9	6.12
30-31/07/2023	22.3	43.5	12.5	6.85
01-02/08/2023	17.8	33.2	9.6	6.12
04-05/08/2023	24.1	45.2	12.7	7.25
07-08/08/2023	16.2	30.9	8.9	5.56
10-11/08/2023	18.5	34.2	11.5	6.83
14-15/08/2023	26.2	52.3	14.2	7.23
17-18/08/2023	16.5	30.2	10.2	5.23
21-22/08/2023	19.5	34.7	12.8	6.24
24-25/08/2023	17.3	32.9	9.8	5.11
28-29/08/2023	24.1	48.1	12.6	6.47
01-02/09/2023	15.1	28.9	8.8	5.01
04-05/09/2023	17.6	31.7	10.1	6.12
07-08/09/2023	20.3	34.5	10.5	5.25
11-12/09/2023	22.6	43.6	11.2	6.65
14-15/09/2023	19.3	29.9	9.3	5.87
18-19/09/2023	24.1	47.2	12.1	6.84
21-22/09/2023	17.2	33.8	9.2	5.71
25-26/09/2023	16.2	31.5	10.0	5.23
28-29/09/2023	23.7	46.7	12.0	6.89

# VIBRANT

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*(Checked By)*



RK Yadav  
Lab Incharge  
(Authorized Signatory)

Term & conditions PTC

Approved & Certified EPA 1986 Recognised, ISO:9001 and OHSAS:45001 Certified

**Vibrant Techno Lab Pvt. Ltd.**

SC-40, 3rd Floor, Narayan Vihar S, Ajmer Road, Jaipur Raj. 302020

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TEST REPORT

Name & Address of the Party

M/s Adani Power Jharkhand Ltd.  
2 × 800 MW Thermal Power Plant,  
Village: Motia, Dist: Godda, Jharkhand

Format No.: 7.8 F 02  
Party Reference No.: NIL

Analysis Protocol:

IS-5182 & CPCB Guidelines

Period of Analysis: April To Sep. 2023

Parameter Required:

As per work order

Report Date : 30/09/2023

Sample Description :

Fugitive Emission Monitoring

Summary Reports

S.NO.	Month	Fly - Ash Silo	Wagon Tippler
1.	May, 2023	455.0	475.0



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(Checked By)



RK Yadav   
Lab Incharge  
(Authorized Signatory)

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Name & Address of Party: M/s Adani Power Jharkhand Ltd.  
2 x 800 MW Thermal Power Plant,  
Village: Motia, Dist: Godda, Jharkhand

Format No.: 7.8 F 01  
Party Reference No.: Na  
Report Date: 30/09/2023  
Period of Analysis: April To Sep. 2023

Sample Description:: Ground Water  
Sampling & Analysis Protocol: IS-10500-2012

Test Results

S. No.	Parameter	Test Method	Mali Village Apr. -23	Motiya Village Apr. -23	Naya Bad Village Apr. -23	Patwa Village. Apr. -23	Unit	IS: 10500-2012	
								Acceptable Limit	Permissible Limit
1.	pH (at 25 °C)	IS 3025 (P-11): 2022	7.24	7.19	7.26	7.07	--	6.5 to 8.5	No Relaxation
2.	Colour	IS 3025(P-4): 2021	*BLQ(**LOQ -5.0)	*BLQ(**LO Q-5.0)	*BLQ(**LOQ -5.0)	*BLQ(**LO Q-5.0)	Hazen	5	15
3.	Turbidity	IS 3025 (P-10): 1984,RA: 2017	*BDL(**LOQ -1.0)	*BDL(**LO Q-1.0)	*BDL(**LOQ -1.0)	*BDL(**LO Q-1.0)	NTU	1	5
4.	Odour	IS 3025 (P-5)1983	Agreeable	Agreeable	Agreeable	Agreeable	--	Agreeable	Agreeable
5.	Taste	IS 3025(P-8) 1984	Agreeable	Agreeable	Agreeable	Agreeable	--	Agreeable	Agreeable
6.	Total Hardness as CaCO <sub>3</sub>	IS: 3025 (P-21): 2009,RA: 2019	175.0	162.0	190	190	mg/l	200	600
7.	Calcium as Ca	IS: 3025 (P-40): 1991, RA: 2019	52.10	42.63	54.11	46.09	mg/l	75	200
8.	Alkalinity as CaCO <sub>3</sub>	IS: 3025 (P-23): 1986,RA: 2019	142.0	162.5	182.7	196.1	mg/l	200	600
9.	Chloride as Cl	IS: 3025(Part 32):1988, RA:2019	28.71	64.61	26.32	40.68	mg/l	250	1000
10.	Cyanide as CN	IS: 3025 (P-27)1986	*BLQ(**LO Q-0.02)	*BLQ(**LO Q-0.02)	*BLQ(**LO Q-0.02)	*BLQ(**LO Q-0.02)	mg/l	0.05	No Relaxation
11.	Magnesium as Mg	IS: 3025 (P-46): 1994, RA: 2019	10.93	13.52	13.36	18.23	mg/l	30	100
12.	Total Dissolved Solids	IS 3025 (P-16): 1984RA: 2017	357.0	389.0	402.0	440.0	mg/l	500	2000
13.	Sulphate as SO <sub>4</sub>	IS: 3025 (P-24): 1986 Sec.1 RA: 2022	49.6	56.3	46.85	54.2	mg/l	200	400
14.	Fluoride as F	APHA (23rd Edition), 4500FD:2017	0.31	0.35	0.23	0.29	mg/l	1.0	1.5
15.	Nitrate as NO <sub>3</sub>	IS: 3025 (P-34): 1988,(Chromotropic Method) RA: 2022	23.6	24.6	19.32	22.3	mg/l	45	No Relaxation
16.	Iron as Fe	APHA (23rd Edition),3113B: 2017	0.29	0.26	0.24	0.21	mg/l	0.3	No Relaxation

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17.	Aluminium as Al	IS 3025 (P-55):2003,RA: 2019	*BLQ(**LO Q-0.03)	*BLQ(**L OQ-0.03)	*BLQ(**LO Q-0.03)	*BLQ(**L OQ-0.03)	mg/l	0.03	0.2
18.	Boron	APHA (23 <sup>rd</sup> Edition) 4500B: 2017	*BLQ(**LO Q-0.2)	*BLQ(**L OQ-0.2)	*BLQ(**LO Q-0.2)	*BLQ(**L OQ-0.2)	mg/l	0.5	1.0
19.	Total Silica	IS : 3025 ( P-35 ):1888,RA: 2003	2.40	2.67	2.44	2.52	mg/l	--	--
20.	Phenolic Compounds	APHA 23 <sup>rd</sup> Edition,2017, 5530 C	*BLQ(**LO Q-0.001)	*BLQ(**L OQ-0.001)	*BLQ(**LO Q-0.001)	*BLQ(**L OQ-0.001)	mg/l	0.001	0.002
21.	Anionic Detergents as MBAS	APHA 23 <sup>rd</sup> Edition,2017, 5530 C	*BLQ(**LO Q-0.02)	*BLQ(**L OQ-0.02)	*BLQ(**LO Q-0.02)	*BLQ(**L OQ-0.02)	mg/l	0.2	1.0
22.	Zinc as Zn	APHA (23 <sup>rd</sup> Edition ), 3030D,3113B: 2017	0.34	0.36	0.32	0.29	mg/l	5.0	15.0
23.	Copper as Cu	APHA (23 <sup>rd</sup> Edition),3113B: 2017	*BLQ(**LO Q-0.02)	*BLQ(**L OQ-0.02)	*BLQ(**LO Q-0.02)	*BLQ(**L OQ-0.02)	mg/l	0.05	1.5
24.	Manganese as Mn	APHA (23 <sup>rd</sup> Edition)3030D,3113 B: 2017	*BLQ(**LO Q-0.05)	*BLQ(**L OQ-0.05)	*BLQ(**LO Q-0.05)	*BLQ(**L OQ-0.05)	mg/l	0.1	0.3
25.	Cadmium as Cd	APHA (23 <sup>rd</sup> Edition)3030D,3113 B: 2017	*BLQ(**LO Q-0.002)	*BLQ(**L OQ-0.002)	*BLQ(**LO Q-0.002)	*BLQ(**L OQ-0.002)	mg/l	0.003	No Relaxation
26.	Lead as Pb	APHA (23 <sup>rd</sup> Edition)3030D,3113 B: 2017	*BLQ(**LO Q-0.005)	*BLQ(**L OQ-0.005)	*BLQ(**LO Q-0.005)	*BLQ(**L OQ-0.005)	mg/l	0.01	No Relaxation
27.	Selenium as Se	APHA (23 <sup>rd</sup> Edition)3114C,2017	*BLQ(**LO Q-0.005)	*BLQ(**L OQ-0.005)	*BLQ(**LO Q-0.005)	*BLQ(**L OQ-0.005)	mg/l	0.01	No Relaxation
28.	Arsenic as As	APHA (23 <sup>rd</sup> Edition),3114C,2017	*BLQ(**LO Q-0.005)	*BLQ(**L OQ-0.005)	*BLQ(**LO Q-0.005)	*BLQ(**L OQ-0.005)	mg/l	0.01	0.05
29.	Mercury as Hg	APHA (23 <sup>rd</sup> Edition)3114C,2017	*BLQ(**LO Q-0.001)	*BLQ(**L OQ-0.001)	*BLQ(**LO Q-0.001)	*BLQ(**L OQ-0.001)	mg/l	0.001	No Relaxation
30.	Hexa Valent Chromium	APHA (23 <sup>rd</sup> Edition)3500 Cr B:2017	*BLQ(**LO Q-0.01)	*BLQ(**L OQ-0.01)	*BLQ(**LO Q-0.01)	*BLQ(**L OQ-0.01)	mg/l		
31.	Residual Free Chloren	IS :3025(P-26): 2021	*BLQ(**LO Q-0.2)	*BLQ(**L OQ-0.2)	*BLQ(**LO Q-0.2)	*BLQ(**L OQ-0.2)	mg/l		
32.	Temperatur e	IS :3025(P-9):1984,RA:2017	25.3	24.9	24.6	25.1	°C	--	--
33.	Total Coliform	IS:15185: 2016	Absent	Absent	Absent	Absent	Per 100 ml	Shall not be detectable in any 100 ml sample	
34.	E.Coli	IS:15185: 2016	Absent	Absent	Absent	Absent	Per 100 ml	Shall not be detectable in any 100 ml sample	

Note: - \*BLQ-Below Limit Quantification, \*LOQ- Limit of Quantification

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**TEST REPORT**

Name & Address of Party: M/s Adani Power Jharkhand Ltd.  
2 × 800 MW Thermal Power Plant,  
Village: Motia, Dist: Godda, Jharkhand

Format No.: 7.8 F 01  
Party Reference No.: Na  
Report Date: 30/09/2023  
Period of Analysis: April To Sep. 2023

Sample Description: Ground Water  
Sampling & Analysis Protocol: IS-10500-2012

**Test Results**

S. No.	Parameter	Test Method	Mali Village July. -23	Motiya Village July. -23	Naya Bad Village July. -23	Patwa Village. July. -23	Unit	IS: 10500-2012	
								Acceptable Limit	Permissible Limit
1.	pH (at 25 °C)	IS 3025 (P-11): 2022	7.38	7.29	7.36	7.42	--	6.5 to 8.5	No Relaxation
2.	Colour	IS 3025(P-4): 2021	*BLQ(**LOQ -5.0)	*BLQ(**LO Q-5.0)	*BLQ(**LOQ -5.0)	*BLQ(**LO Q-5.0)	Hazen	5	15
3.	Turbidity	IS 3025 (P-10): 1984,RA: 2017	*BDL(**LOQ -1.0)	*BDL(**LO Q-1.0)	*BDL(**LOQ -1.0)	*BDL(**LO Q-1.0)	NTU	1	5
4.	Odour	IS 3025 (P-5)1983	Agreeable	Agreeable	Agreeable	Agreeable	--	Agreeable	Agreeable
5.	Taste	IS 3025(P-8) 1984	Agreeable	Agreeable	Agreeable	Agreeable	--	Agreeable	Agreeable
6.	Total Hardness as CaCO <sub>3</sub>	IS: 3025 (P-21): 2009,RA: 2019	195.0	178.0	201.0	185.0	mg/l	200	600
7.	Calcium as Ca	IS: 3025 (P-40): 1991, RA: 2019	58.1	45.7	59.2	52.4	mg/l	75	200
8.	Alkalinity as CaCO <sub>3</sub>	IS: 3025 (P-23): 1986,RA: 2019	177.0	152.0	177.0	163.0	mg/l	200	600
9.	Chloride as Cl	IS: 3025(Part 32):1988, RA:2019	52.3	48.9	29.70	25.00	mg/l	250	1000
10.	Cyanide as CN	IS: 3025 (P-27)1986	*BLQ(**LO Q-0.02)	*BLQ(**LO Q-0.02)	*BLQ(**LO Q-0.02)	*BLQ(**LO Q-0.02)	mg/l	0.05	No Relaxation
11.	Magnesium as Mg	IS: 3025 (P-46): 1994, RA: 2019	12.16	15.54	12.95	13.18	mg/l	30	100
12.	Total Dissolved Solids	IS 3025 (P-16): 1984RA: 2017	362.0	310.0	352.0	310.0	mg/l	500	2000
13.	Sulphate as SO <sub>4</sub>	IS: 3025 (P-24): 1986 Sec.1 RA: 2022	66.2	51.0	62.1	53.2	mg/l	200	400
14.	Fluoride as F	APHA (23rd Edition), 4500FD:2017	0.32	0.29	0.33	0.27	mg/l	1.0	1.5
15.	Nitrate as NO <sub>3</sub>	IS: 3025 (P-34): 1988,(Chromotropic Method) RA: 2022	27.4	21.6	23.4	21.7	mg/l	45	No Relaxation
16.	Iron as Fe	APHA (23 <sup>rd</sup> Edition),3113B: 2017	0.27	0.25	0.28	0.23	mg/l	0.3	No Relaxation

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17.	Aluminium as Al	IS 3025 (P-55):2003,RA: 2019	*BLQ(**LO Q-0.03)	*BLQ(**L OQ-0.03)	*BLQ(**LO Q-0.03)	*BLQ(**L OQ-0.03)	mg/l	0.03	0.2
18.	Boron	APHA (23 <sup>rd</sup> Edition) 4500B: 2017	*BLQ(**LO Q-0.2)	*BLQ(**L OQ-0.2)	*BLQ(**LO Q-0.2)	*BLQ(**L OQ-0.2)	mg/l	0.5	1.0
19.	Total Silica	IS: 3025 (P-35):1888,RA: 2003	2.75	2.35	3.12	2.62	mg/l	--	--
20.	Phenolic Compounds	APHA 23 <sup>rd</sup> Edition,2017, 5530 C	*BLQ(**LO Q-0.001)	*BLQ(**L OQ-0.001)	*BLQ(**LO Q-0.001)	*BLQ(**L OQ-0.001)	mg/l	0.001	0.002
21.	Anionic Detergents as MBAS	APHA 23 <sup>rd</sup> Edition,2017, 5530 C	*BLQ(**LO Q-0.02)	*BLQ(**L OQ-0.02)	*BLQ(**LO Q-0.02)	*BLQ(**L OQ-0.02)	mg/l	0.2	1.0
22.	Zinc as Zn	APHA (23 <sup>rd</sup> Edition), 3030D,3113B: 2017	0.32	0.28	0.37	0.32	mg/l	5.0	15.0
23.	Copper as Cu	APHA (23 <sup>rd</sup> Edition),3113B: 2017	*BLQ(**LO Q-0.02)	*BLQ(**L OQ-0.02)	*BLQ(**LO Q-0.02)	*BLQ(**L OQ-0.02)	mg/l	0.05	1.5
24.	Manganese as Mn	APHA (23 <sup>rd</sup> Edition)3030D,3113 B: 2017	*BLQ(**LO Q-0.05)	*BLQ(**L OQ-0.05)	*BLQ(**LO Q-0.05)	*BLQ(**L OQ-0.05)	mg/l	0.1	0.3
25.	Cadmium as Cd	APHA (23 <sup>rd</sup> Edition)3030D,3113 B: 2017	*BLQ(**LO Q-0.002)	*BLQ(**L OQ-0.002)	*BLQ(**LO Q-0.002)	*BLQ(**L OQ-0.002)	mg/l	0.003	No Relaxation
26.	Lead as Pb	APHA (23 <sup>rd</sup> Edition)3030D,3113 B: 2017	*BLQ(**LO Q-0.005)	*BLQ(**L OQ-0.005)	*BLQ(**LO Q-0.005)	*BLQ(**L OQ-0.005)	mg/l	0.01	No Relaxation
27.	Selenium as Se	APHA (23 <sup>rd</sup> Edition)3114C,2017	*BLQ(**LO Q-0.005)	*BLQ(**L OQ-0.005)	*BLQ(**LO Q-0.005)	*BLQ(**L OQ-0.005)	mg/l	0.01	No Relaxation
28.	Arsenic as As	APHA (23 <sup>rd</sup> Edition),3114C,2017	*BLQ(**LO Q-0.005)	*BLQ(**L OQ-0.005)	*BLQ(**LO Q-0.005)	*BLQ(**L OQ-0.005)	mg/l	0.01	0.05
29.	Mercury as Hg	APHA (23 <sup>rd</sup> Edition)3114C,2017	*BLQ(**LO Q-0.001)	*BLQ(**L OQ-0.001)	*BLQ(**LO Q-0.001)	*BLQ(**L OQ-0.001)	mg/l	0.001	No Relaxation
30.	Hexa Valent Chromium	APHA (23 <sup>rd</sup> Edition)3500 Cr B:2017	*BLQ(**LO Q-0.01)	*BLQ(**L OQ-0.01)	*BLQ(**LO Q-0.01)	*BLQ(**L OQ-0.01)	mg/l		
31.	Residual Free Chloren	IS:3025(P-26): 2021	*BLQ(**LO Q-0.2)	*BLQ(**L OQ-0.2)	*BLQ(**LO Q-0.2)	*BLQ(**L OQ-0.2)	mg/l		
32.	Temperature	IS:3025(P-9):1984,RA:2017	25.2	25.1	25.4	25.2	°C	--	--
33.	Total Coliform	IS:15185: 2016	Absent	Absent	Absent	Absent	Per 100 ml	Shall not be detectable in any 100 ml sample	
34.	E.Coli	IS:15185: 2016	Absent	Absent	Absent	Absent	Per 100 ml	Shall not be detectable in any 100 ml sample	

Note: - \*BLQ-Below Limit Quantification, \*LOQ- Limit of Quantification

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TEST REPORT

Name & Address of Party:

M/s Adani Power Jharkhand Ltd.  
2 × 800 MW Thermal Power Plant,  
Village: Motia, Dist: Godda, Jharkhand

Format No.: 7.8 F 01  
Party Reference No.: NA  
Report Date: 30/09/2023  
Period of Analysis: April to Sep. 2023

Sample Description::

Surface Water

Sampling & Analysis Protocol:

IS-10500-2012

Test Results

S. No.	Parameter	Test Method	April 2023	July 2023	Unit
1.	pH (at 25 °C)	IS 3025 (P-11): 2022	7.26	7.30	--
2.	Colour	IS 3025(P-4): 2021	*BLQ(**LOQ-5.0)	*BLQ(**LOQ-5.0)	Hazen
3.	Turbidity	IS 3025 (P-10): 1984,RA: 2017	2.01	2.3	NTU
4.	Odour	IS 3025 (P-5)1983	Agreeable	Agreeable	--
5.	Taste	IS 3025(P-8) 1984	Agreeable	Agreeable	--
6.	Total Hardness as CaCO <sub>3</sub>	IS: 3025 (P-21): 2009,RA: 2019	125	132	mg/l
7.	Calcium as Ca	IS: 3025 (P-40): 1991, RA: 2019	39.68	40.0	mg/l
8.	Alkalinity as CaCO <sub>3</sub>	IS: 3025 (P-23): 1986,RA: 2019	145	152	mg/l
9.	Chloride as Cl	IS: 3025(Part 32):1988, RA:2019	35.61	38.6	mg/l
10.	Cyanide as CN	IS: 3025 (P-27)1986	*BLQ(**LOQ-0.02)	*BLQ(**LOQ-0.02)	mg/l
11.	Magnesium as Mg	IS: 3025 (P-46): 1994, RA: 2019	6.32	7.82	mg/l
12.	Total Dissolved Solids	IS 3025 (P-16): 1984RA: 2017	310	258.0	mg/l
13.	Sulphate as SO <sub>4</sub>	IS: 3025 (P-24): 1986 Sec.1 RA: 2022	32.98	33.9	mg/l
14.	Fluoride as F	APHA (23rd Edition), 4500FD:2017	0.36	0.29	mg/l
15.	Nitrate as NO <sub>3</sub>	IS: 3025 (P-34): 1988,(Chromotropic Method) RA: 2022	5.12	6.20	mg/l
16.	Iron as Fe	APHA (23rd Edition),3113B: 2017	0.19	0.22	mg/l
17.	Aluminium as Al	IS 3025 (P-55):2003,RA: 2019	*BLQ(**LOQ-0.03)	*BLQ(**LOQ-0.03)	mg/l
18.	Boron	APHA (23rd Edition) 4500B: 2017	*BLQ(**LOQ-0.2)	*BLQ(**LOQ-0.2)	mg/l
19.	Total Silica	IS: 3025 (P-35):1888,RA: 2003	4.72	5.1	mg/l
20.	Phenolic Compounds	APHA 23rd Edition,2017, 5530 C	*BLQ(**LOQ-0.001)	*BLQ(**LOQ-0.001)	mg/l
21.	Anionic Detergents as MBAS	APHA 23rd Edition,2017, 5530 C	*BLQ(**LOQ-0.02)	*BLQ(**LOQ-0.02)	mg/l
22.	Zinc as Zn	APHA (23rd Edition), 3030D,3113B: 2017	0.21	0.23	mg/l
23.	Copper as Cu	APHA (23rd Edition),3113B: 2017	*BLQ(**LOQ-0.02)	*BLQ(**LOQ-0.02)	mg/l
24.	Manganese as Mn	APHA (23rd Edition)3030D,3113B: 2017	*BLQ(**LOQ-0.05)	*BLQ(**LOQ-0.05)	mg/l
25.	Cadmium as Cd	APHA (23rd Edition)3030D,3113B: 2017	*BLQ(**LOQ-0.002)	*BLQ(**LOQ-0.002)	mg/l
26.	Lead as Pb	APHA (23rd Edition)3030D,3113B: 2017	*BLQ(**LOQ-0.005)	*BLQ(**LOQ-0.005)	mg/l
27.	Selenium as Se	APHA (23rd Edition)3114C,2017	*BLQ(**LOQ-0.005)	*BLQ(**LOQ-0.005)	mg/l
28.	Arsenic as As	APHA (23rd Edition),3114C,2017	*BLQ(**LOQ-0.005)	*BLQ(**LOQ-0.005)	mg/l

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*[Signature]*

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29.	Mercury as Hg	APHA (23 <sup>rd</sup> Edition)3114C,2017	*BLQ(**LOQ-0.001)	*BLQ(**LOQ-0.001)	mg/l
30.	Hexa Valent Chromium	APHA (23 <sup>rd</sup> Edition)3500 Cr B:2017	*BLQ(**LOQ-0.01)	*BLQ(**LOQ-0.01)	mg/l
31.	Residual Free Chloren	IS :3025(P-26): 2021	*BLQ(**LOQ-0.2)	*BLQ(**LOQ-0.2)	mg/l
32.	Temperature	IS :3025(P-9):1984,RA:2017	24.8	25.0	°C
33.	Total Coliform	IS:15185: 2016	Present	Present	Per 100
34.	E.Coli	IS:15185: 2016	Present	Present	ml

Note: - \*BLQ-Below Limit Quantification, \*LOQ- Limit of Quantification

  
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## TEST REPORT

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Sample Number:  
Name & Address of the  
Party:

VTL/BA/01  
M/s Adani Power Jharkhand Ltd.  
2 × 800 MW Thermal Power Plant, Village:  
Motia, Dist: Godda, Jharkhand

Report No.: VTL/BA/2308290001/B  
Format No.: 7.8 F-01  
Party Reference No.: NIL  
Report Date: 02/09/2023  
Receipt Date: 29/08/2023-02/09/2023  
Sampling Date: 29/08/2023

Sampling Description: BOTTOM ASH


### TEST RESULTS

S. No.	Parameter	Result
1.	Arsenic as As (mg/kg)	BDL
2.	Lead as Pb (mg/kg)	5.20
3.	Mercury as Hg (mg/kg)	BDL
4.	Chromium as Cr (mg/kg)	2.98

  
(Checked By)



Lab Incharge  
RK Yadav

  
(Authorized Signatory)

**VIBRANT**  
"Experience the unimaginable"

Approved & Certified EPA 1986 Recognised, ISO:9001 and OHSAS:45001 Certified

**Vibrant Techno Lab Pvt. Ltd.**

SC-40, 3rd Floor, Narayan Vihar S, Ajmer Road, Jaipur Raj. 302020

9929108691, 9810205356, 8005707098, 9549956601

0141-2954638

bd@vibranttechnolab.com

www.vibranttechnolab.com



## TEST REPORT

**VIBRANT**  
"Experience the unimaginable"

Sample Number: VTL/FA/01

Name & Address of the Party:  
M/s Adani Power Jharkhand Ltd.  
2 x 800 MW Thermal Power Plant, Village: Motia,  
Dist: Godda, Jharkhand

Sampling Description: FLY ASH

Report No.: VTL/FA/2308290001/B

Format No.: 7.8 F-01

Party Reference No.: NIL

Report Date: 02/09/2023

Receipt Date: 29/08/2023-02/09/2023

Sampling Date: 29/08/2023


### TEST RESULTS

S. No.	Parameter	Result
1.	Arsenic as As (mg/kg)	BDL
2.	Lead as Pb (mg/kg)	0.89
3.	Mercury as Hg (mg/kg)	BDL
4.	Chromium as Cr (mg/kg)	0.77

  
(Checked By)



Lab Incharge  
RK Yadav

  
(Authorized Signatory)

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ADANI POWER (JHARKHAND) LIMITED												
2x800MW Thermal Power Plant Godda, Jharkhand												
Site Specific Micro - Meteorological Data												
Station		APJL-GODDA		Temperature ( ° C )			Humidity ( % )			Month	Apr-23	
Recording Time		00:00:00-23:00Hr								Barometric Pressure	ainfall ( mm	
Date	Wind Direction (	Wind Speed(m/s)		Max	Min	Avg .	Max	Min	Avg	( Average )		
		Max .	Avg .									
01.04.23	SSW	7.6	2.3	34.5	22.2	27.6	74.9	38.7	58.9	747.7	0	
02.04.23	WSW	7.5	2	32.6	24	28	59.8	35.2	49.1	747	0	
03.04.23	SSW	9	2.1	36.1	22.1	30.8	47.4	22.8	32.6	747.2	0	
04.04.23	SSW	3.9	1.5	36.5	25.6	31.1	60.1	23.7	39.7	746.8	0	
05.04.23	SW	10.3	2.8	36.3	23.3	30.5	62.7	16.1	32.8	748.2	0	
06.04.23	SSW	8.6	1.5	37.7	21.6	30.7	46.5	16.8	29.4	750.1	0	
07.04.23	SSW	7.4	1.8	37.8	20.5	31	53.2	17.3	29.8	751.4	0	
08.04.23	SW	6.4	1.9	38.7	21.9	31.2	50.7	16.1	30.6	752.5	0	
09.04.23	SW	7.1	1.8	39.3	22.8	32.3	54.1	19.1	30.6	751.6	0	
10.04.23	SW	8.5	2.1	38.9	22.2	32.4	55.9	17.1	28.8	750.4	0	
11.04.23	SSW	8	2.2	39.4	22.8	32.3	47.9	14.3	25.9	750.2	0	
12.04.23	SW	7.6	1.7	39.4	21	32.5	52.8	15.8	28.1	749.2	0	
13.04.23	SW	10.6	2.3	40.7	26	34.3	41.7	18.2	28.9	748.1	0	
14.04.23	SSW	9.8	1.9	41.9	25.1	34.5	50.3	30.3	18.6	748.3	0	
15.04.23	SSW	5.4	1.5	41.9	24.7	33.5	55.4	18.1	34.5	748.5	0	
16.04.23	SSW	8.7	2.2	37	26	32	48.1	24.1	32	744.9	0	
17.04.23	SSW	9.6	2.4	43.3	27.6	37.7	43.7	13.9	22.9	747.1	0	
18.04.23	SW	6.1	1.7	43.3	27.5	36	42.7	26.5	15.2	746.6	0	
19.04.23	SSW	8.9	2.5	43	25.5	36.8	45	14.6	24	744.7	0	
20.04.23	SSW	9.3	3.1	43.1	28.6	37.3	34.5	15.1	22.7	743.2	0	
21.04.23	SSW	8.6	2.5	37.8	26	32.9	48.1	24.1	32.7	744.9	0	
22.04.23	SSW	8.6	2.2	38.8	21.9	29.8	75.1	23.5	45.7	746.1	11.3	
23.04.23	SW	13.6	2.5	34.6	24.7	29.2	70.6	31.5	50.1	748.3	0.1	
24.04.23	ESE	5.6	2.2	34.5	21.3	26.5	83.1	39.6	65.1	751.2	0	
25.04.23	SE	8.7	1.5	37.2	21.6	29.8	83.7	30.5	51.7	750.6	0	
26.04.23	SSE	4.4	1.2	37.9	24.3	30.9	72.9	27.5	49.9	748.7	0	
27.04.23	SSW	6.8	1.2	33.8	22.5	27.8	78.8	43.6	61.8	749.2	0	
28.04.23	SE	8	2.2	37.7	22.2	31.3	81.8	30	49.2	748.9	0	
29.04.23	SSE	6	2.2	37.4	25.6	30.7	75.8	30.6	50	748.3	0	
30.04.23	SW	6.8	2.1	37.6	23.9	29.6	79.4	33	57.9	748.1	0	
										Total Rainfall in mm		11.4
										Rainfall from 01.01.2023		26.2
										Rainfall from 01.06.2023		NA

MICRO-METEOROLOGICAL PARAMETERS ARE COLLECTED BY -APJL

ADANI POWER (JHARKHAND) LIMITED												
2x800MW Thermal Power Plant Godda, Jharkhand												
Site Specific Micro - Meteorological Data												
Station		APJL-GODDA		Temperature ( ° C )			Humidity ( % )			Month	May-23	
Recording Time		00:00:00-23:00Hrs								Barometric	Rainfall ( mm	
Date	Direction (Blowing)	Wind Speed(m/s)		Max	Min	Avg	Max	Min	Avg	Pressure (mmHg)	ainfall ( mm	
		Max	Avg									(Average)
02.05.23	SSE	6.6	1.7	31.9	22.9	27.3	79	44.3	63.9	749.3	0	
03.05.23	S	9.8	1.9	36.2	21.5	27.8	83	33.9	62.4	749.3	0	
03.05.23	S	5.6	1.4	36	23.4	29.4	85.6	37.3	62.6	749.6	0	
04.05.23	SW	11.7	2.4	36.5	25.1	29.3	81.8	39.6	64	748.9	0	
05.05.23	SW	6	1.7	36.8	22.5	29.4	85.9	30	57.7	747.4	0	
06.05.23	SW	7.9	1.8	39.1	24	31.6	72.7	20.3	40.6	746.1	0	
07.05.23	SSW	7.7	1.9	40	25.1	32.7	70.6	25.6	41.1	745.9	0	
08.05.23	WSW	8.2	2	41.5	27.1	33.7	66.2	16.8	34.1	745.7	0	
09.05.23	SW	8.2	2.1	41.4	28.2	34.7	64.8	14.9	29.7	745.9	0	
10.05.23	SW	7.3	2.3	41.9	26.9	34.3	57.9	11.7	28	746.1	0	
11.05.23	S	7.5	1.5	41.8	23.7	33	49.1	12	31.3	747.3	0	
12.05.23	SE	7.1	2.1	38.2	25.3	31.1	79.3	34.7	55.6	747.5	0	
13.05.23	WSW	10.6	2.3	40.7	26	34.3	41.7	18.2	28.9	748.1	0	
14.05.23	SW	9.8	1.9	41.9	25.1	34.5	50.3	18.6	30.3	748.3	0	
15.05.23	SE	15.3	3.2	38.6	22.8	30.8	74.3	37.1	53.7	744.5	0	
16.05.23	S	8.7	2.8	42.5	25.5	33.2	67.9	23.3	48.2	745.2	0	
17.05.23	E	10.4	2.9	36.9	27.5	31.1	84	43.3	66.3	747.2	0	
18.05.23	SE	22.2	2.5	34.1	19.4	28	89.3	40.5	70.6	748.4	19.9	
19.05.23	SSE	6.3	2.3	39.8	25.4	31.7	87	36.1	65.1	746.7	0	
20.05.23	S	6	2.3	40.9	26	33.5	72.6	22.8	49.3	746	0	
21.05.23	SE	12.3	2.4	41.1	27.3	33.3	77.9	30	55.9	746.4	0	
22.05.23	E	6.3	2.5	37.3	25.8	31.2	75.7	46.1	60.6	747.8	0	
23.05.23	SE	11.4	2.8	35.9	22.5	27.4	83.5	51.1	74.7	748.1	1.9	
24.05.23	mm SE	4.8	1.7	37.8	21.6	28.6	86.9	37.9	64.6	747.5	0	
25.05.23	ESE	9.8	2.7	35.6	23.9	29.1	88.6	54.2	71.9	746.5	17.8	
26.05.23	SW	7.9	2.3	37.4	23	28	85.1	43.5	68	747.3	1.1	
27.05.23	W	5.7	1.8	34.4	23.4	28.9	82.4	45.3	64.3	747.3	0	
28.05.23	SW	8.6	2	37.4	25.3	31.1	85.3	62.3	40.4	747.9	0	
29.05.23	SSW	6.1	1.7	40.2	26.5	33.1	81.2	34.5	55.9	748.5	0	
30.05.23	s	5.8	1.8	41	27	34.3	74.9	31.4	51	747.4	0	
31.05.23	s	5.6	2.4	42	29.7	36	72.5	30.6	49.9	746	0	
										Total Rainfall in mm	40.7	
										Rainfall from 01.01.2023	66.9	
										Rainfall from 01.06.2023	NA	

**ADANI POWER (JHARKHAND) LIMITED**

2x800MW Thermal Power Plant Godda, Jharkhand

Site Specific Micro - Meteorological Data

Station		APJL-GODDA		Temperature ( ° C )			Humidity ( % )			Month	Jun-23
Recording Time		00:00:00-23:00Hrs								Barometric Pressure ( mmHg )	nfal ( m
Date	Wind Direction ( Blowing )	Wind Speed(m/s)		Max	Min	Avg .	Max	Min	Avg	( Average )	
		Max .	Avg .								
02.06.23	SW	8.2	2.4	41.7	28.6	35.2	50.1	24	35.3	744.8	0
03.06.23	SW	6.7	1.7	42.1	27.3	34.6	71.1	19.4	40.2	745.7	0
04.06.23	S	6.1	1.8	43.6	25.8	35.7	58.5	17.3	37.6	745.2	0
05.06.23	SW	6.6	2.1	42.9	28	35.3	73.6	19.7	46.2	744.5	0
06.06.23	SW	7.5	2	42.8	29	36.5	64.9	41.1	24.3	743.9	0
07.06.23	SE	3.7	1.7	38.4	32.1	34.9	58	36.2	46.9	743.2	0
08.06.23	SW	6.1	2.2	44	29.2	36.8	70.4	20.8	44.2	743	0
09.06.23	SE	9.9	3.2	43.7	29.5	34.9	79.5	20.1	56.8	751.9	0
10.06.23	S	10	3.5	44	32	38	60	25	42.9	740	0
11.06.23	ESE	6.7	2.9	44.1	28.2	34	79.1	30	58.4	740.9	0
12.06.23	SE	7.1	2.9	41	29.2	34.1	75.8	37.4	61.1	740.9	0
13.06.23	SSE	8.6	3	43.6	28.2	34.5	71.7	28.1	54.9	740.3	0
14.06.23	S	10.4	3.5	44.4	33.6	38	61	25	42.9	740.3	0
15.06.23	SW	12.9	3.3	43.8	33.7	38.8	47.2	26.8	35.8	740.8	0
16.06.23	SW	12.9	3.7	43.8	33.8	38.6	47.2	26.8	36.6	741.1	0
17.06.23	SSW	10.1	3	44.5	31.6	37.2	73.3	26.2	49.5	742.3	0
18.06.23	SE	8.1	3.5	42.1	26.8	32.1	84.9	39.9	70.6	753.1	7.3
19.06.23	ESE	8.9	3.5	38.9	27.5	32.1	81.8	46.6	69.1	743.1	3.7
20.06.23	ESE	9	3.4	37.8	32.4	28.6	85.7	51.7	71.2	743	1.4
21.06.23	SSE	9.4	3.3	40.5	27.8	32.1	85.9	43.9	70.1	743.5	0.3
22.06.23	SE	7.3	2.7	39.1	26.8	32.6	78.7	45.2	64.9	744	0
23.06.23	E	6.9	2.9	36.8	28.7	32.5	81.9	52.2	66.7	744	0
24.06.23	ENE	7.4	2.6	36.8	28.3	32.3	81.1	51.9	67	743.6	0
25.06.23	ENE	7.6	3.3	35.3	28.5	31.4	79.8	54.1	68.7	743.4	0.5
26.06.23	ENE	9.5	2.9	34	26.4	28.9	89.5	61.8	79.1	743.4	12.3
27.06.23	ENE	7.1	2.9	31.6	25.6	27.8	91.1	68.8	82	743.3	12.4
28.06.23	E	7.5	2.4	33.6	26	27.8	92.2	63.3	84	744.8	4.4
29.06.23	ESE	6.8	2.2	32	25.7	27.2	92.7	70.6	87.6	745.1	11.8
30.06.23	SE	4.1	1.6	35.7	26	28.8	93.9	60.4	84.3	744.5	4.1
										Total Rainfall in mm	58.2
										Rainfall from 01.01.2023	125.1
										Rainfall from 01.06.2023	58.2



ADANI POWER (JHARKHAND) LIMITED											
2x800MW Thermal Power Plant Godda, Jharkhand											
Site Specific Micro - Meteorological Data											
Station		APJL-GODDA		Temperature (° C)			Humidity (%)			Month	Jul-23
Recording Time		00:00:00-23:00Hrs								Barometric Pressure	Rainfall (mm)
Date	Wind Direction	Wind Speed(m/s)		Max	Min	Avg.	Max	Min	Avg	(Average)	
		Max.	Avg.								
01.07.23	SE	5.8	1.8	34	27.7	29.5	89	66.7	82.5	744.5	1.2
02.07.23	SSE	9.2	1.9	36.9	25.4	29.7	93.2	57.6	82.6	744.2	19.9
03.07.23	SE	5.6	1.8	33.6	24.9	27.2	94.2	68.1	88	744.5	21.2
04.07.23	SSE	8.5	2.2	35.9	26.7	29.5	90.6	57.4	81.8	743.8	0.4
05.07.23	ESE	9.4	2.2	35.2	27	30	91.7	58.4	81	743.3	1.5
06.07.23	E	8.9	2.1	35.6	27.3	29.8	90.6	59.9	80.9	744	0
07.07.23	E	7.2	2.6	34.1	25.7	29.6	93.1	64.6	80.9	745	7.2
08.07.23	ENE	5.3	2	34.7	27.2	29.9	89.1	62.1	80.2	745.9	0.2
09.07.23	ESE	5.6	2.4	36.8	26.9	31.7	91.4	53.7	73.4	745.1	0
10.07.23	SE	6.3	2.2	37.8	29.2	32.7	85.5	50.9	70.3	744.5	0
11.07.23	SE	7.8	3.2	37.2	29.3	32.7	85.3	54.1	71.5	744.3	0
12.07.23	ENE	7.3	3.1	35.6	28.5	31.5	86.7	57.6	75.2	744.8	1.4
13.07.23	ESE	8.6	2.7	36.2	25.5	29.3	93	58.4	81.8	745	6.8
14.07.23	SE	6.9	1.8	34.7	26.7	29.9	92.4	62.3	80.7	744.3	1.3
15.07.23	NE	6.2	2.1	32.1	26.8	28.7	91	69.8	82.3	743.4	3.3
16.07.23	SE	6.5	2	34.7	26.7	30	92.4	60.3	80.7	740.3	0
17.07.23	ENE	6.5	2.4	33.7	26.8	29.5	91.1	63.6	79.8	743.2	0
18.07.23	NE	6.4	2.2	34.9	27.2	31	88	59.4	74.7	743	0
19.07.23	POWER FAILURE										
20.07.23											
21.07.23											
22.07.23											
23.07.23											
24.07.23											
25.07.23	ENE	6.67.2	28	36.3	28.8	33	79.3	54.1	65.5	745.2	0
26.07.23	ENE	7.2	2.7	35.5	30.6	27.1	85.5	57.6	73.6	745.5	1.1
27.07.23	ENE	8.3	2.4	35.4	27.5	30.7	87.3	57.1	75.2	744.5	1.7
28.07.23	ENE	6.8	1.8	35.4	27.2	30.4	88.5	59.3	78.3	742.5	3.7
29.07.23	SSE	5.88.2	1.9	36.1	27.7	30.9	90	60.2	78.9	742	1.2
30.07.23	SSE	8.2		34.1	27.7	29.7	88.6	67.8	81.2	741.7	0.9
31.07.23	SE	7.6	1.3	38.4	27.6	30.7	91.4	55.4	79.2	741	0
										Total Rainfall in mm	73
										Rainfall from 01.01.2023	198.1
										Rainfall from 01.06.2023	131.2

**ADANI POWER (JHARKHAND) LIMITED**

2x800MW Thermal Power Plant Godda, Jharkhand

**Site Specific Micro - Meteorological Data**

Station		APJL-GODDA								Month		Aug-23
Recording Time		00:00:00-23:00Hrs										
Date	Wind Direction (Blowing From)	Wind		Temperature (° C)			Humidity (%)		Barometric Pressure (mm)			
01.08.23	WSW	13.4	2.3	37	26	30.3	93.7	56.6	82.1	739.4	29.6	
02.08.23	ESE	11.8	4	32.2	26.7	29.1	93.3	69	80.9	738.9	42	
03.08.23	W	7.3	3.3	32.7	25.9	29.2	91.1	66.7	79.8	741	2.2	
04.08.23	ESE	6.8	3.2	33.5	27.5	30.1	88.8	63.3	76.4	743.5	0	
05.08.23	SW	6	2.2	31.4	26.8	28.1	93.3	69.5	81.2	743.6	0	
06.08.23	SW	8.5	1.6	30.6	26.2	27.9	96.3	80.1	91.9	741.3	5.2	
07.08.23	SW	11.5	2.9	29.3	26.4	27.4	95.8	84.2	93.1	740	9.2	
08.08.23	WSW	8.1	2.4	27.3	25.9	26.6	97.6	87.2	93	741.4	14.4	
09.08.23	WSW	9	2.3	28.8	25	26.9	98.2	81.7	91	743.9	43.6	
10.08.23	SSW	9.3	1.9	32.9	26.5	28.7	92.6	70	84.3	745.2	1.6	
11.08.23	S	9	1.9	33.6	25.4	28.7	96.6	70.8	87	744.6	48.2	
12.08.23	SW	10.7	2.3	32.2	26.1	29.1	95.1	70.7	85.5	743.1	0	
13.08.23	SW	5	1.5	32.2	27.1	29.3	92.5	69.8	83.6	743.9	0	
14.08.23	SW	6.1	1.6	34.2	26.4	29.4	92.7	62.8	81.5	745	0	
15.08.23	SSW	5.9	1.6	34.6	27.2	29.9	90.9	62.4	80.8	744.7	0	
16.08.23	SW	12.1	1.8	35	25.1	30.2	96.1	60.5	80.8	744.3	26	
17.08.23	SSE	10.6	1.6	34.2	25.7	28.3	96.7	63.4	86.9	744.2	25.6	
18.08.23	SSE	9.9	2.2	35.5	26.1	30.7	95.9	54.3	76.8	743.8	0,0	
19.08.23	S	8.5	2.4 Vr	34.1	27.4	29.9	87.1	61.9	77.8	744.7	0	
20.08.23	SW	10.4	3.1	34.4	27.3	30	91.3	56.4	78.6	745.2	0	
21.08.23	SSW	7.1	2.1	35.6	26.9	30.3	91.2	58	79.8	744.4	0	
22.08.23	SW	13.4	2.1	32.8	25.8	28.4	96.4	71.7	87.5	744.2	28	
23.08.23	S	11.5	1.9	33.1	25.9	28.2	96.3	66.9	87.3	743.4	5.2	
24.08.23	SSW	8.1	1.6	35.3	26	27.7	96	60.1	88.8	741.8	12	
25.08.23	WSW	12.2	2.1	29.7	25.4	27.4	95.5	79.2	89.7	742.2	2.6	
26.08.23	WSW	9.4	2.3	32.2	26.2	28.6	96.2	68.6	84.2	742.4	4.6	
27.08.23	SW	11	2.5	33.9	27.2	30.3	85.2	59.3	74.6	742.3	0	
28.08.23	SW	10	2.4	33.6	26.7	30	83.8	56.4	73.9	743.1	0	
29.08.23	SSW	6	1.6	34.6	27	30.6	91.3	56.2	75.3	744.4	0	
30.08.23	SE	5.1	1.2	35.8	27.3	30.9	90.1	54.3	76.4	745.4	0	
31.08.23	SSE	5	1.1	35.6	27.9	31.3	89.3	57.9	76.1	745.9	0	
									Total Rainfall in mm		262.2	
									Rainfall from 01.01.2023		460.3	
									Rainfall from 01.06.2023		393.4	

ADANI POWER (JHARKHAND) LIMITED												
2x800MW Thermal Power Plant Godda,Jharkhand												
Site Specific Micro - Meteorological Data												
Station		APJL-GODDA		Temperature (° C)			Humidity (%)			Month	Sep-23	
Recording Time		00:00:00-23:00Hrs								Barometric Pressure	ainfall (mm)	
Date	Wind Direction	Wind Speed(m/s)		Max	Min	Avg.	Max	Min	Avg	(Average)		
		Max .	Avg .									
01.09.23	WSW	5.1	1.3	36.2	28.4	32	89.7	53.2	75.2	745.4	0	
02.09.23	WSW	10.7	1.5	35.6	25.5	29.7	94	59.6	84.2	744.5	48	
03.09.23	S	11.8	1.5	33.5	25.3	28.5	95.9	68.1	86.7	743.6	35.6	
04.09.23	SSE	8.1	1.2	30.4	26	27.4	95.3	79	89.6	743.3	14.8	
05.09.23	SSW	12.7	1.3	36	24	29.2	94.3	57	83	743.6	3.8	
06.09.23	SSW	10.7	1.7	33.8	24.5	28.6	95.1	69.5	86	744.3	20.8	
07.09.23	SSE	8.6	1.5	33.4	26.6	29.4	95.1	65.3	83.2	744.3	5.4	
08.09.23	SE	7.9	1.8	30.9	25.5	27.2	95.8	75.6	90.3	744.7	29.2	
09.09.23	SW	7.6	2.8	33.4	26.8	29.5	91.9	65.1	82.6	744.9	0	
10.09.23	SW	7.1	2.1	35.4	27.1	30.5	94.8	54.5	79.5	743.7	0	
11.09.23	SW	7.6	2.3	35.2	26.9	30.6	94.7	65.4	78.3	743	0	
12.09.23	SW	6.6	1.7	36.7	27.5	30.3	94.2	52.8	80.1	743.3	0.4	
13.09.23	S	8	1.8	35.5	27.1	30.7	90.7	53.5	77.3	743.4	0	
14.09.23	SSE	11.8	1.7	33.7	26.6	29.5	93.8	62.2	80.4	744.1	25.6	
15.09.23	SSE	8.7	2	33.3	27.2	29.7	65	80.7	80.7	745.4	0	
16.09.23	SSW	7.9	1.9	34.9	27.1	29.8	91.9	61.2	82.1	745.7	3	
17.09.23	S	4.7	1.2	36	27.1	31.2	95.2	56.7	77.2	744.6	0	
18.09.23	SSE	8.3	1.4	35.3	27.4	29.7	93.7	60.9	81.4	744.6	0.2	
19.09.23	SE	7.5	1.7	33.2	26.5	29.1	93.1	63.1	81.2	746	0	
20.09.23	SE	8.1	2.5	30.9	26.3	29.7	92.5	72.3	85.7	745.8	5.6	
21.09.23	SE	6.5	2.1	29.7	25.9	27	96.7	79	91.9	745.5	56	
22.09.23	SE	9.3	1.9	27.8	25	26.6	97.4	87.5	93.3	745.8	64	
23.09.23	SSE	9.9	3	31.2	25.2	27.1	96.4	73	90.9	746.1	32.8	
24.09.23	SW	7.3	1.4	31.7	25.7	27.1	96.4	74.6	91.7	745.7	1.2	
25.09.23	S	6.6	1.3	31.3	25	26.8	96.4	76.3	92	746.5	13.8	
26.09.23	S	5.7	1	32.9	25.5	27.2	97.7	69.9	91.1	746.8	4.2	
27.09.23	SSW	4	0.9	33.2	26.1	29.2	97.5	69.4	86.2	746.4	0.2	
28.09.23	SW	4.4	1	34.4	26.8	29.7	96.7	64.2	85.1	746.1	0	
29.09.23	S	9.2	1.3	34.2	26	29.9	95.7	66.1	83.1	745.7	29.4	
30.09.23	SSW	9.5	2.1	29.4	24.1	26.5	96.5	76.5	90.4	745.5	0	
										Total Rainfall in mm	394.4	
										Rainfall from 01.01.2023	854.7	
										Rainfall from 01.06.2023	787.8	

# HALF YEARLY REPORT 2023-24

## (APRIL 2023- SEPTEMBER 2023)

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### 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, 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. The total population of Godda district is 13.13 lakhs, out of which population of our intervention villages is 80000 approximately. We have been able to benefit 5 lakhs people directly and 13.77 lakhs people indirectly across the stretch of 91 Kms ranged from Godda district to Sahebganj district passing through more than hundreds of projects affected villages by organizing various community development activities in Education, Community Health, Sustainable Livelihood and Rural Infrastructure Development verticals.

Gyanodaya, a digital learning program swiftly met the needs of spreading the light of education which has transformed lives of over 90,000 students of 337 Govt. Schools of Godda district to continue building their career in a new normal. The Godda district stood at **13<sup>th</sup> rank** in **2023** as compared to 21<sup>st</sup> rank (2018) in **Class 10<sup>th</sup>** attaining **94.98%** passing percentage in **2023** as compared to 2018 (50%). Adani Foundation has also achieved another feather in CSR cap with a significant improvement in the passing percentage of girls' students from lower 46.65 % (2018) to **99.14% (2023)** in standard 10<sup>th</sup> studying in 9 KGBVs in district. Defeating all the odds and hurdles, the Foundation had identified **51 Dropout children** of TPP Core area and linked them with Aadhar card and their enrollment in school for completion of Primary education.

In health vertical, on **12<sup>th</sup> July 2023** at Ranchi district, Adani Power (Jharkhand) Limited, Godda was felicitated by **Ministry of Health and Ministry of Labour and Employment** for contributing towards **Eradication of TB** in Godda district in association with District administration. Similarly, on dated **12<sup>th</sup> September 2023**, the Adani CSR was graced with "**Jharkhand Samajik Utkrishtta Award 2023**" for

contributing to upliftment and development of the society in Godda district of Jharkhand.

Under Sustainable Livelihood Programme, Adani Foundation will be implementing a major project called - **Vruksh Se Vikas / Vruksh Se Samrudhi / Vruksh for Vikas (V4V)** to contribute towards a global commitment to plant '100 million trees' by end of **2030** there by contributing to 'one trillion tree campaign'. Total target of plantation in Godda is **22 Lakh plants** by year **2030**. In this year 2023-24, a total of **25,000 plantations** as per target have been done till September 2023 of horticulture fruit plants, medicinal and timber plants at household, panchayat, and other institutional level. Similarly, the community was supported with basic village infrastructure facilities such as drinking water facilities, model bathroom, seating places, etc. to make their living a better place at par with urban households.

The robust team of Adani Foundation at Jharkhand comprises of dedicated professionals including Unit CSR Head, Senior Project Officer, Project Officers, and a Medical team comprises of a doctor and four Para medicos.

The progress of CSR projects/interventions from **April 2023 to September 2023** is described in detail as under: -

## DETAILED DESCRIPTION OF CSR ACTIVITIES

### EDUCATION & RURAL SPORTS

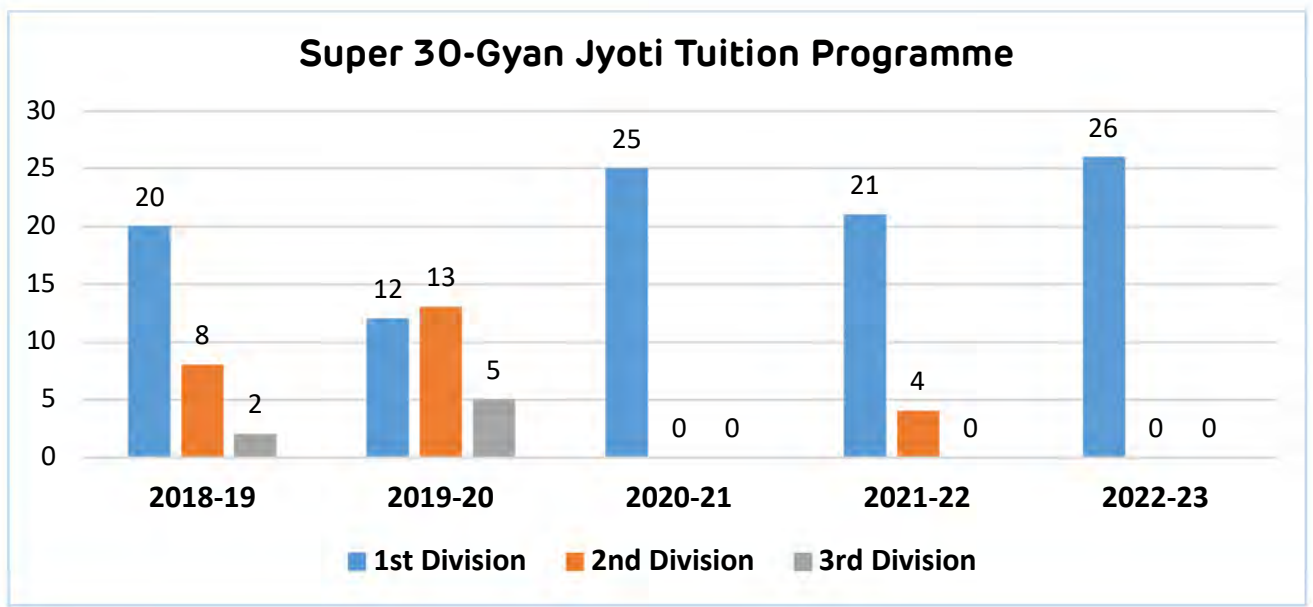
#### **Gyan Jyoti Tuition Programme (Providing Quality Education in Society)**

- 1. Adani Gyan Jyoti Yojana (Group 30):** - Education plays a vital role in development of society economically, socially, and financially, it also helps them to strengthen, so 'Adani Gyan Jyoti Yojana- Super 30 Program' was initiated in 2018-19 in Motia Village in which 30 students each of 8<sup>th</sup>, 9<sup>th</sup> & 10<sup>th</sup> standard studies at the coaching centre for their concept building. They can prepare for their upcoming examination through concept building and remedial classes provided in Gyan Jyoti Kendra. During Previous year 2022-23, **56 children** were enrolled from class 9<sup>th</sup>- 10<sup>th</sup> standard (30- Class 9<sup>th</sup> and 26- Class 10<sup>th</sup>) in Super 30 coaching program in Motia village.

## Programme Outcome

- **Enrollment in Super 30- Class 10<sup>th</sup>**: During the last year **2022-23**, a total of 50 students were screened after doing assessment of their performance based on their abilities and awareness after taking examination. Out of which, **26** meritorious students of **Class 10<sup>th</sup>** were selected and enrolled in Gyan Jyoti Tuition Programme- Super 30, Motia Center.
- **Academic Performance (Session 2022-23)**: The students learning under Super 30 program in Gyan Jyoti Kendra, Motia have performed extremely well and passed with high grades of Academic Session 2022-23. The students succeeded with improved marks and passed with flying colours in their 10<sup>th</sup> board examination. All **26 students** have passed the exam (**100% passing percent**) with **1<sup>st</sup> division marks**. **4 students** have passed with **distinction marks above 75%**.

Super 30- Class 10 <sup>th</sup> Results- Gyan Jyoti Tuition Programme								
Academic Session	Gyan Jyoti Kendra	Students			Students			Overall Passing %
		Enrolled	Appeared	Passed	1 <sup>st</sup> Division	2 <sup>nd</sup> Division	3 <sup>rd</sup> 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
2021-22	Motia	25	25	25	21	4	0	100
2022-23	Motia	26	26	26	26	0	0	100



- **Success Story: Aakash Shivam**, a student of Super 30- Gyan Jyoti Tuition Programme from High School, Motia has performed phenomenal and succeeded in Class 10<sup>th</sup> board examination with flying colours. The champ has secured **90.40% with first division marks** with the support provided by Adani Foundation with regular coaching classes, support of teaching learning materials and proper guidance.
- **Enrollment in Year 2023-24:** In this session, **55 students (30 students- 9<sup>th</sup> class and 25 students- 10<sup>th</sup> class)** are enrolled in Super 30 Coaching centre, Motia for preparation of Jharkhand 10<sup>th</sup> board examination to secure higher grades in exams in district and state level advancing them to a better future.

**2. Gyanodaya Project:** **GYANODAYA**, a step towards enlightening the human lives', was launched by Adani Foundation in partnership with District Administration in August 2018 to promote e-learning through Smart Classes in Middle and Higher Secondary Government Schools for students of 6<sup>th</sup>-12<sup>th</sup> standard of Godda district. Gyanodaya project has abled to create its learning space and improved the diverse spectrum of education through digital learning in **337 Govt. Schools** with its outreach in more than **236 remote and untapped villages** of **9 blocks** of Godda district of Jharkhand. In the tenure of less than 5 years, the program has leveraged its services facilitated by over **1872 skilled teachers** and benefiting more than **90,000 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 smart classes with a simple touch of TV remote.

**Outreach of Gyanodaya:** Gyanodaya program has created its impact in **185** Middle Schools, **111** High Schools, **10** Plus 2 Schools, **18** KGBVs, **7** Welfare Association Schools, and **6** JEE/NEET Centres, respectively.

Block	Middle schools	High Schools	Plus2 Schools	KGBVs	Welfares	JEE/NEET Centres	Aggregate
Godda	56	27	3	2	0	3	91
Sunderpahari	3	5	0	2	3	NA	13
Podaiyahat	31	17	3	2	0	NA	53
Pathargama	36	7	1	2	0	1	47
Basantrai	16	5	0	2	0	NA	23
Mahagama	15	17	2	2	0	1	37
Boarijore	7	10	0	2	4	1	24
Mehrama	11	12	0	2	0	NA	25
Thakurgangti	10	11	1	2	0	NA	24
<b>Total</b>	<b>185</b>	<b>111</b>	<b>10</b>	<b>18</b>	<b>7</b>	<b>6</b>	<b>337</b>

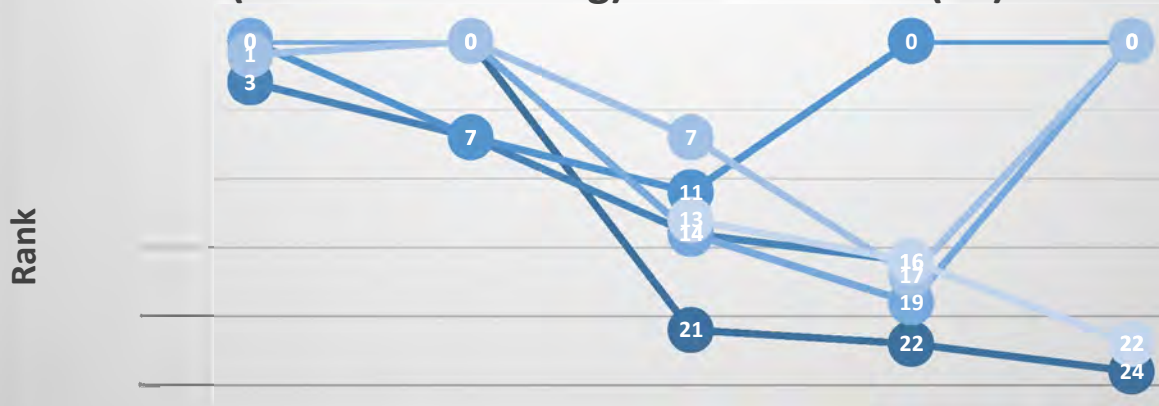
## Programme Outcome

- 1. Improvement in School Ranking at District Level:** The magnificent attempt of Gyanodaya program has improved the education system of Godda district and created an ecosystem of education by tapping up the government schools and strengthening the institutions as model school through operation of Digital learning program. Similarly, the intervention has enhanced the learning outcomes in the district significantly as compared to the baseline statistics of education since year 2018. Gyanodaya- E- Learning program has left remarkable footprint with significant increase in the school rankings at district level in the **year 2023** as compared to preceding five consecutive years' performance.



## Improvement in School Ranking at District Level

### (Year Wise Ranking) – Total district (24)



	Class 8	Class 9	Class 10th	Class 12th - Science	Class 12th - Arts
2018	0	0	21	22	24
2019	3	7	14	16	22
2020	0	7	11	0	0
2021	0	0	14	19	0
2022	1	0	7	17	0
2023	0	0	13	16	22

\* Source- Education department, Godda

\*No Examination held of Class 8<sup>th</sup> and Class 9<sup>th</sup> in 2018

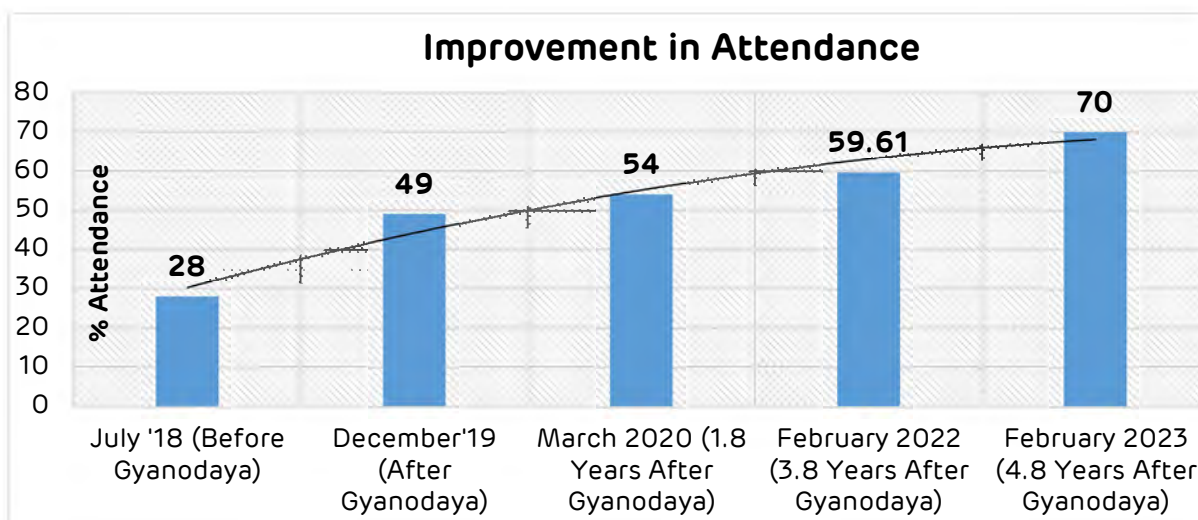
\*No Examination held of Class 8<sup>th</sup> due to COVID 19 in 2020 & 2021

- Class 8<sup>th</sup>** stands at **1<sup>st</sup> rank (2022)** as compared to **3<sup>rd</sup>** rank (2019) among 24 districts of Jharkhand state.
- Class 9<sup>th</sup>** standard upholds **7<sup>th</sup>** rank position in the year 2019 & **2020** as compared to **21<sup>st</sup>** position in the year 2018-19
- The ranking position of **Class 10<sup>th</sup>** has improved from 21<sup>st</sup> rank (2018) to 14<sup>th</sup> rank (2019) to **11<sup>th</sup>** rank (2020) to **14<sup>th</sup>** rank (2021) to a significant achievement by securing **7<sup>th</sup> rank position in the year 2022** and **13<sup>th</sup> rank in 2023**.
- 22<sup>nd</sup> rank (2018) to 16<sup>th</sup> rank (**2019**) to 19<sup>th</sup> rank (2021) to 17<sup>th</sup> rank in 2022 to **16<sup>th</sup>** rank in **2023** in **class 12<sup>th</sup> (Science)** and
- 24<sup>th</sup> rank (2018) to **22<sup>nd</sup>** rank (**2023**) in **class 12<sup>th</sup> (Arts)**

**2. Increase in Attendance Rate of Students:** The visually appealing, easy-to-grasp and retainable concepts covered in the study materials has led to **increase** in the class-wise attendance comparing the figures of past years (**July 18**) from **20% low attendance rate** to a rise in **54%** in March 2020 to **59.61%** in February 2022 to an exemplary growth to **70% in February 2023**.

A significant reduction in dependency on tuition classes has been observed 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.

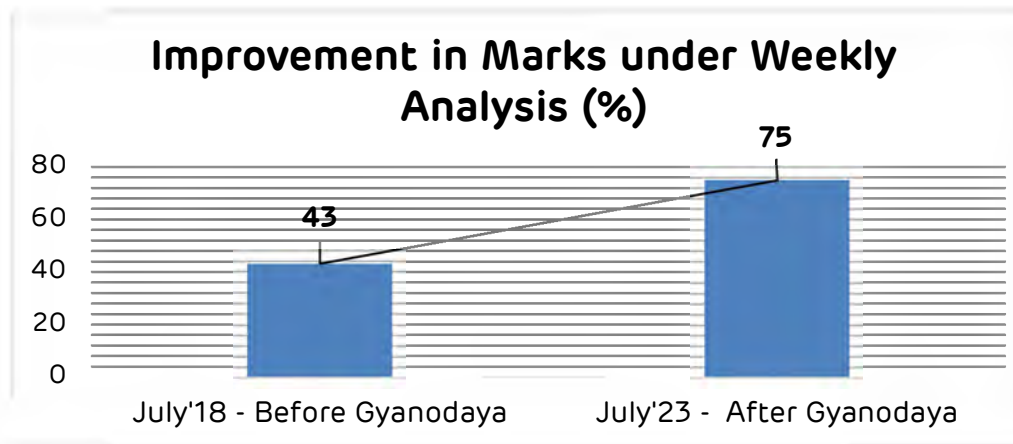
Improvement in Attendance after implementation of Gyanodaya			
July-18 (Before Gyanodaya)	March 2020 (1.8 Years After Gyanodaya)	February 2022 (3.8 Years After Gyanodaya)	February 2023 (After 4.8 Year after Gyanodaya)
20-30%	54%	59.61%	70%



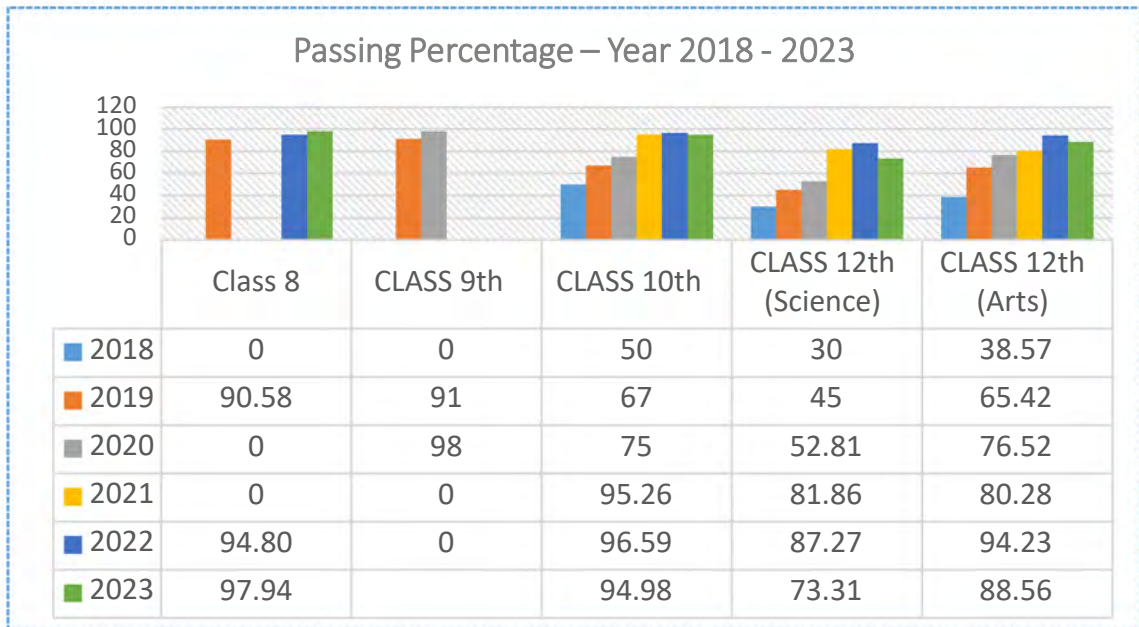
**3. Improvement in Marks of Students:** Prior to educational initiative of Gyanodaya, the students used to fall under 30-40% marks bracket which has now shifted to **70-75%** marks bracket on an average due to better understanding and retention of basic concepts and a daily quiz after every video.

Impact of Gyanodaya project on Results is as given below:

July-18 (Before Gyanodaya)	July-23 (After Gyanodaya)
<b>Improvement in Marks under Weekly Analysis</b>	
30% - 40%	70-75 %



**4. Increase in Passing Percentages:** With the advent of Gyanodaya, the passing percentage of students of Class 8<sup>th</sup>, Class 10<sup>th</sup> and Class 12<sup>th</sup> has increased progressively in the year 2023 as compared to previous five consecutive years 2022, 2021, 2020, 2019 and 2018.



\*Year Wise Passing %

- i. **Class 10<sup>th</sup>**: The passing percentage of Class 10<sup>th</sup> students has increased in **2023 (94.98%)**, and **2022 (96.59%)** as compared to status of 2021 (95.26%), 2020 (75%), 2019 (67%) & 2018 (50%).
- ii. **Class 12<sup>th</sup> (Science)**: The passing % of Intermediate students has improved significantly as compared to figures of 30% in the year 2018, 45% (2019), 52.81% (2020), 81.86% (2021) to major improvement of **87.27% (2022)** and **73.31% (2023)** in Intermediate (Science)
- iii. **Class 12<sup>th</sup> (Arts)**: The passing % has also improved from 38.57% (2018) to 65.42% (2019) to 76.52% (2020) to 80.28% (2021) **to 94.23% (2022)** and **88.56% in 2023** in Intermediate (Arts) Stream.
- iv. **Class 9<sup>th</sup>**: Passing percentage increased from 91% (2019) to **98%** in the year **2020**.
- v. Similarly, the passing percentage of **JAC 8<sup>th</sup> Board** students has improved from **90.58%** in the year 2019 **to 94.80% in the year 2022 to 97.94% in the year 2023**.

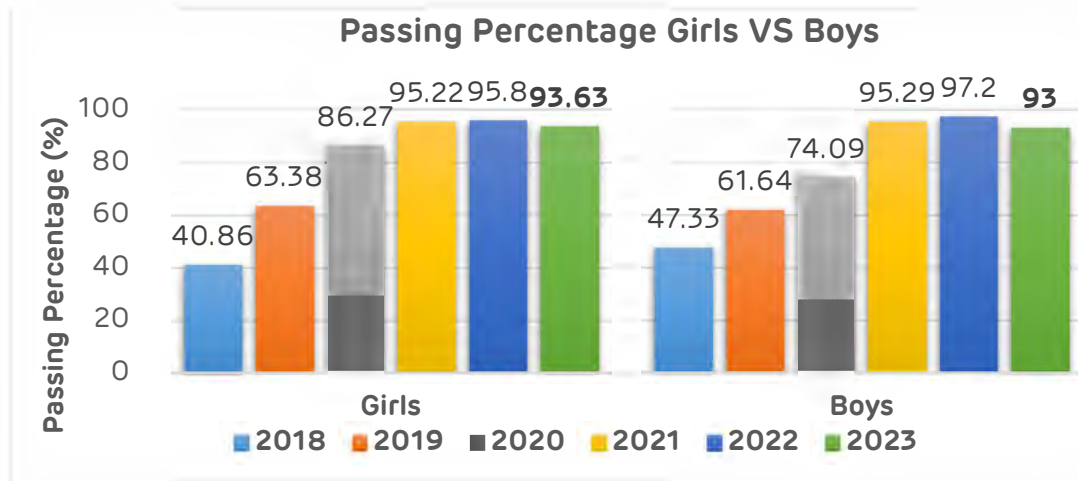
<b>Class-wise Improvement in Passing Percentages</b>					
<b>Academic Year</b>	<b>Class 8<sup>th</sup></b>	<b>Class 9<sup>th</sup></b>	<b>Class 10<sup>th</sup></b>	<b>Class 12<sup>th</sup> Science</b>	<b>Class 12<sup>th</sup> Arts</b>
<b>2017-2018</b>	0	0	50	30	38.57
<b>2018-2019</b>	90.58	91	67	45	65.42
<b>2019-2020</b>	NA	98	75	52.81	76.52
<b>2020-2021</b>	NA	NA	95.26	81.86	80.28
<b>2021-2022</b>	94.80	NA	96.59	87.27	94.23
<b>2022-2023</b>	97.94	NA	94.98	73.31	88.56
<b>% Increase</b>	<b>8.13</b>	<b>7.69</b>	<b>89.96</b>	<b>144.37</b>	<b>129.61</b>

*\*Exams were not conducted of class 8<sup>th</sup> & 9<sup>th</sup> in 2018*

*\*\*% increase figure from 2018 to 2023 of class 10 & 12*

*\*\*\*% increase figure from 2019 to 2023 of class 8*

- 5. Passing Percentages of Girls Vs Boys:** The graph presents a sharp increase in the passing percentage of girls and boys as compared with the last 5 years. In the session 2017-18, girls passing percent was 40.86% which increased to **95.8% in 2021-22 and 93.63% in the session 2022-23**. Simultaneously, the boys' passing percentage in the session 2017-18 was 47.33% which increased to **97.2% in 2021-22 and 93% in the session 2022-23**.



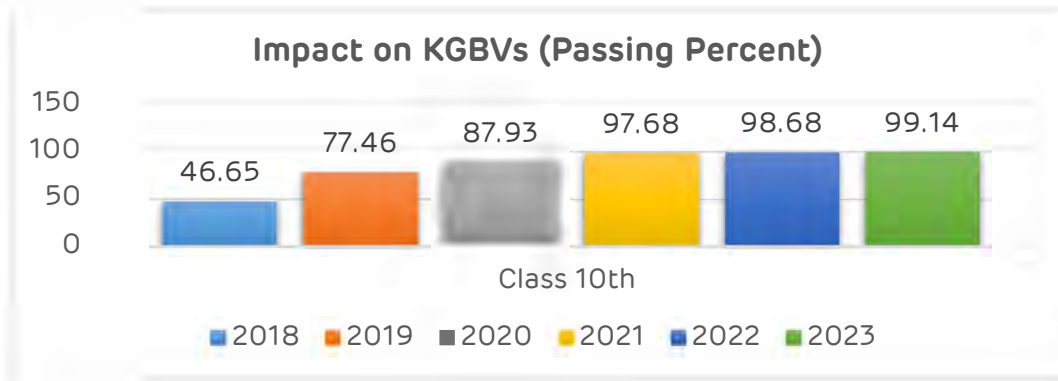
Passing Percentages of Girls Vs Boys						
Students	2018	2019	2020	2021	2022	2023
Girls	40.86	63.38	86.27	95.22	95.8	93.63
Boys	47.33	61.64	74.09	95.29	97.2	93

*Source: Education department of Godda district*

- 6. The Kasturba Gandhi Balika Vidyalaya (KGBV)** scheme was launched by the Government of India in August 2004 for setting up residential schools at upper primary level for girls belonging predominantly to the SC, ST, OBC and minorities dwelling in difficult and untapped rural areas. The scheme was applicable, in Educationally Backward Blocks (EBBs) where the rural female literacy is below the national average (46.13%: Census 2001) and gender gap in literacy is more than the national average (21.59%: Census 2001).

**Impact on Kasturba Gandhi Bal Vidyalaya (KGBVs) in Godda district**

There are 9 KGBVs in the district where a total of 2663 girl students have studied in 10th standard since 2018. The intervention of Adani Foundation has led to a significant improvement in the **passing percentage of girls' students** from lower 46.65 % (2018) to **99.14% (2023)** of standard 10<sup>th</sup>.



- **Gyanodaya YouTube Channel: Gyanodaya YouTube Live class** for the students studying in class 10<sup>th</sup> and 12<sup>th</sup>. 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, **44,050 views from April 2023 to September 2023.**

- **Delivery of Gyanodaya Equipment & Handholding to New Gyanodaya Schools:** During the year 2023-24, Gyanodaya Smart Class equipment was delivered to **18 new Schools** of 8 blocks of Godda district namely, Godda, Podaiyahat, Basantrai, Boarijore, Mahagama, Pathargama, Thakurgangti and Mehrama. A detailed Handholding session was also conducted in each new Gyanodaya school to operate Smart Classes properly. In addition, teachers are being trained for the proper use of the content to ensure that the students can utilize it in the best possible manner. A nodal teacher is appointed with the help of Headmaster of the school. With help of other teacher at the school, nodal teacher keeps the record of various activities like total class conducted, student's attendance, daily test, and analysis test marks. The parents of the students are also involved, and they are made aware of the Gyanodaya Smart Class and the benefits of attending the Gyanodaya Class for their children.

**3.KGBV Project:** Adani Foundation envision to ensure access and quality education to the girls of disadvantaged groups of society, reduce gender disparities, promote gender equality, retention of girls in schools, arresting girls' dropout rate, improving girls' enrolment in KGBVs and other govt schools and enhance the academic performance of girl students. The thrust of the project is to empower the Girl children in fields of education along with life skills by creating a learning ecosystem through addressing the educational challenges prevalent in KGBVs. The primary target group of KGBV project will be **4500+ Female students** (500 average students

in each KGBV) (SC, ST, OBC, BPL, marginalized and weaker sections of society) of 9 KGBVs from Class 6th to 12<sup>th</sup>. In the 1st year, 2023-24, 6 KGBVs will be covered (KGBV Godda, KGBV Sunderpahari, KGBV Pathargama, KGBV Mahagama, KGBV Thakurgangti and KGBV Basantrai) and remaining 3 KGBVs (KGBV Poreyahat, KGBV Boarijore, and KGBV Mehrama) in succeeding project duration.

- **KGBV School Assessment:** An assessment was done of total **9 KGBV (Kasturba Gandhi Balika Vidyalaya)** schools at Godda in support with Eckovation Team and it had been seen that KGBV's face several challenges in providing quality education to girls from marginalized and disadvantaged communities.

**Some of the key challenges found during the assessment were:**

- Inadequate infrastructure,
- Shortage of trained teachers,
- Dropout rate,
- Social and cultural barriers,
- Limited access to technology, etc.

#### **Gyanodaya Initiatives for Capacity building:**

- **Monthly Parents Teacher Meeting:** Gyanodaya team participated and conducted PTMs in all **9 blocks** including **13 schools** of TPP core villages and discussed the importance and value of education and made them aware about Gyanodaya simulation and how the initiative is helping and will be helpful for their children. Over **200** Parents Teacher Meetings (PTMs) were conducted, and **1200+ Parents** participated.

**4. Coaching Program for Jawahar Navodaya Vidyalaya (JNV)- Class 6 Entrance Examination,** an initiative of Utthan program of Adani Foundation was begun in January 2020 with an objective to address educational needs of poorer, rural, and tribal children, provide opportunities to bring them at par with others in the development of conducive environment and build their bright and secured career from right schooling by qualifying Navodaya entrance examination.

#### **Methodology Adopted**

- a. Identification of students studying in govt schools for securing selection from rural quota (Enrolment Policy of JNV-75% rural quota, 25% urban quota, Total number of seats -80)

- b. Enrollment of students for preparation of entrance examination in coaching centres followed by registration of students for appearing in entrance examination.
  - c. Special coaching classes by teachers (Offline mode) are conducted at different locations at village level and online access to learning materials by students (self-study and smart classes) are adhered.
  - d. The preparation of the examination includes arrangement of learning materials, stationery items and miscellaneous items.
  - e. Weekly Grand tests are conducted by teachers for evaluation of students' performance and proper follow-up of students is done for improvement area.
- **Enrollment for Session 2024-25:** The program is operational in **8 coaching centres** located in 8 core and pipeline villages of Godda district benefitting over **89 students** for preparation and qualifying the examination of Navodaya entrance examination for Academic Session 2024-25. The program is facilitated by **eight skilled Utthan Sahayaks (teachers)**, adequate infrastructure and educational resources (bags, books, Stationary Materials, etc.)

## 5. 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 rightly 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 6<sup>th</sup> examination with 75% distinction marks and currently studying in 7<sup>th</sup> class standard. With a dream to fly high, she aspires 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.



## 6. Mainstreaming Rural children into Formal Education System

The Adani Foundation aims to mainstream the poor and marginalized children into formal education system who are deprived of quality education in core, railway line and pipeline villages. It focuses on mitigating the gap between educational resources and inability to access quality learning.

The Foundation had identified **51 Dropout children** of Amrakamat village of TPP core area who were earlier deprived of schooling. The factors associated were bridged by initiating the **Students Enrollment Campaign** in which children, parents and community were sensitized and educated on importance of schooling, Aadhar card, its registration and enrollment in the school. All children got issued with their **Aadhar card** and they are now enrolled in **Primary education (Class 1 to Class 4)** in **Upgraded Middle School (UMS), Amrakamat**.

Apart from that, **Regular coaching classes** to a total of **58 children** are given by the Foundation in Coaching center, Amrakanoli and continuous monitoring of 51 children's status going to schools, its outcome and participation of parents is also done.

## 7. Dustbin distribution under Swachhata Abhiyan in Schools of TPP

**Core area:** The Adani Foundation initiated Swachhata Abhiyan in Schools of TPP Core area in which Dustbins were provided to schools located in TPP Core area, and railway line area. Around 21 schools were supported with Dustbin for promoting culture of cleanliness and hygiene in campus area under the campaign. It will also ensure incorporation of self-mechanism of maintenance and cleanliness of school area by students and creating an ecosystem of conducive learning environment.

The children, teachers and community were educated and sensitized on importance of waste management practices including biodegradable and non-biodegradable wastes, its disposal, scope of waste recycle and adoption of sanitation practices in home, schools, and workplaces. AF supported with total 23 dustbins in 21 schools of Godda district.

## 8. Support to Improve School Infrastructure

- 1. Support of Safe Drinking water facility:** Adani provided support to improve School Infrastructure of **Upgraded Middle School (UMS), Bhatdiha** located in Godda district with **1 Kent RO Water filter (20 LPH) on 22<sup>nd</sup> June 2023** benefiting over **300 students** in a year with an objective to improve Health, Nutrition, and Wellness of children and thereby, increase the attendance rate of students and academic performance.

**2. Support of Kitchen Materials for Health & wellness:** Adani Foundation provided support of **Kitchen Utilities** for Health & Wellness of rural school going children in **Primary School, Petbi Santhali, Podaiyahat block, Godda district** on **7<sup>th</sup> August 2023** for better rural infrastructure and enable access to educational institutions for more than **200 tribal children**. The Kitchen materials comprised of total 8 items for preparation of Mid-Day Meal and its storage with safety, hygiene and maintaining quality of food. Currently, 32 students are enrolled in the Primary School, Petbi Santhali.

## **Capacity Building & Awareness Programme**

**1. Celebration of International Yoga Day 2023:** **International Yoga Day** was celebrated on **21st June 2023** at Officer Club, Shantivihar Township and community level in core and railway line villages. Over 200 members including employees and their family members had attended the yoga workshop organized at APJL site. Similarly, more than **800 students from 8 schools and 6 Anganwadi centres** of TPP core area had actively participated during the occasion and inculcated various Yoga asanas and their benefits to keep healthy and understood the importance of Yoga in holistic development of their life.

**2. Support to Mahila Mahavidyalaya, Godda to Organize One Day National Seminar:** Adani provided support to **Mahila Mahavidyalaya, Godda** to organize **One Day National Seminar & Student Faculty Exchange program** which was held on **15<sup>th</sup> July 2023**. During the program, the main topics which was covered are: - **"Career opportunities through Skill Development"** under which subtopics comprised of Lifelong Learning for Skill Development, Skill Development and Employability, Up-Skilling and Re-Skilling, Digitalization and Future of Work. Along with other activities, Cultural program, Debates, Antyakshari and Rangoli Competition were also conducted.

This opportunity helped the students to enrich their learning, and skills, improve employee morale, achieving educational goals and benefitted more than **3000 students, teachers, and community** significantly.

**3. Support to S.B.S.S.P.S.J College, Pathargama for One Day National Seminar:** Adani provided support to Education committee members of S.B.S.S.P.S.J College, Pathargama to organize One Day National Seminar which was held in the college premise on **16<sup>th</sup> July 2023**. During the program, the main topics which was covered are: - "Importance of AQAR, Action taken on PEER Team Suggestion Report and Role of IQAC for subsequent cycle of NAAC Accreditation".

The chief dignitaries of the program were Principal, Lecturer and N.S.S. Coordinator from 3 states who had attended the seminar in S.B.S.S.P.S.J College, Pathargama. This opportunity helped teacher and the students to enrich their learning, and skills, improve employee morale, achieving educational goals and leading to upgradation of overall education system of Godda district. The program benefitted more than **500 students, teachers, and community** significantly.

## **Supporting Sports & Cultural Events**

- 1. Support to Godda District Netball Association:** Adani endeavours to promote Youth & Sports Development Programme and encourage the youths to lead and perform in athletics at District, State and National Level. Talent of aspiring youths are explored, and they are further groomed & sharpen their skills in their domain sports field. In the last 13 years, more than 1300 players of Netball Sports from district are playing and have won medals by participating in 150 State Level and National Level Netball Sports tournament.

At this juncture, Adani had supported the 'Godda District Netball Association' with grocery items for conducting "**9<sup>th</sup> Summer Residential Netball Training Camp**" participated by **300 players** at Gandhi Maidan, Godda. The outstanding players of the competition will be selected for further grooming & training session to participate in upcoming State Level and National Level Netball Sports tournament.

# COMMUNITY HEALTH PROGRAMME

## 1. Mobile Health Care Unit (MHCU)

In the half financial year 2023-2024 (April'23- Sep'23), **Mobile Health Care Units** have together catered to **28,624 patients including 8673 male, 11938 female and 8013 children** from around **121+** Core, Periphery, Railway line and Pipeline villages of Godda and Sahebganj district. AF supported mobile medical facilities goes a long way to ensure access of poor people to quality primary health care services at their doorstep.

**2.Specialized Medical Camps:** During the Half Year (2023-24), Adani Foundation endeavored to cater health needs in a specific health issue of the masses amidst Epidemic outbreak by adhering to safety protocols. The Foundation strives to be a catalyst to 'Sustainable human development' and serves the deprived and marginalized human mankind and community with means of rendering appropriate services at grassroots. The triggers adopted for development encompass health as one of the major elements for holistic development of an individual. Moreover, the drive aligns with **Sustainable Development Goals (SDG) 3, 'Ensure healthy lives and promote well-being for all at all ages.**

Adani Foundation has organized **56 Specialized Health Camps in specializations namely, Ophthalmic, Paediatrics, Gynec, Cardio, Osteo at Health & Wellness Centre, Motia & General Health Camps** was conducted in **6** intervention villages of core, and railway line area of Godda district. **Total 1057 patients** including **284 males, 537 females and 236 children from over 6 villages** were screened, treated, and provided with free medicines.

Specialized Medical Camps was organized with an objective to provide critical and specialized health care services in villages to cater untreated illness/ medical issues concerning women/ girls and children, elders, and community for whom access to safe and standard health services remains a challenge.

<b>Details of Specialized Medical Camps &amp; Mega Health Camps</b>					
<b>SN</b>	<b>Specialization</b>	<b>Patients treated</b>			
		<b>Male</b>	<b>Female</b>	<b>Children</b>	<b>Total</b>
<b>1</b>	Gynec	0	125	0	<b>125</b>
<b>2</b>	Pediatric	0	0	167	<b>167</b>
<b>3</b>	Cardio	80	74	4	<b>158</b>
<b>4</b>	Eye	46	59	8	<b>113</b>
<b>5</b>	Ortho	65	90	17	<b>172</b>
<b>6</b>	General Health Camp	93	189	40	<b>322</b>
	<b>Total</b>	<b>284</b>	<b>537</b>	<b>236</b>	<b>1057</b>

### 3. Support to District Health department for Measles (Rubella)

**Awareness Program:** Adani provided support to District Health department, Godda with IEC materials (School Poster, Anganwadi Poster and Hand Bill) on 19<sup>th</sup> April 2023 to organize Awareness program cum Vaccination campaign on Prevention and Curative Measures of Measles (Rubella) diseases in children aged 9 Months to 15 years old. The intervention was carried out in schools, Anganwadi Centre, and hospitals which aided the frontline health workers, social activist, village leaders to educate, inform and aware the children, parents, and community about Rubella Vaccination for children. It will benefit around 3000+ children.

SN	Particulars	Unit
1	School Poster	750
2	Anganwadi Poster	500
3	Hand Bill	10000
	<b>Total</b>	<b>11250</b>

**4. Blood Donation Drive:** The Adani Power (Jharkhand) Limited, Godda and Adani Foundation, Godda organized the **Blood Donation Camp** under joint aegis of Medical CSR and OHC to mark the **61<sup>st</sup> Birthday of Sh. Gautam Adani, Chairman of the Group** on **2023 June 24<sup>th</sup>** at Officer's Club, Motia site. The Site Head, APJL, Mr. Naresh Goel, Mr. Ramesh Jha, Chief Business Officer, Operations & Maintenance (O & M), and Mr. Prasun Kumar Chakraborty, Vice President - Operations & Maintenance (O & M) greeted the medical officers from District Health department, Godda with a flower bouquet and jointly inaugurated the Blood Donation Camp by performing the lamp lighting rituals. All the dignitaries recognized the good work of the blood donors and gave away the certificates to boost the morale of donors. More than **370** employees, contractors' staff and workers donated blood on this occasion creating an indelible mark of the highest collection on a day in the district.

The occasion witnessed the enthusiasm and passion among the blood donors to serve the cause of humanity. The idea was to save human lives at the time of emergency. The Adani Foundation played a major role in organizing the camp and the efforts of all the organizers including the HR-Administration and OHC were appreciated by all. T- Shirts, Certificates, Selfie point, Banner, Dangler, Prizes (Umbrella & Cap), juice, and snacks were arranged for the donors and the organizers on the occasion. Donors were also awarded certificates of appreciation duly signed off by the **Adani Foundation Chairperson, Mrs. Priti G. Adani**, that provided a sense of elevation to all. It turned out to be a memorable moment.

## **5. Plantation on the eve of 61<sup>st</sup> Birthday of Chairman of the Group:**

On **61<sup>st</sup> Birthday of Honourable Sh. Gautam Adani, Chairman** of the Group on **June 24<sup>th</sup>, 2023, Plantation Drive** was organized in **High School, Baksara of TPP Core area**. Over **250 students** and School Management Committees (SMCs) had volunteered in plantation activity who planted more than **150 fruit and non-fruit plants** in the campus of school premises.

The ownership of plantation of each plant was taken up by every student. The program was led by students and School Management Committees (SMCs) who expressed their heartfelt gratitude and noble gesture to Sh. Gautam Adani on the special day and embarked an ambitious project **-Vruksha se Vikash (Planting 100 million tree)** of Adani Foundation.

The day marked a significance towards environment protection, afforestation, enhancement of greenery, social and economic development by spreading the message among school children, PRI members, and community.

The program was presided by esteemed dignitaries who graced the auspicious occasion with their presence and motivated the children to become the changemaker of the society.

## **6. Awareness Drive on Specialized Health Camps:**

Health Camp Awareness Drive has been initiated to inform, aware and educate the villagers and community of 17 core and railway line areas of the intervention of Adani Foundation of providing free Specialized Health Care services at PHC Motia, instrumental in safeguarding the life of approx. **2000** economically backward and marginalized rural population of the society.

Door to door household visit and awareness campaign is conducted in each village in which the target households are informed about Doctors' schedule, specialization of diseases diagnosed, and sensitized about the importance of good health and productive life for a happy living. Five doctors of concerned specialization namely, Gynec, Pediatrics, Osteo, Cardio, & Ophthalmic are deputed at PHC, Motia on respective days and time duration in monthly and fortnightly manner where the patients reach to the health centre along with their health card for diagnosis of their health complication and follow-up as per doctor's prescription.

## Health Awareness Programmes

### Medical Services

- ❖ **Health Awareness:** with collaborative efforts of Adani Foundation, Helpage India and Wockhardt Foundation in Peripheral, Pipeline & 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. **10000+ villagers** benefitted.
- ❖ **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 for COVID health check-up, doing home quarantine and quarantine center and treatment like Bhagalpur, Deoghar, Ranchi, and Patna & Other nearby hospitals. **10+ patients benefitted from ambulance facility.**

### Seasonal Assistance

- ❖ **Support of Musical instruments for Cultural program:** In May 2023, on dated 18<sup>th</sup> May 2023, Adani Foundation provided **Musical instruments (Dholak-1, Harmonium-1, & 2 pairs of Kartal instrument- Hand Cymbals Manjira Pair)** support to community members of Tardiha village of Pathargama block in Godda district. The support will aid the village committee members to organize cultural program of their traditions benefitting over **2000 rural population** in villages.
- ❖ **Relief Materials Support to Affected Families from Natural Hazards**
  - i. **Tarpaulin Assistance for Natural Disaster Management:** Under 'Poorer Welfare & Assistance' program, Adani supported the poorer and weaker sections of society affected from natural calamities or uncertain disasters such as fire, flood, cyclone, thunderstorm, etc.

Adani instantly supported **19** affected families of **7** core, railway line and periphery villages with 19 Tarpaulin sheets in August and September 2023 for addressing the issue and safeguarding over **90 beneficiaries** in Godda district.

**ii. Poor Assistance Programme: Mosquito Net Distribution:** Adani Foundation believes in assisting the community who are marginalized and deprived of basic facilities for survival. The health of the villagers is made secure and protected from several diseases which leads to fatalities and death cases in the villages. Assistance of Mosquito Net to the poorer households will help them to be prevented from any vector-borne epidemic and common occurring water borne diseases such as Dengue, Malaria, etc. On dated 29<sup>th</sup> August 2023 and 30<sup>th</sup> August 2023, around **190 tribal households** were assisted with 190 Mosquito nets in tribal village namely Nayabad (61), Gangta (96), Mali Gangta (20) and Basmitikar (13) of Motia panchayat, Godda block of TPP Core area, Godda.

**ii. Team Participation in cultural event:** Adani 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, Bhagwad Katha, International Day of Indigenous Peoples, Ganesh Chaturthi, Janmashtami, Vishwakarma Puja, etc. was celebrated in the villages benefitting more than **2000 rural and tribal communities**.

## Welfare Support

**i. 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. **844** beneficiaries from more than 10 villages have been extended financial support to the tune of **Rs. 24,64,492/-**

Support Cause	FY 2023-24 (April 2023- September 2023)	
	No. of Beneficiaries	Supported Amount
Health Support	16	178300
Others Support	4	12000
Marriage Support	12	146500
Death Support	8	79000
Education Support	4	140000
Social Occasion Support	800	1908692
<b>Total</b>	<b>844</b>	<b>2464492</b>



## Awards & Accolades

- ❖ **Recognition from Health Ministry on Eradication of TB:** On **12<sup>th</sup> July 2023** at Ranchi district, Adani Power (Jharkhand) Limited, Godda has been felicitated by **Ministry of Health and Ministry of Labour and Employment** for contributing towards **Eradication of TB in Godda district** in association with District administration.
- ❖ **Felicitation with Jharkhand Samajik Utkrishtta (Social Excellence) Award 2023:** On dated **12<sup>th</sup> September 2023**, the Adani Power (Jharkhand) Limited was graced with **Jharkhand Samajik Utkrishtta Award 2023** for contributing to upliftment and development of the society in Godda district of Jharkhand. The Adani Foundation's service towards upliftment of community in social, economic, and environmental sphere has impacted around lakhs of the poorer and marginalized groups of society of Godda district.

## SUSTAINABLE LIVELIHOODS

- 1. Adani Skill Development Centre:** Adani Skill Development Centre- ASDC, Godda was inaugurated by Executive Director AF- Education and Skills on 27<sup>th</sup> 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 **4600** candidates were trained and benefitted till last Financial Year 2022-23.
  - **Enrollment in New Batch in 2023-24:** In the current year 2023-24, a new training batch of Domain Business trades was started from April 2023 onwards. **So far, a total of 143 candidates** are enrolled including **11 candidates in Fitter Mechanical Assembly, 34 in Digital Literacy trade and 98 admissions done in SMO trade** in new session **2023-24**. The Self-learning model enables the candidate to build repository of knowledge through access of learning materials provided in the link and after the completion of course, the candidates appear on examination to self-evaluate their performance followed by certification duly provided by NSDC.
  - **SAKSHAM Certificates distribution to SMO Women trainees: 46 SMO trainees** in Motia Sewing Center (16), Dumaria Sewing Center (20), Sarba Sewing Center (10) on successful completion of training of last year batch in April 2023.

## 2. Handloom Upskilling Training Centre in Bhagaiya, Thakurgangti:

Adani endeavour to promote Bhagaiya Silk Cluster located in Bhagaiya village at Thakurgangti block, Godda district, Jharkhand, known for traditional handloom silk manufacturing and weaving, also known as Resham Nagar. More than 1,000 households from Bhagaiya village (100%) and Manikpur village (30%) belonging to OBCs, and minority community are linked to the initiative and earning their living judiciously. The process involves, reeling, unwinding, spinning, and weaving of silk. The Handloom Up-skilling Training program has been started to promote and stabilize such groups by bridging the existing gaps with respect to capacity building (Skilling) in varied segments including advanced method of silk production, making value added products, supply chain management, marketing skills and others.

The **Inauguration Program** was conducted in **May 2023 at Handloom Bhagaiya Silk Training Centre, Thakurgangti** with active participation of around **150 guests and trainees** during the ceremony and made the event successful. In new session 2023-24, a total of **3 Batch of Bhagaiya Silk training trade** with 30 trainees in each batch, are enrolled benefiting over **90 candidates** under training program. A new training batch will be started from October month.

## 3. Celebration of World Environment Day (5<sup>th</sup> June 2023) at TPP

**Core Area:** On the occasion of **World Environment Day on June 5**, Adani Foundation had organized series of community engagement activities such as **Awareness Rally, Plantation drive, oath-taking ceremony and school level competitions (drawing and paintings)** in several TPP Core area location including 10 schools, Primary Health Centers (PHCs), 4 Anganwadi, Panchayat Bhawan, and public places with participation of more than 5 Mukhiyas, 1200+ students, 400+ local people, 80 schoolteachers, and 35 SMC Adhyaksh & team members.

The program was inaugurated in the presence of Village Head, PRI members, schoolteachers, students, and community who delivered speeches and motivated the students on importance of Environment Day and conservation of environment. Various environmental & global issues such as deforestation, environmental pollution, soil erosion, land degradation, health issues and global warming based on sign boards, posters, placards, etc. were informed to the community within radius of 2 km in their villages.

During the plantation drive, more than **100 plants** (Ashoka & Neem) were planted at different community places such as schools, Anganwadi centers, PHC, Panchayat Bhawan, and other public places. The program had a significant response from the participants which sharpened the art and craft skills of students, their imaginations

and prospectives towards environment and preservation of biodiversity was well conveyed.

**Total Number of Plantation:** 50 plants in schools, 10 each in Primary Health Centers (PHCs), Anganwadi centers, Panchayat Bhawan, and 21 in Public Places.

#### **4. Vruksh Se Vikas or Vruksha Se Samrudhi or Vruksha for Vikas (V4V) - Planting 100 million trees: Promote Environment Conservation, Ecological Restoration, Conservation of Biodiversity, and Income generation of farmers.**

Adani Foundation will be implementing a project called - Vruksh Se Vikas / Vruksh Se Samrudhi / Vruksh for Vikas (V4V) to contribute towards a global commitment to plant 100 million trees by end of **2030** there by contributing to one trillion tree campaign. Hence, Adani Foundation, Godda within its ambit and intervention areas would be implementing the Plantation project with objectives of income generation, increasing areas covered by trees, and ecological restoration.

Community Awareness was started in intervention villages of Godda and Sahebganj district about Program, its objectives, importance, and the benefits of plantation. The Vision of Adani Foundation on Survival of Plantation was also spread and instilled among the community to a Shared Vision. Every individual and community beneficiary will take ownership and responsibility of the survival of plantation.

The essentials of plantation related to place selection, water requirements, fencing, bio-fertilizer, pits digging, cluster plantation, etc., was properly communicated during the interaction and meetings held with interested Households, Community Based Organisation and PRI members.

- Total target of plantation in Godda is **22 Lakh plants** by year **2030**. In the year **2023-24, a total of 25,000 plantations** as per target have been made of Mango, Neem, Ashoka, Guava, Citrus (Lemon), Gulmohar, Saptaparni, Peepal, Jamun, Jackfruit, and Ficus (Banyan tree) saplings at household, school, AWC, and other institution level. It is assured 95% survival of total 25,000 plantation.

#### **5. Skill Development & Employment Generation for Youths at Women's College at ITI, Godda**

Under Public Private Partnership (PPP) Model, an MoU was signed between Directorate of Employment and Training, Department of Labor, Employment, Training and Skill Development, Government of Jharkhand, and Adani Skill Development Centre (ASDC), Ahmedabad on dated 6<sup>th</sup> April 2022 to commence Vocational training program under affiliation of NCVT at Women's ITI, Siktia (Godda).

The Vocational training program is operational in Women's ITI, Siktia (Godda) in two trades, 1. Sewing Technology and 2. Fashion Design & Technology since FY 2022-23. A total of **35 students** from intervention villages are attending training courses in each training timeline for **1 year in ITI in two trades namely, Sewing Technology & Fashion Design trade**. The opportunities provided by the Skilling program have paved way for the rural youths to achieve their ambitions, become self-reliant, generate local employment, and become economically stable in Godda region. The Work is in Progress for addition of 2 more NCVT Trades under ITI Training program this year 2023-24.

**6. Adani Annapurna -Vermicomposting in villages:** Adani Annapurna - Vermicomposting program was 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 more than 13 TPP core, railway line and pipeline villages.

From last year 2022-23 till date, **20 small & marginal farmers** were supported with **25 units** of Vermibed along with training on organic farming and Vermicomposting in 6 core villages namely, Motia, Baliakitta, Baksara, Dumaria, Jajalpur and Sarwa village of Godda district. It resulted in a positive response by farmers for doing organic based farming and entrepreneurship.

The farmers have cultivated the culture of organic farming by application of vermicompost and other organic fertilizers in agriculture and plantation of horticulture plants which has increased the crop yields and productivity of the farm produces by 15%. While, the remaining produce is sold to other progressive farmers, vegetable growers, etc. in nearby villages and rural markets which has augmented their livelihood due to increase in earnings by minimum Rs. 2000- Rs. 5000 on an average per farmer per annum.

## **7. Chief Guest Visits & Important Days Celebration**

- **Celebration of 74<sup>th</sup> Van Mahotsava Program:** Van Mahotsav is a pan-India tree planting festival celebrated in July every year. This initiative was nationally

recognized in 1950 by Dr K M Munshi, who was the Union Minister for Agriculture and Food during that period. **On 26<sup>th</sup> July 2023, 74<sup>th</sup> Van Mahotsava Program** was organized at Dighi village of pipeline area, Godda district in participation with chief dignitaries from local administration, PRI members, Adani's staff, and community.

During the program, importance of celebrating Van Mahotsav, afforestation, its benefits, and shared vision of environment protection, ecological restoration and biological diversities was informed to the participants. It was succeeded by planting saplings in the vicinity by the chief guests.

- **27<sup>th</sup> Adani Foundation Day Celebration: Adani Foundation Day** was celebrated on **11<sup>th</sup> August 2023** to earmark **27 years** of the Adani Foundation's work 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.

**The 27<sup>th</sup> Adani Foundation Day** was celebrated at **Baksara and Amrakanoli village** of Poreyhat block, Godda district by site team and stakeholders including rural beneficiaries, PRI members, and community. It was a festive occasion to celebrate with great joy and enthusiasm by filling the colours of hope and dreams of success, worshipping the human identity and integrity, and encouraging the values of everyone. On the occasion Tribal Puja Celebration, tribal dance representing the culture of Santhal Pargana community, Plantation activity near Pond and playful activities by children was organized followed by message from Mukhiya 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. Construction of Stairs at 6 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.

In this mid- year **April'23- September'23, Construction of Stairs at 6 Ponds** was done in **6 villages** of Godda and Sahebganj district. It will enable around **70 farmers** dependent on these ponds to conveniently irrigate their land in **25-30 acres** prominently during Kharif season. It will also provide an opportunity for them to initiate integrated farming including agriculture, pisciculture, livestock development, etc. which will generate multiple sources of income and boost their income by minimum Rs. 5,000 in a year. This initiative will also aid around **500-600** community members in doing their domestic work in their daily routine and conduct cultural and religious programs with great joy and festivity.

## Drinking Water Facility

- 1. Drinking water facility in villages –Borewell, Community Well etc.:** In this mid-year 2023-24, drinking water facilities was provided with respect to installation of Water tank, Boring and Tap water in Primary School, Chota Tetariya, Sahebganj district (100 students and school staffs per month), 2 Borewell installation at two public places in Sahebganj and 6 wells renovation in 6 villages of core, railway line and pipeline area benefitting more than **1000 population** directly.

The work will facilitate the villagers, students, and community during the summer season and all the year for drinking, domestic and religious purposes. While 2 Borewell installations at Niyamatchak School, Thakurgangti and Chand Bhairav Residential School, Dakaita, Lalmatia for Tribals (Santhal and Paharia- 200 students- Class Nursery- Class 1) are Ongoing.

- 2. Installation, Renovation & Repairing Work of Hand pump:** Hand pumps are primary source for drinking water and other domestic needs in the TPP area. Adani Foundation has taken up the hand pumps maintenance and repairing work of hand pumps, its installation and construction of hand pump platform in core, railway line and pipeline villages of Godda and Sahebganj district. With this work, we are ensuring 100% functionality of the hand pumps and water availability in the area.

This year **2 hand pumps** were installed in 2 periphery villages benefiting more than **500 rural population** of Godda district. The branding of hand pumps installed by Adani Foundation has also been done for its recognition among the community and better monitoring system.

## **Educational infrastructure Development**

- 1. 1 School Infrastructure Development in TPP Core area:** The School Infrastructure of High School located in Motia village of TPP Core area, was strengthened including **Construction work of Boundary Wall and Main Gate** which is Ongoing. It will bridge the infrastructural gap in pursuing education for more than 500 poorer and rural children every year in a proper space with a safe and conducive learning environment.
- 2. Strengthening 4 Educational institutions in Godda district:** Adani carried out infrastructure development work in the educational institutions comprising of schools and colleges enabling the children of Godda district residing near to periphery and pipeline area to complete their education till minimum higher level. The renovation work was carried out in Mahila Vidyalaya, Godda consisting of Gate work, Circle shaped seating place, renovation of boundary wall, etc., Fencing Boundary at SBSSPSJ College, Pathargama, Renovation of Pravat Tara Mission School at Pipra Village, Meherama Block and Building Renovation work of Inter College, Mahagama. The intervention will cater to adequate educational infrastructure needs for **2000+ poorer, tribal children and youths** of Godda district to complete at least higher-level education till graduation level.

## **Other Village development structures**

- 1. Construction of 3 Model Bathroom & Soak pit near Handpump:** Model Bathroom and Soakpit/ Recharge pit has become a critical component in the socio-economic development of rural people and ecological restoration. It serves the objective of providing access to amenities like health, hygiene and sanitation for women, children, and tribal community. Some time ago people had no bathroom

facility in their village, and they were using open places for toilet as well as bathing purpose which invites unhygienic condition and diseases among the people and makes the women more vulnerable to several social issues.

Construction of **3 Model Bathroom and Soakpit** in **2 villages** of core and periphery area of Godda district has addressed the needs of around **300 women, girls and the community** who lived in vulnerable condition. It has reduced their drudgery and safeguarded dignity of women and girls fostering social inclusion and equity. Development of such structures in rural habitation has also ensured alignment with Sustainable Development Goals, namely, 'Goal 3- Ensure healthy lives and promote well-being for all at all ages' and 'Goal 6. Ensure availability and sustainable management of water and sanitation for all'.

- 2. Construction of 14 Seating Place (Chabutra) in villages:** Construction of **14 Seating place** (1 ongoing) has been done in **9 core and pipeline villages** benefiting more than **4300 rural and tribal population**. Normally villages do not have common places in the village for seating purposes mainly for elders, senior citizens and devotees coming to worship in temples situated in villages. This is being used by the common people in the village for seating purposes and for conducting village level meetings, SHG meetings and cultural activities at a small level.
- 3. Construction of Conference Hall** at cultural heritage sites in Sahebganj to provide adequate infrastructure to held meetings, seminars, and cultural events for tribals students & community (1<sup>st</sup> Part Completed and 2<sup>nd</sup> Part Ongoing).
- 4. Construction 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 the community. As we are committed to providing better community structures to the village, we have constructed 1 community hall in Motia village of TPP core area. This hall is also being used for community purposes.
- 5. Renovation of Boundary wall at Motia Panchayat Bhawan:** Aim to provide better rural infrastructure in the villages. It will address the needs of PRI members and villagers to conduct panchayat and village level meetings on developmental programs of government, registration of beneficiaries to the govt. schemes, awareness generation among right beneficiary, conduction of SHGs meeting, cultural activities, etc. The boundary wall renovation will enable safety in panchayat Bhawan premises, its beautification and promote horticulture plantation activities with maximum survival count resulting conservation of natural resources and ecology.



- 6. Construction of 2 Drains** was carried out in various core villages, namely **150m Drain at Petbi Village**, and **110m drain at Patwa Village**, for proper drainage system and sanitation in the rural area benefiting over **3500 rural population**.
- 7. Development of Workshop unit at Women's ITI Siktia, Godda:** To provide better training infrastructure facilities to the students of Skill development program operational in Women's ITI Siktia, Godda.
- 8. Renovation and construction of 9 community structures:** We have taken up the renovation & upgradation of old, defunct, and dilapidated community structures and cultural heritage structures in 9 intervention villages to restore, adapt and conserve structures of heritage and cultural value benefiting more than **15,000 beneficiaries**. Moreover, it enables the villagers to organize local festivals, perform puja rites and conduct village level meetings such as SHG meeting, Gram Sabha, Sports Committee meeting, etc.
- 9. Repairing of 1 Village Road** at Basantpur village of TPP Core area, Podaiyahat block of Godda district to provide better rural infrastructure facilities benefiting **3000+ villagers** for safe and smooth commuting.
- 10. Construction of Pathway at Bhavanipur Village, Vikram Shila-** Aim to provide better rural infrastructure in the villages. This connecting path will benefit the tourists who visit Vikramshila, an archaeological site of National importance benefiting **5000+ visitors every year**. This will also promote tourism and economic empowerment in the region. **Ongoing**.
- 11. Renovation of Shivaji statue shed at Godda:** Aim to provide better infrastructure to the public of Godda district

## Annexure – III

**Total Plant Area : 3.22 HA**

**Green Belt Developed area: 1.06 HA (33%)**

Sl. No	Species	Sl. No	Species
1	Jamun	22	Ashoka
2	Hyophorbe lagenicaulis (Palm)	23	Latina
3	Jasmine	24	Bargad
4	Golden Bamboo	25	Ficus Benjamin
5	Curry Tree	26	Pipal
6	Hibiscus	27	Amaltas
7	Mango	28	Kanak Champa
8	Lemon	29	Sisham
9	Guava	30	Peltaphorum
10	Hemelia	31	Royal Palm
11	Clerodendrum inerme	32	Sapota
12	Parijat Tree	33	Almond
13	Bakul	34	Dypsis Decaryi
14	Conocarpus	35	Areca Palm
15	Saptparni	36	Plumeria Champa
16	Foxtail Palm	37	Caeselpinia
17	Bahunia	38	Cycas Circinalis
18	Ticoma	39	Phalsa
19	Putranjiva	40	Jack Fruit
20	Bouganvelia	41	Neem
21	Pilkhan	42	Nerium



**Greenery in Township Entrance**



**Green Belt along the Road**



**Green Belt along the road**



**Green Strips**



**Greenery in Township**



**Green Belt along the boundary**



**Green Lawn with plantation**



**Plantation along the Boundary**



**Green Belt near Building**



**Plantation along the road**



**Plantation along the Road**



**Plantation along the road**



**Plantation**



**Green Play Ground**



**Temple with Greenery**