

JPL/EMD/F-30/4x250MW/2022/180
28/11/2022

The Regional Director (S),
Ministry of Environment and Forests,
Regional office (WCZ)
Ground Floor, East Wing
New Secretariat Building
Civil Line, Nagpur - 440001 (Maharashtra)

Sub.-Submission of Half Yearly Environmental Clearance Compliance Reports of Stage-I (2x250MW) and Stage-II (2x250MW) of O.P. Jindal Super Thermal Power Plant at village Tamnar, Distt.- Raigarh (C.G.) for the period of April, 2022 to September, 2022.

- Ref.:- 1.Environmental Clearance No.J.13011/15/93-IA.II (T) dt. 24/09/1997 & Revalidated on 19/08/2004 of Stage-I (2 x 250 MW), J-13011/8/2006-IA.II (T) dt.08/06/2006 of Stage -II (2 x 250 MW).
2. Amendment in Environmental Clearance issued vide letter No. J.13011/8/2006-IA.II (T) dt.25/04/2007.
3. MoEF Office Memorandum No. J-11013/41/2006-IA.II (I) dt.06/04/2011.
4. Amendment in Environmental Clearance issued vide letter No. J.13012/8/2006-IA.II (T) dt.03/01/2019.
5. Amendment in Environmental Clearance issued vide letter No. J.13011/8/2006-IA.II (T) dt.13/08/2021.

Dear Sir,

This has reference to the above cited subject. Enclosed please find herewith Half Yearly Environmental Clearance Compliance Reports of Stage-I (2x250MW) and Stage-II (2x250MW) and compliance of additional conditions of O.P. Jindal Super Thermal Power Plant at village Tamnar, Distt.- Raigarh (C.G.) along with Environmental monitoring data for the period of April, 2022 to September, 2022 in soft copy (through e-mail).

Trust that you will find the above information in order.

Thanking you,

Yours faithfully,
For JINDAL POWER LIMITED


Shiv Kumar Singh
General Manager -EMD
Encl. : As above.
Cc:

Integrated Regional Office (IRO) Aranya Bhawan, North Block, Sector-19 Naya Raipur, Atal Nagar Chhattisgarh-492002	The Zonal Officer, Central Pollution Control Board, 3 rd Floor, Sahkar Bhawan, North T.T.Nagar, Bhopal- 462 003 (M.P)
The Member Secretary, Chhattisgarh Environment Conservation Board, Paryavas Bhavan, North Block Sec.19 Atal Nagar, Raipur (CG) -490099	

Jindal Power Limited

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Registered Office Tamnar 496 107, District Raigarh, Chhattisgarh

Jindal Power Limited, Tamnar

**Compliance Report of Environmental Clearance and additional conditions for Stage-I (2x250MW)
of O.P. Jindal Super TPP, Tamnar vide letters No.J.13011/15/93-IA.II (T) & J.11013/41/2006-IA.II (I)
dated 24/09/1997 & 06/04/2011**

Sl. No	Conditions	Compliance Status
(i)	All the conditions stipulated by Madhya Pradesh Pollution Control Board vide their letter No. 2077/TS/EZ/MPPCB/96 dated 07/02/1997 should be strictly implemented.	All the conditions stipulated by the Madhya Pradesh Pollution Control Board vide their letter No. 2077/TS/EZ/MPPCB/96 dated 07/02/1996 are strictly implemented.
(ii)	(As amended vide MoEF letter No. J-13011/15/2003-IA. II (T) dt. 24/06/05) : A bi-flue stack of 220 m height and internal diameter of 4.75 m with continuous monitoring system shall be installed for 2 x 250 MW units as Phase-1. For adequate dispersal of gaseous pollutants, exit velocity will be maintained at 25 m/sec by installing ID fans and continuous record of exit velocity shall also be maintained and submitted to the Ministry on a yearly basis.	A bi-flue stack of height 220 m and internal diameter of 4.75 m with continuous on-line monitoring system has been already installed. Exit velocity of 25 m/s is maintained. Records of exit velocity has been maintained and report for the period from April, 2022 to September, 2022 is enclosed as Annexure-I .
(iii)	Electrostatic Precipitator having efficiency of not less 99.8% should be installed. It should be ensured that particulate emission would not exceed the prescribed limit of 150 mg/Nm ³ .	Electrostatic Precipitators (ESP's) of efficiency >99.9% have been installed. The ESP's are designed to achieve particulate emission below 50 mg/Nm ³ . Particulate Matter monitoring report for the period from April, 2022 to September, 2022 is enclosed as Annexure-I .
(iv)	Closed Circuit Cooling Device should be provided and it should be ensured that only minimum water is drawn for makeup purposes. The requirement of water for the project will be met by constructing 18 mt high dam across Kurkut River involving a cost around Rs.48 crores. The forest area coming under submergence shall be identified and separate clearance under the Forest (Conservation) Act shall be obtained by the project authorities prior to commissioning the work on the project.	Induced Draft Cooling Tower with closed circuit has been installed and a COC > 5 is maintained to ensure that minimum water is drawn for make-up purpose. An 18 m high dam across Kurket river has been constructed and is in operation. Around 177.542 Ha. forest area had been identified under submergence area and a separate clearance from Chhattisgarh Govt. Forest Division has obtained vide letter No.F-7-19/03/10-2 , Raipur dated 10/10/2005 under the Forest (Conservation) Act .
(v)	Adequate space should be provided for installation of the gas desulphurisation plant in future for control of sulphur dioxide.	Adequate space has been provided for installation of gas desulphurisation plant in future for control of sulphur dioxide.
(vi)	Acquisition of land should be restricted to 614 ha with the following break up:- Power plant-360 ha Ash Dyke-198 ha , Colony-56ha. No additional area will be acquired for Phase-II including requirement for fly ash disposal.	Complied.
(vii)	Noise level should be limited to 85 dBA and regular maintenance of equipments be undertaken. For people working in the area of	The stipulated noise level is being maintained through installed acoustic hoods & enclosures and regular maintenance of equipments.

	generator halls & other high noise area, ear plugs should be provided.	Earplugs & Earmuffs have been provided to the employees working in the noise generating areas.
(viii)	For controlling fugitive dust, regular sprinkling of water in coal handling and other vulnerable areas of the plant should be ensured.	Water spraying is being carried out regularly in coal handling area and other vulnerable areas of the plant to control fugitive dust.
(ix)	A greenbelt of 100 m width will be created all along the plant boundary. Greenbelt will also be created along the ash disposal area. A norm of 1500 -2000 trees per ha should be followed. A detailed proposal of green belt creation including aftercare, gap filling, monitoring etc. should be prepared along with financial requirements and submitted to the Ministry by 31 st December, 1997.	Green belt along the plant boundary has been developed and the same is being strengthened through gap plantation. Greenbelt has also been created along the ash disposal area. Saplings have been planted as per the CPCB guidelines. Plantation development status for the year 2022-23 (till Sep-22) is enclosed as Annexure -II. A detailed proposal for green belt development had been already submitted to the Ministry.
(x)	Continuous monitoring of ground water should be undertaken in project impact area by establishing good network of observation wells in consultation with the Central Ground Water Board. Result & data collected should be analyzed to ascertain the status of water quality and findings should be submitted.	A network of observation wells and piezometers have been established in impact area in consultation with Central Ground Water Board and monitoring the ground water quality at regular intervals. Ground & surface water quality reports for the month of April-2022 & August 2022 are enclosed as Annexure -III
(xi)	All effluents generated in various plant activities should be collected in the Central Effluent Treatment Plant and treated to ensure adherence to specified standards of discharge.	Treated water from the Neutralization pit, Boiler blow down and Cooling tower blow down are taken to Central Monitoring Basin (Guard pond) after treatment it is reused in ash slurry preparation. 100% decanted ash water from ash dyke is recirculated and reused for ash slurry preparation. Treated effluent Monitoring Report for the period from April, 2022 to September, 2022 is enclosed as Annexure- IV.
(xii)	Provision shall be made for collection of fly ash in dry form. Close conveyor system with dust suppression mechanism shall be used for transport of coal from the mine and for carrying the ash to the disposal areas. Adequate provision should be made for sprinkling of water at strategic locations to ensure that fly ash does not get air borne.	Dry fly ash is collected through pneumatic conveying system in 2 No. ash silos of capacity 1600 Tonnes each. Coal is transported in environment friendly manners. Dry fly ash is transported by covered trucks by maintaining sufficient moisture for utilization in brick manufacturing, land filling, Mine backfilling and ash dyke raising etc. Wet ash is disposed to ash dyke through ash slurry pipelines. Water level is always maintained in the ash dyke in such a way that there is no fugitive dust emission from the ash dyke.
(xiii)	Ash pond area should be provided with impervious lining and suitable drainage provision should be made around the coal stock yard.	Ash pond area is provided with clay compacted impervious/LDPE lining layer as per CPCB guidelines. Suitable drainage provision with sedimentation pit is made

		around the coal stockyard.
(xiv)	Fly ash generated will be fully utilized within 10 years starting with 20% utilization from the year of operation of the project with the additional utilization of 10% every year.	All out efforts are being made to utilize ash in accordance with the Fly ash utilization notification. The avenue include ash bricks, mine backfilling, road construction, ash dyke raising, low lying area filling etc.
(xv)	Detailed survey of flora and fauna along Kurkut river/ submergence area shall be carried out in consultation with the institution like BSI, ZSI, WLI, Dehra Dun, local recognized Universities, Institutions etc. and the report should be submitted within six months.	Detailed survey of flora and fauna along Kurket river/ submergence area had been carried out by Prof.A.K.Girolkar, Principal & Professor (Botany), K.G. Science & Arts College, Raigarh, Chhattisgarh. The report has already been submitted to the Ministry.
(xvi)	Project affected people should be adequately compensated and rehabilitated as per the State Govt. norms in consultation with the State authorities. The final R&R Programme and package should be submitted within six months. The project colony should be located 6-8 kms away from the plant site to avoid direct impact of the project.	All land holders affected by the project have been compensated as per directives of State Govt. of C.G. and as such no R&R issue is pending. The colony is located at 6.5 km away from the plant site in upwind direction.
(xvii)	Adequate financial provision should be made for implementation of environmental mitigative measures with adequate scope for its enhancement, if required in future.	Complied as per EMP provided in the EIA Report.
(xiii)	Regular monitoring for SPM, SO ₂ and NO _x around the power plant may be carried out and records maintained. The data so collected should be properly analyzed and submitted to the Ministry every six months.	PM ₁₀ , PM _{2.5} , SO ₂ , NO _x and CO are regularly monitored in and around the power plant and records are properly maintained. The collected data are regularly submitted to the Ministry in every six months. The data for the period of April, 2022 to September, 2022 are enclosed as Annexure- V (a) to V (f) .
(xix)	Full cooperation should be extended to the Scientists/ Officers from the Regional Office of the Ministry at Bhopal/ the CPCB/ the SPCB who would be monitoring the compliance of environmental status. Complete set of impact assessment report and the Management Plans should be forwarded to the Regional Office/ the CPCB/ the SPCB for their use during monitoring.	Noted.
(xx)	Monitoring Committee should be constituted for reviewing the compliance to various safeguard measures by involving recognized local NGOs, Pollution Control Boards, Institutions, Experts etc.	Request letter for formation of Monitoring Committee was already submitted to Chhattisgarh Environment Conservation Board, Regional Office vide letter No.JPL/EMD/RO/OCT-2010 dated 7/10/2010. However, we have engaged ISM, Dhanbad for monitoring of compliance to various safeguard measures.
3	The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry.	Noted.
4	In case of any deviation or alteration in the	Noted.

	project from proposed those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(S) imposed and to add additional environmental protection measures required, if any.	
5	The above stipulations shall be enforced among others as under the water (Prevention and Control of Pollution) Act, 1974 , the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act,1986, the Public Liability Insurance Act,1991 and rules there under, the Environment Impact Assessment notification of January ,1994 and its amendments.	Noted.
Additional Conditions (as per MoEF Memorandum No.J.11013/41/2006-IA.II (I) dated 06.04.2011)		
(i)	Continuous monitoring of stack emissions as well as ambient air quality (as per notified standards) shall be carried out and continuous records maintained. Based on the monitored data, necessary corrective measures as may be required from time to time shall be taken to ensure that the levels are within permissible limits. The results of monitoring shall also be submitted to the respective Regional Office of MoEF regularly. Besides, the results of monitoring will also be put on the website of the company in the public domain.	Continuous monitoring of stack emissions as well as ambient air quality (as per notified standards) is being carried out and continuous records are maintained. Results of monitoring are being submitted to the Regional Office of MoEF regularly. Results of monitoring are being regularly uploaded on website of JPL. The real time data of CEMS and CAAQMS are uploaded on CPCB & CECB servers.
(ii)	The six monthly monitoring report as well as the monitored data on various parameters as stipulated in the environment clearance conditions shall be put on the website of the company and also regularly updated. The monitored data shall also be submitted to respective State Pollution Control Board/UTPCCs and the Regional Office of MoEF.	The six monthly monitoring reports as well as the monitored data on various parameters as stipulated in the environmental clearance conditions are being regularly uploaded on website. Monitored data are being regularly submitted to CECB-Raipur and the Regional Office of MoEF.
(iii)	The ambient air quality data as well as the stack emission data will also be displayed in public domain at some prominent place near the main gate of the company and updated in real time.	Ambient air quality data and the stack emission data is being displayed in public domain near the main gate of the company and updated in real time.

Jindal Power Limited, Tamnar

Compliance Report of Environmental Clearance for Stage-II (2x250MW) of O.P. Jindal Super TPP, Tamnar vide letters No.J-13011/8/2006-IA.II (T) dated 08/06/2006, EC amendment No.J.13012/08/2006- IA.II (I) dated 03/01/2019 & No.J.13011/08/2006- IA.II (T) dated 13/08/2021 and additional conditions as per MoEF Office Memorandum No J-11013/41/2006-IA.II(I) dated 06/04/2011 & F.No.22-13/2019-IA.III dated 28/08/2019

Sl. No	Conditions	Compliance Status
(i)	All the conditions stipulated by Chhattisgarh Environment Conservation Board vide their letter no. 984/TS/CECB/2006 dated 23/02/06 shall be strictly implemented.	All the conditions stipulated by the Chhattisgarh Environment Conservation Board vide their letter no. 984/TS/CECB/2006 dated 23/02/06 are strictly implemented.
(ii)	Amended condition as per as per MoEF Office Memorandum No.J.13011/08/2006-IA.II (T) dated 13/08/2021 No additional land for ash pond shall be acquired during phase-II of the project. The height of the existing ash dyke shall be limited to 18 m.	Noted, The area earmarked for ash dyke is 198 Ha. for both Phase-I (2x250MW) & Phase-II (2x250MW). No additional land is acquired for ash dyke for Phase- II (2x250MW). Noted.
(iii)	A 500 m distance from State highway and HFL of river Kelo to the plant site, ash pond and Township must be kept.	Complied.
(iv)	A copy of the requisite clearances from state government for construction of Rabo dam on Kurket River shall be submitted within one month of the receipt of this letter.	Copy of the requisite clearances from State Government for construction of Rabo dam on Kurket river has been already submitted to MoEF, New Delhi vide Letter No .AB/1000 MW/MoEF/509/001, dated 16/06/2006.
(v)	Ash in the coal to be used as fuel shall not exceed 40%.	The condition has been updated by MoEF&CC vide its notification no. S.O. 1561 (E) dated 21.05.2020. As per the said notification, MoEF&CC has permitted use of coal by TPPs without stipulations as regards to ash content or distance. The MoEF&CC vide this notification has stipulated that the existing ECs stand modified so as to make the above condition operative.
(vi)	Copy of coal linkage and stack height clearance shall be submitted within one month to the Ministry.	Copy of Coal Block allocation and Stack height clearance from the Airport Authority of India has been submitted to Ministry vide letter No.AB/1000MW/MoEF/509/001 dated 16/06/2006.
(vii)	A bi-flue stack of height 220 m and internal diameter of 4.75 m with continuous On-line monitoring system shall be installed. For adequate dispersal of gaseous pollutants, exit velocity shall be maintained at 25 m/sec by installing ID fans and continuous record of exit velocity shall also be maintained and submitted to the Ministry on a 6 monthly basis.	A bi-flue stack of height 220 m and internal diameter of 4.75 m with continuous on-line monitoring system has already been installed. ID fans are installed and exit velocity of 25 m/s is maintained. Report of exit velocity for the period of April, 2022 to September, 2022 is enclosed as Annexure- I .

(viii)	Electrostatic Precipitators (ESPs) with an efficiency of 99.9% efficiency shall be installed to limit particulate emission within 50 mg/Nm ³ . Automatic system for shutting down the power plant in the event of non-functioning of ESPs shall be installed.	Electrostatic Precipitators (ESPs) with an efficiency of >99.9% have been installed. The ESP's are designed to achieve particulate emission below 50mg/Nm ³ . Report of Particulate Matter for the period of April, 2022 to September, 2022 is enclosed as Annexure-I . Particulate emissions below 50 mg/Nm ³ is being ensured.
(ix)	100% fly ash utilization shall be achieved within 9 years in accordance with the notification on fly ash utilization SO 763 (E) dated 14 th September, 1999 and the amendments made therein from time to time.	All out efforts are being made to utilize ash in accordance with the Fly ash utilization notification. The avenue include ash bricks, mine backfilling, road construction, ash dyke raising, low lying area filling etc.
(x)	COC of not less than 5 shall be adopted. No ground water shall be used for any purpose.	Cooling system with designed COC of 6 has been implemented. No ground water is used in plant for any purpose.
(xi)	The treated effluents conforming to the prescribed standards shall be recirculated and reused within the plant. There shall be no waste water discharge into the surface water bodies, outside the plant boundary.	Treated effluents conforming to prescribed standards are re-circulated and re-used within the plant. Treated Effluent Monitoring Report for the period from April, 2022 to September, 2022 is enclosed as Annexure-IV . Effluents are treated in Central Monitoring Basin (Guard pond) and is re-used in ash slurry preparation. No wastewater is discharged into the surface water bodies, outside the plant boundary.
(xii)	Rain water harvesting shall be adopted and a detailed scheme for rain water harvesting to recharge the ground water aquifer shall be prepared in consultation with Central Ground Water Authority/ State Ground Water Board. A copy of the same shall be submitted within three months to the Ministry	Water reservoir of 35 million cu.m capacity at the Rabo dam and 12 lakh cu.m capacity at plant site have been constructed. Rainwater harvesting technique has adopted in the residential colony and other office complexes at the site, as per proposal prepared in consultation with Mr. V.K. Jain, formerly Engineer-In-Chief, Public Health Engineering Department and Chairman, M.P. Pollution Control Board, Bhopal and as per the guidelines of Central Ground Water Authority/ State Ground Water Board. The report had been submitted to the Ministry vide letter No.JPL/RTPP/RKS/2.5/1897 dated 19/09/2006.
(xiii)	Continuous monitoring of ground water shall be undertaken in and around project impact area including ash pond area by establishing a network of observation wells in consultation with the Central Ground Water Board/ State Ground Water Board, as the ash pond lies in the catchment of river Pajhar. Data collected shall be analyzed to ascertain the status of water quality and results furnished to the Regional Office of this Ministry.	A network of observation wells and piezometers have been established in and around impact area including ash pond in consultation with Central Ground Water Board and monitoring the ground water quality at regular intervals. Results are submitted regularly to Ministry & its Regional Office, CPCB zonal office and CECB-Raipur. Ground & surface water quality reports for the month of April-2022 & August 2022 are enclosed as Annexure -III

(xiv)	Green belt of 100 m width shall be developed all around the power plant and ash pond area. One third (1/3) of the total plant area (phase-I&II) should be used for green belt development. (As amended vide MoEF letter No. J-13011/8/2006-IA. II (T) dt. 25/04/07) A green belt of 100 m width shall be developed all around the power plant covering approximately 1/3rd of power plant area. Greenbelt with an average width of 45 m shall also be developed around the ash dyke covering about 24 ha area.	Green belt along the plant boundary has been developed and the same is being strengthened through gap plantation. Greenbelt of 45m width has also been developed the ash disposal area. Saplings have been planted as per the CPCB guidelines. Plantation development status for the year 2022-23 (till Sep-22) is enclosed as Annexure -II.
(xv)	The project proponent shall take all precautionary measures during construction and operation of power plant for conservation and protection of endangered faunal species i.e. Sloth Bear (<i>Melursus ursinus</i>), Common Jungle Cat (<i>Felis chaus</i>), Indian Python (<i>Python molurus</i>), Rat Snake (<i>Ptyus mucosus</i>), Indian Cobra (<i>Naja naja</i>), Lizard (<i>Varanus monitor</i>) etc, reported in the study area, in consultation with the state Wildlife Dept. Action plan for conservation of endangered fauna shall be prepared and submitted to the Ministry & its Regional Office within 3 months.	A proposal for conservation of endangered wild life fauna species was prepared in consultation with State Wild Life Department, Raipur as per the guidelines of Wild Life Protection Act, 1972 and the same was submitted to the Ministry vide letter No.JPL/RTPP/RKS/2.5/1897 dated 19/09/2006.
(xvi)	First aid and sanitation arrangements shall be made for the drivers and other contract workers during the construction phase.	Complied.
(xvii)	Leq of Noise level shall be limited to 75 dBA and regular maintenance of equipment be undertaken. For people working in the high noise areas, personal protection devices should be provided.	Noise level is being maintained within the prescribed limit. Earplugs & Earmuffs have been providing to the employees working in the noise generating areas.
(xiii)	Regular monitoring of the ambient air quality shall be carried out in and around the power plant and records maintained. Periodic six monthly reports should be submitted to the Regional Office of this Ministry.	Ambient air quality is being monitored in and around the power plant and records are being maintained. The reports are being submitted to the Regional Office of Ministry regularly in every six months. The reports for the period from April, 2022 to September, 2022 are enclosed as Annexure- V (a) to V (f).
(xix)	For controlling fugitive dust, regular sprinkling of water in coal storage area and other vulnerable areas of the plant shall be ensured.	Water spraying is a regular practice in coal handling area and other vulnerable areas of the plant to control fugitive dust.
(xx)	The project proponent should advertise in at least two local newspapers widely circulated in the region around the project, one of which should be in the vernacular language of the locality concerned, informing that the project has been accorded environmental clearance and copies of clearances letters are available with the State Pollution Control Board/	The information regarding advertisement in two local newspapers informing the project has been accorded environmental clearance has been sent to MoEF, New Delhi vide Letter No. AG/1000MW/MoEF/509/002, dt. 24/06/2006.

	Committee and may also be seen at Website of the Ministry of Environment and Forests at http://envfor.nic.in .	
(xxi)	A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguards.	Environment Management Department is already in place with qualified and experienced staff for implementation of the stipulated environmental safeguards.
(xxii)	Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards should be submitted to this Ministry/ Regional Office/ CPCB/ SPCB.	Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards is being submitted to Ministry, Regional Office of Ministry, CPCB and SPCB.
(xxiii)	Regional Office of the Ministry of Environment & Forests located at Bhopal will monitor the implementation of the stipulated conditions. Complete set of Environmental Impact Assessment Report and Environment Management Plan along with the additional information submitted from time to time shall be forwarded to the Regional Office for their use during monitoring.	Noted.
(xxiv)	Separate funds should be allocated for implementation of environmental protection measures along with item-wise break-up. This cost should be included as part of the project cost. The funds earmarked for the environment protection measures should not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.	Separate funds for implementation of environmental protection measures have been allocated as part of the project cost. Year wise (April to March) expenditure details are being submitted regularly to the Ministry.
(xxv)	Full cooperation should be extended to the Scientists/ Officers from the Ministry/ Regional Office of the Ministry at Bhopal/ the CPCB/ the SPCB who would be monitoring the compliance of environmental status.	Noted.
4	The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry.	Noted.
5	The environmental clearance accorded shall be valid for a period of 5 years for starting construction/Operation of the power plant. In case, the project authorities fail to do so within this stipulated period, the environmental clearance shall stand lapsed automatically.	Plant has been constructed/ operating within the stipulated period. The Unit-1,2,3 & 4 were commissioned on 08/12/2007, 15/06/2008, 06/04/2008 & 05/09/2008 respectively.
6	In case of any deviation or alteration in the project from proposed those submitted to this Ministry for clearance ,a fresh reference should be made to the Ministry to assess the adequacy of the condition(S) imposed and to incorporate additional environmental protection measures required, if any.	Noted.
7	The above stipulations shall be enforced along	Noted.

	with others as under the water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989, Hazardous Wastes (Management and Handling) Rules, 1989, the Public Liability Insurance Act, 1991 and rules there under, the Environment Impact Assessment notification of January, 1994 and their subsequent amendments.	
	Additional Conditions (as per MoEF Office Memorandum No.J.11013/41/2006-IA.II (I) dated 06/04/2011)	
(i)	Continuous monitoring of stack emissions as well as ambient air quality (as per notified standards) shall be carried out and continuous records maintained. Based on the monitored data, necessary corrective measures as may be required from time to time shall be taken to ensure that the levels are within permissible limits. The results of monitoring shall also be submitted to the respective Regional Office of MoEF regularly. Besides, the results of monitoring will also be put on the website of the company in the public domain.	Continuous monitoring of stack emissions as well as ambient air quality (as per notified standards) is being carried out and continuous records are maintained. Results of monitoring are being submitted to the Regional Office of MoEF regularly. Results of monitoring are being regularly uploaded on website of JPL. The real time data of CEMS and CAAQMS are uploaded on CPCB & CECB servers.
(ii)	The six monthly monitoring report as well as the monitored data on various parameters as stipulated in the environment clearance conditions shall be put on the website of the company and also regularly updated. The monitored data shall also be submitted to respective State Pollution Control Board/UTPCCs and the Regional Office of MoEF.	The six monthly monitoring reports as well as the monitored data on various parameters as stipulated in the environmental clearance conditions are being regularly uploaded on company website. Monitored data are being regularly submitted to CECB-Raipur and the Regional Office of MoEF.
(iii)	The ambient air quality data as well as the stack emission data will also be displayed in public domain at some prominent place near the main gate of the company and updated in real time.	Ambient air quality data and the stack emission data is being displayed in public domain near the main gate of the company and updated in real time.
	Additional Conditions (as per MoEFCC Office Memorandum No.J.13012/08/2006- IA.II (I) dated 03/01/2019)	
(i)	Groundwater analysis is to be carried out at the upstream / downstream of the existing fly ash pond by creating a network with the existing wells and installing new piezometers and report be submitted that no leaching is taking place due to fly ash dumping.	A network of observation wells and piezometers have been established in and around impact area including ash pond and monitoring the ground water quality at regular intervals. Results are submitted regularly to Ministry & its Regional Office, CPCB zonal office and CECB-Raipur. Ground & surface water quality reports for the month of April-2022 & August 2022 are enclosed as Annexure –III.

(ii)	Alternate technology for fly ash utilization such as road making using geopolymers shall be explored with the institutes of national repute.	Noted.
(iii)	The approved ash pond site at village Dolesara/ Roadapalli in an area of 239 ha vide ministry's letter dated 26.4.2017 for disposal of ash generated from 4X600 MW Power Plant shall be operationalized within one year so that there should not be any necessity to further raise the existing dyke height.	CECB vide its letter dated 27.04.2022 has issued the amendment of CTE of 4X600 MW TPP for new ash dyke.
Additional Conditions (as per MoEF Office Memorandum No.J.13011/08/2006- IA.II (T) dated 13/08/2021)		
(i)	No further raising of ash dyke shall be proposed beyond RL 286m.	Noted.
(ii)	100% ash utilization shall be carried out throughout the year.	Noted.
(iii)	Disaster management plan shall be finalized and implemented after discussion with local authority.	Complied with.
Additional conditions as per MoEF Office Memorandum F.No.22-13/2019-IA.III dated 28/08/2019		
i	The guidelines prepared by CPCB for disposal of fly ash for reclamation of low lying areas and in stowing / backfilling of abandoned mines/quarries shall be followed during disposal of ash in abandoned or working mines, as annexed.	Noted
ii	There should at least be clearance of 500 m of safe distance be maintained from River and water body in case of ash disposal in abandoned mines to prevent embankment failures and flyash flowing into the nearby water body.	Noted
iii	The top layer of the fly ash disposal area in the abandoned mines shall be kept moist during disposal.	Noted
iv	Top layer of the disposed area should have 70 cm overburden or gravels/stones and then 30 cm sweet soil cover. Subsequently, the vegetation shall be raised on the soil cover.	Noted
v	Bioaccumulation and bio-magnification tests shall be conducted on surrounding flora and fauna (tree leaves, vegetation, crop yields and cattle population) during shall be pre-monsoon and post monsoon to find out any trace metals escaped through groundwater or runoff.	Noted
vi	Surface runoff and supernatant water in any case shall not be let into the surrounding areas. It shall be collected by providing adequate drain around the mine. The supernatant water along with surface runoff shall be treated and re-used for mixing ash and plant operations.	Noted

vii	To the extent possible, only decanted water from mine, make up water from treated effluents such as cooling tower blow down and treated sewage water shall be used for making ash slurry.	Noted
viii	Fly ash to be used as soil conditioner in agriculture needs and to be applied in controlled manner to limit excessive application so as to prevent soil degradation. The optimize proportion of ash to be applied which is to be certified by the state Agricultural Universities /Colleges based on the soil testing.	Noted
ix	Approval from DGMS shall be obtained before disposing the ash in mine voids.	Noted
x	Technology for conversion of fly ash into coarse granules for stowing in the underground mines to be explored	Noted
xi	All the power plants should install different silos for dry collection of fly ash.	Complied
xii	Records pertaining to details of month-wise quantity of fly ash disposed and water consumption along with nature/source of water shall be maintained and submitted to Ministry Regional office annually	Records pertaining to details of month-wise quantity of fly ash disposed and water consumption data is maintaining. The record will be submitted to Ministry Regional office annually.
xiii	Before starting the disposal of ash into mine voids, the NOC /Permission from the mine owner is to be obtained in case the mine closure activity are not completed or State Government in case the mine has been handed over to the State Govt. after its closure. A copy of such NOC / Permission isto be submitted to the ministry and its Regional Office	Noted

STACK MONITORING REPORT (4X250 MW TPP) OF APRIL , 2022 TO SEPTEMBER 2022

Month	Name of the Unit	Stack height (Mtr.)	Stack diameter (Mtr.)	Exit Velocity (m/sec)	Concentration of PM (mg/Nm ³)
Apr-22	Unit-1	220	4.75	25.1	36.8
	Unit-2			25.0	40.3
	Unit-3			25.0	41.5
	Unit-4			25.2	38.7
May-22	Unit-1	220	4.75	25.0	40.2
	Unit-2			24.8	42.6
	Unit-3			24.9	39.7
	Unit-4			USD	USD
Jun-22	Unit-1	220	4.75	24.9	38.6
	Unit-2			25.0	40.4
	Unit-3			25.1	37.5
	Unit-4			25	41.3
Jul-22	Unit-1	220	4.75	25.5	42
	Unit-2			25.2	39
	Unit-3			25.3	40
	Unit-4			25.1	38
Aug-22	Unit-1	220	4.75	25	40
	Unit-2			25	42
	Unit-3			25.1	38
	Unit-4			25	41
Sep-22	Unit-1	220	4.75	25.1	42.5
	Unit-2			25.1	39.6
	Unit-3			25	38.2
	Unit-4			25	41.3

GREEN BELT DEVELOPMENT

22-23 (APRIL , 2022 TO SEPTEMBER 2022)		
Location	No. of Saplings planted	Name of the main species
Plant Area(2400MW + 1000MW),ShaktiVihar-2 , Infront of Main Gate ,Near Gate No.2 , CHP & Washery , Rabo dam area,and Gare IV/1 Mines	89000	Gulmohar, Chakundi, Mango, Teak , Peltophorm, Jamun, Alostonia, Neem,Mango,Sal, Jamun,Amla, Shisham,Amrud, Kaju,Semar Kathal, Neem,Bel,Arjun,Ashok etc.

GROUND WATER QUALITY MONITORING REPORT



HDD-272, Patilnagar, Near JP Chowk,
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Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

To, Jindal Power Limited P.O. Tamnar, District: Raigarh 496107 (C.G.)	Report No	UES/TR/22-23/01547		
	Lab Ref No	UES/22-23/W/01875-01876		
	Date of Sampling	28/04/2022		
	Date of Receipt	29/04/2022		
	Date of Report	08/05/2022		
	Date of analysis	Start:29/04/2022	END: 08/05/2022	
SAMPLE DETAILS				
Customer Sample Id / Sampling Location	1. Piezometer - 01 (Near Gate No. 03)	Latitude	22.13197	
	2. Piezometer - 02 (SW near Ash Dyke S.V.2)	Longitude	83.45947	
Customer Ref. No. & Date	4400014853, Dated :07/10/2021		Latitude	22.11586
Sample Type	Groundwater		Longitude	83.45075
Packing Of Sample	Plastic Bottle (5.0 ltr.), Glass Bottle (1.0 ltr.)			
Sample Collected By	Laboratory Chemist			
Sample Condition At Receipt	Ok			

REPORT NO. 01547

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT	
				Acceptable Limit	Permissible limit	Piezometer 01	Piezometer 02
A. Organoleptic & Physical Parameters							
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable	Agreeable
3	pH Value at 25.4°C	-	IS:3025:(Part-11)	6.5-8.5	No Relaxation	7.64	7.62
4	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	IS 3025:(Part-10)	1	5	3.2	2.5
6	Total Dissolved Solids	mg/L	IS:3025:(Part-16)	500	2000	207.5	231
B. General Parameters Concerning Substances undesirable in excessive amounts							
1	Aluminium (as Al)	mg/L	IS 3025(part-5b)	0.03	0.2	N.D.	N.D.
2	Ammonia (as total ammonia-N)	mg/L	IS 3025(part-34)	0.5	No Relaxation	N.D.	N.D.
3	Anionic Detergent (as MBAS)	mg/L	Annex K of IS:13428	0.2	1.0	N.D.	N.D.
4	Barium (as Ba)	mg/L	Annex F of IS:13428	0.7	No Relaxation	N.D.	N.D.
5	Boron (as B)	mg/L	IS 3025:(Part-57)	0.5	1.0	N.D.	N.D.

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REPORT NO. 01547

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT	
				Acceptable Limit	Permissible limit	Piezometer 01	Piezometer 02
6	Calcium (as Ca)	mg/L	IS 3025: (Part-40)	75	200	25.65	53.70
7	Chloramines (as Cl ₂)	mg/L	IS 3025: (Part-26)	4.0	No Relaxation	N.D.	N.D.
8	Chloride (as Cl)	mg/L	IS 3025: (Part-32)	250	1000	29.99	24.99
9	Copper (as Cu)	mg/L	IS 3025(part-42)	0.05	1.5	N.D.	N.D.
10	Fluoride (as F)	mg/L	IS 3025(part-60)	1	1.5	0.16	0.1
11	Free Residual Chlorine	mg/L	IS 3025: (Part-26)	0.2	1	N.D.	N.D.
12	Iron (as Fe)	mg/L	IS 3025(part-53)	0.3	No Relaxation	N.D.	N.D.
13	Magnesium (as Mg)	mg/L	IS 3025: (Part-46)	30	100	13.60	13.60
14	Manganese (as Mn)	mg/L	IS 3025(part-59)	0.1	0.3	N.D.	N.D.
15	Mineral Oil	mg/l.	Clause 6 of IS 3025 (Part-39) Infrared partition method	0.5	No Relaxation	N.D.	N.D.
16	Nitrate (as NO ₃)	mg/L	IS 3025(part-34)	45	No Relaxation	2.31	1.27
17	Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025(part-43)	0.001	0.002	N.D.	N.D.
18	Selenium (as Se)	mg/L	IS 3025(part-56)	0.01	No Relaxation	N.D.	N.D.
19	Silver (as Ag)	mg/L	Annex J of IS 13428	0.1	No Relaxation	N.D.	N.D.
20	Sulphate (as SO ₄)	mg/L	IS 3025: (Part-24)	200	400	9.45	13.14
21	Sulphide (as H ₂ S)	mg/L	IS 3025: (Part-29)	0.05	No Relaxation	N.D.	N.D.
22	Total Alkalinity (as CaCO ₃)	mg/L	IS 3025: (Part-23)	200	600	170	150
23	Total Hardness (as CaCO ₃)	mg/L	IS 3025: (Part-21)	200	600	120	190
24	Zinc (as Zn)	mg/L	IS 3025(part-49)	5	15	N.D.	N.D.
C. Parameters concerning toxic substances :-							
1	Cadmium (as Cd)	mg/L	IS 3025(part-41)	0.003	No Relaxation	N.D.	N.D.
2	Cyanide (as CN)	mg/L	IS 3025(part-27)	0.05	No Relaxation	N.D.	N.D.
3	Lead (as Pb)	mg/L	IS 3025(part-47)	0.01	No	N.D.	N.D.

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REPORT NO. 01547

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT	
				Acceptable Limit	Permissible limit	Piezometer 01	Piezometer 02
					No Relaxation		
4	Mercury (as Hg)	mg/L	IS 3025 (part-48)	0.001	No Relaxation	N.D.	N.D.
5	Molybdenum (as Mo)	mg/L	IS 3025 (part-2)	0.07	No Relaxation	N.D.	N.D.
6	Nickel (as Ni)	mg/L	IS 3025 (part-54)	0.02	No Relaxation	N.D.	N.D.
7	Polychlorinated biphenyls	mg/L	ASTM 5175	0.0005	No Relaxation	N.D.	N.D.
8	Polynuclear aromatic hydrocarbons (as PAH)	mg/L	APHA 6440	0.0001	No Relaxation	N.D.	N.D.
9	Arsenic (as As)	mg/L	IS 3025 (part-37)	0.01	0.05	N.D.	N.D.
10	Chromium (as Cr)	mg/L	Annex J of IS:13428	0.05	No Relaxation	N.D.	N.D.
11	Trihalomethanes:						
a)	Bromoform	mg/L	APHA 6232	0.1	No Relaxation	N.D.	N.D.
b)	Dibromochloromethane	mg/L	APHA 6232	0.1	No Relaxation	N.D.	N.D.
c)	Bromodichloromethane	mg/L	APHA 6232	0.06	No Relaxation	N.D.	N.D.
d)	Chloroform	mg/L	APHA 6232	0.2	No Relaxation	N.D.	N.D.
D.	Pesticides:-						
1	Alpha HCH	µg/l	USEPA 508		0.01	N.D.	N.D.
2	Beta HCH	µg/l	USEPA 508		0.04	N.D.	N.D.
3	Delta HCH	µg/l	USEPA 508		0.04	N.D.	N.D.
4	Alachlor	µg/l	USEPA 525.2, 8141		20	N.D.	N.D.
5	Aldrin / Dieldrin	µg/l	USEPA 508		0.03	N.D.	N.D.
6	Atrazine	µg/l	USEPA 525.2, 8141 A		2	N.D.	N.D.
7	Butachlor	µg/l	USEPA 525.2, 8141 A		125	N.D.	N.D.
8	Chlorpyrifos	µg/l	USEPA 525.2, 8141 A		30	N.D.	N.D.
9	DDT (o,p and p, p-Isomers of DDT, DDE and DDD)	µg/l	USEPA 508		1	N.D.	N.D.
10	Gamma HCH	µg/l	USEPA 508		2	N.D.	N.D.
11	2,4-Dichlorophenoxy acetic Acid	µg/l	USEPA 515.1		30	N.D.	N.D.
12	Endosulphan (alpha, beta)	µg/l	USEPA 508		0.4	N.D.	N.D.

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REPORT NO. 01547

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT	
				Acceptable Limit	Permissible limit	Piezometer 01	Piezometer 02
	and sulphate)						
13	Ethion	µg/l	USEPA 1657 A		3	N.D.	N.D.
14	Isoproturon	µg/l	USEPA 532		9	N.D.	N.D.
15	Malathion	µg/l	USEPA 8141 A		190	N.D.	N.D.
16	Methyl Parathion	µg/l	USEPA 8141 A		0.3	N.D.	N.D.
17	Monocrotophos	µg/l	USEPA 8141 A		1	N.D.	N.D.
18	Phorate	µg/l	USEPA 8141 A		2	N.D.	N.D.
E. Microbial Parameters							
1	Total Coliform	MPN/100ml	IS:1622:1981:RA:2019	-	-	Absent	Absent
2	E. Coli	MPN/100ml	IS:1622:1981:RA:2019	-	-	Absent	Absent

Note: mg/lt.: milligram per liter, N.D.: Not Detected.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

- > The use of the report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for (info) only.

 08/05/22 REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS 08/05/22 AUTHORIZED SIGNATORY
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-----End of the test report-----



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To, Jindal Power Limited P.O. Tamnar, District: Raigarh 496107 (C.G.)	Report No	UES/TR/22-23/01548		
	Lab Ref No	UES/22-23/W/01877-01879		
	Date of Sampling	28/04/2022		
	Date of Receipt	29/04/2022		
	Date of Report	08/05/2022		
	Date of analysis	Start:29/04/2022	End: 08/05/2022	
SAMPLE DETAILS				
Customer Sample Id /Sampling Location	1. Borewell - 06 (NW Near ash Dyke Reagan Village Side)	Latitude	22.11468	
		Longitude	83.46731	
	2. Piezometer - 07 (NE Near ash Dyke village pata village)	Latitude	22.13279	
		Longitude	83.45694	
	3. Piezometer - (Savitri Nagar Colony)	Latitude	22.11468	
		Longitude	83.45507	
Customer Ref. No. & Date	4400014853, Dated :07/10/2021			
Sample Type	GroundWater			
Packing Of Sample	Plastic Bottle (5.0 ltr.) Glass Bottle (1.0 ltr.)			
Sample Collected By	Laboratory Chemist			
Sample Condition At Receipt	OK			

REPORT NO. 01548

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT		
				Acceptable Limit	Permissible limit	Borewell 06	Piezometer 07	Piezometer SN Colony
A. Organoleptic & Physical Parameters								
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1	<1	<1
2	Odour	-	IS:3025:(part-5)	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	pH Value at 25.2°C	-	IS:3025:(Part-11)	6.5-8.5	No Relaxation	8.06	7.54	7.45
4	Taste	-	IS:3025:(part-3)	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	IS:3025:(Part-10)	1	5	3.84	2.96	2.14
6	Total Dissolved Solids	mg/L	IS:3025:(Part-16)	500	2000	230.5	181.8	141.7
B. General Parameters Concerning Substances undesirable in excessive amounts								
1	Aluminium (as Al)	mg/L	IS:3025:(part-55)	0.03	0.2	N.D.	N.D.	N.D.
2	Ammonia (as total ammonia-N)	mg/L	IS:3025:(part-34)	0.5	No Relaxation	N.D.	N.D.	N.D.
3	Anionic Detergent (as MBAS)	mg/L	Annex K of IS:13428	0.2	1.0	N.D.	N.D.	N.D.

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HDD-272, Phase III, Near J.P. Chowk
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Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

REPORT NO. 01548

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT		
				Acceptable Limit	Permissible Limit	Borewell 06	Piezometer 07	Piezometer SN Colony
4	Barium (as Ba)	mg/L	Annex F of IS:13428	0.7	No Relaxation	N.D.	N.D.	N.D.
5	Boron (as B)	mg/L	IS 3025: (Part-57)	0.5	1.0	N.D.	N.D.	N.D.
6	Calcium (as Ca)	mg/L	IS 3025: (Part-40)	75	200	25.65	20.04	20.04
7	Chloramines (as Cl ₂)	mg/L	IS 3025: (Part-26)	4.0	No Relaxation	N.D.	N.D.	N.D.
8	Chloride (as Cl)	mg/L	IS 3025: (Part-32)	250	1000	19.99	19.99	14.99
9	Copper (as Cu)	mg/L	IS 3025 (part-42)	0.05	1.5	N.D.	N.D.	N.D.
10	Fluoride (as F)	mg/L	IS 3025 (part-60)	1	1.5	0.21	0.20	0.18
11	Free Residual Chlorine	mg/L	IS 3025: (Part-26)	0.2	1	N.D.	N.D.	N.D.
12	Iron (as Fe)	mg/L	IS 3025 (part-53)	0.3	No Relaxation	N.D.	N.D.	N.D.
13	Magnesium (as Mg)	mg/L	IS 3025: (Part-46)	30	100	16.52	14.58	24.30
14	Manganese (as Mn)	mg/L	IS 3025 (part-59)	0.1	0.3	N.D.	N.D.	N.D.
15	Mineral Oil	mg/L	Clause 6 of IS 3025 (Part-39) Infrared partition method	0.5	No Relaxation	N.D.	N.D.	N.D.
16	Nitrate (as NO ₃)	mg/L	IS 3025 (part-34)	45	No Relaxation	0.03	0.01	0.01
17	Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025 (part-43)	0.001	0.002	N.D.	N.D.	N.D.
18	Selenium (as Se)	mg/L	IS 3025 (part-56)	0.01	No Relaxation	N.D.	N.D.	N.D.
19	Silver (as Ag)	mg/L	Annex J of IS 13428	0.1	No Relaxation	N.D.	N.D.	N.D.
20	Sulphate (as SO ₄)	mg/L	IS 3025: (Part-24)	200	400	8.63	6.51	18.78
21	Sulphide (as H ₂ S)	mg/L	IS 3025: (Part-29)	0.05	No Relaxation	N.D.	N.D.	N.D.
22	Total Alkalinity (as CaCO ₃)	mg/L	IS 3025: (Part-23)	200	600	210	158	80
23	Total Hardness (as CaCO ₃)	mg/L	IS 3025: (Part-21)	200	600	132	110	150
24	Zinc (as Zn)	mg/L	IS 3025 (part-49)	5	15	N.D.	N.D.	N.D.
C.	Parameters concerning toxic substances:-							
1	Cadmium (as Cd)	mg/L	IS 3025 (part-41)	0.003	No Relaxation	N.D.	N.D.	N.D.
2	Cyanide (as CN)	mg/L	IS 3025 (part-27)	0.05	No Relaxation	N.D.	N.D.	N.D.

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Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

REPORT NO. 01548

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT		
				Acceptable Limit	Permissible Limit	Borewell 06	Piezometer 07	Piezometer SN Colony
3	Lead (as Pb)	mg/l	IS 3025(part-47)	0.01	No Relaxation	N.D.	N.D.	N.D.
4	Mercury (as Hg)	mg/L	IS 3025(part-48)	0.001	No Relaxation	N.D.	N.D.	N.D.
5	Molybdenum (as Mo)	mg/L	IS 3025(part-2)	0.07	No Relaxation	N.D.	N.D.	N.D.
6	Nickel (as Ni)	mg/L	IS 3025(part-54)	0.02	No Relaxation	N.D.	N.D.	N.D.
7	Polychlorinated biphenyls	mg/L	ASTM 5175	0.0005	No Relaxation	N.D.	N.D.	N.D.
8	Polynuclear aromatic hydrocarbons (as PAH)	mg/L	APHA 6440	0.0001	No Relaxation	N.D.	N.D.	N.D.
9	Arsenic (as As)	mg/L	IS 3025(part-37)	0.01	0.05	N.D.	N.D.	N.D.
10	Chromium (as Cr)	mg/l	Annex J of IS:13428	0.05	No Relaxation	N.D.	N.D.	N.D.
11	Trihalomethanes:							
a)	Bromoform	mg/L	APHA 6232	0.1	No Relaxation	N.D.	N.D.	N.D.
b)	Dibromochloromethane	mg/L	APHA 6232	0.1	No Relaxation	N.D.	N.D.	N.D.
c)	Bromodichloromethane	mg/L	APHA 6232	0.06	No Relaxation	N.D.	N.D.	N.D.
d)	Chloroform	mg/L	APHA 6232	0.2	No Relaxation	N.D.	N.D.	N.D.
D.	Pesticides:-							
1	Alpha HCH	µg/l	USEPA 508		0.01	N.D.	N.D.	N.D.
2	Beta HCH	µg/l	USEPA 508		0.04	N.D.	N.D.	N.D.
3	Delta HCH	µg/l	USEPA 508		0.04	N.D.	N.D.	N.D.
4	Alachlor	µg/l	USEPA 525.2, 507		20	N.D.	N.D.	N.D.
5	Aldrin / Dieldrin	µg/l	USEPA 508		0.03	N.D.	N.D.	N.D.
6	Atrazine	µg/l	USEPA 525.2, 8141 A		2	N.D.	N.D.	N.D.
7	Butachlor	µg/l	USEPA 525.2, 8141 A		125	N.D.	N.D.	N.D.
8	Chlorpyrifos	µg/l	USEPA 525.2, 8141 A		30	N.D.	N.D.	N.D.
9	DDT (o,p and p, p-Isomers of DDT, DDE and DDD)	µg/l	USEPA 508		1	N.D.	N.D.	N.D.
10	Gamma HCH	µg/l	USEPA 508		2	N.D.	N.D.	N.D.

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REPORT NO. 01548

TEST REPORT								
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT		
				Acceptable Limit	Permissible limit	Borewell 06	Piezometer 07	Piezometer 6N Colony
11	2,4-Dichlorophenoxy acetic Acid	µg/l	USEPA 515.1		30	N.D.	N.D.	N.D.
12	Endosulphan (alpha, beta and sulphate)	µg/l	USEPA 508		0.4	N.D.	N.D.	N.D.
13	Ethion	µg/l	USEPA 1657 A		3	N.D.	N.D.	N.D.
14	Isopreturon	µg/l	USEPA 532		9	N.D.	N.D.	N.D.
15	Malathion	µg/l	USEPA 8141 A		190	N.D.	N.D.	N.D.
16	Methyl Parathion	µg/l	USEPA 8141 A		0.3	N.D.	N.D.	N.D.
17	Monocrotophos	µg/l	USEPA 8141 A		1	N.D.	N.D.	N.D.
18	Phorate	µg/l	USEPA 8141 A		2	N.D.	N.D.	N.D.
E. Microbial Parameters								
1	Total Coliform	MPN/100ml	IS:1622:1981:RA:2019		-	Absent	Absent	Absent
2	E. Coli	MPN/100ml	IS:1622:1981:RA:2019		-	Absent	Absent	Absent

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

- The use of the report for publication, arbitration or as legal dispute is forbidden.
- Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- This is for information as the party has asked for above test(s) only.

 08/05/22 REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS 08/05/22 AUTHORIZED SIGNATORY
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-----End of the test report-----



HDD-272, Phase III, Near JP Chowk
Ring Road, New Raipur, Nagari Raipur (C.G.) - 492099
Ph: 0771-2527777 | Email: ultimatenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

To, Jindal Power Limited P.O. Tamnar, District: Raigarh 496107 (C.G.)		Report No UES/TR/22-23/01549
		Lab Ref No UES/22-23/W/01880-01882
		Date of Sampling 28/04/2022
		Date of Receipt 29/04/2022
		Date of Report 08/05/2022
		Date of analysis Start:29/04/2022 END: 08/05/2022
SAMPLE DETAILS		
Customer Sample Id /Sampling Location	1. Pata Village	Latitude 22.13781
		Longitude 83.46132
	2. Kunjemura Village	Latitude 22.13519
		Longitude 83.46135
	3. Tamnar Village	Latitude 22.07879
		Longitude 83.42356
Customer Ref. No. & Date	4400014853, Dated :07/10/2021	
Sample Type	Ground Water	
Packing Of Sample	Plastic Bottle (5.0ltr.) Glass Bottle (1.0 ltr.)	
Sample Collected By	Laboratory Chemist	
Sample Condition At Receipt	Ok	

REPORT NO. 01549

TEST REPORT								
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT		
				Acceptable Limit	Permissible limit	Pata Village	Kunjemura Village	Tamnar Village
A. Organoleptic & Physical Parameters								
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1	<1	<1
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	pH Value at 25.2°C	-	IS:3025:(Part-11)	6.5-8.5	No Relaxation	7.38	7.12	7.78
4	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	IS 3025:(Part-10)	1	5	2.26	3.60	3.96
6	Total Dissolved Solids	mg/L	IS:3025:(Part-16)	500	2000	444.2	170.1	265.5
B. General Parameters Concerning Substances undesirable in excessive amounts								
1	Aluminium (as Al)	mg/L	IS 3025(part-55)	0.03	0.2	N.D.	N.D.	N.D.
2	Ammonia (as total ammonia-N)	mg/L	IS 3025(part-34)	0.5	No Relaxation	N.D.	N.D.	N.D.
3	Anionic Detergent (as MBAS)	mg/L	Annex K of IS:13428	0.2	1.0	N.D.	N.D.	N.D.

AN ISO : 9001:2015 / ISO: 14001:2015 / ISO 45001:2018 CERTIFIED LABORATORY



HDD 27/11/2015
 Ring Road, Pata Village, Rajour (C.E.) - 492099
 Ph: 07721 257777 Email: ultimateenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

REPORT NO. 01549

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT		
				Acceptable Limit	Permissible limit	Pata Village	Kunjemura Village	Tannar Village
4	Barium (as Ba)	mg/L	Annex F of IS:13428	0.7	No Relaxation	N.D.	N.D.	N.D.
5	Boron (as B)	mg/L	IS 3025:(Part-57)	0.5	1.0	N.D.	N.D.	N.D.
6	Calcium (as Ca)	mg/L	IS 3025:(Part-40)	75	200	92.18	30.46	41.68
7	Chloramines (as Cl ₂)	mg/L	IS 3025:(Part-26)	4.0	No Relaxation	N.D.	N.D.	N.D.
8	Chloride (as Cl)	mg/L	IS 3025:(Part-32)	250	1000	44.98	3.99	64.97
9	Copper (as Cu)	mg/L	IS 3025(part-42)	0.05	1.5	N.D.	N.D.	N.D.
10	Fluoride (as F)	mg/L	IS 3025(part-60)	1	1.5	0.11	0.18	0.20
11	Free Residual Chlorine	mg/L	IS 3025:(Part-26)	0.2	1	N.D.	N.D.	N.D.
12	Iron (as Fe)	mg/L	IS 3025(part-53)	0.3	No Relaxation	0.16	0.24	0.09
13	Magnesium (as Mg)	mg/L	IS 3025:(Part-46)	30	100	30.61	22.84	20.89
14	Manganese (as Mn)	mg/L	IS 3025(part-59)	0.1	0.3	N.D.	N.D.	N.D.
15	Mineral Oil	mg/L	Clause 6 of IS 3025 (Part-39) Infrared partition method	0.5	No Relaxation	N.D.	N.D.	N.D.
16	Nitrate (as NO ₃)	mg/L	IS 3025(part-34)	45	No Relaxation	0.04	0.12	0.43
17	Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025(part-43)	0.001	0.002	N.D.	N.D.	N.D.
18	Selenium (as Se)	mg/L	IS 3025(part-56)	0.01	No Relaxation	N.D.	N.D.	N.D.
19	Silver (as Ag)	mg/L	Annex J of IS 13428	0.1	No Relaxation	N.D.	N.D.	N.D.
20	Sulphate (as SO ₄)	mg/L	IS 3025:(Part-24)	200	400	25.18	131.46	23.22
21	Sulphide (as H ₂ S)	mg/L	IS 3025:(Part-29)	0.05	No Relaxation	N.D.	N.D.	N.D.
22	Total Alkalinity (as CaCO ₃)	mg/L	IS 3025:(Part-23)	200	600	148	104	156
23	Total Hardness (as CaCO ₃)	mg/L	IS 3025:(Part-21)	200	600	356	170	190
24	Zinc (as Zn)	mg/L	IS 3025(part-49)	5	15	N.D.	N.D.	N.D.
C. Parameters concerning toxic substances:-								
1	Cadmium (as Cd)	mg/L	IS 3025(part-41)	0.003	No Relaxation	N.D.	N.D.	N.D.
2	Cyanide (as CN)	mg/L	IS 3025(part-27)	0.05	No Relaxation	N.D.	N.D.	N.D.

AN ISO : 9001:2015 / ISO : 14001:2015 / ISO 45001:2018 CERTIFIED LABORATORY



HDD-2/2, Phase II, Near JP Chowk,
Ring Road, New Industrial Area, Raipur (C.G.) - 492009
Ph: 0783-2521111, Email: ultimateenviro@gmail.com

Recognized by Ministry of Environment, Forest and Climate Change under EP act 1986

REPORT NO. 01549

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT		
				Acceptable Limit	Permissible limit	Pata Village	Kunjemura Village	Tannar Village
3	Lead (as Pb)	mg/L	IS 3025(part-47)	0.01	No Relaxation	N.D.	N.D.	N.D.
4	Mercury (as Hg)	mg/L	IS 3025(part-48)	0.001	No Relaxation	N.D.	N.D.	N.D.
5	Molybdenum (as Mo)	mg/L	IS 3025(part-2)	0.07	No Relaxation	N.D.	N.D.	N.D.
6	Nickel (as Ni)	mg/L	IS 3025(part-54)	0.02	No Relaxation	N.D.	N.D.	N.D.
7	Polychlorinated biphenyls	mg/L	ASTM 5175	0.0005	No Relaxation	N.D.	N.D.	N.D.
8	Polynuclear aromatic hydrocarbons (as PAH)	mg/L	APHA 6440	0.0001	No Relaxation	N.D.	N.D.	N.D.
9	Arsenic (as As)	mg/L	IS 3025(part-37)	0.01	0.05	N.D.	N.D.	N.D.
10	Chromium (as Cr)	mg/L	Annex J of IS:13428	0.05	No Relaxation	N.D.	N.D.	N.D.
11	Trihalomethanes:							
a)	Bromoform	mg/L	APHA 6232	0.1	No Relaxation	N.D.	N.D.	N.D.
b)	Dibromochloromethane	mg/L	APHA 6232	0.1	No Relaxation	N.D.	N.D.	N.D.
c)	Bromodichloromethane	mg/L	APHA 6232	0.06	No Relaxation	N.D.	N.D.	N.D.
d)	Chloroform	mg/L	APHA 6232	0.2	No Relaxation	N.D.	N.D.	N.D.
D.	Pesticides:-							
1	Alpha HCH	ug/l	USEPA 508		0.01	N.D.	N.D.	N.D.
2	Beta HCH	ug/l	USEPA 508		0.04	N.D.	N.D.	N.D.
3	Delta HCH	ug/l	USEPA 508		0.04	N.D.	N.D.	N.D.
4	Alachlor	ug/l	USEPA 525.2, 507		20	N.D.	N.D.	N.D.
5	Aldrin / Dieldrin	ug/l	USEPA 508		0.03	N.D.	N.D.	N.D.
6	Atrazine	ug/l	USEPA 525.2, 8141 A		2	N.D.	N.D.	N.D.
7	Butachlor	ug/l	USEPA 525.2, 8141 A		125	N.D.	N.D.	N.D.
8	Chlorpyrifos	ug/l	USEPA 525.2, 8141 A		30	N.D.	N.D.	N.D.
9	DDT (o,p and p, p-Isomers of DDT, DDE and DDD)	ug/l	USEPA 508		1	N.D.	N.D.	N.D.
10	Gamma HCH	ug/l	USEPA 508		2	N.D.	N.D.	N.D.

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H/D: 27/2, P. O. H. N. P. Chowk
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Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

REPORT NO. 01549

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT		
				Acceptable Limit	Permissible limit	Pata Village	Kunjemura Village	Tannar Village
11	2,4-Dichlorophenoxyacetic Acid	µg/l	USEPA 515.1		30	N.D.	N.D.	N.D.
12	Endosulphan (alpha, beta and sulphate)	µg/l	USEPA 508		0.4	N.D.	N.D.	N.D.
13	Ethion	µg/l	USEPA 1657 A		3	N.D.	N.D.	N.D.
14	Isoproturon	µg/l	USEPA 532		9	N.D.	N.D.	N.D.
15	Malathion	µg/l	USEPA 8141 A		190	N.D.	N.D.	N.D.
16	Methyl Parathion	µg/l	USEPA 8141 A		0.3	N.D.	N.D.	N.D.
17	Monocrotophos	µg/l	USEPA 8141 A		1	N.D.	N.D.	N.D.
18	Phorate	µg/l	USEPA 8141 A		2	N.D.	N.D.	N.D.
E. Microbial Parameters								
1	Total Coliform	MPN/100ml	IS:1622:1981:RA : 2019		-	Absent	Absent	Absent
2	E. Coli	MPN/100ml	IS:1622:1981:RA : 2019		-	Absent	Absent	Absent

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

- > The above analysis report refers to the particular sample received at our end and the use of the report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above report only.

 08/05/22 REVIEWED BY	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 08/05/22 AUTHORIZED SIGNATORY
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-----End of the test report-----



HDD-272 Phase III - Near JP Chowk
Ring Road No-2, Kabir Nagar Rajpur (C.G.) - 492099
Ph: 0771-4027777 | Email: ultimatenviro@gmail.com

Name & Address Of The Customer		Report No	UES/TR/22-23/03055	
To, Jindal Power Limited P.O. Tamnar, District: Raigarh 496107 (C.G.)		Lab Ref No	UES/22-23/W/08236-08237	
		Date of Sampling	23/08/2022	
		Date of Receipt	24/08/2022	
		Date of Report	29/08/2022	
		Date of analysis	Start: 24/08/2022	END: 29/08/2022
SAMPLE DETAILS				
Customer Sample Id /Sampling Location	1. Piezometer - 01 (Near Gate No. 03)	Latitude	22.13197	
		Longitude	83.45947	
	2. Piezometer - 02 (SW near Ash Dyke S.V.2)	Latitude	22.11596	
		Longitude	83.45075	
Customer Ref. No. & Date	4400014853, Dated : 07/10/2021			
Sample Type	GroundWater			
Packing Of Sample	Elastic Bottle (5.0 ltr.), Glass Bottle (1.0 ltr.)			
Sample Collected By	Laboratory Chemist			
Sample Condition At Receipt	Ok			

REPORT NO. 03055

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT	
				Acceptable Limit	Permissible limit	Piezometer 01	Piezometer 02
A. Organoleptic & Physical Parameters							
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1.0	<1.0
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable	Agreeable
3	pH Value at 25.4°C	-	IS:3025:(Part-11)	6.5-8.5	No Relaxation	7.56	7.65
4	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	IS 3025:(Part-10)	1	5	2.86	0.86
6	Total Dissolved Solids	mg/L	IS:3025:(Part-16)	500	2000	126.4	190.2
B. General Parameters Concerning Substances undesirable in excessive amounts							
1	Aluminium (as Al)	mg/L	IS 3025(part-55)	0.03	0.2	BDL	BDL
2	Ammonia (as total ammonia-N)	mg/L	IS 3025(part-34)	0.5	No Relaxation	N.D.	N.D.
3	Anionic Detergent (as MBAS)	mg/L	Annex K of IS:13428	0.2	1.0	BDL	BDL
4	Barium (as Ba)	mg/L	Annex F of IS:13428	0.7	No Relaxation	N.D.	N.D.
5	Boron. (as B)	mg/L	IS 3025:(Part-57)	0.5	1.0	N.D.	N.D.



HDD-272 (Phase III) - Near J.P Chowk
Ring Road No. 2, Kabil Nagar, Raipur (C.G.) - 492099
Ph: 0771-4027777 | Email: ultimatenyiro@gmail.com

REPORT NO. 03055

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT	
				Acceptable Limit	Permissible limit	Piezometer 01	Piezometer 02
6	Calcium (as Ca)	mg/L	IS 3025:(Part-40)	75	200	29.66	38.48
7	Chloramines (as Cl ₂)	mg/L	IS 3025:(Part-26)	4.0	No Relaxation	N.D.	N.D.
8	Chloride (as Cl)	mg/L	IS 3025:(Part-32)	250	1000	26.9	32.9
9	Copper (as Cu)	mg/L	IS 3025(part-42)	0.05	1.5	BDL	BDL
10	Fluoride (as F)	mg/L	IS 3025(part-60)	1	1.5	0.11	0.16
11	Free Residual Chlorine	mg/L	IS 3025:(Part-26)	0.2	1	BDL	BDL
12	Iron (as Fe)	mg/L	IS 3025(part-53)	0.3	No Relaxation	BDL	BDL
13	Magnesium (as Mg)	mg/L	IS 3025:(Part-46)	30	100	7.2	9.35
14	Manganese (as Mn)	mg/L	IS 3025(part-59)	0.1	0.3	BDL	BDL
15	Mineral Oil	mg/L	Clause 6 of IS 3025 (Part-39) Infrared partition method	0.5	No Relaxation	N.D.	N.D.
16	Nitrate (as NO ₃)	mg/L	IS 3025(part-34)	45	No Relaxation	0.56	0.28
17	Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025(part-43)	0.001	0.002	BDL	BDL
18	Selenium (as Se)	mg/L	IS 3025(part-56)	0.01	No Relaxation	BDL	BDL
19	Silver (as Ag)	mg/L	Annex J of IS 13428	0.1	No Relaxation	N.D.	N.D.
20	Sulphate (as SO ₄)	mg/L	IS 3025:(Part-24)	200	400	26.4	12.8
21	Sulphide (as H ₂ S)	mg/L	IS 3025:(Part-29)	0.05	No Relaxation	N.D.	N.D.
22	Total Alkalinity (as CaCO ₃)	mg/L	IS 3025:(Part-23)	200	600	60	80
23	Total Hardness (as CaCO ₃)	mg/L	IS 3025:(Part-21)	200	600	80	110
24	Zinc (as Zn)	mg/L	IS 3025(part-49)	5	15	BDL	BDL
C. Parameters concerning toxic substances:-							
1	Cadmium (as Cd)	mg/L	IS 3025(part-41)	0.003	No Relaxation	BDL	BDL
2	Cyanide (as CN)	mg/L	IS 3025(part-27)	0.05	No Relaxation	BDL	BDL
3	Lead (as Pb)	mg/L	IS 3025(part-47)	0.01	No	BDL	BDL



HDD-272, Phase II - Near J.P. Chowk
Ring Road, No. 2, Kabir Nagar, Raipur (C.G.) - 492099
Ph: 0771-2927777 | Email: ultimateenviro@gmail.com

REPORT NO. 03055

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT	
				Acceptable Limit	Permissible limit	Piezometer 01	Piezometer 02
4	Mercury (as Hg)	mg/L	IS 3025 (part-48)	0.001	No Relaxation	BDL	BDL
5	Molybdenum (as Mo)	mg/L	IS 3025 (part-2)	0.07	No Relaxation	N.D.	N.D.
6	Nickel (as Ni)	mg/L	IS 3025 (part-54)	0.02	No Relaxation	N.D.	N.D.
7	Polychlorinated biphenyls	mg/L	ASTM 5175	0.0005	No Relaxation	N.D.	N.D.
8	Polynuclear aromatic hydrocarbons (as PAH)	mg/L	APHA 6440	0.0001	No Relaxation	N.D.	N.D.
9	Arsenic (as As)	mg/L	IS 3025 (part-37)	0.01	0.05	N.D.	N.D.
10	Chromium (as Cr)	mg/L	Annex J of IS:13428	0.05	No Relaxation	N.D.	N.D.
11	Trihalomethanes:						
a)	Bromoform	mg/L	APHA 6232	0.1	No Relaxation	N.D.	N.D.
b)	Dibromochloromethane	mg/L	APHA 6232	0.1	No Relaxation	N.D.	N.D.
c)	Bromodichloromethane	mg/L	APHA 6232	0.06	No Relaxation	N.D.	N.D.
d)	Chloroform	mg/L	APHA 6232	0.2	No Relaxation	N.D.	N.D.
D.	Pesticides:-						
1	Alpha HCH	µg/l	USEPA 508		0.01	N.D.	N.D.
2	Beta HCH	µg/l	USEPA 508		0.04	N.D.	N.D.
3	Delta HCH	µg/l	USEPA 508		0.04	N.D.	N.D.
4	Alachlor	µg/l	USEPA 525.2, 507		20	N.D.	N.D.
5	Aldrin / Dieldrin	µg/l	USEPA 508		0.03	N.D.	N.D.
6	Atrazine	µg/l	USEPA 525.2, 8141 A		2	N.D.	N.D.
7	Butachlor	µg/l	USEPA 525.2, 8141 A		125	N.D.	N.D.
8	Chlorpyrifos	µg/l	USEPA 525.2, 8141 A		30	N.D.	N.D.
9	DDT (o,p and p, p-Isomers of DDT, DDE and DDD)	µg/l	USEPA 508		1	N.D.	N.D.
10	Gamma HCH	µg/l	USEPA 508		2	N.D.	N.D.
11	2,4-Dichlorophenoxy acetic Acid	µg/l	USEPA 515.1		30	N.D.	N.D.
12	Endosulphan (alpha, beta)	µg/l	USEPA 508		0.4	N.D.	N.D.



HDD-272, Phase III - Near JP Chowk
Ring Road No. 2, Kabir Nagar, Raipur (C.G.) - 492099
Ph: 0771-4027777 | Email: ultimatenviro@gmail.com

REPORT NO. 03055

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT	
				Acceptable Limit	Permissible limit	Piezometer 01	Piezometer 02
	and sulphate)						
13	Ethion	µg/l	USEPA 1657 A		3	N.D.	N.D.
14	Isoproturon	µg/l	USEPA 532		9	N.D.	N.D.
15	Malathion	µg/l	USEPA 8141 A		190	N.D.	N.D.
16	Methyl Parathion	µg/l	USEPA 8141 A		0.3	N.D.	N.D.
17	Monocrotophos	µg/l	USEPA 8141 A		1	N.D.	N.D.
18	Phorate	µg/l	USEPA 8141 A		2	N.D.	N.D.
E. Microbial Parameters							
1	Total Coliform	MPN/100ml	IS:1622:1981:RA:2019		-	Absent	Absent
2	E. Coli	MPN/100ml	IS:1622:1981:RA:2019		-	Absent	Absent

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

REMARKS: RESULTS ARE AS ABOVE*Terms & conditions*

- > The use of the report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only.

 28/08/22 REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS 29/8/22 AUTHORIZED SIGNATORY
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-----End of the test report-----



HDB-272 Phase III - Near JP Chowk
Ring Road No. 2, Kabir Nagar Raipur (C.G.) - 492099
Ph: 0771-4027777 | Email: ultimatenviro@gmail.com

Name & Address Of The Customer		Report No	UES/TR/22-23/03056	
To, Jindal Power Limited P.O. Tamnar, District: Raigarh 496107 (C.G.)		Lab Ref No	UES/22-23/W/08238-08240	
		Date of Sampling	23/08/2022	
		Date of Receipt	24/08/2022	
		Date of Report	29/08/2022	
		Date of analysis	Start: 24/08/2022	End: 29/08/2022
SAMPLE DETAILS				
Customer Sample Id /Sampling Location	1. Borewell - 06 (NW Near ash Dyke Reagan Village Side)		Latitude	22.11468
			Longitude	83.46731
	2. Piezometer - 07 (NE Near ash Dyke village pata village)		Latitude	22.13273
			Longitude	83.45694
	3. Piezometer - (Savitri Nagar Colony)		Latitude	22.11468
			Longitude	83.45507
Customer Ref. No. & Date	4400014853, Dated : 07/10/2021			
Sample Type	Ground Water			
Packing Of Sample	Plastic Bottle (5.0 ltr.) Glass Bottle (1.0 ltr.)			
Sample Collected By	Laboratory Chemist			
Sample Condition At Receipt	Ok			

REPORT NO. 03056

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT		
				Acceptable Limit	Permissible limit	Borewell 06	Piezometer 07	Piezometer SN Colony
A. Organoleptic & Physical Parameters								
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1.0	<1.0	<1.0
2	Odour	-	IS:3025:(part-5)	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	pH Value at 25.2°C	-	IS:3025:(Part-11)	6.5-8.5	No Relaxation	7.59	7.01	6.5
4	Taste	-	IS:3025:(part-8)	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	IS:3025:(Part-10)	1	5	0.68	1.22	0.74
6	Total Dissolved Solids	mg/L	IS:3025:(Part-16)	500	2000	275.4	420	203.2
B. General Parameters Concerning Substances undesirable in excessive amounts								
1	Aluminium (as Al)	mg/L	IS:3025:(part-55)	0.03	0.2	BDL	BDL	BDL
2	Ammonia (as total ammonia-N)	mg/L	IS:3025:(part-34)	0.5	No Relaxation	N.D.	N.D.	N.D.
3	Anionic Detergent (as MBAS)	mg/L	Annex K of IS:13428	0.2	1.0	N.D.	N.D.	N.D.
4	Barium (as Ba)	mg/L	Annex F of IS:13428	0.7	No Relaxation	N.D.	N.D.	N.D.

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REPORT NO. 03056

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT		
				Acceptable Limit	Permissible limit	Borewell 06	Piezometer 07	Piezometer SN Colony
5	Boron (as B)	mg/L	IS 3025:(Part-57)	0.5	1.0	N.D.	N.D.	N.D.
6	Calcium (as Ca)	mg/L	IS 3025:(Part-40)	75	200	36.87	48.9	31.26
7	Chloramines (as Cl ₂)	mg/L	IS 3025:(Part-26)	4.0	No Relaxation	N.D.	N.D.	N.D.
8	Chloride (as Cl)	mg/L	IS 3025:(Part-32)	250	1000	64.9	120.9	42.9
9	Copper (as Cu)	mg/L	IS 3025(part-42)	0.05	1.5	BDL	BDL	BDL
10	Fluoride (as F)	mg/L	IS 3025(part-60)	1	1.5	0.14	0.12	0.16
11	Free Residual Chlorine	mg/L	IS 3025:(Part-26)	0.2	1	BDL	BDL	BDL
12	Iron (as Fe)	mg/L	IS 3025(part-53)	0.3	No Relaxation	BDL	BDL	BDL
13	Magnesium (as Mg)	mg/L	IS 3025:(Part-46)	30	100	8.9	11.8	7.53
14	Manganese (as Mn)	mg/L	IS 3025(part-59)	0.1	0.3	BDL	BDL	BDL
15	Mineral Oil	mg/L	Clause 6 of IS 3025 (Part-39) Infrared partition method	0.5	No Relaxation	N.D.	N.D.	N.D.
16	Nitrate (as NO ₃)	mg/L	IS 3025(part-34)	45	No Relaxation	0.34	0.58	0.34
17	Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025(part-43)	0.001	0.002	BDL	BDL	BDL
18	Selenium (as Se)	mg/L	IS 3025(part-56)	0.01	No Relaxation	BDL	BDL	BDL
19	Silver (as Ag)	mg/L	Annex J of IS 13428	0.1	No Relaxation	N.D.	N.D.	N.D.
20	Sulphate (as SO ₄)	mg/L	IS 3025:(Part-24)	200	400	18.4	20.6	26.8
21	Sulphide (as H ₂ S)	mg/L	IS 3025:(Part-29)	0.05	No Relaxation	N.D.	N.D.	N.D.
22	Total Alkalinity (as CaCO ₃)	mg/L	IS 3025:(Part-23)	200	600	140	210	110
23	Total Hardness (as CaCO ₃)	mg/L	IS 3025:(Part-21)	200	600	180	240	130
24	Zinc (as Zn)	mg/L	IS 3025(part-49)	5	15	BDL	BDL	BDL
C.	Parameters concerning toxic substances:-							
1	Cadmium (as Cd)	mg/L	IS 3025(part-41)	0.003	No Relaxation	N.D.	N.D.	N.D.
2	Cyanide (as CN)	mg/L	IS 3025(part-27)	0.05	No Relaxation	N.D.	N.D.	N.D.
3	Lead (as Pb)	mg/L	IS 3025(part-47)	0.01	No Relaxation	N.D.	N.D.	N.D.



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REPORT NO. 03056

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT		
				Acceptable Limit	Permissible limit	Borewell 06	Piezometer 07	Piezometer SN Colony
4	Mercury (as Hg)	mg/L	IS 3025(part-48)	0.001	No Relaxation	N.D.	N.D.	N.D.
5	Molybdenum (as Mo)	mg/L	IS 3025(part-2)	0.07	No Relaxation	N.D.	N.D.	N.D.
6	Nickel (as Ni)	mg/L	IS 3025(part-54)	0.02	No Relaxation	N.D.	N.D.	N.D.
7	Polychlorinated biphenyls	mg/L	ASTM 5175	0.0005	No Relaxation	N.D.	N.D.	N.D.
8	Polynuclear aromatic hydrocarbons (as PAH)	mg/L	APHA 6440	0.0001	No Relaxation	N.D.	N.D.	N.D.
9	Arsenic (as As)	mg/L	IS 3025(part-37)	0.01	0.05	N.D.	N.D.	N.D.
10	Chromium (as Cr)	mg/L	Annex J of IS:13428	0.05	No Relaxation	N.D.	N.D.	N.D.
11	Trihalomethanes:							
a)	Bromoform	mg/L	APHA 6232	0.1	No Relaxation	N.D.	N.D.	N.D.
b)	Dibromochloromethane	mg/L	APHA 6232	0.1	No Relaxation	N.D.	N.D.	N.D.
c)	Bromodichloromethane	mg/L	APHA 6232	0.06	No Relaxation	N.D.	N.D.	N.D.
d)	Chloroform	mg/L	APHA 6232	0.2	No Relaxation	N.D.	N.D.	N.D.
D.	Pesticides:-							
1	Alpha HCH	µg/l	USEPA 508	0.01		N.D.	N.D.	N.D.
2	Beta HCH	µg/l	USEPA 508	0.04		N.D.	N.D.	N.D.
3	Delta HCH	µg/l	USEPA 508	0.04		N.D.	N.D.	N.D.
4	Alachlor	µg/l	USEPA 525.2, 507	20		N.D.	N.D.	N.D.
5	Aldrin / Dieldrin	µg/l	USEPA 508	0.03		N.D.	N.D.	N.D.
6	Atrazine	µg/l	USEPA 525.2, 8141 A	2		N.D.	N.D.	N.D.
7	Butachlor	µg/l	USEPA 525.2, 8141 A	125		N.D.	N.D.	N.D.
8	Chlorpyrifos	µg/l	USEPA 525.2, 8141 A	30		N.D.	N.D.	N.D.
9	DDT (o,p and p, p-Isomers of DDT, DDE and DDD)	µg/l	USEPA 508	1		N.D.	N.D.	N.D.
10	Gamma HCH	µg/l	USEPA 508	2		N.D.	N.D.	N.D.
11	2,4-Dichlorophenoxyacetic Acid	µg/l	USEPA 515.1	30		N.D.	N.D.	N.D.

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REPORT NO. 03056

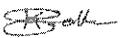
TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT		
				Acceptable Limit	Permissible limit	Borewell 06	Piezometer 07	Piezometer SN-Colony
12	Endosulphan (alpha, beta and sulphate)	µg/l	USEPA 508		0.4	N.D.	N.D.	N.D.
13	Ethion	µg/l	USEPA 1657 A		3	N.D.	N.D.	N.D.
14	Isoproturon	µg/l	USEPA 532		9	N.D.	N.D.	N.D.
15	Malathion	µg/l	USEPA 8141 A		190	N.D.	N.D.	N.D.
16	Methyl Parathion	µg/l	USEPA 8141 A		0.3	N.D.	N.D.	N.D.
17	Monocrotophos	µg/l	USEPA 8141 A		1	N.D.	N.D.	N.D.
18	Phorate	µg/l	USEPA 8141 A		2	N.D.	N.D.	N.D.
E. Microbial Parameters								
1	Total Coliform	MPN/100ml	IS:1622:1981:RA:2019		-	Absent	Absent	Absent
2	E. Coli	MPN/100ml	IS:1622:1981:RA:2019		-	Absent	Absent	Absent

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

REMARKS: RESULTS ARE AS ABOVE*Terms & conditions*

- > The use of the report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only.

 29/08/22 REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS  29/8/22 AUTHORIZED SIGNATORY
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-----End of the test report-----



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Name & Address Of The Customer		Report No	UES/TR/22-23/03057		
To, Jindal Power Limited P.O. Tamnar, District: Raigarh 496107 (C.G.)		Lab Ref No	UES/22-23/W/08241-08243		
		Date of Sampling	23/08/2022		
		Date of Receipt	24/08/2022		
		Date of Report	29/08/2022		
		Date of analysis	Start: 24/08/2022	END: 29/08/2022	
		SAMPLE DETAILS			
Customer Sample Id /Sampling Location	1. Pata Village	Latitude	22.13781		
		Longitude	83.46132		
	2. Kunjemura Village	Latitude	22.13519		
		Longitude	83.46135		
	3. Tamnar Village	Latitude	22.07879		
		Longitude	83.42356		
Customer Ref. No. & Date	4400014853, Dated :07/10/2021				
Sample Type	Ground Water				
Packing Of Sample	Plastic Bottle (5.0ltr.) Glass Bottle (1.0 ltr.)				
Sample Collected By	Laboratory Chemist				
Sample Condition At Receipt	Ok				

REPORT NO. 03057

TEST REPORT								
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT		
				Acceptable Limit	Permissible limit	Pata Village	Kunjemura Village	Tamnar Village
A. Organoleptic & Physical Parameters								
1	Colour	Hazen	IS:3025:(Part-4)	5	15	<1.0	<1	<1.0
2	Odour	-	IS 3025(part-5)	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	pH Value at 25.2°C	-	IS:3025:(Part-11)	6.5-8.5	No Relaxation	6.49	7.04	7.32
4	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	IS 3025:(Part-10)	1	5	0.45	1.24	1.22
6	Total Dissolved Solids	mg/L	IS:3025:(Part-16)	500	2000	236.4	196.4	271.6
B. General Parameters Concerning Substances undesirable in excessive amounts								
1	Aluminium (as Al)	mg/L	IS 3025(part-55)	0.03	0.2	N.D.	N.D.	N.D.
2	Ammonia (as total ammonia-N)	mg/L	IS 3025(part-34)	0.5	No Relaxation	N.D.	N.D.	N.D.
3	Anionic Detergent (as MBAS)	mg/L	Annex K of IS:13428	0.2	1.0	N.D.	N.D.	N.D.

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REPORT NO. 03057

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT		
				Acceptabl & Limit	Permissible limit	Pata Village	Kunjemura Village	Tannar Village
4	Barium (as Ba)	mg/L	Annex F of IS:13428	0.7	No Relaxation	N.D.	N.D.	N.D.
5	Boron (as B)	mg/L	IS 3025:(Part-57)	0.5	1.0	N.D.	N.D.	N.D.
6	Calcium (as Ca)	mg/L	IS 3025:(Part-40)	75	200	28.06	20.8	42.48
7	Chloramines (as Cl ₂)	mg/L	IS 3025:(Part-26)	4.0	No Relaxation	N.D.	N.D.	N.D.
8	Chloride (as Cl)	mg/L	IS 3025:(Part-32)	250	1000	36.9	12.9	34.9
9	Copper (as Cu)	mg/L	IS 3025(part-42)	0.05	1.5	N.D.	N.D.	N.D.
10	Fluoride (as F)	mg/L	IS 3025(part-60)	1	1.5	0.11	0.11	0.14
11	Free Residual Chlorine	mg/L	IS 3025:(Part-26)	0.2	1	N.D.	N.D.	N.D.
12	Iron (as Fe)	mg/L	IS 3025(part-53)	0.3	No Relaxation	BDL	0.14	BDL
13	Magnesium (as Mg)	mg/L	IS 3025:(Part-46)	30	100	6.81	16.4	10.3
14	Manganese (as Mn)	mg/L	IS 3025(part-59)	0.1	0.3	N.D.	N.D.	N.D.
15	Mineral Oil	mg/L	Clause 6 of IS 3025 (Part-39) Infrared partition method	0.5	No Relaxation	N.D.	N.D.	N.D.
16	Nitrate (as NO ₃)	mg/L	IS 3025(part-34)	45	No Relaxation	0.28	0.32	0.33
17	Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025(part-43)	0.001	0.002	BDL	BDL	BDL
18	Selenium (as Se)	mg/L	IS 3025(part-56)	0.01	No Relaxation	BDL	BDL	BDL
19	Silver (as Ag)	mg/L	Annex J of IS 13428	0.1	No Relaxation	N.D.	N.D.	N.D.
20	Sulphate (as SO ₄)	mg/L	IS 3025:(Part-24)	200	400	42.4	28.4	23.22
21	Sulphide (as H ₂ S)	mg/L	IS 3025:(Part-29)	0.05	No Relaxation	N.D.	N.D.	N.D.
22	Total Alkalinity (as CaCO ₃)	mg/L	IS 3025:(Part-23)	200	600	140	114	88
23	Total Hardness (as CaCO ₃)	mg/L	IS 3025:(Part-21)	200	600	160	180	104
24	Zinc (as Zn)	mg/L	IS 3025(part-49)	5	15	N.D.	N.D.	N.D.
C. Parameters concerning toxic substances:-								
1	Cadmium (as Cd)	mg/L	IS 3025(part-41)	0.003	No Relaxation	N.D.	N.D.	N.D.
2	Cyanide (as CN)	mg/L	IS 3025(part-27)	0.05	No Relaxation	N.D.	N.D.	N.D.

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REPORT NO. 03057

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT		
				Acceptable Limit	Permissible limit	Pata Village	Kunjemura Village	Tannar Village
3	Lead (as Pb)	mg/L	IS 3025(part-47)	0.01	No Relaxation	N.D.	N.D.	N.D.
4	Mercury (as Hg)	mg/L	IS 3025(part-48)	0.001	No Relaxation	N.D.	N.D.	N.D.
5	Molybdenum (as Mo)	mg/L	IS 3025(part-2)	0.07	No Relaxation	N.D.	N.D.	N.D.
6	Nickel (as Ni)	mg/L	IS 3025(part-54)	0.02	No Relaxation	N.D.	N.D.	N.D.
7	Polychlorinated biphenyls	mg/L	ASTM 5175	0.0005	No Relaxation	N.D.	N.D.	N.D.
8	Polynuclear aromatic hydrocarbons (as PAH)	mg/L	APHA 6440	0.0001	No Relaxation	N.D.	N.D.	N.D.
9	Arsenic (as As)	mg/L	IS 3025(part-37)	0.01	0.05	N.D.	N.D.	N.D.
10	Chromium (as Cr)	mg/L	Annex J of IS:13428	0.05	No Relaxation	N.D.	N.D.	N.D.
11	Trihalomethanes:							
a)	Bromoform	mg/L	APHA 6232	0.1	No Relaxation	N.D.	N.D.	N.D.
b)	Dibromochloromethane	mg/L	APHA 6232	0.1	No Relaxation	N.D.	N.D.	N.D.
c)	Bromodichloromethane	mg/L	APHA 6232	0.06	No Relaxation	N.D.	N.D.	N.D.
d)	Chloroform	mg/L	APHA 6232	0.2	No Relaxation	N.D.	N.D.	N.D.
D.	Pesticides:-							
1	Alpha HCH	µg/l	USEPA 508		0.01	N.D.	N.D.	N.D.
2	Beta HCH	µg/l	USEPA 508		0.04	N.D.	N.D.	N.D.
3	Delta HCH	µg/l	USEPA 508		0.04	N.D.	N.D.	N.D.
4	Alachlor	µg/l	USEPA 525.2, 507		20	N.D.	N.D.	N.D.
5	Aldrin / Dieldrin	µg/l	USEPA 508		0.03	N.D.	N.D.	N.D.
6	Atrazine	µg/l	USEPA 525.2, 8141 A		2	N.D.	N.D.	N.D.
7	Butachlor	µg/l	USEPA 525.2, 8141 A		125	N.D.	N.D.	N.D.
8	Chlorpyrifos	µg/l	USEPA 525.2, 8141 A		30	N.D.	N.D.	N.D.
9	DDT (o,p and p, p-isomers of DDT, DDE and DDD)	µg/l	USEPA 508		1	N.D.	N.D.	N.D.
10.	Gamma HCH	µg/l	USEPA 508		2	N.D.	N.D.	N.D.

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REPORT NO. 03057

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS: 10500:2012		RESULT		
				Acceptable Limit	Permissible limit	Pata Village	Kunjemura Village	Tamnar Village
11	2,4-Dichlorophenoxyacetic Acid	µg/l	USEPA 515.1		30	N.D.	N.D.	N.D.
12	Endosulphan (alpha, beta and sulphate)	µg/l	USEPA 508		0.4	N.D.	N.D.	N.D.
13	Ethion	µg/l	USEPA 1657 A		3	N.D.	N.D.	N.D.
14	Isoproturon	µg/l	USEPA 532		9	N.D.	N.D.	N.D.
15	Malathion	µg/l	USEPA 8141 A		190	N.D.	N.D.	N.D.
16	Methyl Parathion	µg/l	USEPA 8141 A		0.3	N.D.	N.D.	N.D.
17	Monocrotophos	µg/l	USEPA 8141 A		1	N.D.	N.D.	N.D.
18	Phorate	µg/l	USEPA 8141 A		2	N.D.	N.D.	N.D.
E. Microbial Parameters								
1	Total Coliform	MPN/100ml	IS:1622:1981:RA:2019		-	Absent	Absent	Absent
2	E. Coli	MPN/100ml	IS:1622:1981:RA:2019		-	Absent	Absent	Absent

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

REMARKS: RESULTS ARE AS ABOVE*Terms & conditions*

- > The above analysis report refers to the particular sample received at our end and the use of the report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only.

 28/08/22 REVIEWED BY	 For ULTIMATE ENVIROLYTICAL SOLUTIONS	 29/8/22 AUTHORIZED SIGNATORY
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-----End of the test report-----

SURFACE WATER QUALITY MONITORING REPORT



HDO-2723, P. Chhokri, Sector-10, P.O. Chhokri,
Ring Road, Vardol, Raigarh, Raigarh (C.G.) - 492099.
Ph: 9773222222, Email: ultimateenviro@gmail.com

Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

To, Jindal Power Limited P.O. Tamnar, District: Raigarh 496107 (C.G.)	Report No	UES/TR/22-23/01550	
	Lab Ref No	UES/22-23/W/01883-01884	
	Date of Sampling	28/04/2022	
	Date of Receipt	29/04/2022	
	Date of Report	08/05/2022	
	Date of analysis	Start:29/04/2022	End: 08/05/2022
SAMPLE DETAILS			
Customer Sample Id /Sampling Location	1. Kelo River Upstream 2. Kelo River Downstream	Latitude	22.69700
		Longitude	83.42118
Customer Ref. No. & Date	4400014859, Dated :07/10/2021		
Sample Type	Surface Water		
Packing Of Sample	Plastic Bottle (5.0ltr.) Glass Bottle (1.0 ltr.)		
Sample Collected By	Laboratory Chemist		
Sample Condition At Receipt	ok		

REPORT NO. 01550

TEST REPORT							
SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT	
				Acceptable Limit	Permissible limit	Kelo River Upstream	Kelo River Down stream
A. Organoleptic & Physical Parameters							
1	Colour	Haze n	IS:3025:(Part-4)	5	15	11.5	13.5
2	Odour	-	IS:3025:(part-5)	Agreeable	Agreeable	Agreeabl e	Agreeabl e
3	pH Value at 25.2°C	-	IS:3025:(Part-11)	6.5-8.5	No Relaxation	7.47	7.55
4	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeabl e	Agreeabl e
5	Turbidity	NTU	IS 3025:(Part-10)	1	5	82.5	87.4
6	Total Dissolved Solids	mg/L	IS:3025:(Part-16)	500	2000	324.9	309.9
B. General Parameters Concerning Substances undesirable in excessive amounts							
1	Aluminium (as Al)	mg/L	IS 3025 (part-55)	0.03	0.2	N.D.	N.D.
2	Ammonia (as total ammonia-N)	mg/L	IS 3025 (part-34)	0.5	No Relaxation	N.D.	N.D.
3	Anionic Detergent (as MBAS)	mg/L	Annex K of IS:13428	0.2	1.0	N.D.	N.D.
4	Barium (as Ba)	mg/L	Annex F of IS:13428	0.7	No Relaxation	N.D.	N.D.
5	Boron (as B)	mg/L	IS 3025:(Part-57)	0.5	1.0	N.D.	N.D.
6	Calcium (as	mg/L	IS 3025:(Part-40)	75	200	28.93	33.86

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Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

REPORT NO. 01550

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT	
				Acceptable Limit	Permissible limit	Kelo River Upstream	Kelo River Down stream
	Ca)						
7	Chloramines (as Cl ₂)	mg/L	IS 3025:(Part-26)	4.0	No Relaxation	N.D.	N.D.
8	Chloride (as Cl)	mg/L	IS 3025:(Part-32)	250	1000	14.97	13.99
9	Copper (as Cu)	mg/L	IS 3025(part-42)	0.05	1.5	N.D.	N.D.
10	Fluoride (as F)	mg/L	IS 3025(part-60)	1	1.5	0.24	0.16
11	Free Residual Chlorine	mg/L	IS 3025:(Part-26)	0.2	1	N.D.	N.D.
12	Iron (as Fe)	mg/L	IS 3025(part-53)	0.3	No Relaxation	0.24	0.22
13	Magnesium (as Mg)	mg/L	IS 3025:(Part-46)	30	100	23.81	36.22
14	Manganese (as Mn)	mg/L	IS 3025(part-59)	0.1	0.3	N.D.	N.D.
15	Mineral Oil	mg/L	Clause 6 of IS 3025 (Part-39) Infrared partition method	0.5	No Relaxation	N.D.	N.D.
16	Nitrate (as NO ₃)	mg/L	IS 3025(part-34)	45	No Relaxation	0.48	0.53
17	Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025(part-43)	0.001	0.002	N.D.	N.D.
18	Selenium (as Se)	mg/L	IS 3025(part-56)	0.01	No Relaxation	N.D.	N.D.
19	Silver (as Ag)	mg/L	Annex J of IS 13428	0.1	No Relaxation	N.D.	N.D.
20	Sulphate (as SO ₄)	mg/L	IS 3025:(Part-24)	200	400	20.26	23.70
21	Sulphide (as H ₂ S)	mg/L	IS 3025:(Part-29)	0.05	No Relaxation	N.D.	N.D.
22	Total Alkalinity (as CaCO ₃)	mg/L	IS 3025:(Part-25)	200	600	20	24
23	Total Hardness (as CaCO ₃)	mg/L	IS 3025:(Part-21)	200	600	40	50
24	Zinc (as Zn)	mg/L	IS 3025(part-49)	5	15	N.D.	N.D.
C.	Parameters concerning toxic substances:-						
1	Cadmium (as Cd)	mg/L	IS 3025(part-41)	0.003	No Relaxation	N.D.	N.D.
2	Cyanide (as CN)	mg/L	IS 3025(part-27)	0.05	No Relaxation	N.D.	N.D.
3	Lead (as Pb)	mg/L	IS 3025(part-47)	0.01	No Relaxation	N.D.	N.D.



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REPORT NO. 01550

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT	
				Acceptable Limit	Permissible limit	Kelo River Upstream	Kelo River Down stream
4	Mercury (as Hg)	mg/L	IS 3025 (part-48)	0.001	No Relaxation	N.D.	N.D.
5	Molybdenum (as Mo)	mg/L	IS 3025 (part-2)	0.07	No Relaxation	N.D.	N.D.
6	Nickel (as Ni)	mg/L	IS 3025 (part-54)	0.02	No Relaxation	N.D.	N.D.
7	Polychlorinated biphenyls	mg/L	ASTM 5175	0.0005	No Relaxation	N.D.	N.D.
8	Polynuclear aromatic hydrocarbons (as PAH)	mg/L	APHA 6440	0.0001	No Relaxation	N.D.	N.D.
9	Arsenic (as As)	mg/L	IS 3025 (part-37)	0.01	0.05	N.D.	N.D.
10	Chromium (as Cr)	mg/L	Annex J of IS:13428	0.05	No Relaxation	N.D.	N.D.
11	Trihalomethanes:						
a)	Bromoform	mg/L	APHA 6232	0.1	No Relaxation	N.D.	N.D.
b)	Dibromochloromethane	mg/L	APHA 6232	0.1	No Relaxation	N.D.	N.D.
c)	Bromodichloromethane	mg/L	APHA 6232	0.06	No Relaxation	N.D.	N.D.
d)	Chloroform	mg/L	APHA 6232	0.2	No Relaxation	N.D.	N.D.
D.	Pesticides:-						
1	Alpha HCH	µg/l	USEPA 508	0.01		N.D.	N.D.
2	Beta HCH	µg/l	USEPA 508	0.04		N.D.	N.D.
3	Delta HCH	µg/l	USEPA 508	0.04		N.D.	N.D.
4	Alachlor	µg/l	USEPA 525.2, 507	20		N.D.	N.D.
5	Aldrin / Dieldrin	µg/l	USEPA 508	0.03		N.D.	N.D.
6	Atrazine	µg/l	USEPA 525.2, 8141 A	2		N.D.	N.D.
7	Butachlor	µg/l	USEPA 525.2, 8141 A	125		N.D.	N.D.
8	Chlorpyrifos	µg/l	USEPA 525.2, 8141 A	30		N.D.	N.D.
9	DDT (o,p and p, p-Isomers of DDT, DDE and DDD)	µg/l	USEPA 508	1		N.D.	N.D.
10	Gamma HCH	µg/l	USEPA 508	2		N.D.	N.D.
11	2,4-Dichlorophenox	µg/l	USEPA 515.1	30		N.D.	N.D.

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Plot No. 272, Phase III, Near J.P. Chowk,
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Recognized by Ministry of Environment Forest and Climate Change under EP act 1986

REPORT NO. 01550

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT	
				Acceptable Limit	Permissible limit	Kelo River Upstream	Kelo River Down stream
	Acetic Acid						
12	Endosulphan (alpha, beta and sulphate)	µg/l	USEPA 508		0.4	N.D.	N.D.
13	Ethion	µg/l	USEPA 1657 A		3	N.D.	N.D.
14	Isoproturon	µg/l	USEPA 532		9	N.D.	N.D.
15	Malathion	µg/l	USEPA 8141 A		190	N.D.	N.D.
16	Methyl Parathion	µg/l	USEPA 8141 A		0.3	N.D.	N.D.
17	Monocrotophos	µg/l	USEPA 8141 A		1	N.D.	N.D.
18	Phorate	µg/l	USEPA 8141 A		2	N.D.	N.D.
E. Microbial Parameters							
1	Total Coliform	MPN/100ml	IS:1622:1981:RA:2019		-	34	30
2	E. Coli	MPN/100ml	IS:1622:1981:RA:2019		-	17	13

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

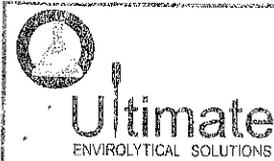
REMARKS: RESULTS ARE AS ABOVE

Terms & conditions

- > The above analysis report refers to the particular sample received at our end and the use of the report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only.

 REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS AUTHORIZED SIGNATORY
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-----End of the test report-----



HDD-272 Phase III - Near JP Chowk
Ring Road No. 2, Kabir Nagar, Raipur (C.G.) - 492099
Ph: 0771-4027777 | Email: ultimateenviro@gmail.com

Name & Address Of The Customer:		Report No	UES/TR/22-23/03058		
To, Jindal Power Limited P.O. Tamnar, District: Raigarh 496107 (C.G.)		Lab Ref No	UES/22-23/W/08244-08245		
		Date of Sampling	23/08/2022		
		Date of Receipt	24/08/2022		
		Date of Report	29/08/2022		
		Date of analysis	Start: 24/08/2022	End: 29/08/2022	
		SAMPLE DETAILS			
Customer Sample Id /Sampling Location	1. Kelo River Upstream 2. Kelo River Downstream	Latitude	22.69700		
Customer Ref. No. & Date.	4400014853, Dated :07/10/2021				
Sample Type	Surface Water				
Packing Of Sample	Plastic Bottle (5.0ltr.) Glass Bottle (1.0 ltr.)				
Sample Collected By	Laboratory Chemist				
Sample Condition At Receipt	OK				

REPORT NO. 03058

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT	
				Acceptable Limit	Permissible limit	Kelo River Upstream	Kelo River Down stream
A. Organoleptic & Physical Parameters							
1	Colour	Haze n	IS:3025:(Part-4)	5	15	25	20
2	Odour	-	IS:3025:(part-5)	Agreeable	Agreeable	Agreeable	Agreeable
3	pH Value at 25.2°C	-	IS:3025:(Part-11)	6.5-8.5	No Relaxation	7.2	7.75
4	Taste	-	IS 3025(part-8)	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	IS 3025:(Part-10)	1	5	37.7	17.07
6	Total Dissolved Solids	mg/L	IS:3025:(Part-16)	500	2000	84.8	190.4
B. General Parameters Concerning Substances undesirable in excessive amounts							
1	Aluminium (as Al)	mg/L	IS 3025(part-55)	0.03	0.2	BDL	BDL
2	Ammonia (as total ammonia-N)	mg/L	IS 3025(part-34)	0.5	No Relaxation	N.D.	N.D.
3	Anionic Detergent (as MBAS)	mg/L	Annex K of IS:13428	0.2	1.0	BDL	BDL
4	Barium (as Ba)	mg/L	Annex F of IS:13428	0.7	No Relaxation	N.D.	N.D.
5	Boron (as B)	mg/L	IS 3025:(Part-57)	0.5	1.0	N.D.	N.D.
6	Calcium (as Ca)	mg/L	IS 3025:(Part-40)	75	200	14.43	36.87

AN ISO : 9001:2015 / ISO : 14001:2015 / ISO 45001:2018 CERTIFIED LABORATORY



HDD-272, Phase III - Near JP Chowk
Ring Road No. 2, Kabir Nagar, Raipur (C.G.) - 492099
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REPORT NO. 03058

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT	
				Acceptable Limit	Permissible limit	Kelo River Upstream	Kelo River Down stream
7	Chloramines (as Cl ₂)	mg/L	IS 3025:(Part-26)	4.0	No Relaxation	N.D.	N.D.
8	Chloride (as Cl)	mg/L	IS 3025:(Part-32)	250	1000	16.9	28.9
9	Copper (as Cu)	mg/L	IS 3025(part-42)	0.05	1.5	0.06	0.12
10	Fluoride (as F)	mg/L	IS 3025(part-60)	1	1.5	0.24	0.34
11	Free Residual Chlorine	mg/L	IS 3025:(Part-26)	0.2	1	BDL	BDL
12	Iron (as Fe)	mg/L	IS 3025(part-53)	0.3	No Relaxation	0.24	0.34
13	Magnesium (as Mg)	mg/L	IS 3025:(Part-46)	30	100	3.5	8.95
14	Manganese (as Mn)	mg/L	IS 3025(part-59)	0.1	0.3	BDL	BDL
15	Mineral Oil	mg/L	Clause 6 of IS 3025 (Part-39) Infrared partition method	0.5	No Relaxation	N.D.	N.D.
16	Nitrate (as NO ₃)	mg/L	IS 3025(part-34)	45	No Relaxation	1.2	6.49
17	Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025(part-43)	0.001	0.002	BDL	BDL
18	Selenium (as Se)	mg/L	IS 3025(part-56)	0.01	No Relaxation	BDL	BDL
19	Silver (as Ag)	mg/L	Annex J of IS 13428	0.1	No Relaxation	N.D.	N.D.
20	Sulphate (as SO ₄)	mg/L	IS 3025:(Part-24)	200	400	26.4	42.8
21	Sulphide (as H ₂ S)	mg/L	IS 3025:(Part-29)	0.05	No Relaxation	N.D.	N.D.
22	Total Alkalinity (as CaCO ₃)	mg/L	IS 3025:(Part-23)	200	600	20	40
23	Total Hardness (as CaCO ₃)	mg/L	IS 3025:(Part-21)	200	600	40	68
24	Zinc (as Zn)	mg/L	IS 3025(part-49)	5	15	BDL	BDL
C.	Parameters concerning toxic substances:-						
1	Cadmium (as Cd)	mg/L	IS 3025(part-41)	0.003	No Relaxation	BDL	BDL
2	Cyanide (as CN)	mg/L	IS 3025(part-27)	0.05	No Relaxation	BDL	BDL
3	Lead (as Pb)	mg/L	IS 3025(part-47)	0.01	No Relaxation	BDL	BDL
4	Mercury (as Hg)	mg/L	IS 3025(part-48)	0.001	No Relaxation	BDL	BDL



HDD-272, Phase II - Near JP Chowk
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REPORT NO. 03058

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT	
				Acceptable Limit	Permissible limit	Kelo River Upstream	Kelo River Down stream
5	Molybdenum (as Mo)	mg/L	IS 3025 (part-2)	0.07	No Relaxation	N.D.	N.D.
6	Nickel (as Ni)	mg/L	IS 3025 (part-54)	0.02	No Relaxation	N.D.	N.D.
7	Polychlorinated biphenyls	mg/L	ASTM 5175	0.0005	No Relaxation	N.D.	N.D.
8	Polynuclear aromatic hydrocarbons (as PAH)	mg/L	APHA 6440	0.0001	No Relaxation	N.D.	N.D.
9	Arsenic (as As)	mg/L	IS 3025 (part-37)	0.01	0.05	BDL	BDL
10	Chromium (as Cr)	mg/L	Annex J of IS:13428	0.05	No Relaxation	BDL	BDL
11	Trihalomethanes:						
a)	Bromoform	mg/L	APHA 6232	0.1	No Relaxation	N.D.	N.D.
b)	Dibromochloromethane	mg/L	APHA 6232	0.1	No Relaxation	N.D.	N.D.
c)	Bromodichloromethane	mg/L	APHA 6232	0.06	No Relaxation	N.D.	N.D.
d)	Chloroform	mg/L	APHA 6232	0.2	No Relaxation	N.D.	N.D.
D.	Pesticides:-						
1	Alpha HCH	µg/l	USEPA 508	0.01		N.D.	N.D.
2	Beta HCH	µg/l	USEPA 508	0.04		N.D.	N.D.
3	Delta HCH	µg/l	USEPA 508	0.04		N.D.	N.D.
4	Alachlor	µg/l	USEPA 525.2, 507	20		N.D.	N.D.
5	Aldrin / Dieldrin	µg/l	USEPA 508	0.03		N.D.	N.D.
6	Atrazine	µg/l	USEPA 525.2, 8141 A	2		N.D.	N.D.
7	Butachlor	µg/l	USEPA 525.2, 8141 A	125		N.D.	N.D.
8	Chlorpyrifos	µg/l	USEPA 525.2, 8141 A	30		N.D.	N.D.
9	DDT (o,p and p,p-Isomers of DDT, DDE and DDD)	µg/l	USEPA 508	1		N.D.	N.D.
10	Gamma HCH	µg/l	USEPA 508	2		N.D.	N.D.
11	2,4-Dichlorophenoxyacetic Acid	µg/l	USEPA 515.1	30		N.D.	N.D.



HDD-272 Phase III - Near JP Chowk
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REPORT NO. 03058

TEST REPORT

SR. NO.	PARAMETER	UNIT	METHOD OF TEST	AS PER IS 10500:2012		RESULT	
				Acceptable Limit	Permissible limit	Kelo River Upstream	Kelo River Down stream
12	Endosulphan (alpha, beta and sulphate)	µg/l	USEPA 508		0.4	N.D.	N.D.
13	Ethion	µg/l	USEPA 1657 A		3	N.D.	N.D.
14	Isoproturon	µg/l	USEPA 532		9	N.D.	N.D.
15	Malathion	µg/l	USEPA 8141 A		190	N.D.	N.D.
16	Methyl Parathion	µg/l	USEPA 8141 A		0.3	N.D.	N.D.
17	Monocrotophos	µg/l	USEPA 8141 A		1	N.D.	N.D.
18	Phorate	µg/l	USEPA 8141 A		2	N.D.	N.D.
E. Microbial Parameters							
1	Total Coliform	MPN/100m 1	IS:1622:1981:RA:2 019		-	40	50
2	E. Coli	MPN/100m 1	IS:1622:1981:RA: 2019		-	20	30

Note: mg/lit.: milligram per liter, N.D.: Not Detected.

REMARKS: RESULTS ARE AS ABOVE**Terms & conditions**

- > The above analysis report refers to the particular sample received at our end and the use of the report for publication, arbitration or as legal dispute is forbidden.
- > Test sample will be retained for 15 days after issue of test report unless otherwise agreed with customer.
- > This is for information as the party has asked for above test(s) only.

 29/08/22 REVIEWED BY		For ULTIMATE ENVIROLYTICAL SOLUTIONS 29/8/22 AUTHORIZED SIGNATORY
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-----End of the test report-----

TREATED EFFLUENT QUALITY MONITORING REPORT OF APRIL , 2022 TO SEPTEMBER 2022

Month	Parameters	Guard Pond	Treated Ash Water Pond	ETP Treated Effluent	STP Treated Effluent (Plant)	Limit
Apr-22	pH	7.4	7.2	7.5	7.3	5.5-9.0
	TSS (mg/l)	36	22	24	32	100
	COD (mg/l)	60	55	68	60	250
	BOD (mg/l)	8.5	68	5.8	9.4	30
	Oil &Grease (mg/l)	2.5	1	2	2.5	10
May-22	pH	7.7	7.4	7.8	7.6	5.5-9.0
	TSS (mg/l)	33	18	20	36	100
	COD (mg/l)	65	50	60	55	250
	BOD (mg/l)	9.5	7.5	6.5	10.5	30
	Oil &Grease (mg/l)	2	1	1.5	2	10
Jun-22	pH	7.4	7.2	7.5	7.7	5.5-9.0
	TSS (mg/l)	26	13	14	28	100
	COD (mg/l)	55	45	50	45	250
	BOD (mg/l)	7.5	6.5	6	9.5	30
	Oil &Grease (mg/l)	1.5	0.5	1	1.5	10
Jul-22	pH	7.2	7	7.3	7.4	5.5-9.0
	TSS (mg/l)	28	16	18	24	100
	COD (mg/l)	50	40	55	50	250
	BOD (mg/l)	8	7.5	6.5	10	30
	Oil &Grease (mg/l)	1	0.5	1	2	10
Aug-22	pH	7.5	7.2	7.6	7.8	5.5-9.0
	TSS (mg/l)	32	18	16	28	100
	COD (mg/l)	55	45	50	45	250
	BOD (mg/l)	8.5	7	7.5	9	30
	Oil &Grease (mg/l)	1.5	0.5	1	1.5	10
Sep-22	pH	7.3	7	7.8	7.5	5.5-9.0
	TSS (mg/l)	36	24	20	24	100
	COD (mg/l)	55	50	55	50	250
	BOD (mg/l)	8	6.5	8	9.5	30
	Oil &Grease (mg/l)	2	1	1.5	1	10

Note: - No effluent is being discharged outside plant premises and zero discharge is being maintained.

AMBIENT AIR QUALITY MONITORING DATA FOR THE MONTH OF APRIL 2022

Date	Location-1				Location-2				Location-3				Location-4							
	New Switch Yard				Near Hostel 5				Savitrinagar Colony (Tehliampur village)				Tamnar village							
	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO
Distance (KM) (w.r.t stack)	0.2				0.5				5.0				3.0							
Direction (w.r.t stack)	NW				ESE				ENE				S							
04.04.2022	41.6	19.8	13.3	NA	0.43	64.3	28.4	19.1	28.3	0.69	58.6	17.7	10.5	23.2	0.5	54.1	16.9	16.7	25.8	0.78
07.04.2022	49.1	20.2	18.6	NA	0.44	67.8	31.3	16.1	26.6	0.62	55.8	16.8	13.2	23.6	0.5	NA	NA	NA	NA	NA
11.04.2022	47.5	16.2	15.4	NA	0.48	65.2	14.8	16.8	27.2	0.63	47.8	17.4	14.6	25.3	0.5	50.8	15.6	10.8	25.8	0.78
14.04.2022	53.2	18.5	16.7	NA	0.46	62.8	19.8	15.3	27.4	0.65	55.6	18.3	14.1	26.1	0.6	52.3	15.8	13.2	25.1	0.63
18.04.2022	48.6	14.6	13.1	NA	0.36	64.2	25.3	15.1	26.9	0.63	55.5	18.4	13.3	27.7	0.4	NA	NA	NA	NA	NA
21.04.2022	49.4	11.4	14.5	NA	0.45	62.6	30.1	10.6	27.1	0.66	41.2	19.1	11.4	25.3	0.5	NA	NA	NA	NA	NA
25.04.2022	52.3	12.7	12.6	NA	0.28	60.8	23.7	16.9	26.6	0.69	55.3	16.4	13.1	25.7	0.5	46.5	20.1	10.8	23.2	0.67
28.04.2022	56.6	14.1	15.6	NA	0.32	57.5	22.7	14.4	25.9	0.64	60.5	15.2	10.5	25.1	0.4	NA	NA	NA	NA	NA
Permissible Limits	100	60	80	80	2	100	60	80	80	2	100	60	80	80	2	100	60	80	80	2
Date	Location-5				Location-6				Location-7				Location-8							
	JIPT Building				Gorhi village				Regeon village				Nirman Bhavan							
	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO
Distance (KM) (w.r.t stack)	0.2				4.5				3.0				0.2							
Direction (w.r.t stack)	W				SSW				N				S							
04.04.2022	58.5	23.2	15.3	26.3	0.54	NA	NA	13.2	NA	0.63	53.4	16.9	13.4	23.4	0.6	65.3	25.3	15.3	26.3	0.59
07.04.2022	62.4	25.4	13.2	27.3	0.52	NA	NA	13.6	NA	0.61	53.4	17.7	17.2	25.2	0.6	67.2	27.3	16.2	27.4	0.52
11.04.2022	60.6	24.1	14.5	26.8	0.48	NA	NA	12.3	NA	0.62	44.1	12.4	15.1	25.6	0.7	58.6	23.7	14.8	25.8	0.49
14.04.2022	57.6	22.3	13.6	26.4	0.45	NA	NA	13.7	NA	0.64	41.4	12.3	16.2	25.3	0.6	55.7	22.1	15.2	24.6	0.55
18.04.2022	63.8	25.8	14.3	25.8	0.63	NA	NA	12.4	NA	0.62	40.8	15.8	13.8	25.2	0.6	60.6	24.6	16.5	26.5	0.65
21.04.2022	56.7	22.3	13.2	24.6	0.55	NA	NA	13.6	NA	0.64	45.5	12.6	16.2	24.6	0.6	62.5	25.3	17.4	27.4	0.62
25.04.2022	52.8	20.7	12.8	23.7	0.47	NA	15.4	14.6	NA	0.77	41.7	12.8	14.1	23.7	0.6	56.8	22.8	13.6	24.9	0.58
28.04.2022	65.4	25.3	16.3	25.6	0.49	NA	26.6	NA	NA	0.73	43.6	11.7	16.3	26.2	0.5	63.5	23.2	14.3	26.4	0.56
Permissible Limits	100	60	80	80	2	100	60	80	80	2	100	60	80	80	2	100	60	80	80	2

Note: All Units in $\mu\text{g}/\text{m}^3$ except CO (in mg/m^3)

AMBIENT AIR QUALITY MONITORING DATA FOR THE MONTH OF MAY, 2022

Date	Location-1 New Switch Yard				Location-2 Near Hostel 5				Location-3 Savitrinagar Colony (Tehltrampur village)				Location-4 Tamnar village							
	PM ₁₀	PM _{2.5}	SO ₂	NO _x	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	
Distance (KM) (w.r.t stack)	0.2				0.5				5.0				3.0							
Direction (w.r.t stack)	NW				ESE				ENE				S							
02.05.2022	49.4	12.1	13.7	NA	0.3	54.7	17.8	14.6	27.2	0.64	58.7	15.5	12.7	25.7	0.54	NA	NA	NA	NA	NA
05.05.2022	47.2	13.4	15.3	NA	0.3	65.6	24.1	13.5	26.4	0.48	64.6	19.3	13.5	24.5	0.56	50.5	16.5	12.7	24.3	0.65
09.05.2022	53.4	13.2	14.5	NA	0.3	59.1	22.5	15.8	27.5	0.42	58.4	17.8	14.3	25.2	0.63	NA	NA	NA	NA	NA
12.05.2022	52.5	12.5	14.4	NA	0.3	50.6	16.4	16.3	25.8	0.45	47.1	15.4	13.5	25.3	0.49	45.3	13.2	10.4	25.3	0.52
16.05.2022	53.8	18.7	12.4	NA	0.4	64.2	25.7	18.2	27.5	0.57	59.5	17.6	11.5	24.8	0.76	NA	NA	NA	NA	NA
19.05.2022	49.4	13.7	14.8	NA	0.3	58.5	27.1	18.6	26.3	0.63	57.6	16.5	13.4	25.7	0.62	53.6	15.5	16.8	24.2	0.64
23.05.2022	NA	13	16.7	NA	0.4	47.8	15.4	19.2	24.2	0.65	NA	14.8	12.4	24.2	0.45	50.3	16.3	11.5	22.7	0.62
26.05.2022	NA	14.3	18.4	NA	0.3	NA	NA	NA	NA	NA	57.6	23.7	14.5	22.4	0.59	52.2	17.6	15.3	23.5	0.58
30.05.2022	62.6	21.4	19.7	26.7	0.5	NA	NA	NA	NA	NA	50.4	17.3	12.3	23.7	0.43	54.1	15.5	13.4	24.8	NA
Permissible Limits	100	60	80	80	2	100	60	80	80	2	100	60	80	80	2	100	60	80	80	2
Date	Location-5 JIPT Building				Location-6 Gothi village				Location-7 Regaon village				Location-8 Nirman Bhavean							
	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO
Distance (KM) (w.r.t stack)	0.2				4.5				3.0				0.2							
Direction (w.r.t stack)	W				SSW				N				S							
02.05.2022	56.2	17.8	13.5	25.3	0.5	NA	17.2	13.1	NA	0.54	41.7	13.4	15.3	25.2	0.57	58.6	18.3	14.3	24.9	0.56
05.05.2022	62.4	21.3	12.8	26.4	0.6	NA	18.6	14.5	NA	0.68	44.4	17.9	14.3	24.5	0.45	64.5	23.4	16.2	26.7	0.52
09.05.2022	60.7	18.3	16.3	27.2	0.6	NA	NA	14.3	NA	0.64	NA	NA	NA	NA	NA	61.8	21.5	15.8	25.2	0.57
12.05.2022	58.9	17.6	15.4	26.8	0.5	NA	NA	13.6	NA	0.68	NA	NA	NA	NA	NA	60.7	20.6	16.4	25.8	0.62
16.05.2022	53.4	16.8	13.6	25.3	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	56.4	18.4	15.2	26.3	0.64
19.05.2022	54.6	17.2	14.2	24.7	0.5	NA	20.3	15.8	NA	0.67	NA	NA	NA	NA	NA	58.7	19.1	15.6	25.7	0.55
23.05.2022	57.6	18.3	13.9	25.3	0.5	NA	19.5	16.1	26.5	0.64	NA	NA	NA	NA	NA	64.3	22.6	17.4	23.8	0.63
26.05.2022	55.3	17.8	12.7	23.8	0.6	NA	25.3	15.4	27.3	0.58	NA	NA	NA	NA	NA	60.2	20.1	16.3	24.6	0.58
30.05.2022	64.2	23.2	16.4	26.4	0.5	NA	24.1	14.2	25.3	0.57	NA	NA	NA	NA	NA	66.3	24.7	17.8	25.3	0.59
Permissible Limits	100	60	80	80	2	100	60	80	80	2	100	60	80	80	2	100	60	80	80	2

Note: All Units in µg/m³ except CO (in mg/m³)

AMBIENT AIR QUALITY MONITORING DATA FOR THE MONTH OF JUNE, 2022

Date	Location-1						Location-2						Location-3						Location-4						
	New Switch Yard						Near Hostel 5						Savitrinagar Colony (Tehirampur village)						Tamnar village						
	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO		PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO		PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO		PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO		
Distance (KM) (w.r.t stack)	0.2						0.5						5.0						3.0						
Direction (w.r.t stack)	NW						ESE						ENE						S						
02.06.2022	64.6	30.1	20	26.9	0.43		65.5	NA	17.5	26.1	NA		17.9	11.6	24	0.44		51.6	22.7	11.6	23.7	11.6		23.7	0.67
06.06.2022	54.6	23.4	19.6	26.7	0.45		47.1	NA	15.7	27.1	NA		58.1	17.8	10.4	23.8	0.46	51.7	14.6	10.1	23.9	10.1		23.9	0.74
09.06.2022	62.3	24.3	17.4	27.1	0.46		67.6	24.3	16.5	25.3	NA		66.4	17.1	14.9	23.5	0.46	51.3	24.3	13.2	24.8	13.2		24.8	0.65
13.06.2022	60.5	25.7	14.6	26.7	0.44		60.5	16.6	18.7	28.8	NA		42.3	18.8	14.1	23.7	0.41	63.8	17.3	13.8	24.5	13.8		24.5	0.51
16.06.2022	47.4	13.2	16.2	24.2	0.43		49.4	21.7	14.4	29.5	0.42		54.8	18.6	10.6	24.7	0.48	55.3	13.3	12.3	24.6	12.3		24.6	0.79
20.06.2022	35.7	15.7	20.1	NA	0.43		50.7	12.2	13.9	25.2	NA		52.6	12.6	10.9	24.8	0.26	45.2	11.7	11.1	24.3	11.1		24.3	0.68
23.06.2022	67.2	25.6	14.2	NA	0.42		63.8	14.5	13.1	24.5	NA		NA	13.3	12.3	25.5	0.56	50.3	16.5	12.4	24.8	12.4		24.8	0.65
27.06.2022	21.7	19.5	12.3	NA	0.32		43.1	11.8	16.2	26.4	0.44		61.2	12.9	14.3	27.3	0.43	62.1	16.9	9.4	23.6	9.4		23.6	0.64
30.06.2022	50.8	22.1	13.2	25.6	0.29		52.6	16.2	16.6	27.8	0.34		58.8	17.8	11.5	26.4	0.46	50.2	19.2	10.6	23.8	10.6		23.8	0.66
Permissible Limits	100	60	80	80	2		100	60	80	80	2		100	60	80	80	2	100	60	80	80	80		80	2
Date	Location-5						Location-6						Location-7						Location-8						
	JIPT Building						Gorhi village						Regaon village						Nirman Bhavan						
	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO		PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO				
Distance (KM) (w.r.t stack)	0.2						4.5						3.0						0.2						
Direction (w.r.t stack)	W						SSW						N						S						
02.06.2022	52.6	16.3	12.3	24.5	0.56		NA	24.7	11.5	NA	0.77		NA	NA	NA	NA	NA	56.5	16.5	13.8	25.3	13.8		25.3	0.55
06.06.2022	54.8	17.5	12.7	24.9	0.58		NA	26.3	13.5	NA	0.63		42.1	12.9	13.8	NA	0.72	58.5	18.2	14.5	25.6	14.5		25.6	0.59
09.06.2022	56.8	18.2	13.4	25.7	0.62		NA	28.3	12.3	NA	0.66		42.6	16	16.1	NA	0.72	54.8	16.2	13.1	24.8	13.1		24.8	0.62
13.06.2022	62.4	19.5	14.3	27.1	0.65		NA	21.7	14.7	NA	0.63		43.4	16.3	15.2	NA	0.65	66.3	23.7	16.8	27.4	16.8		27.4	0.63
16.06.2022	57.6	17.6	15.2	26.8	0.59		NA	NA	NA	NA	NA		41.8	12.5	10.8	24.6	0.66	64.5	22.6	15.7	26.4	15.7		26.4	0.67
20.06.2022	64.3	21.3	16.3	27.4	0.65		NA	NA	NA	NA	NA		43.5	13.6	11.1	26.3	0.68	60.3	20.8	15.2	25.6	15.2		25.6	0.61
23.06.2022	60.5	20.6	15.7	26.2	0.61		NA	NA	NA	NA	NA		43.6	13.5	10.2	23.5	0.67	57.6	18.6	14.3	25.2	14.3		25.2	0.58
27.06.2022	58.6	19.4	14.6	25.3	0.57		NA	NA	NA	NA	NA		41.1	NA	9.2	NA	0.43	55.8	17.8	13.5	24.2	13.5		24.2	0.54
30.06.2022	55.7	16.8	13.8	24.5	0.53		NA	NA	NA	NA	NA		44.7	16.6	9.4	25.5	0.65	54.6	15.6	12.8	23.9	12.8		23.9	0.52
Permissible Limits	100	60	80	80	2		100	60	80	80	2		100	60	80	80	2	100	60	80	80	80		80	2
Note: All Units in µg/m ³ except CO (in mg/m ³)																									

AMBIENT AIR QUALITY MONITORING DATA FOR THE MONTH OF JULY, 2022

Date	Location-1				Location-2				Location-3				Location-4							
	New Switch Yard				Near Hostel 5				Savitrinagar Colony (Tehlrampur village)				Tamnar village							
Distance (KM) (w.r.t stack)	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO
	0.2				0.5				5.0				3.0							
Direction (w.r.t stack)	NW				ESE				ENE				S							
04.07.2022	37.3	18.4	11.4	26.3	0.22	41.3	16.1	16.7	27.6	0.51	45.2	19.5	11.6	27.1	0.63	47.2	19.8	8.2	25.7	0.62
07.07.2022	31.2	NA	9.3	25.2	0.29	37.2	17.3	13.4	26.5	0.48	46.7	14.7	10.4	27.2	0.58	49.2	25.8	9.3	23.8	0.56
11.07.2022	45.8	NA	12.8	25.7	0.28	48.4	15.3	14.5	27.3	0.58	43.6	17.3	10.8	26.4	0.48	46.4	18.2	9.8	24.3	0.68
14.07.2022	35.6	10.8	14.1	26.8	0.46	32.5	16.8	12.7	25.9	0.56	42	14.6	8.5	28.5	0.63	32.5	11.3	9.1	23.7	0.59
18.07.2022	51.2	14.3	13.1	27.4	0.34	47.3	17.4	10.3	26.8	0.53	43.3	19.6	8.2	27.5	0.47	41.3	12.6	13.8	26.1	0.72
21.07.2022	48.5	12.3	14.2	27.2	0.35	56.6	18.6	12.1	28.2	0.58	36.8	14.2	8.5	24.4	0.61	54.1	12.6	14.4	24.6	0.57
25.07.2022	43.3	11.4	12.2	26.7	0.33	33.8	10.1	8.2	27.3	0.51	24.5	13.8	7.8	25.2	0.45	31.7	11.1	11.8	25.8	0.69
28.07.2022	55.1	15.1	14.7	26.6	0.51	58.5	22.4	13.5	27.5	0.57	51.6	14.8	11.4	27.5	0.41	44.8	18.5	11.7	27.2	0.68
Permissible Limits	100	60	80	80	2	100	60	80	80	2	100	60	80	80	2	100	60	80	80	2
Date	Location-5				Location-6				Location-7				Location-8							
Date	JIPT Building				Gorhi village				Regaon village				Nirman Bhavan							
	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO
Distance (KM) (w.r.t stack)	0.2				4.5				3.0				0.2							
Direction (w.r.t stack)	W				SSW				N				S							
04.07.2022	48.6	14.6	15.3	26.3	0.56	NA	NA	NA	NA	NA	41	13.7	8.4	26.5	0.47	40.5	13.6	14.5	26.7	0.62
07.07.2022	50.4	15.2	13.2	25.4	0.52	NA	NA	NA	NA	NA	42.5	14.8	8.6	27.3	0.57	42.3	14.4	15.3	27.3	0.57
11.07.2022	46.8	14.4	13.5	24.5	0.54	NA	NA	NA	NA	NA	43.4	13.3	7.8	26.2	0.56	34.6	12.3	13.1	25.4	0.63
14.07.2022	34.3	13.3	12.6	23.9	0.63	NA	NA	NA	NA	NA	37.7	13.5	7.2	24.4	0.52	44.3	14.8	12.4	25.3	0.59
18.07.2022	42.8	14.8	11.8	26.3	0.65	NA	NA	NA	NA	NA	45.4	17.8	8.8	26.7	0.56	50.8	15.7	11.6	24.8	0.56
21.07.2022	47.2	16.5	10.6	25.7	0.68	NA	NA	NA	NA	NA	44.8	16.7	10.1	25.8	0.52	48.3	16.2	13.8	26.3	0.58
25.07.2022	53.2	18.4	14.5	27.6	0.64	NA	NA	NA	NA	NA	35.8	12.1	11.5	24.3	0.34	55.4	18.6	14.3	27.4	0.63
28.07.2022	60.7	19.3	14.1	27.3	0.61	NA	NA	NA	NA	NA	45.3	15.3	12.4	24.5	0.42	62.2	20.4	15.4	28.2	0.65
Permissible Limits	100	60	80	80	2	100	60	80	80	2	100	60	80	80	2	100	60	80	80	2

Note: All Units in µg/m³ except CO (in mg/m³)

AMBIENT AIR QUALITY MONITORING DATA FOR THE MONTH OF AUGUST, 2022

Date	Location-1 New Switch Yard				Location-2 Near Hostel 5				Location-3 Savitrinagar Colony (Tehrirampur village)				Location-4 Tamnar village					
	PM ₁₀	PM _{2.5}	SO ₂	NO _x	PM ₁₀	PM _{2.5}	SO ₂	NO _x	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO
Distance (KM) (w.r.t stack)	0.2				0.5				5.0				3.0					
Direction (w.r.t stack)	NW				ESE				ENE				S					
01.08.2022	58.2	19.5	11.4	26.7	64.7	22.1	13.5	26.9	NA	17.2	12.1	25.6	0.42	45.7	22.3	12.7	27.4	0.62
04.08.2022	48.3	16.4	9.7	25.7	46.3	19.4	11.4	27.6	43.2	15.6	10.2	25.8	0.36	44.2	12.9	13.1	26.9	0.65
08.08.2022	39.8	14.3	10.1	26.4	43.7	16.2	11.8	27.3	47.6	16.8	NA	24.8	0.52	44.6	13.5	11.7	27.6	0.71
11.08.2022	38.6	12.7	11.1	25.8	36.8	14.5	12.1	25.6	30.1	11.3	9.7	23.5	0.47	32.2	11.3	9.6	25.7	0.62
15.08.2022	32.5	12.1	10.9	26.3	35.4	13.6	19.2	27.5	38.4	12.7	13.7	24.3	0.54	36.2	11.7	12.3	26.2	0.66
18.08.2022	58.6	17.8	12.6	27.2	60.3	23.2	18.1	26.5	46.4	17.5	9.8	25.4	0.44	45.6	15.3	13.4	25.8	0.62
22.08.2022	44.6	12.5	12.4	26.8	39.5	18.5	16.8	27.2	NA	15.8	10.7	26.3	0.36	40.6	15.3	13.1	27.4	0.63
25.08.2022	48.2	14.3	13.2	26.7	52.8	20.7	17.5	26.7	55.7	16.7	11.4	26.7	0.45	40.1	15.6	12.7	25.4	0.59
29.08.2022	51.3	16.8	14.2	27.3	58.5	22.8	18.3	26.4	50.3	14.6	11.5	26.2	0.36	50.3	16.4	13.6	27.2	0.65
Permissible Limits	100	60	80	80	100	60	80	80	2	100	60	80	2	100	60	80	80	2
Date	Location-5 JIPT Building				Location-6 Gorhi village				Location-7 Regaon village				Location-8 Nirman Bhavan					
	PM ₁₀	PM _{2.5}	SO ₂	NO _x	PM ₁₀	PM _{2.5}	SO ₂	NO _x	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO
Distance (KM) (w.r.t stack)	0.2				4.5				3.0				0.2					
Direction (w.r.t stack)	W				SSW				N				S					
01.08.2022	56.5	16.3	13.6	25.6	NA	NA	NA	NA	41.7	12.6	11.9	24.3	0.38	54.3	17.8	12.3	27.6	0.56
04.08.2022	52.5	15.8	13.1	26.4	NA	NA	NA	NA	42.8	13.5	10.3	24.3	0.32	56.2	17.6	13.2	26.8	0.54
08.08.2022	57.8	16.9	15.4	25.8	46	NA	NA	NA	41.5	12.7	12.8	24.3	0.27	55.7	18.1	14.5	27.2	0.52
11.08.2022	54.5	15.2	13.6	26.3	48	NA	NA	NA	32.5	11.6	9.8	23.2	0.38	52.6	17.2	12.6	26.7	0.49
15.08.2022	50.7	14.6	12.4	27.4	52	NA	NA	NA	39.2	10.5	11.7	NA	0.28	48.6	16.3	13.5	26.3	0.57
18.08.2022	46.3	13.2	11.2	26.1	55	NA	NA	NA	40.5	15.3	12.6	NA	0.45	42.7	14.5	12.1	25.3	0.48
22.08.2022	42.5	12.8	10.4	25.4	58	35.4	13.7	25.7	34.5	12.9	11.8	NA	0.45	40.3	15.4	10.5	24.8	0.53
25.08.2022	58.2	17.6	12.8	26.5	54	42.2	15.6	26.3	36.8	12.7	12.3	NA	0.53	53.5	16.2	13.7	25.6	0.55
29.08.2022	60.6	18.7	13.6	27.5	63	50.4	16.5	26.7	48.3	16.4	13.6	NA	0.44	63.5	20.3	15.2	26.3	0.59
Permissible Limits	100	60	80	80	100	60	80	80	2	100	60	80	2	100	60	80	80	2

AMBIENT AIR QUALITY MONITORING DATA FOR THE MONTH OF SEPTEMBER, 2022

Date	Location-1 New Switch Yard				Location-2 Near Hostel 5				Location-3 Savitrinagar Colony (Tehrirampur village)				Location-4 Tamnar village							
	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO
Distance (KM) (w.r.t stack)	0.2				0.5				5.0				3.0							
Direction (w.r.t stack)	NW				ESE				ENE				S							
01.09.2022	64.7	NA	22.6	26.7	0.54	60.6	19.1	15.7	26.3	0.48	65.7	15.5	11.5	26.3	0.38	48.7	18.6	12.9	26.7	0.63
05.09.2022	50.9	NA	25.7	26.6	0.52	69.4	19.2	14.2	26.2	NA	56	13.5	12.3	26.3	0.31	44.4	13.5	12.6	26.4	0.38
08.09.2022	42.1	14.4	16.6	26.6	0.49	52.6	18.7	15.3	26.7	NA	36.2	10.6	12.5	27.2	0.46	45.2	16.3	12.4	27.6	0.67
12.09.2022	38	12.3	17.1	26.5	0.48	26.6	13.8	16.9	26.2	0.42	35.7	13.2	12.1	24.2	0.32	33.1	NA	14.1	27.1	0.73
15.09.2022	46.7	20.5	15.7	26.9	0.48	NA	NA	NA	NA	NA	48.8	15.2	12.1	26.2	0.64	47.3	23.7	11.1	26.9	0.47
19.09.2022	36.2	11.8	13.4	26.8	0.43	NA	NA	NA	NA	NA	42.1	9.5	12.1	23.7	0.37	45.9	17.6	14.7	27.2	0.58
22.09.2022	51.4	12.9	15.7	27.2	0.53	NA	NA	NA	NA	NA	56.7	15.7	12.2	19.2	0.63	49.7	16.8	10.7	27.2	0.79
26.09.2022	60.6	22.4	18.2	26.8	0.52	NA	NA	NA	NA	NA	61.3	18.4	13.2	24.4	0.51	50.9	NA	11.8	27.6	0.56
29.09.2022	40.4	19.3	17.1	27.3	0.47	NA	NA	NA	NA	NA	NA	18.2	12.4	24.7	0.48	51.3	NA	13.6	27.3	0.75
Permissible Limits	100	60	80	80	2	100	60	80	80	2	100	60	80	80	2	100	60	80	80	2
Date	Location-5 JIPT Building				Location-6 Gorhi village				Location-7 Regaon village				Location-8 Nirman Bhavan							
	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO
Distance (KM) (w.r.t stack)	0.2				4.5				3.0				0.2							
Direction (w.r.t stack)	W				SSW				N				S							
01.09.2022	56.3	18.6	14.6	26.3	0.49	50.6	17.8	14.2	26.9	0.66	43.8	16.2	13.8	25.3	0.54	52.5	16.5	13.2	28.3	0.65
05.09.2022	52.4	16.4	14.2	28.2	0.58	45.2	16.5	13.8	27.3	0.68	41.4	13.3	8	24.1	0.33	49.3	16.2	12.8	26.8	0.63
08.09.2022	48.3	13.8	13.5	27.3	0.64	46.5	18.4	14.1	26.8	0.58	41.5	12.4	8.6	25	0.38	45.4	14.5	14.2	27.6	0.59
12.09.2022	42.5	12.4	12.6	25.9	0.55	35.2	13.7	12.8	26.3	0.65	31.2	12.4	8	25	0.32	38.6	13.4	13.4	26.1	0.55
15.09.2022	40.6	11.6	12.2	26.3	0.47	53.6	18.2	14.3	27.1	0.69	53.2	16.8	9.4	25.8	0.65	34.5	14.1	12.6	25.3	0.52
19.09.2022	36.8	10.8	11.7	25.4	0.43	44.5	16.2	14.3	27.3	0.66	42.5	13.8	8.5	25.2	0.61	32.6	13.2	11.7	24.9	0.49
22.09.2022	43.5	14.2	12.3	24.8	0.48	41.2	14.6	12.5	26.4	0.67	38.3	17.4	9.6	25.3	0.56	40.2	14.2	12.7	25.8	0.47
26.09.2022	48.2	15.8	12.8	25.8	0.52	46.2	18.2	13.7	27.6	0.61	64.3	25.6	NA	NA	0.66	46.5	15.6	13.5	27.4	0.43
29.09.2022	53.6	19.6	13.2	27.3	0.56	48.3	19.4	14.2	27.5	0.62	NA	15.6	NA	NA	0.58	56.8	18.6	14.8	26.8	0.47
Permissible Limits	100	60	80	80	2	100	60	80	80	2	100	60	80	80	2	100	60	80	80	2

Note: All Units in µg/m³ except CO (in mg/m³)