



Power

Ref: APL/APJL/EMD/EC/MoEF/171/11/19

Date- 29/11/2019

To,

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

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

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

Dear Sir,

With reference to above subject, please find enclosed herewith Six Monthly Environment Clearances (EC) compliance status report along with Environmental monitoring results like Ambient Air Quality, Noise level, Water Quality & CSR report etc. for the period of **April'2019 to September'2019** in hard & soft (e-mail & CD).

Construction work for Site development, Thermal Power and other facilities started.

This is for your kind information & record please.

Thanking You,

Yours faithfully,

for **Adani Power (Jharkhand) Limited**

(Santosh Kumar Singh)

Head- Environment

Encl: as above

cc:

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

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

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SIX MONTHLY COMPLIANCE REPORT OF ENVIRONMENTAL CLEARANCE (EC)

1600 (2×800) MW THERMAL POWER PLANT

At

**GODDA TALUKA, GODDA DISTRICT
JHARKHAND**

Submitted to:

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



Submitted By:

**Environment Management Department
Adani Power (Jharkhand) Limited
Motia, Patwa & Adjacent Village,
Godda Taluka, Godda District
Jharkhand**

PERIOD: April'2019 – September'2019

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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 setting up 1600 (2x800) MW Coal-based Ultra Supercritical Thermal Power Plant at Village Motia, Patwa and adjacent villages of Godda & Poraiyahaat Blocks of Godda District in Jharkhand. The power plant is based on ultra-supercritical, energy efficient & environment friendly technology.

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

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

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

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

Status of the Project:

AP(J)L has been granted Environment Clearances (EC) vide Letter no: **J-13012/01/2016-IA.I (T)** dated: **31.08.2017** and amendment in EC vide letter dated 03.09.2019 for changing the source of water form Chir River to Ganga River.

AP(J)L has also obtained Stage-I Forest Clearance for diversion of 13.3293 Ha Forest land for laying pipeline from Ganga River to Power Plant reservoir. MoEF&CC letter and amendment of Environment Clearance (EC) is enclosed as **Annexure-1**

AP(J)L has obtained NOC from GoJ for withdrawing construction water from Liljhi River.

Thermal Power Construction has been started. LOI received from PFC & REC.

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Compliance status of Environmental Clearance

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

Environment Clearance Letter no: J-13012/01/2016-IA.I (T) dated: 31.08.2017 &
Its Subsequent Amendment Letter no. J-13012/01/2016-IA.I (T) dated 03.09.2019

Si. No.	Specific Conditions	Compliance Status
(i)	Total Ash and Sulphur content in the imported coal shall not exceed 25% and 0.5% respectively.	Noted & compliance assured during operation stage.
(ii)	Land acquisition shall be carried out by the State Govt. in accordance with Santhal Pargana Tenancy Act, 1949, Right of Fair Compensation and Transparency in the Land Acquisition, Rehabilitation Act, 2013 and other prevailing laws. Documents in support of land acquisition after completion acquisition process shall be submitted to this Ministry as well as concerned Regional Office.	Complied. Land already acquired and under possession. Land possession documents has already been submitted along with Oct'17 to March'2018 compliance report. However, proposed land for Thermal Power Project has been optimized and possession almost completed.
(iii)	As per the Revised Tariff Policy notified by Minister of Power vide dated 28.01.2016, project proponent shall explore the use of treated sewage water from the Sewage treatment plant of Municipality / local / similar organization located within 50 km radius of the proposed power project to minimize the water drawl from surface water bodies.	Compliance assured. There are no STPs of municipality/local bodies within 50 KM of the site.
(iv)	Compliance of EC conditions, E(P) Act 1986, Rules and MoEF&CC Notifications issued time to time shall be achieved by a qualified environment officer to be nominated by the Project Head of the company who shall be responsible for implementation and necessary compliance.	Compliance assured. We have established Environment Management Department with Senior Management at Corporate level and at site.
(v)	MoEF&CC Notification S.O. 3305 (E) dated 07.12.2015 and subsequent notifications issued time to time shall be implemented with respect to specific water consumption, zero liquid discharge and revised emission standards. The PM, SO ₂ , NO _x and Hg emissions shall not exceed 30 mg/Nm ³ , 100 mg/Nm ³ , 100 mg/Nm ³ and 0.03 mg/Nm ³ respectively. The specific water consumption exceed shall not exceed 2.5 m ³ /MWh and zero wastewater discharge shall be achieved.	Compliance assured. High efficiency Electrostatic Precipitators (ESP) has been considered to meet revised emission standard of <30 mg/ Nm ³ for PM. FGD & SCR are proposed to meet revised standard of SO _x & NO _x Emission. TPP has been designed to meet the Specific Water consumption of less than 2.5 m ³ /MWh
(vi)	MoEF&CC Notifications on Fly ash utilization S.O. 763(E) dated 14.09.1999, S.O. 979(E) dated 27.08.2003, S.O. 2804 (E) dated 3.11.2009, S.O. 254(E) dated 25.01.2016 and subsequent amendments shall be complied with.	Compliance assured once the project takes off. As per Fly Ash notification, Half yearly & Annual Ash generation and utilization will be submitted to MoEF&CC, CEA, CPCB & JSPCB.
(vii)	Separate Environmental Clearance may be	Separate Environment Clearance has been

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	obtained for the proposed Township as applicable under EIA notification 2006.	granted by SEIAA, Jharkhand for Residential Township vide letter No. EC/SEIAA/2017-18/2070/2017/207 dated 31/08/2018.
(viii)	Solar rooftops shall be installed in the surrounding villages as part of CSR activities.	Noted. It is proposed to provide Solar lights in surrounding villages wherever feasible through Adani Foundation as part of CSR activity. Please refer Annexure-III
(ix)	Skill mapping of the Project affected people (PAF) be carried out on a long-term basis for their livelihood generation. A report is to be submitted within 3 months to the Ministry from the date of issuance of environmental clearance.	Complied. Skill Mapping Report prepared by M/s Indian Institute of Social Welfare & Business Management (IISWBM) Kolkata has already been submitted to your good office along with Oct'17 to March'2018 compliance report. Skill Development Centers: Adani Skill Development Centre- ASDC, Godda Sakhsam Training Centres Motia, Rangania, Nayabad, Patwa, Sondiha, Basantpur, Sarba, Bahuriya and Dumariya village.
(x)	Modern methods of agriculture organic forming, compost / vermiculture making and utilization, drip/direct to root irrigation to be promoted in and around the Project area.	Noted & compliance assured. Promoting of methods for agriculture organic farming, compost / vermiculture making and utilization, drip/direct to root irrigation will be undertaken through CSR activities by Adani Foundation. Please refer Annexure- III.
(xi)	While implementing CSR, <ul style="list-style-type: none"> • Women empowerment is important. Therefore, proper skill based training/long term livelihood revenue generation be created for all of them. • Computer facilities may be provided in the school along with a trained computer teacher to inculcate computer skill among the youths. • Water supply provisions shall be made for all the bio-toilets under Swachh Bharat Abhiyan. • Preventive health programme may be preferred than the curative health programme such as nutrition development of small children and around the project. 	Being Complied. <ul style="list-style-type: none"> • SuPoshan and Saksham, two programmes are under implementation to empower girls and women through improvisation of their health and nutrition intake as well as skill training to make women self-reliant economically. • Two Computer Learning Centers are operational in Motia and Rangania villages. A Computer trainer has been also deployed in Tilkha Manjhi Agriculture College & District Institute of Education and Training (DIET) • Provision has been made for drinking water through overhead tank and tap connection in seven schools of nearby villages. Detailed CSR report is attached as Annexure - III.
(xii)	Vision document specifying prospective plan for the site shall be formulated and submitted to the Regional Office of the Ministry within six months.	Complied. Vision document has already been submitted along with Oct'17 to March'2018 compliance report.

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(xiii)	Harnessing solar power within the premises of the plant particularly at available roof tops shall be carried out and the status of implementation including actual generation of solar power shall be submitted along with half yearly monitoring report.	Noted. It is proposed to utilize the roof tops of buildings which are feasible for installation of solar panels.
(xiv)	A long term study of radio activity and heavy metals content on coal to be used shall be carried out through a reputed institute and results thereof analyzed every two year and reported along with monitoring reports. Thereafter mechanism for an in-built continuous monitoring for radio activity and heavy metals in coal and fly ash (including bottom ash) shall be put in place.	Noted. Radioactivity testing result/report of two Coal samples from the source area already submitted along with EIA report. Radioactivity Test and Heavy Metal study report will be submitted during the plant operation. Technology not available for continuous monitoring. Periodic test report will be submitted.
(xv)	Online continuous monitoring system for stack emission, ambient air and effluent shall be installed.	Noted. AP(J)L has proposed to install Online Continuous Emission Monitoring System & Effluent monitoring system. The monitoring system will be installed before COD.
(xvi)	High Efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that a particulate emission does not exceed 30 mg/Nm ³ as would be notified by the Ministry, whichever is stringent. Adequate dust extraction system such as cyclones/bag filters and water spray system in dusty areas such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided along with an environment friendly sludge disposal system.	Noted. High efficiency Electrostatic Precipitators (ESP) will be installed in each boiler to meet PM emission of less than 30 mg/Nm ³ . Dust extraction system (Cyclone followed by bag filters) in coal crusher and coal transfer area (JNTs), rain gun type dust suppression system in coal yard and dry fog type dust suppression system in belt conveyor have been proposed.
(xvii)	Adequate dust extraction system such as cyclones / bag filters and water spray system in dusty areas in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	Dust extraction system with Bag filter in Crusher House is proposed. Pneumatic ash handling system with bag filters for ash handling & water sprinkling system will be provided in Coal yard.
(xviii)	Monitoring of surface water quantity and quality shall be regularly conducted and records maintained shall be submitted to the Ministry regularly. Further, monitoring system shall be placed between the plant and drainage in the direction of flow of ground water and records maintained. Monitoring for heavy metals in ground water shall also be undertaken and results/findings submitted along with half yearly monitoring report.	Compliance assured. Baseline data was established as part of EIA study. Environmental parameters monitoring results are enclosed. Please refer Annexure -II
(xix)	A well designed rain water harvesting system shall be put in place within six months, which shall comprise of rain water collection from the	Rain Water Harvesting (RWH) study carried out along with EIA study and already submitted. RWH plan will be implemented

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	built up and open area in the plant premises and detailed report kept of the quantity of water harvested every year and its use.	along with project construction.
(xx)	No water bodies including natural drainage system in the area shall be distributed due to activities associated with the setting up/operation of the power plant.	Noted & compliance assured. There are some first order streams, which will be altered. The drainage profile will be maintained from SE to NW direction along the natural drainage profile. There is an unlined (kachcha) canal passing through the site, which is diverted along the Project boundary.
(xxi)	Additional soil for leveling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.	Noted & agreed. Being followed.
(xxii)	Fly ash shall be collected in dry form and storage facility (silos) shall be provided. Mercury and other heavy metals (As, Hg, Cr, Pb, etc.) shall be monitored in the bottom ash. No ash shall be disposed off in low lying area.	Dry Ash collection, pneumatic conveying and storage are proposed for utilization. Unutilized ash will be disposed off in the ash dyke through HCSD.
(xxiii)	No mine void filling will be undertaken as an option for ash utilization without adequate lining of mine with suitable media such that no leachate shall take place at any point of time. In case, the option of mine void filling is to be adopted, prior detailed study of soil characteristics of the mine area shall be undertaken from an institute of repute and adequate clay lining shall be ascertained by the state pollution control board and implementation done in close co-ordinate with the State Pollution Control Board.	Noted.
(xxiv)	Fugitive emission of fly ash (dry and wet) shall be controlled such that no agricultural or non-agricultural land is affected. Damage to any land shall be mitigated and suitable compensation provided with the local Panchayats.	To control fugitive emission, rain gun type water sprinkling system will be installed in coal yard and adequate water sprinkling arrangements will be made in fly ash area. AP(J)L will provide suitable compensation, if any damage in future.
(xxv)	Green belt consisting of three tiers of plantation of native species all around plant and at least 50 m width shall be raised. Wherever 50 m width is not feasible a 20 m width shall be raised and adequate justification shall be submitted to the Ministry. Tree density shall not be less than 2500 per ha with survival rate not less than 80%.	Compliance assured. Green belt development / plantation will be developed along with project construction & during operation and efforts will be made to develop more greenery in & around the plant with survival rate of more than 80%.
(xxvi)	Green belt shall also be developed around the Ash Pond over and above the Green Belt around the plant boundary.	Noted and compliance assured.
(xxvii)	The project proponent shall formulate a well laid Corporate Environment Policy and identify and	Corporate HSE policy is placed & signed by the Chairman.

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	designate responsible officers at all levels of its hierarchy for ensuring adherence to the policy and compliance with the conditions stipulated in this clearance letter and other applicable environmental laws and regulations.	IMS implementation & certification for the project will be implemented during plant operation.
(xxviii)	CSR schemes identified based on need assessment shall be implemented in consultation with the village Panchayat and the District Administration starting from the development of project itself. As part of CSR prior identification of local employable youth and eventual employment in the project after imparting relevant training shall be also undertaken. Company shall provide separate budget for community development activities and income generating programmes.	<p>CSR activities are implemented in consultation and collaboration with the community, PRI members, community leaders as well as District Administration.</p> <p>Regular community meetings are organized in all the villages to understand the issues of community. Communication Letter enclosed as Annexure - III</p> <p>Social development activities have been carried out for Need Based families under the CSR activities by Adani Foundation.</p> <p>Need Based Assessment Study and Development of CSR report has already been submitted along with Oct'17 to March'2018 compliance report.</p> <p>CSR report for the period of April-September'2019 is enclosed as Annexure- III.</p>
(xxix)	For proper and periodic monitoring of CSR activities, a CSR committee or a Social Audit committee or a suitable external agency shall be appointed. CSR activities shall be evaluated by an independent external agency. This evaluation shall be both concurrent and final.	<p>Social development activities have been carried out for Need Based families under the CSR activities by Adani Foundation.</p> <p>Evaluation of CSR activities will be done during plant operation by external agency every three years.</p> <p>However, an Annual Audit Plan is in place in the company which is conducted at all the sites. An internal Audit team undertakes review of the systems, process and also verifies on ground implementation of CSR activities as well as the systems.</p> <p>CSR report is enclosed as Annexure- III.</p>
S.N	General Conditions:	Compliance Status
(i)	The treated effluents conforming to the prescribed standards only shall be re-circulated and reused within the plant. Arrangements shall be made that effluents and storm water do not get mixed.	<p>Noted.</p> <p>Plant layout has been designed with separate system for Storm Water drain and Effluent.</p>
(ii)	A sewage treatment plant shall be provided (as applicable) and the treated sewage shall be used for raising greenbelt/plantation.	<p>Compliance assured.</p> <p>Decentralized Sewage Treatment Plants are proposed & treated water will be reused suitably within the plant premises for green belt development.</p>
(iii)	Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires in coal yard, especially during summer	Fire Safety Management Plan is prepared and implemented. Fire Safety Management Plan already submitted with compliance report of

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	season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to the Regional Office of the Ministry.	October 2018 to March 2019.
(iv)	Storage facilities for auxiliary liquid fuel such as LDO/ HFO /LSHS shall be made in the plant area in consultation with Department of Explosives, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5%. Disaster Management Plan shall be prepared to meet any eventuality in case of an accident taking place due to storage of oil.	Complied. The LDO/HFO/LSHS will be properly stored in designated location & minimum risk area. Approval from CCoEA & Emergency Management Plan/Disaster Management Plan (DMP) is prepared & Mock drills being conducted periodically. DMP already submitted with compliance report of October 2018 to March 2019.
(v)	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Being Complied. First aid facilities, drinking water facility, Sanitation facility, Waste water disposal, solid wastes management and primary health facilities ensured at site.
(vi)	Noise levels emanating from turbine shall be so controlled such that the noise in the work zone shall be limited to 85 dB(A) from source. For people working in the high noise area, requisite personal protective equipment like earplugs / ear muffs etc. shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc shall periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy/less noisy areas.	Necessary action/prevention measures have been taken care in design to maintain noise levels within 85 dBA at source. High Noise area will be identified. The working personnel will be provided with appropriate Personnel Protective Equipment (PPE's). A complete medical check-up with audiometric test of workers & employees will be carried out during construction & plant operation.
(vii)	Regular monitoring of ambient air ground level concentration of SO ₂ , NO _x , PM _{2.5} and PM ₁₀ and Hg shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limit, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the regional office of this ministry. The data shall also be put on the website of the company.	For selection of monitoring location and monitoring frequency intimation has been sent to the Board. Ambient Air twice in a week, Water quality & Noise once in Month and Soil Quality once in a season. Environmental monitoring report is enclosed, Please refer Annexure- II . Data along with EC compliance report is put on the company website.
(viii)	Utilization of 100 % Fly ash generated shall be made from 4 th year of operation. Status of implementation shall be reported to the regional office of the Ministry from time to time.	Noted. Ash utilization plan/schedule has been incorporated in the EIA report. Status of implementation will be reported to the Regional office, MoEF&CC regularly during plant operation.
(ix)	Provision shall be made for housing of the construction labour (as applicable) within the site with all necessary infrastructure and facilities	Required hutment, drinking water, Mobile Toilets. Mobile STPs, Safe Drinking Water & Medical health care facilities, Fuel for cooking

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	such as fuel for cooking, mobile toilets. Mobile STPs, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the construction of the project.	and other infrastructure has been arranged on temporary basis. However, local manpower is preferred during Construction phase so there may be less necessity to build housing for the construction labour.
(x)	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in	Complied. Advertisement in 10 Local News Papers was published in Hindi & English. Copy of News Paper cutting already submitted along with Oct'17 to March'2018 compliance report.
(xi)	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad / Municipal Corporation, urban local Body and the Local NGO, if any, from whom suggestions/representations, if any, received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	Complied. A copy of the Environment Clearance letter was provided to Panchayats, Zila Parisad and local Body. copy acknowledgement was submitted along with Oct'17 to March'2018 compliance report The clearance letter has been uploaded on the company website http://www.adanipower.com/
(xii)	The proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutants levels namely SPM, RSPM (PM _{2.5} & PM ₁₀), SO ₂ , NO _x (ambient levels as well as stack emissions shall be displayed at a convenient location near the main gate of the company in the public domain.	Being complied. Six monthly compliance status reports is being submitted to MoEF&CC, CPCB & JSPCB. Compliance status uploaded on Company's website. Display board is installed at the main gate of the power plant. Environmental monitoring report is enclosed as Annexure- II .
(xiii)	The environmental statement for each financial year ending 31 st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of the Minister by e-mail.	Noted. Environment statement will be submitted to JSPCB, after obtaining the Consent to Operate (CTO).
(xiv)	The project proponent shall submit six monthly reports on the status of the implementation of	Six monthly compliance status reports are regularly submitted to MoEF&CC, CPCB &

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	the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Central Pollution Control Board and State Pollution Control Board. The project: proponent shall upload the status of compliance of the environment of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests.	JSPCB. The same is sent by email also. Previous compliance report was submitted in May '2019 for the periods of October '18 to March '19 vide our letter no. APL/APJL/EMD/EC/MoEF/175/05/19. Dated-25/05/2019. Compliance status updated on Company's website.
(xv)	The progress of the project shall be submitted to CEA on six monthly basis.	Report Submission to CEA is not applicable as Project is dedicated to Bangladesh Govt. and it is not connected to Indian Grid.
(xvi)	Regional Office of the MoEF&CC will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their reference during monitoring. Criteria pollutants levels including NO _x (from stack & ambient air) shall be displayed at the main gate of the power plant.	Noted. Copies of Environment Impact Assessment report (EIA) with Environment Management Plan already sent to Regional Office, Ranchi, vide our letter no. APJL/ENV/EC/SMR/175/05/2018, dated-14.05.2018 Display board is installed at the main gate of the power plant.
(xvii)	Separate funds shall be allocated for implementation of environmental protection measures along with item-wise break-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.	Separate budget has been already allocated for Environmental protection measures. Fund for Environment management: Capital Cost: Rs. 2,225.68 Crores
(xviii)	The project authorities shall inform the Regional Office as well as the Ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.	Financial Closure is achieved and disclosed is expected soon. Project development activities being undertaken through equity of the company. Construction work for Site development, Boundary wall, Site office, Stores and other facilities started. Main Plant area Civil works Started in the Month of Dec'18. Commissioning of the Plant expected by May'2022.
(xix)	Full cooperation shall be extended to the Scientists / Officers from the Ministry / Regional Office of the Ministry at Bangalore / CPCB / SPCB who would be monitoring the compliance of environmental status.	Noted. Full co-operation shall be extended all time.
Conditions of EC Amendment		
(i)	Stage-I Forest Clearance for diversion of 13.3293 ha for laying pipeline shall be submitted. As per Ministry's guidelines, a formal amendment will be	Stage-I Forest Clearance has already been submitted to MoEF&CC vide letter no. AP(J)L/ENV/EC/Amnd/682/19 dated 29.06.2019

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	issued after furnishing the Stage-I Clearance.	Stage-I Forest Clearance is enclosed as Annexure – IV
(ii)	Inline with Ministry's OM dated 11.3.2010 in regard to Oil and Gas pipelines, in a similar manner, 10 trees to be planted for every tree cut in the non-forest area.	Noted.
(iii)	There will be storage reservoirs for storing 15 MCM water to cater during lean season.	Noted, Compliance assured.
(iv)	Daily quantity (Average, minimum and maximum) of fresh water withdrawn from Ganga River near Sahebganj for the Power Plant shall be recorded and data base be preserved to ensure permissible drawl of fresh water from Ganga River. The source sustainability reports for withdrawal of water from Chir River and from the Ganga River shall be placed in the public domain by the proponent, either by uploading to the PARIVESH portal or its own website.	Noted & Agreed. Compliance assured once the project takes off. Source sustainability reports for withdrawal of water from Chir River and from the Ganga River has been uploaded and is already available on https://parivesh.nic.in .
(v)	As per the original EC, 33% greenbelt of plant area shall be developed. In case of any shortage of land, additional land shall be acquired to meet the condition.	Compliance assure Green belt development / plantation will be developed along with project construction & during operation and efforts will be made to develop more greenery in & around the plant with survival rate of more than 80%.
(vi)	The conditions specified in the In-Principle (Stage-I) Forest Clearance dated 28.6.2019 shall be complied with. A compliance to these conditions shall also be submitted along with Six monthly compliance report. Further, copy of Formal (Stage-II) Approval shall be submitted as and when it is obtained.	Compliance of conditions mentioned in the In-Principle approval (Stage-I) Forest Clearance dated 28.06.2019 is under progress & will be submitted along with next compliance report.
(vii)	The total project area has now been reduced to 558 acres from 1255 acres. The remaining area (if acquired) shall be developed as greenbelt.	Noted.
(viii)	All the conditions prescribed in the permission granted by National Mission for Clean Ganga (NMCG), Ministry of Water Resources, River Development & Ganga Rejuvenation vide their letters dated 8.8.2018 and 16.11.2018 for withdrawal of 36 MCM of water from River Ganga during June to December, shall be complied with.	Noted, Compliance assure



J-13012/01/2016-IA. I (T)
Government of India
Ministry of Environment, Forest and Climate Change

Indira Paryavaran Bhawan, Jor Bagh Road,
 Aliganj, New Delhi-110003.

Dated: 03.09.2019

To

M/s Adani Power (Jharkhand) Ltd.
 Adani House, Nr. Mithakhali Circle,
 Navrangpura,
 Ahmedabad-380009.

Tel No. 079-25556900; Fax No. 079-25557155.

Sub: 2x800 MW Imported coal based Godda Thermal Power Project at Village Motia, Patwa, Gangta and Nayabad of Godda Block and Sondiha, Petbi, Gayghat, Ranganiya and Mali villages of Poraiyahaat Block, Distt. Godda, Jharkhand by M/s Adani Power (Jharkhand) Limited- reg. amendment in Environmental Clearance.

Sir,

This has reference to your online application No. **IA/JH/THE/54853/2016** dated 11.12.2018 and the documents vide your letter dated 29.6.2019 w.r.t the above mentioned project.

2. It has been noted that the Environmental Clearance for 2x800 MW Imported coal based Thermal Power Project in District Godda, Jharkhand has been issued vide Ministry's letter dated 31.8.2017.

3. It has been noted that you have requested for amendment in EC for change in source of water from Chir River to Ganga River. As per the Environmental Clearance dated 31.8.2017, the water requirement for the proposed project is 36 MCM per annum (96,000 m³/day) and shall be met from Chir River which is located at a distance of 15 km from the proposed project. As there is no sufficient water in Chir River, it has now proposed to draw the same quantity of water from Ganga River. The intake point is located in Borio Block, Sahibganj District, Jharkhand and the water will be transported by a pipeline with a length of 93 km. A source sustainability study has been conducted to assess the availability of water in Ganga River.

4. It is noted that the MoU has been signed between Water Resources Department, Govt. of Jharkhand and the project proponent vide dated 9.3.2018. The National Mission for Clean Ganga (NMCG), Ministry of Water Resources, River Development & Ganga Rejuvenation has also accorded permission vide letters dated 8.8.2018 and 16.11.2018 for withdrawal of 36 MCM of water from River Ganga during June to December, shall be complied with.

5. It has been informed that the storage reservoir earlier planned in 441 acres has been reduced to 156 acres as the water drawl period has now been increased from 4 months to 6 months. Other facilities have also been reworked and the total project area has now been revised to 558 acres from 1255 acres.

6. It has been informed that the total length of RoU for laying water pipeline is as 93 km out of which 6.9 km passes through forest land and requires diversion of forest land of 13.3293 ha. In-principle Forest Clearance for diversion of 13.3293 ha has been accorded vide Ministry's letter dated 28.6.2019.

7. The matter has been considered before the EAC (Thermal Power) in its 24th and 26th meetings held on 23.1.2019 and 27.3.2019. In acceptance of the recommendations of the EAC (Thermal Power) in its 26th meeting held on 27.3.2019 and in view of the information/clarification furnished by you with respect to implementation of the above mentioned power project, ***the Ministry amends the Environmental Clearance dated 31.8.2017 for change water source from Chir River to Ganga River for drawing 36 MCM and creation of storage reservoirs for 15 MCM to cater during lean season subject to the following conditions***

- i. Stage-I Forest Clearance for diversion of 13.3293 ha for laying pipeline shall be submitted. As per Ministry's guidelines, a formal amendment will be issued after furnishing the Stage-I Clearance.
 - ii. Inline with Ministry's OM dated 11.3.2010 in regard to Oil and Gas pipelines, in a similar manner, 10 trees to be planted for every tree cut in the non-forest area.
 - iii. There will be storage reservoirs for storing 15 MCM water to cater during lean season.
 - iv. Daily quantity (Average, minimum and maximum) of fresh water withdrawn from Ganga River near Sahebganj for the Power Plant shall be recorded and data base be preserved to ensure permissible drawl of fresh water from Ganga River. The source sustainability reports for withdrawal of water from Chir River and from the Ganga River shall be placed in the public domain by the proponent, either by uploading to the PARIVESH portal or its own website.
 - v. As per the original EC, 33% greenbelt of plant area shall be developed. In case of any shortage of land, additional land shall be acquired to meet the condition.
 - vi. The conditions specified in the In-Principle (Stage-I) Forest Clearance dated 28.6.2019 shall be complied with. A compliance to these conditions shall also be submitted along with Six monthly compliance report. Further, copy of Formal (Stage-II) Approval shall be submitted as and when it is obtained.
 - vii. The total project area has now been reduced to 558 acres from 1255 acres. The remaining area (if acquired) shall be developed as greenbelt.
 - viii. All the conditions prescribed in the permission granted by National Mission for Clean Ganga (NMCG), Ministry of Water Resources, River Development & Ganga Rejuvenation vide their letters dated 8.8.2018 and 16.11.2018 for withdrawal of 36 MCM of water from River Ganga during June to December, shall be complied with.
8. All other conditions stipulated in the Ministry's even letter dated 31.8.2017 shall remain the same, as applicable.

This issues with the approval of Competent Authority.

Yours faithfully,


(Dr. S. Kerketta)
Director, IA.I

Copy to:-

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
3. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.

4. The Deputy Director General of Forests (C), Ministry of Environment, Forests and Climate Change, Regional Office (ECZ), Bungalow No. A-2, Shyamali Colony, Ranchi – 834002.
5. The Special Secretary, Environment, Forest and Climate Change Department, Govt. of Jharkhand, Ranchi- 814154.
6. The Chairman, Jharkhand State Pollution Control Board, T.A. Division Building (Ground Floor), H.E.C. Dhurwa, Ranchi-834004.
7. The District Collector, Godda District, Govt. of Jharkhand, Collectorate Office, Godda, Jharkhand-814133.
8. Guard file/Monitoring file.
9. Website of MoEF&CC.


Director, IA.I

Report Issued to : HTG Engineering Pvt. Ltd.

ENVIRONMENTAL MONITORING REPORT

of

ADANI POWER (JHARKHAND) LTD.

2x800 MW Godda Thermal Power Project,

Village: Motia, Distt. - Godda, Jharkhand

for

April - 2019

Prepared by :

ecoMen

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ1/04/19

Date: 06.05.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)


Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location : Near Motia Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(01-02).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	77	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	32	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.2	80
(04-05).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	69	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	26	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	17.4	80
(08-09).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	75	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	29	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	16.8	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).


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LABORATORIES PVT. LTD.

FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ2/04/19

Date: 06.05.2019

TEST REPORT OF AMBIENT AIR
(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location : Near Motia Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(11-12).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	84	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	33	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.4	80
(15-16).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	73	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	28	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.7	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	15.6	80
(18-19).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	75	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	29	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	18.4	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ3/04/19


Date: 06.05.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
Address of the Project : 2x800MW Godda Thermal Power Project,
Village: Motia, Distt. - Godda, Jharkhand
Sampling Method : As per IS: 5182
Sample Collected By : Ecomen Team

Name of Location: Near Motia Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(22-23).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	79	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	32	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	6.7	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	15.9	80
(25-26).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	74	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	29	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	22.5	80

Note:BDL = Below Detection Limit**Standards:**National Ambient Air Quality Monitoring (NAAQM).
For Ecomen Laboratories Pvt. Ltd.

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ4/04/19

Date: 06.05.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
Address of the Project : 2x800MW Godda Thermal Power Project,
Village: Motia, Distt. - Godda, Jharkhand
Sampling Method : As per IS: 5182
Sample Collected By : Ecomen Team

Name of Location : Near Motia Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(29-30).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	71	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	29	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	17.2	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ5/04/19

Date: 06.05.2019


TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Mali Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(01-02).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	69	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	25	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.4	80
(04-05).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	73	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	28	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.3	80
(08-09).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	70	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	26	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	10.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.5	80

Note:BDL = Below Detection Limit**Standards:**National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ6/04/19

Date: 06.05.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Mali Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(11-12).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	76	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	29	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.8	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	17.6	80
(15-16).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	71	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	27	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	6.8	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	18.5	80
(18-19).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	78	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	34	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.2	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ7/04/19

Date: 06.05.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to : HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Mali Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(22-23).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	83	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	35	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	10.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	23.6	80
(25-26).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	77	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	29	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.9	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	24.4	80

Note:BDL = Below Detection Limit**Standards:**National Ambient Air Quality Monitoring (NAAQM).*Reena***For Ecomen Laboratories Pvt. Ltd.**

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LABORATORIES PVT. LTD.

FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ8/04/19

Date: 06.05.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to : HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
Address of the Project : 2x800MW Godda Thermal Power Project,
Village: Motia, Distt. - Godda, Jharkhand
Sampling Method : As per IS: 5182
Sample Collected By : Ecomen Team

Name of Location: Near Mali Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(29-30).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	79	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	30	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	18.6	80

Note:BDL = Below Detection Limit**Standards:**National Ambient Air Quality Monitoring (NAAQM).*Reena*
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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ9/04/19

Date: 06.05.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to : HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(02-03).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	85	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	39	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	10.1	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	22.6	80
(05-06).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	76	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	29	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	22.4	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ10/04/19

Date: 06.05.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(09-10).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	79	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	31	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.8	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	22.4	80
(12-13).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	74	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	29	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.8	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.3	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ11/04/19

Date: 06.05.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(16-17).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	87	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	36	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	22.2	80
(19-20).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	86	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	34	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	18.4	80

Note:BDL = Below Detection Limit**Standards:**National Ambient Air Quality Monitoring (NAAQM).*Reeng***For Ecomen Laboratories Pvt. Ltd.**

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ12/04/19

Date: 06.05.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(23-24).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	89	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	38	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.7	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	23.4	80
(26-27).04.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	91	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	39	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.2	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AN/04/19

Date: 06.05.2019

TEST REPORT OF AMBIENT NOISE LEVEL

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : **Adani Power (Jharkhand) Ltd.**
 Address of the Project : **2x800 MW Godda Thermal Power Project,**
Village: Motia, Distt. - Godda, Jharkhand
 Sample Collected By : **Ecomen Team**
 Date of Sampling : **25-26.04.2019**
 Instrument Used : **Noise Meter (HTC)**

Sl. No.	Locations	Day Time			Night Time		
		Time	Leq Value in dB(A)		Time	Leq Value in dB(A)	
			Max	Min		Max	Min
1.	Near Patwa Village	09.15 A.M	59.2	56.3	10:10 PM	49.7	47.5
2.	Near Motia Village	10.30 A.M	63.4	58.7	10:30 PM	53.1	50.6
3.	Near Mali Village	11.10 A.M	57.1	55.4	11.15 P.M	47.8	45.2
4.	Near Navabad Village	14.30 P.M	61.5	58.1	11.30 P.M	49.2	47.5
5.	Near HTG Residential Area	15:10 PM	67.3	63.6	11.45 P.M	46.3	44.7
6.	Near Adani Office	16:30 PM	71.4	68.2	12.10 A.M	57.1	55.4

For Ecomen Laboratories Pvt. Ltd.

Ecomen Laboratories Pvt. Ltd.

Noise (Ambient Standard)

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Area Code	Category of area	Limit in dB (A) Leq	
		Day Time	Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

Note:

- Day time is reckoned in between 6:00 AM and 10:00 PM.
- Night time is reckoned in between 10:00 PM and 6:00 AM.
- Silence zone is defined as area up to 100m around such premises as hospitals, educational institutions & courts. The silence zones are to be declared by a competent authority.
- Mixed categories of areas should be declared as one of the four above-mentioned Categories by the competent authority and the corresponding standard shall apply.

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FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/04/19
TEST REPORT ISSUED DATE: 02.05.2019

TEST REPORT OF GROUND WATER

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
Address of the Project : 2x800 MW Godda Thermal Power Project,
Village: Motia, Distt. - Godda, Jharkhand
Sampling Method : APHA, 23rd Ed. 2017
Sample Collected by : Ecomen Team
Sample Quantity : As per requirement.
Date of Sampling : 26.04.2019
Date of Sample Receiving : 27.04.2019
Date of Analysis : 27.04.2019 to 02.05.2019
Source of Sample : Motia Village, Hand Pump (GW)

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23 rd Ed. 2017, 3120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 3150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.22	2.0 - 12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	363.0	5 - 5000	500	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 2320 A+B	110.0	5-1500	200	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	164.0	5-1500	200.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	40.0	5 - 1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	15.55	5-1000	30.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.24	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	24.0	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ E	26.5	1.0 - 250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ B	7.66	5.0 - 100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4500-F	0.35	0.05-10	1.0	1.5
16.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23 rd Ed. 2017, 5530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.29	0.02-50	5.0	15
22.	Anionic Detergent (As MBAS)(mg/l) max	APHA 22nd EDN:2012, 5540 A+C	BDL	0.01-5	0.2	3.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111A+B	BDL	0.05-20	0.05	No Relax.
24.	Mineral Oil 6 (mg/l)	IS 3025 (Part 29) Class -6 Infrared Partition method	BDL	0.01-10	0.5	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	0.20	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.22	0.2 - 10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, B+C	Absent	1.8	0.05	Absent
28.	E.coli (MPN/100 ml)	APHA, 23 rd Ed. 2017, B+E	Absent	1.8	Absent	Absent

Note: BDL - Below Detection Limit

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FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/04/19
TEST REPORT ISSUED DATE: 02.05.2019

TEST REPORT OF GROUND WATER (Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
Address of the Project : 2x800 MW Godda Thermal Power Project,
Village: Motia, Distt. - Godda, Jharkhand
Sampling Method : APHA, 23rd Ed. 2017
Sample Collected by : Ecomen Team
Sample Quantity : As per requirement.
Date of Sampling : 26.04.2019
Date of Sample Receiving : 27.04.2019
Date of Analysis : 27.04.2019 to 02.05.2019
Source of Sample : Navabad Village, Hand Pump (GW)

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23 rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.39	2.0 -12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	412.0	5 - 5000	500	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 2520 A+B	132.0	5-1500	200	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	196.0	5-1500	200.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	44.8	5 - 1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	20.41	5-1000	30.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.21	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	39.2	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ E	33.22	1.0 -250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ B	9.54	5.0 - 100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4500-C	0.33	0.05-10	1.0	1.5
16.	Phenolic Compounds as CalhOH (mg/l)	APHA, 23 rd Ed. 2017, 5530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-3	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-3	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.22	0.02-80	5.0	15
22.	Anionic Detergents (As MBAS)(mg/l) max	APHA 22nd EDN.:2012, 5540 A+C	BDL	0.01-5	0.2	1.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111A+B	BDL	0.05-20	0.05	No Relax.
24.	Mineral Oil 6 (mg/l)	IS 3025 (Part 39) Class -6 Infrared Partition Method	BDL	0.01-10	0.5	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	0.20	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.20	0.2 - 10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, B+C	Absent	1.8	0.05	Absent
28.	E.coli (MPN/100 ml)	APHA, 23 rd Ed. 2017, B+E	Absent	1.8	Absent	Absent

Note: BDL - Below Detection Limit

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FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/04/19
TEST REPORT ISSUED DATE: 02.05.2019

TEST REPORT OF GROUND WATER (Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
Address of the Project : 2x800 MW Godda Thermal Power Project,
Village: Motia, Distt. - Godda, Jharkhand
Sampling Method : APHA, 23rd Ed. 2017
Sample Collected by : Ecomen Team
Sample Quantity : As per requirement.
Date of Sampling : 26.04.2019
Date of Sample Receiving : 27.04.2019
Date of Analysis : 27.04.2019 to 02.05.2019
Source of Sample : Mali village, Hand Pump (GW)

SL. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23 rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.15	2.0 -12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	342.0	5 - 5000	500	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 2320 A+ B	144.0	5-1500	200	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	216.0	5-1500	200.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	60.8	5 - 1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	15.50	5-1000	30.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.14	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	40.0	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ ²⁻ E	32.62	1.0 -250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ ⁻ B	12.1	5.0 - 100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4500-C	0.31	0.05-10	1.0	1.5
16.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23 rd Ed. 2017, 5530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.21	0.02-50	5.0	15
22.	Anionic Detergents (As MBAS)(mg/l) max	APHA 22nd EDN.:2012, 5540 A+C	BDL	0.01-5	0.2	1.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111A+B	BDL	0.05-20	0.05	No Relax.
24.	Mineral Oil 6 (mg/l)	IS 3025 (Part 39) Class -6 Infrared Partition Method	BDL	0.01-10	0.5	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	0.20	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.25	0.2 - 10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, B+C	Absent	1.8	0.05	Absent
28.	E.coli (MPN/100 ml)	APHA, 23 rd Ed. 2017, B+E	Absent	1.8	Absent	Absent

Note: BDL – Below Detection Limit

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LABORATORIES PVT. LTD.

FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/04/19
TEST REPORT ISSUED DATE: 02.05.2019

TEST REPORT OF GROUND WATER (Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
Address of the Project : 2x800 MW Godda Thermal Power Project,
Village: Motia, Distt. - Godda, Jharkhand
Sampling Method : APHA, 23rd Ed. 2017
Sample Collected by : Ecomen Team
Sample Quantity : As per requirement.
Date of Sampling : 26.04.2019
Date of Sample Receiving : 27.04.2019
Date of Analysis : 27.04.2019 to 02.05.2019
Source of Sample : Patwa Village, Hand Pump (GW)

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23 rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.27	2.0 -12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	352.0	5 - 5000	500	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 2320 A+B	142.0	5-1500	200	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	260.0	5-1500	200.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	72.0	5 - 1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	23.32	5-1000	30.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.19	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	36.0	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ E	39.11	1.0 -250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ B	10.22	5.0 - 100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4500-C	0.24	0.05-10	1.0	1.5
16.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23 rd Ed. 2017, 5530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.26	0.02-50	5.0	15
22.	Anionic Detergents (As MBAS)(mg/l) max.	APHA 22nd EDN:2012, 5540 A+C	BDL	0.01-5	0.2	1.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111A+B	BDL	0.05-20	0.05	No Relax.
24.	Mineral Oil 6 (mg/l)	IS 3025 (Part 39) Class-4 Infrared Partition Method	BDL	0.01-10	0.5	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	0.20	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.21	0.2 - 10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, B+C	Absent	1.8	0.05	Absent
28.	E.coli (MPN/100 ml)	APHA, 23 rd Ed. 2017, B+E	Absent	1.8	Absent	Absent

Note: BDL - Below Detection Limit

Reeng
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Report Issued to : HTC Engineering Pvt. Ltd.

ENVIRONMENTAL MONITORING REPORT

of

ADANI POWER (JHARKHAND) LTD.

2x800 MW Godda Thermal Power Project.

Village: Motia, Distt. - Godda, Jharkhand

for

May - 2019

Prepared by :

ecoMen

(An Approved Laboratory by MoEF and CC)

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ1/05/19

Date: 06.06.2019

TEST REPORT OF AMBIENT AIR


(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : **Adani Power (Jharkhand) Ltd.**
 Address of the Project : **2x800MW Godda Thermal Power Project,**
Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : **As per IS: 5182**
 Sample Collected By : **Ecomen Team**

Name of Location : Near Motia Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(02-03).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	79.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	29.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.6	80
(06-07).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	77.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	27.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.2	80
(09-10).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	73.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	26.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	6.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	17.8	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).


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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: CO LAB/AAQ2/05/19

Date: 06.06.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)


Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location : Near Motia Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(13-14).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	77.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	30.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	10.1	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	23.6	80
(16-17).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	83.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	34.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.7	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	18.2	80
(20-21).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	77.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	28.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.9	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.6	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).


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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ3/05/19

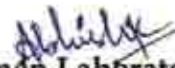
Date: 06.06.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Motia Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(23-24).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	89.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	38.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	11.7	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	23.2	80
(27-28).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	71.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	26.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	17.2	80
(30-31).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	78.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	31.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.8	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	20.2	80

Note:BDL = Below Detection Limit**Standards:**National Ambient Air Quality Monitoring (NAAQM).

For Ecomen Laboratories Pvt. Ltd.

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ4/05/19

Date: 06.06.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Mali Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(02-03).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	74.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	29.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	6.8	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	15.6	80
(06-07).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	66.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	23.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	5.9	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	17.1	80
(09-10).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	69.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	25.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	14.8	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

For Ecomen Laboratories Pvt. Ltd.

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ5/05/19

Date: 06.06.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Mali Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(13-14).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	72.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	28.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	5.8	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	16.2	80
(16-17).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	68.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	26.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.1	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	16.3	80
(20-21).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	75.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	31.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	5.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	14.9	80

Note:BDL = Below Detection Limit**Standards:**National Ambient Air Quality Monitoring (NAAQM).**For Ecomen Laboratories Pvt. Ltd.**

Ecomen Laboratories Pvt. Ltd.

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ6/05/19

Date: 06.06.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to : HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Mali Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(23-24).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	77.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	32.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.1	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.4	80
(27-28).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	66.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	22.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	6.8	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	17.4	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).


 For Ecomen Laboratories Pvt. Ltd.

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ7/05/19

Date: 06.06.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to : HTG Engineering Pvt. Ltd.)

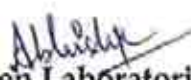
Name of the Project : Adani Power (Jharkhand) Ltd.
Address of the Project : 2x800MW Godda Thermal Power Project,
Village: Motia, Distt. - Godda, Jharkhand
Sampling Method : As per IS: 5182
Sample Collected By : Ecomen Team

Name of Location: Near Mali Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(30-31).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	69.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	24.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.3	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).


For Ecomen Laboratories Pvt. Ltd.

Ecomen Laboratories Pvt. Ltd.
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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ8/05/19

Date: 06.06.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to : HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(01-02).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	75.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	34.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.7	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	25.2	80
(03-04).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	69.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	27.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	11.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.1	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

Abhishek
 For Ecomen Laboratories Pvt. Ltd.
 Ecomen Laboratories Pvt. Ltd.
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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ9/05/19

Date: 06.06.2019

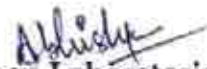
TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(07-08).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	83.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	37.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	20.6	80
(10-11).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	76.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	31.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.9	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	18.7	80

Note:BDL = Below Detection Limit**Standards:**National Ambient Air Quality Monitoring (NAAQM).


 For Ecomen Laboratories Pvt. Ltd.
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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ10/05/19

Date: 06.06.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(14-15).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	79.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	34.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.9	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	23.1	80
(17-18).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	80.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	36.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	10.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.6	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

For Ecomen Laboratories Pvt. Ltd.

Ecomen Laboratories Pvt. Ltd.

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ11/05/19

Date: 06.06.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(21-22).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	85.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	39.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.8	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	25.2	80
(24-25).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	73.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	29.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	10.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	22.2	80
(28-29).05.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	88.0	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	37.0	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.6	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).


Ecomen Laboratories Pvt. Ltd.

Ecomen Laboratories Pvt. Ltd.

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AN/05/19

Date: 06.06.2019

TEST REPORT OF AMBIENT NOISE LEVEL

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : **Adani Power (Jharkhand) Ltd.**
 Address of the Project : **2x800 MW Godda Thermal Power Project,**
Village: Motia, Distt. - Godda, Jharkhand
 Sample Collected By : **Ecomen Team**
 Date of Sampling : **23-24.05.2019**
 Instrument Used : **Noise Meter (HTC)**

Sl. No.	Locations	Day Time			Night Time		
		Time	Leq Value in dB(A)		Time	Leq Value in dB(A)	
			Max	Min		Max	Min
1.	Near Patwa Village	09.45 A.M	62.4	59.1	10:05 PM	47.9	44.6
2.	Near Motia Village	11.10 A.M	64.6	60.3	10:20 PM	51.2	48.7
3.	Near Mali Village	12.05 P.M	59.2	53.8	11.10 P.M	48.1	45.1
4.	Near Navabad Village	14.15 P.M	60.9	55.6	11.45 P.M	50.3	46.4
5.	Near HTG Residential Area	15:30 PM	65.1	59.4	12.05 A.M	47.1	45.2
6.	Near Adani Office	17:05 PM	73.6	67.9	12.40 A.M	55.6	53.8


 For Ecomen Laboratories Pvt. Ltd.
 Ecomen Laboratories Pvt. Ltd.

Noise (Ambient Standard)

Flat No.-8 2nd Floor, Arif Chamber-V
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Area Code	Category of area	Limit in dB (A) Leq	
		Day Time	Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

Note:

- Day time is reckoned in between 6:00 AM and 10:00 PM.
- Night time is reckoned in between 10:00 PM and 6:00 AM
- Silence zone is defined as area up to 100m around such premises as hospitals, educational institutions & courts. The silence zones are to be declared by a competent authority.
- Mixed categories of areas should be declared as one of the four above-mentioned Categories by the competent authority and the corresponding standard shall apply.

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FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/05/19
TEST REPORT ISSUE DATE: 03.06.2019**TEST REPORT OF GROUND WATER**
(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800 MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : APHA, 23rd Ed. 2017
 Sample Collected by : Ecomen Team
 Sample Quantity : As per requirement.
 Date of Sampling : 24.05.2019
 Date of Sample Receiving : 25.05.2019
 Date of Analysis : 25.05.2019 to 31.05.2019
 Source of Sample : Motia Village, Hand Pump (GW)

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23 rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.14	2.0 -12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	324.0	5 - 5000	500	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 2320 A+ B	116.0	5-1500	100	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	204.0	5-1500	200.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	48.0	5 - 1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	20.41	5-1000	30.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.24	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	24.0	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ E	36.0	1.0 -250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ B	9.0	5.0 - 100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4500-C	0.22	0.05-10	1.0	1.5
16.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23 rd Ed. 2017, 5530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.16	0.02-50	5.0	15
22.	Anionic Detergents (As MBAS)(mg/l) max	APHA 22nd EDN.:2012, 5540 A+C	BDL	0.01-5	0.2	1.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111A+B	BDL	0.05-20	0.05	No Relax.
24.	Mineral Oil 6 (mg/l)	IS 3025 (Part 39) Class -6 Infrared Partition Method	BDL	0.01-10	0.5	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	0.20	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.21	0.2 - 10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+C	Absent	1.8	0.05	Absent
28.	E.coli (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+E	Absent	1.8	Absent	Absent

Note: BDL – Below Detection Limit

(Signature)
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FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/05/19

TEST REPORT ISSUE DATE: 03.06.2019

TEST REPORT OF GROUND WATER

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800 MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : APHA, 23rd Ed. 2017
 Sample Collected by : Ecomen Team
 Sample Quantity : As per requirement.
 Date of Sampling : 24.05.2019
 Date of Sample Receiving : 25.05.2019
 Date of Analysis : 25.05.2019 to 31.05.2019
 Source of Sample : Navabad Village, Hand Pump (GW)

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS (10500:1991(Reaff:2012))	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23 rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.36	2.0 -12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	478.0	5 - 5000	500	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 2320 A+ B	132.0	5-1500	200	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	220.0	5-1500	200.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	51.2	5 - 1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	22.35	5-1000	30.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.23	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	40.0	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ ²⁻ E	32.75	1.0 -250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ ⁻ B	14.0	5.0 - 100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4500-C	0.78	0.05-10	1.0	1.5
16.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23 rd Ed. 2017, 5530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.25	0.02-50	5.0	15
22.	Anionic Detergents (As MBAS)(mg/l) max	APHA 22nd EDN.:2012, 5540 A+C	BDL	0.01-5	0.2	1.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111A+B	BDL	0.05-20	0.05	No Relax.
24.	Mineral Oil 6 (mg/l)	IS 3025 (Part 39) Class -6 Infrared Partition Method	BDL	0.01-10	0.5	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	0.20	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.32	0.2 - 10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+C	Absent	1-8	0.05	Absent
28.	E.coli (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+E	Absent	1-8	Absent	Absent

Note: BDL – Below Detection Limit

(Signature)
 for Ecomen Laboratories Pvt. Ltd.
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FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/05/19
TEST REPORT ISSUE DATE: 03.06.2019**TEST REPORT OF GROUND WATER**
(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800 MW Godda Thermal Power Project.
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : APHA, 23rd Ed. 2017
 Sample Collected by : Ecomen Team
 Sample Quantity : As per requirement.
 Date of Sampling : 24.05.2019
 Date of Sample Receiving : 25.05.2019
 Date of Analysis : 25.05.2019 to 31.05.2019
 Source of Sample : Mali Village Hand Pump (GW)

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23 rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.18	2.0-12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	380.0	5 - 5000	500	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 2320 A+ B	128.0	5-1500	200	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	248.0	5-1500	200.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	52.8	5 - 1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	28.18	5-1000	30.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.19	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	32.0	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ ²⁻ E	36.0	1.0 -250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ ⁻ B	15.80	5.0 - 100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4500-C	0.32	0.05-10	1.0	1.5
16.	Phenolic Compounds as CaH ₂ OH (mg/l)	APHA, 23 rd Ed. 2017, 5530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.25	0.02-50	5.0	15
22.	Anionic Detergents (As MBAS)(mg/l) max	APHA 22nd EDN.:2012, 5540 A+C	BDL	0.01-5	0.2	1.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111A+B	BDL	0.05-20	0.05	No Relax.
24.	Mineral Oil 6 (mg/l)	IS 3025 (Part 39) Class -6 Infrared Partition Method	BDL	0.01-10	0.5	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	0.20	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.21	0.2 - 10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+C	Absent	1.8	0.05	Absent
28.	E.coli (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+E	Absent	1.8	Absent	Absent

Note: BDL – Below Detection Limit

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FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/05/19

TEST REPORT ISSUE DATE: 03.06.2019

TEST REPORT OF GROUND WATER

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800 MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : APHA, 23rd Ed. 2017
 Sample Collected by : Ecomen Team
 Sample Quantity : As per requirement.
 Date of Sampling : 24.05.2019
 Date of Sample Receiving : 25.05.2019
 Date of Analysis : 25.05.2019 to 31.05.2019
 Source of Sample : Patwa Village Hand pump

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff.2012)	
					Desirable	Permissible
1.	Colour (Haze unit)	APHA, 23 rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.29	2.0-12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	462.0	5 - 5000	500	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 2320 A+B	136.0	5-1500	200	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	184.0	5-1500	200.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	43.2	5 - 1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	18.46	5-1000	30.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.22	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	34.0	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ ²⁻ E	40.50	1.0 - 250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ ⁻ B	10.28	5.0 - 100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4500-C	0.37	0.05-10	1.0	1.5
16.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23 rd Ed. 2017, 5530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.24	0.02-50	5.0	15
22.	Anionic Detergents (As MBAS) (mg/l) max	APHA 22nd EDN.:2012, 5540 A+C	BDL	0.01-5	0.2	1.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111A+B	BDL	0.05-20	0.05	No Relax.
24.	Mineral Oil 6 (mg/l)	IS 3025 (Part 39) Class -6 Infrared Partition Method	BDL	0.01-10	0.5	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	0.20	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.23	0.2 - 10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+C	Absent	1.8	0.05	Absent
28.	E.coli (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+E	Absent	1.8	Absent	Absent

Note: BDL – Below Detection Limit

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ENVIRONMENTAL MONITORING REPORT

of

ADANI POWER (JHARKHAND) LTD.

2x800 MW Godda Thermal Power Project,

Village: Motia, Distt. - Godda, Jharkhand

for

June - 2019

Prepared by :

ecoMen

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ1/06/19

Date: 08.07.2019

TEST REPORT OF AMBIENT AIR


(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800 MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location : Near Motia Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(04-05).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	71.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	26.24	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.42	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.20	80
(06-07).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	75.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	29.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	10.10	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	22.40	80
(10-11).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	69.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	23.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	79.00	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	15.72	80

Note: BDL = Below Detection Limit**Standards:** National Ambient Air Quality Monitoring (NAAQM).


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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ2/06/19

Date: 08.07.2019

TEST REPORT OF AMBIENT AIR


(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
Address of the Project : 2x800MW Godda Thermal Power Project,
Village: Motia, Distt. - Godda, Jharkhand
Sampling Method : As per IS: 5182
Sample Collected By : Ecomen Team

Name of Location : Near Motia Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(13-14).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	73.24	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	27.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.60	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	22.12	80
(17-18).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	70.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	23.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	6.90	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.40	80
(20-21).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	75.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	26.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.20	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.40	80

Note:BDL = Below Detection Limit

Standards: National Ambient Air Quality Monitoring (NAAQM).


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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ3/06/19

Date: 08.07.2019


TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Motia Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(24-25).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	77.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	31.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	10.20	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.60	80
(27-28).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	68.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	22.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.32	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.12	80

Note: BDL = Below Detection Limit**Standards:** National Ambient Air Quality Monitoring (NAAQM).


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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ4/06/19

Date: 08.07.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Mali Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(03-04).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	71.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	27.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.60	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.20	80
(06-07).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	69.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	24.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.70	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	16.40	80
(10-11).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	77.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	28.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	10.20	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.40	80

Note:BDL = Below Detection Limit**Standards:**National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ5/06/19

Date: 08.07.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Mali Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(13-14).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	77.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	32.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.30	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.60	80
(17-18).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	67.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	24.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	6.90	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	18.60	80
(20-21).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	74.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	29.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	11.60	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	22.40	80

Note: BDL = Below Detection Limit**Standards:** National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ6/06/19

Date: 08.07.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Mali Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(24-25).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	81.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	35.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.60	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	23.20	80
(27-28).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	72.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	28.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.60	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.80	80

Note:BDL = Below Detection Limit**Standards:**National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ7/06/19

Date: 08.07.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(04-05).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	67.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	23.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.70	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.40	80
(07-08).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	72.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	29.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	6.60	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	18.20	80

Note: BDL = Below Detection Limit

Standards: National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ8/06/19

Date: 08.07.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
Address of the Project : 2x800MW Godda Thermal Power Project,
Village: Motia, Distt. - Godda, Jharkhand
Sampling Method : As per IS: 5182
Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(11-12).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	74.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	27.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	5.50	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	17.20	80
(14-15).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	66.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	21.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.40	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	15.20	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ9/06/19

Date: 08.07.2019

TEST REPORT OF AMBIENT AIR


(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(18-19).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	77.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	31.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.70	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	24.20	80
(21-22).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	72.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	26.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.60	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	23.40	80

Note: BDL = Below Detection Limit**Standards:** National Ambient Air Quality Monitoring (NAAQM).


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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ10/06/19

Date: 08.07.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(25-26).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	76.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	33.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	6.40	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	22.80	80
(28-29).06.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	65.00	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	21.00	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.60	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	20.20	80

Note: BDL = Below Detection Limit**Standards:** National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AN/06/19

Date: 08.07.2019

TEST REPORT OF AMBIENT NOISE LEVEL

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800 MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sample Collected By : Ecomen Team
 Date of Sampling : 23-24.06.2019
 Instrument Used : Noise Meter (HTC)

Sl. No.	Locations	Day Time			Night Time		
		Time	Leq Value in dB(A)		Time	Leq Value in dB(A)	
			Max	Min		Max	Min
1.	Near Patwa Village	09.10 A.M	66.70	57.40	10:15 PM	49.4	45.3
2.	Near Motia Village	09.55 A.M	69.20	63.10	10:40 PM	53.7	47.1
3.	Near Mali Village	11.05 A.M	62.70	55.90	11.15 P.M	49.3	43.9
4.	Near Navabad Village	12.15 P.M	64.30	57.10	11.35 P.M	53.6	48.1
5.	Near HTG Residential Area	13:30 PM	68.70	63.20	12.15 A.M	51.2	46.7
6.	Near Adani Office	15:05 PM	71.20	65.70	12.45 A.M	61.7	58.3

For Ecomen Laboratories Pvt. Ltd.

Noise (Ambient Standard)

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Area Code	Category of area	Limit in dB (A) Leq	
		Day Time	Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

Note:

- Day time is reckoned in between 6:00 AM and 10:00 PM.
- Night time is reckoned in between 10:00 PM and 6:00 AM
- Silence zone is defined as area up to 100m around such premises as hospitals, educational institutions & courts. The silence zones are to be declared by a competent authority.
- Mixed categories of areas should be declared as one of the four above-mentioned Categories by the competent authority and the corresponding standard shall apply.

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FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/06/19
TEST REPORT ISSUE DATE: 08.07.2019**TEST REPORT OF GROUND WATER**
(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800 MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : APHA, 23rd Ed. 2017
 Sample Collected by : Ecomen Team
 Sample Quantity : As per requirement.
 Date of Sampling : 27.06.2019
 Date of Sample Receiving : 28.06.2019
 Date of Analysis : 28.06.2019 to 05.07.2019
 Source of Sample : Motia Village, Hand Pump (GW)

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23 rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.29	2.0-12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	368.0	5-5000	500	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 2320 A+B	128.0	5-1500	200	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	232.0	5-1500	200.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	54.0	5-1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	23.4	5-1000	30.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.22	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	31.08	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ ²⁻ E	40.0	1.0-250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ ⁻ B	9.04	5.0-100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4500-C	0.22	0.05-10	1.0	1.5
16.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23 rd Ed. 2017, 5530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.14	0.02-50	5.0	15
22.	Anionic Detergents (As MBAS)(mg/l) max	APHA 22nd EDN.:2012, 5540 A+C	BDL	0.01-5	0.2	1.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111A+B	BDL	0.05-20	0.05	No Relax.
24.	Mineral Oil 6 (mg/l)	IS 3025 (Part 39) Class -6 Infrared Partition Method	BDL	0.01-10	0.5	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	0.20	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.24	0.2-10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+C	Absent	1.8	0.05	Absent
28.	E.coli (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+E	Absent	1.8	Absent	Absent

Note: BDL - Below Detection Limit

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LABORATORIES PVT. LTD.FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/06/19
TEST REPORT ISSUE DATE: 08.07.2019**TEST REPORT OF GROUND WATER**

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800 MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : APHA, 23rd Ed. 2017
 Sample Collected by : Ecomen Team
 Sample Quantity : As per requirement.
 Date of Sampling : 27.06.2019
 Date of Sample Receiving : 28.06.2019
 Date of Analysis : 28.06.2019 to 05.07.2019
 Source of Sample : Navabad Village, Hand Pump (GW)

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23 rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.44	2.0-12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	476.0	5 - 5000	500	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 2320 A+ B	132.0	5-1500	200	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	207.0	5-1500	200.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	48.0	5 - 1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	21.06	5-1000	30.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.26	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	37.60	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ ²⁻ E	36.94	1.0-250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ ⁻ B	12.08	5.0 - 100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4500-C	0.25	0.05-10	1.0	1.5
16.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23 rd Ed. 2017, 5530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.24	0.02-50	5.0	15
22.	Anionic Detergents (As MBAS)(mg/l) max	APHA 22nd EDN.:2012, 5540 A+C	BDL	0.01-5	0.2	1.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111A+B	BDL	0.05-20	0.05	No Relax.
24.	Mineral Oil 6 (mg/l)	IS 3025 (Part 39) Class -6 Infrared Partition Method	BDL	0.01-10	0.5	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	0.20	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.32	0.2 - 10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+C	Absent	1.8	0.05	Absent
28.	E.coli (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+E	Absent	1.8	Absent	Absent

Note: BDL - Below Detection Limit

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FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/06/19

TEST REPORT ISSUE DATE: 08.07.2019


TEST REPORT OF GROUND WATER

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800 MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : APHA, 23rd Ed. 2017
 Sample Collected by : Ecomen Team
 Sample Quantity : As per requirement.
 Date of Sampling : 27.06.2019
 Date of Sample Receiving : 28.06.2019
 Date of Analysis : 28.06.2019 to 05.07.2019
 Source of Sample : Mali Village Hand Pump (GW)

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23 rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.48	2.0-12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	392.0	5-5000	500	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 2320 A+B	136.0	5-1500	200	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	254.2	5-1500	200.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	58.0	5-1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	30.20	5-1000	30.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.26	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	37.8	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ ²⁻ E	36.18	1.0-250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ ⁻ B	14.22	5.0-100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4500-C	0.32	0.05-10	1.0	1.5
16.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23 rd Ed. 2017, 5530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.21	0.02-50	5.0	15
22.	Anionic Detergents (As MBAS)(mg/l) max	APHA 22nd EDN:2012, 5540 A+C	BDL	0.01-5	0.2	1.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111A+B	BDL	0.05-20	0.05	No Relax.
24.	Mineral Oil 6 (mg/l)	IS 3025 (Part 39) Class-6 Infrared Partition Method	BDL	0.01-10	0.5	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	0.20	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.28	0.2-10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+C	Absent	1.8	0.05	Absent
28.	E.coli (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+E	Absent	1.8	Absent	Absent

Note: BDL - Below Detection Limit


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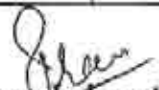
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LABORATORIES PVT. LTD.FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/06/19
TEST REPORT ISSUE DATE: 08.07.2019**TEST REPORT OF GROUND WATER**
(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800 MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : APHA, 23rd Ed. 2017
 Sample Collected by : Ecomen Team
 Sample Quantity : As per requirement.
 Date of Sampling : 27.06.2019
 Date of Sample Receiving : 28.06.2019
 Date of Analysis : 28.06.2019 to 05.07.2019
 Source of Sample : Patwa Village Hand pump

SL No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23 rd Ed. 2017, 3120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.24	2.0-12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	488.0	5-5000	500	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 2320 A+B	152.0	5-1500	200	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	224.0	5-1500	200.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	52.0	5-1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	22.80	5-1000	30.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.24	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	41.20	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ ²⁻ E	48.0	1.0-250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ ⁻ B	10.40	5.0-100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4500-C	0.28	0.05-10	1.0	1.5
16.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23 rd Ed. 2017, 5530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.26	0.02-50	5.0	15
22.	Anionic Detergents (As MBAS)(mg/l) max	APHA 22nd EDN.:2012, 5540 A+C	BDL	0.01-5	0.2	1.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111A+B	BDL	0.05-20	0.05	No Relax.
24.	Mineral Oil 6 (mg/l)	IS 3025 (Part 39) Class -6 Infrared Partition Method	BDL	0.01-10	0.5	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	0.20	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.28	0.2-10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+C	Absent	1.8	0.05	Absent
28.	E.coli (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+E	Absent	1.8	Absent	Absent

Note: BDL – Below Detection Limit


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FORMAT NO. ECO/QS/FORMAT/08


TEST REPORT NO: ECO LAB/Soil/06/19

TEST REPORT ISSUE DATE: 08.07.2019

TEST REPORT OF SOIL

Name of the Project : **Adani Power (Jharkhand) Ltd.**
Address of the Project : **2x800 MW Godda Thermal Power Project,
Village: Motia, Distt. - Godda, Jharkhand**
Sample Collected by : **Mr.R.K Panday**
Date of Sampling : **27.06.2019**
Date of Sample Receiving : **28.06.2019**
Date of Analysis : **28.06.2019 to 05.07.2019**
Source of Sample : **Project site**

Sl.No.	Tests Conducted	Results
1	Magnesium as Mg (%)	0.58
2	Calcium as Ca (%)	0.95
3	Manganese as Mn (mg/kg)	5.8
4	Boron as B(mg/kg)	2.4
5	Copper as Cu(mg/kg)	BDL
6	Sulphur as S (%)	0.072
7	Chloride as Cl (%)	0.044
8	Zinc as Zn (mg/kg)	13.8
9	Nitrogen as N (%)	1.02
10	Phosphorous as P (%)	0.088
11	Potassium as K (%)	0.021
12	Iron as Fe (%)	0.042
13	Molybdenum as Mo(mg/kg)	BDL


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FORMAT NO. ECO/QS/FORMAT/08


TEST REPORT NO: ECO LAB/Soil/06/19

TEST REPORT ISSUE DATE: 08.07.2019

TEST REPORT OF SOIL

Name of the Project : Adani Power (Jharkhand) Ltd.
Address of the Project : 2x800 MW Godda Thermal Power Project,
Village: Motia, Distt. - Godda, Jharkhand
Sample Collected by : Mr.R.K Panday
Date of Sampling : 27.06.2019
Date of Sample Receiving : 28.06.2019
Date of Analysis : 28.06.2019 to 05.07.2019
Source of Sample : Mali village

Sl.No.	Tests Conducted	Results
1	Magnesium as Mg (%)	0.62
2	Calcium as Ca (%)	1.10
3	Manganese as Mn(mg/kg)	5.02
4	Boron as B(mg/kg)	1.40
5	Copper as Cu(mg/kg)	BDL
6	Sulphur as S (%)	0.064
7	Chloride as Cl (%)	0.052
8	Zinc as Zn (mg/kg)	7.36
9	Nitrogen as N (%)	1.32
10	Phosphorous as P (%)	0.086
11	Potassium as K (%)	0.04
12	Iron as Fe (%)	0.024
13	Molybdenum as Mo(mg/kg)	BDL


for Ecomen Laboratories Pvt. Ltd.

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FORMAT NO. ECO/QS/FORMAT/08

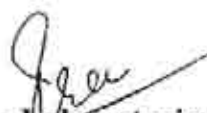
TEST REPORT NO: ECO LAB/Soil/06/19

TEST REPORT ISSUE DATE: 08.07.2019

TEST REPORT OF SOIL

Name of the Project : Adani Power (Jharkhand) Ltd.
Address of the Project : 2x800 MW Godda Thermal Power Project,
Village: Motia, Distt. - Godda, Jharkhand
Sample Collected by : Mr.R.K Panday
Date of Sampling : 27.06.2019
Date of Sample Receiving : 28.06.2019
Date of Analysis : 28.06.2019 to 05.07.2019
Source of Sample : Motiya village

Sl.No.	Tests Conducted	Results
1	Magnesium as Mg (%)	0.88
2	Calcium as Ca (%)	1.47
3	Manganese as Mn(mg/kg)	6.02
4	Boron as B(mg/kg)	2.40
5	Copper as Cu(mg/kg)	BDL
6	Sulphur as S (%)	0.040
7	Chloride as Cl (%)	0.030
8	Zinc as Zn (mg/kg)	10.72
9	Nitrogen as N (%)	1.18
10	Phosphorous as P (%)	0.079
11	Potassium as K (%)	0.034
12	Iron as Fe (%)	0.042
13	Molybdenum as Mo(mg/kg)	BDL


for Ecomen Laboratories Pvt. Ltd.
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Report Issued to : HTG Engineering Pvt. Ltd.

ENVIRONMENTAL MONITORING REPORT

of

ADANI POWER (JHARKHAND) LTD.

2x800 MW Godda Thermal Power Project,

Village: Motia, Distt. - Godda, Jharkhand

for

July - 2019

Prepared by :

ecoMen

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ1/07/19

Date: 08.08.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location : Near Motia Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(01-02).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	67	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	23	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	6.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	17.1	80
(04-05).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	71	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	26	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.6	80
(08-09).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	63	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	21	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	16.5	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ2/07/19

Date: 08.08.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location : Near Motia Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(11-12).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	66	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	17	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	5.9	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.3	80
(15-16).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	63	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	21	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	17.2	80
(18-19).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	71	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	24	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	16.4	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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LABORATORIES PVT. LTD.

FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ3/07/19

Date: 08.08.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Motiaya Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(22-23).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	68	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	19	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	14.9	80
(25-26).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	65	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	17	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	6.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.4	80
(29-30).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	69	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	22	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	18.2	80

Note:BDL = Below Detection Limit**Standards:**National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ4/07/19

Date: 08.07.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Mali Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(01-02).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	63	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	20	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.7	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	16.8	80
(04-05).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	69	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	23	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	6.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	14.6	80
(08-09).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	71	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	25	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.1	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ5/07/19

Date: 08.08.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Mali Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(11-12).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	68	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	25	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.1	80
(15-16).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	62	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	18	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	5.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	14.2	80

Note:BDL = Below Detection Limit**Standards:**National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ6/07/19

Date: 08.08.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt.- Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Mali Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(18-19).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	66	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	19	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.7	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.4	80
(22-23).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	63	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	17	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	5.9	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	16.6	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ7/07/19

Date: 08.08.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(25-26).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	71	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	24	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.2	80
(29-30).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	68	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	22	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	17.6	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ8/07/19

Date: 08.08.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(01-02).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	69	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	24	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.1	80
(04-05).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	74	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	23	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.4	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ9/07/19

Date: 08.08.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(08-09).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	66	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	19	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	20.8	80
(11-12).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	69	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	22	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	5.9	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	16.4	80

Note:BDL = Below Detection Limit**Standards:**National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ10/07/19

Date: 08.08.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(15-16).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	69	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	23	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	17.4	80
(18-19).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	64	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	19	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	6.3	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	17.5	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ11/07/19

Date: 08.08.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(22-23).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	61	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	17	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	14.9	80
(25-26).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	66	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	20	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	5.9	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.6	80
(29-30).07.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	71	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	24	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	16.8	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AN/07/19

Date: 08.08.2019

TEST REPORT OF AMBIENT NOISE LEVEL

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800 MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sample Collected By : Ecomen Team
 Date of Sampling : 25-26.07.2019
 Instrument Used : Noise Meter (HTC)

Sl. No.	Locations	Day Time			Night Time		
		Time	Leq Value in dB(A)		Time	Leq Value in dB(A)	
			Max	Min		Max	Min
1.	Near Patwa Village	09.05 A.M	64.2	55.5	10:10 PM	47.4	42.6
2.	Near Motia Village	09.45 A.M	66.6	61.7	10:25 PM	52.6	46.2
3.	Near Mali Village	11.15 A.M	60.2	53.5	11.30 P.M	47.8	43.6
4.	Near Navabad Village	12.10 P.M	62.5	58.3	11.45 P.M	52.6	47.2
5.	Near HTG Residential Area	13:20 PM	66.3	62.6	12.10 A.M	49.2	44.7
6.	Near Adani Office	15:25 PM	73.6	67.4	12.55 A.M	60.4	56.5

For Ecomen Laboratories Pvt. Ltd.

Ecomen Laboratories Pvt. Ltd.

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Noise (Ambient Standard)

Area Code	Category of area	Limit in dB (A) Leq	
		Day Time	Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

Note:

1. Day time is reckoned in between 6:00 AM and 10:00 PM.
2. Night time is reckoned in between 10:00 PM and 6:00 AM.
3. Silence zone is defined as area up to 100m around such premises as hospitals, educational institutions & courts. The silence zones are to be declared by a competent authority.
4. Mixed categories of areas should be declared as one of the four above-mentioned categories by the competent authority and the corresponding standard shall apply.

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LABORATORIES PVT. LTD.FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/07/19
TEST REPORT ISSUE DATE: 03.08.2019**TEST REPORT OF GROUND WATER**

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800 MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : APHA, 23rd Ed. 2017
 Sample Collected by : Ecomen Team
 Sample Quantity : As per requirement.
 Date of Sampling : 25.07.2019
 Date of Sample Receiving : 27.07.2019
 Date of Analysis : 27.07.2019 to 03.08.2019
 Source of Sample : Motia Village, Hand Pump (GW)

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991 (Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23 rd Ed. 2017, 2129 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.33	2.0-12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	361.0	5-5000	500	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 2320 A+B	126.0	5-1500	200	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	224.0	5-1500	200.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	57.6	5-1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	19.44	5-1000	30.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.19	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	27.56	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ E	36.85	1.0-250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ H	8.55	5.0-100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4500-C	0.24	0.05-10	1.0	1.5
16.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23 rd Ed. 2017, 5530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3113 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.17	0.02-50	5.0	15
22.	Anionic Detergents (As MBAS) (mg/l) max	APHA 22nd Ed. 2012, 5540 A+C	BDL	0.01-5	0.2	1.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111A+B	BDL	0.05-20	0.05	No Relax.
24.	Mineral Oil (mg/l)	IS 3025 (Part 39) Class -6 Infrared Partition Method	BDL	0.01-10	0.5	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	2.0	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.22	0.2-10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+C	Absent	1.8	0.05	Absent
28.	E. coli (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+E	Absent	1.8	Absent	Absent

Note: BDL - Below Detection Limit

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LABORATORIES PVT. LTD.FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/07/19
TEST REPORT ISSUE DATE: 03.08.2019**TEST REPORT OF GROUND WATER**

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800 MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : APHA, 23rd Ed. 2017
 Sample Collected by : Ecomen Team
 Sample Quantity : As per requirement.
 Date of Sampling : 25.07.2019
 Date of Sample Receiving : 27.07.2019
 Date of Analysis : 27.07.2019 to 03.08.2019
 Source of Sample : Navabad Village, Hand Pump (GW)

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23 rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 1150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.37	2.0-12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	485.0	5-5000	500	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 1320 A+B	140.0	5-1500	200	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	212.0	5-1500	300.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	54.4	5-1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	18.46	5-1000	30.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.23	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	34.59	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ E	38.01	1.0-250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ B	10.02	5.0-100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4500-C	0.22	0.05-10	1.0	1.5
16.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23 rd Ed. 2017, 8530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-1	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.20	0.02-50	5.0	15
22.	Anionic Detergents (As MBAS)(mg/l) max	APHA 22nd Edn.:2012, 5540 A+C	BDL	0.01-5	0.2	1.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111A+B	BDL	0.05-20	0.05	No Relax.
24.	Mineral Oil 6 (mg/l)	IS:3035 (Part-3) Class-6 Infrared Partition Method	BDL	0.01-10	0.5	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	0.20	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.26	0.2-10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+C	Absent	1.8	1.25	Absent
28.	E.coli (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+E	Absent	1.8	Absent	Absent

Note: BDL - Below Detection Limit

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LABORATORIES PVT. LTD.FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/07/19
TEST REPORT ISSUE DATE: 03.08.2019**TEST REPORT OF GROUND WATER**
(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800 MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : APHA, 23rd Ed. 2017
 Sample Collected by : Ecomen Team
 Sample Quantity : As per requirement.
 Date of Sampling : 25.07.2019
 Date of Sample Receiving : 27.07.2019
 Date of Analysis : 27.07.2019 to 03.08.2019
 Source of Sample : Mali Village Hand Pump (GW)

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Rec'd:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23 rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.53	2.0-12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	410.0	5-5000	200	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 2320 A+B	128.0	5-1500	200	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	240.0	5-1500	200.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	62.4	5-1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	20.41	5-1000	30.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.24	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	39.5	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ E	34.5	1.0-250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ B	12.48	5.0-100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4500-C	0.34	0.05-10	1.0	1.5
16.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23 rd Ed. 2017, 5530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.25	0.02-50	5.0	15
22.	Anionic Detergents (As MBAS) (mg/l) max	APHA 22nd EDN:2012, 5540 A+C	BDL	0.01-5	0.2	1.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-10	0.05	No Relax.
24.	Mineral Oil (mg/l)	IS 3025 (Part 39) Class -6 Infrared Partition Method	BDL	0.01-10	0.3	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	0.20	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.24	0.2-10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+C	Absent	1-8	0.05	Absent
28.	Fecal (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+E	Absent	1-8	Absent	Absent

Note: BDL - Below Detection Limit

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Report Issued to : HTG Engineering Pvt, Ltd.

ENVIRONMENTAL MONITORING REPORT

of

ADANI POWER (JHARKHAND) LTD.

2x800 MW Godda Thermal Power Project,

Village: Motia, Distt. - Godda, Jharkhand

for

August - 2019

Prepared by :

ecoMen

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ1/08/19

Date: 08.09.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : **Adani Power (Jharkhand) Ltd.**
 Address of the Project : **2x800MW Godda Thermal Power Project,**
Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : **As per IS: 5182**
 Sample Collected By : **Ecomen Team**

Name of Location : Near Motia Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(01-02).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	61	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	18	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	5.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	15.7	80
(05-06).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	65	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	21	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	18.5	80
(08-09).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	57	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	16	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	5.9	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	17.1	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQI/08/19

Date: 08.09.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location : Near Motia Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(12-13).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	66	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	17	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	5.9	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.3	80
(16-17).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	63	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	21	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	17.2	80
(19-20).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	71	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	24	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	16.4	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).


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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ1/08/19

Date: 08.09.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Motiaya Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(22-23).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	68	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	19	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	14.9	80
(26-27).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	65	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	17	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	6.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.4	80
(29-30).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	69	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	22	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	18.2	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

For Ecomen Laboratories Pvt. Ltd.

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ1/08/19

Date: 08.09.2019

TEST REPORT OF AMBIENT AIR


(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Mali Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(01-02).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	63	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	20	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.7	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	16.8	80
(05-06).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	69	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	23	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	6.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	14.6	80
(08-09).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	71	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	25	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.1	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).


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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ1/08/19

Date: 08.09.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)


Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Mali Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(12-13).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	68	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	25	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.1	80
(16-17).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	62	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	18	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	5.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	14.2	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).


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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ1/08/19

Date: 08.09.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Mali Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(19-20).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	66	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	19	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.7	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.4	80
(22-23).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	63	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	17	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	5.9	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	16.6	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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TEST REPORT NO: ECO LAB/AAQ1/08/19

Date: 08.09.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(26-27).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	71	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	24	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.2	80
(29-30).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	68	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	22	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	9.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	17.6	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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TEST REPORT NO: ECO LAB/AAQ1/08/19

Date: 08.09.2019

TEST REPORT OF AMBIENT AIR


(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(01-02).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	69	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	24	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.2	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.1	80
(05-06).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	74	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	23	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	21.4	80

Note:BDL = Below Detection Limit**Standards:**National Ambient Air Quality Monitoring (NAAQM).


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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ1/08/19

Date: 08.09.2019


TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village					
Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(08-09).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	66	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	19	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	20.8	80
(12-13).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	69	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	22	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	5.9	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	16.4	80

Note:BDL = Below Detection Limit**Standards:**National Ambient Air Quality Monitoring (NAAQM).


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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ1/08/19

Date: 08.09.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(16-17).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	69	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	23	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	17.4	80
(19-20).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	64	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	19	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	6.3	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	17.5	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).


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FORMAT NO: ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AAQ1/08/19

Date: 08.09.2019

TEST REPORT OF AMBIENT AIR

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : As per IS: 5182
 Sample Collected By : Ecomen Team

Name of Location: Near Navabad Village

Date of Monitoring	Tests Conducted	Method	Detection Range	Result	Standards
(22-23).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	61	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	17	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	7.4	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	14.9	80
(26-27).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	66	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	20	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	5.9	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	19.6	80
(29-30).08.2019	PM ₁₀ (µg/m ³)	IS:5182(Part-23)	2-1000(µg/m ³)	71	100
	PM _{2.5} (µg/m ³)	NAAQM Guideline Volume-I by CPCB	2-100(µg/m ³)	24	60
	SO ₂ (µg/m ³)	IS:5182 (Part-2)	5-200(µg/m ³)	8.6	80
	NO _x (µg/m ³)	IS:5182 (Part-6)	5-200(µg/m ³)	16.8	80

Note:BDL = Below Detection Limit

Standards:National Ambient Air Quality Monitoring (NAAQM).

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FORMAT NO. ECO/QS/FORMAT/15

TEST REPORT NO: ECO LAB/AN/08/19

Date: 08.09.2019

TEST REPORT OF AMBIENT NOISE LEVEL

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800 MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sample Collected By : Ecomen Team
 Date of Sampling : 26-27.08.2019
 Instrument Used : Noise Meter (HTC)

Sl. No.	Locations	Day Time			Night Time		
		Time	Leq Value in dB(A)		Time	Leq Value in dB(A)	
			Max	Min		Max	Min
1.	Near Patwa Village	09.00 A.M	65.6	59.3	10:05 PM	48.4	44.2
2.	Near Motia Village	09.35 A.M	63.8	59.7	10:15 PM	51.6	46.8
3.	Near Mali Village	11.20 A.M	58.6	54.2	11.20 P.M	45.8	41.6
4.	Near Navabad Village	12.00 P.M	65.1	60.4	11.35 P.M	50.6	47.1
5.	Near HTG Residential Area	13:10 PM	63.3	58.9	12.05 A.M	48.3	43.7
6.	Near Adani Office	15:15 PM	71.8	68.5	12.50 A.M	62.4	57.1

For Ecomen Laboratories Pvt. Ltd.

Ecomen Laboratories Pvt. Ltd.

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Noise (Ambient Standard)

Area Code	Category of area	Limit in dB (A) Leq	
		Day Time	Night Time
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

Note:

- Day time is reckoned in between 6:00 AM and 10:00 PM.
- Night time is reckoned in between 10:00 PM and 6:00 AM
- Silence zone is defined as area up to 100m around such premises as hospitals, educational institutions & courts. The silence zones are to be declared by a competent authority.
- Mixed categories of areas should be declared as one of the four above-mentioned Categories by the competent authority and the corresponding standard shall apply.

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FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/08/19

TEST REPORT ISSUE DATE: 07.09.2019

TEST REPORT OF GROUND WATER

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800 MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : APHA, 23rd Ed. 2017
 Sample Collected by : Ecomen Team
 Sample Quantity : As per requirement.
 Date of Sampling : 28.08.2019
 Date of Sample Receiving : 30.08.2019
 Date of Analysis : 30.08.2019 to 06.09.2019
 Source of Sample : Motia Village, Hand Pump (GW)

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991 (Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23 rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.20	2.0-12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	382.0	5-5000	500	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 2320 A+B	132.0	5-1500	200	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	246.4	5-1500	200.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	56.8	5-1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	25.20	5-1000	20.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.26	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	34.0	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ E	44.0	1.0-250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ B	10.08	5.0-100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4500-C	0.28	0.05-10	1.0	1.5
16.	Phenolic Compounds as C ₁₂ H ₅ OH (mg/l)	APHA, 23 rd Ed. 2017, 5530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.16	0.02-50	5.0	15
22.	Anionic Detergents (As MBAS) (mg/l) max	APHA 22nd Edn.:2012, 5540 A+C	BDL	0.01-5	0.2	1.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111A+B	BDL	0.05-20	0.05	No Relax.
24.	Mineral Oil 6 (mg/l)	IS 3025 (Part 39) Class -6 Infrared Partition method	BDL	0.01-10	0.5	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	0.20	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.22	0.2-10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+C	Absent	1.8	0.05	Absent
28.	E.coli (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+E	Absent	1.8	Absent	Absent

Note: BDL - Below Detection Limit

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FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/08/19
TEST REPORT ISSUE DATE: 07.09.2019

TEST REPORT OF GROUND WATER

(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
Address of the Project : 2x800 MW Godda Thermal Power Project,
Village: Motia, Distt. - Godda, Jharkhand
Sampling Method : APHA, 23rd Ed. 2017
Sample Collected by : Ecomen Team
Sample Quantity : As per requirement.
Date of Sampling : 28.08.2019
Date of Sample Receiving : 30.08.2019
Date of Analysis : 30.08.2019 to 06.09.2019
Source of Sample : Navabad Village, Hand Pump (GW)

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS-10500:1991(Recdft:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23 rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.40	2.0-12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	442.0	5-5000	500	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 2520 A+B	136.0	5-1500	200	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	216.0	5-1500	200.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	47.40	5-1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	23.60	5-1000	50.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.25	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	31.66	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ E	27.88	1.0-250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ B	9.5	5.0-100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4500-C	0.19	0.05-10	1.0	1.5
16.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23 rd Ed. 2017, 5530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.20	0.02-50	5.0	15
22.	Anionic Detergents (As MBAS)(mg/l) max	APHA 22nd EdN.:2011, 5540 A+C	BDL	0.01-5	0.2	1.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111A+B	BDL	0.05-20	0.05	No Relax.
24.	Mineral Oil 5 (mg/l)	IS 3025 (Part 39) Class -6 Infrared Partition Method	BDL	0.01-10	0.5	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	0.20	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.27	0.2-10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+C	Absent	1.8	0.05	Absent
28.	E.coli (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+E	Absent	1.8	Absent	Absent

Note: BDL – Below Detection Limit

Reema
for Ecomen Laboratories Pvt. Ltd.

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ECOMEN LABORATORIES PVT. LTD.**ecoMen**
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Phone No. : (91-522) 2746282, 2745726 Telefax No.: (91 - 522) 2745726

E-mail: ravi.bhargava@gmail.com, Website: www.ecomen.in, CIN : U74210UP1989PTC010601, GSTIN : 09AAACE6076H1Z1

FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/08/19

TEST REPORT ISSUE DATE: 07.09.2019

TEST REPORT OF GROUND WATER
(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
 Address of the Project : 2x800 MW Godda Thermal Power Project,
 Village: Motia, Distt. - Godda, Jharkhand
 Sampling Method : APHA, 23rd Ed. 2017
 Sample Collected by : Ecomen Team
 Sample Quantity : As per requirement.
 Date of Sampling : 28.08.2019
 Date of Sample Receiving : 30.08.2019
 Date of Analysis : 30.08.2019 to 06.09.2019
 Source of Sample : Mali Village Hand Pump (GW)

SL No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991 (Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23 rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.43	1.0-12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	412.0	5-5000	500	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 2320 A+B	148.0	5-1500	200	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	248.0	5-1500	200.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	89.2	5-1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	74.3	5-1000	30.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.33	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	34.0	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ E	32.0	1.0-250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ B	11.2	5.0-100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4800-C	0.29	0.05-10	1.0	1.5
16.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23 rd Ed. 2017, 5530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.18	0.02-50	5.0	15
22.	Anionic Detergents (As MBAS) (mg/l) max	APHA 22nd EDN:2012, 5540 A+C	BDL	0.03-5	0.2	1.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-20	0.05	No Relax.
24.	Mineral Oil 6 (mg/l)	IS 3025 (Part 39) Class -6 Infrared Partition Method	BDL	0.01-10	0.5	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	0.20	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.26	0.2-10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+C	Absent	1.8	0.05	Absent
28.	E.coli (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+E	Absent	1.8	Absent	Absent

Note: BDL - Below Detection Limit

Reeng
 for Ecomen Laboratories Pvt. Ltd.
 Ecomen Laboratories Pvt. Ltd.
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FORMAT NO. ECO/QS/FORMAT/09 TEST REPORT NO: ECO LAB/GW/08/19
TEST REPORT ISSUE DATE: 07.09.2019

TEST REPORT OF GROUND WATER
(Test Report Issued to: HTG Engineering Pvt. Ltd.)

Name of the Project : Adani Power (Jharkhand) Ltd.
Address of the Project : 2x800 MW Godda Thermal Power Project,
Village: Motia, Distt. - Godda, Jharkhand
Sampling Method : APHA, 23rd Ed. 2017
Sample Collected by : Ecomen Team
Sample Quantity : As per requirement.
Date of Sampling : 28.08.2019
Date of Sample Receiving : 30.08.2019
Date of Analysis : 30.08.2019 to 06.09.2019
Source of Sample : Parwa Village Hand pump

Sl. No.	TESTS	PROTOCOL	RESULT	Detection Range	INDIAN STANDARDS as per IS 10500:1991(Reaff:2012)	
					Desirable	Permissible
1.	Colour (Hazen unit)	APHA, 23 rd Ed. 2017, 2120 B	<5.0	5-100	5.00	15.0
2.	Odour	APHA, 23 rd Ed. 2017, 2150 B	Agreeable	Qualitative	Agreeable	Agreeable
3.	pH	APHA, 23 rd Ed. 2017, 4500H+ A+B	7.29	2.0-12	6.5-8.5	No Relax.
4.	Total Dissolved Solids as TDS (mg/l)	APHA, 23 rd Ed. 2017, 2540-C	515.0	5-5000	500	2000
5.	Alkalinity (mg/l)	APHA, 23 rd Ed. 2017, 2320 A+B	172.0	5-1500	200	600
6.	Total Hardness as CaCO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 2340 A+C	208.0	5-1500	200.0	600.0
7.	Calcium as Ca (mg/l)	APHA, 23 rd Ed. 2017, 3500 Ca A+B	64.0	5-1000	75.0	200.0
8.	Magnesium as Mg (mg/l)	APHA, 23 rd Ed. 2017, 3500 Mg A+B	11.60	5-1000	30.0	100.0
9.	Copper as Cu (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.05-5	0.05	1.5
10.	Iron as Fe (mg/l)	APHA, 23 rd Ed. 2017, 3500 Fe B	0.20	0.02-50	0.3	No Relax.
11.	Manganese as Mn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.1-5	0.10	0.30
12.	Chloride as Cl (mg/l)	APHA, 23 rd Ed. 2017, 4500 Cl A+B	38.0	5-1000	250.0	1000.0
13.	Sulfate as SO ₄ (mg/l)	APHA, 23 rd Ed. 2017, 4500-SO ₄ E	42.2	1.0-250	200.0	400.0
14.	Nitrate Nitrogen as NO ₃ (mg/l)	APHA, 23 rd Ed. 2017, 4500-NO ₃ B	15.01	5.0-100	45.0	No Relax.
15.	Fluorides as F (mg/l)	APHA, 23 rd Ed. 2017, 4500-C	0.23	0.05-10	1.0	1.5
16.	Phenolic Compounds as C ₆ H ₅ OH (mg/l)	APHA, 23 rd Ed. 2017, 5530 A+C	BDL	1-10	0.001	0.002
17.	Mercury as Hg (mg/l)	APHA, 23 rd Ed. 2017, 3112 A+B	BDL	0.001-1	0.001	No Relax.
18.	Cadmium as Cd (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.002-2	0.003	No Relax.
19.	Arsenic as As (mg/l)	APHA, 23 rd Ed. 2017, 3114 C	BDL	0.01-2	0.01	0.05
20.	Lead as Pb (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	BDL	0.01-2	0.01	No Relax.
21.	Zinc as Zn (mg/l)	APHA, 23 rd Ed. 2017, 3111 A+B	0.21	0.02-50	5.0	15
22.	Anionic Detergents (As MBAS)(mg/l) max	APHA 22nd EDN:2012, 5540 A+C	BDL	0.01-5	0.2	1.0
23.	Chromium (Hexavalent) (mg/l)	APHA, 23 rd Ed. 2017, 3111A+B	BDL	0.05-20	0.05	No Relax.
24.	Mineral Oil 6 (mg/l)	IS 3025 (Part 39) Class -6 Infrared Partition Method	BDL	0.01-10	0.5	No Relax.
25.	Free Residual Chlorine (mg/l)	APHA, 23 rd Ed. 2017, 4500-Cl B	BDL	0.5-10	0.20	1.0
26.	Boron as B (mg/l)	APHA, 23 rd Ed. 2017, 4500 B A+C	0.22	0.2-10	0.5	1.0
27.	Total coliform (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+C	Absent	1.8	0.05	Absent
28.	E.coli (MPN/100 ml)	APHA, 23 rd Ed. 2017, 9221 B+E	Absent	1.8	Absent	Absent

Note: BDL – Below Detection Limit

Rceno
for Ecomen Laboratories Pvt. Ltd.

Ecomen Laboratories Pvt. Ltd.
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Certificate No.: TC-7073

CERTIFICATE OF ANALYSIS

Report Number: GGMP/643/01

Reporting Date: 19.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention :-
Contact No. :-
Mail ID :-

SAMPLE DETAILS

Lab ID	: Lab/643/01	Sampling Start Date	: 12.09.2019
Sample Drawn By	: Chandan Kumar	Sampling End Date	: 13.09.2019
Sample Type	: Ambient Air	Sample Receipt Date	: 14.09.2019
Sample Description	: Near Motia Village	Analysis Start-End Date	: 14.09.2019 to 18.09.2019
Env. Cond.-Sampling	: Ambient Temperature	Total Sampling hours	: 24
Env. Cond. -Sample Receipt	: Satisfactory	Env. Cond. -Testing	: 25±5°C

Sr. No.	Parameters	Results	Unit	Test Method	NAAQ Standards
1	Particulate Matter (PM ₁₀)	56.4	µg/m ³	IS 5182 (Pt 23): RA 2012	100
2	Particulate Matter (PM _{2.5})	19.0	µg/m ³	GGMP/SOP/AA/60	60
3	Sulphur Dioxide (SO ₂)	5.7	µg/m ³	IS 5182 (Pt 02): RA 2009	80
4	Nitrogen Dioxide (NO ₂)	16.5	µg/m ³	IS 5182 (Pt 06) : 2006	80

* Indicates these parameters are not covered under NABL Scope

NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit

Ram

Analyzed By

Ramsukh Gargama, Lab Chemist



Pratiksha

Authorized Signatory

Pratiksha Raval, Lab Manager

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Page 1 of 1

CERTIFICATE OF ANALYSIS

Report Number: GGMP/653/01

Reporting Date: 23.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention :-
Contact No. :-
Mail ID :-

SAMPLE DETAILS

Lab ID	: Lab/653/01	Sampling Start Date	: 16.09.2019
Sample Drawn By	: Chandan Kumar	Sampling End Date	: 17.09.2019
Sample Type	: Ambient Air	Sample Receipt Date	: 18.09.2019
Sample Description	: Near Motia Village	Analysis Start-End Date	: 18.09.2019 to 22.09.2019
Env. Cond.-Sampling	: Ambient Temperature	Total Sampling hours	: 24
Env. Cond. -Sample Receipt	: Satisfactory	Env. Cond. -Testing	: 25±5°C

Sr. No.	Parameters	Results	Unit	Test Method	NAAQ Standards
1	Particulate Matter (PM ₁₀)	59.0	µg/m ³	IS 5182 (Pt 23): RA 2012	100
2	Particulate Matter (PM _{2.5})	18.0	µg/m ³	GGMP/SOP/AA/60	60
3	Sulphur Dioxide (SO ₂)	6.2	µg/m ³	IS 5182 (Pt 02): RA 2009	80
4	Nitrogen Dioxide (NO ₂)	15.6	µg/m ³	IS 5182 (Pt 06): 2006	80
5	Mercury (Hg)	BQL(QL=0.02)	µg/m ³	317 B James Edition	NS

* Indicates these parameters are not covered under NABL Scope

NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit

Ram
Analyzed By

Ramsukh Gargama, Lab Chemist



Pratiksha
Authorized Signatory

Pratiksha Raval, Lab Manager

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CERTIFICATE OF ANALYSIS

Report Number: GGMP/653/02

Reporting Date: 23.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,

Village: Motia, Dist: Godda, Jharkhand

Kind Attention :-

Contact No. :-

Mail ID :-

SAMPLE DETAILS

Lab ID	: Lab/653/02	Sampling Start Date	: 16.09.2019
Sample Drawn By	: Chandan Kumar	Sampling End Date	: 17.09.2019
Sample Type	: Ambient Air	Sample Receipt Date	: 18.09.2019
Sample Description	: Near Mali Village	Analysis Start-End Date	: 18.09.2019 to 22.09.2019
Env. Cond.-Sampling	: Ambient Temperature	Total Sampling hours	: 24
Env. Cond. -Sample Receipt	: Satisfactory	Env. Cond. -Testing	: 25±5°C

Sr. No.	Parameters	Results	Unit	Test Method	NAAQ Standards
1	Particulate Matter (PM ₁₀)	63.0	µg/m ³	IS 5182 (Pt 23): RA 2012	100
2	Particulate Matter (PM _{2.5})	18.8	µg/m ³	GGMP/SOP/AA/60	60
3	Sulphur Dioxide (SO ₂)	5.6	µg/m ³	IS 5182 (Pt 02): RA 2009	80
4	Nitrogen Dioxide (NO ₂)	16.2	µg/m ³	IS 5182 (Pt 06) : 2006	80
5	Mercury (Hg)	BQL(QL=0.02)	µg/m ³	317 B James Edition	NS

* Indicates these parameters are not covered under NABL Scope

NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit

Ramsukh

Analyzed By

Ramsukh Gargama, Lab Chemist



Pratiksha

Authorized Signatory

Pratiksha Raval, Lab Manager

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CERTIFICATE OF ANALYSIS

Report Number: GGMP/653/03

Reporting Date: 23.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention :-
Contact No. :-
Mail ID :-

SAMPLE DETAILS

Lab ID	: Lab/653/03	Sampling Start Date	: 16.09.2019
Sample Drawn By	: Chandan Kumar	Sampling End Date	: 17.09.2019
Sample Type	: Ambient Air	Sample Receipt Date	: 18.09.2019
Sample Description	: Near Navabad Village	Analysis Start-End Date	: 18.09.2019 to 22.09.2019
Env. Cond.-Sampling	: Ambient Temperature	Total Sampling hours	: 24
Env. Cond.-Sample Receipt	: Satisfactory	Env. Cond. -Testing	: 25.5°C

Sr. No.	Parameters	Results	Unit	Test Method	NAAQ Standards
1	Particulate Matter (PM ₁₀)	64.8	µg/m ³	IS 5182 (Pt 23): RA 2012	100
2	Particulate Matter (PM _{2.5})	18.1	µg/m ³	GGMP/SOP/AA/60	60
3	Sulphur Dioxide (SO ₂)	5.6	µg/m ³	IS 5182 (Pt 02): RA 2009	80
4	Nitrogen Dioxide (NO ₂)	17.2	µg/m ³	IS 5182 (Pt 06) : 2006	80
5	Mercury (Hg)	BQL(QL=0.02)	µg/m ³	317 B James Edition	NS

* Indicates these parameters are not covered under NABL Scope

NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit

Ramsukh
Analyzed By

Ramsukh Gargama, Lab Chemist



Pratiksha
Authorized Signatory

Pratiksha Raval, Lab Manager

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Page 1 of 1

CERTIFICATE OF ANALYSIS

Report Number : GGMP/653/04

Reporting Date: 23.09.2019

Adani Power Jharkhand Ltd.

2 × 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention :-

Contact No. :-

Mail ID :-

SAMPLE DETAILS

Lab ID	: Lab/653/04 to Lab/653/05	Sampling Date	: 16.09.2019
Location	: Nr. Patwa Village	Sample Description	: Noise Monitoring
Sampling Instrument	: Sound Level Meter	Ldn	: -
Lmax (Day)	: -	Lmax (Night)	: -
Lmin (Day)	: -	Lmin (Night)	: -
Leq (Day)	: 46.2	Leq (Night)	: 42.1

Lab ID	Location	Time	Unit	Test Method	Max	Min	Norms
Lab/653/04	Nr. Patwa Village	Day Time	dB (A) Leq	IS 9989: RA (2001)	57.5	50.4	75
Lab/653/05	Nr. Patwa Village	Night Time	dB (A) Leq	IS 9989: RA (2001)	49.7	45.5	70

* Indicates these parameters are not covered under NABL Scope

NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit

Chandan Kumar

Analyzed By

Chandan Kumar, Field Technician



Pratiksha

Authorized Signatory

Pratiksha Raval, Lab Manager

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Sample will be retained (wherever applicable) only for 15 days from the date of sampling.

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CERTIFICATE OF ANALYSIS

Report Number : GGMP/653/05

Reporting Date: 23.09.2019

Adani Power Jharkhand Ltd.

2 × 800 MW Godda Thermal Power Project,

Village: Motia, Dist: Godda, Jharkhand

Kind Attention :-

Contact No. :-

Mail ID :-

SAMPLE DETAILS

Lab ID : Lab/653/06 to Lab/653/07
Location : Nr. Motia Village
Sampling Instrument : Sound Level Meter
Lmax (Day) :-
Lmin (Day) :-
Leq (Day) : 47.9

Sampling Date : 16.09.2019
Sample Description : Noise Monitoring
Ldn :-
Lmax (Night) :-
Lmin (Night) :-
Leq (Night) : 43.5

Lab ID	Location	Time	Unit	Test Method	Max	Min	Norms
Lab/653/06	Nr. Motia Village	Day Time	dB (A) Leq	IS 9989: RA (2001)	59.1	52.2	75
Lab/653/07	Nr. Motia Village	Night Time	dB (A) Leq	IS 9989: RA (2001)	51.3	46.3	70

* Indicates these parameters are not covered under NABL Scope

NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit

Chandan Kumar

Analyzed By

Chandan Kumar, Field Technician



Pratiksha Raval

Authorized Signatory

Pratiksha Raval, Lab Manager

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Sample will be retained (wherever applicable) only for 15 days from the date of sampling.

Total liability of our institution is limited to the invoiced amount.

Endorsement of products is neither inferred nor implied.

Any dispute arising out of this test report is subject to Ahmedabad Jurisdiction

CERTIFICATE OF ANALYSIS

Report Number : GGMPL/653/06

Reporting Date: 23.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,

Village: Motia, Dist: Godda, Jharkhand

Kind Attention :-

Contact No. :-

Mail ID :-

SAMPLE DETAILS

Lab ID : Lab/653/08 to Lab/653/09
Location : Nr. Mali Village
Sampling Instrument : Sound Level Meter
Lmax (Day) : -
Lmin (Day) : -
Leq (Day) : 45.0

Sampling Date : 16.09.2019
Sample Description : Noise Monitoring
Ldn : -
Lmax (Night) : -
Lmin (Night) : -
Leq (Night) : 40.3

Lab ID	Location	Time	Unit	Test Method	Max	Min	Norms
Lab/653/08	Nr.Mali Village	Day Time	dB (A) Leq	IS 9989: RA (2001)	55.5	51.7	75
Lab/653/09	Nr.Mali Village	Night Time	dB (A) Leq	IS 9989: RA (2001)	47.6	44.5	70

* Indicates these parameters are not covered under NABL Scope

NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit

Chandan Kumar
Analyzed By

Chandan Kumar, Field Technician



Pratiksha
Authorized Signatory

Pratiksha Raval, Lab Manager

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CERTIFICATE OF ANALYSIS

Report Number : GGMPL/653/07

Reporting Date: 23.09.2019.

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,
Village: Motla, Dist: Godda, Jharkhand

Kind Attention :-

Contact No. :-

Mail ID :-

SAMPLE DETAILS

Lab ID : Lab/653/10 to Lab/653/11
Location : Nr. Navabad Village
Sampling Instrument : Sound Level Meter
Lmax (Day) : -
Lmin (Day) : -
Leq (Day) : 46.8

Sampling Date : 16.09.2019
Sample Description : Noise Monitoring
Ldn : -
Lmax (Night) : -
Lmin (Night) : -
Leq (Night) : 38.9

Lab ID	Location	Time	Unit	Test Method	Max	Min	Norms
Lab/653/10	Nr. Navabad Village	Day Time	dB (A) Leq	IS 9989: RA (2001)	57.7	52.4	75
Lab/653/11	Nr. Navabad Village	Night Time	dB (A) Leq	IS 9989: RA (2001)	46.5	42.3	70

* Indicates these parameters are not covered under NABL Scope

NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit

Chandana Kumar

Analyzed By

Chandana Kumar, Field Technician



Pratiksha Raval

Authorized Signatory

Pratiksha Raval, Lab Manager

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Page 1 of 1

CERTIFICATE OF ANALYSIS

Report Number : GGMPL/653/08

Reporting Date: 23.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention :-

Contact No. :-

Mail ID :-

SAMPLE DETAILS

Lab ID : Lab/653/12 to Lab/653/13
Location : Nr. HTG Residential Area
Sampling Instrument : Sound Level Meter
Lmax (Day) : -
Lmin (Day) : -
Leq (Day) : 54.1

Sampling Date : 16.09.2019
Sample Description : Noise Monitoring
Ldn : -
Lmax (Night) : -
Lmin (Night) : -
Leq (Night) : 41.3

Lab ID	Location	Time	Unit	Test Method	Max	Min	Norms
Lab/653/12	Nr. HTG Residential Area	Day Time	dB (A) Leq	IS 9989: RA (2001)	65.2	59.1	75
Lab/653/13	Nr. HTG Residential Area	Night Time	dB (A) Leq	IS 9989: RA (2001)	48.3	46.1	70

* Indicates these parameters are not covered under NABL Scope

NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit

Chandan Kumar

Analyzed By

Chandan Kumar, Field Technician



Pratiksha Raval

Authorized Signatory

Pratiksha Raval, Lab Manager

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Page 1 of 1

CERTIFICATE OF ANALYSIS

Report Number : GGMPL/653/09

Reporting Date: 23.09.2019

Adani Power Jharkhand Ltd.

2 × 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention : -

Contact No. : -

Mail ID : -

SAMPLE DETAILS

Lab ID	: Lab/653/14 to Lab/653/15	Sampling Date	: 16.09.2019
Location	: Nr. Adani Office	Sample Description	: Noise Monitoring
Sampling Instrument	: Sound Level Meter	Ldn	: -
Lmax (Day)	: -	Lmax (Night)	: -
Lmin (Day)	: -	Lmin (Night)	: -
Leq (Day)	: 56.6	Leq (Night)	: 47.3

Lab ID	Location	Time	Unit	Test Method	Max	Min	Norms
Lab/653/14	Nr. Adani Office	Day Time	dB (A) Leq	IS 9989: RA (2001)	68.1	59.7	75
Lab/653/15	Nr. Adani Office	Night Time	dB (A) Leq	IS 9989: RA (2001)	55.5	48.5	70

* Indicates these parameters are not covered under NABL Scope

NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit

Chandana Kumar

Analyzed By

Chandana Kumar, Field Technician



Pratiksha Raval

Authorized Signatory

Pratiksha Raval, Lab Manager

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Page 1 of 1

CERTIFICATE OF ANALYSIS

Report Number: : GGMPL/653/10

Reporting Date: 26.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,

Village: Motia, Dist: Godda, Jharkhand

Kind Attention : :-

Contact No. : :-

Mail ID : :-

SAMPLE DETAILS

Lab ID	: Lab/653/16	Sampling Date	: 16.09.2019
Sample Drawn By	: Chandan Kumar	Sample Receipt Date	: 17.09.2019
Sample Type	: Ground Water	Analysis Start Date	: 18.09.2019
Sample Description	: Motia Village, Hand Pump	Analysis End Date	: 25.09.2019
Sample Quantity	: 2L	Sampling Method	: IS 3025/APHA
Sample Condition	: Satisfactory	Packing	: Sealed

Sr. No.	Parameters	Results	Unit	Test Method	AL	PL
1	Colour	BQL(QL=1)	Hazen	IS 3025 (Pt 04): RA 2017	5	15
2	Odour	Agreeable	...	IS 3025 (Pt 05): RA 2006	Agreeable	Agreeable
3	pH @ 25 °C	7.24	...	IS 3025 (Pt 11): RA 2006	6.5 to 8.5	No Relaxation
4	Temperature °C	28	°C	APHA 23rd Edn 2017 2550 B	-	-
5	Taste	Agreeable	...	IS 3025 (Pt 08): RA 2006	Agreeable	Agreeable
6	Turbidity	BQL(QL=0.1)	NTU	APHA 23rd Edn 2017 2130 B	1	5
7	Total Dissolved Solids @ 180 °C	326	mg/L	APHA 23rd Edn 2017 2540 C	500	2000
8	Total Hardness as CaCO ₃	188	mg/L	APHA 23rd Edn 2017 2340 C	200	600
9	Alkalinity as CaCO ₃	100	mg/L	APHA 23rd Edn 2017 2320 B	200	600
10	Calcium as Ca	44.8	mg/L	APHA 23rd Edn 2017 3500 Ca B	75	200
11	Chloride	12	mg/L	IS 3025 (Pt 32): RA 2007	250	1000
12	Sulphate	23.4	mg/L	APHA 23rd Edn 2017 4500 SO ₄ E	200	400

* Indicates these parameters are not covered under NABL Scope

NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit, AL = Acceptable Limit, PL = Permissible Limit

Blooy
Analyzed By

Ramsukh Gargama, Lab Chemist



Pratiksha
Authorized Signatory

Pratiksha Raval, Lab Manager

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CERTIFICATE OF ANALYSIS

Report Number: : GGMP/653/10

Reporting Date: 26.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention : :-
Contact No. : :-
Mail ID : :-


SAMPLE DETAILS

Lab ID	: Lab/653/16	Sampling Date	: 16.09.2019
Sample Drawn By	: Chandan Kumar	Sample Receipt Date	: 17.09.2019
Sample Type	: Ground Water	Analysis Start Date	: 18.09.2019
Sample Description	: Motia Village, Hand Pump	Analysis End Date	: 25.09.2019
Sample Quantity	: 2L	Sampling Method	: IS 3025/APHA
Sample Condition	: Satisfactory	Packing	: Sealed

Sr. No.	Parameters	Results	Unit	Test Method	AL	PL
13	Nitrate	9.5	mg/L	IS 3025 (Pt 34): RA 2017	45	No Relaxation
14	Iron	0.21	mg/L	APHA 23rd Edn 2017 3500 Fe B	0.3	No Relaxation
15	Fluoride	BQL(QL=1)	mg/L	APHA 23rd Edn 2017 4500 F D	1	1.5
16	Hexavalent Chromium as Cr ⁶⁺	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 3500 Cr B	-	-
17	Phenolic Compounds*	BQL(QL=0.001)	mg/L	IS 3025 (Pt 43): RA 2003	0.001	0.002
18	Residual Chlorine	BQL(QL=0.05)	mg/L	APHA 23rd Edn 2017 4500 Cl B	0.2	1
19	Cyanide*	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 4500 CN C, E	0.05	No Relaxation
20	Aluminum (Al)*	BQL(QL=0.001)	mg/L	IS 3025 (Pt 55): RA 2009	0.03	0.2
21	Arsenic (As)	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 3111 B	0.01	0.05
22	Boron (B)	0.25	mg/L	APHA 23rd Edn 2017 4500 B C	0.5	1
23	Cadmium (Cd)	BQL(QL=0.001)	mg/L	APHA 23rd Edn 2017 3111 B	0.003	No Relaxation
24	Copper (Cu)	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 3111 B	0.05*	1.5

* Indicates these parameters are not covered under NABL Scope

NS = Not Specified, BQL=Below Quantification Limit, QL = Quantification Limit, AL = Acceptable Limit, PL = Permissible Limit


Analyzed By
Ramsukh Gargama, Lab Chemist




Authorized Signatory
Pratiksha Raval, Lab Manager

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CERTIFICATE OF ANALYSIS

Report Number: : GGMPL/653/10

Reporting Date: 26.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,

Village: Motia, Dist: Godda, Jharkhand

Kind Attention : :-

Contact No. : :-

Mail ID : :-

SAMPLE DETAILS

Lab ID	: Lab/653/16	Sampling Date	: 16.09.2019
Sample Drawn By	: Chandan Kumar	Sample Receipt Date	: 17.09.2019
Sample Type	: Ground Water	Analysis Start Date	: 18.09.2019
Sample Description	: Motia Village, Hand Pump	Analysis End Date	: 25.09.2019
Sample Quantity	: 2L	Sampling Method	: IS 3025/APHA
Sample Condition	: Satisfactory	Packing	: Sealed

Sr. No.	Parameters	Results	Unit	Test Method	AL	PL
25	Lead (Pb)	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 3111 B	0.01	No Relaxation
26	Manganese (Mg)	BQL(QL=0.05)	mg/L	APHA 23rd Edn 2017 3111 B	0.1	0.3
27	Mercury (Hg)	BQL(QL=0.001)	mg/L	APHA 23rd Edn 2017 3112 B	0.001	No Relaxation
28	Selenium (Se)	BQL(QL=0.001)	mg/L	IS 3025 (Pt 56): 2003	0.01	No Relaxation
29	Zinc (Zn)	0.23	mg/L	APHA 23rd Edn 2017 3111 B	5	15
30	Detergent	BQL(QL=0.05)	mg/L	Annex K of IS 13428	0.2	1
31	Magnesium (Mg)	18.5	mg/L	APHA 23rd Edn 2017 3500 Mg B	30	100
32	E.Coli (MPN/100 ml)	Absent	MPN/100ml	IS 1622-1981: RA 2009	Absent	Absent
33	Total Coliform	Absent	MPN/100 mL	IS 1622: RA 2009	-	Absent

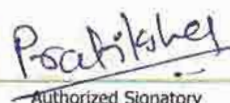
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Analyzed By

Ramsukh Gargama, Lab Chemist




Authorized Signatory

Pratiksha Raval, Lab Manager

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CERTIFICATE OF ANALYSIS

Report Number: : GGMPL/653/10

Reporting Date: 26.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention : :-
Contact No. : :-
Mail ID : :-

SAMPLE DETAILS

Lab ID	: Lab/653/16	Sampling Date	: 16.09.2019
Sample Drawn By	: Chandan Kumar	Sample Receipt Date	: 17.09.2019
Sample Type	: Ground Water	Analysis Start Date	: 18.09.2019
Sample Description	: Motia Village, Hand Pump	Analysis End Date	: 25.09.2019
Sample Quantity	: 2L	Sampling Method	: IS 3025/APHA
Sample Condition	: Satisfactory	Packing	: Sealed

Sr. No.	Parameters	Results	Unit	Test Method	AL	PL
1	Colour*	BQL(QL=1)	Hazen	IS 3025 (Pt 04): RA 2017	5	15
2	Odour*	Agreeable	...	IS 3025 (Pt 05): RA 2006	Agreeable	Agreeable
3	pH @ 25 °C	7.24	...	IS 3025 (Pt 11): RA 2006	6.5 to 8.5	No Relaxation
4	Temperature °C	28	°C	APHA 23rd Edn 2017 2550 B	-	-
5	Taste*	Agreeable	...	IS 3025 (Pt 08): RA 2006	Agreeable	Agreeable
6	Turbidity	BQL(QL=0.1)	NTU	APHA 23rd Edn 2017 2130 B	1	5
7	Total Dissolved Solids @ 180 °C	326	mg/L	APHA 23rd Edn 2017 2540 C	500	2000
8	Total Hardness as CaCO ₃	188	mg/L	APHA 23rd Edn 2017 2340 C	200	600
9	Alkalinity as CaCO ₃	100	mg/L	APHA 23rd Edn 2017 2320 B	200	600
10	Calcium as Ca	44.8	mg/L	APHA 23rd Edn 2017 3500 Ca B	75	200
11	Chloride	12	mg/L	IS 3025 (Pt 32): RA 2007	250	1000
12	Sulphate	23.4	mg/L	APHA 23rd Edn 2017 4500 SO ₄ E	200	400

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NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit, AL = Acceptable Limit, PL = Permissible Limit


 Analyzed By
 Ramsukh Gargama, Lab Chemist



 Authorized Signatory
 Pratiksha Raval, Lab Manager

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CERTIFICATE OF ANALYSIS

Report Number: : GGMPL/653/10

Reporting Date: 26.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention : :-

Contact No. : :-

Mail ID : :-


SAMPLE DETAILS

Lab ID	: Lab/653/16	Sampling Date	: 16.09.2019
Sample Drawn By	: Chandan Kumar	Sample Receipt Date	: 17.09.2019
Sample Type	: Ground Water	Analysis Start Date	: 18.09.2019
Sample Description	: Motia Village, Hand Pump	Analysis End Date	: 25.09.2019
Sample Quantity	: 2L	Sampling Method	: IS 3025/APHA
Sample Condition	: Satisfactory	Packing	: Sealed


Sr. No.	Parameters	Results	Unit	Test Method	AL	PL
13	Nitrate	9.5	mg/L	IS 3025 (Pt 34): RA 2017	45	No Relaxation
14	Iron	0.21	mg/L	APHA 23rd Edn 2017 3500 Fe B	0.3	No Relaxation
15	Fluoride	BQL(QL=1)	mg/L	APHA 23rd Edn 2017 4500 F D	1	1.5
16	Hexavalent Chromium as Cr ⁶⁺	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 3500 Cr B	-	-
17	Phenolic Compounds	BQL(QL=0.001)	mg/L	IS 3025 (Pt 43): RA 2003	0.001	0.002
18	Residual Chlorine	BQL(QL=0.05)	mg/L	APHA 23rd Edn 2017 4500 Cl B	0.2	1
19	Cyanide	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 4500 CN C, E	0.05	No Relaxation
20	Aluminum (Al)	BQL(QL=0.001)	mg/L	IS 3025 (Pt 55): RA 2009	0.03	0.2
21	Arsenic (As)	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 3111 B	0.01	0.05
22	Boron (B)	0.25	mg/L	APHA 23rd Edn 2017 4500 B C	0.5	1
23	Cadmium (Cd)	BQL(QL=0.001)	mg/L	APHA 23rd Edn 2017 3111 B	0.003	No Relaxation
24	Copper (Cu)	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 3111 B	0.05	1.5

* Indicates these parameters are not covered under NABL Scope

NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit, AL = Acceptable Limit, PL = Permissible Limit


Analyzed By
Ramsukh Gargama, Lab Chemist




Authorized Signatory
Pratiksha Raval, Lab Manager

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Page 2 of 3

CERTIFICATE OF ANALYSIS

Report Number: : GGMP/653/10

Reporting Date: 26.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention : :-

Contact No. : :-

Mail ID : :-

SAMPLE DETAILS

Lab ID	: Lab/653/16	Sampling Date	: 16.09.2019
Sample Drawn By	: Chandan Kumar	Sample Receipt Date	: 17.09.2019
Sample Type	: Ground Water	Analysis Start Date	: 18.09.2019
Sample Description	: Motia Village, Hand Pump	Analysis End Date	: 25.09.2019
Sample Quantity	: 2L	Sampling Method	: IS 3025/APHA
Sample Condition	: Satisfactory	Packing	: Sealed

Sr. No.	Parameters	Results	Unit	Test Method	AL	PL
25	Lead (Pb)	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 3111 B	0.01	No Relaxation
26	Manganese (Mg)	BQL(QL=0.05)	mg/L	APHA 23rd Edn 2017 3111 B	0.1	0.3
27	Mercury (Hg)	BQL(QL=0.001)	mg/L	APHA 23rd Edn 2017 3112 B	0.001	No Relaxation
28	Selenium (Se)	BQL(QL=0.001)	mg/L	IS 3025 (Pt 56): 2003	0.01	No Relaxation
29	Zinc (Zn)	0.23	mg/L	APHA 23rd Edn 2017 3111 B	5	15
30	Detergent	BQL(QL=0.05)	mg/L	Annex K of IS 13428	0.2	1
31	Magnesium (Mg)	18.5	mg/L	APHA 23rd Edn 2017 3500 Mg B	30	100
32	E.Coli (MPN/100 ml)	Absent	MPN/100ml	IS 1622-1981: RA 2009	Absent	Absent
33	Total Coliform	Absent	MPN/100 mL	IS 1622: RA 2009		Absent

* Indicates these parameters are not covered under NABL Scope

NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit, AL = Acceptable Limit, PL = Permissible Limit

Ramsukh
Analyzed By

Ramsukh Gargama, Lab Chemist



Pratiksha
Authorized Signatory

Pratiksha Raval, Lab Manager

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Page 3 of 3

CERTIFICATE OF ANALYSIS

Report Number: : GGMPL/653/12

Reporting Date: 26.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,

Village: Motia, Dist: Godda, Jharkhand

Kind Attention : :-

Contact No. : :-

Mail ID : :-

SAMPLE DETAILS

Lab ID	: Lab/653/18	Sampling Date	: 16.09.2019
Sample Drawn By	: Chandan Kumar	Sample Receipt Date	: 17.09.2019
Sample Type	: Ground Water	Analysis Start Date	: 18.09.2019
Sample Description	: Navabad Village, Hand Pump	Analysis End Date	: 25.09.2019
Sample Quantity	: 2L	Sampling Method	: IS 3025/APHA
Sample Condition	: Satisfactory	Packing	: Sealed

Sr. No.	Parameters	Results	Unit	Test Method	AL	PL
1	Colour	BQL(QL=1)	Hazen	IS 3025 (Pt 04): RA 2017	5	15
2	Odour	Agreeable	...	IS 3025 (Pt 05): RA 2006	Agreeable	Agreeable
3	pH @ 25 °C	7.52	...	IS 3025 (Pt 11): RA 2006	6.5 to 8.5	No Relaxation
4	Temperature °C	28	°C	APHA 23rd Edn 2017 2550 B	-	-
5	Taste	Agreeable	...	IS 3025 (Pt 08): RA 2006	Agreeable	Agreeable
6	Turbidity	BQL(QL=0.1)	NTU	APHA 23rd Edn 2017 2130 B	1	5
7	Total Dissolved Solids @ 180 °C	458	mg/L	APHA 23rd Edn 2017 2540 C	500	2000
8	Total Hardness as CaCO ₃	204	mg/L	APHA 23rd Edn 2017 2340 C	200	600
9	Alkalinity as CaCO ₃	128	mg/L	APHA 23rd Edn 2017 2320 B	200	600
10	Calcium as Ca	48	mg/L	APHA 23rd Edn 2017 3500 Ca B	75	200
11	Chloride	50	mg/L	IS 3025 (Pt 32): RA 2007	250	1000
12	Sulphate	37.5	mg/L	APHA 23rd Edn 2017 4500 SO ₄ E	200	400

* Indicates these parameters are not covered under NABL Scope

NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit, AL = Acceptable Limit, PL = Permissible Limit

Ram
Analyzed By

Ramsukh Gargama, Lab Chemist



Pratiksha
Authorized Signatory

Pratiksha Raval, Lab Manager

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Page 1 of 3

CERTIFICATE OF ANALYSIS

Report Number: : GGMPL/653/12

Reporting Date: 26.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention : :-

Contact No. : :-

Mail ID : :-

SAMPLE DETAILS

Lab ID	: Lab/653/18	Sampling Date	: 16.09.2019
Sample Drawn By	: Chandan Kumar	Sample Receipt Date	: 17.09.2019
Sample Type	: Ground Water	Analysis Start Date	: 18.09.2019
Sample Description	: Navabad Village, Hand Pump	Analysis End Date	: 25.09.2019
Sample Quantity	: 2L	Sampling Method	: IS 3025/APHA
Sample Condition	: Satisfactory	Packing	: Sealed

Sr. No.	Parameters	Results	Unit	Test Method	AL	PL
13	Nitrate	10.6	mg/L	IS 3025 (Pt 34): RA 2017	45	No Relaxation
14	Iron	0.28	mg/L	APHA 23rd Edn 2017 3500 Fe B	0.3	No Relaxation
15	Fluoride	BQL(QL=1)	mg/L	APHA 23rd Edn 2017 4500 F D	1	1.5
16	Hexavalent Chromium as Cr ⁶⁺	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 3500 Cr B	-	-
17	Phenolic Compounds*	BQL(QL=0.001)	mg/L	IS 3025 (Pt 43): RA 2003	0.001	0.002
18	Residual Chlorine	BQL(QL=0.05)	mg/L	APHA 23rd Edn 2017 4500 Cl B	0.2	1
19	Cyanide*	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 4500 CN C, E	0.05	No Relaxation
20	Aluminum (Al)*	BQL(QL=0.001)	mg/L	IS 3025 (Pt 55): RA 2009	0.03	0.2
21	Arsenic (As)	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 3111 B	0.01	0.05
22	Boron (B)	0.23	mg/L	APHA 23rd Edn 2017 4500 B C	0.5	1
23	Cadmium (Cd)	BQL(QL=0.001)	mg/L	APHA 23rd Edn 2017 3111 B	0.003	No Relaxation
24	Copper (Cu)	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 3111 B	0.05	1.5

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Ramsukh

Analyzed By

Ramsukh Gargama, Lab Chemist



Pratiksha

Authorized Signatory

Pratiksha Raval, Lab Manager

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Page 2 of 3

CERTIFICATE OF ANALYSIS

Report Number: : GGMP/653/12

Reporting Date: 26.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention : :-
Contact No. : :-
Mail ID : :-


SAMPLE DETAILS

Lab ID	: Lab/653/18	Sampling Date	: 16.09.2019
Sample Drawn By	: Chandan Kumar	Sample Receipt Date	: 17.09.2019
Sample Type	: Ground Water	Analysis Start Date	: 18.09.2019
Sample Description	: Navabad Village, Hand Pump	Analysis End Date	: 25.09.2019
Sample Quantity	: 2L	Sampling Method	: IS 3025/APHA
Sample Condition	: Satisfactory	Packing	: Sealed

Sr. No.	Parameters	Results	Unit	Test Method	AL	PL
25	Lead (Pb)	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 3111 B	0.01	No Relaxation
26	Manganese (Mg)	BQL(QL=0.05)	mg/L	APHA 23rd Edn 2017 3111 B	0.1	0.3
27	Mercury (Hg)	BQL(QL=0.001)	mg/L	APHA 23rd Edn 2017 3112 B	0.001	No Relaxation
28	Selenium (Se)*	BQL(QL=0.001)	mg/L	IS 3025 (Pt 56): 2003	0.01	No Relaxation
29	Zinc (Zn)	0.25	mg/L	APHA 23rd Edn 2017 3111 B	5	15
30	Detergent*	BQL(QL=0.05)	mg/L	Annex K of IS 13428	0.2	1
31	Magnesium (Mg)	20.4	mg/L	APHA 23rd Edn 2017 3500 Mg B	30	100
32	E.Coli (MPN/100 ml)*	Absent	MPN/100ml	IS 1622-1981: RA 2009	Absent	Absent
33	Total Coliform*	Absent	MPN/100 mL	IS 1622: RA 2009	-	Absent

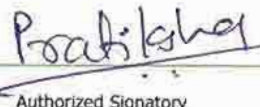
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Analyzed By

Ramsukh Gargama, Lab Chemist




Authorized Signatory

Pratiksha Raval, Lab Manager

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CERTIFICATE OF ANALYSIS

Report Number: : GGMPL/653/13

Reporting Date: 26.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention : :-
Contact No. : :-
Mail ID : :-

SAMPLE DETAILS

Lab ID	: Lab/653/19	Sampling Date	: 16.09.2019
Sample Drawn By	: Chandan Kumar	Sample Receipt Date	: 17.09.2019
Sample Type	: Ground Water	Analysis Start Date	: 18.09.2019
Sample Description	: Navabad Village, Hand Pump	Analysis End Date	: 25.09.2019
Sample Quantity	: 2L	Sampling Method	: IS 3025/APHA
Sample Condition	: Satisfactory	Packing	: Sealed

Sr. No.	Parameters	Results	Unit	Test Method	AL	PL
1	Colour	BQL(QL=1)	Hazen	IS 3025 (Pt 04): RA 2017	5	15
2	Odour	Agreeable	...	IS 3025 (Pt 05): RA 2006	Agreeable	Agreeable
3	pH @ 25 °C	7.36	...	IS 3025 (Pt 11): RA 2006	6.5 to 8.5	No Relaxation
4	Temperature °C	29	°C	APHA 23rd Edn 2017 2550 B	-	-
5	Taste	Agreeable	...	IS 3025 (Pt 08): RA 2006	Agreeable	Agreeable
6	Turbidity	BQL(QL=0.1)	NTU	APHA 23rd Edn 2017 2130 B	1	5
7	Total Dissolved Solids @ 180 °C	340	mg/L	APHA 23rd Edn 2017 2540 C	500	2000
8	Total Hardness as CaCO ₃	196	mg/L	APHA 23rd Edn 2017 2340 C	200	600
9	Alkalinity as CaCO ₃	108	mg/L	APHA 23rd Edn 2017 2320 B	200	600
10	Calcium as Ca	46.4	mg/L	APHA 23rd Edn 2017 3500 Ca B	75	200
11	Chloride	26	mg/L	IS 3025 (Pt 32): RA 2007	250	1000
12	Sulphate	28.3	mg/L	APHA 23rd Edn 2017 4500 SO ₄ E	200	400

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 Analyzed By
 Ramsukh Gargama, Lab Chemist




 Authorized Signatory
 Pratiksha Raval, Lab Manager

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Village: Motia, Dist: Godda, Jharkhand

Kind Attention : :-
Contact No. : :-
Mail ID : :-

SAMPLE DETAILS

Lab ID	: Lab/653/19	Sampling Date	: 16.09.2019
Sample Drawn By	: Chandan Kumar	Sample Receipt Date	: 17.09.2019
Sample Type	: Ground Water	Analysis Start Date	: 18.09.2019
Sample Description	: Navabad Village, Hand Pump	Analysis End Date	: 25.09.2019
Sample Quantity	: 2L	Sampling Method	: IS 3025/APHA
Sample Condition	: Satisfactory	Packing	: Sealed

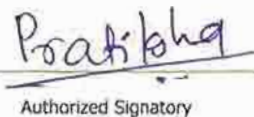
Sr. No.	Parameters	Results	Unit	Test Method	AL	PL
13	Nitrate	11.0	mg/L	IS 3025 (Pt 34): RA 2017	45	No Relaxation
14	Iron	0.21	mg/L	APHA 23rd Edn 2017 3500 Fe B	0.3	No Relaxation
15	Fluoride	BQL(QL=1)	mg/L	APHA 23rd Edn 2017 4500 F D	1	1.5
16	Hexavalent Chromium as Cr ⁶⁺	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 3500 Cr B	-	-
17	Phenolic Compounds*	BQL(QL=0.001)	mg/L	IS 3025 (Pt 43): RA 2003	0.001	0.002
18	Residual Chlorine	BQL(QL=0.05)	mg/L	APHA 23rd Edn 2017 4500 Cl B	0.2	1
19	Cyanide*	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 4500 CN C, E	0.05	No Relaxation
20	Aluminum (Al)*	BQL(QL=0.001)	mg/L	IS 3025 (Pt 55): RA 2009	0.03	0.2
21	Arsenic (As)	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 3111 B	0.01	0.05
22	Boron (B)	0.19	mg/L	APHA 23rd Edn 2017 4500 B C	0.5	1
23	Cadmium (Cd)	BQL(QL=0.001)	mg/L	APHA 23rd Edn 2017 3111 B	0.003	No Relaxation
24	Copper (Cu)	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 3111 B	0.05	1.5

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Analyzed By

Ramsukh Gargama, Lab Chemist


Authorized Signatory

Pratiksha Raval, Lab Manager

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Page 2 of 3

CERTIFICATE OF ANALYSIS

Report Number: : GGMP/653/13

Reporting Date: 26.09.2019

Adani Power Jharkhand Ltd.

2 × 800 MW Godda Thermal Power Project,

Village: Motia, Dist: Godda, Jharkhand

Kind Attention : :-

Contact No. : :-

Mail ID : :-

SAMPLE DETAILS

Lab ID	: Lab/653/19	Sampling Date	: 16.09.2019
Sample Drawn By	: Chandan Kumar	Sample Receipt Date	: 17.09.2019
Sample Type	: Ground Water	Analysis Start Date	: 18.09.2019
Sample Description	: Navabad Village, Hand Pump	Analysis End Date	: 25.09.2019
Sample Quantity	: 2L	Sampling Method	: IS 3025/APHA
Sample Condition	: Satisfactory	Packing	: Sealed

Sr. No.	Parameters	Results	Unit	Test Method	AL	PL
25	Lead (Pb)	BQL(QL=0.01)	mg/L	APHA 23rd Edn 2017 3111 B	0.01	No Relaxation
26	Manganese (Mg)	BQL(QL=0.05)	mg/L	APHA 23rd Edn 2017 3111 B	0.1	0.3
27	Mercury (Hg)	BQL(QL=0.001)	mg/L	APHA 23rd Edn 2017 3112 B	0.001	No Relaxation
28	Selenium (Se)	BQL(QL=0.001)	mg/L	IS 3025 (Pt 56): 2003	0.01	No Relaxation
29	Zinc (Zn)	0.23	mg/L	APHA 23rd Edn 2017 3111 B	5	15
30	Detergent	BQL(QL=0.05)	mg/L	Annex K of IS 13428	0.2	1
31	Magnesium (Mg)	19.4	mg/L	APHA 23rd Edn 2017 3500 Mg B	30	100
32	E.Coli (MPN/100 ml)	Absent	MPN/100ml	IS 1622-1981: RA 2009	Absent	Absent
33	Total Coliform	Absent	MPN/100 mL	IS 1622: RA 2009	-	Absent

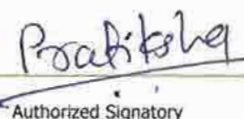
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Analyzed By

Ramsukh Gargama, Lab Chemist




Authorized Signatory

Pratiksha Raval, Lab Manager

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Page 3 of 3

CERTIFICATE OF ANALYSIS

Report Number: GGMPL/679/01

Reporting Date: 26.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,

Village: Motia, Dist: Godda, Jharkhand

Kind Attention :-

Contact No. :-

Mail ID :-

SAMPLE DETAILS

Lab ID	: Lab/679/01	Sampling Start Date	: 19.09.2019
Sample Drawn By	: Chandan Kumar	Sampling End Date	: 20.09.2019
Sample Type	: Ambient Air	Sample Receipt Date	: 21.09.2019
Sample Description	: Near Motia Village	Analysis Start-End Date	: 21.09.2019 to 25.09.2019
Env. Cond.-Sampling	: Ambient Temperature	Total Sampling hours	: 24
Env. Cond. -Sample Receipt	: Satisfactory	Env. Cond. -Testing	: 25±5°C

Sr. No.	Parameters	Results	Unit	Test Method	NAAQ Standards
1	Particulate Matter (PM ₁₀)	56.3	µg/m ³	IS 5182 (Pt 23): RA 2012	100
2	Particulate Matter (PM _{2.5})	16.0	µg/m ³	GGMPL/SOP/AA/60	60
3	Sulphur Dioxide (SO ₂)	7.1	µg/m ³	IS 5182 (Pt 02): RA 2009	80
4	Nitrogen Dioxide (NO ₂)	17.9	µg/m ³	IS 5182 (Pt 06): 2006	80

* Indicates these parameters are not covered under NABL Scope

NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit

Ramsukh

Analyzed By

Ramsukh Gargama, Lab Chemist



Pratiksha

Authorized Signatory

Pratiksha Raval, Lab Manager

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Page 1 of 1

CERTIFICATE OF ANALYSIS

Report Number: GGMP/679/02

Reporting Date: 26.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention :-
Contact No. :-
Mail ID :-

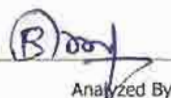
SAMPLE DETAILS

Lab ID	: Lab/679/02	Sampling Start Date	: 19.09.2019
Sample Drawn By	: Chandan Kumar	Sampling End Date	: 20.09.2019
Sample Type	: Ambient Air	Sample Receipt Date	: 21.09.2019
Sample Description	: Near Mali Village	Analysis Start-End Date	: 21.09.2019 to 25.09.2019
Env. Cond.-Sampling	: Ambient Temperature	Total Sampling hours	: 24
Env. Cond. -Sample Receipt	: Satisfactory	Env. Cond. -Testing	: 25±5°C

Sr. No.	Parameters	Results	Unit	Test Method	NAAQ Standards
1	Particulate Matter (PM ₁₀)	57.4	µg/m ³	IS 5182 (Pt 23): RA 2012	100
2	Particulate Matter (PM _{2.5})	22.0	µg/m ³	GGMP/SOP/AA/60	60
3	Sulphur Dioxide (SO ₂)	7.1	µg/m ³	IS 5182 (Pt 02): RA 2009	80
4	Nitrogen Dioxide (NO ₂)	19.8	µg/m ³	IS 5182 (Pt 06): 2006	80


* Indicates these parameters are not covered under NABL Scope

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Analyzed By

Ransukh Gargama, Lab Chemist




Authorized Signatory

Pratiksha Raval, Lab Manager

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Page 1 of 1

CERTIFICATE OF ANALYSIS

Report Number: GGMP/700/01

Reporting Date: 30.09.2019

Adani Power Jharkhand Ltd.

2 × 800 MW Godda Thermal Power Project,

Village: Motia, Dist: Godda, Jharkhand

Kind Attention :-

Contact No. :-

Mail ID :-

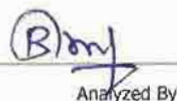
SAMPLE DETAILS

Lab ID	: Lab/700/01	Sampling Start Date	: 23.09.2019
Sample Drawn By	: Chandan Kumar	Sampling End Date	: 24.09.2019
Sample Type	: Ambient Air	Sample Receipt Date	: 25.09.2019
Sample Description	: Near Motia Village	Analysis Start-End Date	: 25.09.2019 to 29.09.2019
Env. Cond.-Sampling	: Ambient Temperature	Total Sampling hours	: 24
Env. Cond. -Sample Receipt	: Satisfactory	Env. Cond. -Testing	: 25±5°C

Sr. No.	Parameters	Results	Unit	Test Method	NAAQ Standards
1	Particulate Matter (PM ₁₀)	42.3	µg/m ³	IS 5182 (Pt 23): RA 2012	100
2	Particulate Matter (PM _{2.5})	15.1	µg/m ³	GGMP/SOP/AA/60	60
3	Sulphur Dioxide (SO ₂)	5.6	µg/m ³	IS 5182 (Pt 02): RA 2009	80
4	Nitrogen Dioxide (NO ₂)	18.2	µg/m ³	IS 5182 (Pt 06) : 2006	80

* Indicates these parameters are not covered under NABL Scope

NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit


Analyzed By

Ramsukh Gargama, Lab Chemist




Authorized Signatory

Pratiksha Raval, Lab Manager

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Page 1 of 1

CERTIFICATE OF ANALYSIS

Report Number: GGMPL/700/02

Reporting Date: 30.09.2019

Adani Power Jharkhand Ltd.

2 × 800 MW Godda Thermal Power Project,

Village: Motia, Dist: Godda, Jharkhand

Kind Attention :-

Contact No. :-

Mail ID :-


SAMPLE DETAILS

Lab ID	: Lab/700/02	Sampling Start Date	: 23.09.2019
Sample Drawn By	: Chandan Kumar	Sampling End Date	: 24.09.2019
Sample Type	: Ambient Air	Sample Receipt Date	: 25.09.2019
Sample Description	: Near Mali Village	Analysis Start-End Date	: 25.09.2019 to 29.09.2019
Env. Cond.-Sampling	: Ambient Temperature	Total Sampling hours	: 24
Env. Cond. -Sample Receipt	: Satisfactory	Env. Cond. -Testing	: 25±5°C


Sr. No.	Parameters	Results	Unit	Test Method	NAAQ Standards
1	Particulate Matter (PM ₁₀)	47.4	µg/m ³	IS 5182 (Pt 23): RA 2012	100
2	Particulate Matter (PM _{2.5})	15.4	µg/m ³	GGMPL/SOP/AA/60	60
3	Sulphur Dioxide (SO ₂)	5.4	µg/m ³	IS 5182 (Pt 02): RA 2009	80
4	Nitrogen Dioxide (NO ₂)	17.6	µg/m ³	IS 5182 (Pt 06): 2006	80

* Indicates these parameters are not covered under NABL Scope

NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit


Analyzed By
Ramsukh Gargama, Lab Chemist




Authorized Signatory
Pratiksha Raval, Lab Manager

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Page 1 of 1

CERTIFICATE OF ANALYSIS

Report Number: GGMP/700/03

Reporting Date: 30.09.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention :-
Contact No. :-
Mail ID :-

SAMPLE DETAILS

Lab ID	: Lab/700/03	Sampling Start Date	: 23.09.2019
Sample Drawn By	: Chandan Kumar	Sampling End Date	: 24.09.2019
Sample Type	: Ambient Air	Sample Receipt Date	: 25.09.2019
Sample Description	: Near Nayabad Village	Analysis Start-End Date	: 25.09.2019 to 29.09.2019
Env. Cond.-Sampling	: Ambient Temperature	Total Sampling hours	: 24
Env. Cond. -Sample Receipt	: Satisfactory	Env. Cond. -Testing	: 25±5°C

Sr. No.	Parameters	Results	Unit	Test Method	NAAQ Standards
1	Particulate Matter (PM ₁₀)	48.3	µg/m ³	IS 5182 (Pt 23): RA 2012	100
2	Particulate Matter (PM _{2.5})	16.2	µg/m ³	GGMP/SOP/AA/60	60
3	Sulphur Dioxide (SO ₂)	6.2	µg/m ³	IS 5182 (Pt 02): RA 2009	80
4	Nitrogen Dioxide (NO ₂)	15.6	µg/m ³	IS 5182 (Pt 06) : 2006	80

* Indicates these parameters are not covered under NABL Scope

NS= Not Specified, BQL=Below Quantification Limit, QL= Quantification Limit


Analyzed By

Ramsukh Gargama, Lab Chemist




Authorized Signatory

Pratiksha Raval, Lab Manager

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Page 1 of 1

CERTIFICATE OF ANALYSIS

Report Number: GGMP/713/01

Reporting Date: 04.10.2019

Adani Power Jharkhand Ltd.

2 × 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention :-
Contact No. :-
Mail ID :-

SAMPLE DETAILS

Lab ID	: Lab/713/01	Sampling Start Date	: 26.09.2019
Sample Drawn By	: Chandan Kumar	Sampling End Date	: 27.09.2019
Sample Type	: Ambient Air	Sample Receipt Date	: 28.09.2019
Sample Description	: Near Motia Village	Analysis Start-End Date	: 28.09.2019 to 03.10.2019
Env. Cond.-Sampling	: Ambient Temperature	Total Sampling hours	: 24
Env. Cond. -Sample Receipt	: Satisfactory	Env. Cond. -Testing	: 25±5°C

Sr. No.	Parameters	Results	Unit	Test Method	NAAQ Standards
1	Particulate Matter (PM ₁₀)	52.0	µg/m ³	IS 5182 (Pt 23): RA 2012	100
2	Particulate Matter (PM _{2.5})	17.3	µg/m ³	GGMP/SOP/AA/60	60
3	Sulphur Dioxide (SO ₂)	5.6	µg/m ³	IS 5182 (Pt 02): RA 2009	80
4	Nitrogen Dioxide (NO ₂)	14.4	µg/m ³	IS 5182 (Pt 06) : 2006	80

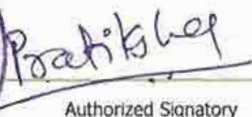
* Indicates these parameters are not covered under NABL Scope

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Analyzed By

Ramsukh Gargama, Lab Chemist




Authorized Signatory

Pratiksha Raval, Lab Manager

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CERTIFICATE OF ANALYSIS

Report Number: GGMP/713/02

Reporting Date: 04.10.2019

Adani Power Jharkhand Ltd.

2 × 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention :-
Contact No. :-
Mail ID :-

SAMPLE DETAILS

Lab ID	: Lab/713/02	Sampling Start Date	: 26.09.2019
Sample Drawn By	: Chandan Kumar	Sampling End Date	: 27.09.2019
Sample Type	: Ambient Air	Sample Receipt Date	: 28.09.2019
Sample Description	: Near Mail Village	Analysis Start-End Date	: 28.09.2019 to 03.10.2019
Env. Cond.-Sampling	: Ambient Temperature	Total Sampling hours	: 24
Env. Cond. -Sample Receipt	: Satisfactory	Env. Cond. -Testing	: 25±5°C

Sr. No.	Parameters	Results	Unit	Test Method	NAAQ Standards
1	Particulate Matter (PM ₁₀)	51.0	µg/m ³	IS 5182 (Pt 23): RA 2012	100
2	Particulate Matter (PM _{2.5})	15.6	µg/m ³	GGMP/SOP/AA/60	60
3	Sulphur Dioxide (SO ₂)	5.2	µg/m ³	IS 5182 (Pt 02): RA 2009	80
4	Nitrogen Dioxide (NO ₂)	14.1	µg/m ³	IS 5182 (Pt 06): 2006	80

* Indicates these parameters are not covered under NABL Scope

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 Analyzed By Ramsukh Gargama, Lab Chemist		 Authorized Signatory Pratiksha Raval, Lab Manager
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CERTIFICATE OF ANALYSIS

Report Number: GGMP/713/03

Reporting Date: 04.10.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention :-
Contact No. :-
Mail ID :-

SAMPLE DETAILS

Lab ID	: Lab/713/03	Sampling Start Date	: 26.09.2019
Sample Drawn By	: Chandan Kumar	Sampling End Date	: 27.09.2019
Sample Type	: Ambient Air	Sample Receipt Date	: 28.09.2019
Sample Description	: Near Nayabad Village	Analysis Start-End Date	: 28.09.2019 to 03.10.2019
Env. Cond.-Sampling	: Ambient Temperature	Total Sampling hours	: 24
Env. Cond. -Sample Receipt	: Satisfactory	Env. Cond. -Testing	: 25±5°C

Sr. No.	Parameters	Results	Unit	Test Method	NAAQ Standards
1	Particulate Matter (PM ₁₀)	56.7	µg/m ³	IS 5182 (Pt 23): RA 2012	100
2	Particulate Matter (PM _{2.5})	16.6	µg/m ³	GGMP/ SOP/AA/60	60
3	Sulphur Dioxide (SO ₂)	5.2	µg/m ³	IS 5182 (Pt 02): RA 2009	80
4	Nitrogen Dioxide (NO ₂)	13.1	µg/m ³	IS 5182 (Pt 06) : 2006	80

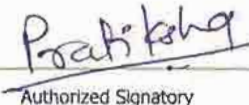
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CERTIFICATE OF ANALYSIS

Report Number: GGMPL/732/02

Reporting Date: 07.10.2019

Adani Power Jharkhand Ltd.

2 x 800 MW Godda Thermal Power Project,
Village: Motia, Dist: Godda, Jharkhand

Kind Attention :-
Contact No. :-
Mail ID :-

SAMPLE DETAILS

Lab ID	: Lab/732/02	Sampling Start Date	: 30.09.2019
Sample Drawn By	: Chandan Kumar	Sampling End Date	: 01.10.2019
Sample Type	: Ambient Air	Sample Receipt Date	: 02.10.2019
Sample Description	: Near Mali Village	Analysis Start-End Date	: 02.10.2019 to 06.10.2019
Env. Cond.-Sampling	: Ambient Temperature	Total Sampling hours	: 24
Env. Cond. -Sample Receipt	: Satisfactory	Env. Cond. -Testing	: 25±5°C

Sr. No.	Parameters	Results	Unit	Test Method	NAAQ Standards
1	Particulate Matter (PM ₁₀)	46.0	µg/m ³	IS 5182 (Pt 23): RA 2012	100
2	Particulate Matter (PM _{2.5})	14.9	µg/m ³	GGMPL/SOP/AA/60	60
3	Sulphur Dioxide (SO ₂)	6.2	µg/m ³	IS 5182 (Pt 02): RA 2009	80
4	Nitrogen Dioxide (NO ₂)	12.1	µg/m ³	IS 5182 (Pt 06) : 2006	80

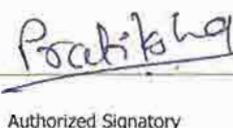
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Page 1 of 1

HALF YEARLY CSR REPORT

(April 2019 TO September 2019)

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HALF YEARLY CSR REPORT

(APRIL 2019 TO SEPTMEBER 2019)

1. 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 Millennium Development Goals. 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. This year at Godda site, three new projects have been taken up viz. Gyanodaya to facilitate new learning pedagogy in govt. schools through e-learning classes, Swacchagrah to promote culture of cleanliness in society through encouraging behavior change among school students, and an unprecedented Order from District Education department students to women's group of Saksham Sewing trainees for supply of uniforms for 1.51 lakh govt. school students.

In this financial year Adani's CSR intervention extends to Godda and Sahebganj districts of Jharkhand state covering 192 villages of Core, Periphery, Railway Siding and Pipeline area. Apart from benefitting and engaging communities from our intervention areas, many of CSR activities were conducted in Godda town too for establishing Adani Foundation as a brand among the intellectuals of the society. Total population of Godda district is 13.13 lakhs, out of which population of our intervention villages is 45000 approximately. We have been able to benefit 2.87 lakhs people directly and 5.85 lakhs people indirectly across the stretch of 91 kms. ranged from Godda district to Sahebganj district passing through more than hundreds of project affected villages by organizing various community development activities in Education, Community Health, Suposhan, Sustainable Livelihood and Rural Infrastructure Development verticals.

The robust team of Adani Foundation at Jharkhand comprises of dedicated professionals including Unit CSR Head, Project Officers, and a deputy manager-CSR from Adani Power (Jharkhand) Limited and a medical team comprises of a doctor and four para medicos.

The progress of CSR projects/interventions from April, 2019 to September, 2019 is described in detail as under:

2. HIGHLIGHTS OF CSR ACTIVITIES

A. Education & Rural Sports

➤ Ensuring Quality Education for Community

Adani foundation strives to enhance the quality of education in its intervention villages through following initiatives directly benefitting over 50000 students and their families in the year 2019-20.

- **Competitive Classes and Coaching for the Poor Students viz.**
 - **Apna School** is running successfully in 6 location of TPP area providing education to 399 students.
 - **Under Gyan Jyoti (Group - 30) programme** total 90 students were enrolled. New Enrolment of class 8th students was also done. 18 students passed the test exam out of total 56 students. All 28 class 10th students passed the exam out of which 20 students' ranked 1st division, 8 Students ranked 2nd division, & 2 students secured 3rd division marks.

➤ Capacity Building Programmes

❖ Felicitation programme for students and teachers:

- **Shiksha Gaurav Samman:** 30 best performer teachers were rewarded by District Administration and Gyan Jyoti program teachers were also awarded by District Education Officer.
- **Athletics:** Senior children of Gyan Jyoti Kendra were trained in kabaddi by trainer. Athletics competition was organized in TPP-Gyan Jyoti Kendra, Motia for Physical and mental development of students.
- **Essay competition** was organized in TPP-Gyan Jyoti Kendra, Motia among students.
- **Extra-Curricular activity** has also been started for intellectual development of children such as Kabaddi, Quiz and Speech competition.
- **Health Hygiene and Sanitation:** Educating rural students about better health and Hygiene with participation of 400 rural students. Swachhata programme was also conducted in Kauribaihar, Motia, Sondiha school of TPP.
- **Gyanodaya Project:** Gyanodaya project is operational in 166 schools providing e-learning classes benefitting 47000 students.

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- **Education sponsorship programme:** Adani Foundation provides 100% education support for one ward each from 300 Project Affected Families to reduce dropout by focusing on quality education and thereby regular attendance of students.
- **Ekal Vidyalaya Initiative:** Providing educational services in areas of Godda, Podaiyahat and Boarijor for 120 schools for drop out children residing in tribal area streamlining to formal education system
- **Swachhagrah project:** 92 School Visit, pre-test and interaction with Dal Members

Supporting Sports Events

- **Sports Kit Distribution:** Cricket kits were distributed to 3 cricket teams in Pathargama block.
- **Football Tournament** was organized at Mahagama block of Pipeline area and Kairajori village in Jitpur with participation of 11 teams and 3 Football Tournaments were organized in pipeline village with participation of 64 teams and 960 players.

B. Community Health

Five Mobile Health Care Units have together catered to primary health care needs of 25059 patients this year from core, periphery, railway siding and pipe line area villages covering over 150 locations.

- ❖ **Mobile Health Care unit in core villages** The MHCU provides its services to 9 locations and 13 villages per week benefitting total 4946 patients including 2501 male, 1710 female & 735 children.
- ❖ **AF supported Help age's Mobile Health Care Unit** covers 16 locations and 26 villages per week benefitting total 8379 patients including 2697 male, 3023 female and 2659 children.
- ❖ **Mobile Health Care Unit in Mines villages:** The MHCU provides its services to 6 locations and 12 villages per week benefitting total 3982 patients including 766 male, 745 female & 1055 children.
- ❖ **Wockhardt Foundation operated MHCU for Pipeline Villages in Godda** The MHCU provides its services per week benefitting total 10598 patients including 3389 male, 4659 female & 5590 children.
- ❖ **Wockhardt Foundation operated MHCU for Pipeline Villages in Sahebganj** The MHCU provides its services per week benefitting total 10171 patients including 3312 male, 4228 female & 2643 children.
- ❖ **Mega Health Camp** has been held at 2 blocks covering 8 villages benefitting 300 plus patients.
- ❖ **Labourers Health Check-ups for Gate Pass:** CSR Medical Team conducts health check-up of all labourers at TPP to be safe from health hazards. It includes height,

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weight, colour blindness, BP, Blood Group, Sugar, Eye check-up. Total 2418 labourers were checked since April 2019.

- ❖ **Health Awareness:** With collaboration of Medical Team of Adani Foundation and Helpage India, health awareness is raised among school children, teachers and community. Community health awareness programme during Medical camp in rural areas helps aware rural dwellers about their better health and safety from diseases.
- ❖ **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.
- ❖ **Spectacle Distribution** 54 eye patients have been provided spectacles this year.

➤ Suposhan Program

- ❖ **SuPoshan:** 299 numbers of children (0 to 5 years) have seen improvement to healthy status while Anemia has reduced. 187 numbers of adolescent girls of 10 to 19 years and women in reproductive age group have become healthy from anemic state.

Awareness Programmes

- ❖ **Swachhagrah Programme:** Swachhagrah program was launched in Godda on 11th August 2018 with 92 government schools of Godda and Poraiyahat blocks. It aims to engage children as change agents to bring about behavioral and attitudinal change in sanitation executed through Swachhagraha dals and Preraks in schools. It comprises of total 92 Swachhagraha School, total 92 Swachhagraha Prerak, total 92 Swachhagraha Dal, total 1840 Swachhagrahis and 92 total School visit.
- ❖ **Awareness program:** Various awareness events like celebration of national nutrition week, global hand wash day, etc. were conducted during the period spreading the message to over 1500 people.

Seasonal Assistance/Community Involvement

- ❖ **Assistance in Health, Marriage and Death:** Poor people are supported financially in events like marriage, death and illness as emergency support. During the period, total 83 beneficiaries have been supported to the tune of Rs. 804600.
- ❖ **Environment Protection and Water conservation:** AF encourages practice of protecting and conserving the environment. Saplings of 1000 mango and banana plants were distributed in our Pipeline Area block (Pathagrama & Mahagama).
- ❖ **Support to Natural Hazard affected families:** Distribution of tarpaulin to rescue 40 households affected from flood.
- ❖ **World Environment Day** was observed by organizing week long events and competition.

C. Sustainable Livelihood

- ❖ **Tailoring training:** Enrollment of total 439 members has been done for tailoring training.
- ❖ **Uniform Production Order:** Inauguration of Uniform Production Hub was done by Hon'ble CM on 4th March 2019. 11 Production cum Training centers is operating successfully.
- ❖ **Computer training center:** Enrollment of 162 trainees in 5th batch is done in computer training center.
- ❖ **Piggery Farming:** 4 Farmers were supported with 4 piglets each for raising income.
- ❖ **Vermi compost unit** was installed which produced 20 ton vermicompost out of which 10 MT vermicompost was sold.
- ❖ **Adani Skill Development Centre** Adani Skill Development Centre- ASDC, Godda was inaugurated by Executive Director AF- Education and Skills on 27th September 2018. Seven trades with enrolment of over 210 trainees have commenced training.
- ❖ **Saksham Training Centres:** Total 541 trainees have been trained at ten Saksham training and two computer Training centers operational under the "Saksham program.
- ❖ **OJT & Placement of GDA Trainees:** General Duty Assistant (GDA) Trainees were selected by Nightingales- A Group Company of Mahindra & Mahindra for Bed Side Patient Attendant job at Bengaluru. Out of 13 girls who were selected, three girls have joined at Bengaluru at package of Rs. 2, 00,000 per annum.
- ❖ **Phulo Jhano Dress Production Stitching Center:** 1500 women are engaged in working with total 225 machines for dress production. Production of 135936 uniforms for 33984 students has been completed by members of Phoolo Jhano Saksham Aajeevika Sakhi Mandal and sum of Rs. 1366956 has been paid.
- ❖ **Horticulture plant distribution:** 5000 saplings was distributed in core, railway siding and pipeline villages as well as public offices and 2000 Mango plants was supplied to Divisional Forest Office, Pakur.
- ❖ **Financial Support** for Volunteers and Project Affected Families of Jitpur mines was continued this year to support 370 PAF.
- ❖ **Honorarium payment of** Rs.1, 65,201 Honorarium has been paid for village volunteers assisting to PAFs.
- ❖ **Monitoring** of 12 Self Help Groups is going on under livelihood programme.

Awards and Honours

- ❖ **Certificate distribution to Digital Literacy trainees:** Merit certificate was given to Digital Literacy trainees.

Adani Power (Jharkhand) Limited

- ❖ **Phoolo Jhano Group** received "Assocham India Women Empowerment" award on 7th June'19 in Ranchi for its successful initiative of linking 1100 skilled women to livelihood opportunity. The award was presented by Hon'ble Minister of Urban Development Jharkhand- Shri C.P. Singh.

D. Rural/Community Infrastructure Development

- ❖ **Water Conservation, Ground water recharge**

1. Deepening work of 37 Ponds in 26 villages of TPP area
2. Construction of stairs at pond to increase access to water for miscellaneous.

- ❖ **Drinking Water Facility**

1. **Renovation of Community Well:** Renovation of 12 community well at Sondiha, Nayabad and Jhirli village for providing drinking water.
2. **Renovation of Well** at three village of Thakurgangti Block
3. **Handpump Repairing:** 63 Hand pump repaired in TPP area for providing drinking water.
4. **Deep bore well:** 4 Deep bore well was installed for drinking water facility
5. **Installation of Submersible, water tank and RO Plant** at Sahibganj DC office, Ram Temple in satichouki Kuthari village, Sahibganj for providing safe and clean drinking water.
6. **Installation of 2 hand Pump Bore well** at Mahgama Panchayat of Mahgama Block

- ❖ **Educational infrastructure Development**

1. Renovation of Gyanodaya Class Room in Pipe line areas for quality learning.
2. Renovation of School at Baksara village
3. Construction of 06 Class room is going on at Motia High School

- ❖ **Other Village development structures**

- Construction of 30 Seating place (Chabutra) has been done at in 15 villages of our TPP area
- Renovation of 7 Hanuman Temple and one Kali temple and Shiv Parvati temple at TPP area
- Renovation of 6 Community Hall for Community Programs
- Construction of 9 Bathrooms & Soakpit at Niyamatchak village of pipeline area.
- Renovation work at Govt. guest house, at Sarkanda

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- Renovation of Boundary wall of Upgraded High School, Sondiha
- Construction of Gate at Godda College, Godda
- Construction of Memorial Structure at Sondiha Village
- Construction of stage at Sondiha village
- Construction of Pathway at DFO residence Godda
- Renovation work at SP office, Godda
- Beautification Work at Govt. office Dumka
- Renovation of Bhim Rao Ambedkar Statue at Badhouna village
- Construction of drain in 4 villages Gangta, Nayabad, Sondiha and Motia.
- Renovation of Main Gate of Godda College.
- Construction of 2 PCC Road at Sondiha village

3. DETAILED DESCRIPTION OF CSR ACTIVITIES

A. Education & Rural Sports

➤ Providing Quality Education in Society

1. **'Apna School' initiative to provide coaching classes for students:** This initiative was initiated in tribal village viz. Nayabad, Gangta and Petbi to provide coaching classes to the students up till 5th standard. The total number of students getting benefit is 399. The local teachers from the community have been engaged in the teaching. This initiative has led to improvement in learning and education of children. This coaching class is also useful to interact with the community. The initiative has mainly been taken in area where literacy is below 50% among Santhal and Yadav Community.

Sl.No	Location	Standard	No. of Student
1.	Petbi	I to V	64
2	Nayabad I	I to V	19
3	Nayabad II	I to V	36
4	Gangta I	I to V	23
5	Gangta II	I to V	21
6	Baliakita	I to V	60
Total			223

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- 2. Adani Gyan Jyoti Yojna (Group 30):** - Education plays a vital role in development of society economically, socially and financially, it also help to them strengthen, so Adani Gyan Jyoti Yojna was initiated in Motia Village. 30 students each of 8th, 9th & 10th standard study at the centre for their concept building. The programme has been launched with objective of improvement in results of poor & meritorious students in matriculation board exams.

Sl. No	Location	Standard	No. of Student
1.	Motia	8 th	30
2.	Motia	9 th	35
3.	Motia	10 th	30
Total			95

- 3. Adani Gyan Jyoti Kendra:** Total 95 number of students benefitted from Adani Gyan Jyoti Kendra during FY 2018-19. Admission test was conducted for new session of class 8th and class 10th board students. Out of total 56 students of class 8th, 18 students were selected for next session while, all 30 students who appeared in 10th board exams got succeeded. Out of which 20 students got 1st division, 8 Students got 2nd division, & 2 students got 3rd division marks.

Class 8 th (Student)					
Appeared	Selected	%			
56	18	32.14			
Class 10 th (Student)		Passing %	1 st Div	2 nd Div	3 rd Div
Appeared	Passed				
30	30	100	20	8	2

- 4. Gyanodaya Project:** Adani Foundation in partnership with District Administration and Eckovation Solutions Pvt. Ltd. launched Gyanodaya project in August 2018 to promote e-learning through Smart Classes. Gyanodaya project covers 157 govt. schools of Godda district covering 200 villages in 9 blocks reaching out to 18000 students of 50 schools and total 65000 students from 137 schools for students of 8th to 12th standard. Multiple benefits of digital learning have been observed in the transformation of around 65,000 children such as - digital skills, decision making capabilities, visual learning, cultural awareness, improved academic performance and creativity. A significant reduction in dependency on tuition classes has been

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observed all across the blocks which has increased the faith of students and parents likewise on government schools. The Super 100 Program of Adani Foundation in collaboration with District Administration provided residential preparatory classes to selected meritorious students from various schools for preparation of exams which resulted in increase in performance of Super 100 Boys and Super 100 Girls. Out of 84 boys, 81.09 % got 1st division, and 10.71 % got 2nd division. Similarly, out of 93 girls, 90.32 % got 1st division and 8.6 % got 2nd division. Godda district stands at **5th** and **4th position** in the state as compared to **21st position** in the last year in 9th and 8th board exams respectively.

- 5. Teacher orientation programme:** Adani foundation organized teacher orientation program on Gyanodaya program and Gyanodaya reporting structure with participation of total 145 teachers. Under input support a) Boards were installed in 75 Schools b) Equipment were distributed in 163 schools. IIT-JEE class is also running in 6 Schools namely: 1- +2H.S Godda

2- Godda College

3- Mahila College

4- Jawahar Navodaya Vidhyalaya Lalmatiya

5- Pathargama Inter College

6- Kendriya Vidhyalay Godda

- 6. Ekal Vidyalaya Initiative:** Adani supported Ekal Vidyalaya aims for integrated and holistic development of rural India and to take education to unreach of the rural & tribal children. Adani supported, Shree Sankar Shewa Shamiti, Jharkhand run Ekal Vidyalaya have commenced classes in 120 schools in far reached tribal villages of Sunderpahari and Poraiyahat blocks benefitting over 3000 students.

- 7. Education Sponsorship program** to provide 100% education support for one ward each from 300 Project Affected Families of Jitpur mines to reduce dropout by focusing on quality education and thereby regular attendance of students.

SN	Village	Enrolled (2018-19)	Shifted to new school (2019-20)	Total No. of Wards
1	Dahubera	29	20	29
2	Pakeri	14	0	14

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3	Dan agora	23	0	23
4	Dumarpalam	34	0	34
5	Jitpur	80	0	80
6	Kairajori	27	0	27
7	Paharpur	74	0	74
8	Sunder Pahari & others	19	0	19
Total		300	20	300

➤ Capacity Building Programmes

1. **Shiksha Gaurav Samman:** 30 best performer teachers were rewarded by District Administration and Gyan Jyoti program teachers were also awarded by District Education Officer. On the occasion of Teachers Day, Adani Foundation and District Administration appreciated the work of 185 teachers of Gyanodaya.
2. **Athletics:** Senior children of Gyan Jyoti Kendra were trained in kabaddi by trainer. Athletics competition was organized in TPP-Gyan Jyoti Kendra, Motia for Physical and mental development of students.
3. **Gyanodaya Project:** Gyanodaya project is operational in 166 schools providing e-learning classes benefitting 47000 students. Teachers were trained and branding boards were installed in 84 schools. Godda district secured 4th, 14th, 16th and 22nd position in 8th, 10th, 12th (Science) & 12th (Arts) board results respectively. The passing percentage has significantly improved to 90.58%, 67%, 45%, 65.42% in 8th, 10th, 12th (Science) & 12th (Arts) respectively.
4. **Ekal Vidyalaya Initiative:** Providing educational services in areas of Godda, Podaiyahat and Boarijor for 120 schools for drop out children residing in tribal area streamlining to formal education system. Training of Teachers (ToT) was organized for 90 teachers at TPP-Sunderpahari.

➤ Supporting Sports Events

1. **Sports Kit Distribution:** Cricket kits were distributed to three cricket teams in Pathargama block block as part of the rural youth engagement program. It helped them in regular practice and a means of recreation. The distribution of kit help youth in more engaged in constructive activity.
2. **Football Tournament** was organized at Maniyamore football ground for two selected pipeline affected village namely Maniyamore and Karnu of Mahagama

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Block and Kairajori village of Sunderpahari block in Jitpur Mines area with participation of total 11 teams from 10 villages' viz. Sunderpahari, Amjora, Paharpur, Rampur, Kairajori, Dahubeha, Dandagora, Jiyajori who took part with combined audience size of 2000.

Sports Events: Football Tournament				
SN	Sport Name	No of Villages/ locations	No. of Participants	Average Audience Size
1	Football Tournament	2	13 teams	2000

B. Community Health Programme

➤ Mobile Health Care Unit (MHCU)

In the current mid-financial year (April-Sep 2019), five Mobile Health Care Units have together catered to 25059 patients so far from the Core, Periphery, Railway line and Pipeline villages. Adani Foundation runs its own MHCU in core and mines area villages while it has partnered with Helpage India and Wockhardt Foundation to extend primary medical services in Periphery and Pipeline villages respectively. All of these five MMUs provide services in the villages as per schedule through a team of a Doctor, a Pharmacist, an ANM, and a Social Protection Officer. AF supported mobile medical facilities goes a long way to ensure access of poor people to quality primary health care services at their doorstep.

- 1. Mobile Health Care Unit in Core villages:** Adani operated Mobile Health Care Unit in have conducted 418 halts in 2019-20 at 9 locations covering 13 villages per week. During the customer satisfaction survey it was found that villagers are satisfied with the MHCU and they recognize that the expenditure on primary health has reduced drastically. Total 4946 patients including 2501 male, female 1710 & 735 children have been served in this year.

Patients treated by Adani Operated MHCU in FY 2019-20					
SN	Month	Males	Females	Children	Total
1	April	346	272	129	747
2	May	344	317	129	790
3	June	265	191	68	524
4	July	165	194	77	436
5	August	445	382	184	1011
6	September	936	354	148	1438
Gross Total		2501	1710	735	4946

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2. **Mobile Health Care Unit in Mines villages:** Mines MHCU delivered its services at five locations covering twelve villages where patients are diagnosed by doctor and provided free medicines are being provided to the patients. The MHCU conducts full quick para and also refers the patients to nearest hospital if required. Total 2566 patients including 766 males, 745 females, and 1055 children were served in this year.

Patients treated by Mines MHCU in FY 2019-20					
SN	Month	Males	Females	Children	Total
1	April	206	159	280	645
2	May	206	159	280	645
3	June	127	173	235	535
4	July	143	144	144	431
5	August	34	55	64	153
6	September	50	55	52	157
Gross Total		766	745	1055	2566

3. **Helpage India operated MHCU for Periphery Villages:** Helpage India operated MHCU delivered medical services in 30 periphery villages coming under buffer zone 1 and railway siding villages of Adani Power Plant. Total 322 halts have been conducted covering 26 locations benefitting total 8379 patients including 2697 male, 3023 female and 2659 children.

Patients treated by Helpage India MHCU in FY 2019-20					
SN	Month	Males	Females	Children	Total
1	April	456	563	437	1456
2	May	441	454	429	1324
3	June	389	388	323	1100
4	July	460	517	636	1613
5	August	469	492	408	1369
6	September	482	609	426	1517
Gross Total		2697	3023	2659	8379

4. **Wockhardt Foundation operated MHCU for Pipeline Villages in Godda:** Adani supported Wockhardt Foundation MHCU team commenced its operation for pipeline area villages of Godda district since October '18. Total 10598 patients including 3389 males, 4659 females and 2553 children were treated since April 19 covering over 40 villages from 5 blocks.

Patients treated by Wockhardt Foundation (Godda) MHCU in FY 2019-20					
SN	Month	Males	Females	Children	Total

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1	April	503	756	417	1676
2	May	479	718	337	1531
3	June	457	612	321	1390
4	July	457	612	321	1390
5	August	749	931	613	2293
6	September	744	1030	544	2318
Gross Total		3389	4659	2553	10598

5. **Wockhardt Foundation operated MHCU for Pipeline Villages in Sahebganj:** Adani supported Wockhardt Foundation MHCU team commenced its operation for pipeline area villages of Godda district since 21st September '18. Total 10171 patients including 3312 males, 4228 females and 2643 children were treated this year covering over 35 villages from 4 blocks.

Patients treated by Wockhardt Foundation (Sahebganj) MHCU in FY 2019-20					
SN	Month	Males	Females	Children	Total
1	April	359	562	470	1379
2	May	569	776	378	1723
3	June	500	622	347	1469
4	July	500	622	347	1469
5	August	757	797	465	2019
6	September	627	849	636	2112
Gross Total		3312	4228	2643	10171

6. **Spectacle Distribution:** 54 eye patients have been provided spectacles covering two block; Pathargama and Borio. Spectacles have been distributed to beneficiaries who were prescribed power by doctor during eye check-up in specialized medical camps. Poor people who cannot afford to buy spectacles and continue to neglect their eye-sight problem are supported by Adani Foundation through this initiative.

➤ **Suposhan Program**

- ❖ **Support Program for Sustained Health and Nutrition (SuPoshan):** SuPoshan Program is operational in 12 villages covering 17 Anganwadi centers at Godda site. 15 numbers of Sanginis are providing services to target beneficiaries in respective villages. 299 numbers of children (0 to 5 years) have seen improvement to healthy status while Anemia has also reduced. 187 numbers of adolescent girls of 10 to 19 years and women in reproductive age group have become healthy.

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In third year (2019-20) of implementation at Godda, Suposhan project has reached out to over 5000 direct beneficiaries. The program has been able to achieve set goals by administering program inputs with target groups such as regular focused group discussions, awareness events, family counseling on topics to bring about change in behavior pattern within the community and raise awareness on various related issues like feeding practices for newborn, introduction of complementary feeding, pregnancy care, health and hygiene, facts and myths related to menstruation cycle, diet and care during sickness, effective methods and habits of cooking, etc. Activities like Hb screening, promoting IFA tablet to anemic girls and women, check-up by pediatrician and MHCU doctor, immunization in VHND, vegetable seeds support too contributed to bring about improvement in health status of malnourished children, girls and women.

- ❖ **Poshan Abhiyaan** was organized to increase awareness on importance of nutrition among adolescent girls, pregnant and lactating women and community members. It comprised of activities a) Suposhan rally, b) Discussion on low-cost nutritious diets for infants and young children, c) Experience sharing by mothers, d) Awareness Campaign for Adolescent Girls, e) Focussed Group Discussion to bring about actionable change within communities and especially the parents, f) Meeting of School Management Committee, g) Poshan Patra Activity initiated in Anganwadi center.
- ❖ **Menstrual Hygiene Day Celebration:** Menstrual Hygiene Day was celebrated on 29th May by Sanginis with participation of Adolescent girls of Petbi, Baksara, Baliakitta, and Rangania villages. Information was shared on occurrence, physiology, significance, normal course of menstruation, facts and myths, Common symptoms & remedial steps and Menstruation Hygiene Management (MHM).
- ❖ **World Breastfeeding Week:** World Breastfeeding Week was observed to empower parents and encourage breastfeeding to improve the health of infants and children on 2nd, 3rd and 5th August 2019 at Jitpur, Motia and Basantpur villages respectively. Self Help Group office bearers, ICDS workers, 150 pregnant, lactating and WRA were the participants. Activities like Quiz competition on IYCF, discussion on low-cost nutritious diets for infants and young children, experience sharing by mothers and FGDs was done to bring about actionable change within communities.
- ❖ **Hand wash Day:** Global Hand wash day was organized in TPP, Godda to raise awareness among school children, and community about practice of sanitation: Children shared this knowledge with their family members & sensitized the people around their household to practice hygiene & sanitation as a daily habit in order to protect themselves from infectious and contagious diseases.

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Awareness Programmes

- 1. Swachhagrah Programme:** Swacchagrah program was launched in Godda on 11th August 2018 with 92 government schools of Godda and Poraiyahat blocks. The project has received considerable recognition and appreciation from various stakeholder viz. District Education department, School teachers, students, parents and state level bodies. In the short span of 10 months, Preraks have been prepared amongst teachers as well as students while 90 Swacchagraha dal comprising over 1800 Swacchagrahis are in action at these schools. Events like Hand Washing, Creation of Soap Bank, Map your school, Litter Graph, etc. have been conducted in schools to raise awareness among children and encourage them to be messengers and promoters of culture of cleanliness.
- 2. Awareness Events:** Various awareness events like celebration of national nutrition week, world environment day etc. were conducted during the year spreading the message to over 3000 people. Street plays, various competitions were organized under SuPoshan which play an effective role in spreading the message for care of pregnant lady, signs of malnutrition, right food and care for malnourished child and importance of hygiene/ sanitation and timely vaccination for good health of child and family to masses as it easily draws attention of public and conveys messages through songs and acts in local language. Village meeting with participation of key stakeholders and activities to stimulate thinking among participants were also conducted in this year on topics such as significance of nutrition and its constituents in regular diet, vitality and method of hand washing, pregnancy care and its impact on newborn health, etc.

SN	Event Name	Date/Duration	Villages Covered	Audience Size
1	National Nutrition Week	Sep '19	Motia, Patwa, Ranitikar	550
4	World Environment Day	5 th June '19	Motia	400
Total				950

➤ Medical Services

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

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2. **Health Check-up Facility for Laborers:** CSR Medical Team provides regularly Health Check-up Facility for Laborers at Project area. The new employees are done their health check-up by our Medical team effectively and sincerely for better result and safe from coming hazards. Major check-up includes parameters: height, weight, colour blindness, BP, Blood Group, Sugar, Eye check-up. Total 2418 Labours checked during this month.
3. **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.
4. **Collaboration with Chief Minister's Critical illness Scheme:** Ambulance support has been provided for the patients under this scheme, as a result of this support over half a century poor patients suffering from critical illness for treatment got benefitted. The facility has been provided to patients' upto Deoghar, Ranchi and Patna.
5. **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 like Bhagalpur, Deoghar, Ranchi, and Patna & Other nearby hospitals.

➤ Seasonal Assistance

1. **Environment Protection and Water conservation:** AF encourages practice of protecting and conserving the environment. Saplings of 1000 mango and banana plants were distributed in our Pipeline Area block (Pathagrama & Mahagama).
2. **Support to Natural Hazard affected families:** Distribution of tarpaulin to rescue 40 households affected from flood.
3. **Team Participation in cultural event:** Sreemad Bhagwad katha is a week-long cultural event which is celebrated by Hindu community across the state. This event was celebrated at Chilera of Pathargama block led by Shyam Mandal, village level leader with support of Adani Foundation to such community level event by ensuring team participation.

➤ Welfare Support

1. **Relief Materials to Fire affected Families:** Fire affected Families were provided Relief Materials in Navadih village of Poraiyahat on eve of 10th April '19. Adani team supported eight families with relief materials comprising utensils, clothes, tarpaulin, etc. on 12th April '19.
2. **Assistance in Health, Marriage and Death:** Poor people are supported financially in events like marriage, death and illness as emergency support. During the period,

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total 83 beneficiaries have been supported to the tune of Rs. 804600. The persons to whom we have assisted were from the project affected villages.

SN	Support Cause	No. of beneficiaries	Supported Amount
1	Health Support	18	95500
2	Marriage Support	21	79000
3	Death Support	21	78000
4	Education Support	1	5000
5	Social Occasion Support	22	547100
Total		83	804600

- 3. Systematic Voter's Education and Electoral Participation (SVEEP)** was launched by Election Commission of India to inform, educate, motivate and facilitate voters and in turn make Indian democracy more participative and meaningful. The Adani Foundation also became a part of this glory and gave its best support in Community Mobilization. Numerous awareness programs were performed by the Cultural Program and Sports Activity.

C. Sustainable Livelihoods

- 1. Adani Skill Development Centre:** Adani Skill Development Centre- ASDC, Godda was inaugurated by Executive Director AF- Education and Skills on 27th September 2018. Seven trades viz. Welder, Fitter, Mason and Bar bender, General Duty assistant, Hospitality, Electrical, and industrial Sewing Machine Operator have been started at the centre with enrolment of over 210 trainees. The centre shall run trainings under 11 trades when operational in full capacity.
- 2. Saksham Training centers-** This year two batches (Batch V and VI) have commenced training and two batches have completed training (Batch IV and V) at Saksham Training Centres. Eight Sewing & Garment Making and two Computer Learning Centers under the "Saksham program" are operational in Motia, Rangania, Nayabad, Patwa, Sondiha, Basantpur, Sarba, Bahuriya and Dumariya village. A total of 601 trainees have been enrolled in training this year in these centers. The details of the centers are as follows:

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Enrolment details of Trainees at Saksham Sewing Centres						
S. N.	Centre Name/Village	No. of Trainees enrolled in Batch V	No of Batches	No. of Trainees enrolled in Batch VI	No of Batches	Total Trainees benefitted in FY 2019-20
1	Motia	36	3	25	2	61
2	Basantpur	40	4	29	3	69
3	Sondiha	30	3	30	3	60
4	Rangania	20	2	20	2	40
5	Dumariya	35	3	35	4	70
6	Bahuriya	25	2	30	3	55
7	Sarba	21	2	21	2	42
8	BahadurChak	21	2	21	2	42
Total		228		211		439
Enrolment details of Trainees at Saksham Computer Centres						
9	Rangania	25	2	25	2	50
10	Motia	60	3	52	3	112
Total		85		77		162

3. Govt. Order for Uniform Stitching to Phoolo Jhano Saksham Aajeevika Sakhi

Mandal: District Administration has entrusted our Saksham Sewing trainees with the responsibility of stitching and delivering two pairs of uniform for 151,000 for govt. school students from standards 1st to Xth for academic session 2019-20. This is a big step towards making over 1500 trained women economically independent and has brought ray of hope in their lives. Adani Foundation has set up a mass production centre with 225 Industrial Sewing Machines at all over sewing training centers to support these women to fulfill their commitment with District Education Development. Over 1500 women are engaged at 11 Uniform Production cum Training Centres led by Phoolo Jhano Saksham Aajeevika Sakhi Mandal. These women have collectively **earned over Rs 14, 02,674 in FY 2019-20** through this initiative of Adani Foundation by stitching over 1, 35,936 uniforms for 33,984 students.

Phoolo Jhano Group has been awarded "**Assocham India Women Empowerment award**" on 7th June'19 in Ranchi by **Hon'ble Minister of Urban Development Jharkhand- Shri C.P. Singh** for its successful initiative of linking **1100 skilled women to livelihood opportunity**. Whole ASDC team was honored with the award including Lead Sewing Trainer of ASDC- Mrs Mira Madhwa along with Skills Head- Mr. Jatin Trivedi, Unit CSR Head- Mr. Subodh Singh.

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- ❖ **Development of Vermicomposting units in the TPP area:** This year 100 farmers have been supported to take up vermicomposting unit development with aim to promote organic farming practices and providing alternative livelihood option to the community. Krishi Vigyan Kendra, (KVK) Godda and other technical experts are the knowledge partner for this initiative to provide technical know-how and other on-farm trainings to beneficiary group of the farmers. In the first cycle, demonstration plot developed by a farmer of Motia village has given produce of 20 ton out which farmer has sold 20 MT vermicompost at the average rate of Rs 7000. While he has attained order for another 30 MT from local and nearby markets. He is setting another cycle of vermicompost production.
- ❖ **Piggery Farming:** Two farmers from Paharpur village of Jitpur Mines were supported this year on pilot basis for piggery farming. Support was provided in form of 4 piglets per farmer and piggery shade which costed around 40000 per farmer. Cost of feeding the piglets at the rate of Rs. 2000 per month for 14 months i.e. Rs. 28000 is borne by farmer. Marketing of grown up pigs has been linked with Krishi Vigyan Kendra (KVK). It has been estimated that 8 live birth piglets will be born per season and each pig of average weight of 150 kg is sold at the rate of Rs. 200 per kg i.e. Rs. 30000 per pig x 8 pigs i.e. **Rs. 2,40,000 income per year is estimated per beneficiary.**
- ❖ **OJT & Placement of GDA Trainees:** General Duty Assistant (GDA) Trainees were selected by Nightingales- A Group Company of Mahindra & Mahindra for Bed Side Patient Attendant job at Bengaluru. Out of 13 girls who were selected, three girls have joined at Bengaluru at package of Rs. 2, 00,000 per annum.
- ❖ **Horticulture plant distribution:** 5000 saplings was distributed in core, railway siding and pipeline villages as well as public offices and 2000 Mango plants was supplied to Divisional Forest Office, Pakur with aim to promote horticulture and orchard development in the area.
- ❖ **Financial Support for Volunteers and Project Affected Families:** This year Jitpur mines has continued to support 370 families project affected families at the rate Rs. 1440/- per month towards livelihood engagement. Also, Rs.1, 65,201 Monthly Honorarium payments for Volunteer was continues this year. These volunteers help the Adani team for field mobilization and also help to maintain positivity in the Project affected Villages.

D. Rural Infrastructure Development

Water Conservation, Ground water recharge

1. Deepening work of Ponds: Total Deepening work of 37 Ponds has been completed in 26 villages with aim to increase in water storage capacity of ponds as well as increasing in ground water level. More than 650 acre of agricultural land from 7 villages is depending on these ponds for irrigation purpose, but due to lack of storage capacity the pond can provide irrigation to only 100-150 acre of agriculture land. These ponds are excavated for enhancing their water storage capacity by deepening the ponds.

It is expected that the pond deepening work will enhance the crop intensity and irrigation area in more than 1050 acre of agricultural land with net increase in storage capacity by **1,01,590 cubic meters**. Apart from agriculture, other alternative livelihoods option have increased in our area such as livestock development, pisciculture etc. In addition to this the work will also boost in ground water level in the wells and bore wells in the area. As availability and increase in water storage, we could also introduce the scientific methods of agriculture like SRI methods in paddy and other crops.

Details of Pond deepening and cleaning work:

Sr No	Name of Pond	Village
Pond Deepening in FY 2019-20		
1	Kanchan Pond	Petvi
2	Godam Pond	Gaighat
3	Sondiha Pond	Sondiha
4	Basantpur Pond	Basantpur
5	Dhibri Pond	Baliyakitta
6	Mandal Pond	Baksara
7	Nayabad Pond	Nayabad
8	Shivpur Pond	Kauribahiyar
9	Joraprakhar pond	Godda
10	Gangta Pond	Nayabad
11	Bharta Pond	Nayabad
12	Gangti Pond	Ranganiya
13	Khera Pond	Ranganiya
14	Patangiya Pond	Petbi Santhali
15	Chamra manshi pond	Sondhiya
16	Tar Pond	Sondhiya

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17	Baghuniya Pond	Rampur
18	Dumariya Pond	Dumariya
19	Sukha Mathu Pond	Baxara
20	Lobandha Pond	Sikatia
21	Pond	Petbi Kouribihar
22	Ghogra pond	Belbarna
23	Rajkachari Pond	Godda
24	Godhi Pond	Gangta
25	Shivpur Pond	Godda
26	Lohiyanagar Pond	Godda

E. Drinking Water Facility

1. Drinking water facility in villages - Borewell etc.: 4 deep borewell were installed for drinking water facility at common places of the area like educational institutes, common community structures etc. The work will facilitate the community during the summer season and all of the year.

2. Safe Drinking water- Installation of RO System at Godda and Sahebganj for providing safe and clean drinking water to the people. RO machine have been installed at Sahibganj DC office and Ram Temple in satichouki Kuthari village, Sahibganj for providing safe and clean drinking water

3. Renovation of Handpumps: Hand pumps are primary source for drinking water and other domestic need in the TPP area, Adani Foundation have been taken up the hand pumps maintenance and repairing work in the area with this work, we are ensuring 100% functionality of the hand pumps in the area. This year we have renovated and repaired 63 hand pumps in the villages.

Details of hand pump repairing:

SN	Village/Block	No. of Hand pump Repaired
1	Mahgama	9
2	Pathargama	6
3	Godda	27
4	Sunderpahari	13
5	Samda/Thakurgangti	4
6	Ratanpur/Thakurgangti	4
Total		63

F. Educational infrastructure Development

1. **Renovation of 2 School** is going on at Baksara village and **Gyanodaya Class Room** in Pipe line areas for quality learning of students.
2. **Construction of 06 Class room** is going on at High School, Motia to provide infrastructure for students to learn in a proper proximity. Also it is helpful to create a better educational environment in the campus.
3. **Construction of Main Gate of 3 College/School:** We have taken up the construction of main gate at 3 colleges /school at Godda College, Godda, Vidyapati Bhawan, Godda and SM College, Poriyahat. There are more than 2500 students are studying Godda college, Godda is only college in Godda district for Higher Education and running on unpaid education policy, the provisions are beneficial in a large scale for the girls/boys studying in the college and school.
4. **Renovation of boundary wall at 2 schools:** construction of boundary wall at 2 schools has been done at Middle school, Basantpur and Middle school Sondiha. After construction of the boundary wall it is beneficial for more than 500 students those who are studying in the school. Also it will helpful to create a better educational environment in the campus.
5. **Construction of Pathway** at DFO residence, Godda; **Beautification Work** at Govt. Office , Dumka; **Renovation of Ambedkar Statue** at Badhouna Village and **Renovation work of SDPO office** has been carried out to provide a better & more organized environment with better workspace. Another major reason to renovate is to improve health standards and safety for the officials. With aim to provide better infrastructures we have taken up construction of Car & Bike Parking, Seating Place, Renovation of canteen building & some basic construction work at Govt. Office & Residence. There are more than 300 employees working in Govt. office, the provisions are beneficial in a large scale for the govt. employees working there.

G. Other Village development structures

- **Construction of 30 Seating Place in TPP villages:** Construction of 30 Seating place (Chabutra) has been done at in 16 villages of our TPP area. Normally village not having common places in the village for seating purpose for elders and senior citizens. This is being used by the common people in the village for seating purpose.
- **Renovation of 6 Community Hall for Community Programs.** Promotion of cultural activity and local events at village level for community. It helps share peace and harmony among community. As we committed to provide better community structures to the village, we have renovated a community hall & Satsang Bhawan at

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Sondiha village. This hall is being used for Sewing training center as well as common community purpose.

- **Construction of 9 Bathrooms & Soakpit** has been done at Niyamatchak village of pipeline area. As we are working towards creating awareness for cleanliness and hygiene by our program named "SWACCHAGRIH" with aim to aware and engage people in creating cleanliness culture. Some time ago people had not toilets facility in their village and they were using open places for toilet which invites unhygienic condition and diseases among the people. We have constructed 9 community bathrooms & soakpit for common use.
- **Construction of 2 PCC Road:** Construction of 2 PCC Road at Sondiha village is done to provide rural connectivity, linkages to market and availment of basic services. The work has been benefitted to more than 5000 villagers from 6 villages.
- **Renovation and construction of community structures:** We have taken up the renovation of community structures like Temples/Puja Sthal etc. People of our area having big faith for these temples and other places. So many people are visiting daily for religious purpose at the temple.
- **Construction of Drain at 4 villages:** As we are working towards creating awareness for cleanliness and hygiene by our program named "SWACCHAGRIH" with aim to aware and engage people in creating cleanliness culture. In addition to this we have constructed drain in 4 villages Gangta, Nayabad, Sondiha and Motia. It will be beneficial to more than 900 households of the villages.



GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE
REGIONAL OFFICE (RANCHI)
BUNGALOW NO.A-2, SHYAMLI COLONY, RANCHI - 834002
TEL: 0651-2410007, 2410002, E-mail: ro.ranchi-mef@gov.in



No. FP/JH/Others/32773/2018

3614

Dated 22nd November, 2019
25th

To

The Additional Chief Secretary,
Department of Forests, Environment & Climate Change,
Government of Jharkhand,
Nepal House, Ranchi

Sub: Diversion of 13.3293 ha of forest land for lying of Underground Water Pipe Line in favour of M/s Adani Power (Jharkhand) Limited in Sahibganj and Godda districts of Jharkhand.

Ref: This office "in-principle" approval letter of even number dated 28.06.2019.

Sir,

I am directed to refer to letter No.Van Bhumi-18/2019-4379/Va.Pa. dated 20.11.2019 on the above mentioned subject and to say that condition no.2.(a) of the Stage-I approval, is changed as follows:

"Compensatory afforestation shall be taken up by the Forest Department over 14.02 ha. non-forest land (Site – Baridih and Gomot, Thana – Ghagra, Thana No.100 and 99 in Gumla district under Gumla Forest Division) at the cost of the User Agency. The compensatory afforestation should consist of plantation of suitable mixture of only local native species avoiding monoculture. The CA land (embedded in tenancy lands and situated remotely from forest lands) should be safeguarded against encroachment with permanent demarcation structures and fencing as appropriate at the cost of User Agency."

All other conditions of earlier Stage-I approval order shall remain unchanged.

Yours faithfully,

Sujoy Dutta
25/11/19
(Sujoy Dutta)

Technical Officer (Forestry)

Copy to:-

1. The Director, RO(HQ), Ministry of Environment, Forests and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi – 110 003.
2. The Principal Chief Conservator of Forests (HoFF)/The PCCF-cum-Nodal Officer (FC), Forests, Environment & Climate Change Department, Government of Jharkhand, Van Bhavan, Doranda, Ranchi.
3. The Divisional Forest Officer, Sahibganj and Godda Forest Division, Jharkhand.
4. The Head of Environment, Adani Power (Jharkhand) Limited, 3rd Floor, Lake View Tower, Doranda, Ranchi.
5. Guard File.



GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE
REGIONAL OFFICE (RANCHI)
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TEL: 0651-2410007, 2410002, E-mail: ro.ranchi-mef@gov.in



No.FP/JH/Others/32773/2018 /3253

Dated 28th June, 2019

To

The Additional Chief Secretary,
Department of Forests, Environment & Climate Change,
Government of Jharkhand,
Nepal House, Ranchi.

Sub: Diversion of 13.3293 ha of forest land for lying of Underground Water Pipe Line in favour of M/s Adani Power (Jharkhand) Limited in Sahibganj and Godda districts of Jharkhand.

Sir,

I am directed to refer to letter No.Van Bhumi-18/2019-2258/Va.Pa. dated 21.6.2019 of the State Government, Jharkhand on the above mentioned subject seeking prior approval of the Ministry of Environment, Forest and Climate Change under section 2 of Forest (Conservation) Act, 1980.

2. After due consideration of the proposal of the State Government and on the basis of decision of Regional Empowered Committee, the Central Government, hereby, conveys "**in-principle**" approval for diversion of 13.3293 ha of forest land for installation of Underground Water Pipeline in Sahibganj and Godda districts in favour of M/s Adani Power (Jharkhand) Limited for their proposed 1600 MW Thermal Power Plant in Godda dist., subject to the following conditions and stipulations:

- 1) Legal status of the forest land shall remain unchanged.
- 2) **Compensatory afforestation:**
 - a) Compensatory afforestation shall be taken up by the Forest Department over 16.2 ha. non forest land (Site – Sasarkho-39, Khata No.127, Plot No.591) at the cost of the User Agency. As far as practicable a mixture of local indigenous species will be planted and monoculture of a species has to be avoided.
 - b) The non-forest land to be identified for compensatory afforestation shall be transferred and mutated in favour of the State Forest Department for raising compensatory afforestation before issue of the Stage-II approval.
 - c) The non-forest land which is transferred and mutated in favour of the State Forest Department for the purpose of Compensatory Afforestation shall be declared as Reserved Forest under Section-4 or Protected Forest under Section-29 of the Indian Forest Act, 1927 or under the relevant section (s) of

the local Forest Act. The Nodal Officer must report compliance within a period of 6 months from the date of grant of final approval and send a copy of the original notification declaring the non-forest land as R.F. under Section-4 or P.F. under Section-29 of the Indian Forest Act, 1927 or under the relevant section of the local Forest Act as the case may be, to this Ministry for information and record.

- d) The cost of compensatory afforestation at the prevailing wage rates as per compensatory afforestation scheme and the cost of survey, demarcation and erection of permanent pillars if required on the CA land shall be deposited in advance with the Forest Department by the project authority. The CA will be maintained for 10 years. The scheme may include appropriate provision for anticipated cost increase for works scheduled for subsequent years.

3) NPV:

- a) The State Government shall charge the Net Present Value (NPV) for the 13.3293 ha forest area to be diverted under this proposal from the User Agency as per the order of the Hon'ble Supreme Court of India dated 30/10/2002, 01/08/2003, 28/03/2008, 24/04/2008 and 09/05/2008 in IA No. 566 in WP (C) No. 202/1995 and as per the guidelines issued by the Ministry vide letters No. 5-1/1998-FC (Pt.II) dated 18/09/2003, as well as letter No. 5-2/2006-FC dated 03/10/2006 and 5-3/2007-FC dated 05/02/2009 in this regard.
 - b) Additional amount of the NPV of the diverted forest land, if any, becoming due after finalization of the same by the Hon'ble Supreme Court of India on receipt of the report from the Expert Committee, shall also be charged by the State Government from the User Agency. The User Agency shall furnish an undertaking to this effect.
- 4) All the funds received from the user agency under the project shall be transferred / deposited to CAMPA fund only through **e-portal** (<https://parivesh.nic.in/>).
 - 5) The complete compliance of the FRA, 2006 shall be ensured by way of prescribed certificate from the concerned District Collector.
 - 6) The boundary of the diverted forest land shall be suitably demarcated on ground at the project cost, as per the directions of the concerned Divisional Forest Officers.
 - 7) User Agency shall restrict the felling of trees to minimum number in the diverted forest land and the trees shall be felled under the strict supervision of the State Forest Department and the cost of felling of trees shall be deposited by the User Agency with the State Forest Department.

- 8) The pipeline shall be laid down 1.5 m below the ground surface and proper leveling will be done after installation of the pipeline.
- 9) User Agency shall obtain Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986, if applicable.
- 10) The alignment and layout plan of the proposed water pipeline through diverted forest land shall not be changed without prior approval of Central Government.
- 11) During construction/installation of the pipeline or operation and maintenance activities thereafter, the following restriction/provision shall be complied:
 - (a) No housing/camp structure or labour camp shall be established on the forest land.
 - (b) Sufficient firewood, preferably the alternate fuel, shall be provided by the User Agency to the labourers engaged for this purpose after purchasing the same from the State Forest Department or the Forest Development Corporation or any other legal source of alternate fuel.
- 12) No additional or new path will be constructed inside the forest area for transportation of construction materials for execution of the project work.
- 13) The period of diversion under this approval shall be co-terminus with the period of the project life.
- 14)
 - (a) The forest land shall not be used for any purpose other than that specified in the project proposal.
 - (b) The forest land proposed to be diverted shall under no circumstances be transferred to any other agencies, department, or person without prior approval of Govt. of India.
- 15) Violation of any of these conditions will amount to violation of Forest (Conservation) Act, 1980 and action would be taken as per the MoEF&CC Guideline F. No. 11-42/2017-FC dt 29/01/2018.
- 16) Any other condition that the Ministry of Environment, Forest & Climate Change may stipulate from time to time in the interest of conservation, protection and development of forest & wildlife.
- 17) The compliance report shall be uploaded on **e-portal** (<https://parivesh.nic.in/>).

3. After receipt of the compliance report on fulfillment of the conditions as stipulated above, from the State Government, formal approval will be issued in this regard under Section 2 of Forest (Conservation) Act, 1980. Transfer of forest land to user agency should not be effected by the State Government till formal order approving diversion of forest land is issued by the Central Government.

4. The Regional Empowered Committee has also suggested that as a significant component towards fulfilment of Corporate Environment Responsibility, the project proponent should specifically contribute for the rejuvenation of the Ganga river in the segment along districts of Sahebganj and Bhagalpur specially in respect of conservation of Dolphin and other aquatic biodiversity. However, the financial commitment on this account shall not be the part of compensatory levies under this FC Act approval.

Yours faithfully,



(Sujoy Dutta)

Technical Officer (Forestry)

Copy to:-

1. The Director, RO(HQ), Ministry of Environment, Forests and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi – 110 003.
2. The Principal Chief Conservator of Forests (HoFF), Forests, Environment & Climate Change Department, Government of Jharkhand, Van Bhavan, Doranda, Ranchi.
3. The PCCF-cum-Nodal Officer (FC), Forests, Environment & Climate Change Department, Govt. of Jharkhand, Van Bhavan, Doranda, Ranchi.
4. The Divisional Forest Officer, Sahibganj and Godda Forest Division, Jharkhand.
- ✓ 5. The Head of Environment, Adani Power (Jharkhand) Limited, 3rd Floor, Lake View Tower, Doranda, Ranchi.
6. Guard File.



Technical Officer (Forestry)