



ADHUNIK POWER & NATURAL RESOURCES LTD.

(Formerly Adhunik Thermal Energy Limited)

Office : Village Padampur, Behind PGCIL Substation, Adityapur, Kandra Road, P.O: Kandra Saraikele-Kharsawan, Jharkhand-832 402 ☎ PHONE : 0657 6628400 ☎ FAX : 0657 6628440
Website : www.adhunikgroup.com

Ref: MOE&F, RNC/HYC/RA/251219/01

Dated: 20.12.2019

To,

Regional Office (ECZ),
Ministry of Environment, Forest and Climate Change,
Bungalow No. A-2, Shyamali Colony,
Ranchi - 834002

Sub:- Submission of Half yearly compliance status report (Unit I) for the period - April 2019 to September 2019,-Reg.

Ref:- MoEF letter No.J-13011/8/2009-IA.II(T), dated 29th Aug 2009.

Sir,

With reference to the above referred Environmental Clearance, we are pleased to submit herewith the half yearly compliance status report (Unit I) for the period of April 2019 to September 2019.

This is for your reference and record, please.

Thanking you,

For Adhunik Power & Natural resources Limited


(Authorized Signatory)

Encl: As Above

Copy to:

- 4) Central Pollution Control Board, Kolkata
- 5) Member Secretary, Jharkhand State Pollution Control Board, Jharkhand
- 6) Regional Officer, JSPCB, Jamshedpur




Bookin
27/12/19



Regd. Office : 14, Netaji Subhas Road, II-Floor, Kolkata - 700 001, Phone : 2243-4355, 2242-8551

Works: Padampur, Saraikele, Kharsawan, Jharkhand
CIN U40101WB2005PLC102935

REPORT

ENVIRONMENTAL COMPLIANCE STATUS REPORT FOR 1X270 MW COAL BASED POWER PLANT

(Unit I)



APRIL 2019 – SEPTEMBER 2019

Adhunik Power & Natural Resources Limited
Village: Padampur, Behind PGCIL Substation
Kandra Chouka Road, Saraikela-Kharsawan
Jharkhand

Adhunik Power & Natural Resources Limited
VIII: Padampur, Behind PGCIL Substation, Kandra Chouka Road, Saraikela-Kharsawan, Jharkhand

Environmental Clearance Letter No: J-13011/8/2009-IA.II(T), dated 29th Aug 2009.

Period Of Compliances: April 2019 to September 2019

Sl No	EC Conditions	Status as on 30 th September 2019
1	No additional land in excess of 119 ha shall be acquired for any activity/facility of this project.	Total Land acquired for Unit I is well within the land mentioned in Environment Clearance.
2	EC is subject to obtaining clearance under the Wildlife Protection Act, 1972 from the competent authority	WLMP Prepared and approval has been obtained from PCCF. Complied
3	EC is subject to final order of the Hon'ble Supreme court of India in the matter of Goa foundation Vs Union of India in Writ. Petition (Civil) no. 460 of 2004 as may be applicable to this project.	Not applicable.
4	Project proponent should contribute @ Rs. 20000/ha for project area as proportionate cost to the regional Wildlife Conservation plan and a copy of the plan should be submitted to the ministry.	As in Sl. No. 2 the Wild Life Management Plan (WLMP) prepared has already been approved by PCCF, Ranchi on May 10, 2010. 1 st installment already submitted. Complied
5	Sulphur and ash contents in the coal to be used in the project shall not exceed 0.45 % and 46 % respectively at any given time. In case of variation of coal quality at the time of issuance of LOA, a fresh reference shall be made to MoEF for suitable amendment to EC condition wherever necessary	The sulphur and ash content in used coal conforms the limits.
6	A single stack of 220 m height shall be provided with continuous online monitoring equipment's for Sox, Nox and PM. Exit velocity of flue gases shall not be less than 25 m/sec. Hg emission from stack may also be monitored on periodic basis.	Twin flue chimney of 275m height has constructed for proper dispersion of gases. Online monitoring equipment has installed in chimney. Photographs with details of CEMS enclosed as Annexure I Hg concentration in flue gases is well within prescribed limits.
7	High efficiency Electrostatic Precipitators (ESPs) shall be installed to ensure that particulate emissions does not exceed 50 mg/Nm ³	High efficient ESPs of 32 fields has been installed to ensure control Particulate matter emission in flue gas. Stack monitoring report for the month of May 2019 enclosed as Annexure II.
8	Adequate dust extraction system such as cyclones/bag filters and water spray in dusty areas such as in coal handling and ash handling points, transfer area and other vulnerable dusty areas shall be provided.	Necessary mitigation measures in accordance with EMP and EC conditions has taken to control fugitive emissions from ash storage/transfer and coal handling plant such as installation and operation of bag filters collectors, use of water spray systems and enclosed conveyors with well designed, extraction and filtration equipment on transfer points. Photographs Attached as Annexure III.
9	Fly ash shall be collected in dry form and storage facility (Silos) shall be provided. 100 % fly ash utilization shall be ensured from 4th year onwards. Unutilized ash shall be disposed off in the ash pond in the form of slurry form. Mercury and other heavy metals (As, Hg, Cr, Pb etc.) will be monitored in the	Agreements made with cement plants, brick plants etc to ensure 100% utilization of fly ash from 4th year onwards. Fly Ash generation & Utilization report (April 2019-Sept 2019) are enclosed as Annexure IV. Monitoring of mercury and other heavy metals (As, Hg, Cr, Pd etc.) in the bottom ash and also in the effluents emanating from the ash

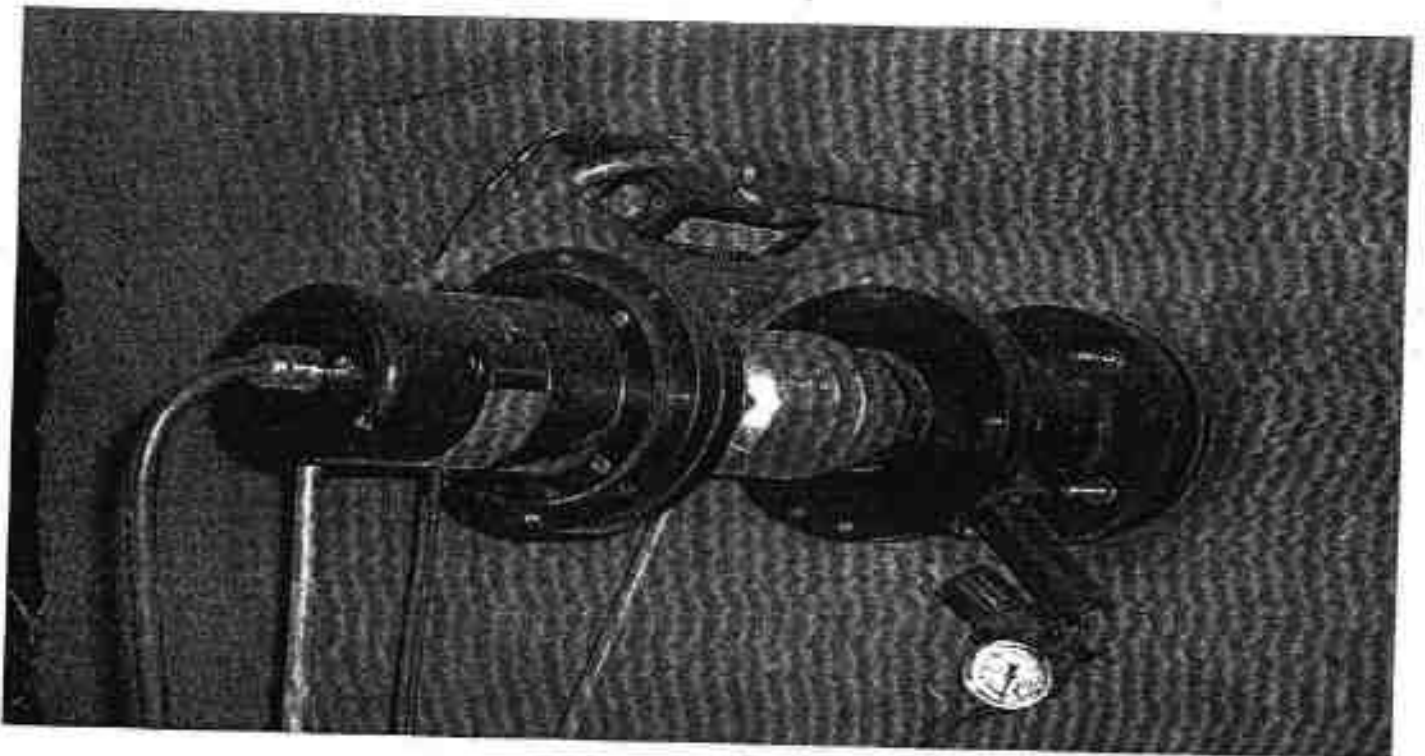
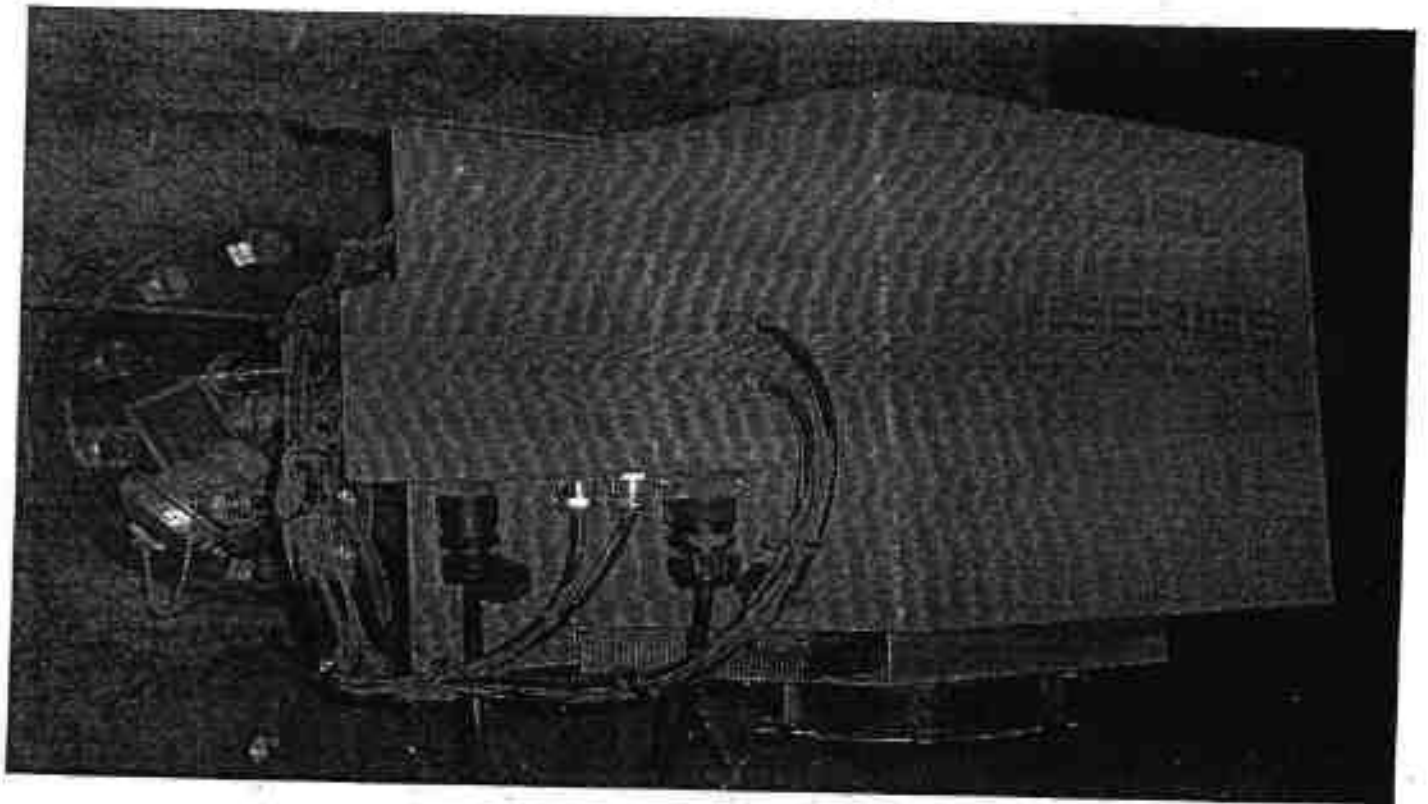
	bottom ash as also in the effluent emanating from the existing ash pond. No ash shall be disposed off in low lying area.	pond is being done periodically. Bottom ash analysis report & effluent analysis report of ash pond for the month of May 2019 enclosed as Annexure V & Annexure VI respectively.
10	Ash pond shall be lined with impervious lining. Adequate safety measures shall be implemented to protect the ash dyke from getting breached.	Complied
11	Closed cycling cooling system with cooling towers shall be provided. The effluents shall be treated as per the prescribed norms.	The project design involves closed cycle cooling systems with induce draft cooling towers. The effluent generated from process operation is being treated in a Guard pond to ensure conformance to CPCB standards and recycled in plant process. Treated effluent analysis report of Guard pond for the month of May 2019 enclosed as Annexure VII.
12	No ground water shall be extracted for project work at any stage.	We adhere.
13	Natural drainage system within the project site should not be disturbed.	Natural drainage system has not been disturbed.
14	The treated effluents conforming to the prescribed standards shall be re-circulated and reused within the plant. There shall be no discharge outside the plant boundary except during monsoon. Arrangements shall be made that effluents and storm water do not get mixed.	The project is designed with zero discharge provisions and there is separate arrangement for storm water and effluent water. Complied
15	A sewage treatment plant shall be provided and the treated sewage shall be used for raising green belt /plantation.	STP 60 KJ capacity (03 No) has installed within plant premises to treat sewage waste. Photographs enclosed as Annexure VIII.
16	Rainwater harvesting should be adopted CGWA shall be consulted for finalization of appropriate rain water technology within a period of three months from the date of clearance and details shall be furnished	The Rain water harvesting report has submitted and approved from CGWA Ranchi. 13 No Rain water harvesting system has been constructed in accordance with the approved rain water harvesting plan.
17	Adequate safety measures shall be provided in the plant area to check/minimize spontaneous fires of coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the Ministry as well as to RO of the Ministry at Bhubaneswar.	The design of coal yard along with provision of fire safety measures viz. fire hydrants, water sprinklers has installed and submitted to the Ministry. Complied
18	Storage facilities of auxiliary liquid fuel such as LDO and HFO/LSHS shall be made in the plant area in consultation with dept. Of Explosive, Nagpur. Sulphur content in the liquid fuel will not exceed 0.5 %. DMP shall be prepared to meet any eventuality in case of an accident taking place due to storage oil.	Approval received on dated 15/12/2011. License No. P/HQ/JH/15/1065 (P257355), valid upto 31 st Dec 2022 for LDO storage installation (under Petroleum Class "C") for operations. Copy of Approval are enclosed as Annexure IX. We are using Sulphur content in the liquid fuel within prescribed limit. Copy of Test report are enclosed as Annexure X.
19	Regular monitoring of ground water in and around to ash pond area including heavy metals (Hg, Cr, As, Pb) shall be carried out, records maintained and six monthly report shall be furnished to RO of ministry. The data so obtained should be compared with	Regular monitoring of ground water in and around ash pond area including heavy metals is being carried out. Ground water analysis report of upstream & downstream of ash pond for the month of May 2019 enclosed as Annexure XI.

	the base line data so as to ensure that the ground water quality is not adversely affected due to the project.	
20	A green belt of adequate width and density shall be developed around the plant periphery covering 1/3 of the project area preferably with local species.	A thick green belt of adequate width is being developed. 67756 nos. (Area covered-50.8 Hac) of plantation has been completed in and outside along the periphery of the power plant to arrest any dust emissions and help in attenuation of noise till Sep 2019. Survival rate of sapling is 87.1%. Total Survived plants are 59015. Plantation done April 19 to September 19 is 2551 samplings. Name of Plant Species- Neem, , Seesam, Mango, Jamun etc.
21	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Plant is under operation however A first aid center comprising of competent medical staff (6 no's) and equipped with necessary medical facilities is made available onsite to provide emergency medical aid to both contract workers and company staff.
22	Noise level emanating from turbines shall be so controlled such that the noise in the work zone shall be limited to 75 dBA. For people working in the high noise area, requisite PPE like ear plug/ear muff etc shall be provided. Workers engaged in noisy areas such as turbine area, air compressors etc shall be periodically examined to maintain audiometric record and for treatment for any hearing loss including shifting to non-noisy/less noisy areas.	Adequate measures has implemented in consistent with the EMP to control turbine noise levels within stipulated limits. This include installing of sufficient engineering control in turbines as per design specifications, provision of ear plugs/ear muffs for workers exposed to high noise, rotation of workers and carrying out periodic audiometric testing of workers and records is being maintained. Noise level monitoring report for the month of May 2019 As Annexure XII.
23	Regular monitoring of ground level concentration of SO ₂ , NO _x , RSPM 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 limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to RO of ministry. The data shall also be put on the website of the company.	Monitoring of Air quality is being conducted by APNRL on monthly basis. Review of air quality monitoring results revealed compliance to NAAQS. Ambient Air monitoring reports for the month of May 2019 is enclosed as Annexure XIII.
24	Provision shall be made for the housing of construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care crèche etc. The housing may be in the form of temporary structure to be removed after the completion of the project.	Plant is in operational condition and local labors are coming from nearby villages.
25	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 EC and copies of clearance letter.	Complied.

	are available with the SPCB/committee and may also be seen at Website of the MoEF at http://envfor.nic.in .	
26	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat Zila Praesed/Municipal Corporation, urban local body and the local NGO, if any from whom suggestion/representation, if any were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Complied.
27	A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.	A Environmental Management Cell is being operational onsite to ensure effective implementation of specific EMPs. Organization chart of Environmental Management Cell enclosed as Annexure XIV.
28	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the RO of MoEF the respective zonal office of CPCB and the SPCB the criteria pollutant level namely SPM, RSPM, SO ₂ , NO _x (ambient level as stack emission) shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	The updated compliance status of the stipulated EC conditions along with monitored data has been displayed at the company website. The monitoring data (SPM, RSPM, SO ₂ , NO _x) for both ambient air quality and chimney emissions is being displayed at the main gate of the company. Status of compliance of the stipulated EC conditions has been uploaded on company website for the period of Oct 2018 to March 2019.
29	The project proponent shall also submit six monthly report on the status of compliance of the stipulated condition including result of monitored data (both in hard copy as well by email) to the respective RO of MoEF, the respective zonal office of CPCB and the SPCB.	Last six monthly reports (Oct ,18-March ,19) for the project along with environmental monitoring data submitted to MoEF RO at Ranchi vide letter No MOE&F,RNC/HYC/RA/22619/01 dated 06 th June 2019 . Acknowledgement copy of same enclosed as Annexure XV.
30	The environmental statement for each financial year ending 31st March in form-V as is mandated to be submitted by the project proponent to the concern SBCB 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 the compliance of EC condition and shall also be sent to the respective RO of MoEF by email.	The last environmental statement for financial year (2018-19) in Form V has submitted vide letter No: APNRL/JSPCB/ES/2018-19/01 dated 20 th Sep 2019. Acknowledgement copy of same enclosed as Annexure XVI. Environment Statement (2018-19) has been uploaded on company website.
31	RO of the MoEF located at Shubaneswar will monitor the implementation of the stipulated conditions. A complete set-up of documents including EIA report EMP along with the additional information submitted from time to time shall be forwarded to the RO for their use during monitoring. Project proponent will upload the compliance status their website and update the same from	The updated compliance status of the stipulated EC conditions along with monitored data has been displayed at the company website. The monitoring data (SPM, RSPM, SO ₂ , NO _x) for both ambient air quality and chimney emissions is being displayed at the main gate of the company. However Half yearly progress report is being sent to RO office, Ranchi on regular basis as per the requirement & uploaded on company website.

	time to time at least six monthly basis. Criteria pollutant level (Stack and ambient level of NOx) will be displayed at the main gate of the power plant.	Status of compliance of the stipulated EC conditions has been uploaded on company website for the period of Oct 2018 to March 2019.
32	Separate fund shall be allocated for implementation of environmental protection measures along with item wise break up this 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.	Adequate budgetary provision has been made by the APNRL for execution of environmental management plan.
33	The project authorities shall inform the RO as well as the ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work and commissioning of plant.	Complied
34	Full cooperation shall be extended to the Scientists/officers from the ministry / RO of the ministry at Bhubaneswar/the CPCB/the SPCB who would be monitoring the compliance of environmental status.	We ensure.

Continuous emission monitoring system



CODEL

REF: DCME2100/DS02

DATA SHEET DCME2100 DUST MONITOR		
GENERAL		
1	Make	Codel, UK
2	Model	DCME2100 Dust Monitor
3	Type	In-Situ Non contact cross beam type
4	Qty of units	2 No
5	Tag No.	HNE10CO003
FEATURES		
6	Range	0-100% Opacity - 0-999mg/m ³ & 0-99%w/vNm ³ (Fully site selectable)
7	Min. detectable conc.	1mg/m ³
8	Measurement Units	Fully selectable units - mg/m ³ (measured), mg/Nm ³ (Normalized) and opacity (%)
9	Measurement averaging	Fully selectable in range 10sec to 30 days
10	Response time	90% in 5 seconds
11	Auto/manual calibration	In built automatic zero and span calibration
12	Accuracy	±0.2% Opacity of measurement
13	Drift	Less than 1% per month
14	Resolution	±0.1% opacity
15	Linearity	±0.1% of full scale
16	Repeatability	±0.1% opacity
17	Power supply	88 - 264 VAC, 50-60Hz, 125 VA
18	Remote/Local control unit	Isolated 2x 4-20mA, 500 ohm outputs fully configurable, 3 x Volt free SPST contact rated at 50 VDC 1 Amp, 2 Line X 32 character alpha-numeric LCD displays with 1 key keypad.
19	Automatic misalignment detection	Provided in the instrument as a warning signal of misalignment
20	Correction for contamination	Automatic window contamination check
21	Error Diagnostics	Dirty optics, Misalignment, Valve 1 closed, Valve 2 closed to indicate the error conditions
22	Construction material and Enclosures	Fully sealed aluminium enclosures to IP 66
DESIGN CONDITIONS		
23	Source	Modulated high intensity LED
24	Detective	Silicon photodiode
25	Ambient air temp.	- 20deg.C to 60 deg.C
26	Gas Temperature	Up to 850 deg.C
CONNECTIONS & DIMENSIONS		
27	Analyzer mounting details	Analyzer can be mounted in Chimney at Elevation of 94.6 Mtrs. Please refer drawing for analyzer mounting flange details.
28	Path length	Suitable for 0.5 to 12m duct/stack inner diameter
ACCESSORIES		
29	Fail safe shutters	Built in
30	Air Purges	Air purges for continuous air supply to instrument provided
31	Interconnecting cables and mounting hardware	Included in supply
32	Temp. transmitter	24 VDC Supply Make: Precision Converter Model: PCHMR Range: 0 to 300 Deg C

Ref: GCEM40A0/DS/02

DATA SHEET
CO, SO₂, NO_x GAS ANALYSER

GENERAL		
1.	Make	CODEL International Ltd, UK
2.	Model/Article No	GCEM4000 Series Article no GCEM40A0
3.	Type	Infrared Absorption Analyser-In-Situ type
4.	Qty	2 No.
5.	Tag No.	SO _x HNE10CQ004
		NO _x HNE10CQ001
		CO HNE10CQ002
FEATURES		
6.	Range	CO : 0 to 1000ppm, 0 to 1000mg/m ³ , 0 to 1000mg/Nm ³ SO ₂ : 0 to 1000ppm, 0 to 1000mg/m ³ , 0 to 1000mg/Nm ³ , NO _x : 0 to 1000ppm, 0 to 1000mg/m ³ , 0 to 1000mg/Nm ³ , CO ₂ : 0 to 25% H ₂ O : 0 to 25% Above ranges are site selectable up to 3000 ppm
7.	Min. detectable conc.	1 ppm, 1mg/m ³ , 1mg/Nm ³ for CO,SO ₂ ,NO _x & 0.5% for CO ₂ ,H ₂ O.
8.	Measurement Units	Fully selectable units-ppm or % by volume, mg/m ³ (measured) and mg/Nm ³ (Normalised to temperature, pressure, H ₂ O & CO ₂)
9.	Measurement averaging	Fully selectable in range 10Sec to 1 hour
10.	Response time (T90)	Detector less than 10 seconds, Calibration less than 200 seconds.
11.	Auto & manual calibration	In built and selectable
12.	Function	Continuous function
13.	Accuracy	+/- 2% of measured value for CO,SO ₂ , NO _x , & 0.5% for CO ₂ & H ₂ O
14.	Zero /span drift(24hrs)	Over all drift less than +/-2% per month
15.	Repeatability	Less than 2% of span
16.	Sensitivity	1 ppm for CO,SO ₂ ,NO _x , 0.5% for CO ₂ ,H ₂ O
17.	Linearity	Less than 2%
18.	LCD Display	LCD with back light
19.	Power supply	240VAC, 50-60Hz, +/-10% 400VA
20.	Outputs	Analog : 5 x 4-20 mA isolated, max. 500 Ohms, full configurable from Keypad for CO,SO ₂ ,NO _x in ppm & CO ₂ ,H ₂ O in % to DCS fully site configurable. Logic: 5 x Volt free contacts, SPCO rated at 50 volt 1A & 1x data invalid output (System fault)
21.	Serial Communications	RS232/RS485 Modbus O/P
22.	Construction material and Enclosures	Electronic Housings (DDU) : Corrosion resistant, epoxy coated Aluminium housing sealed to IP 66 Probe : SS316L

DESIGN CONDITIONS		
23.	Infrared source	Heater cartridge assembly
24.	Infrared detector	Lead selenid detector
25.	Ambient air temp.	Transceiver unit 0 to 70 °C, Electronics unit (PSU & DDU) 0 to 60 °C
26.	Flue gas temp.	Up to 350 deg.C

CONNECTIONS & DIMENSIONS		
27	Analyser mounting details	Please refer drawing for analyser mounting flange details. Mounting location on Chimney at 91 Mtrs Elevation.
28	Stack width	Suitable for duct/Stack inner diameter of more than 2000mm.
ACCESSORIES		
29	Standard span gas for calibration	Make : Chemtron Science Laboratory, Mumbai Material : Aluminium Cylinder Capacity : 10 lit W.C Filled with : 500ppm CO, 500ppm SO ₂ , 500ppm NO and balance Nitrogen (N ₂) Cylinder with SS regulator, necessary tubing's & fittings. Filled pressure: filled at 120-130kg/cm ²
30	Zero Calibration	For zero calibration we use plant compressed air.
31	Air dryer unit	Maximum Pressure : 10 bar Maximum temperature : 57 deg.C Air dryer unit to dry down the compressed air to -20 deg.c .
32	Zero/span gas calibration tubes	For zero calibration, client to provide plant instrument air line up to probe (10 mm OD connection) For span gas calibration, 20 mtr length SS tube of 10mm OD with necessary fittings from Cylinder to probe.
33	Pressure transmitter	Mounted on GC2M40A0 probe Make : Druck Range : 1 .6bar absolute with 4-20mA output Input supply : 24VDC operated
34	Temperature transmitter	Mounted on GC2M40A0 probe Make : Peck Sensor Limited, Washington Type: K type thermocouple Range : 0 - 600 deg.C with 4-20mA output Input supply : 24VDC operated
35	Plant instrument air Consumption	5 LPM @3 bar pressure continuous 10LPM @3 bar pressure during zero calibration



YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY



LAB ACCREDITED BY:

National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB)

STACK MONITORING TEST REPORT		URL/Unique Lab Report No.	TC78131820000299P
Report Release Date	24 th June 2019	Job code/ Ref. No.	YBAEELJWAJIA/May -19/
Report ID	YBAEELJSR/19-05-15/Stack/01	Sample Description	Stack Emission
Sampling Date	15 th May, 2019	Type of Industry	Power Plant
Name of Industry	M/s - Adhunik Power & Natural Resources Ltd. VIII - Padampur, Behind - PGCIL substation, Jamshedpur-832402, Jharkhand	Sampling Location	Port Hole
		Stack Attached to	ESP
		Ladder/ Platform	Permanent
		Weather Condition	Clear
		Relative Humidity	69%
Customer Ref.	Mr. Kamlesh Jha	Sample drawn by	Own/ Mr. Niraj Kumar & Team

General Information

Stack No. if any	.	Boiler -1
Height of Stack from ground	meter	275
Inner Dimension of Stack *	meter	55.39
Height of porthole from ground	meter	50

Fuel Characteristic Report

Type of Fuel	.	Coal
Fuel Consumption	.	167 ton/hour
Production Capacity	.	270 MW

Results of Analysis

Stack gas temperature	°C	-	107
Stack gas velocity	m/s	IS 11255 P III :2008	12.76
Volumetric flow rate	Nm ³ /hr	IS 11255 P III :2008	2960877.68
Particulate Matter (PM)	mg/Nm ³	IS: 11255 (P-1)2009	44.38
Sulphur dioxide (SO ₂)	mg/Nm ³	IS: 11255 (P-2) 2009	315.62
Oxides of Nitrogen (NO _x) [*]	mg/Nm ³	IS: 11255 (P-7) 2005	153.12
Carbon Monoxide (CO)	%	IS: 13270:1992 RA 2009	0.50
Mercury (Hg) [*]	mg/Nm ³	-	0.006

Emission Rate

Dust	kg/hr	131.4
Sulphure dioxide	kg/hr	934.51
Oxides of nitrogen	kg/hr	453.37

***** END of REPORT *****

Remarks	All values are observed well within the limit
Specific contractual notes	All values are expressed in SI unit.
	The parameters marked with * are not accredited by NABL.
	The results listed refer only to the tested sample and applicable parameter.
	This report, in full or in part, shall not be used for advertising or as evidence in any court of law
	This report cannot be reproduced, except when in full, without the written permission of the Lab in-charge
	The samples collected shall be destroyed after 45days from the date of issue of the certificate unless specified otherwise
	The liability of the laboratory is limited to the invoiced amount
	All disputes are subjected to the Ranchi Jurisdiction

Tested by Mukesh Singh Analyst		Issued by Ajay Kumar Sinha Lab-Analyst	
		Authorized Signatory Ajay Kumar Sinha Atmospheric Pollution Manager	

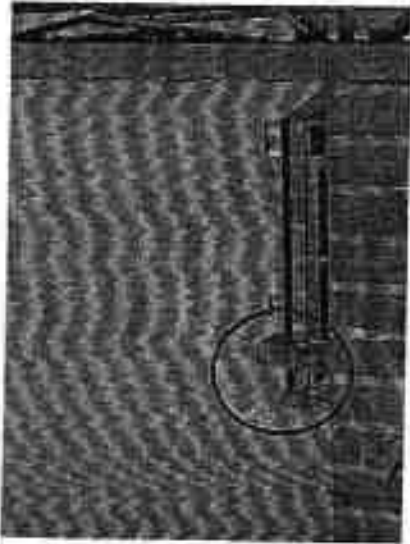


ISO 9001:2015 & OHSAS 18001:2007 Certified Environmental Engineering Laboratory

Post Box no. 104, Jharkhand State Pollution Control Board, Sidroul, Ranchi - 834010 (Jharkhand)
Ph. 098351-97960, 9304955304 | Tele Fax : 0651-2260787 | E-mail : ybaeel@gmail.com



Bag Filter installed at Coal mill building



Bag Filter installed at Ash silo



Bag filter at buffer hopper



Dust suppression through Tanker



Fixed type DS system for coal Conveyor



DE system at Coal Crusher House



Closed type coal conveying system



Fixed type dust suppression system



Fixed type DS system at Coal Yard



Adhunik Power & Natural Resource Limited

FLY ASH GENERATION & UTILIZATION FOR THE PERIOD OF April 2019 TO Sep 2019

Sl. No.	Ash Generation and Utilization						Mode of Ash Utilization		
	Months	Coal Consumed	Ash Contents of Coal (%)	Fly Ash Generation	Fly Ash Utilization	%age Utilization	In Making of Fly Ash Based bricks /Blocks /Tiles etc	In manufacturing of Portland Pozzolana Cement	Fly Ash In Reclamation of Low Lying Area
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	APRIL	167555	43.01	72072.61	72072.61	100.0%	5688.52	17360.09	49024.00
2	MAY	160104	44.57	71353.54	71353.54	100.0%	6273.66	18383.01	46696.87
3	JUNE	200528	44.37	88976.30	88976.30	100.0%	5031.01	13583.88	70361.42
4	July	187029	45.69	85444.50	85444.50	100.0%	6772.04	21930.11	56742.34
5	August	220525	40.65	89640.11	89640.11	100.0%	4503.59	22585.10	62551.42
6	Sep	196408	44.00	86415.82	86415.82	100.0%	5703.61	31611.60	49100.61



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LAB ACCREDITED BY: National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB)

Soil & Sludge Test Report	URL (Unique Lab Report) No.	TC78131930000103P
Issued to : M/s ADHUNIK POWER & NATURAL RESOURCES LIMITED Vill: Padampur, Behind P.G.C.I.L Substation, Jamshedpur-832105, Jharkhand	Job code - Chemical	YBAEELWA/JS/May-18/01
	Sample Code	190518-S-E02
	Report ID	YBAEELJSR/19-05-18/S/E02
	Date of Issue	27 th June 2019

Sample Particulars		Details of Sampling	
Sample Name/Description	Bottom Ash	Date of sampling	17-05-19
Sample Quantity	2 kg	Sample Received Date	18-05-19
Sample pkg. Condition	Sealed in plastic bag	Sampling Protocol	YBAEEL/SP/01/00
Test started on	18-05-2019	Sample collected by	Mr. Niraj Kumar & Team
Test completed on	25-05-2019	Sample Location	Bottom ash (hooper)

Test Result

Sl. No.	Tested Parameter	Method	Unit	Results
1.	Arsenic	APHA 3114 B	ppm	0.07
2.	Mercury	APHA 3112 B	ppm	0.08
3.	Chromium	APHA 3111 B	ppm	0.54
4.	Lead	APHA 3111 B	ppm	1.28
5.	Cadmium	APHA 3111 B	ppm	0.04
6.	Copper	APHA 3111 B	ppm	0.33
7.	Nickel	APHA 3111 B	ppm	0.63
8.	Selenium	APHA 3111 B	ppm	0.01
9.	Zinc	APHA 3111 B	Ppm	1.40
10.	Unburn carbon *	IS 1350 (Part -2)	%	2.8

*****End of Test*****

Remarks:- According to tested parameter, the results found as above.

Note :- the Parameter marked with * are not accredited by NABL.

Specific contractual notes :-

- The results listed refer only to the tested sample and applicable parameter.
- This report, in full or in part, shall not be used for advertising or as evidence in any court of law.
- This report cannot be reproduced, except when in full, without the written permission of the Lab In-charge.
- The samples received shall be destroyed after two month from the date of issue of the certificate unless specified otherwise and sample for biological testing will be destroyed after two week of testing.
- The liability of the laboratory is limited to the involved amount.
- All disputes are subjected to the Ranchi Jurisdiction.

Tested by (Saima Afrin)	Verified by (Bejrang Kumar)	Issued by (Umesh Das)
Lab. Analyst	Section In-Charge	Technical Manager



Authorized Signatory
Pollution & Environment
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

An ISO 9001:2015 & OHSAS 18001:2007 Certified Laboratory

Post Box no. 32 | Namkom Post Office | Sidrout | Ranchi - 834010 (Jharkhand)
Ph. 098351-97860, 9304965304 | Tele Fax : 0651-2260787 | E-mail : ybaeel@gmail.com





YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY



LAB ACCREDITED BY: National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB)

Water Test Report		URL (Unique Lab Report) No.	TC7813193000102P
Issued to :- M/s ADHUNIK POWER & NATURAL RESOURCES LIMITED VIII: Padampur, Behind P.G.C.I.L Substation, Jamshedpur-832105, Jharkhand	Job code - Chemical	YBAEEL/WA/LC/May-19/10	
	Job code - Biological	N/A	
	Sample Code	190518-WW-E03	
	Report ID	YBAEELJSR/19-05-18/WW-E03	
	Date of Issue	27 th June 2019	

Sample Particulars		Details of Sampling	
Sample Name/Description	Waste Water	Date of sampling	17-05-19
Sample Quantity	2000 ml	Sample Received Date	18-05-19
Sample pkg. Condition	Sealed in Plastic Bottle	Sampling Protocol	YBAEEL/SP/01/00
Test started on	18-05-19	Sample collected by	Mr. Niraj Kumar & Team
Test completed on	25-05-19	Sample Location	Ash Pond

Test Result

Sl. No.	Tested Parameter	Unit	Results	Method Name	Permissible Limit (IS 2490)
1.	pH value	-	6.70	IS 3025 (Part-11)	5.5-9.0
2.	Temperature*	°C	26.4	IS 3025 (Part 09)	40
3.	Total Suspended Solids	mg/l	88	IS 3025 (Part 17)	100
4.	Arsenic (as As)	mg/l	ND(DL 0.01)	APHA 3112.B	0.2
5.	Oil & grease	mg/l	4.4	IS 3025 (Part 39)	10
6.	Lead as Pb	mg/l	ND(DL 0.01)	APHA 3111B	0.1
7.	Chromium as Cr	mg/l	ND(DL 0.01)	APHA 3111B	0.1
8.	Mercury (as Hg)	mg/l	ND (DL 0.01)	APHA 3112.B	0.01

*****End of Test*****

Remarks:-According to tested parameter, the results found within prescribe limit of Waste Water specification.

Note :- the parameters are marked with * are not accredited by NABL.

Specific contractual notes :-

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- The samples received shall be destroyed after two months from the date of issue of the certificate unless specified otherwise and sample for biological testing will be destroyed after one two week of testing.
- The liability of the laboratory is limited to the invoiced amount.
- All disputes are subjected to the Ranchi Jurisdiction.
- ND - not detected, DL - detectable limit

Tested by Salma Afrin Lab Analyst	Checked by Bajrang Kumar Authorized Signatory	Issued by Umesh Das Authorized Signatory Technical Manager
 ISO 9001:2015 & OHSAS 18001:2007 Yugantar Bharati Analytical & Environmental Engineering Laboratory		Page 1 of 1



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YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY



LAB ACCREDITED BY

National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB)

Waste Water Test Report		URL (Unique Lab Report) No.	TC78131930000101P
Issued to : - M/s ADHUNIK POWER & NATURAL RESOURCES LIMITED Vill: Padampur, Behind P.G.C.I.L. Substation, Jamshedpur-832105, Jharkhand		Job code - Chemical	YBAEEL/WA/L/C/ May- 19/05
		Job code - Biological	N/A
		Sample Code	190518-WW-E01
		Report ID	YBAEEL/JSR/19-05-18/WW-E01
		Date of Issue	27 th June 2019

Sample Particulars		Details of Sampling	
Sample Name/Description	Waste Water	Date of sampling	17-05-19
Sample Quantity	Two Litre (2000ml)	Sample Received Date	15-05-19
Sample pkg. Condition	Sealed in Plastic Bottle	Sampling Protocol	YBAEEL/SP/01/00
Test started on	18-05-2019	Sample collected by	Mr. Niraj Kumar & Team
Test completed on	23-05-19	Sample Location	ETP Outlet

Test Result

Sl. No.	Tested Parameter	Unit	Results	Method Name	Permissible Limit (As per IS 2490 Specification)
1.	pH value	-	7.47	IS 3025 (Part-11)	5.5-9.0
2.	Temperature*	-	26.4	IS 3025 (Part-09)	40
3.	Total Suspended Solids	mg/l	36.0	IS 3025 (Part-17)	100
4.	Chloride (as CL ⁻)	mg/l	14.0	IS 3025 (Part-32)	1000
5.	Sulphate (as SO ₄ ²⁻)	mg/l	10.8	IS 3025 (Part-24)	1000
6.	Oil & grease	mg/l	5.2	IS 3025 (Part-39)	10
7.	BOD	mg/l	2.8	IS 3025 (Part-44)	30
8.	COD	mg/l	32.0	IS 3025 (Part-58)	250
9.	Phosphate (as PO ₄ ³⁻)*	mg/l	0.02	IS 3025 (Part-31)	-
10.	Copper (as cu)	mg/l	0.03	APHA 3111 B	3
11.	Iron (as fe)	mg/l	0.44	APHA 3111 B	0.3 to no relaxation
12.	Zinc (as Zn)	mg/l	ND (MDL 0.1)	APHA 3111 B	5

*****End of Test*****

Remarks:- According to tested parameter, the results found within prescribe limit of Waste Water specification IS 2490.

Note :- The parameters marked with * are not accredited by NABL.

Specific contractual notes:-

- The results listed refer only to the tested sample and applicable parameter.
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- This report cannot be reproduced, except when in full, without the written permission of the Lab in-charge.
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- The liability of the laboratory is limited to the involved amount.
- All disputes are subjected to the Ranchi Jurisdiction.
- ND - not detected, MDL - minimum detectable limit

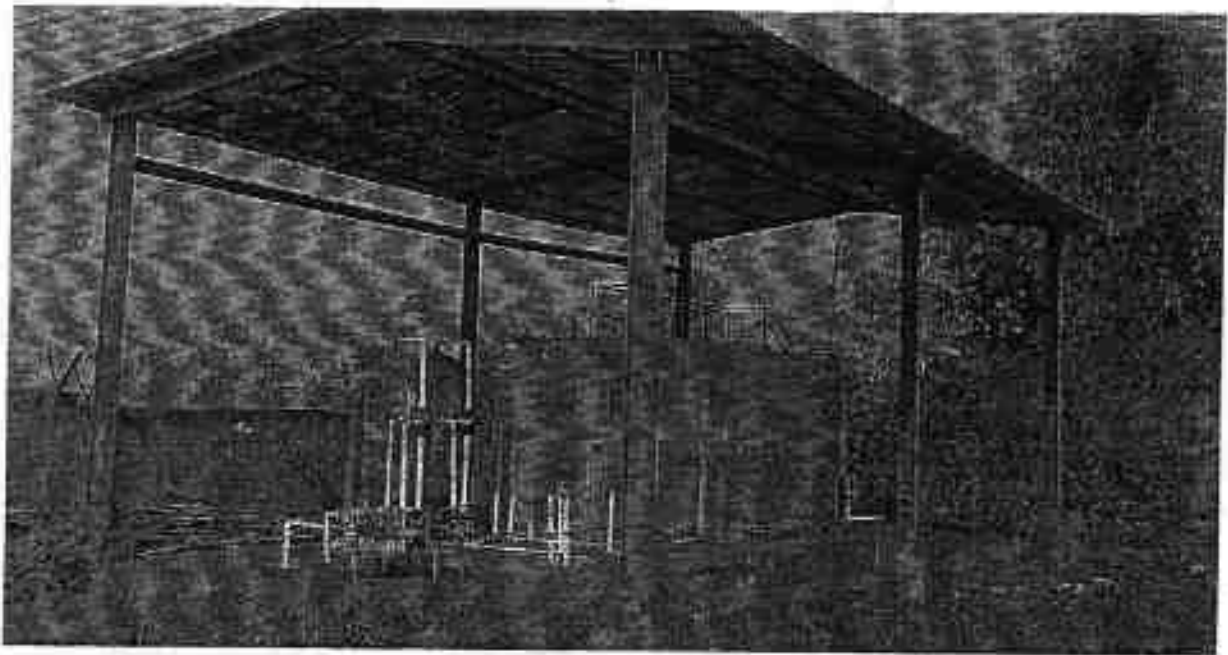
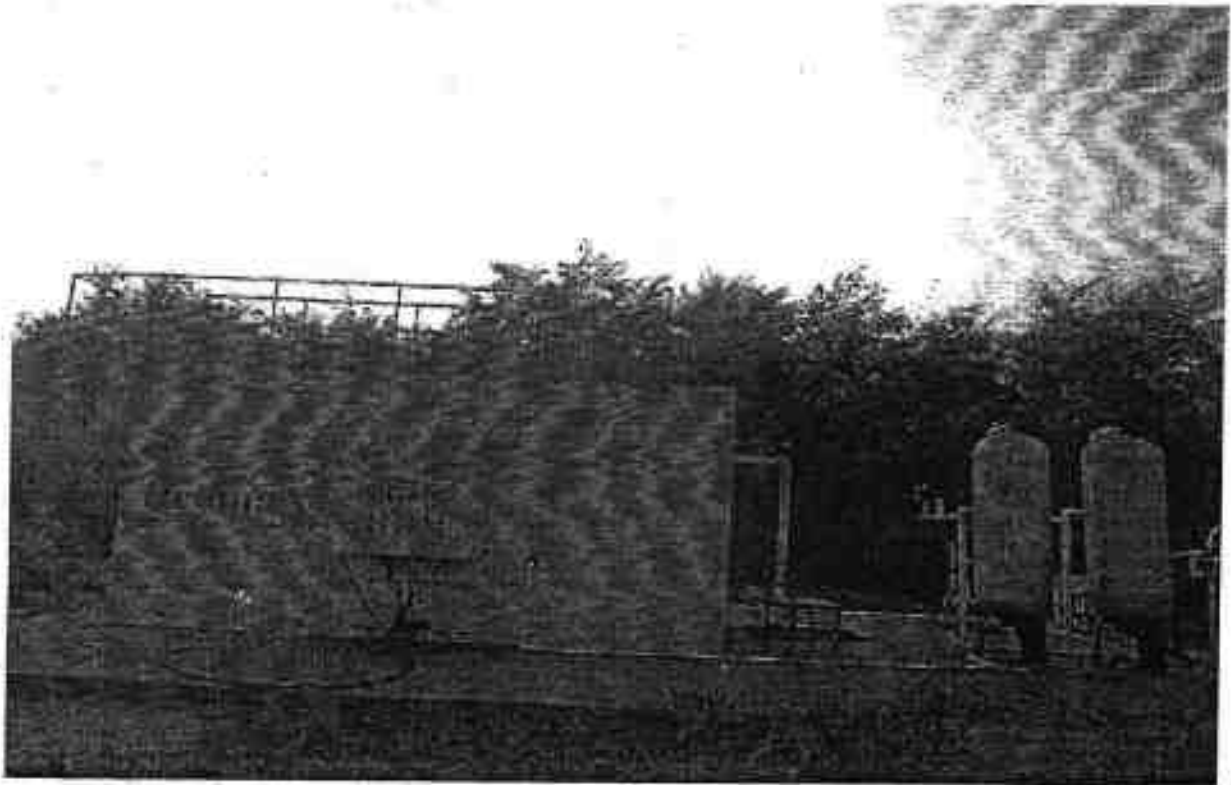
Tested by Saima Afrin Lab Analyst	Checked by Bajrang Kumar Authorized Signatory	Issued by Umesh Das Technical Manager
Authorized Signatory Pollution & Environment		Page 1 of 1



ISO 9001:2015 & OHSAS 18001:2007 Certified Accredited Laboratory
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Sewage Treatment Plant



फॉर्म XV
 (पेट्रोल अड्डाओं का अनुसूची 6 तालिका)
 FORM XV
 (see Article 6 of the First Schedule)

अड्डाघरों में पेट्रोलियम के अन्वय और संग्रहण के लिए अनुमति
 LICENCE TO IMPORT AND STORE PETROLEUM IN AN INSTALLATION



अनुमति नं. (Licence No.) : P11Q2H101066(P387355)

वर्षा: 3000 KL (3000 KL) per year

M/s. Adhunik Power & Natural Resources Ltd., Village-Padampur, Behind PGCL Substation, Adityapur-Kendra Road, Taluka Adityapur(Ganesh), District SARAKELLA KHARSWAN, State: Jharkhand, PIN: 832106 को अन्वय एवं संग्रहण के लिए अनुमति 3000.00 KL अन्वय वाले दो टैंक और अन्वय, जैसे-जैसे और जोड़ने के साथ-साथ अनुमति नम्बर P11Q2H101066(P387355) दिनांक 23/12/2011 को कि इनके अन्वय में पेट्रोलियम के लिए पेट्रोलियम अड्डाघर, 1854 के अन्वय में, अपने अन्वयण के अधीन आने वाले पेट्रोलियम अड्डाघरों में पेट्रोलियम के अन्वय में है।

License is hereby granted to M/s. Adhunik Power & Natural Resources Ltd., Village-Padampur, Behind PGCL Substation, Adityapur-Kendra Road, Taluka Adityapur(Ganesh), District SARAKELLA KHARSWAN, State: Jharkhand, PIN: 832106 for import and storage of 3000.00-CL Petroleum in bulk as well as limited to normal specified quantities (as per the approved plan No P11Q2H101066(P387355) dated 23/12/2011) subject to the provisions of the Petroleum Act, 1934 and by rules made thereunder and to the further conditions of this Licence.

यह अनुमति 31 दिनांक 2022 तक प्रवृत्त रहेगी।
 The Licence shall remain in force till 31st day of December 2022

पेट्रोलियम का विवरण / Description of Petroleum	अनुमति प्राप्त मात्रा (अनुसूची A) / Quantity Allowed in KL
कॉलॉयड पेट्रोलियम / Petroleum Class A in bulk	NIL
कॉलॉयड पेट्रोलियम से श्रेणी A / Petroleum Class A, otherwise than in bulk	NIL
अन्य पेट्रोलियम / Petroleum Class B in bulk	NIL
अन्य पेट्रोलियम से श्रेणी B / Petroleum Class B, otherwise than in bulk	NIL
कॉलॉयड पेट्रोलियम / Petroleum Class C in bulk	3000.00 KL
अन्य पेट्रोलियम से श्रेणी C / Petroleum Class C, otherwise than in bulk	NIL
कुल अन्वय / Total Capacity	3000.00 KL

December 18, 2011

[Signature]
 Chief Controller, Excise

1) Amendment dated - 29/12/2011

अड्डाघरों का विवरण और अवस्थान
 DESCRIPTION AND LOCATION OF THE LICENSED PREMISES

अड्डाघर प्लॉट नम्बर: 1854 अन्वय में जहाँ पेट्रोलियम अन्वयण के अधीन आने वाले पेट्रोलियम अड्डाघरों में पेट्रोलियम के लिए दिनांक नं. P11Q2H101066(P387355) दिनांक 23/12/2011 के अन्वय में पेट्रोलियम अड्डाघरों में पेट्रोलियम के लिए अनुमति नम्बर P11Q2H101066(P387355) दिनांक 23/12/2011 को कि इनके अन्वय में पेट्रोलियम के लिए पेट्रोलियम अड्डाघर, 1854 के अन्वय में, अपने अन्वयण के अधीन आने वाले पेट्रोलियम अड्डाघरों में पेट्रोलियम के अन्वय में है।

The licensed premises, the layout, boundaries and other particulars of which are known in the attached approved plan are situated at Plot No: Plot No. 1854, Behind PGCL Substation, Adityapur, Kendra Road, Village: Padampur, District: SARAKELLA KHARSWAN, State: Jharkhand, PIN: 832106 and consists of Two Petroleum Class C Aboveground storage tanks, together with other connected facilities, together with connected facilities.

अनुमति संख्या (Licence No.) PMQ/U/15/1058 (243358)

**अनुमतिपत्र के नवीकरण के लिए स्थान
SPACE FOR ENDORSEMENT OF RENEWALS**

पेट्रोलियम अधिनियम, 1934 के उपबन्धों या इनमें उपर्युक्त
नगर या विभागों या इन अनुमतिपत्र की शर्तों या
अवस्थाओं में होने की दशा में यह अनुमतिपत्र फिर से दिया
जिसी छूट के दायरे में यह अनुमतिपत्र की जा सकेगी।
This licence shall be renewable without any
concession in fee for ten years in the absence of
contravention of any provisions of the Petroleum
Act, 1934 or of the rules framed thereunder or of any
of the conditions of this licence.

अनुमतिपत्र संख्या Licence No.	नवीकरण की तारीख Date of Renewal	अवधि की तारीख Date of Expiry of Licence	अनुमति प्राधिकारी के हस्ताक्षर और मुद्रा Signature and official stamp of the Licensing authority.
11		31/12/2015	Sd/- PESO ADMIN
24	23/04/2012	31/12/2018	Sd/- R.P. Singh Jt. Chief Controller of Explosives For Dy. Chief Controller of Explosives Barrack
21	18/02/2019	31/12/2022	 K. Theagarajan Dy. Chief Controller of Explosives Barrack

रूप मुख्य विस्फोटक नियंत्रक, रांची
By Chief Controller of Explosives, Ranchi

यदि अनुमतिपत्र धारक इनमें उपरोक्त विवरण और शर्तों से अनुमति नहीं प्राप्त कर पाये है और फिर भी अनुमतिपत्र जारी करवाये है तो
अवधि में किसी या अवस्थाओं में भी अनुमतिपत्र रद्द की जा सकती है और अनुमतिपत्र धारक अवधि के लिए सजाया जा सकता है, जो एक लाख
रुपये हो सकता है, या जेल में, जो एक वर्ष तक हो सकता है, या दोनों में, और धारक परमावधि अवधि के लिए सजाया जा सकता है जो तीन साल
तक हो सकता है, या जेल में, जो पांच साल तक हो सकता है, या दोनों में, उपर्युक्त होगा।
This licence is liable to be cancelled if the licensee premises are not found conforming to the condition given on the approved plan attached
hereto and contravention of any of the rules and conditions under which this licence is granted and the holder of this licence is also punishable for
the first offence with simple imprisonment which may be extend to one year, or with fine which may extend to one thousand rupees, or with both
and for every subsequent offence with simple imprisonment which may extend to three months, or with fine which may extend to five thousand
rupees or with both.

HINDUSTAN PETROLEUM CORPORATION LIMITED

(A Government of India Enterprise)

QUALITY CONTROL LABORATORY

Wankha New Terminal

CONVERT JH-SHEELANAGAR ROAD, BEHIND AIRPORT,
WIGANAHATNAYA-280018

TEST REPORT

Product : HP INDUSTRIAL DIESEL OIL

Customer / Supplier :	NSOT-BONDED TANKS-PSD	Test Report No. :	HP/TH/0330
Branch Plant :		Date of Sample Drawn :	20/02/10
Source of Sample :	TK105	Date of Sample Receipt :	21/02/10
Tank No. :	TK105	Date of Sample Testing :	22/02/10
Qty of Sample :	10 Liters / 1076662.35 No. 302239		
Category/Type of Sample :		Date of Report :	22/02/10
Comp. Agency Name :	HP Receipt into Dedicated Pit.	Date of Printing :	22/02/10
Receipt/Dispatch Mode :		HP Sample Number :	66213
Sample Drawn by :	RAMAKRISHNA	Shift No. :	

Test Item Number	Characteristics	Units	Test Method	Specifications		Result Value
				Min	Max	
1	DENSITY @ 15°C	kg/m ³	IS 1468 P-10	-	-	867.8
2	SEMI-SOLUBILITY @ 10°C	ml	IS 1468 P-25	3.000	10.000	4.000
3	FLASH POINT - P-50C	°C	IS 1445 P-01	88	-	79
4	WATER CONTENT	% Vol	IS 1448 P-02	-	200	100
5	TOTAL SULPHUR	% Mass	ASTM D 4294	-	1.00	0.7
10	POOR POINT	°C	IS 1468 P-10	-	21	0

Remarks:

Sample & Method of issue specification as per IS 157 (2002) (Revised 2005) in the above mentioned

Agencies / Govt. Dept.

- Notes :
- 1) The sample is drawn by client and results relate to sample tested
 - 2) This test report shall not be reproduced except in full without prior written approval of the Lab Incharge
 - 3) This test report shall not be used in any advertising media or as evidence in the Court of Law without prior written consent of Laboratory
 - 4) Test results reported are valid at the time of testing
 - 5) This is a system generated test report and hence does not require signature

Tested By: 5032320
VILAMUNI DATTATREYA

Received and Approved By: 3032320
VILAMUNI DATTATREYA

*** END OF TEST REPORT ***

Page No. 1 of 1



YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY



LAB ACCREDITED BY:

National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB)

Water Test Report		URL (Unique Lab Report) No.	TC78131910000082P, TC78131940000033F
Issued to : - M/s ADHUNIK POWER & NATURAL RESOURCES LIMITED Vill: Padampur, Behind P.G.C.I.L Substation, Jamshedpur-832105, Jharkhand		Job code - Chemical	YBAEEL/WA/LCI/ May- 19/07
		Job code - Biological	YBAEEL/WA/LJM/ May- 19/05
		Sample Code	190518-GW-E01
		Report ID	YBAEEL/JSR/19-05-18/GW-E01
		Date of Issue	27 th June 2019

Sample Particulars		Details of Sampling	
Sample Name/Description	Ground water	Date of sampling	17-05-19
Sample Quantity	2000 ml	Sample Received Date	18-05-19
Sample pkg. Condition	Sealed in Plastic Bottle	Sampling Protocol	YBAEEL/SP/01/00
Test started on	18-05-19	Sample collected by	Mr. Niraj Kumar & Team
Test completed on	25-05-19	Sample Location	Bore Well (Padampur Village)

Test Result

Sl. No.	Tested Parameter	Unit	Results	Method Name	Permissible Limit (As per IS 10500 Specification)
1.	pH value	-	7.60	IS 3025 (Part-11)	8.5 to 8.5
2.	Total Dissolved Solid	mg/l	318	IS 3025 (Part-16)	500 - 2000
3.	Temperature*	°C	26.7	IS 3025 (Part 09)	-
4.	Colour	cu	15	IS:3025 (Part-04)	8.5 to 8.5
5.	Odour*	-	Agreeable	IS:3025 (Part-05)	Agreeable
6.	Alkalinity (as CaCO ₃)	mg/l	194	IS:3025 (Part-23)	200 to 600
7.	Hardness (as CaCO ₃)	mg/l	163.5	IS 3025 (Part-21)	200 to 600
8.	Nitrate (as NO ₃)	mg/l	17.7	APHA 4500 NO ₃ - B	45 to no relaxation
9.	Arsenic (as As)	mg/l	ND(DL 0.01)	APHA 3112 B	0.01 to 0.05
10.	Calcium (as Ca ⁺)	mg/l	39.6	IS 3025 (Part-40)	75 to 200
11.	Magnesium (as Mg ⁺)	mg/l	13.2	IS 3015 (Part-46)	30 - 100
12.	Iron (as Fe)	mg/l	0.23	APHA 3111 B	0.3 to no relaxation
13.	Zinc (as Zn)	mg/l	0.23	APHA 3111 B	5 to 15
14.	Turbidity	NTU	5.0	IS 3025 (Part 10)	1-3
15.	Taste*	-	Agreeable	IS 3025 (Part 07)	Agreeable
16.	Chlorine Residual	mg/l	ND (DL 0.07)	IS 3025 (Part 26)	-
17.	Chloride as Cl	mg/l	125.0	IS 3025 (Part 32)	250-1000
18.	Fluoride as F	mg/l	0.4	APHA 4500 FC	1-1.5
19.	Lead as Pb	mg/l	ND(DL 0.01)	APHA 3111B	0.01-no relaxation
20.	Chromium as Cr	mg/l	0.03	APHA 3111B	0.01-no relaxation

<i>Salma Afrin</i>	<i>TSK</i> 27/06/19	<i>Umesh Das</i> 27/6/19
Tested by Salma Afrin Lab Analyst	Checked by Bajrang Kumar Authorized Signatory	Issued by Umesh Das Authorized Signatory/Technical Manager
Chemical Section		Page 1 of 2



Post Box no. 32, Near Post Office, Sidroul, Ranchi - 834010 (Jharkhand)
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YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY



LAB ACCREDITED BY: National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB)

Water Test Report Issued to: - M/sADHUNIK POWER & NATURAL RESOURCES LIMITED Vill: Padampur, Behind P.G.C.I.L. Substation, Jamshedpur-832105, Jharkhand	URL (Unique Lab Report) No.	TC78131910000082P, TC781319400000033F
	Job code - Chemical	YBAEEL/WA/LIC/ May- 19/07
	Job code - Biological	YBAEEL/WA/LIW/ May- 19/05
	Sample Code	190518-GW-E01
	Report ID	YBAEEL/JSR19-05-18/GW-E01
	Date of Issue	27 th June 2019

Sample Particulars		Details of Sampling	
Sample Name/Description	Ground water	Date of sampling	17-05-19
Sample Quantity	2000 ml	Sample Received Date	18-05-19
Sample pkg. Condition	Sealed in Plastic Bottle	Sampling Protocol	YBAEEL/SP/01/00
Test started on	18-05-19	Sample collected by	Mr. Niraj Kumar & Team
Test completed on	25-05-19	Sample Location	Bore Well (Padampur Village)

Sr. No.	Parameter	Unit	Result	Method	Limit
21.	Copper as Cu	mg/l	0.02	APHA 3111B	0.05-1.5
22.	Conductivity	µS/cm	657	IS 3025 (Part 14)	-
23.	Potassium as k	mg/l	7.4	APHA 3111 B	-
24.	Sodium as Na	mg/l	82.3	APHA 3111 B	-
25.	Cadmium as Cd	mg/l	ND (DL 0.01)	APHA 3111 B	0.003-no relaxation
26.	Sulphate as SO ₄	mg/l	111.2	IS 3025 (Part 24)	200-400
27.	Acidity	mg/l	8.0	IS 3025 (Part-22)	-
28.	Ammonia (Free) *	mg/l	ND(DL0.1)	IS 3025 (Part-35)	-
29.	Cyanide (as CN) *	mg/l	ND (DL 0.01)	IS 3025 (Part-27)	-
30.	Mercury (as Hg)	mg/l	ND (DL 0.01)	APHA 3112 B	-
31.	Total Coliform	MPN/100 ml	ND (MDL 1.8)	APHA 9221 B	Shall not be present in any 100 ml sample
32.	E. Coliform	MPN/100 ml	ND (MDL 1.8)	APHA 9221 F	Shall not be present in any 100 ml sample

*****End of Test*****

Remarks:- According to tested parameter, the results found within prescribe limit of Drinking water specification IS 10500.
Note :- The parameters marked with * are not accredited by NABL.

Specific contractual notes:-

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- The samples received shall be destroyed after two month from the date of issue of the certificate unless specified otherwise and sample for biological testing will be destroyed after one two week of testing.
- The liability of the laboratory is limited to the invoiced amount.
- All disputes are subjected to the Ranchi Jurisdiction.
- ND - not detected, MDL - minimum detectable limit

<i>Saima Afrin</i> Tested by Saima Afrin	<i>Medhuri</i> Tested by Medhuri Sinha	<i>Bajrang Kumar</i> Checked by Bajrang Kumar	<i>Mukesh Kumar</i> Checked by Mukesh Kumar
		Authorized Signatory	Authorized Signatory
		Chemical Section	Microbiological Section
		Yugantar Bharati Analytical & Environmental Engineering Laboratory	Yugantar Bharati Analytical & Environmental Engineering Laboratory
		Nankorn Post Office Sidroul Ranchi - 834010 (Jharkhand)	Nankorn Post Office Sidroul Ranchi - 834010 (Jharkhand)





YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY



LAB ACCREDITED BY: National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB)

Water Test Report		URL (Unique Lab Report) No.	TC78131910000083P, TC78131940000034F
Issued to :- M/s ADHUNIK POWER & NATURAL RESOURCES LIMITED Vill: Padampur, Behind P.G.C.I.L Substation, Jamshedpur-832105, Jharkhand	Job code - Chemical	YBAEEL/WA/L/C/ May- 19/07	
	Job code - Biological	YBAEEL/WA/L/M/ May- 19/05	
	Sample Code	190512-GW-E02	
	Report ID	YBAEEL/JSR/19-05-18/GW-E02	
	Date of Issue	27 th June 2019	

Sample Particulars		Details of Sampling	
Sample Name/Description	Drinking water	Date of sampling	17-05-19
Sample Quantity	2000 ml	Sample Received Date	18-05-19
Sample pkg. Condition	Sealed in Plastic Bottle	Sampling Protocol	YBAEEL/SP/01/00
Test started on	18-05-19	Sample collected by	Mr. Nitraj Kumar & Team
Test completed on	25-05-19	Sample Location	Bore Well (Pindrabera village)

Sr. No.	Parameter	Unit	Result	Method	Limit
21.	Copper as Cu	mg/l	ND (DL 0.01)	APHA 3111B	0.01-1.5
22.	Conductivity	µS/cm	393.0	IS 3025 (Part 14)	-
23.	Potassium as k	mg/l	2.1	APHA 3111 B	-
24.	Sodium as Na	mg/l	23.4	APHA 3111 B	-
25.	Cadmium as Cd	mg/l	ND (DL 0.01)	APHA 3111 B	0.003-no relaxation
26.	Sulphate as SO ₄	mg/l	18.5	IS 3025 (Part 24)	200-400
27.	Acidity	mg/l	12.0	IS 3025 (Part-22)	-
28.	Ammonia (Free)*	mg/l	ND (DL 0.1)	IS 3025 (Part-35)	-
29.	Cyanide (as CN)*	mg/l	ND (DL 0.01)	IS 3025 (Part-27)	-
30.	Mercury (as Hg)	mg/l	ND (DL 0.01)	APHA 3112 B	-
31.	Total Coliform	MPN/100 ml	ND (MDL 1.8)	APHA 9221 B	Shall not be present in any 100 ml sample
32.	E. Coliform	MPN/100 ml	ND (MDL 1.8)	APHA 9221 F	Shall not be present in any 100 ml sample

*****End of Test*****

Remarks:- According to tested parameter, the results found within prescribe limit of Drinking water specification IS 10500.

Note : The Parameters marked with * are not accredited by NABL.

Specific contractual notes :-

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- ND - not detected, MDL - minimum detectable limit.

<i>Saima Afrin</i>	<i>Madhuri</i>	<i>BK</i>	<i>Mukesh Kumar</i>
Tested by	Checked by	Issued by	
Saima Afrin	Madhuri Sinha	Bajrang Kumar	Mukesh Kumar
Authorized Signatory		Authorized Signatory	
Chemical Section		Microbiological Section	
Yugantar Bharati Analytical & Environmental Engineering Laboratory		Yugantar Bharati Analytical & Environmental Engineering Laboratory	
Page 2 of 2			



An ISO 9001:2015 Certified Laboratory

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YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY



LAB ACCREDITED BY: National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB)

Noise Monitoring Report		URL (Unique Lab Report) No.	TC78131920000297F	
Report Release Date	24 th June 2019	Job code / Ref. No.	YBAEEL/WA/LJA/May -19/	
Report ID	YBAEELJSR/19-05-16/Noise/01	Sample Description	Ambient Noise	
Sampling Date	16 th to 17 th May, 2019	Type of Industry	Power Plant	
Sampling duration	24hrs.	Work Order No./ Date	3030003821 / 29.11.2018	
Name of Industry M/s – Adhunik Power & Natural Resources Ltd. VIII – Padampur, Behind PGCIL Substation, Jamshedpur-832402, Jharkhand		Sampling Locations	N1	Main Gate Area
			N2	Occupational Health Centre
			N3	Sali Steel (CHP Area)
			N4	Pindrabera Gate
		Weather Condition		Clear
Relative Humidity		66%		
Average Temperature		38°C		
Customer Rep.	Mr. Kamlesh Jha	Monitored by	Mr. Niraj Kumar & Team	
Locations	Method	Leq in dB (Day Time)	Leq in dB (Night Time)	(Norms) CPCB
N 1 Main Gate Area	IS : 15575.1. 2005	60.2	50.6	Industrial Area Day 75 dB Night 70 dB
N 2 Occupational Health Centre		51.2	48.0	
N 3 Sali Steel (CHP Area)		47.8	46.0	
N 4 Pindrabera Gate		56.1	47.4	
***** End of Report*****				

OPCB Standard		Day Time	Night time
A	Industrial Area	75.0	70.0
B	Commercial Area	65.0	55.0
C	Residential Area	55.0	45.0
D	Silence Zone	50.0	40.0
Remarks		All values are observed well within the limit.	
Specific contractual notes		Day Time - From 6:00 Am to 10:00Pm, Night Time - From 10:00 PM to 6:00 Am	
		The results listed refer only to the tested sample and applicable parameter.	
		This report, in full or in part, shall not be used for advertising or as evidence in any court of law	
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		The samples collected shall be destroyed after 45 days from the date of issue of the certificate unless specified otherwise	
		The liability of the laboratory is limited to the invoiced amount	
		All disputes are subjected to the Patna Jurisdiction	
Tested by Niraj Kumar Analyst		Issued by Umesh Das Technical Manager	



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ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY



LAB ACCREDITED BY: National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB)

Ambient Air Quality Report		URL (Unique Lab Report) No.	TC78131920000296P
Report Release Date	24 th June 2019	Job code/ Ref. no.	YBAEEL/WALIA/May -19/
Report ID	YBAEEL/JSR/19-05-15/AAQ/01	Sample Description	Ambient Air Quality - Core zone
Sampling Date	15 th to 16 th May, 19	Type of Industry	Power Plant
Sampling duration	24 hrs.	Work Order No./ Date	3030003821 / 29.11.2018
Name of Industry M/s - Adhunik Power & Natural Resources Ltd. VIII - Padampur, Behind PGCIL substation, Jamshedpur-832402, Jharkhand		Sampling Locations	AAQ - A ADM Building
			AAQ - B Switch Yard
			AAQ - C CHP Area
		Weather Condition	Clear
		Relative Humidity	65%
		Average Temperature	38°C
Customer Ref.	Mr. Kamlesh Jha	Sample drawn by	Mr. Niraj Kumar & Team

Parameters	Method	Sampling Location			Units	NAAQS (2009)
		Site A	Site B	Site C		
Particulate Matter (PM ₁₀)	IS 5182 (Part 2)	71.26	75.67	94.26	µg/m ³	100 µg/m ³
Fine Particulate Matter (PM _{2.5})	US EPA-40 CFR (P-50) (50.7)	53.33	49.58	56.57	µg/m ³	60 µg/m ³
Sulphur Dioxide (SO ₂)	IS 5262 (Part 2)	16.23	16.39	17.84	µg/m ³	80 µg/m ³
Nitrogen Dioxide (NO ₂)	IS 5182 (Part B)	38.16	39.2	38.39	µg/m ³	80 µg/m ³
Carbon Monoxide (CO)*	IS 5182 (Part 10)	1.7	2.3	1.8	mg/m ³	4 mg/m ³
Ozone (O ₃)*	CPCB guideline	15.93	42.98	38.23	µg/m ³	100 µg/m ³
Ammonia (NH ₃)	SOP No. YBAEEL/SOP/AR/01/ISSUE-01/DATE-13-2017	23.11	12.38	30.11	µg/m ³	400 µg/m ³
Lead (Pb)	IS 5182 (P-22) 2004	0.089	0.158	0.19	µg/m ³	1.0 µg/m ³
Benzene (C ₆ H ₆)*	IS 5182 (P-21)	0.61	0.79	0.32	µg/m ³	5 µg/m ³
Benz(a)Pyrene (BaP)*	IS 5182 (P-53)	ND	ND	ND	ng/m ³	1 ng/m ³
Arsenic (As)*	CPCB guideline	ND	ND	ND	ng/m ³	6 ng/m ³
Nickel (Ni)*	IS 5182 (P-23) 2004	1.8	1.6	1.6	ng/m ³	20 ng/m ³

***** End of Report*****

Remarks	All values are observed well within the limit	
Specific contractual notes	All values are expressed in as unit.	
	The parameters marked with * are not accredited by NABL.	
	The results listed refer only to the tested sample and applicable parameter.	
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	All disputes are subjected to the Ranchi Jurisdiction	
Tested by <i>Mukesh Singh</i> Mukesh Singh Analyst	Verified by <i>Umish Das</i> Umish Das Lab Analyst	Issued by <i>Umish Das</i> Umish Das Technical Manager



Authorized Signatory
Atmospheric Pollution
Yugantar Bharati Analytical &
Environmental Engineering Laboratory



ISO 9001:2015 & OHSAS 18001:2007 Certified Laboratory
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Adhunik
GROUP OF INDUSTRIES

ADHUNIK POWER & NATURAL RESOURCES LIMITED

WORKS : Village - Padampur, Behind R.G.C.I.L. Substation,
Adityapur - Kandra Road, Sarakela - Kharsawan, PIN - 832402 Jharkhand
Phone : +91 - 657 - 6828400, Fax : +91 - 657 - 6528440
CIN - U40101WB2005PLC102935

APNRL/HB/Office Order/10
5th August 2015

Office Order

As per the directions of the Ministry of Environment & Forest, Government of India while granting the Environment Clearances vide letter no J-13011/8/2009-IA,II(T), dated 29th Aug 2009 (Unit I) & Letter No. J13012/8/2009-IA,II (T) dtd 9th May 2011 to our 2x270 MW Power Plant, the Management considering the importance of Environmental concerns and set up the Environment Cell under the chair of Plant In charge who is directly reporting to the Managing Director of Organization. The Cell is functional since 2009 and is equipped with qualified professionals of the fields.

Roles & Responsibility of Environment Cell

Following the broad scope of the Cell

- Understanding Environment issues in Adhunik power & Natural Resources Ltd during Construction & Operation and Maintenance-Phase.
- Framing appropriate scope of work for requisite environment management, EIA & various other complex issues to address those with tailor made solutions.
- Awarding the consultancy tasks for environmental management & EIAs, Modeling, Monitoring etc & other complex studies to the appropriate agency and also sometimes in-house work of Monitoring.
- Dealing with JSPCB/CPCB/MoEF & CC for various aspects including obtaining clearances for Plant and Plant led development and policy makings at State and National level.
- The meeting of the management of M/s APNRL shall be conducted in which the budgetary allocation for the EMP shall be discussed and finalized and comprehensive EMP shall be prepared as per the guidelines of CPCB.
- Preparation of Environmental Management Plans- Basically Assisting Engineering Section for preparation Master Plan for existing plant to address policy regulations issued by MoEF & CC from time to time.
- Operating and upgrading the existing Hazardous Waste Management facilities for Plant Area as per latest regulations.- (Development and Operation of TSDF at APNRL).
- Initiating dialogs, meeting & developing participatory approach with the key stakeholders for solving any typical pollution related problems.
- Review of EMP for various sections of plant and suggest modifications if any for better Env. Management.
- Representing APNRL at the State and National level platform for Environment Management.
- Comments & advice on draft amendment, notifications on Environmental Laws.
- Imparting knowledge and raising awareness for Environment Protections among APNRL key officers and other related stakeholders.
- The Plant Incharge will be responsible for environmental issues at plant.

The responsibilities of the various members of the environment management cell are enclosed as Annexure I.

CORPORATE OFFICE : 'LANSLOWNE TOWER', 2nd Floor, 2/1A, Serai Bose Road, Kolkata - 700 020

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REGD. OFFICE

: 14, N.S. Road, 2nd Floor, Kolkata - 700 001, Phone No. +91 - 33 - 22428551, 22428553

Website

: www.adhunikgroup.com



ADHUNIK POWER & NATURAL RESOURCES LTD.

(Formerly Adhunik Thermal Energy Limited)

Office: Village Padampur, Behind PGCIL Substation, Adityapur, Kandra Road, P.O: Kandra Saralkela-Kharsawan, Jharkhand-832 402 | PHONE : 0657 6628400 | FAX : 0657 6628440
Website: www.adhunikgroup.com

0/c

Ref No APNRL/JSPCB/ES/2018-19/01

Date: 20th Sep 2019

The Member Secretary
Jharkhand Pollution Control Board
Jharkhand

Sub- Submission of Environmental Statement (Form V) for Unit I (1 x 270 MW) of M/s Adhunik Power & Natural Resources Limited, Village-Padampur, Dist-Saralkela-Kharsawan, Jharkhand.

Ref: Environmental Clearance letter No J-13011/8/2009-IA.II(T), Dated 29th Aug 2009.

Dear Sir,

In line with compliance of above referred EC letter point No XXX of general condition, Please find attached herewith Environmental statement (Form V) for the financial year 2018-19.

This is for your kind information & record please.

Thanking You

Your's faithfully

Ravinder Aggarwal
(Head-Environment)

Encl: As mentioned above

CC: 1. The Regional Office(ECZ)

Ministry of Environment & Forest & Climate Change,
Bungalow No. A-2, Shyamali Colony, Ranchi-834002

2. The Regional Officer

Jharkhand Pollution Control Board
Jamshedpur, Jharkhand

