

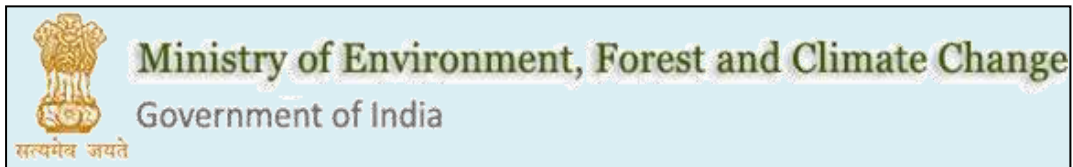
# SIX MONTHLY COMPLIANCE REPORT OF ENVIRONMENTAL & CRZ CLEARANCES

**2X600 MW COAL BASED THERMAL POWER PLANT**

at

**Melamarudur Village, Ottapidaram Taluk,  
Tuticorin - 628 105  
Tamil Nadu**

**Submitted to:**



**Submitted By:**



**Coastal Energen Private Limited**

**PERIOD: JANUARY 2024 -JUNE 2024**



COASTAL ENERGEN PVT. LTD

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CIN : U40102TN2006PTC060009

(Under Corporate Insolvency Resolution Process vide order of Hon'ble NCLT dated 04.02.2022)

CEPL/ENV/2024 -25/01

July 23, 2024

To  
The Director  
Ministry of Environment, Forest & Climate Change,  
Paryavaran Bhavan,  
CGO Complex, Lodhi Road,  
New Delhi - 110 003.

Dear Sir,

**Sub:** Submission of Half yearly MoEF & CC Clearances Compliance Report for the period  
January 2024 to June 2024 - Reg.


**Ref:** 1.Environment Clearance No.J-13011/41/2008-IA.II(T) dated 05.05.2009  
2.Coastal Regulation Zone Clearance No. 11/32/2009-IA.III dated 10.08.2009  
3.MoEF office memorandum No.F.No.J-13012 /8/2009-IA.II(T) dated 11.11.2020

This has reference to the captioned subject and cited references; we are herewith enclosing the Compliance Report of Environmental Clearance, Coastal Regulation Zone Clearance and MoEF office memorandum for the period January 2024 to June 2024.

This is for your kind information and records.

Thanking You

For COASTAL ENERGEN PRIVATE LIMITED

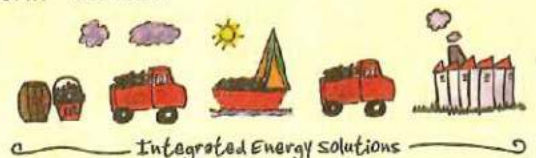
  


MK Parameswaran

Station Director



**Copy to:** 1. Director (S), MoEF &CC, Regional Office (South Eastern Zone), Chennai - 600 003.  
2. Central Pollution Control Board, Chennai - 600 058.  
3. District Environmental Engineer, TNPCB, Tuticorin - 628 002.



**Ministry of  
Environment Forest  
& Climate Change  
Clearance  
Compliance**



**COMPLIANCE TO THE CONDITIONS LAID BY MoEF VIDE ENVIRONMENTAL  
CLEARANCE No.J-13011/41/2008-IA.II (T) dated 10.12.2008**

**Period: January 2024 to June 2024**

Sl.No.	CONDITIONS STIPULATED BY MoEF	COMPLIENCE
1	Environment clearance is subject to obtaining clearance under the wildlife (protection) Act, 1972 from the competent authority.	No Objection Certificate is obtained from principal Chief Conservator of Forests and chief wild life warden, Chennai vide Ref. No.WL5/74098/2007 dated 03.03.2009.  As communicated by Principal Chief Conservator of Forest & Chief Wild Life Warden vide their Lr. No. Ref. No. WL5/7774/2013 dated 16.04.2016, we have applied online in the MOEF & CC web portal on 17 <sup>th</sup> Oct 2017 for obtaining Wild Life Clearance from National Board for Wildlife and we are following. Awaiting Response from NBWL.
2	Environment clearance is subject to final order of the hon'ble court of India in the matter of Goa foundation vs union of India in writ petition (civil) no.460 of 2004 as may be applicable to this project.	Noted for Compliance.
3	The total land acquired shall not be more than 875 acres for all the activities / facilities of the power project put together.	Complied. The total land acquired is 875 acre.
4	Prior CRZ clearance for the activities / facilities to be located in the CRZ area shall be obtained before start of the project.	Complied. CRZ clearance received from MoEF vide No.11-32/2009-IA-III dated 10.08.2009.
5	Ash and sulphur content in the imported coal to be used in the project shall not exceed 12% and 1.5 % respectively.	Complied. Ash and Sulphur content in the imported coal has not exceed 12% and 1.5 % respectively.
6	A multi-flue stack of 275m height shall be provided with continuous online monitoring equipments for Sox, NOx and particulate (heavy metals like Hg, Cr, As, Pb periodically). Exit velocity of atleast 22 m/s shall be maintained.	Complied. Multi Flue Stack is provided with Continuous online monitoring analyzers for measuring SO <sub>x</sub> , NO <sub>x</sub> and SPM and heavy metals like Hg, Cr, As, Pb are being monitored periodically
7	High efficiency Electro static precipitators (ESPs) shall be installed to ensure that particulate emission does not exceed 50mg/Nm <sup>3</sup> .	Complied. High efficiency ESPs has been installed and the particulate emission does not exceed 50mg/Nm <sup>3</sup> .
8	CFBC technology with lime injection having efficiency of SO <sub>2</sub> removal atleast 90% shall be installed.	Not applicable MoEF clearance obtained for Sub Critical Pulverized fuel Boilers vide clearance No.J-13011/41/2008-IA.II(T) dated 05.05.2009
9	Space provision shall be made for flue gas de-sulphurisation (FGD) unit, if required ata later stage.	Complied. Necessary space provision made for FGD Unit.
10	Adequate dust extraction system such as cyclone /bag filters and water spray system in dusty area such as in coal handling and ash handling points, transfer areas and other vulnerable dusty areas shall be provided.	Complied. <ul style="list-style-type: none"> <li>▪ Automatic water sprinklers provided in the coal storage yard.</li> <li>▪ Closed conveyors provided for coal conveying</li> <li>▪ Bag filters/ dust extraction system provided at all transfer points in the junction towers</li> <li>▪ Ventilation system provided in all coal bunkers</li> <li>▪ Bag filters provided in the ash silos</li> <li>▪ Closed conveyors provided for bottom ash conveying</li> </ul>


  
 Tuticorin Thermal Energy Pvt. Ltd.  
 Melamarudur

11	Fly ash shall be collected in dry form and storage facility (silos) shall be provided 100% utilization of fly ash shall be achieved from day one. Unutilized fly ash in emergency and bottom ash shall be disposed of in the ash pond. Supernatant effluent from ash pond and leachates collected will be monitored for heavy metals (Hg, Cr, As, Pb etc.).	Complied. Fly Ash is collected in dry form and 100% utilization is being complied.  There is no supernatant effluent generated from the ash pond as of now due to 100% ash utilization.
12	Ash pond shall be lined with HDPE lining. Adequate safety measure shall also be implemented to protect the ash dyke from getting breached.	Complied. Ash pond is lined with HDPE lining and Adequate safety measures are being taken to protect the ash dyke from getting breached.
13	Closed cycle cooling system with cooling towers as per the recommendations of chief wildlife warden shall be ensured.	Complied.  Closed cycle cooling system with cooling towers is installed.
14	Continuous monitoring of coastal waters as per the recommendations of chief wildlife warden shall be ensured.	Complied. Continuous monitoring of coastal waters as per the recommendations of chief wildlife warden is being done.
15	Rain water harvesting shall be practiced. 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 and a copy of the same shall be submitted within three months to the ministry.	Storm water drains are already in place. Since, the existing ground water is more saline and not potable; recharging the storm water will not improve the existing ground water quality. Hence, the collected storm water is routed to nearby village pond for their domestic usage.
16	The treated effluents conforming to the prescribed standards only shall be discharged from cold water side in the sea. The temperature of the discharged effluents shall not exceed 5°C over and above the ambient water temperature of sea and it will be reduced to 0.5°C within 50m of the discharge point. The temperature of the discharge water shall be monitored continuously and records maintained.	<ul style="list-style-type: none"> <li>▪ Cooling water blow down discharged from the cold water side of the induced draft cooling system.</li> <li>▪ Dilution of discharge, using fresh sea water to reduce the temperature to 0.5° C within 50 m of the discharge point is being carried out.</li> <li>▪ Temperature of the discharge water is being monitored continuously.</li> </ul>
17	A sewage treatment plant shall be provided and the treated sewage conforming to the standards prescribed by SPCB shall be used for raising green belt/ plantation.	Complied. Sewage Treatment Plant is provided and functional at site premises. Treated water from STP is being used for gardening and Green belt development only.
18	Regular monitoring of ground water in and around the ash pond area shall be carried out, records maintained and 6 monthly reports shall be submitted to the regional office of this ministry.	Complied. Regular monitoring of ground water in and around the ash bund area is being carried out. Copy of the report is enclosed as Annexure - 3.
19	Greenbelt of adequate width shall be developed all around the plant area, other utilities and ash pond covering 270acres of area preferably with local species.	Complied. Greenbelt (Approximately 79,819 trees) of adequate width is developed all around the plant area, other utilities and ash bund covering 270 acres of land with local species. Latest Photos of the developed greenbelt is enclosed as Annexure - 4.
20	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Complied First aid and sanitation arrangements were made for the drivers and other contract workers during construction phase.
21	Noise levels emanating from turbines, air compressors, steam leakage and other moving parts of the machine should be controlled in such a way that the ambient noise levels in the working environment do not exceed 75dBA. For people working in high noise area especially during maintenance phase or due to leakage of steam etc., if it is not possible to control noise by adopting	Complied. <ul style="list-style-type: none"> <li>• Turbine &amp; air compressors are provided with acoustic enclosures.</li> <li>• Provided silencer in safety valve</li> <li>• Provided earplugs and ear muffs to workers</li> <li>• Workers engaged in noisy areas are being periodically examined and their audiometric</li> </ul>

	engineering methods including acoustical treatment, noise barriers etc., requisite personal protective equipment like ear plugs/ ear muffs etc., shall be provided. Workers engaged in noisy areas such turbines, air compressors etc shall be periodically examined and their audiometric records maintained and should be treated for any hearing loss including shifting to non-noisy/less noisy areas.	records are being maintained and also shifted in rotational basis.
22	Regular monitoring of ground level concentration of SO <sub>2</sub> , NO <sub>x</sub> , SPM, RSPM and mercury shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. 6 monthly reports shall be submitted to the regional office of this ministry at Bangalore.	Complied. The monitoring of ground level concentration data for the period from January 2024 to June 2024 is enclosed as Annexure - 1. The Six months report on Environment monitoring is being submitted to Regional office of MoEF& CC on regular basis.
23	Adequate funds shall be ear marked for the activities under CSR and details of these activities shall also be submitted to the regional office of the ministry, SPCB and the ministry.	Complied. Separate funds earmarked for implementation of CSR activities. Details of CSR activities carried out during January 2024 to June 2024 are enclosed as Annexure - 5.
24	Storage facilities for this liquid fuel such as LDO and HFO/LSHS shall be made in the plant area where risk is minimum to the storage facilities. Disaster management plan shall be prepared to meet any eventuality in case of an accident taking place. Mock drills shall be conducted regularly and based on the same, modification required, if any, shall be incorporated in the DMP.	Complied. LDO/HFO storage tanks are provided with dyke wall, automatic foam and water sprinkler system. Disaster Management plan is available and regular mock drills are being carried out.
25	Adequate safety measures shall be provided in the plant area to check/ minimize spontaneous fires in coal yard, especially during summer season. Copy of these measures with full details along with location plant layout shall be submitted to the ministry as well as to the regional office of the ministry at Bangalore.	Complied. Automatic water sprinkler system provided in the coal stock yard
26	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality/ municipal area /gram panchayat concerned and on the company's website within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the state pollution control board / committee and may also be seen at website of the ministry of environment and forest at <a href="http://envfor.nic.in">http://envfor.nic.in</a> .	Complied
27	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Complied during construction phase.


28	A separate environment monitoring cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.	Complied. Environment Cell with qualified staffs are in place for the Environmental monitoring, Marine monitoring, Green belt development activities, etc.
29	Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards shall be submitted to this ministry, its regional office at Bangalore, CPCB and SPCB.	Complied. Half yearly report on the status of implementation of the stipulated conditions and environmental safeguards is being submitted to this ministry, its regional office at Bangalore, CPCB and SPCB.
30	Regional office of the ministry of environment & forests located at Bangalore will monitor the implementation of the stipulated conditions. A complete set of documents plan along with the additional information submitted from time to time shall be forwarded to the regional office for their use during monitoring.	Complied. Compliance status of the all the stipulated conditions in the environment clearance letter is being communicated from time to time to the Regional office of the ministry of environment & forests located at Bangalore.
31	Adequate funds shall be allocated for implementation of environmental protection measures along with item-wise breakup. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year - wise expenditure should be reported to the ministry.	Complied during construction phase.
32	Full cooperation shall be extended to the scientists/officer from the ministry / regional office of ministry at Bangalore/ the CPCB the SPCB who would be monitoring the compliance of environmental status.	Complied. Full Co-operation is being extended to the scientists/officer from the ministry / regional office of ministry at Bangalore/ the CPCB the SPCB who visits the plant for monitoring.
33	The project authorities shall inform the regional as well as the ministry regarding the date of financial closure and final approval of the project by the concerned authorities and the dates of start of land development work and commissioning of plant.	Complied. UNIT-01 - Date of Commissioning - 02/12/2014 UNIT-02 - Date of Commissioning - 02/01/2016
34	Compliance status of the stipulated conditions shall be displayed in website of the industry/company.	The Compliance status of stipulated conditions is uploaded in the company website. Screen shot of company website is attached as Annexure - 2.


**COMPLIANCE TO THE CONDITIONS LAID BY MoEF VIDE ENVIRONMENTAL  
CLEARANCE No.J-13011/41/2008-IA.II(T) dated 05.05.2009**

**Period: January 2024 to June 2024**

Sl.No.	CONDITIONS STIPULATED BY MoEF	COMPLIENCE
1	Regular monitoring of ground water in and around the ash pond area including heavy metals (Hg,Cr,As,Pb) shall be carried out, records maintained and six monthly reports shall be furnished to the Regional Office of this Ministry. The data so obtained should be compared with the baseline data so as to ensure that the ground water quality is not adversely affected due to the project.	Complied. Regular monitoring of ground water in and around the ash bund area is being carried out regularly. Analysis report for the period of January 2024 to June 2024 is attached as Annexure -3.
2	Regular monitoring of ground level concentration of SO <sub>2</sub> , NO <sub>x</sub> ,Hg,SPM and RSPM shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the prescribed limits, necessary control measures shall be provided immediately. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Periodic reports shall be submitted to the Regional Office of this Ministry. The data so monitored shall also be put on the website of the company.	Complied. The monitoring of ground level concentration data for the period January 2024 to June 2024 is enclosed as Annexure - 1 and the same is uploaded in the company website. Screen shot of company website is attached as Annexure - 2.
3	Space for FGD shall be provided at planning stage for the units.	Complied. Necessary space provision made for FGD Unit.
4	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, ZilaParisad/Municipal Corporation, Urban local Body and the Local NGO, is any from whom suggestions/representations, if any, received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Complied
5	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO <sub>2</sub> , NO <sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the man gate of the company in the public domain.	Complied. The Six months report on Ambient Air Quality monitoring are being submitted to Regional office of MoEF / TNPCB on regular basis and the same is uploaded in the company website. Print Screen of company website is attached as Annexure - 2. Online scrolling Display System provided at the main gate of the company.
6	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	Complied. The Six monthly Compliance report are being submitted to Regional office of MoEF& CC /CPCB/ TNPCB on regular basis.


  
 Coastal Energen Pvt. Ltd.  
 Melamarudur



**COMPLIANCE TO THE ADDITIONAL CONDITIONS LAID BY MoEF VIDE OFFICE  
MEMORANDUM No.J-11013/41/2006-IA.II(I) dated 06.04.2011**

Period: January 2024 to June 2023

Sl.No.	CONDITIONS STIPULATED BY MoEF	COMPLIENCE
1	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 Stack emission and ambient air quality monitoring are being carried out and records are being maintained.  The monitored data for the period of January 2024 to June 2024 is enclosed as Annexure - 1. The results are well within the prescribed norms.  The Six months report on Ambient Air Quality monitoring are being submitted to Regional office of MoEF& CC on regular basis and the same is uploaded in the company website. Screen Shot of company website is attached as Annexure - 2.
2	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 months report on Ambient Air Quality monitoring are being submitted to Regional office of MoEF& CC / TNPCB on regular basis and the same is uploaded in the company website. F  Screen Shot of company website is attached as Annexure - 2.
3	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.	Complied.  Online scrolling Display System provided at the main gate of the company.


**Coastal  
Regulation  
Zone Clearance  
Compliance**



**COMPLIANCE TO THE CONDITIONS LAID BY MoEF VIDE CRZ  
CLEARANCE No.11/32/2009-IA.III dated 10.08.2009**

Period: January 2024 to June 2024

Sl.No.	CONDITIONS STIPULATED BY MoEF	COMPLIANCE
<b>Specific Conditions :</b>		
1.	All the Conditions stipulated by Tamilnadu Coastal Zone Management Authority vide letter dated 03.04.2009 shall be strictly complied with.	All the Conditions stipulated by Tamilnadu Coastal Zone Management Authority vide letter dated 03.04.2009 is Complied. Compliance Status enclosed as Annexure - 6
2.	Sufficient dilution shall be carried out to meet the ambient parameters within 50m distance.	Complied. Sufficient dilution is being carried out to meet the ambient parameters within 50m distance.
3.	Independent monitoring shall be undertaken through a authorized agency.	Complied. Comprehensive Marine Environmental Monitoring is being carried out through M/s.Suganthi Devadasan Marine Research Institute, Thoothukudi, one of the identified institutions for coastal baseline studies and monitoring by the Tamil Nadu State Coastal Zone Management Authority.
4.	Filters in the way of extruders shall be provided at the intake point to prevent fishes entering in to the system. Fish culture shall be developed at the outfall point.	Complied. Fish Cage culture installed and monitoring is in progress. Report on Fish Cage culture monitoring is covered in Annexure -7.
5.	Regular monitoring especially for temperature and salinity shall be carried out at disposal site and six monthly reports shall be submitted to the ministry.	Complied. Monitoring data for the period January 2024 to June 2024 is enclosed as Annexure - 7.
6.	All the recommendations of EIA and DMP shall be strictly complied with	All the recommendations of EIA and DMP is complied
7.	There shall be no reclamation in Coastal Regulation Zone area.	Complied. No Reclamation done at CRZ area.
8.	The pipeline shall be buried at least 2m depth in the onshore area and 4 mts in the offshore area. Necessary permission with regard to the pipeline burial and laying shall be obtained from concerned authorities to ensure that the pipeline route does not fall in the navigation channel.	Complied. All the requirements has been fulfilled and necessary permission has been obtained with regard to the pipeline burial.
9.	The Project shall be implemented in such a manner that there is no damage whatsoever to the mangroves/other sensitive coastal ecosystems. If any damage to mangroves is anticipated / envisaged as a result of project activities then the clearance shall stand cancelled and the proponents shall seek fresh approval from the Ministry.	Not applicable.  No mangroves are found in the project site.
10.	Consent shall be obtained from the Tamilnadu Pollution Control Board for the disposal of effluent into sea. The effluent shall meet the standards prescribed by Tamil Nadu Pollution Control Board before disposal.	Complied. Consents are obtained from TNPCB and being ensured that the effluent meet the standards prescribed by TNPCB before disposal.
11.	A continuous and comprehensive post - project marine quality monitoring programme shall be taken up. This shall include monitoring of water quality, sediment quality and biological characteristics and report	Complied. Monitoring data for the period January 2024 to June 2024 is enclosed as Annexure - 7.


	submitted every 6 months to Ministry's Regional Office at Bangalore.	
12.	It shall be ensured that there is no displacement of people, houses or fishing activity as a result of the project.	Complied. No displacement of people, houses or fishing activity is involved.
13.	There shall be display boards at critical locations along the pipeline viz. road/rail/river crossings giving emergency instructions. This will ensure prompt information regarding location of accident during any emergency. Emergency information board shall contain emergency instructions in addition to contact details. Proper lighting shall be provided all along the road.	Complied.
14.	There shall be no withdrawal of ground water in CRZ, area, for this project.	Complied. No Withdrawal of Ground water is being done for the project.
15.	Necessary provisions shall also be made to develop a nursery for mangroves and the area should be demarcated specifically for the development of mangroves within the complex.	<ul style="list-style-type: none"> <li>The project site is not suitable for the development of mangroves as mangroves requires special environmental factors including fresh water sources along with marine (i.e) Estuarine conditions.</li> <li>Hence, this condition is not applicable to us.</li> </ul>
16.	Arrangement for treatment of liquid effluents shall be made so as to ensure that the untreated effluents are not allowed to be discharged into the sea/marine water.	Complied. Effluent Treatment Plant is provided in the Main plant and is in operation.
17.	Appropriate safety devices such as masks shall be provided for use by the workers at the site and their usage by them shall be ensured.	Complied and the same is being ensured continuously.
18.	Necessary provisions shall be made for emergency evacuation during natural and man-made disasters like floods, cyclone, tsunami and earthquake etc.	Complied. Adequate Provisions made for emergency evacuation during Natural and manmade disasters.
19.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health case, crèche etc. The house may be in the form of temporary structures to be removed after the completion of the project.	Complied. Necessary Infrastructure were provided during Project Phase.
20.	A First Aid Room will be provided in the project both during construction and operation of the project.	Complied. First Aid Center with ambulance facilities available at site on 24 x 7 basis.
21.	All the topsoil excavated during construction activities should be stored for use in horticulture / landscape development within the project site.	Complied.
22.	Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.	Complied.
23.	Any Hazardous Waste Generated During Construction Phase, Should Be Disposed Off As Per Applicable Rules And Norms With Necessary Approvals Of The Andhra Pradesh Pollution Control Board.	No Hazardous waste generated during Construction Phase.
24.	The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to Environment (protection) Rules	Complied during Construction phase.

	prescribed for air and noise emission standards.	
25.	The Diesel required for operating DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosives shall be taken.	Complied during Construction phase.
26.	Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.	Complied during Construction Phase.
27.	Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient air construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/ TNPCB.	Complied during Construction Phase.
28.	Storm water control and its-re-use as per CGWB and BIS standards for various applications.	Not applicable.
29.	Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.	Complied during Construction Phase.
<b>General Conditions:</b>		
1.	The construction of the structures should be undertaken as per the plans approved by the concerned local authorities/local administration, meticulously conforming to the existing local and central rules and regulations including the provisions of Coastal Regulation Zone Notification dated 19.02.1991 and the approved Coastal Zone Management Plan of Tamil Nadu.	Complied during Construction Phase.
2.	In the event of any change in the project profile a fresh reference shall be made to the Ministry of Environment and Forests.	No Change in Project Profile
3.	This Ministry reserves the right to revoke this clearance, if any, of the conditions stipulated are not complied with to the satisfaction of this Ministry.	Agreed for Compliance.
4.	This Ministry or any other competent authority may stipulate any additional conditions subsequently, if deemed necessary, for environmental protection, which shall be complied with.	Agreed for Compliance.
5.	Noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.	Complied. Noise Levels are within the Permissible Limits
6.	The green belt of the adequate width and density preferably with local species along the periphery of the plot shall be raised so as to provide protection against particulates and noise.	Complied. Landscape developed in front of Sea water Pump house.
7.	The ground water level and its quality should be monitored regularly in consultation with Central Ground Water Authority.	Not applicable.
8.	The sand dune, if any, on the site should not be disturbed in any way.	No sand dune exists.
9.	The mangroves, if any, on the site should not be disturbed in any way.	No mangroves exists.
10.	The environment safeguards contained in the EIA Report should be implemented in letter and spirit.	Complied. The environment safeguards contained in the EIA Report has been


		implemented.
11.	A separate Environment Management Cell with suitably qualified staff to carry out various environment related Executive who will report directly to the Chief Executive of the Company.	Complied. Environment Cell with qualified staffs are in place for the Environmental monitoring, Marine monitoring, Green belt development activities, etc.
12.	The funds earmarked for environment protection measures shall be maintained in a separate account and there shall be no diversion of these funds for any other purpose. A year-wise expenditure on environmental safeguards shall be reported to this Ministry's Regional Office to Bangalore.	Fund for environmental protection measures is being allotted and no diversification of funds being done.
13.	In case of deviation or alteration in the project including the implementing agency, a fresh reference shall be made to this Ministry for modification in the clearance conditions or imposition of new one for ensuring environmental projection. The project proponents shall be responsible for implementing the suggested safeguard measures.	No Deviation/Alteration in the Project.
14.	This Ministry reserves the right to revoke this clearance, if any of the conditions stipulated are not complied with to the satisfaction of this Ministry.	Agreed.
15.	Full support should be extended to the officers of this Ministry's Regional Office at Bangalore and the offices of the Central and State Pollution Control Board by the project proponents during their inspection for monitoring purposes, by furnishing full details and action plans including the action taken reports in respect of mitigative measures and other environmental protection activities.	Agreed and being Complied.
16.	These Stipulations Would Be Enforced Among Others Under The Provisions Of Water (Prevention And Control Of Pollution) Act, 1974 The Air (Prevention And Control Of Pollution) Act 1981, The Environment Municipal Solid Wastes (Management and Handling) Rules, 2000 including the amendments and rules made thereafter.	Agreed.
17.	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) act, 1972 etc, shall be obtained, as applicable by project proponents from the respective competent authorities.	Complied. All other applicable statutory clearances has been Obtained.
18.	The project proponent should advertise in at least two local Newspapers widely circulated in the regions, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letter are available with the Tamil Nadu State Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at <a href="http://www.envfor.nic.in">Http://www.envfor.nic.in</a> . The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Bangalore.	Complied.
19.	Any appeal against this Environmental Clearance shall lie with the national Environment Appellate Authority, if preferred, within a period of 30 days as prescribed under section 11 of the National Environment Appellate Act, 1997.	Noted.


20.	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, ZillaParisad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Complied.
21.	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, So2, Nox (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	The Compliance status of stipulated conditions is uploaded in the company website. Screen Shot of company website is attached as Annexure - 2.
22.	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored date (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	Complied. Submitting the six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored date to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.
23.	The environmental statement for each financial year ending 31 <sup>st</sup> March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	Complied.


# **ANNEXURE - 1**





**COASTAL ENERGEN PRIVATE LIMITED**

2 X 600 MW MUTIARA THERMAL POWER PLANT

**CONTINUOUS AMBIENT AIR QUALITY MONITORING REPORT**

Daily Average from 01.01.2024 to 31.01.2024

Date	STATION-1 (Near Main Office)						STATION-2 (Near CHP)						STATION-3 (Near Ash Pond)						STATION-4 (Sea Water Pump House)												
	SO2		NOX		PM10		PM2.5		CO		SO2		NOX		PM10		PM2.5		CO		SO2		NOX		PM10		PM2.5		CO		
	µg/m <sup>3</sup>	#	µg/m <sup>3</sup>	#	µg/m <sup>3</sup>	#	µg/m <sup>3</sup>	#	mg/m <sup>3</sup>	02	µg/m <sup>3</sup>	80	µg/m <sup>3</sup>	100	µg/m <sup>3</sup>	60	µg/m <sup>3</sup>	100	µg/m <sup>3</sup>	60	µg/m <sup>3</sup>	80	µg/m <sup>3</sup>	100	µg/m <sup>3</sup>	60	µg/m <sup>3</sup>	100	µg/m <sup>3</sup>	60	µg/m <sup>3</sup>
1-Jan-24	*	*	*	*	*	*	*	*	0.8	*	4.0	4.0	15.0	#	#	#	#	*	*	*	*	*	*	*	*	*	*	*	*	*	*
2-Jan-24	*	*	*	*	*	*	*	*	0.6	*	4.0	4.0	33.0	#	#	#	#	*	*	*	*	*	*	*	*	*	*	*	*	*	*
3-Jan-24	*	*	*	*	*	*	*	*	0.5	4.0	4.0	12.0	#	#	#	#	9.0	9.0	17.0	11.0	0.3	#	#	#	47.0	#	#	#	#	0.6	
4-Jan-24	*	*	*	*	*	*	*	*	0.6	4.0	4.0	42.0	#	#	#	#	8.0	8.0	16.0	7.0	0.3	#	#	#	43.0	#	#	#	#	0.7	
5-Jan-24	*	*	*	*	*	*	*	*	0.5	5.0	4.0	45.0	#	#	#	#	4.0	4.0	17.0	8.0	0.3	#	#	#	44.0	#	#	#	#	0.6	
6-Jan-24	4.0	6.0	29.0	#	0.3	4.0	4.0	53.0	#	0.5	4.0	4.0	41.0	#	0.6	4.0	4.0	22.0	10.0	0.3	#	#	#	57.0	#	#	#	#	0.5		
7-Jan-24	4.0	6.0	27.0	#	0.8	4.0	4.0	24.0	#	0.6	4.0	4.0	24.0	#	0.6	4.0	4.0	14.0	6.0	0.3	#	#	#	41.0	#	#	#	#	0.4		
8-Jan-24	3.0	6.0	29.0	#	0.8	4.0	4.0	29.0	#	0.5	4.0	4.0	29.0	#	0.6	4.0	4.0	9.0	3.0	0.2	#	#	#	27.0	#	#	#	#	0.8		
9-Jan-24	3.0	6.0	26.0	#	0.5	5.0	5.0	29.0	#	0.5	4.0	3.0	29.0	#	0.5	4.0	4.0	14.0	5.0	0.3	#	#	#	35.0	#	#	#	#	0.7		
10-Jan-24	4.0	6.0	29.0	#	0.6	4.0	4.0	65.0	14.0	0.6	4.0	4.0	65.0	14.0	0.6	4.0	4.0	27.0	12.0	0.4	#	#	#	8.0	72.0	36.0	0.4	0.4	0.4		
11-Jan-24	4.0	6.0	18.0	#	0.9	4.0	4.0	68.0	10.0	0.5	3.0	5.0	68.0	10.0	0.5	3.0	5.0	13.0	11.0	0.3	#	#	#	9.0	68.0	39.0	0.5	0.5	0.5		
12-Jan-24	4.0	6.0	29.0	#	0.6	5.0	5.0	58.0	7.0	0.4	3.0	4.0	58.0	7.0	0.4	3.0	3.0	30.0	14.0	0.3	#	#	#	10.0	70.0	45.0	0.6	0.6	0.6		
13-Jan-24	4.0	6.0	23.0	#	0.9	5.0	5.0	38.0	16.0	0.5	3.0	4.0	38.0	16.0	0.5	3.0	4.0	23.0	5.0	0.3	#	#	#	9.0	60.0	47.0	0.5	0.5	0.5		
14-Jan-24	4.0	6.0	29.0	#	0.6	5.0	5.0	61.0	18.0	0.5	3.0	4.0	61.0	18.0	0.5	3.0	4.0	36.0	21.0	0.4	#	#	#	10.0	67.0	39.0	0.7	0.7	0.7		
15-Jan-24	4.0	6.0	28.0	#	0.5	5.0	5.0	52.0	18.0	0.6	3.0	4.0	52.0	18.0	0.6	3.0	4.0	37.0	21.0	0.4	#	#	#	10.0	63.0	41.0	0.7	0.7	0.7		
16-Jan-24	4.0	5.0	18.0	#	0.5	5.0	5.0	43.0	11.0	0.5	3.0	1.0	43.0	11.0	0.5	3.0	1.0	18.0	5.0	0.4	#	#	#	7.0	59.0	40.0	0.8	0.8	0.8		
17-Jan-24	3.0	4.0	23.0	#	0.6	4.0	4.0	47.0	12.0	0.4	4.0	5.0	47.0	12.0	0.4	4.0	5.0	31.0	9.0	0.3	#	#	#	8.0	55.0	43.0	0.7	0.7	0.7		
18-Jan-24	4.0	6.0	29.0	#	0.4	5.0	5.0	44.0	6.0	0.4	3.0	4.0	44.0	6.0	0.4	3.0	4.0	16.0	6.0	0.4	#	#	#	10.0	43.0	29.0	0.4	0.4	0.4		
19-Jan-24	4.0	6.0	29.0	#	0.5	5.0	5.0	31.0	9.0	0.7	3.0	4.0	31.0	9.0	0.7	3.0	4.0	11.0	4.0	0.4	#	#	#	10.0	30.0	14.0	0.9	0.9	0.9		
20-Jan-24	4.0	6.0	24.0	#	0.5	*	*	*	*	*	*	*	*	*	*	3.0	4.0	24.0	7.0	0.3	#	#	#	8.0	36.0	29.0	0.9	0.9	0.9		
21-Jan-24	3.0	6.0	28.0	#	0.5	*	*	*	*	*	*	*	*	*	*	3.0	4.0	23.0	10.0	0.3	#	#	#	10.0	47.0	43.0	0.6	0.6	0.6		
22-Jan-24	4.0	7.0	26.0	#	0.6	4.0	4.0	46.0	7.0	0.5	4.0	7.0	46.0	7.0	0.5	4.0	6.0	26.0	11.0	0.3	#	#	#	9.0	16.0	22.0	0.7	0.7	0.7		
23-Jan-24	4.0	5.0	21.0	#	0.6	7.0	7.0	42.0	10.0	0.6	5.0	4.0	42.0	10.0	0.6	5.0	4.0	22.0	8.0	0.4	#	#	#	8.0	21.0	26.0	0.6	0.6	0.6		
24-Jan-24	3.0	8.0	29.0	#	0.5	9.0	9.0	25.0	8.0	0.5	5.0	9.0	25.0	8.0	0.5	5.0	9.0	23.0	10.0	0.4	#	#	#	10.0	49.0	35.0	0.7	0.7	0.7		
25-Jan-24	3.0	8.0	27.0	#	0.5	11.0	11.0	15.0	9.0	0.5	7.0	2.0	15.0	9.0	0.5	7.0	2.0	23.0	5.0	0.3	#	#	#	11.0	52.0	48.0	0.8	0.8	0.8		
26-Jan-24	3.0	8.0	24.0	#	0.5	11.0	12.0	18.0	7.0	0.5	7.0	6.0	18.0	7.0	0.5	7.0	6.0	19.0	8.0	0.3	#	#	#	10.0	45.0	38.0	0.8	0.8	0.8		
27-Jan-24	4.0	8.0	26.0	#	0.5	10.0	8.0	24.0	8.0	0.5	7.0	3.0	24.0	8.0	0.5	7.0	3.0	21.0	7.0	0.2	#	#	#	10.0	57.0	35.0	0.6	0.6	0.6		
28-Jan-24	3.0	8.0	24.0	#	0.5	11.0	7.0	39.0	7.0	0.5	8.0	8.0	39.0	7.0	0.5	8.0	8.0	21.0	8.0	0.3	#	#	#	11.0	48.0	35.0	0.4	0.4	0.4		
29-Jan-24	3.0	8.0	22.0	#	0.6	11.0	6.0	21.0	11.0	0.5	6.0	8.0	21.0	11.0	0.5	6.0	8.0	28.0	13.0	0.4	#	#	#	10.0	69.0	43.0	0.6	0.6	0.6		
30-Jan-24	4.0	8.0	19.0	#	0.6	9.0	6.0	24.0	11.0	0.6	9.0	9.0	24.0	11.0	0.6	9.0	9.0	29.0	11.0	0.4	#	#	#	9.0	53.0	41.0	0.4	0.4	0.4		
31-Jan-24	4.0	8.0	24.0	#	0.6	11.0	10.0	16.0	9.0	0.6	9.0	8.0	16.0	9.0	0.6	9.0	8.0	24.0	5.0	0.3	#	#	#	9.0	48.0	39.0	0.4	0.4	0.4		

\* Network issue data not received. # Analyzer problem data not received.

For Coastal Energen Pvt. Limited

*MK Parameswaran*  
MK Parameswaran  
Station Director





**COASTAL ENERGEN PRIVATE LIMITED**  
 2 X 600 MW MUTIARA THERMAL POWER PLANT  
**CONTINUOUS AMBIENT AIR QUALITY MONITORING REPORT**  
 Daily Average from 01.02.2024 to 29.02.2024

Date	STATION-1 (Near Main Office)						STATION-2 (Near CHP)						STATION-3 (Near Ash Pond)						STATION-4 (Sea Water Pump House)					
	SO2	NOX	PM10	PM2.5	CO	CO	SO2	NOX	PM10	PM2.5	CO	CO	SO2	NOX	PM10	PM2.5	CO	CO	SO2	NOX	PM10	PM2.5	CO	CO
	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	mg/m <sup>3</sup>
1-Feb-24	4.0	8.0	23.0	*	0.6	0.6	11.0	17.0	27.0	4.0	0.5	0.4	10.0	7.0	17.0	5.0	0.3	0.3	*	10.0	39.0	31.0	1.3	
2-Feb-24	4.0	8.0	24.0	*	0.5	0.5	11.0	16.0	37.0	5.0	0.4	0.4	10.0	7.0	17.0	5.0	0.3	0.3	*	10.0	39.0	56.0	0.7	
3-Feb-24	3.0	8.0	32.0	*	0.5	0.5	11.0	14.0	38.0	6.0	0.4	0.4	10.0	4.0	17.0	6.0	0.3	0.3	*	10.0	41.0	33.0	0.8	
4-Feb-24	3.0	8.0	26.0	*	0.5	0.5	11.0	14.0	32.0	5.0	0.4	0.4	10.0	4.0	14.0	4.0	0.3	0.3	*	10.0	36.0	24.0	0.6	
5-Feb-24	4.0	8.0	22.0	*	0.6	0.6	11.0	14.0	34.0	9.0	0.4	0.4	10.0	7.0	23.0	9.0	0.4	0.4	*	10.0	33.0	19.0	0.6	
6-Feb-24	4.0	8.0	28.0	*	0.5	0.5	11.0	13.0	23.0	8.0	0.5	0.5	10.0	8.0	26.0	12.0	0.5	0.5	*	10.0	69.0	52.0	0.6	
7-Feb-24	4.0	9.0	51.0	*	0.4	0.4	11.0	17.0	53.0	8.0	0.4	0.4	10.0	8.0	16.0	8.0	0.5	0.5	*	10.0	47.0	46.0	0.5	
8-Feb-24	3.0	9.0	40.0	*	0.4	0.4	11.0	18.0	3.0	9.0	0.4	0.4	10.0	5.0	33.0	15.0	0.6	0.6	*	10.0	22.0	18.0	0.5	
9-Feb-24	3.0	9.0	43.0	*	0.4	0.4	11.0	18.0	3.0	9.0	0.4	0.4	10.0	5.0	35.0	18.0	0.6	0.6	*	10.0	85.0	43.0	0.7	
10-Feb-24	4.0	9.0	66.0	*	0.4	0.4	11.0	11.0	36.0	15.0	0.5	0.5	10.0	4.0	26.0	12.0	0.5	0.5	*	10.0	90.0	52.0	0.8	
11-Feb-24	4.0	9.0	78.0	*	0.4	0.4	11.0	17.0	37.0	8.0	0.4	0.4	10.0	4.0	26.0	12.0	0.5	0.5	*	10.0	62.0	40.0	0.7	
12-Feb-24	4.0	9.0	47.0	*	0.4	0.4	11.0	18.0	16.0	6.0	0.5	0.5	10.0	7.0	21.0	7.0	0.5	0.5	*	10.0	45.0	34.0	0.7	
13-Feb-24	3.0	9.0	34.0	*	0.5	0.5	11.0	18.0	53.0	7.0	0.8	0.8	10.0	7.0	21.0	9.0	0.6	0.6	*	10.0	53.0	34.0	0.9	
14-Feb-24	4.0	7.0	42.0	*	0.4	0.4	11.0	17.0	12.0	7.0	0.7	0.7	10.0	8.0	23.0	10.0	0.6	0.6	*	10.0	58.0	41.0	0.9	
15-Feb-24	4.0	9.0	47.0	*	0.4	0.4	11.0	17.0	8.0	7.0	0.7	0.7	8.0	7.0	24.0	11.0	0.5	0.5	*	10.0	60.0	45.0	0.9	
16-Feb-24	5.0	8.0	45.0	*	0.3	0.3	10.0	11.0	3.0	8.0	0.5	0.5	6.0	9.0	27.0	11.0	0.4	0.4	*	10.0	60.0	53.0	0.7	
17-Feb-24	5.0	8.0	49.0	*	0.4	0.4	11.0	8.0	30.0	11.0	0.5	0.5	6.0	7.0	39.0	11.0	0.5	0.5	*	10.0	58.0	57.0	0.8	
18-Feb-24	5.0	8.0	52.0	*	0.4	0.4	10.0	7.0	34.0	12.0	0.5	0.5	6.0	7.0	32.0	12.0	0.6	0.6	*	10.0	67.0	46.0	0.8	
19-Feb-24	5.0	8.0	58.0	*	0.4	0.4	11.0	9.0	31.0	10.0	0.5	0.5	6.0	6.0	24.0	11.0	0.5	0.5	*	10.0	56.0	51.0	0.6	
20-Feb-24	5.0	9.0	71.0	*	0.4	0.4	11.0	6.0	29.0	12.0	0.4	0.4	6.0	7.0	31.0	13.0	0.5	0.5	*	10.0	66.0	53.0	0.7	
21-Feb-24	5.0	9.0	76.0	*	0.4	0.4	11.0	7.0	61.0	16.0	0.6	0.6	7.0	8.0	44.0	19.0	0.6	0.6	*	10.0	76.0	45.0	0.9	
22-Feb-24	5.0	10.0	74.0	*	0.4	0.4	11.0	6.0	65.0	8.0	0.4	0.4	7.0	8.0	35.0	10.0	0.5	0.5	*	10.0	60.0	32.0	0.7	
23-Feb-24	5.0	9.0	44.0	*	0.4	0.4	11.0	7.0	39.0	7.0	0.5	0.5	7.0	8.0	27.0	11.0	0.6	0.6	*	10.0	57.0	48.0	0.8	
24-Feb-24	5.0	9.0	47.0	*	0.3	0.3	11.0	13.0	52.0	7.0	0.4	0.4	6.0	7.0	24.0	9.0	0.4	0.4	*	10.0	52.0	40.0	1.1	
25-Feb-24	5.0	8.0	78.0	*	0.4	0.4	11.0	12.0	26.0	7.0	0.4	0.4	6.0	7.0	22.0	4.0	0.4	0.4	*	10.0	52.0	41.0	1.0	
26-Feb-24	5.0	8.0	44.0	*	0.4	0.4	11.0	12.0	40.0	7.0	0.5	0.5	6.0	6.0	21.0	6.0	0.4	0.4	*	10.0	51.0	39.0	0.7	
27-Feb-24	6.0	8.0	65.0	*	0.4	0.4	11.0	12.0	49.0	8.0	0.5	0.5	6.0	7.0	20.0	10.0	0.5	0.5	4.0	4.0	10.0	54.0	40.0	0.8
28-Feb-24	5.0	8.0	70.0	*	0.5	0.5	11.0	12.0	49.0	8.0	0.5	0.5	6.0	7.0	20.0	10.0	0.5	0.5	4.0	4.0	10.0	54.0	40.0	0.8
29-Feb-24	5.0	8.0	44.0	*	0.5	0.5	11.0	18.0	28.0	10.0	0.4	0.4	6.0	8.0	21.0	8.0	0.5	0.5	4.0	4.0	10.0	52.0	38.0	0.9

\* Due to Analyzer problem data not received.

For Coastal Energen Pvt. Limited.  
  
 MK Parameswaran  
 Station Director

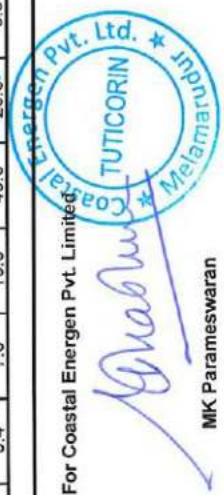




**COASTAL ENERGEN PRIVATE LIMITED**  
 2 X 600 MW MUTIARA THERMAL POWER PLANT  
**CONTINUOUS AMBIENT AIR QUALITY MONITORING REPORT**  
 Daily Average from 01.03.2024 to 31.03.2024

Date	STATION-1 (Near Main Office)						STATION-2 (Near CHP)						STATION-3 (Near Ash Pond)						STATION-4 (Sea Water Pump House)					
	SO2	NOX	PM10	PM2.5	CO	CO	SO2	NOX	PM10	PM2.5	CO	CO	SO2	NOX	PM10	PM2.5	CO	CO	SO2	NOX	PM10	PM2.5	CO	CO
	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>
1-Mar-24	5.0	8.0	47.0	*	0.6	0.6	10.0	10.0	72.0	4.0	0.9	0.9	6.0	7.0	26.0	10.0	0.4	0.4	4.0	10.0	56.0	50.0	0.9	0.9
2-Mar-24	5.0	8.0	54.0	*	0.6	0.6	10.0	9.0	17.0	13.0	0.8	0.8	7.0	6.0	31.0	8.0	0.5	0.5	4.0	10.0	65.0	46.0	1.0	1.0
3-Mar-24	5.0	8.0	55.0	*	0.6	0.6	10.0	9.0	32.0	15.0	0.8	0.8	7.0	6.0	29.0	14.0	0.6	0.6	4.0	10.0	63.0	41.0	1.1	1.1
4-Mar-24	5.0	8.0	55.0	*	0.6	0.6	11.0	9.0	28.0	12.0	0.6	0.6	7.0	6.0	37.0	3.0	0.6	0.6	3.0	10.0	64.0	53.0	1.2	1.2
5-Mar-24	5.0	8.0	50.0	*	0.5	0.5	11.0	9.0	21.0	10.0	0.2	0.2	6.0	8.0	30.0	13.0	0.5	0.5	4.0	10.0	60.0	57.0	0.8	0.8
6-Mar-24	5.0	8.0	47.0	43.0	0.4	0.4	11.0	9.0	30.0	10.0	0.6	0.6	6.0	10.0	43.0	13.0	0.4	0.4	4.0	9.0	59.0	66.0	1.1	1.1
7-Mar-24	6.0	8.0	47.0	45.0	0.3	0.3	10.0	9.0	35.0	11.0	0.6	0.6	6.0	12.0	29.0	10.0	0.3	0.3	4.0	10.0	54.0	39.0	0.7	0.7
8-Mar-24	6.0	8.0	58.0	47.0	0.6	0.6	11.0	10.0	59.0	10.0	0.9	0.9	6.0	15.0	30.0	11.0	0.7	0.7	4.0	10.0	57.0	38.0	1.0	1.0
9-Mar-24	6.0	9.0	64.0	54.0	0.6	0.6	11.0	12.0	69.0	14.0	0.9	0.9	7.0	10.0	44.0	15.0	0.7	0.7	4.0	10.0	68.0	43.0	0.8	0.8
10-Mar-24	6.0	8.0	47.0	53.0	0.6	0.6	11.0	10.0	29.0	11.0	0.9	0.9	7.0	7.0	24.0	10.0	0.6	0.6	4.0	10.0	56.0	35.0	0.9	0.9
11-Mar-24	6.0	8.0	57.0	52.0	0.6	0.6	11.0	9.0	26.0	11.0	0.8	0.8	7.0	6.0	37.0	12.0	0.6	0.6	4.0	10.0	68.0	45.0	1.2	1.2
12-Mar-24	5.0	6.0	39.0	28.0	0.6	0.6	9.0	7.0	34.0	9.0	0.8	0.8	5.0	7.0	25.0	7.0	0.6	0.6	4.0	9.0	58.0	37.0	1.1	1.1
13-Mar-24	5.0	7.0	61.0	21.0	0.6	0.6	10.0	8.0	33.0	8.0	0.7	0.7	6.0	8.0	26.0	11.0	0.5	0.5	4.0	8.0	54.0	32.0	0.9	0.9
14-Mar-24	7.0	8.0	87.0	29.0	0.6	0.6	12.0	11.0	39.0	16.0	0.7	0.7	7.0	8.0	61.0	19.0	0.7	0.7	4.0	10.0	88.0	38.0	0.9	0.9
15-Mar-24	5.0	7.0	72.0	36.0	0.6	0.6	11.0	10.0	45.0	17.0	0.9	0.9	7.0	4.0	30.0	12.0	0.7	0.7	4.0	10.0	84.0	29.0	1.2	1.2
16-Mar-24	6.0	8.0	65.0	54.0	0.6	0.6	11.0	10.0	53.0	15.0	0.9	0.9	7.0	6.0	45.0	16.0	0.8	0.8	4.0	10.0	81.0	42.0	1.2	1.2
17-Mar-24	6.0	8.0	40.0	40.0	0.6	0.6	11.0	10.0	54.0	10.0	0.8	0.8	8.0	7.0	36.0	11.0	0.8	0.8	4.0	10.0	47.0	36.0	1.2	1.2
18-Mar-24	6.0	8.0	21.0	28.0	0.3	0.3	11.0	9.0	35.0	4.0	0.8	0.8	7.0	6.0	34.0	5.0	0.7	0.7	4.0	10.0	32.0	29.0	1.1	1.1
19-Mar-24	6.0	8.0	45.0	24.0	0.6	0.6	11.0	9.0	47.0	6.0	0.7	0.7	7.0	6.0	32.0	8.0	0.8	0.8	4.0	10.0	47.0	26.0	1.3	1.3
20-Mar-24	6.0	7.0	62.0	33.0	0.6	0.6	11.0	9.0	41.0	12.0	0.7	0.7	7.0	6.0	44.0	15.0	0.8	0.8	4.0	10.0	76.0	52.0	0.7	0.7
21-Mar-24	6.0	7.0	53.0	27.0	0.5	0.5	9.0	11.0	52.0	10.0	0.6	0.6	6.0	7.0	26.0	8.0	0.7	0.7	4.0	10.0	49.0	47.0	1.1	1.1
22-Mar-24	7.0	9.0	65.0	20.0	0.5	0.5	6.0	14.0	45.0	8.0	0.6	0.6	7.0	8.0	22.0	8.0	0.7	0.7	4.0	10.0	49.0	34.0	1.2	1.2
23-Mar-24	8.0	10.0	71.0	25.0	0.5	0.5	6.0	13.0	54.0	9.0	0.5	0.5	9.0	5.0	27.0	11.0	0.8	0.8	3.0	10.0	56.0	40.0	1.1	1.1
24-Mar-24	7.0	10.0	66.0	18.0	0.5	0.5	6.0	13.0	21.0	7.0	0.5	0.5	8.0	6.0	47.0	11.0	0.6	0.6	3.0	10.0	49.0	29.0	0.9	0.9
25-Mar-24	9.0	10.0	53.0	18.0	0.5	0.5	6.0	12.0	42.0	7.0	0.6	0.6	9.0	7.0	31.0	8.0	0.4	0.4	3.0	10.0	50.0	23.0	0.9	0.9
26-Mar-24	8.0	10.0	25.0	12.0	0.5	0.5	6.0	12.0	40.0	5.0	0.6	0.6	8.0	6.0	37.0	8.0	0.4	0.4	5.0	10.0	40.0	22.0	0.8	0.8
27-Mar-24	7.0	9.0	43.0	18.0	0.5	0.5	6.0	12.0	38.0	6.0	0.6	0.6	8.0	7.0	31.0	8.0	0.4	0.4	7.0	10.0	41.0	52.0	0.5	0.5
28-Mar-24	6.0	9.0	40.0	17.0	0.5	0.5	6.0	13.0	40.0	6.0	0.6	0.6	9.0	10.0	29.0	4.0	0.3	0.3	5.0	10.0	37.0	21.0	0.6	0.6
29-Mar-24	7.0	11.0	62.0	21.0	0.5	0.5	6.0	14.0	46.0	9.0	0.4	0.4	10.0	11.0	20.0	8.0	0.4	0.4	5.0	10.0	48.0	32.0	0.5	0.5
30-Mar-24	6.0	11.0	48.0	10.0	0.6	0.6	7.0	14.0	41.0	5.0	0.6	0.6	11.0	11.0	20.0	7.0	0.4	0.4	6.0	7.0	52.0	29.0	0.4	0.4
31-Mar-24	6.0	10.0	82.0	34.0	0.6	0.6	7.0	13.0	29.0	7.0	0.5	0.5	10.0	11.0	28.0	8.0	0.4	0.4	7.0	10.0	49.0	26.0	0.9	0.9

\* Due to Analyzer problem data not received.



For Coastal Energen Pvt. Limited

MK Parameswaran  
Station Director



**COASTAL ENERGEN PRIVATE LIMITED**

2 X 600 MW MUTIARA THERMAL POWER PLANT

**CONTINUOUS AMBIENT AIR QUALITY MONITORING REPORT**

Daily Average from 01.04.2024 to 30.04.2024

Date	STATION-1 (Near Main Office)							STATION-2 (Near CHP)							STATION-3 (Near Ash Pond)							STATION-4 (Sea Water Pump House)								
	SO2		NOX		PM10		PM2.5		CO		SO2		NOX		PM10		PM2.5		CO		SO2		NOX		PM10		PM2.5		CO	
	µg/m <sup>3</sup>	80	µg/m <sup>3</sup>	80	µg/m <sup>3</sup>	100	µg/m <sup>3</sup>	60	mg/m <sup>3</sup>	02	µg/m <sup>3</sup>	80	µg/m <sup>3</sup>	80	µg/m <sup>3</sup>	100	µg/m <sup>3</sup>	60	mg/m <sup>3</sup>	02	µg/m <sup>3</sup>	80	µg/m <sup>3</sup>	80	µg/m <sup>3</sup>	100	µg/m <sup>3</sup>	60	mg/m <sup>3</sup>	02
1-Apr-24	6.0	10.0	11.0	75.0	24.0	0.7	7.0	13.0	36.0	6.0	0.8	10.0	11.0	11.0	41.0	10.0	0.4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	32.0	0.7	
2-Apr-24	6.0	10.0	10.0	88.0	26.0	0.7	8.0	14.0	55.0	9.0	0.6	10.0	11.0	11.0	29.0	9.0	0.3	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	35.0	0.6		
3-Apr-24	6.0	10.0	10.0	84.0	21.0	0.7	8.0	14.0	46.0	7.0	0.7	10.0	10.0	10.0	36.0	9.0	0.4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	36.0	0.7		
4-Apr-24	5.0	11.0	11.0	79.0	33.0	0.8	8.0	13.0	62.0	8.0	0.6	10.0	10.0	10.0	29.0	9.0	0.4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	35.0	0.5		
5-Apr-24	5.0	10.0	10.0	85.0	31.0	0.7	11.0	12.0	60.0	7.0	0.6	10.0	10.0	10.0	29.0	10.0	0.4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	31.0	0.8		
6-Apr-24	6.0	11.0	10.0	109.3	16.0	0.8	11.0	13.0	56.0	8.0	0.7	10.0	10.0	10.0	36.0	13.0	0.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	35.0	0.7		
7-Apr-24	6.0	9.0	9.0	98.0	28.0	0.8	13.0	13.0	74.0	9.0	0.8	11.0	10.0	10.0	39.0	12.0	0.4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	41.0	0.8		
8-Apr-24	6.0	7.0	7.0	87.0	19.0	0.8	12.0	11.0	52.0	7.0	0.4	10.0	10.0	10.0	41.0	9.0	0.4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	37.0	0.7		
9-Apr-24	6.0	7.0	7.0	95.0	25.0	0.7	10.0	11.0	43.0	11.0	0.2	10.0	10.0	10.0	31.0	13.0	0.3	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	53.0	0.7		
10-Apr-24	5.0	8.0	8.0	67.0	13.0	0.8	8.0	9.0	44.0	5.0	0.6	8.0	7.0	7.0	19.0	6.0	0.3	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	37.0	0.3		
11-Apr-24	6.0	9.0	9.0	56.0	21.0	0.7	9.0	10.0	31.0	7.0	0.4	9.0	9.0	9.0	24.0	9.0	0.3	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	25.0	0.2		
12-Apr-24	6.0	7.0	7.0	94.0	34.0	0.9	9.0	12.0	49.0	8.0	0.3	11.0	11.0	11.0	20.0	8.0	0.3	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	38.0	0.4		
13-Apr-24	7.0	7.0	7.0	64.0	26.0	0.9	8.0	12.0	36.0	6.0	0.4	10.0	10.0	10.0	16.0	7.0	0.3	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	36.0	0.3		
14-Apr-24	6.0	8.0	8.0	53.0	22.0	0.8	8.0	13.0	30.0	5.0	0.3	11.0	11.0	11.0	19.0	5.0	0.4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	86.0	0.4		
15-Apr-24	6.0	7.0	7.0	86.0	21.0	0.6	9.0	14.0	49.0	4.0	0.4	11.0	11.0	11.0	24.0	7.0	0.3	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	22.0	0.3		
16-Apr-24	4.0	6.0	6.0	74.0	30.0	0.5	10.0	13.0	61.0	6.0	0.2	11.0	11.0	11.0	20.0	9.0	0.3	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	30.0	0.3		
17-Apr-24	6.0	5.0	5.0	72.0	32.0	0.4	9.0	14.0	71.0	11.0	0.2	11.0	11.0	11.0	34.0	11.0	0.4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	47.0	0.4		
18-Apr-24	6.0	5.0	5.0	53.0	34.0	0.5	9.0	15.0	66.0	12.0	0.2	11.0	11.0	11.0	33.0	12.0	0.4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	48.0	0.8		
19-Apr-24	6.0	5.0	5.0	52.0	43.0	0.5	9.0	15.0	64.0	12.0	0.2	11.0	11.0	11.0	34.0	13.0	0.4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	47.0	0.4		
20-Apr-24	4.0	5.0	5.0	61.0	45.0	0.6	9.0	16.0	81.0	11.0	0.2	11.0	11.0	11.0	35.0	14.0	0.3	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	69.0	0.3		
21-Apr-24	5.0	5.0	5.0	58.0	41.0	0.5	9.0	14.0	60.0	11.0	0.2	11.0	11.0	11.0	25.0	10.0	0.4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	42.0	0.4		
22-Apr-24	6.0	5.0	5.0	63.0	12.0	0.5	9.0	14.0	41.0	12.0	0.1	11.0	11.0	11.0	34.0	10.0	0.4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	47.0	0.4		
23-Apr-24	6.0	5.0	5.0	59.0	38.0	0.5	8.0	14.0	62.0	9.0	0.4	8.0	8.0	8.0	32.0	12.0	0.4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	43.0	0.4		
24-Apr-24	5.0	6.0	6.0	44.0	26.0	0.4	8.0	15.0	69.0	10.0	0.4	5.0	5.0	5.0	51.0	16.0	0.4	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	44.0	0.6		
25-Apr-24	7.0	8.0	8.0	97.0	32.0	0.5	7.0	14.0	54.0	9.0	0.4	5.0	5.0	5.0	27.0	8.0	0.5	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	23.0	0.6		
26-Apr-24	7.0	8.0	8.0	73.0	30.0	0.5	6.0	14.0	55.0	8.0	0.3	5.0	5.0	5.0	28.0	8.0	0.3	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	32.0	0.8		
27-Apr-24	7.0	8.0	8.0	88.0	26.0	0.5	7.0	13.0	48.0	7.0	0.2	5.0	5.0	5.0	28.0	8.0	0.3	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	37.0	0.8		
28-Apr-24	7.0	8.0	8.0	85.0	28.0	0.4	6.0	17.0	37.0	7.0	0.2	5.0	5.0	5.0	26.0	7.0	0.4	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	29.0	0.8		

\* Due to Analyzer problem data not received.

For Coastal Energen Pvt. Limited

MK Parameswaran  
Station Director



# COASTAL ENERGEN PRIVATE LIMITED

2 X 600 MW MUTIARA THERMAL POWER PLANT

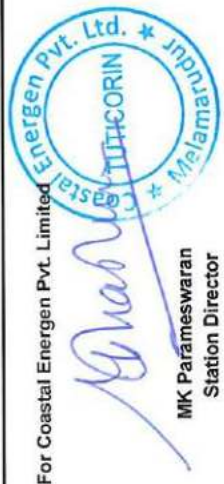
## CONTINUOUS AMBIENT AIR QUALITY MONITORING REPORT

Daily Average from 01.05.2024 to 31.05.2024

Date	STATION-1 (Near Main Office)						STATION-2 (Near CHP)						STATION-3 (Near Ash Pond)						STATION-4 (Sea Water Pump House)								
	SO2		NOX		CO		PM2.5		PM10		SO2		NOX		CO		PM2.5		PM10		SO2		NOX		CO		
	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	
1-May-24	7.1	7.5	81.0	28.0	0.5	6.1	16.7	70.3	6.5	0.3	4.7	7.8	28.3	7.8	0.2	5.7	9.7	60.3	26.4	0.8	80	80	80	80	80	80	80
2-May-24	7.1	7.5	79.0	43.0	0.5	6.1	15.8	83.4	6.5	0.4	5.2	10.0	36.1	13.4	0.3	5.5	9.7	77.7	52.0	0.9	80	80	80	80	80	80	80
3-May-24	7.1	7.8	69.0	33.0	0.5	7.0	17.5	87.0	9.4	0.4	4.9	10.8	42.9	14.2	0.3	5.5	9.7	94.8	19.5	0.9	80	80	80	80	80	80	80
4-May-24	7.2	7.9	84.0	32.0	0.5	8.6	17.5	91.0	10.6	0.4	4.9	10.8	42.9	14.2	0.3	5.5	9.7	91.0	50.4	0.9	80	80	80	80	80	80	80
5-May-24	7.1	7.9	87.4	23.0	0.5	12.8	14.6	93.7	7.5	0.3	4.7	7.9	52.7	13.5	0.3	4.3	9.7	74.3	33.6	0.9	80	80	80	80	80	80	80
6-May-24	7.2	7.7	74.1	18.0	0.5	10.8	13.8	79.3	5.3	0.6	4.6	10.6	41.7	11.8	0.2	4.0	9.7	75.8	26.8	1.0	80	80	80	80	80	80	80
7-May-24	7.2	7.7	83.5	13.0	0.5	11.0	14.6	90.7	5.6	0.8	4.7	8.5	51.8	14.8	0.2	4.2	9.7	91.7	31.3	1.0	80	80	80	80	80	80	80
8-May-24	7.3	7.3	91.4	25.0	0.5	11.6	15.8	85.0	8.8	0.7	4.9	9.9	60.4	15.8	0.3	3.9	9.7	86.2	35.1	1.0	80	80	80	80	80	80	80
9-May-24	7.2	7.3	82.0	31.0	0.5	10.5	13.5	42.3	10.3	0.7	4.4	9.3	44.1	13.4	0.3	3.1	9.7	65.0	40.8	0.9	80	80	80	80	80	80	80
10-May-24	7.2	7.1	69.3	22.0	0.5	11.1	12.1	54.4	7.8	0.6	4.4	12.4	28.9	9.1	0.2	4.9	9.7	53.0	29.3	0.9	80	80	80	80	80	80	80
11-May-24	7.3	7.0	84.4	16.0	0.5	8.1	13.1	14.1	6.0	0.6	4.7	13.0	29.3	7.6	0.3	4.2	9.7	42.3	22.0	0.9	80	80	80	80	80	80	80
12-May-24	7.1	7.7	91.8	16.0	0.5	5.8	14.4	44.2	4.3	0.6	4.8	11.8	36.0	8.2	0.4	3.8	9.7	43.1	23.1	0.9	80	80	80	80	80	80	80
13-May-24	7.3	7.0	91.0	15.0	0.5	6.1	18.1	27.2	2.7	0.8	4.7	12.9	13.1	8.0	0.2	4.4	9.7	31.2	18.0	0.6	80	80	80	80	80	80	80
14-May-24	7.2	7.3	82.3	11.0	0.5	6.2	18.4	29.3	4.8	0.7	4.9	11.2	16.6	10.0	0.2	5.5	8.5	26.3	11.3	0.9	80	80	80	80	80	80	80
15-May-24	7.2	7.0	84.0	20.0	0.5	6.2	17.8	41.2	9.3	0.6	4.9	13.4	19.2	6.7	0.2	6.3	9.7	49.4	42.0	0.6	80	80	80	80	80	80	80
16-May-24	7.3	6.6	73.6	28.0	0.6	6.1	17.8	41.2	9.3	0.6	4.9	13.4	19.2	6.7	0.2	6.3	9.7	49.4	42.0	0.6	80	80	80	80	80	80	80
17-May-24	7.0	6.7	49.3	21.0	0.6	6.3	18.0	39.5	7.5	0.5	5.2	13.0	18.1	6.9	0.3	3.9	9.3	48.6	18.6	0.7	80	80	80	80	80	80	80
18-May-24	7.1	7.0	59.9	26.0	0.6	6.4	18.1	52.1	9.0	0.5	4.8	12.5	22.8	7.8	0.3	5.8	9.7	51.7	36.4	0.7	80	80	80	80	80	80	80
19-May-24	7.0	6.9	49.6	19.0	0.6	6.5	18.5	37.3	7.9	0.7	5.4	16.2	19.8	5.9	0.3	3.3	9.7	48.3	40.7	0.8	80	80	80	80	80	80	80
20-May-24	7.2	8.0	44.1	22.0	0.4	6.4	16.2	31.0	8.0	0.6	5.6	13.4	32.5	9.0	0.3	5.6	9.6	44.0	16.5	0.6	80	80	80	80	80	80	80
21-May-24	7.1	6.8	49.7	16.0	0.5	6.3	14.7	34.7	4.9	0.5	5.5	13.1	18.9	5.8	0.3	5.8	9.7	48.8	28.4	0.7	80	80	80	80	80	80	80
22-May-24	7.1	6.5	32.1	13.0	0.4	6.6	17.7	29.8	8.0	0.5	5.6	12.6	15.3	7.0	0.3	6.1	9.7	41.4	23.1	0.7	80	80	80	80	80	80	80
23-May-24	6.4	10.4	43.8	9.0	0.4	6.9	18.6	21.9	6.0	0.4	5.7	13.5	14.0	9.0	0.3	4.8	9.7	33.8	28.8	0.8	80	80	80	80	80	80	80
24-May-24	6.2	11.2	43.7	11.0	0.3	8.1	18.7	28.6	3.5	0.4	5.7	14.3	16.4	8.0	0.3	5.3	9.7	37.5	36.0	0.7	80	80	80	80	80	80	80
25-May-24	6.0	11.8	26.5	11.4	0.5	8.0	12.3	33.7	6.0	0.4	5.4	16.4	17.1	9.0	0.3	5.2	9.7	45.7	10.8	0.9	80	80	80	80	80	80	80
26-May-24	6.1	10.4	30.1	14.4	0.4	7.9	12.9	39.0	3.7	0.5	5.4	13.4	26.2	5.6	0.3	5.0	9.7	47.6	20.0	0.7	80	80	80	80	80	80	80
27-May-24	6.2	11.7	35.1	14.6	0.4	7.6	15.2	36.8	4.0	0.5	5.0	12.6	22.0	6.9	0.3	3.9	9.1	46.6	10.7	0.8	80	80	80	80	80	80	80
28-May-24	6.1	10.7	25.1	8.5	0.4	7.4	11.2	28.8	8.0	0.4	4.9	13.2	18.5	4.0	0.3	3.1	9.7	27.1	9.0	0.4	80	80	80	80	80	80	80
29-May-24	6.3	10.7	11.3	12.0	0.3	7.0	10.4	21.2	4.0	0.5	5.5	14.8	14.2	10.0	0.3	5.7	9.7	36.8	7.6	0.7	80	80	80	80	80	80	80
30-May-24	6.4	9.1	23.5	8.0	0.4	7.2	12.3	27.0	11.0	0.7	5.4	16.6	24.0	8.0	0.4	3.6	9.7	43.3	8.9	0.7	80	80	80	80	80	80	80
31-May-24	6.2	8.7	46.0	11.9	0.4	7.1	11.2	56.3	9.0	0.7	5.6	15.9	22.6	11.0	0.4	4.6	9.7	57.9	16.6	0.8	80	80	80	80	80	80	80

Remarks: \* Nil

For Coastal Energen Pvt. Limited



MK Parameswaran  
Station Director



**COASTAL ENERGEN PRIVATE LIMITED**

2 X 600 MW MUTIARA THERMAL POWER PLANT

**CONTINUOUS AMBIENT AIR QUALITY MONITORING REPORT**

Daily Average from 01.06.2024 to 30.06.2024

Date	STATION-1 (Near Main Office)						STATION-2 (Near CHP)						STATION-3 (Near Ash Pond)						STATION-4 (Sea Water Pump House)											
	SO2		NOX		PM10		PM2.5		CO		SO2		NOX		PM10		PM2.5		CO		SO2		NOX		PM10		PM2.5		CO	
	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	mg/m <sup>3</sup>	mg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	µg/m <sup>3</sup>	mg/m <sup>3</sup>
1-Jun-24	6.3	9.1	57.0	16.0	0.4	7.0	9.3	45.0	4.0	0.6	5.8	16.5	29.0	8.0	0.4	6.2	9.7	45.0	19.0	0.8	6.2	9.7	45.0	19.0	0.8	6.2	9.7	45.0	19.0	0.8
2-Jun-24	6.3	9.1	60.0	20.0	0.5	7.0	9.2	46.0	5.0	0.6	5.7	16.5	24.0	8.0	0.4	6.2	9.7	51.0	36.0	0.9	6.2	9.7	51.0	36.0	0.9	6.2	9.7	51.0	36.0	0.9
3-Jun-24	6.3	9.1	87.0	21.0	0.5	7.2	15.3	48.0	8.0	0.5	5.3	16.6	23.0	7.0	0.4	6.6	9.6	68.0	32.0	0.9	6.6	9.6	68.0	32.0	0.9	6.6	9.6	68.0	32.0	0.9
4-Jun-24	6.4	9.0	89.0	24.0	0.5	7.5	16.2	70.0	4.0	0.6	5.9	16.5	35.0	10.0	0.4	6.9	9.6	75.0	40.0	0.9	6.9	9.6	75.0	40.0	0.9	6.9	9.6	75.0	40.0	0.9
5-Jun-24	6.4	9.1	98.0	32.0	0.5	7.8	17.2	66.0	5.0	0.4	6.0	16.6	28.0	8.0	0.4	7.4	9.7	88.0	31.0	1.0	7.4	9.7	88.0	31.0	1.0	7.4	9.7	88.0	31.0	1.0
6-Jun-24	6.3	9.1	90.0	25.0	0.5	8.0	17.9	47.0	5.0	0.5	5.7	16.6	18.0	5.0	0.4	7.4	9.7	75.0	40.0	0.9	7.4	9.7	75.0	40.0	0.9	7.4	9.7	75.0	40.0	0.9
7-Jun-24	5.7	9.1	66.0	15.0	0.5	8.3	18.7	33.0	2.0	0.6	5.5	16.6	13.0	3.0	0.4	7.2	9.7	56.0	23.0	1.0	7.2	9.7	56.0	23.0	1.0	7.2	9.7	56.0	23.0	1.0
8-Jun-24	5.7	9.1	69.0	15.0	0.5	7.7	15.0	33.0	4.0	0.4	5.3	16.6	15.0	4.0	0.4	7.2	9.7	47.0	21.0	1.0	7.2	9.7	47.0	21.0	1.0	7.2	9.7	47.0	21.0	1.0
9-Jun-24	6.0	9.1	43.0	13.0	0.5	7.1	8.8	34.0	3.0	0.3	5.2	16.6	21.0	6.0	0.4	7.2	9.7	55.0	21.0	1.0	7.2	9.7	55.0	21.0	1.0	7.2	9.7	55.0	21.0	1.0
10-Jun-24	5.9	9.1	47.0	13.0	0.5	7.0	7.4	41.0	3.0	0.3	5.0	16.6	26.0	6.0	0.4	7.4	9.7	58.0	20.0	1.0	7.4	9.7	58.0	20.0	1.0	7.4	9.7	58.0	20.0	1.0
11-Jun-24	6.0	8.8	31.0	8.0	0.5	6.9	7.2	32.0	2.0	0.2	4.9	16.6	22.0	5.0	0.4	7.3	9.7	43.0	14.0	1.0	7.3	9.7	43.0	14.0	1.0	7.3	9.7	43.0	14.0	1.0
12-Jun-24	5.8	8.2	37.0	10.0	0.5	7.2	5.5	22.0	4.0	0.3	4.7	16.6	20.0	4.0	0.4	7.3	9.6	38.0	12.0	1.1	7.3	9.6	38.0	12.0	1.1	7.3	9.6	38.0	12.0	1.1
13-Jun-24	5.7	8.2	47.0	11.0	0.5	7.3	5.8	37.0	3.0	0.3	4.8	14.5	8.0	6.0	0.4	7.3	9.7	64.0	19.0	1.1	7.3	9.7	64.0	19.0	1.1	7.3	9.7	64.0	19.0	1.1
14-Jun-24	5.6	8.2	47.0	9.0	0.5	7.0	5.3	36.0	3.0	0.3	5.1	12.8	23.0	6.0	0.4	7.2	9.7	71.0	6.0	1.1	7.2	9.7	71.0	6.0	1.1	7.2	9.7	71.0	6.0	1.1
15-Jun-24	5.5	5.5	45.0	14.0	0.5	6.9	7.6	49.0	3.0	0.3	5.4	12.8	26.0	7.0	0.4	7.2	9.7	69.0	16.0	0.8	7.2	9.7	69.0	16.0	0.8	7.2	9.7	69.0	16.0	0.8
16-Jun-24	5.7	8.2	44.0	14.0	0.5	6.9	8.0	54.0	3.0	0.3	5.4	12.8	31.0	8.0	0.5	7.2	9.7	67.0	18.0	0.8	7.2	9.7	67.0	18.0	0.8	7.2	9.7	67.0	18.0	0.8
17-Jun-24	6.0	8.2	87.0	22.0	0.5	6.9	7.7	71.0	5.0	0.3	5.4	12.8	40.0	8.0	0.5	7.2	9.6	69.0	22.0	0.8	7.2	9.6	69.0	22.0	0.8	7.2	9.6	69.0	22.0	0.8
18-Jun-24	6.0	7.7	53.0	16.0	0.5	7.1	11.4	79.0	3.0	0.3	5.6	12.8	30.0	7.0	0.5	7.4	9.6	66.0	20.0	0.8	7.4	9.6	66.0	20.0	0.8	7.4	9.6	66.0	20.0	0.8
19-Jun-24	6.3	8.2	61.0	14.0	0.6	7.1	14.6	48.0	3.0	0.3	5.8	12.8	18.0	4.0	0.5	7.4	9.6	72.0	20.0	0.9	7.4	9.6	72.0	20.0	0.9	7.4	9.6	72.0	20.0	0.9
20-Jun-24	6.4	8.2	36.0	12.0	0.6	7.1	13.3	34.0	2.0	0.3	5.6	12.8	24.0	4.0	0.4	7.1	9.6	56.0	15.0	0.9	7.1	9.6	56.0	15.0	0.9	7.1	9.6	56.0	15.0	0.9
21-Jun-24	6.4	8.1	37.0	12.0	0.5	7.2	9.2	35.0	2.0	0.3	5.4	12.8	27.0	4.0	0.4	7.3	9.6	73.0	16.0	0.9	7.3	9.6	73.0	16.0	0.9	7.3	9.6	73.0	16.0	0.9
22-Jun-24	6.3	8.1	23.0	8.0	0.5	7.4	5.5	39.0	2.0	0.3	5.4	12.8	27.0	4.0	0.4	7.3	9.6	56.0	14.0	0.9	7.3	9.6	56.0	14.0	0.9	7.3	9.6	56.0	14.0	0.9
23-Jun-24	6.2	8.0	16.0	6.0	0.5	10.5	7.6	29.0	4.0	0.4	5.1	12.8	22.0	2.0	0.4	7.5	9.6	39.0	7.0	1.0	7.5	9.6	39.0	7.0	1.0	7.5	9.6	39.0	7.0	1.0
24-Jun-24	6.3	7.9	26.0	8.0	0.5	10.3	7.0	32.0	6.0	0.4	3.6	11.7	27.0	5.0	0.4	8.0	9.7	40.0	11.0	1.0	8.0	9.7	40.0	11.0	1.0	8.0	9.7	40.0	11.0	1.0
25-Jun-24	6.3	8.1	21.0	8.0	0.5	10.3	6.8	29.0	4.0	0.4	4.3	10.7	21.0	4.0	0.5	7.9	9.6	61.0	12.0	1.0	7.9	9.6	61.0	12.0	1.0	7.9	9.6	61.0	12.0	1.0
26-Jun-24	6.6	8.0	18.0	0.0	0.5	10.4	6.7	22.0	2.0	0.4	6.2	10.7	11.0	5.0	0.5	7.8	9.6	40.0	9.0	0.9	7.8	9.6	40.0	9.0	0.9	7.8	9.6	40.0	9.0	0.9
27-Jun-24	6.3	8.0	22.0	6.0	0.5	10.6	6.7	25.0	2.0	0.4	3.9	10.7	10.0	4.0	0.4	7.7	7.3	62.0	12.0	0.8	7.7	7.3	62.0	12.0	0.8	7.7	7.3	62.0	12.0	0.8
28-Jun-24	6.4	8.0	39.0	12.0	0.5	10.8	8.8	33.0	6.0	0.4	6.1	10.7	18.0	4.0	0.5	6.1	8.8	82.0	19.0	1.3	6.1	8.8	82.0	19.0	1.3	6.1	8.8	82.0	19.0	1.3
29-Jun-24	4.2	6.3	36.0	8.0	0.5	10.2	16.4	38.0	3.0	0.4	6.4	10.7	5.0	6.0	0.5	5.6	6.9	69.0	20.0	1.3	5.6	6.9	69.0	20.0	1.3	5.6	6.9	69.0	20.0	1.3
30-Jun-24	6.4	8.2	54.0	15.0	0.6	10.2	19.1	61.0	3.0	0.4	6.3	10.7	24.0	8.0	0.5	5.7	9.6	61.0	16.0	1.2	5.7	9.6	61.0	16.0	1.2	5.7	9.6	61.0	16.0	1.2

Nil

For Coastal Energen Pvt. Limited



*MK Parameswaran*  
MK Parameswaran  
Station Director





**COASTAL ENERGEN PRIVATE LIMITED**  
 2 X 600 MW MUTIARA THERMAL POWER PLANT  
**CONTINUOUS STACK EMISSION MONITORING REPORT**  
 Daily Average from 01.01.2024 to 30.06.2024

UNIT-1																			
Jan-24			Feb-24			Mar-24			Apr-24			May-24			Jun-24				
Date	SPM 50 mg/m <sup>3</sup>	SO <sub>2</sub> 200 mg/m <sup>3</sup>	NOX 450 mg/m <sup>3</sup>	Date	SPM 50 mg/m <sup>3</sup>	SO <sub>2</sub> 200 mg/m <sup>3</sup>	NOX 450 mg/m <sup>3</sup>	Date	SPM 50 mg/m <sup>3</sup>	SO <sub>2</sub> 200 mg/m <sup>3</sup>	NOX 450 mg/m <sup>3</sup>	Date	SPM 50 mg/m <sup>3</sup>	SO <sub>2</sub> 200 mg/m <sup>3</sup>	NOX 450 mg/m <sup>3</sup>	Date	SPM 50 mg/m <sup>3</sup>	SO <sub>2</sub> 200 mg/m <sup>3</sup>	NOX 450 mg/m <sup>3</sup>
1-Jan-24	36	149	162	1-Feb-24	47	174	127	1-Mar-24	49	172	142	1-May-24	39	175	239	1-Jun-24	48	185	136
2-Jan-24	25	135	154	2-Feb-24	48	173	125	2-Mar-24	47	181	158	2-May-24	44	153	225	2-Jun-24	42	171	136
3-Jan-24	31	148	154	3-Feb-24	47	159	158	3-Mar-24	45	145	124	3-May-24	36	167	200	3-Jun-24	46	159	128
4-Jan-24	26	145	202	4-Feb-24	41	188	159	4-Mar-24	45	187	102	4-May-24	39	184	197	Unit not in operation			
5-Jan-24	25	151	164	5-Feb-24	43	178	149	5-Mar-24	45	134	96	5-May-24	34	160	197	Unit not in operation			
6-Jan-24	28	151	187	6-Feb-24	29	147	156	6-Mar-24	43	148	117	6-May-24	36	197	217	Unit not in operation			
7-Jan-24	31	164	163	7-Feb-24	31	162	152	7-Mar-24	41	127	161	7-May-24	37	176	201	Unit not in operation			
8-Jan-24	33	145	169	8-Feb-24	36	164	166	8-Mar-24	41	191	158	8-May-24	43	177	156	Unit not in operation			
9-Jan-24	40	159	188	9-Feb-24	39	158	160	9-Mar-24	41	173	149	9-May-24	36	136	108	Unit not in operation			
10-Jan-24	40	136	179	10-Feb-24	41	133	146	10-Mar-24	41	184	149	10-May-24	37	189	128	Unit not in operation			
11-Jan-24	39	156	173	11-Feb-24	45	154	151	11-Mar-24	41	144	142	11-May-24	*	208	121	Unit not in operation			
12-Jan-24	41	104	179	12-Feb-24	45	160	151	12-Mar-24	35	166	125	12-May-24	*	194	134	Unit not in operation			
13-Jan-24	38	149	159	13-Feb-24	36	137	158	13-Mar-24	39	178	124	13-May-24	38	183	124	Unit not in operation			
14-Jan-24	48	166	134	14-Feb-24	46	170	110	14-Mar-24	41	128	117	14-May-24	35	189	126	Unit not in operation			
15-Jan-24	Unit not in operation			15-Feb-24	47	201	129	15-Mar-24	45	184	159	15-May-24	37	208	145	Unit not in operation			
16-Jan-24	36	#	#	16-Feb-24	47	136	138	16-Mar-24	43	190	170	16-May-24	44	215	150	Unit not in operation			
17-Jan-24	37	#	#	17-Feb-24	43	158	140	17-Mar-24	35	142	170	17-May-24	41	189	148	Unit not in operation			
18-Jan-24	42	147	162	18-Feb-24	47	129	132	18-Mar-24	34	174	139	18-May-24	41	201	145	Unit not in operation			
19-Jan-24	41	162	136	19-Feb-24	47	118	141	19-Mar-24	36	158	106	19-May-24	46	195	144	Unit not in operation			
20-Jan-24	40	143	95	20-Feb-24	39	105	111	20-Mar-24	41	169	103	20-May-24	41	202	155	Unit not in operation			
21-Jan-24	29	134	119	21-Feb-24	45	154	100	21-Mar-24	40	193	205	21-May-24	45	217	130	Unit not in operation			
22-Jan-24	36	162	189	22-Feb-24	45	177	166	22-Mar-24	39	191	232	22-May-24	44	210	121	Unit not in operation			
23-Jan-24	38	141	176	23-Feb-24	34	151	175	23-Mar-24	41	186	201	23-May-24	44	188	125	Unit not in operation			
24-Jan-24	35	136	121	24-Feb-24	39	139	115	24-Mar-24	41	168	225	24-May-24	42	207	146	Unit not in operation			
25-Jan-24	33	142	166	25-Feb-24	38	112	78	25-Mar-24	40	166	121	25-May-24	42	162	137	Unit not in operation			
26-Jan-24	41	163	126	26-Feb-24	43	111	71	26-Mar-24	42	165	235	26-May-24	41	89	121	Unit not in operation			
27-Jan-24	45	151	145	27-Feb-24	36	141	144	27-Mar-24	40	186	226	27-May-24	41	192	144	Unit not in operation			
28-Jan-24	47	146	142	28-Feb-24	41	172	148	28-Mar-24	39	146	193	28-May-24	41	192	144	Unit not in operation			
29-Jan-24	44	128	145	29-Feb-24	46	143	137	29-Mar-24	36	186	214	29-May-24	47	177	139	Unit not in operation			
30-Jan-24	43	121	125	30-Feb-24	44	159	126	30-Mar-24	46	143	137	30-May-24	47	177	139	Unit not in operation			
31-Jan-24	43	121	125	31-Mar-24	44	159	126	31-Mar-24	44	159	126	31-May-24	44	199	133	Unit not in operation			

For Coastal Energen Pvt. Limited



*MK Parameswaran*  
 MK Parameswaran  
 Station Director





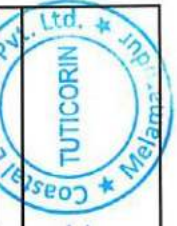
**COASTAL ENERGEN PRIVATE LIMITED**

2 X 600 MW MUTIARA THERMAL POWER PLANT

METEOROLOGICAL STATION REPORT

Daily Average from 01.01.2024 to 31.01.2024

Date	Ambient Temperature (°C)			Barometric Pressure (m.bar)			Predominant Wind direction Blowing from	Wind Speed (Kmh/Hr)			Relative Humidity (%)			Rain Fall (mm)
	Min	Max	Avg	Min	Max	Avg		Min	Max	Avg	Min	Max	Avg	
1-Jan-24	22.8	30.4	26.3	1040	1043	1042	West & South East	2.44	19.42	8.79	52.7	95.4	82.2	0
2-Jan-24	24	30.8	26.5	1040	1042	1041	East & North East	2.17	18.33	8.18	65.3	92.3	82.3	0
3-Jan-24	22.7	31.4	26.4	1039	1042	1041	East & North East	1.69	18.75	7.26	63.8	96.3	81.7	0
4-Jan-24	23.5	32.0	27	1039	1042	1041	East & North West	1.23	18.07	6.52	60.6	95.2	80.9	0
5-Jan-24	23.4	31.9	26.6	1039	1042	1041	North West & East	1.23	15.2	5.85	64.9	98.5	85.9	0
6-Jan-24	24	30.9	26.7	1039	1042	1041	East & South East	1.23	15.37	5.32	67.4	96.4	85.4	0
7-Jan-24	24.3	30.8	26.8	1039	1042	1041	East & South East	1.23	21.18	8.17	66.3	92.3	81.9	0
8-Jan-24	23.9	31.5	26.3	1040	1042	1041	East & South East	1.23	15.47	7.66	65.5	94.7	87.1	0
9-Jan-24	24.5	27.1	25.4	1040	1043	1041	South & South East	2.17	21.21	9.28	85.8	97.2	91.5	0
10-Jan-24	24	29.0	26	1039	1043	1041	East & South East	3.55	22.24	11.77	73.1	90.2	83.4	0
11-Jan-24	24.1	29.8	26.3	1040	1042	1041	East & South East	3.5	27.53	11.79	66.9	89	78.8	0
12-Jan-24	23.8	30.6	26.3	1040	1043	1041	East & South East	3.11	24.2	10.55	61.9	86.2	77.7	0
13-Jan-24	21.3	31.8	25	1041	1043	1042	East & North East	1.23	19.75	7.42	57.5	66.7	80.9	0
14-Jan-24	22.2	31.4	26.1	1040	1043	1042	East & North East	1.74	17.83	7.22	57.9	99	83.8	0
15-Jan-24	17.3	31.3	25.3	900	1043	1041	East & North West	1.23	22.83	6.66	52.9	68.9	80.5	0
16-Jan-24	20.3	30.8	24.6	1039	1043	1041	North West & East	1.23	19.86	6.33	53.2	96.2	79.8	0
17-Jan-24	18.5	30.7	24.1	1039	1042	1040	North West & East	1.23	17.76	5.22	56.2	99.5	84.2	0
18-Jan-24	21.2	31.3	26.1	1039	1042	1041	East & North West	1.23	15.67	6.45	63	59.4	84.5	0
19-Jan-24	24.1	29.3	26.4	1039	1043	1041	East & North West	2.22	16.2	6.77	69.2	94.5	84.6	0
20-Jan-24	24	28.8	25.8	1040	1043	1041	North West & East	1.23	20.6	6.87	67.3	87.9	83.1	0
21-Jan-24	24.1	31.7	27.0	1040	1043	1041	East & North West	1.23	18.1	6.01	66.3	94.6	82.6	0
22-Jan-24	22.6	32.3	26.7	1040	1044	1042	East & North East	1.34	18.76	7.47	56.5	99.4	82.9	0
23-Jan-24	21.3	31	25.5	1040	1044	1042	East & North West	1.23	18.16	6.67	60.8	99.5	82.0	0
24-Jan-24	21.3	31.6	25.5	1040	1044	1042	North West & East	1.23	17.62	5.5	56.5	98.9	80.7	0
25-Jan-24	20.1	31	25.3	1041	1044	1042	East & North West	1.23	19.13	5.74	57.7	99.1	80.9	0
26-Jan-24	19.7	31.4	25.5	1041	1045	1043	East & North West	1.23	19.73	7.65	51.8	96.2	76.7	0
27-Jan-24	20.5	32.1	25.8	1041	1045	1043	East & North West	1.23	19.64	8.1	46.4	97.7	76.2	0
28-Jan-24	21.3	31.7	26	1041	1045	1043	East & West	2.07	22.1	7.93	56.3	97	79.1	0
29-Jan-24	21.9	31.8	26.2	1040	1044	1042	East & West	3.36	26.85	9.66	52.3	91.7	76.9	0
30-Jan-24	21.6	32.7	26.7	1040	1044	1042	East & South East	1.23	20.75	8.53	52.3	92	76.8	0
31-Jan-24	22.7	33.5	27.3	1040	1044	1042	East & South East	1.23	16.53	7.03	53.4	96.4	81.7	0
Total Rainfall for the month													0.0	mm.



For Coastal Energen Pvt. Limited  
  
 MK Parameswaran  
 Station Director



**COASTAL ENERGEN PRIVATE LIMITED**

2 X 600 MW MUTIARA THERMAL POWER PLANT

**METROLOGICAL STATION REPORT**

Daily Average from 01.02.2024 to 29.02.2024

Date	Ambient Temperature (°C)			Barometric Pressure (m.bar)			Predominant Wind direction Blowing from	Wind Speed (Km/Hr)			Relative Humidity (%)			Rain Fall (mm)
	Min	Max	Avg	Min	Max	Avg		Min	Max	Avg	Min	Max	Avg	
1-Feb-24	23.0	30.7	26.3	1041	1044	1042	West & South East	1.22	14.78	3.66	74.1	66.9	61.3	4
2-Feb-24	23.8	31.6	27.1	1040	1044	1042	East & North East	1.22	16.95	5.72	67.2	96.5	67.2	0
3-Feb-24	23.5	33	27.5	1040	1044	1042	East & North East	1.22	17.71	6.66	57.5	99.5	82.1	0
4-Feb-24	22.2	32.6	26.7	1041	1045	1043	East & North West	1.64	23.17	8.16	57.8	96.5	80.8	0
5-Feb-24	21.7	32	26.1	1042	1045	1043	North West & East	1.22	20.94	7.39	59.3	97.2	82.8	0
6-Feb-24	21.6	31.2	26.1	1041	1045	1043	East & South East	1.43	21.21	8.33	59.8	98.6	80.6	0
7-Feb-24	24.3	30.8	26.8	1039	1042	1041	East & South East	1.23	21.18	8.17	66.3	92.3	81.9	0
8-Feb-24	23.9	31.6	26.3	1040	1042	1041	East & South East	1.23	15.47	7.66	65.5	94.7	87.1	0
9-Feb-24	24.5	27.1	25.4	1040	1043	1041	South & South East	2.17	21.21	9.28	85.8	97.2	91.5	0
10-Feb-24	22.7	32.0	27.2	1041	1044	1043	East & South East	2.49	24.75	9.39	61.7	95	79.0	0
11-Feb-24	22.8	32.7	27.1	1041	1045	1043	East & South East	1.92	24.28	9.25	55.6	97.1	77.6	0
12-Feb-24	21.7	32.7	26.9	1041	1044	1043	East & South East	3	23.23	9.68	49.7	92.6	74.1	0
13-Feb-24	23.1	33.6	27.7	1040	1044	1042	East & North East	3.66	26.54	9.87	56.8	90.4	76.8	0
14-Feb-24	24.4	32.1	27.7	1040	1043	1042	East & North East	3.05	23.54	10.63	61.8	93.2	77.1	0
15-Feb-24	22.5	32.4	26.8	1040	1043	1042	East & North West	2.02	21.45	8.96	59.8	94.3	77.2	0
16-Feb-24	22.9	33.2	27.5	1040	1043	1042	North West & East	1.66	24.74	9.31	55.7	92	75.8	0
17-Feb-24	23.5	33.3	27.5	1039	1043	1041	North West & East	2.02	23.85	9.25	55.8	90.7	77.3	0
18-Feb-24	22.8	33.3	27.1	1039	1043	1041	East & North West	1.23	20.88	7.87	59.5	97.3	81.9	0
19-Feb-24	23.4	33	27.3	1039	1043	1041	East & North West	1.22	22.57	7.98	58.9	96.1	80.6	0
20-Feb-24	22.9	33.3	27	1039	1043	1041	North West & West	1.22	19.2	6.25	57.1	98.8	82.1	0
21-Feb-24	22.4	32.9	26.9	1039	1042	1041	East & North West	1.22	17.25	5.37	50.5	98.6	80.0	0
22-Feb-24	21.9	34	27.8	1039	1042	1040	East & North East	1.22	23.4	8.59	51.1	99.1	82.1	0
23-Feb-24	22.9	34.4	28.8	1038	1042	1040	East & North East	1.22	25.07	9.26	52.1	96	76.8	0
24-Feb-24	22.8	34.4	27.9	1038	1041	1040	North West & East	1.22	20.86	5.98	52.3	98.1	81.0	0
25-Feb-24	23.8	32.9	27.7	1038	1041	1039	East & North West	1.23	19.66	7.67	59.8	97	78.9	0
26-Feb-24	24.6	33.6	28.6	1038	1041	1040	East & North East	3.45	21.54	10.52	57.7	87.3	73.1	0
27-Feb-24	24.6	32.8	28.5	1039	1042	1040	North East & East	3.73	27.81	11.87	56.2	90.6	74.4	0
28-Feb-24	22.9	33.3	27.8	1038	1042	1040	East & North East	1.95	24.8	10.15	57.3	93.2	76.1	0
29-Feb-24	23.2	33.7	23.9	1038	1042	1039	East & North	1.23	24.84	6.88	57.8	97.2	64.9	0
<b>Remarks:</b>														<b>4.0 mm.</b>

For Coastal Energen Pvt. Limited



MK Parameswaran  
Station Director



**COASTAL ENERGEN PRIVATE LIMITED**

2 X 600 MW MUTIARA THERMAL POWER PLANT  
METEOROLOGICAL STATION REPORT  
Daily Average from 01.03.2024 to 31.03.2024

Date	Ambient Temperature (°C)			Barometric Pressure (m.bar)			Predominant Wind direction Blowing from	Wind Speed (Km/Hr)			Relative Humidity (%)			Rain Fall (mm)
	Min	Max	Avg	Min	Max	Avg		Min	Max	Avg	Min	Max	Avg	
1-Mar-24	23.6	33.1	25.1	900	1043	1032	North & East	1.23	20.72	6.74	26.5	97.1	73.0	0
2-Mar-24	23.4	34.7	17.3	900	1043	981	East & South East	1.24	18.59	5.02	26.4	93.7	39.4	0
3-Mar-24	23.6	33.4	15.4	900	1042	981	North & North West	1.23	20.16	3.72	33.4	98.2	47.3	0
4-Mar-24	23.5	32.8	15.6	900	1042	977	East & South East	1.23	19.67	4.78	41.6	94.7	40.9	0
5-Mar-24	23.4	32.8	20.1	900	1041	1006	East & South West	1.23	22.77	5.22	44.3	95.6	60.6	0
6-Mar-24	22	32.4	26.8	1039	1042	1041	East & South West	1.23	17.2	6.06	59.7	97.1	81.8	0
7-Mar-24	22.3	33.5	27	1038	1042	1040	East & West	1.23	20.57	5.1	59.1	99.4	82.9	0
8-Mar-24	21.8	34.3	27.6	1039	1042	1040	East & South East	1.23	20.67	6.01	49.7	96.5	80.2	0
9-Mar-24	23.2	34.6	28.8	1038	1042	1040	South East & West	1.22	21.56	7.29	53.1	98.3	77.0	0
10-Mar-24	22.8	34.6	27.3	900	1043	1034	East & South East	1.23	18.71	6.48	52.4	92.4	72.5	0
11-Mar-24	22.9	34.2	14	900	1043	987	East & North East	1.23	20.17	3.72	43.6	87.3	34.4	0
12-Mar-24	22.8	34.7	27.8	1040	1044	1042	East & North	1.23	17.16	6.15	37.5	96.1	77.6	0
13-Mar-24	22.1	35.6	27.9	1039	1043	1041	East & North West	1.23	19.26	5.8	23.8	99.1	71.5	0
14-Mar-24	20.6	35.1	28.2	1039	1042	1041	South East & West	1.23	21.56	7.69	48.6	80.3	71.3	0
15-Mar-24	23.8	34.9	29.3	1038	1041	1040	East & South East	1.24	23.3	8.3	48.9	97.3	80.4	0
16-Mar-24	23.1	35.4	21.3	900	1042	1002	South East & East	1.23	20.67	5.27	47.3	98	56.8	0
17-Mar-24	22.7	33.6	27.7	1039	1042	1040	East & North West	1.23	23.41	7.35	59.6	95.4	80.6	0
18-Mar-24	22.4	33.1	27.3	1039	1042	1040	East & North West	1.23	21.43	6.68	51.3	93.4	75.6	0
19-Mar-24	21.7	33.6	27.1	1038	1042	1040	South East & North West	1.23	22.33	6.56	53	96.3	77.7	0
20-Mar-24	22.5	33.6	27.7	1038	1042	1040	East & West	1.23	22.0	7.3	54.4	91.8	75.3	0
21-Mar-24	23.2	34.8	29.0	1039	1041	1038	North East & North West	1.23	20.45	7.46	58.1	94.5	75.6	0
22-Mar-24	26.3	34.1	29.7	1037	1040	1039	East & North	1.23	22.63	8.95	59.6	93	76.9	0.5
23-Mar-24	25.2	35.1	29.3	1037	1040	1039	East & North	1.23	23.1	7.65	53.1	92.4	76.4	0
24-Mar-24	24.3	34.6	28.6	1038	1042	1040	East & North	1.23	21.8	7.2	53.2	93.4	77.0	0
25-Mar-24	22.9	34.4	28.4	1038	1042	1040	East & North	1.23	22.65	7.68	47.8	95.9	74.9	0
26-Mar-24	22.6	34.3	28.3	1039	1042	1041	East & North	1.24	21.16	7.7	52.1	94.3	72.6	0
27-Mar-24	23.8	34.7	26.2	1040	1043	1041	East & North West	1.24	21.66	8.56	56.1	84.7	73.8	0
28-Mar-24	26.4	35	29.1	1038	1042	1040	South East & East	1.24	24.2	6.75	57.3	93	80.3	2
29-Mar-24	24.8	34.3	29.2	1038	1041	1040	South East & East	1.23	21.43	6.55	63.9	98.6	84.1	5
30-Mar-24	24	35.3	29	1039	1042	1040	East & South West	1.23	21.36	6.83	33.4	98.7	72.7	0
31-Mar-24	22.6	36.6	29.6	1039	1042	1041	East & South East	1.22	22.41	7.53	46.4	91.4	71.2	0
<b>Remarks:</b>	<b>Total Rainfall for the month</b>													<b>7.5 mm.</b>

For Coastal Energen Pvt. Limited



*Mejaleen*  
MK Parameswaran  
Station Director



**COASTAL ENERGEN PRIVATE LIMITED**

2 X 600 MW MUTIARA THERMAL POWER PLANT

**METROLOGICAL STATION REPORT**

Daily Average from 01.04.2024 to 30.04.2024

Date	Ambient Temperature (°C)			Barometric Pressure (m.bar)			Predominant Wind direction Blowing from	Wind Speed (Km/Hr)			Relative Humidity (%)			Rain Fall (mm)
	Min	Max	Avg	Min	Max	Avg		Min	Max	Avg	Min	Max	Avg	
1-Apr-24	24.8	35.8	29.7	1037	1041	1039	South East & West	1.21	21.15	7.18	54.2	92.2	76.9	0
2-Apr-24	25.3	36.7	30.7	1036	1040	1038	South East & South West	1.22	25.88	8.3	51.8	93	74.1	0
3-Apr-24	25.6	36.2	29.7	1038	1040	1036	South & South East	1.22	21.17	6.07	59.6	93.2	76.8	0
4-Apr-24	24.6	35.7	30.1	1037.1	1040.3	1038.8	South East & North West	1.2	23.9	7.9	58.8	95.8	78.5	0
5-Apr-24	24.7	37.1	30.8	1036.6	1040	1038.3	South East & North West	1.2	23	7.8	48.2	94.6	73.9	0
6-Apr-24	24.7	36.2	30.4	1038.2	1039.4	1037.8	South East & North	1.20	23.1	7.6	51.1	95.9	75.1	0
7-Apr-24	24.5	36.9	28.4	1036.1	1039.2	1038	North West & South East	1.2	16.4	4.3	50.6	95.4	81.8	0
8-Apr-24	28	36.1	32.5	1037	1039.5	1038.3	South East & East	1.2	27.2	12.6	51.5	96	68.3	0
9-Apr-24	25.6	34.4	30.1	1037	1040.1	1038.6	East & North West	1.2	23.9	8.4	54.4	91.2	74.7	0
10-Apr-24	25.8	34.9	30.3	1037.2	1040	1038.4	East & North West	1.2	22.6	9.5	55.2	87.2	72.6	0
11-Apr-24	26	35.1	30.6	1036.9	1040.5	1038.9	East & North West	1.2	24.7	8.9	51.9	85	72.7	0
12-Apr-24	24.2	33.7	29.1	1037.4	1040.4	1039.1	East & North West	1.2	27.7	8.4	64.9	97	80.1	0
13-Apr-24	25.3	35.2	29.8	1037.5	1040.6	1039.1	East & North East	1.2	20.1	7.1	59.2	97.3	77.3	1
14-Apr-24	25.9	35.6	30.3	1037.2	1040.6	1039	East & North West	1.5	24.2	9.8	56.5	92.5	75.4	0
15-Apr-24	26.0	35.2	29.4	1037.9	1040.6	1039.4	East & North East	1.2	24.5	7.6	57.8	91.3	79.7	0
16-Apr-24	25.5	35.3	29.4	1037.8	1040.4	1039.3	East & North West	1.2	20.3	5.2	56.4	98.3	81.8	1.5
17-Apr-24	25.2	35.9	30.6	1037.1	1040.6	1039.1	South East & South	1.2	22.5	8.9	54.1	97.8	76.3	0
18-Apr-24	24.9	36.2	30.8	1036.2	1039.4	1038	South East & South	1.2	24.7	9.1	55.9	95.8	76.8	0
19-Apr-24	25.8	37.5	31.5	1034.9	1038.5	1036.8	South East & South	1.2	27.1	7.5	59.1	95.7	75.6	0
20-Apr-24	25.8	38.5	31.5	1035	1038	1036.6	West & South East	1.2	27.1	7.7	44.5	94.7	75.8	0
21-Apr-24	25.7	35.8	30.5	1035.7	1038.6	1037.1	North West & South East	1.2	22.9	7	58.2	96.1	80.6	0
22-Apr-24	25	36.7	30.9	1035.9	1038.1	1037.7	South East & North West	1.2	23.2	7.4	49.7	96.9	75.8	0
23-Apr-24	26.3	36.4	30.7	1035.5	1038.5	1037.2	South East & North West	1.2	22.5	7.7	51.4	94.1	77.6	0
24-Apr-24	25.4	37	31.1	1035.7	1038.3	1037.1	South East & East	1.2	22.5	7.7	46.7	96	73.4	0
25-Apr-24	24.6	36.7	30.5	1035.1	1039.5	1037.2	South East & East	1.2	20.6	6.4	50.6	94.4	75.5	0
26-Apr-24	25.1	37.5	30.9	1035.6	1038.7	1037.1	South East & North West	1.2	20.5	6.3	49.3	95.8	73.4	0
27-Apr-24	24.9	36.4	30.8	1035.5	1038.6	1037.2	South East & East	1.2	21.4	6.5	51.1	93.9	73.3	0
28-Apr-24	26.4	37	31.8	1036	1039	1037.4	East & South East	1.2	21.1	6.9	54	87.8	73.5	0
29-Apr-24	27.4	38	32.4	1035.7	1039.9	1038.2	South East & West	1.2	24.7	7.4	48.5	89.9	71.0	0
30-Apr-24	27.7	37.8	32.4	1035.9	1039.1	1037.7	South East & East	1.2	28.6	9	52.6	88.2	71.9	0
<b>Remarks:</b>	Total Rainfall for the month <b>2.5 mm.</b>													

For Coastal Energen Pvt. Limited



*M. Parameswaran*  
MK Parameswaran  
Station Director



**COASTAL ENERGEN PRIVATE LIMITED**

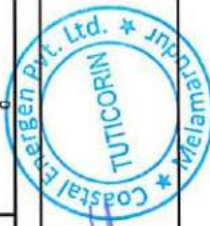
2 X 600 MW MUTIARA THERMAL POWER PLANT  
 METEOROLOGICAL STATION REPORT  
 Daily Average from 01.05.2024 to 31.05.2024

Date	Ambient Temperature (°C)			Barometric Pressure (m. bar)			Predominant Wind direction Blowing from	Wind Speed (Km/Hr)			Relative Humidity (%)			Rain Fall (mm)
	Min	Max	Avg	Min	Max	Avg		Min	Max	Avg	Min	Max	Avg	
1-May-24	26.1	37.3	32.1	1034.1	1038.1	1036.2	South East & South	1.2	29.4	9.5	49.8	93	71.2	0
2-May-24	26.1	38.1	31.9	1034.6	1037.7	1036.4	South & South East	1.2	26	8.7	49.5	90.8	73.6	0
3-May-24	28.5	39.3	32.6	1035.3	1038.5	1036.9	South & South West	1.2	28.9	10.7	47.2	88.3	71.8	0
4-May-24	27.1	38.5	32.7	1035.2	1039	1037.1	South East & South West	1.2	23.8	8.5	41.1	87.6	67.6	0
5-May-24	27.5	39	33	1034.7	1037.6	1036.4	South East & West	1.2	30.6	8.4	46.9	82.9	65.4	0
6-May-24	28	40.1	32.7	1035.3	1037.9	1036.7	South East & West	1.20	28.7	8.6	36.6	78.8	63.8	0
7-May-24	27.2	39.2	32.7	1035.8	1038.9	1037.5	South East & West	1.2	24.9	8.5	43.1	75.9	60.3	0
8-May-24	25.6	37.1	31.6	1036	1039.3	1037.8	South East & East	1.2	23.5	7.6	47.9	78.7	65.2	0
9-May-24	25.9	36.6	31.1	1036	1039	1037.6	South East & North West	1.2	23.4	7.4	52.7	84.6	71.7	0
10-May-24	26.7	36.5	30.5	1036.1	1039.7	1038.3	North West & South East	1.2	26.6	6.5	56.9	87.5	74.7	0
11-May-24	25.8	34.8	29.7	1037.3	1040.5	1038.9	South East & North West	1.2	20.3	5.9	61.7	93.3	77.0	0
12-May-24	26.5	35.1	30.4	1036.9	1040.4	1038.9	South East & North West	1.2	23.8	7.5	57.5	93.1	77.5	0
13-May-24	24.9	36	29.2	1036.7	1039.7	1038.4	North West & North	1.2	18.3	4.2	57.9	97	80.7	0
14-May-24	23.9	35.8	28.6	1036.7	1039.9	1038.5	North West & South East	1.2	17.4	4.7	51.7	96.7	81.4	20
15-May-24	26.4	35.5	29.1	1037.1	1040.2	1038.6	North West & South East	1.2	17.8	5.6	58	96.3	81.2	0
16-May-24	25.3	34.5	28.4	1036.9	1040.4	1038.7	North West & South East	1.2	21	5.3	62.4	96.2	83.5	17
17-May-24	25.7	30	27.9	1036.5	1039.2	1038.1	East & North West	1.2	18	3	78.9	96.4	88.8	2
18-May-24	24.9	34.6	28	1024.1	1038	1036.8	North West & South East	1.2	19.1	4.3	63.3	96.3	86.2	0
19-May-24	24.8	33.9	28.1	1033.9	1037.5	1035.8	North West & East	1.2	17.1	3.9	63.9	98.4	86.7	8
20-May-24	25.4	33.1	28.7	1034.3	1037.2	1035.6	East & North West	1.2	26.7	5.9	59.6	99	79.2	2
21-May-24	24.8	37.2	29.8	1034.2	1036.1	1034.5	South West & West	1.2	19.6	5.3	47	83.3	72.2	0
22-May-24	25.8	35.7	29.3	1032.7	1035.6	1034.5	South West & West	1.2	22.5	5.6	56.5	84.1	80.3	0
23-May-24	24.9	35.5	28.4	1034.6	1035.2	1034.1	South West & West	1.2	21.6	6.4	54.1	98.9	83.5	35
24-May-24	25.7	34.7	28.5	1032.8	1035.7	1034.2	South West & West	1.2	20.7	7.1	57	98.5	84.8	0
25-May-24	25.5	34.6	29.5	1033.5	1036	1034.4	South West & West	1.2	22.5	8.7	56.4	94.5	73.1	0
26-May-24	27.7	34.7	30.6	1033.6	1036.2	1035.1	West & South West	1.5	28.4	10.1	52.2	76.8	65.2	0
27-May-24	27.4	36	31.1	1033.8	1036.4	1035.2	West & South West	1.7	27.8	10.9	46.0	77.6	64.3	0
28-May-24	28	34.3	31	1034.2	1036.6	1035.5	West & South West	2.7	35.3	11.6	50	74.7	63.2	0
29-May-24	27.2	37.9	32.0	1033.4	1036.6	1035.3	West & South West	2.9	29.4	10.8	45.5	79.6	64.3	0
30-May-24	27.2	37.9	32	1033.4	1036.6	1035.3	West & South West	1.2	20	8	45.5	79.6	64.3	0
31-May-24	26.8	38.3	31.8	1033.8	1036.9	1035.4	West & South East	1.2	23	6.7	42.8	87.5	67.0	0

94.0 mm. Rainfall Recorded on 14, 16, 17, 19, 20 & 23rd May.

Total Rainfall for the month

For Coastal Energen Pvt. Limited



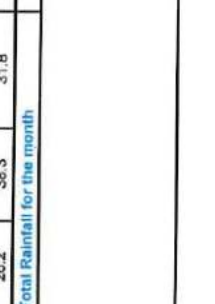
*M. Parameswaran*  
 MK Parameswaran  
 Station Director



**COASTAL ENERGEN PRIVATE LIMITED**  
 2 X 600 MW MUTIARA THERMAL POWER PLANT  
**METROLOGICAL STATION REPORT I**  
 Daily Average from 01.06.2024 to 30.06.2024

Date	Ambient Temperature (°C)			Barometric Pressure (m.bar)			Predominant Wind direction Blowing from	Wind Speed (Km/Hr)			Relative Humidity (%)			Rain Fall (mm)
	Min	Max	Avg	Min	Max	Avg		Min	Max	Avg	Min	Max	Avg	
1-Jun-24	27.1	36.6	31.5	1034.4	1037	1035.7	East & South East	1.2	26.7	5.8	45.6	85	70.0	0.0
2-Jun-24	25.5	37	29.9	1035.1	1036.3	1036.8	North West & South East	1.2	24.7	6.8	50.4	92.7	75.9	0.0
3-Jun-24	25.3	35.4	30.3	1036	1036.4	1037.3	North West & South East	1.2	17.8	4.7	56.7	91.6	77.0	0.0
4-Jun-24	25.9	36.9	30.8	1036.1	1036.1	1037.7	North & East	1.2	27.7	7.6	48.9	88.5	72.9	0.0
5-Jun-24	27.2	37.1	31.1	1036.1	1036.6	1038.1	North & North East	1.2	29.8	11.4	53.5	85.4	73.7	0.0
6-Jun-24	27.7	36.5	30.6	1036.4	1036.5	1038.4	North & North East	1.2	28.8	11.7	55.6	89.6	77.9	0.0
7-Jun-24	26.9	35.8	29.6	1036.1	1036.6	1038.4	North & North East	1.2	29.7	10.5	56.7	90.4	78.7	0.0
8-Jun-24	26.5	34.4	29.6	1036.2	1039	1037.9	North & North East	1.2	28.0	10.7	58	86.7	76.2	0.0
9-Jun-24	26	37.4	31.1	1036.1	1039.1	1037.6	North East & North	1.2	24.8	9.8	42.5	86.4	65.0	0.0
10-Jun-24	27.3	38.0	32.2	1036.1	1039.2	1037.8	North East & East	1.4	26.1	11.0	34.9	78.3	58.7	0.0
11-Jun-24	28.5	37.9	32.5	1036.3	1039.3	1037.7	North East & East	2.8	29.4	12.5	38.2	70.2	56.3	0.0
12-Jun-24	28	35.9	31.4	1037.1	1039.9	1036.6	North East & East	2.5	22.4	9.6	39.9	72.4	58.4	0.0
13-Jun-24	28.3	37.2	32	1036.4	1039.9	1036.2	North East & East	1.2	19.0	7.8	40.2	72.8	60.1	0.0
14-Jun-24	27.4	37.7	32.1	1035.2	1036.3	1037.1	East & North East	1.2	26.0	9.0	35	72.7	57.8	0.0
15-Jun-24	27.4	37.2	31.7	1035.1	1038	1036.9	North East & East	1.2	24.0	9.1	36.9	77.3	59.0	0.0
16-Jun-24	26.3	37.6	32	1035.1	1038.1	1036.9	North East & East	1.2	29.0	9.2	46.3	80.9	64.8	0.0
17-Jun-24	25.6	36.9	31.7	1035.1	1038.4	1037	North East & North West	1.2	25.1	6.6	41.1	88.9	65.0	0.0
18-Jun-24	26.6	37.7	31.7	1035.2	1038.5	1037.2	North East & North	1.2	28.0	7.2	43.1	94	70.1	0.0
19-Jun-24	26.6	37.5	30.1	1035.3	1037.6	1036.9	North East & North	1.2	26.0	6.5	0	84	46.3	0.0
20-Jun-24	25.4	37.2	30.6	1035.1	1038.2	1036.8	North East & East	1.2	26.7	7.3	0	71.3	34.8	0.0
21-Jun-24	26.5	36.7	30.4	1035.2	1038	1036.7	East & North East	1.2	33.9	11.0	39.6	73.7	60.1	0.0
22-Jun-24	27.8	37.9	31.4	1033.7	1036.8	1035.4	East & North East	1.7	34.4	15.9	44.9	74.3	59.7	0.0
23-Jun-24	27.5	36.1	31	1034.1	1036.7	1035.5	North East & East	5.3	33.5	15.2	0	86.3	41.5	0.0
24-Jun-24	26.8	36.9	31.2	869.9	1036.9	993.1	East & North East	1.4	33.5	9.7	47.9	75.8	64.5	0.0
25-Jun-24	27.4	35.5	30.7	1034.4	1036.7	1035.7	East & North East	1.5	35.7	14.8	54.6	75.9	67.5	0.0
26-Jun-24	28	32.7	29.3	1035.2	1037.7	1036.3	East & North East	2.8	31.5	14.6	49.8	73.4	62.1	0.0
27-Jun-24	27.9	34.5	30.5	1035.9	1038.6	1036.9	East & North East	2.5	30.3	11.7	37.4	80.8	59.3	0.0
28-Jun-24	26.5	37.7	31.6	1035.4	1038.6	1037.3	North East & East	2.0	21.7	9.3	39.5	84.1	64.4	0.0
29-Jun-24	26.7	38.2	30.9	1036.5	1038.5	1037.7	North East & East	2.1	30.4	9.4	41.4	82.2	63	0.0
30-Jun-24	26.2	36.3	31.8	1035.7	1038.9	1037.6	East & North East	1.2						
<b>Remarks:</b>	<b>Total Rainfall for the month</b>													<b>0.0 mm.</b>

For Coastal Energen Pvt. Limited  
  
 MK Parameswaran  
 Station Director



**EXTERNAL ROA-  
AMBIENT AIR  
MONITORING**



# Interstellar Testing Centre Private Limited

## TEST REPORT



ORIGINAL  
Page 1 of 2

Test Report No. : ICE-2407051170 (1)  
NABL ULR No. : TC695224000010058F



### Issued To :

Coastal Energen Private Limited  
2X600 MW Mutiara Thermal Power Plant  
4/36D, Melamaruthur (village), Duraisampuram(Post), Ottapidaram Taluk,  
Tuticorin, 628105  
Tamil Nadu, India


Sample Registration No. : E02-2406291170  
Sample Name : Ambient Air Quality  
Sample Condition : Good  
Sample Details (if any)  
Sample Submission Type : Sampled by Lab Rep  
Sampling Location : Near Main Office  
Sampling Procedure : ITC/CHN/GSOP/001  
Customer Reference : Test Request Form/29/06/2024  
Test Report as per : NAAQ Norms

Received On : 29-06-2024  
Commenced On : 29-06-2024  
Completed On : 04-07-2024  
Date of Report : 05-07-2024

### S. No. Sampling Information:

(a) Date of Monitoring , - : 27-06-2024 to 28-06-2024  
(b) Duration of Monitoring , minutes : 1440  
(c) Avg. Ambient Temperature , °C : 30  
(d) Relative Humidity , %(Avg.) : 63  
(e) Sky Appearance , - : Clear Sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
Discipline : Chemical					
Group : Atmospheric Pollution					
(I) Ambient Air Quality Parameters					
1	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182(Part-2): 2001	9.14	80 Max
2	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182(Part -6): 2006	22.30	80 Max
3	Particulate Matter (PM 10)	µg/m <sup>3</sup>	IS 5182(Part-23): 2006	68.58	100 Max
4	Particulate Matter (PM 2.5)	µg/m <sup>3</sup>	IS 5182(Part-24): 2019	31.60	60 Max
5	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	IS 5182(Part-9): 1974	17.82	180 Max*
6	Lead (pb)	µg/m <sup>3</sup>	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max
7	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	IS 5182(Part-25): 2018	9.36	400 Max
8	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max**
9	Benzo (a) Pyrene (Particulate Phase only)	ng/m <sup>3</sup>	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max**
10	Arsenic (As)	ng/m <sup>3</sup>	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max**

  
05/07/2024  
Chinnaraja  
Verified by

  
05/07/2024  
Sakthivel  
Authorised by

### Interstellar Testing Centre Private Limited

Plot No. 2, S.No. 12/2A, Industrial Estate,  
Perungudi, Sholinganallur Taluk, Chennai - 600 096.  
Ph : 044 - 24962512  
Email : itclabs.chennai@itclabs.com  
Website : www.itclabs.com

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- The test report shall not be reproduced in full or part without the written approval of ITC Labs. Chennai
- The test items shall not be retained more than 15 days from the date of issue of test report except in the case as required by the regulatory bodies and Customers





# Interstellar Testing Centre Private Limited

## TEST REPORT



Test Report No. : ICE-2407051170 (1)  
NABL ULR No. : TC695224000010058F



ORIGINAL  
Page 2 of 2


11	Nickel (Ni)	ng/m <sup>3</sup>	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max**
12	Mercury as Hg	* µg/m <sup>3</sup>	USEPA Method IO 3.5	BDL(DL:0.002)	NA

**NOTE** : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser, Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit, \*As per NAAQ Norms 1 Hour Limit, \*\*As per NAAQ Norms Annual Limit.

**REMARKS** : The above sample complies with NAAQ Norms respect to the above tests.

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



  
05/07/2024  
Chinnaraja  
Verified by

  
05/07/2024  
Sakthivel  
Authorised by

### Interstellar Testing Centre Private Limited

Plot No. 2, S.No. 12/2A, Industrial Estate,  
Perungudi, Sholinganallur Taluk, Chennai - 600 096.  
Ph : 044 - 24962512  
Email : itclabs.chennai@itclabs.com  
Website : www.itclabs.com

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# Interstellar Testing Centre Private Limited

## TEST REPORT

Test Report No. : ICE-2407051170 (2)



ORIGINAL  
Page 1 of 1

**Issued To :**

Coastal Energen Private Limited  
2X600 MW Mutiara Thermal Power Plant  
4/36D, Melamaruthur (village), Duraisampuram(Post), Ottapidaram Taluk,  
Tuticorin, 628105  
Tamil Nadu, India

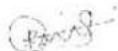
Sample Registration No. : E02-2406291170	Received On : 29-06-2024
Sample Name : Ambient Air Quality	Commenced On : 29-06-2024
Sample Condition : Good	Completed On : 04-07-2024
Sample Details (if any)	Date of Report : 05-07-2024
Sample Submission Type : Sampled by Lab Rep	
Sampling Location : Near Main Office	
Sampling Procedure : ITC/CHN/GSOP/001	
Customer Reference : Test Request Form/29/06/2024	
Test Report as per : NAAQ Norms	


S. No.	Parameter	Measuring Unit	Method	Result	Specification
<b>S. No. Sampling Information:</b>					
(a)	Date of Monitoring , -			27-06-2024 to 28-06-2024	
(b)	Duration of Monitoring , minutes	1440			
(c)	Avg. Ambient Temperature , °C	30			
(d)	Relative Humidity , %(Avg.)	63			
(e)	Sky Appearance , -			Clear Sky	
<b>Discipline : Chemical</b>					
<b>Group : Atmospheric Pollution</b>					
<b>(I) Ambient Air Quality Parameters</b>					
1	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max*

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser,Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit, \* As per NAAQ Norms 8 Hour Limit.

REMARKS : The above sample complies with NAAQ Norms respect to the above tests.

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

  
05/07/2024  
Chinnaraja  
Verified by

  
05/07/2024  
Sakthivel  
Authorised by

### Interstellar Testing Centre Private Limited

Plot No. 2, S.No. 12/2A, Industrial Estate,  
Perungudi, Sholinganallur Taluk, Chennai - 600 096.  
Ph : 044 - 24962512  
Email : itclabs.chennai@itclabs.com  
Website : www.itclabs.com

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# Interstellar Testing Centre Private Limited

## TEST REPORT



ORIGINAL  
Page 1 of 2



Test Report No. : ICE-2407051171 (1)  
NABL ULR No. : TC695224000010057F

### Issued To :


Coastal Energen Private Limited  
2X600 MW Mutiara Thermal Power Plant  
4/36D, Melamaruthur (village), Duraisampuram(Post), Ottapidaram Taluk,  
Tuticorin, 628105  
Tamil Nadu, India


Sample Registration No. : E02-2406291171  
Sample Name : Ambient Air Quality  
Sample Condition : Good  
Received On : 29-06-2024  
Commenced On : 29-06-2024  
Completed On : 04-07-2024  
Date of Report : 05-07-2024

### Sample Details (if any)

Sample Submission Type : Sampled by Lab Rep  
Sampling Location : Near Salt Gate  
Sampling Procedure : ITC/CHN/GSOP/001  
Customer Reference : Test Request Form/29/06/2024  
Test Report as per : NAAQ Norms

S. No.	Parameter	Measuring Unit	Method	Result	Specification
<b>S. No. Sampling Information:</b>					
(a)	Date of Monitoring, -			27-06-2024 to 28-06-2024	
(b)	Duration of Monitoring, minutes			1440	
(c)	Avg. Ambient Temperature, °C			30	
(d)	Relative Humidity, %(Avg.)			63	
(e)	Sky Appearance, -			Clear Sky	
<b>Discipline : Chemical</b>					
<b>Group : Atmospheric Pollution</b>					
<b>(I) Ambient Air Quality Parameters</b>					
1	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182(Part-2): 2001	9.63	80 Max
2	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182(Part -6): 2006	22.91	80 Max
3	Particulate Matter (PM 10)	µg/m <sup>3</sup>	IS 5182(Part-23): 2006	67.20	100 Max
4	Particulate Matter (PM 2.5)	µg/m <sup>3</sup>	IS 5182(Part-24): 2019	30.35	60 Max
5	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	IS 5182(Part-9): 1974	17.33	180 Max*
6	Lead (pb)	µg/m <sup>3</sup>	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max
7	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	IS 5182(Part-25): 2018	9.01	400 Max
8	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max**
9	Benzo (a) Pyrene (Particulate Phase only)	ng/m <sup>3</sup>	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max**
10	Arsenic (As)	ng/m <sup>3</sup>	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max**

  
05/07/2024  
Chinnaraja  
Verified by

  
05/07/2024  
Sakthivel  
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# Interstellar Testing Centre Private Limited

## TEST REPORT



ORIGINAL  
Page 2 of 2

Test Report No. : ICE-2407051171 (1)  
NABL ULR No. : TC695224000010057F



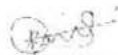
11	Nickel (Ni)	ng/m <sup>3</sup>	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max**
12	Mercury as Hg	µg/m <sup>3</sup>	USEPA Method IO 3.5	BDL(DL:0.002)	NA

**NOTE :** NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser, Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit. \*As per NAAQ Norms 1 Hour Limit, \*\*As per NAAQ Norms Annual Limit.

**REMARKS :** The above sample complies with NAAQ Norms respect to the above tests.

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



  
05/07/2024

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05/07/2024

Sakthivel  
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# Interstellar Testing Centre Private Limited

## TEST REPORT

Test Report No. : ICE-2407051171 (2)



ORIGINAL  
Page 1 of 1

**Issued To :**

Coastal Energen Private Limited  
2X600 MW Mutiara Thermal Power Plant  
4/36D, Melamaruthur (village), Duraisampuram(Post), Ottapidaram Taluk,  
Tuticorin, 628105  
Tamil Nadu, India

Sample Registration No. : E02-2406291171  
Sample Name : Ambient Air Quality  
Sample Condition : Good

Received On : 29-06-2024  
Commenced On : 29-06-2024  
Completed On : 04-07-2024  
Date of Report : 05-07-2024

**Sample Details (if any)**

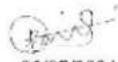
Sample Submission Type : Sampled by Lab Rep  
Sampling Location : Near Salt Gate  
Sampling Procedure : ITC/CHN/GSOP/001  
Customer Reference : Test Request Form/29/06/2024  
Test Report as per : NAAQ Norms

S. No.	Parameter	Measuring Unit	Method	Result	Specification
<b>S. No. Sampling Information:</b>					
(a)	Date of Monitoring , -				: 27-06-2024 to 28-06-2024
(b)	Duration of Monitoring , minutes				1440
(c)	Avg. Ambient Temperature , °C				30
(d)	Relative Humidity , %(Avg.)				63
(e)	Sky Appearance , -				: Clear Sky
<b>Discipline : Chemical</b>					
<b>Group : Atmospheric Pollution</b>					
<b>(I) Ambient Air Quality Parameters</b>					
1	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max*

**NOTE :** NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser, Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit. \*As per NAAQ Norms 8 Hour Limit.

**REMARKS :** The above sample complies with NAAQ Norms respect to the above tests.

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

  
05/07/2024  
Chinnaraja  
Verified by

  
05/07/2024  
Sakthivel  
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# Interstellar Testing Centre Private Limited

## TEST REPORT



TC - 6952  
ORIGINAL  
Page 1 of 2

Test Report No. : ICE-2407051172 (1)  
NABL ULR No. : TC695224000010056F



### Issued To :

Coastal Energen Private Limited  
2X600 MW Mutiara Thermal Power Plant  
4/36D, Melamaruthur (village), Duraisampuram(Post), Ottapidaram Taluk,  
Tuticorin, 628105  
Tamil Nadu, India

Sample Registration No. : E02-2406291172  
Sample Name : Ambient Air Quality  
Sample Condition : Good  
Sample Details (if any)  
Sample Submission Type : Sampled by Lab Rep  
Sampling Location : Near Crusher House  
Sampling Procedure : ITC/CHN/GSOP/001  
Customer Reference : Test Request Form/29/06/2024  
Test Report as per : NAAQ Norms

Received On : 29-06-2024  
Commenced On : 29-06-2024  
Completed On : 04-07-2024  
Date of Report : 05-07-2024

S. No.	Parameter	Measuring Unit	Method	Result	Specification
<b>S. No. Sampling Information:</b>					
(a)	Date of Monitoring , -			28-06-2024 to 29-06-2024	
(b)	Duration of Monitoring , minutes			1440	
(c)	Avg. Ambient Temperature , °C			29	
(d)	Relative Humidity , %(Avg.)			65	
(e)	Sky Appearance , -			Clear Sky	
<b>Discipline : Chemical</b>					
<b>Group : Atmospheric Pollution</b>					
<b>(I) Ambient Air Quality Parameters</b>					
1	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182(Part-2): 2001	11.18	80 Max
2	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182(Part -6): 2006	24.22	80 Max
3	Particulate Matter (PM 10)	µg/m <sup>3</sup>	IS 5182(Part-23): 2006	76.61	100 Max
4	Particulate Matter (PM 2.5)	µg/m <sup>3</sup>	IS 5182(Part-24): 2019	37.01	60 Max
5	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	IS 5182(Part-9): 1974	19.29	180 Max*
6	Lead (pb)	µg/m <sup>3</sup>	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max
7	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	IS 5182(Part-25): 2018	10.19	400 Max
8	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max**
9	Benzo (a) Pyrene (Particulate Phase only)	ng/m <sup>3</sup>	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max**
10	Arsenic (As)	ng/m <sup>3</sup>	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max**

05/07/2024  
Chinnaraja  
Verified by

05/07/2024  
Sakhivel  
Authorised by

### Interstellar Testing Centre Private Limited

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Perungudi, Sholinganallur Taluk, Chennai - 600 096.  
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# Interstellar Testing Centre Private Limited

## TEST REPORT



Test Report No. : ICE-2407051172 (1)  
NABL ULR No. : TC695224000010056F



ORIGINAL  
Page 2 of 2


11	Nickel (Ni)	ng/m <sup>3</sup>	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max**
12	Mercury as Hg	µg/m <sup>3</sup>	USEPA Method IO 3.5	BDL(DL:0.002)	NA

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser, Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit. \*As per NAAQ Norms 1 Hour Limit, \*\*As per NAAQ Norms Annual Limit.

REMARKS : The above sample complies with NAAQ Norms respect to the above tests.

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



  
05/07/2024  
Chinnaraja  
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05/07/2024  
Sakthivel  
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# Interstellar Testing Centre Private Limited

## TEST REPORT

Test Report No. : ICE-2407051172 (2)



ORIGINAL  
Page 1 of 1

### Issued To :

Coastal Energen Private Limited  
2X600 MW Mutiara Thermal Power Plant  
4/36D, Melamaruthur (village), Duraisampuram(Post), Ottapidaram Taluk,  
Tuticorin, 628105  
Tamil Nadu, India

Sample Registration No. : E02-2406291172  
Sample Name : Ambient Air Quality  
Sample Condition : Good

Received On : 29-06-2024  
Commenced On : 29-06-2024  
Completed On : 04-07-2024  
Date of Report : 05-07-2024

### Sample Details (if any)


Sample Submission Type : Sampled by Lab Rep  
Sampling Location : Near Crusher House  
Sampling Procedure : ITC/CHN/GSOP/001  
Customer Reference : Test Request Form/29/06/2024  
Test Report as per : NAAQ Norms


S. No.	Parameter	Measuring Unit	Method	Result	Specification
<b>S. No. Sampling Information:</b>					
(a)	Date of Monitoring , -				: 28-06-2024 to 29-06-2024
(b)	Duration of Monitoring , minutes				1440
(c)	Avg. Ambient Temperature , °C				29
(d)	Relative Humidity , %(Avg.)				65
(e)	Sky Appearance , -				: Clear Sky
<b>Discipline : Chemical</b>					
<b>Group : Atmospheric Pollution</b>					
<b>(I) Ambient Air Quality Parameters</b>					
1	Carbon Monoxide (CO)	mg/m <sup>3</sup>	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max*

**NOTE :** NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser, Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit. \*As per NAAQ Norms 8 Hour Limit.

**REMARKS :** The above sample complies with NAAQ Norms respect to the above tests.

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

  
05/07/2024  
Chinnaraja  
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05/07/2024  
Sakthivel  
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# Interstellar Testing Centre Private Limited

## TEST REPORT



ORIGINAL  
Page 1 of 2



Test Report No. : ICE-2407051173 (1)  
NABL ULR No. : TC695224000010055F

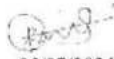
### Issued To :

Coastal Energen Private Limited  
2X600 MW Mutiara Thermal Power Plant  
4/36D, Melamaruthur (village), Duraisampuram(Post), Ottapidaram Taluk,  
Tuticorin, 628105  
Tamil Nadu, India

Sample Registration No. : E02-2406291173  
Sample Name : Ambient Air Quality  
Sample Condition : Good  
Sample Details (if any)  
Sample Submission Type : Sampled by Lab Rep  
Sampling Location : Near Batching Plant  
Sampling Procedure : ITC/CHN/GSOP/001  
Customer Reference : Test Request Form/29/06/2024  
Test Report as per : NAAQ Norms

Received On : 29-06-2024  
Commenced On : 29-06-2024  
Completed On : 04-07-2024  
Date of Report : 05-07-2024

S. No.	Parameter	Measuring Unit	Method	Result	Specification
<b>S. No. Sampling Information:</b>					
(a)	Date of Monitoring , -			28-06-2024 to 29-06-2024	
(b)	Duration of Monitoring , minutes			1440	
(c)	Avg. Ambient Temperature , °C			29	
(d)	Relative Humidity , %(Avg.)			65	
(e)	Sky Appearance , -			Clear Sky	
<b>Discipline : Chemical</b>					
<b>Group : Atmospheric Pollution</b>					
<b>(I) Ambient Air Quality Parameters</b>					
1	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182(Part-2): 2001	8.75	80 Max
2	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182(Part -6): 2006	22.21	80 Max
3	Particulate Matter (PM 10)	µg/m <sup>3</sup>	IS 5182(Part-23): 2006	65.10	100 Max
4	Particulate Matter (PM 2.5)	µg/m <sup>3</sup>	IS 5182(Part-24): 2019	29.94	60 Max
5	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	IS 5182(Part-9): 1974	17.0	180 Max*
6	Lead (pb)	µg/m <sup>3</sup>	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max
7	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	IS 5182(Part-25): 2018	8.77	400 Max
8	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max**
9	Benzo (a) Pyrene (Particulate Phase only)	ng/m <sup>3</sup>	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max**
10	Arsenic (As)	ng/m <sup>3</sup>	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max**

  
05/07/2024  
Chinnaraja  
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05/07/2024  
Sakthivel  
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# Interstellar Testing Centre Private Limited

## TEST REPORT



Test Report No. : ICE-2407051173 (1)  
NABL ULR No. : TC695224000010055F



ORIGINAL  
Page 2 of 2

11	Nickel (Ni)	* ng/m <sup>3</sup>	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max**
12	Mercury as Hg	µg/m <sup>3</sup>	USEPA Method IO 3.5	BDL(DL:0.002)	NA

**NOTE :** NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser, Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit. \*As per NAAQ Norms 1 Hour Limit, \*\*As per NAAQ Norms Annual Limit.

**REMARKS :** The above sample complies with NAAQ Norms respect to the above tests.

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



05/07/2024  
Chinnaraja  
Verified by

05/07/2024  
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# Interstellar Testing Centre Private Limited

## TEST REPORT

Test Report No. : ICE-2407051173 (2)



ORIGINAL  
Page 1 of 1

**Issued To :**

Coastal Energen Private Limited  
2X600 MW Mutiara Thermal Power Plant  
4/36D, Melamaruthur (village), Duraisampuram(Post), Ottapidaram Taluk,  
Tuticorin, 628105  
Tamil Nadu, India

Sample Registration No. : E02-2406291173  
Sample Name : Ambient Air Quality  
Sample Condition : Good  
Received On : 29-06-2024  
Commenced On : 29-06-2024  
Completed On : 04-07-2024  
Date of Report : 05-07-2024

**Sample Details (if any)**


Sample Submission Type : Sampled by Lab Rep  
Sampling Location : Near Batching Plant  
Sampling Procedure : ITC/CHN/GSOP/001  
Customer Reference : Test Request Form/29/06/2024  
Test Report as per : NAAQ Norms

S. No.	Parameter	Measuring Unit	Method	Result	Specification
<b>S. No. Sampling Information:</b>					
(a)	Date of Monitoring , -			: 28-06-2024 to 29-06-2024	
(b)	Duration of Monitoring , minutes			1440	
(c)	Avg. Ambient Temperature , °C			29	
(d)	Relative Humidity , %(Avg.)			65	
(e)	Sky Appearance , -			: Clear Sky	
Discipline : Chemical					
Group : Atmospheric Pollution					
(I)	Ambient Air Quality Parameters				
1	Carbon Monoxide (CO)	mg/m <sup>3</sup>	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max*

**NOTE :** NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser, Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit. \*As per NAAQ Norms 8 Hour Limit.

**REMARKS :** The above sample complies with NAAQ Norms respect to the above tests.

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

  
05/07/2024  
Chinnaraja  
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05/07/2024  
Sakthivel  
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### Interstellar Testing Centre Private Limited

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# Interstellar Testing Centre Private Limited

## TEST REPORT



ORIGINAL  
Page 1 of 2

Test Report No. : ICE-2407051174 (1)  
NABL ULR No. : TC695224000010054F



### Issued To :

Coastal Energen Private Limited

2X600 MW Mutiara Thermal Power Plant

4/36D, Melamaruthur (village), Duraisampuram(Post), Ottapidaram Taluk,

Tuticorin, 628105

Tamil Nadu, India

Sample Registration No. : E02-2406291174

Sample Name : Ambient Air Quality

Sample Condition : Good

### Sample Details (if any)

Sample Submission Type : Sampled by Lab Rep

Sampling Location : Near Watch Tower - 8

Sampling Procedure : ITC/CHN/GSOP/001

Customer Reference : Test Request Form/29/06/2024

Test Report as per : NAAQ Norms

Received On : 29-06-2024

Commenced On : 29-06-2024

Completed On : 04-07-2024

Date of Report : 05-07-2024

### S. No. Sampling Information:

(a) Date of Monitoring , -	: 27-06-2024 to 28-06-2024
(b) Duration of Monitoring , minutes	1440
(c) Avg. Ambient Temperature , °C	30
(d) Relative Humidity , %(Avg.)	63
(e) Sky Appearance , -	: Clear Sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
Discipline : Chemical					
Group : Atmospheric Pollution					
(I) Ambient Air Quality Parameters					
1	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182(Part-2): 2001	8.56	80 Max
2	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182(Part -6): 2006	21.16	80 Max
3	Particulate Matter (PM 10)	µg/m <sup>3</sup>	IS 5182(Part-23): 2006	64.57	100 Max
4	Particulate Matter (PM 2.5)	µg/m <sup>3</sup>	IS 5182(Part-24): 2019	29.11	60 Max
5	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	IS 5182(Part-9): 1974	16.71	180 Max*
6	Lead (pb)	µg/m <sup>3</sup>	IS 5182(Part-22): 2004	BDL(DL:0.02)	1.0 Max
7	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	IS 5182(Part-25): 2018	8.56	400 Max
8	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	IS 5182(Part-11): 2006	BDL(DL:1.0)	5 Max**
9	Benzo (a) Pyrene (Particulate Phase only)	ng/m <sup>3</sup>	IS 5182(Part-12): 2004	BDL(DL:1.0)	1 Max**
10	Arsenic (As)	ng/m <sup>3</sup>	USEPA Method IO 3.4	BDL(DL:2.0)	6 Max**

05/07/2024

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05/07/2024

Sakthivel  
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### Interstellar Testing Centre Private Limited

Plot No. 2, S.No. 12/2A, Industrial Estate,

Perungudi, Sholinganallur Taluk, Chennai - 600 096.

Ph : 044 - 24962512

Email : itclabs.chennai@itclabs.com

Website : www.itclabs.com

### Disclaimer :

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# Interstellar Testing Centre Private Limited

## TEST REPORT



ORIGINAL  
Page 2 of 2

Test Report No. : ICE-2407051174 (1)  
NABL ULR No. : TC695224000010054F



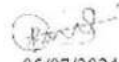
11	Nickel (Ni)	ng/m <sup>3</sup>	USEPA Method IO 3.4	BDL(DL:2.0)	20 Max**
12	Mercury as Hg	µg/m <sup>3</sup>	USEPA Method IO 3.5	BDL(DL:0.002)	NA

NOTE : NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser, Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit. \*As per NAAQ Norms 1 Hour Limit, \*\*As per NAAQ Norms Annual Limit.

REMARKS : The above sample complies with NAAQ Norms respect to the above tests.

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



  
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# Interstellar Testing Centre Private Limited

## TEST REPORT

Test Report No. : ICE-2407051174 (2)



ORIGINAL  
Page 1 of 1

**Issued To :**

**Coastal Energen Private Limited**

**2X600 MW Mutiara Thermal Power Plant**

4/36D, Melamaruthur (village), Duraisampuram(Post), Ottapidaram Taluk,

Tuticorin, 628105

Tamil Nadu, India

Sample Registration No. : E02-2406291174

Sample Name : Ambient Air Quality

Sample Condition : Good

**Sample Details (if any)**

Sample Submission Type : Sampled by Lab Rep

Sampling Location : Near Watch Tower - 8

Sampling Procedure : ITC/CHN/GSOP/001

Customer Reference : Test Request Form/29/06/2024

Test Report as per : NAAQ Norms

Received On : 29-06-2024

Commenced On : 29-06-2024

Completed On : 04-07-2024

Date of Report : 05-07-2024

**S. No. Sampling Information:**

(a) Date of Monitoring , -	: 27-06-2024 to 28-06-2024
(b) Duration of Monitoring , minutes	1440
(c) Avg. Ambient Temperature , °C	30
(d) Relative Humidity , %(Avg.)	63
(e) Sky Appearance , -	: Clear Sky

S. No.	Parameter	Measuring Unit	Method	Result	Specification
	Discipline : Chemical				
	Group : Atmospheric Pollution				
(I)	Ambient Air Quality Parameters				
1	Carbon Monoxide (CO)	mg/m3	IS 5182(Part-10): 1999	BDL(DL:1.0)	2 Max*

**NOTE :** NAAQ: National Ambient Air Quality, Instrument used: Respirable Dust Sampler(RDS), Fine Dust Sampler(FDS), Multigas Analyser, Low Flow Air Sampler, BDL: Below Detection Limit, DL: Detection Limit. \*As per NAAQ Norms 8 Hour Limit.

**REMARKS :** The above sample complies with NAAQ Norms respect to the above tests.

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

05/07/2024  
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# **EXTERNAL ROA- STACK MONITORING**



# Interstellar Testing Centre Private Limited

## TEST REPORT



TC - 6952

ORIGINAL  
Page 1 of 1

Test Report No. : ICE-2404030010  
NABL ULR No. : TC695224000003694F

### Issued To :

Coastal Energen Private Limited  
2X600 MW Mutiara Thermal Power Plant  
4/36D, Melamaruthur (village), Duraisampuram(Post), Ottapidaram Taluk,  
Tuticorin, 628105  
Tamil Nadu, India

Sample Registration No. : E02-2404010010  
Sample Description : Stack Emission  
Sample Location : Boiler Unit-1 (600 MW)  
Received On : 01-04-2024  
Commenced On : 01-04-2024  
Completed On : 08-04-2024  
Date of Report : 08-04-2024

### Sample Details (if any)

Sample Submission Type : Sampled by Lab Rep /Prathap K  
Sampling Procedure : ITC/CHN/GSOP/001  
Customer Reference : Test Request Form/31-03-2024  
Test Report as per : TNPCB Norms

S. No.	Parameter	Measuring Unit	Method	Result	Specification
<b>S. No. Sampling Information:</b>					
(a)	Date of Monitoring			30.03.24	
(b)	Ambient Temperature (°C)			33.0	
<b>Discipline : Chemical</b>					
<b>Group : Atmospheric Pollution</b>					
<b>(I) Stack Emission</b>					
1	Oxides of Nitrogen as NOx	mg/Nm <sup>3</sup>	IS 11255: (Part-7)	109.8	450 Max
2	Carbon Monoxide as CO	%	IS 13270	BDL (DL: 0.2)	1 Max
3	Particulate Matter as PM	mg/Nm <sup>3</sup>	IS 11255: (Part-1)	24.20	50 Max
4	Stack Temperature	°C	IS 11255: (Part-3)	109	Not Available
5	Velocity	m/s	IS 11255: (Part-3)	25.1	Not Available
6	Flow Rate	Nm <sup>3</sup> /hr.	IS 11255: (Part-3)	3073731	Not Available
7	Sulphur Dioxide as SO <sub>2</sub>	mg/Nm <sup>3</sup>	IS 11255: (Part-2)	149.3	200 Max
8	Carbon Dioxide as CO <sub>2</sub>	%	IS 13270	12.5	Not Available
9	Oxygen as O <sub>2</sub>	%	IS 13270	6.9	Not Available
10	Moisture	%	IS 11255: (Part-3)	5.14	Not Available
11	Lead as Pb	mg/Nm <sup>3</sup>	USEPA Method 29	BDL (DL:0.1)	Not Available
12	Arsenic as As	mg/Nm <sup>3</sup>	USEPA Method 29	BDL (DL:0.1)	Not Available
13	Mercury as Hg	mg/Nm <sup>3</sup>	USEPA Method 29	BDL (DL:0.01)	0.03 Max
14	Chromium as Cr	mg/Nm <sup>3</sup>	USEPA Method 29	BDL (DL:0.1)	Not Available

NOTE : TNPCB: Tamilnadu Pollution Control Board, Instrument used: Stack Sampler, BDL: Below Detection Limit, DL: Detection Limit

REMARKS : The above sample complies with TNPCB Norms respect to the above tests.

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

Verified by

Authorised by

**R. SAKTHIVEL**  
Assistant Manager  
Environment Section

### Interstellar Testing Centre Private Limited

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Perungudi, Sholinganallur Taluk, Chennai - 600 096.  
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# Interstellar Testing Centre Private Limited

## TEST REPORT



TC - 6952  
ORIGINAL  
Page 1 of 1

Test Report No. : ICE-2404030011  
NABL ULR No. : TC695224000003693F

### Issued To :

Coastal Energen Private Limited  
2X600 MW Mutiara Thermal Power Plant  
4/36D, Melamaruthur (village), Duraisampuram(Post), Ottapidaram Taluk,  
Tuticorin, 628105  
Tamil Nadu, India

Sample Registration No. : E02-2404010011  
Sample Description : Stack Emission  
Sample Location : Boiler Unit-2 (600 MW)  
Sample Submission Type : Sampled by Lab Rep /Prathap K  
Sampling Procedure : ITC/CHN/GSOP/001  
Customer Reference : Test Request Form/31-03-2024  
Test Report as per : TNPCB Norms

Received On : 01-04-2024  
Commenced On : 01-04-2024  
Completed On : 08-04-2024  
Date of Report : 08-04-2024

S. No.	Parameter	Measuring Unit	Method	Result	Specification
<b>S. No. Sampling Information:</b>					
(a)	Date of Monitoring			30.03.24	
(b)	Ambient Temperature (°C)			33.0	
<b>Discipline : Chemical</b>					
<b>Group : Atmospheric Pollution</b>					
<b>(I) Stack Emission</b>					
1	Oxides of Nitrogen as NO <sub>x</sub>	mg/Nm <sup>3</sup>	IS 11255: (Part-7)	129.9	450 Max
2	Carbon Monoxide as CO	%	IS 13270	BDL (DL: 0.2)	1 Max
3	Particulate Matter as PM	mg/Nm <sup>3</sup>	IS 11255: (Part-1)	28.40	50 Max
4	Stack Temperature	°C	IS 11255: (Part-3)	124	Not Available
5	Velocity	m/s	IS 11255: (Part-3)	27.0	Not Available
6	Flow Rate	Nm <sup>3</sup> /hr.	IS 11255: (Part-3)	3222134	Not Available
7	Sulphur Dioxide as SO <sub>2</sub>	mg/Nm <sup>3</sup>	IS 11255: (Part-2)	178.9	200 Max
8	Carbon Dioxide as CO <sub>2</sub>	%	IS 13270	12.9	Not Available
9	Oxygen as O <sub>2</sub>	%	IS 13270	6.7	Not Available
10	Moisture	%	IS 11255: (Part-3)	5.90	Not Available
11	Lead as Pb	mg/Nm <sup>3</sup>	USEPA Method 29	BDL (DL:0.1)	Not Available
12	Arsenic as As	mg/Nm <sup>3</sup>	USEPA Method 29	BDL (DL:0.1)	Not Available
13	Mercury as Hg	mg/Nm <sup>3</sup>	USEPA Method 29	BDL (DL:0.01)	0.03 Max
14	Chromium as Cr	mg/Nm <sup>3</sup>	USEPA Method 29	BDL (DL:0.1)	Not Available

NOTE : TNPCB: Tamilnadu Pollution Control Board, Instrument used: Stack Sampler, BDL: Below Detection Limit, DL: Detection Limit

REMARKS : The above sample complies with TNPCB Norms respect to the above tests.

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

Verified by

Authorised by

**R. SAKTHIVEL**  
Assistant Manager  
Environment Section

### Interstellar Testing Centre Private Limited

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# Interstellar Testing Centre Private Limited

## TEST REPORT



ORIGINAL  
Page 1 of 1

Test Report No. : ICE-2407051175  
NABL ULR No. : TC695224000010092F



### Issued To :

Coastal Energen Private Limited  
2X600 MW Mutiara Thermal Power Plant  
4/36D, Melamaruthur (village), Duraisampuram(Post), Ottapidaram Taluk,  
Tuticorin, 628105  
Tamil Nadu, India

Sample Registration No. : E02-2406291175  
Sample Name : Stack Emission  
Sample Condition : Good  
Received On : 29-06-2024  
Commenced On : 29-06-2024  
Completed On : 04-07-2024  
Date of Report : 05-07-2024

### Sample Details (if any)

Sample Submission Type : Sampled by Lab Rep  
Sampling Location : Boiler Unit-1 (600 MW)  
Sampling Procedure : ITC/CHN/GSOP/001  
Customer Reference : Test Request Form/29/06/2024  
Test Report as per : TNPCB Norms

S. No.	Parameter	Measuring Unit	Method	Result	Specification
<b>S. No. Sampling Information:</b>					
(a)	Date of Monitoring			27-06-2024	
(b)	Ambient Temperature (C)			33.0	
<b>Discipline : Chemical</b>					
<b>Group : Atmospheric Pollution</b>					
<b>(I) Stack Emission</b>					
1	Oxides of Nitrogen as NOx	mg/Nm <sup>3</sup>	IS 11255: (Part-7)	99.6	450 Max
2	Carbon Monoxide as CO	%	IS 13270	BDL(DL:0.2)	1 Max
3	Particulate Matter as PM	mg/Nm <sup>3</sup>	IS 11255: (Part-1)	24.8	50 Max
4	Stack Temperature	°C	IS 11255: (Part-3)	117	Not Available
5	Velocity	m/s	IS 11255: (Part-3)	26.2	Not Available
6	Flow Rate	Nm <sup>3</sup> /hr.	IS 11255: (Part-3)	3183010	Not Available
7	Sulphur Dioxide as SO <sub>2</sub>	mg/Nm <sup>3</sup>	IS 11255: (Part-2)	145	200 Max
8	Carbon Dioxide as CO <sub>2</sub>	%	IS 13270	12.8	Not Available
9	Oxygen as O <sub>2</sub>	%	IS 13270	6.5	Not Available
10	Moisture	%	IS 11255: (Part-3)	6.06	Not Available
11	Lead as Pb	mg/Nm <sup>3</sup>	USEPA Method 29	BDL (DL: 0.1)	Not Available
12	Arsenic as As	mg/Nm <sup>3</sup>	USEPA Method 29	BDL (DL: 0.1)	Not Available
13	Mercury as Hg	mg/Nm <sup>3</sup>	USEPA Method 29	BDL (DL: 0.01)	0.03 Max
14	Chromium as Cr	mg/Nm <sup>3</sup>	USEPA Method 29	BDL (DL: 0.1)	Not Available

**NOTE :** TNPCB: Tamilnadu Pollution Control Board, Instrument used: Fluegas Analyser, Stack Sampler, BDL: Below Detection Limit, DL: Detection Limit

**REMARKS :** The above sample complies with TNPCB Norms respect to the above tests.

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

05/07/2024  
Chinnaraja  
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05/07/2024  
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# Interstellar Testing Centre Private Limited

## TEST REPORT



ORIGINAL  
Page 1 of 1

Test Report No. : ICE-2407051176  
NABL ULR No. : TC695224000010091F



### Issued To :

Coastal Energen Private Limited  
2X600 MW Mutiara Thermal Power Plant  
4/36D, Melamaruthur (village), Duraisampuram(Post), Ottapidaram Taluk,  
Tuticorin, 628105  
Tamil Nadu, India

Sample Registration No. : E02-2406291176  
Sample Name : Stack Emission  
Sample Condition : Good  
Received On : 29-06-2024  
Commenced On : 29-06-2024  
Completed On : 04-07-2024  
Date of Report : 05-07-2024

### Sample Details (if any)

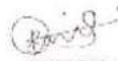
Sample Submission Type : Sampled by Lab Rep  
Sampling Location : Boiler Unit-2 (600 MW)  
Sampling Procedure : ITC/CHN/GSOP/001  
Customer Reference : Test Request Form/29/06/2024  
Test Report as per : TNPCB Norms

S. No.	Parameter	Measuring Unit	Method	Result	Specification
<b>S. No. Sampling Information:</b>					
(a)	Date of Monitoring			: 27-06-2024	
(b)	Ambient Temperature (C)			: 33.0	
<b>Discipline : Chemical</b>					
<b>Group : Atmospheric Pollution</b>					
<b>(I) Stack Emission</b>					
1	Oxides of Nitrogen as NOx	mg/Nm3	IS 11255: (Part-7)	114.70	450 Max
2	Carbon Monoxide as CO	%	IS 13270	BDL(DL:0.2)	1 Max
3	Particulate Matter as PM	mg/Nm3	IS 11255: (Part-1)	26.45	50 Max
4	Stack Temperature	°C	IS 11255: (Part-3)	120	Not Available
5	Velocity	m/s	IS 11255: (Part-3)	26.5	Not Available
6	Flow Rate	Nm3/hr.	IS 11255: (Part-3)	3222134	Not Available
7	Sulphur Dioxide as SO2	mg/Nm3	IS 11255 (Part-2)	172.0	200 Max
8	Carbon Dioxide as CO2	%	IS 13270	12.7	Not Available
9	Oxygen as O2	%	IS 13270	6.6	Not Available
10	Moisture	%	IS 11255: (Part-3)	5.86	Not Available
11	Lead as Pb	mg/Nm3	USEPA Method 29	BDL (DL: 0.1)	Not Available
12	Arsenic as AS	mg/Nm3	USEPA Method 29	BDL (DL: 0.1)	Not Available
13	Mercury as Hg	mg/Nm3	USEPA Method 29	BDL (DL: 0.01)	0.03 Max
14	Chromium(as Cr)	mg/Nm3	USEPA Method 29	BDL (DL: 0.1)	Not Available

NOTE : TNPCB: Tamilnadu Pollution Control Board, Instrument used: Fluegas Analyser, Stack Sampler, BDL: Below Detection Limit, DL: Detection Limit

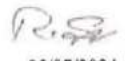
REMARKS : The above sample complies with TNPCB Norms respect to the above tests.

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

  
05/07/2024

Chinnaraja  
Verified by

Disclaimer :

  
05/07/2024

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# **ANNEXURE - 2**



# COASTAL ENERGEN PVT LTD

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- Environment Clearance Compliance Status
- Monthly Environment Report
- Monthly Ash Report
- CIRP
- CSR
- List of Directors
- Notice of Annual General Meeting
- Annual Return

## Our Projects

Tuticorin has been identified by both the Central Government of India and State Government of Tamilnadu as a power generating centre for southern Tamilnadu lying as it does in the middle of the power corridor.

Situated only 13 kms from Tuticorin town, our project enjoys the following advantages:

- Close proximity to a major town (13 kms)
- Within 21 kms of a major port
- Excellent road, Rail & Air connectivity
- Excellent grid connectivity

The project has achieved fast progress since its inception.

- Land fully acquired
- PPA Agreement Signed
- MOEF Clearance issued
- Funding fully tied up and secured
- BTG order finalized
- Discussion with PGCIL for power evacuation
- Engineering Consultants appointed
- Manpower in place
- Site preparation completed
- Geo-technical investigations completed
- Construction water and power in place
- Water allocated by TWAD Board for process requirements

## Welcome to Coastal Energen Pvt. Ltd.

Coal and Oil Group is a Rs. 2400 crores (US\$ 550 million) Integrated Energy Company involved in various aspects of Energy supplies including Coal trading, Mining, Shipping, Logistics and Power Generation.

Coastal Energen Pvt Ltd (ENERGEN), the Power Generating Flagship Company of the Coal and Oil Group, is setting up a 1200 MW coal fired thermal power plant in the district of Tuticorin in the State of Tamil Nadu, India.

Our maiden power project in Tuticorin, Tamil Nadu, South India is a logical extension of our multi disciplinary capabilities building on our diverse strengths and leveraging our varied experiences in "Fuel Management" which gives Coastal Energen a distinct advantage as a low cost Power Producer.

Approximately 60% of the cost of power comprises of fuel cost. Our group is one of the top suppliers of imported coal to some of the leading private and public power producers in India like Tata, Reliance, Torrent Power, Gujarat Electricity Board, Maharashtra State Electricity Board, Calcutta Electric and others. With such experience under our belt and a top notch management team guiding the project, we are in a comfortable position to effectively manage the cost of fuel and finally the cost of power generated.

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fueled by ideasonic



# **ANNEXURE - 3**

# **INTERNAL ROA- GROUND WATER**



# COASTAL ENERGEN PRIVATE LIMITED

2 X 600 MW MUTIARA THERMAL POWER PLANT  
BOREWELL WATER ANALYSIS REPORT - JANUARY'24

Sample Collected on 08.01.2024

S. No	PARAMETERS	UNIT	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4
1	pH	-	7.00	7.24	7.61	7.74
2	Electrical conductivity	( $\mu$ s/cm)	10960	21750	18460	8950
3	Total Suspended Solids	ppm	12	8	6	8
4	Total Dissolved Solids	ppm	7124	14137	11999	5817
5	Total Hardness	ppm	1080	2640	1950	1010
6	Calcium Hardness	ppm	740	1520	1080	560
7	Magnesium Hardness	ppm	340	1120	870	450
8	Total Chloride	ppm	3950	5742	3948	2586
9	Sodium	ppm	760	1190	1240	780
10	Potassium	ppm	36	84	72	46
11	Lead	ppm	BDL	BDL	BDL	BDL
12	Boron	ppm	0.09	0.12	0.09	0.14
13	BOD	mg/l	7.4	8.35	6.45	5.7
14	DO	mg/l	7.6	6.2	5.8	4.8
15	COD	mg/l	66	94	76	36
16	Sulphate	ppm	560	870	810	560
17	Oil & Grease	mg/l	BDL	BDL	BDL	BDL
18	Mercury	ppm	BDL	BDL	BDL	BDL
19	Arsenic	ppm	BDL	BDL	BDL	BDL
20	Chromium	ppm	BDL	BDL	BDL	BDL
<b>Remarks</b>		Nil				

### Borewell Locations:

Sl.No.	Sample Identification	Borewell Location
1	SAMPLE 1	South West of Ash Bund (Near CAAQMS-3)
2	SAMPLE 2	South of Ash Bund
3	SAMPLE 3	South East of Ash Bund
4	SAMPLE 4	North East of Ash Bund

  
V. SRINATH PAUL  
SAMPLE COLLECTED BY

  
L. VEERABABU  
Sr. CHEMIST  






# COASTAL ENERGEN PRIVATE LIMITED

2 X 600 MW MUTIARA THERMAL POWER PLANT

## BOREWELL WATER ANALYSIS REPORT - FEBRUARY'24

Sample Collected on 06.02.2024

S. No	PARAMETERS	UNIT	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4
1	pH	-	7.54	7.28	7.36	7.64
2	Electrical conductivity	( $\mu$ s/cm)	11340	20860	18460	5980
3	Total Suspended Solids	ppm	12	16	26	4
4	Total Dissolved Solids	ppm	7371	13559	11999	3887
5	Total Hardness	ppm	1030	2240	1580	680
6	Calcium Hardness	ppm	580	1370	820	410
7	Magnesium Hardness	ppm	450	870	760	270
8	Total Chloride	ppm	2648	5278	4675	1789
9	Sodium	ppm	640	1080	1170	672
10	Potassium	ppm	30	68	64	48
11	Lead	ppm	BDL	BDL	BDL	BDL
12	Boron	ppm	0.09	0.11	0.14	0.12
13	BOD	mg/l	5.6	5.2	5.8	5.1
14	DO	mg/l	8.2	6.4	7.1	6.5
15	COD	mg/l	60	74	62	32
16	Sulphate	ppm	850	1210	890	678
17	Oil & Grease	mg/l	BDL	BDL	BDL	BDL
18	Mercury	ppm	BDL	BDL	BDL	BDL
19	Arsenic	ppm	BDL	BDL	BDL	BDL
20	Chromium	ppm	BDL	BDL	BDL	BDL

Remarks

Nil

### Borewell Locations:

Sl.No.	Sample Identification	Borewell Location
1	SAMPLE 1	South West of Ash Bund (Near CAAQMS-3)
2	SAMPLE 2	South of Ash Bund
3	SAMPLE 3	South East of Ash Bund
4	SAMPLE 4	North East of Ash Bund

SAMPLE COLLECTED BY

Sr. CHEMIST





# COASTAL ENERGEN PRIVATE LIMITED

2 X 600 MW MUTIARA THERMAL POWER PLANT  
BOREWELL WATER ANALYSIS REPORT - MARCH'24

Sample Collected on 06.03.2024

S. No	PARAMETERS	UNIT	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4
1	pH	-	8.06	6.98	7.53	7.54
2	Electrical conductivity	( $\mu$ s/cm)	3010	22900	15390	5390
3	Total Suspended Solids	ppm	3	2	11	6
4	Total Dissolved Solids	ppm	1957	14885	10004	3504
5	Total Hardness	ppm	320	3214	1286	510
6	Calcium Hardness	ppm	224	1864	860	388
7	Magnesium Hardness	ppm	96	1350	426	122
8	Total Chloride	ppm	684	6240	3228	1084
9	Sodium	ppm	320	2720	1050	610
10	Potassium	ppm	30	64	58	42
11	Lead	ppm	BDL	BDL	BDL	BDL
12	Boron	ppm	0.07	0.08	0.09	0.08
13	BOD	mg/l	2.1	1.4	2.3	1.9
14	DO	mg/l	6.2	4.8	5.1	5.2
15	COD	mg/l	32	50	48	44
16	Sulphate	ppm	148	756	582	224
17	Oil & Grease	mg/l	BDL	BDL	BDL	BDL
18	Mercury	ppm	BDL	BDL	BDL	BDL
19	Arsenic	ppm	BDL	BDL	BDL	BDL
20	Chromium	ppm	BDL	BDL	BDL	BDL
Remarks		Nil				

Borewell Locations:

Sl.No.	Sample Identification	Borewell Location
1	SAMPLE 1	South West of Ash Bund (Near CAAQMS-3)
2	SAMPLE 2	South of Ash Bund
3	SAMPLE 3	South East of Ash Bund
4	SAMPLE 4	North East of Ash Bund

  
S. SIVARAJ  
SAMPLE COLLECTED BY

  
L. Vasanth  
Sr. CHEMIST





# COASTAL ENERGEN PRIVATE LIMITED

2 X 600 MW MUTIARA THERMAL POWER PLANT

**BOREWELL WATER ANALYSIS REPORT - APRIL'24**

Sample Collected on 09.04.2024

S. No	PARAMETERS	UNIT	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4
1	pH	-	7.03	7.54	7.45	7.17
2	Electrical conductivity	( $\mu$ s/cm)	7140	18640	10740	6004
3	Total Suspended Solids	ppm	9	12	40	9
4	Total Dissolved Solids	ppm	4641	12116	6981	3903
5	Total Hardness	ppm	794	1548	1198	648
6	Calcium Hardness	ppm	548	940	790	452
7	Magnesium Hardness	ppm	246	608	408	196
8	Total Chloride	ppm	1580	2980	2420	1360
9	Sodium	ppm	710	1170	1050	610
10	Potassium	ppm	28	56	48	36
11	Lead	ppm	BDL	BDL	BDL	BDL
12	Boron	ppm	0.08	0.06	0.09	0.07
13	BOD	mg/l	1.9	1.6	2.1	2.0
14	DO	mg/l	5.6	5.0	5.2	5.1
15	COD	mg/l	34	52	46	42
16	Sulphate	ppm	352	616	482	260
17	Oil & Grease	mg/l	BDL	BDL	BDL	BDL
18	Mercury	ppm	BDL	BDL	BDL	BDL
19	Arsenic	ppm	BDL	BDL	BDL	BDL
20	Chromium	ppm	BDL	BDL	BDL	BDL

Remarks

Nil

Borewell Locations:

Sl.No.	Sample Identification	Borewell Location
1	SAMPLE 1	South West of Ash Bund (Near CAAQMS-3)
2	SAMPLE 2	South of Ash Bund
3	SAMPLE 3	South East of Ash Bund
4	SAMPLE 4	North East of Ash Bund

SAMPLE COLLECTED BY

V. S. N. PAUL

Sr. CHEMIST

H. Venkatesh





# COASTAL ENERGEN PRIVATE LIMITED

2 X 600 MW MUTIARA THERMAL POWER PLANT  
BOREWELL WATER ANALYSIS REPORT - MAY'24

Sample Collected on 08.05.2024

S. No	PARAMETERS	UNIT	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4
1	pH	-	7.24	7.88	6.95	7.36
2	Electrical conductivity	( $\mu$ s/cm)	6540	16550	9630	5870
3	Total Suspended Solids	ppm	6	10	21	14
4	Total Dissolved Solids	ppm	4251	10758	6260	3816
5	Total Hardness	ppm	794	1548	1198	648
6	Calcium Hardness	ppm	548	940	790	452
7	Magnesium Hardness	ppm	230	510	436	214
8	Total Chloride	ppm	2116	3348	2820	1787
9	Sodium	ppm	456	920	822	545
10	Potassium	ppm	30	62	54	40
11	Lead	ppm	BDL	BDL	BDL	BDL
12	Boron	ppm	0.06	0.09	0.1	0.05
13	BOD	mg/l	2.9	3.6	4.2	3.4
14	DO	mg/l	5.2	6.1	4.9	5.5
15	COD	mg/l	45	57	50	42
16	Sulphate	ppm	375	540	420	334
17	Oil & Grease	mg/l	BDL	BDL	BDL	BDL
18	Mercury	ppm	BDL	BDL	BDL	BDL
19	Arsenic	ppm	BDL	BDL	BDL	BDL
20	Chromium	ppm	BDL	BDL	BDL	BDL
<b>Remarks</b>		Nil				

### Borewell Locations:

Sl.No.	Sample Identification	Borewell Location
1	SAMPLE 1	South West of Ash Bund (Near CAAQMS-3)
2	SAMPLE 2	South of Ash Bund
3	SAMPLE 3	South East of Ash Bund
4	SAMPLE 4	North East of Ash Bund

  
V. Srinivasan  
SAMPLE COLLECTED BY

  
L. Venkatharsi  
Sr. CHEMIST





# COASTAL ENERGEN PRIVATE LIMITED

2 X 600 MW MUTIARA THERMAL POWER PLANT  
BOREWELL WATER ANALYSIS REPORT - JUNE'24

Sample Collected on 15.06.2024

S. No	PARAMETERS	UNIT	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4
1	pH	-	7.38	6.92	7.49	7.83
2	Electrical conductivity	( $\mu$ s/cm)	7440	18800	18240	12380
3	Total Suspended Solids	ppm	15	19	28	23
4	Total Dissolved Solids	ppm	4836	12220	11856	8047
5	Total Hardness	ppm	636	2700	2560	1420
6	Calcium Hardness	ppm	480	1380	1280	740
7	Magnesium Hardness	ppm	156	1320	1280	680
8	Total Chloride	ppm	1612	6488	3284	1790
9	Sodium	ppm	722	1210	1340	725
10	Potassium	ppm	26	55	66	48
11	Lead	ppm	BDL	BDL	BDL	BDL
12	Boron	ppm	0.12	0.05	0.08	0.06
13	BOD	mg/l	2.1	2.4	2	1.8
14	DO	mg/l	5.7	5.5	5.5	5.1
15	COD	mg/l	30	45	38	46
16	Sulphate	ppm	378	714	510	334
17	Oil & Grease	mg/l	BDL	BDL	BDL	BDL
18	Mercury	ppm	BDL	BDL	BDL	BDL
19	Arsenic	ppm	BDL	BDL	BDL	BDL
20	Chromium	ppm	BDL	BDL	BDL	BDL



Remarks

Nil

### Borewell Locations:

Sl.No.	Sample Identification	Borewell Location
1	SAMPLE 1	South West of Ash Bund (Near CAAQMS-3)
2	SAMPLE 2	South of Ash Bund
3	SAMPLE 3	South East of Ash Bund
4	SAMPLE 4	North East of Ash Bund

  
S. SIVAPRASAD  
SAMPLE COLLECTED BY

  
L. Venkatesh  
Sr. CHEMIST  


# **EXTERNAL ROA- GROUND WATER**



# Interstellar Testing Centre Private Limited

## TEST REPORT



TC - 6952  
ORIGINAL  
Page 1 of 3

Test Report No. : ICE-2406110632  
NABL ULR No. : TC695224000008083F



### Issued To :

Coastal Energen Private Limited  
2X600 MW Mutiara Thermal Power Plant  
4/36D, Melamaruthur (village), Duraisampuram(Post), Ottapidafam Taluk,  
Tuticorin, 628105  
Tamil Nadu, India

Sample Registration No. : E02-2405270632  
Sample Name : Ground Water  
Sample Condition : Good

Received On : 27-05-2024  
Commenced On : 27-05-2024  
Completed On : 05-06-2024  
Date of Report : 11-06-2024

### Sample Details (if any)

Sample Quantity : 2.5 Lit X 1 No  
Packaging Mode : Canned  
Sample Submission Type : Sampled by Lab Rep  
Date of Sampling : 25.05.2024  
Sampling Location : Bore well water - I (South West of Ash Pond)  
Environment Condition : Good  
Sampling Procedure : ITC/CHN/GSOP/001  
Customer Reference : Test Request Form/25/05/2024  
Test Report as per : NA

Description: Slightly turbid liquid					
S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Discipline : Chemical					
Group : Water					
(I) Organoleptic & Physical Parameter					
1	Colour	Hazen Unit	Visual	IS 3025(Part-4): 2021	15.0
2	Odour	NA°	Organoleptic	IS 3025(Part-5): 2017	Agreeable
3	pH Value	NA	pH Meter	IS 3025(Part-11): 2022	7.78
4	Taste	NA	Organoleptic	IS 3025(Part-8): 2023	Disagreeable
5	Turbidity	NTU	Turbidity Meter	IS 3025(Part-10): 2023	10.8
6	Total Dissolved Solids	mg/L	Balance, Oven, Waterbath	IS 3025(Part-16): 2023	4610
(II) Parameters Concerning Undesirable Substances in excess amount					
1	Ammonia(as total ammonia-N)	mg/L	UV-Spectrophotometer	IS 3025(Part-34/Sec 4): 2022	BLQ(LOQ:0.1)
2	Anionic detergent(as MBAS)	mg/L	UV-Spectrophotometer	IS 13428: 2005(RA 2018)-Annex K	BLQ(LOQ:0.05)
3	Sulphate(as SO4)	mg/L	UV-Spectrophotometer	IS 3025(Part-24): 2022	1046
4	Calcium(as Ca)	mg/L	Titration	IS 3025(Part-40): 2019	112
5	Chloramines(as Cl2)	mg/L	UV-Spectrophotometer	IS 3025 (Part 26): 2021	BLQ(LOQ:0.1)
6	Fluoride(as F)	mg/L	Visual	IS 3025 (Part - 60): 2019	1.4
7	Free Residual Chlorine	mg/L	UV-	IS 3025 (Part 26): 2021	BLQ(LOQ:0.1)

11/06/2024  
Prabakaran  
Authorized Signatory(Microbiology)

11/06/2024  
Chinnaraja  
Verified by

11/06/2024  
Vijay Anand  
Authorised by

### Interstellar Testing Centre Private Limited

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Website : www.itclabs.com

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# Interstellar Testing Centre Private Limited

## TEST REPORT



Test Report No. : ICE-2406110632  
NABL ULR No. : TC69522400008083F



ORIGINAL  
Page 2 of 3

			Spectrophotometer		
8	Magnesium(as Mg)	mg/L	By Calculation	IS 3025(Part-46): 2023	97.4
9	Manganese(as Mn)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	0.048
10	Nitrate(as NO <sub>3</sub> )	mg/L	UV- Spectrophotometer	IS 3025(Part-34/Sec 4): 2022	17
11	Phenolic compounds(as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	UV- Spectrophotometer	IS 3025 (Part-43/Sec 1): 2022	BLQ(LOQ:0.001)
12	Selenium(as Se)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	0.016
13	Silver(as Ag)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)
14	Iron(as Fe)	mg/L	UV- Spectrophotometer	IS 3025 (Part-53): 2019	0.32
15	Sulphide(as H <sub>2</sub> S)	mg/L	UV- Spectrophotometer	IS 3025(Part-29): 2022	BLQ(LOQ:0.04)
16	Total Alkalinity(as CaCO <sub>3</sub> )	mg/L	Titration	IS 3025(Part-23): 2023	246
17	Total Hardness(as CaCO <sub>3</sub> )	mg/L	Titration	IS 3025 (Part-21): 2019	680
18	Zinc(as Zn)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	3.8
19	Aluminium(as Al)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)
20	Chloride(as Cl)	mg/L	Titration	IS 3025(Part-32): 2019	866
21	Copper(as Cu)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)
22	Barium(as Ba)	mg/L	ICPOES	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.05)
23	Boron(as B)	mg/L	ICPOES	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	1.6
(III)	<b>Parameters Concerning Toxic Substances</b>				
1	Cadmium(as Cd)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.001)
2	Cyanide(asCN)	mg/L	UV- Spectrophotometer	IS 3025 (Part-27/Sec 1): 2021	BLQ(LOQ:0.01)
3	Lead(as Pb)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)

11/06/2024  
Prabakaran  
Authorized Signatory(Microbiology)

11/06/2024  
Chinnaraja  
Verified by

11/06/2024  
Vijay Anand  
Authorised by

### Interstellar Testing Centre Private Limited

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# Interstellar Testing Centre Private Limited

## TEST REPORT



Test Report No. : ICE-2406110632  
NABL ULR No. : TC69522400008083F



TC - 6952  
ORIGINAL  
Page 3 of 3

4	Mercury(as Hg)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.0005)
5	Molybdenum(as Mo)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)
6	Nickel(as Ni)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)
7	Total Arsenic( as As)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)
8	Total Chromium(as Cr)	mg/L	ICPMS	APHA 23rd Edn. 3120 B: 2017	BLQ(LOQ:0.005)
<b>(IV) General Parameters</b>					
1	Phenolphthalein Alkalinity (as CaCO <sub>3</sub> )	mg/L	Titration	IS 3025(Part-23): 2023	BLQ(LOQ:1.0)
<b>Discipline : Biological</b>					
<b>Group : Water</b>					
<b>(V) Microbiological Tests</b>					
1	E.coli	MPN/100ml	Microbiological	IS 1622 :1981	<2
2	Total Coliform	MPN/100ml	Microbiological	IS 1622 :1981	22

NOTE : BLQ - Below Limit of Quantification, LOQ - Limit Of Quantification, MPN - Most Probable Number.

REMARKS : NA

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

Since 1988

11/06/2024

Prabakaran  
Authorized Signatory(Microbiology)

11/06/2024

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# Interstellar Testing Centre Private Limited

## TEST REPORT



TC - 6952  
ORIGINAL  
Page 1 of 3

Test Report No. : ICE-2406110633  
NABL ULR No. : TC695224000008084F



### Issued To :

Coastal Energen Private Limited  
2X600 MW Mutiara Thermal Power Plant  
4/36D, Melamaruthur (village), Duraisampuram(Post), Ottapidaram Taluk,  
Tuticorin, 628105  
Tamil Nadu, India

Sample Registration No. : E02-2405270633  
Sample Name : Ground Water  
Sample Condition : Good

Received On : 27-05-2024  
Commenced On : 27-05-2024  
Completed On : 05-06-2024  
Date of Report : 11-06-2024

### Sample Details (if any)

Sample Quantity : 2.5 Lit X 1 No  
Packaging Mode : Canned  
Sample Submission Type : Sampled by Lab Rep  
Date of Sampling : 25.05.2024  
Sampling Location : Bore well Water - 2 (South of Ash Pond)  
Environment Condition : Good  
Sampling Procedure : ITC/CHN/GSOP/001  
Customer Reference : Test Request Form/25/05/2024  
Test Report as per : NA

Description: Slightly Brownish Coloured turbid liquid					
S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Discipline : Chemical					
Group : Water					
(I) Organoleptic & Physical Parameter					
1	Colour	Hazen Unit	Visual	IS 3025(Part-4): 2021	20 True colour
2	Odour	NA	Organoleptic	IS 3025(Part-5): 2017	Disagreeable
3	pH Value	NA	pH Meter	IS 3025(Part-11): 2022	7.20
4	Taste	NA	Organoleptic	IS 3025(Part-8): 2023	Disagreeable
5	Turbidity	NTU	Turbidity Meter	IS 3025(Part-10): 2023	24.5
6	Total Dissolved Solids	mg/L	Balance, Oven, Waterbath	IS 3025(Part-16): 2023	14480
(II) Parameters Concerning Undesirable Substances in excess amount					
1	Ammonia(as total ammonia-N)	mg/L	UV-Spectrophotometer	IS 3025(Part-34/Sec 4): 2022	BLQ(LOQ:0.1)
2	Anionic detergent(as MBAS)	mg/L	UV-Spectrophotometer	IS 13428: 2005(RA 2018)-Annex K	BLQ(LOQ:0.05)
3	Sulphate(as SO4)	mg/L	UV-Spectrophotometer	IS 3025(Part-24): 2022	1069
4	Calcium(as Ca)	mg/L	Titration	IS 3025(Part-40): 2019	449
5	Chloramines(as Cl2)	mg/L	UV-Spectrophotometer	IS 3025 (Part 26): 2021	BLQ(LOQ:0.1)
6	Fluoride(as F)	mg/L	Visual	IS 3025 (Part - 60): 2019	1.1
7	Free Residual Chlorine	mg/L	UV-	IS 3025 (Part 26): 2021	BLQ(LOQ:0.1)

11/06/2024  
Prabakaran  
Authorized Signatory(Microbiology)

11/06/2024  
Chinnaraja  
Verified by

11/06/2024  
Vijay Anand  
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### Interstellar Testing Centre Private Limited

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# Interstellar Testing Centre Private Limited

## TEST REPORT



TC - 6952

ORIGINAL  
Page 2 of 3

Test Report No. : ICE-2406110633

NABL ULR No. : TC695224000008084F



8	Magnesium(as Mg)	mg/L	Spectrophotometer By Calculation	IS 3025(Part-46): 2023	390
9	Manganese(as Mn)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	0.056
10	Nitrate(as NO <sub>3</sub> )	mg/L	UV- Spectrophotometer	IS 3025(Part-34/Sec 4): 2022	4.7
11	Phenolic compounds(as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	UV- Spectrophotometer	IS 3025 (Part-43/Sec 1): 2022	BLQ(LOQ:0.001)
12	Selenium(as Se)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	0.096
13	Silver(as Ag)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	0.011
14	Iron(as Fe)	mg/L	UV- Spectrophotometer	IS 3025 (Part-53): 2019	1.31
15	Sulphide(as H <sub>2</sub> S)	mg/L	UV- Spectrophotometer	IS 3025(Part-29): 2022	BLQ(LOQ:0.04)
16	Total Alkalinity(as CaCO <sub>3</sub> )	mg/L	Titration	IS 3025(Part-23): 2023	164
17	Total Hardness(as CaCO <sub>3</sub> )	mg/L	Titration	IS 3025 (Part-21): 2019	2720
18	Zinc(as Zn)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	26.1
19	Aluminium(as Al)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	0.036
20	Chloride(as Cl)	mg/L	Titration	IS 3025(Part-32): 2019	5658
21	Copper(as Cu)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)
22	Barium(as Ba)	mg/L	ICPOES	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.05)
23	Boron(as B)	mg/L	ICPOES	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	0.051
(III)	<b>Parameters Concerning Toxic Substances</b>				
1	Cadmium(as Cd)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.001)
2	Cyanide(as CN)	mg/L	UV- Spectrophotometer	IS 3025 (Part-27/Sec 1): 2021	BLQ(LOQ:0.01)
3	Lead(as Pb)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)

11/06/2024  
Prabakaran  
Authorized Signatory(Microbiology)

11/06/2024  
Chinnaraja  
Verified by

11/06/2024  
Vijay Anand  
Authorised by

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# Interstellar Testing Centre Private Limited

## TEST REPORT



TC - 6952  
ORIGINAL  
Page 3 of 3

Test Report No. : ICE-2406110633  
NABL ULR No. : TC695224000008084F



4	Mercury(as Hg)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.0005)
5	Molybdenum(as Mo)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)
6	Nickel(as Ni)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)
7	Total Arsenic( as As)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)
8	Total Chromium(as Cr)	mg/L	ICPMS	APHA 23rd Edn. 3120 B: 2017	BLQ(LOQ:0.005)
<b>(IV) General Parameters</b>					
1	Phenolphthalein Alkalinity (as CaCO <sub>3</sub> )	mg/L	Titration	IS 3025(Part-23): 2023	BLQ(LOQ:1.0)
<b>Discipline : Biological</b>					
<b>Group : Water</b>					
<b>(V) Microbiological Tests</b>					
1	E.coli	MPN/100ml	Microbiological	IS 1622 :1981	<2
2	Total Coliform	MPN/100ml	Microbiological	IS 1622 :1981	50

NOTE : BLQ - Below Limit of Quantification, LOQ - Limit Of Quantification, MPN - Most Probable Number.

REMARKS : NA

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

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## TEST REPORT



TC - 6952  
ORIGINAL  
Page 1 of 3

Test Report No. : ICE-2406110634  
NABL ULR No. : TC695224000008085F



### Issued To :

Coastal Energen Private Limited  
2X600 MW Mutiara Thermal Power Plant  
4/36D, Melamaruthur (village), Duraisampuram(Post), Ottapidaram Taluk,  
Tuticorin, 628105  
Tamil Nadu, India

Sample Registration No. : E02-2405270634  
Sample Name : Ground Water  
Sample Condition : Good

Received On : 27-05-2024  
Commenced On : 27-05-2024  
Completed On : 05-06-2024  
Date of Report : 11-06-2024

### Sample Details (if any)

Sample Quantity : 2.5 Lit X 1 No  
Packaging Mode : Canned  
Sample Submission Type : Sampled by Lab Rep  
Date of Sampling : 25.05.2024  
Sampling Location : Bore well Water - 3 (South East of Ash Pond)  
Environment Condition : Good  
Sampling Procedure : ITC/CHN/GSOP/001  
Customer Reference : Test Request Form/25/05/2024  
Test Report as per : NA

Description: Slightly turbid liquid					
S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Discipline : Chemical					
Group : Water					
(I) Organoleptic & Physical Parameter					
1	Colour	Hazen Unit	Visual	IS 3025(Part-4): 2021	10.0
2	Odour	NA	Organoleptic	IS 3025(Part-5): 2017	Agreeable
3	pH Value	NA	pH Meter	IS 3025(Part-11): 2022	7.51
4	Taste	NA	Organoleptic	IS 3025(Part-8): 2023	Disagreeable
5	Turbidity	NTU	Turbidity Meter	IS 3025(Part-10): 2023	14.0
6	Total Dissolved Solids	mg/L	Balance, Oven, Waterbath	IS 3025(Part-16): 2023	14580
(II) Parameters Concerning Undesirable Substances in excess amount					
1	Ammonia(as total ammonia-N)	mg/L	UV-Spectrophotometer	IS 3025(Part-34/Sec 4): 2022	BLQ(LOQ:0.1)
2	Anionic detergent(as MBAS)	mg/L	UV-Spectrophotometer	IS 13428: 2005(RA 2018)-Annex K	BLQ(LOQ:0.05)
3	Sulphate(as SO4)	mg/L	UV-Spectrophotometer	IS 3025(Part-24): 2022	901
4	Calcium(as Ca)	mg/L	Titration	IS 3025(Part-40): 2019	401
5	Chloramines(as Cl2)	mg/L	UV-Spectrophotometer	IS 3025 (Part 26): 2021	BLQ(LOQ:0.1)
6	Fluoride(as F)	mg/L	Visual	IS 3025 (Part - 60): 2019	0.76
7	Free Residual Chlorine	mg/L	UV-	IS 3025 (Part 26): 2021	BLQ(LOQ:0.1)

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Prabakaran  
Authorized Signatory(Microbiology)

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## TEST REPORT



TC - 6952

ORIGINAL  
Page 2 of 3

Test Report No. : ICE-2406110634

NABL ULR No. : TC69522400008085F



Sl. No.	Parameter	Unit	Method	Reference	Result
8	Magnesium(as Mg)	mg/L	Spectrophotometer By Calculation	IS 3025(Part-46): 2023	409
9	Manganese(as Mn)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	0.038
10	Nitrate(as NO <sub>3</sub> )	mg/L	UV- Spectrophotometer	IS 3025(Part-34/Sec 4): 2022	1.32
11	Phenolic compounds(as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	UV- Spectrophotometer	IS 3025 (Part-43/Sec 1): 2022	BLQ(LOQ:0.001)
12	Selenium(as Se)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	0.091
13	Silver(as Ag)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	0.014
14	Iron(as Fe)	mg/L	UV- Spectrophotometer	IS 3025 (Part-53): 2019	0.22
15	Sulphide(as H <sub>2</sub> S)	mg/L	UV- Spectrophotometer	IS 3025(Part-29): 2022	BLQ(LOQ:0.04)
16	Total Alkalinity(as CaCO <sub>3</sub> )	mg/L	Titration	IS 3025(Part-23): 2023	121
17	Total Hardness(as CaCO <sub>3</sub> )	mg/L	Titration	IS 3025 (Part-21): 2019	2680
18	Zinc(as Zn)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	8.76
19	Aluminium(as Al)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	0.014
20	Chloride(as Cl)	mg/L	Titration	IS 3025(Part-32): 2019	6081
21	Copper(as Cu)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)
22	Barium(as Ba)	mg/L	ICPOES	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.05)
23	Boron(as B)	mg/L	ICPOES	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	2.35
<b>(III) Parameters Concerning Toxic Substances</b>					
1	Cadmium(as Cd)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.001)
2	Cyanide(as CN)	mg/L	UV- Spectrophotometer	IS 3025 (Part-27/Sec 1): 2021	BLQ(LOQ:0.01)
3	Lead(as Pb)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)

11/06/2024

Prabakaran

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## TEST REPORT



TC - 6952  
ORIGINAL  
Page 3 of 3

Test Report No. : ICE-2406110634  
NABL ULR No. : TC695224000008085F



4	Mercury(as Hg)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.0005)
5	Molybdenum(as Mo)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	0.012
6	Nickel(as Ni)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)
7	Total Arsenic( as As)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	0.036
8	Total Chromium(as Cr)	mg/L	ICPMS	APHA 23rd Edn. 3120 B: 2017	BLQ(LOQ:0.005)
(IV)	<b>General Parameters</b>				
1	Phenolphthalein Alkalinity (as CaCO <sub>3</sub> )	mg/L	Titration	IS 3025(Part-23): 2023	BLQ(LOQ:1.0)
	<b>Discipline : Biological</b>				
	<b>Group : Water</b>				
(V)	<b>Microbiological Tests</b>				
1	E.coli	MPN/100ml	Microbiological	IS 1622 :1981	<2
2	Total Coliform	MPN/100ml	Microbiological	IS 1622 :1981	17

NOTE : BLQ - Below Limit of Quantification, LOQ - Limit Of Quantification, MPN - Most Probable Number.

REMARKS : NA

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

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## TEST REPORT



TC - 6952  
ORIGINAL  
Page 1 of 3

Test Report No. : ICE-2406110635  
NABL ULR No. : TC695224000008086F



### Issued To :

Coastal Energen Private Limited  
2X600 MW Mutiara Thermal Power Plant  
4/36D, Melamaruthur (village), Duraisampuram(Post), Ottapidaram Taluk,  
Tuticorin, 628105  
Tamil Nadu, India

Sample Registration No. : E02-2405270635  
Sample Name : Ground Water  
Sample Condition : Good

Received On : 27-05-2024  
Commenced On : 27-05-2024  
Completed On : 05-06-2024  
Date of Report : 11-06-2024

### Sample Details (if any)

Sample Quantity : 2.5 Lit X 1 No  
Packaging Mode : Canned  
Sample Submission Type : Sampled by Lab Rep  
Date of Sampling : 25.05.2024  
Sampling Location : Bore Well Water -4 (North East of Ash Pond)  
Environment Condition : Good  
Sampling Procedure : ITC/CHN/GSOP/001  
Customer Reference : Test Request Form/25/05/2024  
Test Report as per : NA

Description: Slightly turbid liquid					
S. No.	Parameter	Measuring Unit	Instrument	Method	Result
Discipline : Chemical					
Group : Water					
(I) Organoleptic & Physical Parameter					
1	Colour	Hazen Unit	Visual	IS 3025(Part-4): 2021	5.0
2	Odour	NA	Organoleptic	IS 3025(Part-5): 2017	Agreeable
3	pH Value	NA	pH Meter	IS 3025(Part-11): 2022	7.65
4	Taste	NA	Organoleptic	IS 3025(Part-8): 2023	Disagreeable
5	Turbidity	NTU	Turbidity Meter	IS 3025(Part-10): 2023	2.5
6	Total Dissolved Solids	mg/L	Balance, Oven, Waterbath	IS 3025(Part-16): 2023	4630
(II) Parameters Concerning Undesirable Substances in excess amount					
1	Ammonia(as total ammonia-N)	mg/L	UV-Spectrophotometer	IS 3025(Part-34/Sec 4): 2022	BLQ(LOQ:0.1)
2	Anionic detergent(as MBAS)	mg/L	UV-Spectrophotometer	IS 13428: 2005(RA 2018)-Annex K	BLQ(LOQ:0.05)
3	Sulphate(as SO4)	mg/L	UV-Spectrophotometer	IS 3025(Part-24): 2022	436
4	Calcium(as Ca)	mg/L	Titration	IS 3025(Part-40): 2019	128
5	Chloramines(as Cl2)	mg/L	UV-Spectrophotometer	IS 3025 (Part 26): 2021	BLQ(LOQ:0.1)
6	Fluoride(as F)	mg/L	Visual	IS 3025 (Part - 60): 2019	0.55
7	Free Residual Chlorine	mg/L	UV-	IS 3025 (Part 26): 2021	BLQ(LOQ:0.1)

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Authorized Signatory(Microbiology)

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## TEST REPORT



TC - 6952

ORIGINAL  
Page 2 of 3

Test Report No. : ICE-2406110635

NABL ULR No. : TC695224000008086F



			Spectrophotometer		
8	Magnesium(as Mg)	mg/L	By Calculation	IS 3025(Part-46): 2023	68.2
9	Manganese(as Mn)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	0.026
10	Nitrate(as NO <sub>3</sub> )	mg/L	UV- Spectrophotometer	IS 3025(Part-34/Sec 4): 2022	1.81
11	Phenolic compounds(as C <sub>6</sub> H <sub>5</sub> OH)	mg/L	UV- Spectrophotometer	IS 3025 (Part-43/Sec 1): 2022	BLQ(LOQ:0.001)
12	Selenium(as Se)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	0.019
13	Silver(as Ag)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	0.017
14	Iron(as Fe)	mg/L	UV- Spectrophotometer	IS 3025 (Part-53): 2019	0.27
15	Sulphide(as H <sub>2</sub> S)	mg/L	UV- Spectrophotometer	IS 3025(Part-29): 2022	BLQ(LOQ:0.04)
16	Total Alkalinity(as CaCO <sub>3</sub> )	mg/L	Titration	IS 3025(Part-23): 2023	444
17	Total Hardness(as CaCO <sub>3</sub> )	mg/L	Titration	IS 3025 (Part-21): 2019	600
18	Zinc(as Zn)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	7.4
19	Aluminium(as Al)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)
20	Chloride(as Cl)	mg/L	Titration	IS 3025(Part-32): 2019	1571
21	Copper(as Cu)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)
22	Barium(as Ba)	mg/L	ICPOES	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.05)
23	Boron(as B)	mg/L	ICPOES	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	1.57
(III)	Parameters Concerning Toxic Substances				
1	Cadmium(as Cd)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.001)
2	Cyanide(asCN)	mg/L	UV- Spectrophotometer	IS 3025 (Part-27/Sec 1): 2021	BLQ(LOQ:0.01)
3	Lead(as Pb)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)

11/06/2024

Prabakaran

Authorized Signatory(Microbiology)

11/06/2024

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## TEST REPORT



TC - 6952

ORIGINAL  
Page 3 of 3

Test Report No. : ICE-2406110635

NABL ULR No. : TC695224000008086F



4	Mercury(as Hg)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.0005)
5	Molybdenum(as Mo)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)
6	Nickel(as Ni)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	BLQ(LOQ:0.005)
7	Total Arsenic( as As)	mg/L	ICPMS	ITC/CHN/FD/STP/020; Issue No: 3.0; Issue Date: 11.09.2021	0.081
8	Total Chromium(as Cr)	mg/L	ICPMS	APHA 23rd Edn. 3120 B: 2017	BLQ(LOQ:0.005)
<b>(IV) General Parameters</b>					
1	Phenolphthalein Alkalinity (as CaCO <sub>3</sub> )	mg/L	Titration	IS 3025(Part-23): 2023	BLQ(LOQ:1.0)
<b>Discipline : Biological</b>					
<b>Group : Water</b>					
<b>(V) Microbiological Tests</b>					
1	E.coli	MPN/100ml	Microbiological	IS 1622 :1981	<2
2	Total Coliform	MPN/100ml	Microbiological	IS 1622 :1981	26

NOTE : BLQ - Below Limit of Quantification, LOQ - Limit Of Quantification, MPN - Most Probable Number.

REMARKS : NA

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

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# **ANNEXURE - 4**

# **Greenbelt Maintenance Photos (January 2024 to June 2024)**

# View of Greenbelt Area



**GPS Map Camera**

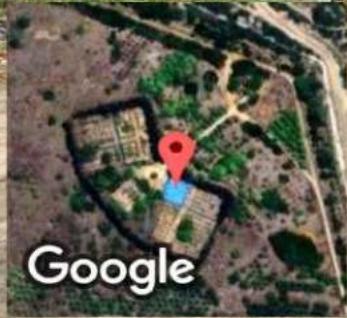
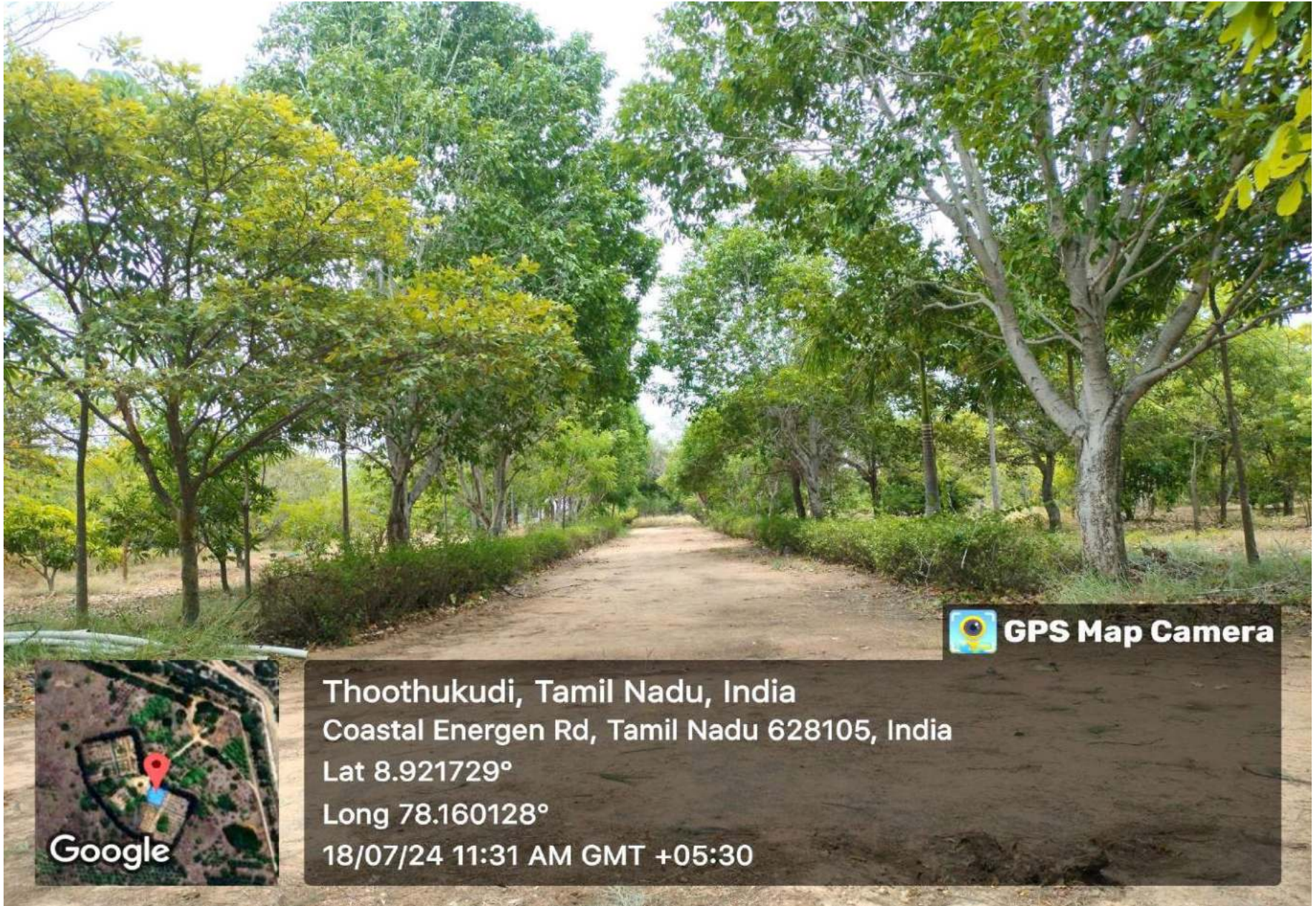


Thoothukudi, Tamil Nadu, India  
Coastal Energen Rd, Tamil Nadu 628105, India  
Lat 8.905437°  
Long 78.1418°  
18/07/24 12:24 PM GMT +05:30

# View of Greenbelt Area



# View of Greenbelt Area



Thoothukudi, Tamil Nadu, India  
Coastal Energen Rd, Tamil Nadu 628105, India  
Lat 8.921729°  
Long 78.160128°  
18/07/24 11:31 AM GMT +05:30

# View of Greenbelt Area



 **GPS Map Camera**



**Thoothukudi, Tamil Nadu, India**  
**Coastal Energen Rd, Tamil Nadu 628105, India**  
**Lat 8.905609°**  
**Long 78.14088°**  
**18/07/24 12:38 PM GMT +05:30**



# View of Greenbelt Area



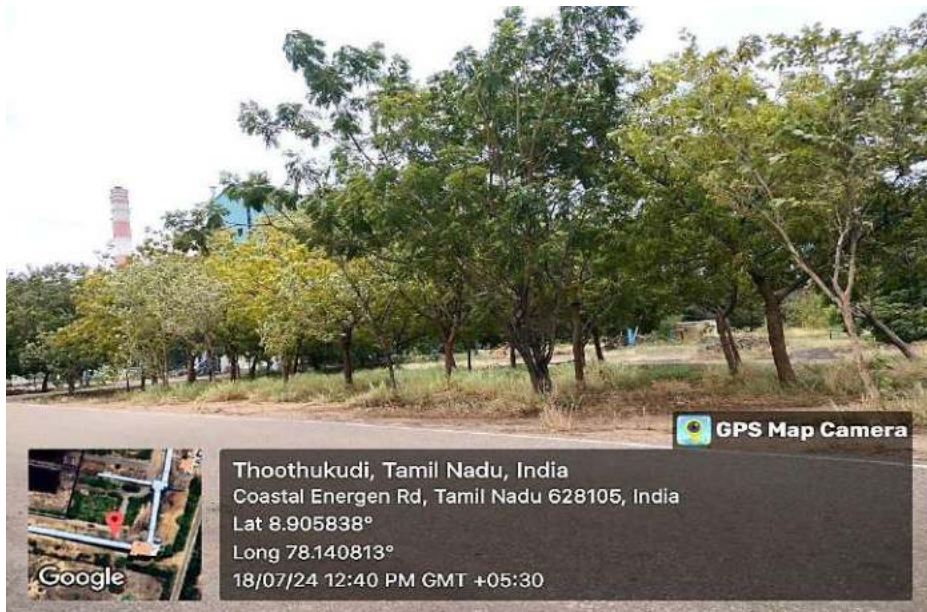
 **GPS Map Camera**



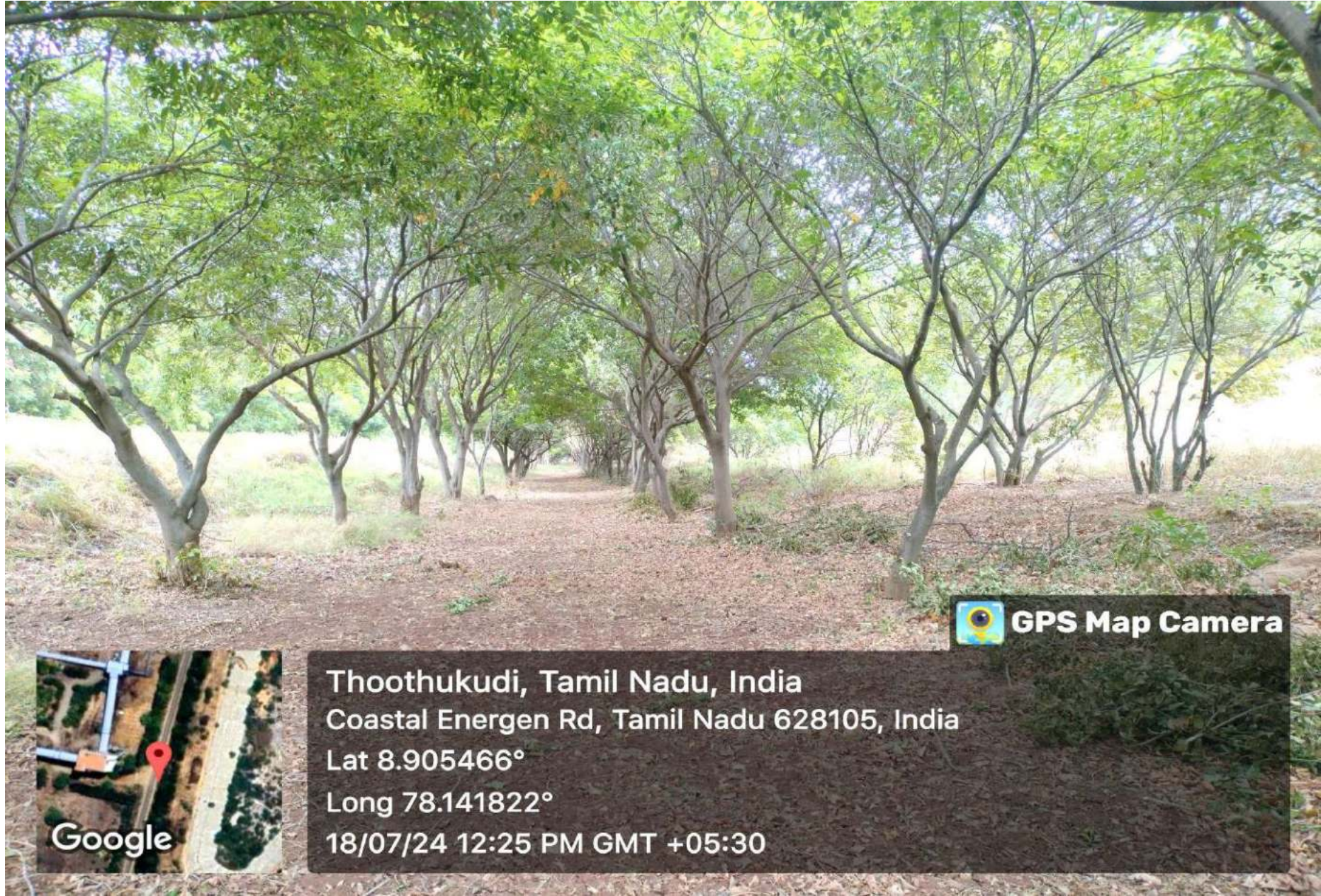
**Thoothukudi, Tamil Nadu, India**  
**Coastal Energen Rd, Tamil Nadu 628105, India**  
**Lat 8.905589°**  
**Long 78.140877°**  
**18/07/24 12:38 PM GMT +05:30**

**Google**

# View of Greenbelt Area



# View of Greenbelt Area

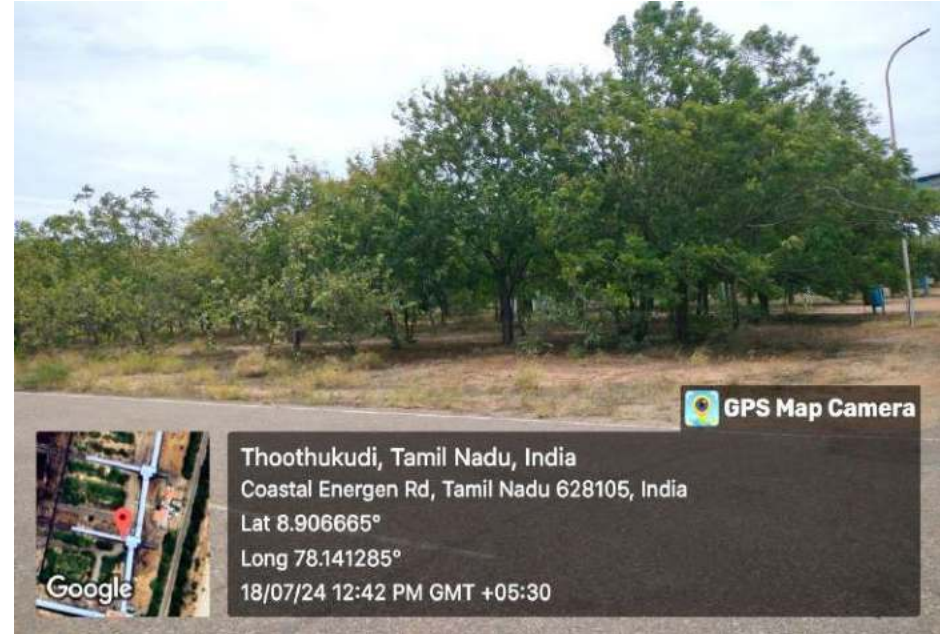


 **GPS Map Camera**



Thoothukudi, Tamil Nadu, India  
Coastal Energen Rd, Tamil Nadu 628105, India  
Lat 8.905466°  
Long 78.141822°  
18/07/24 12:25 PM GMT +05:30

# View of Greenbelt Area



# View of Greenbelt Area



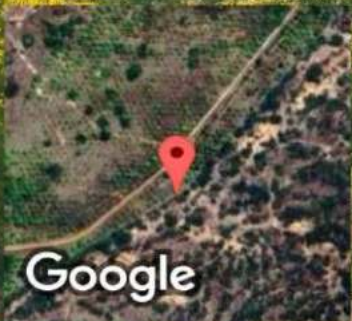
# View of Greenbelt Area



# View of Greenbelt Area



**GPS Map Camera**



Thoothukudi, Tamil Nadu, India  
Unnamed Road, Tamil Nadu 628105, India  
Lat 8.907628°  
Long 78.14961°  
23/07/24 04:56 PM GMT +05:30

# View of Greenbelt Area



 **GPS Map Camera**



**Duraisampuram, Tamil Nadu, India**  
**W5G4+3W4, Duraisampuram, Tamil Nadu 628105, India**  
**Lat 8.923132°**  
**Long 78.157491°**  
**18/07/24 11:28 AM GMT +05:30**



# **ANNEXURE - 5**

# **CSR Activities**

## **(January 2024 to June 2024)**

# Strengthening of Tharuvaikulam (Near by Village) New Tank Bund during Flood



# Temporary breach closing work done in Tharuvaikulam (Near by Village) New tank



# Desilt of Puliamarathu Arasadi (Near by Village) Tank 1



## Desilt of Puliamarathu Arasadi (Near by Village) Tank-2



REDMI NOTE 8 PRO  
AI QUAD CAMERA

# Desilt of Puliamarathu Arasadi (Near by Village) Tank 3



REDMI NOTE 8 PRO  
AI QUAD CAMERA

## DD distribution to Puliymarathu Arasadi Villagers (Near by Village) by Station Director





## Distribution of DD to AM Patti village temple festival 2024



# Distribution of DD to Melaarasadi village Panchayat President to Desilt of Puliamarathu Arasadi village tank



# Distribution of DD to Melamathur Villagers for temple festival



# **ANNEXURE - 6**

**COMPLIANCE TO THE CONDITIONS STIPULATED BY TAMILNADU COASTAL ZONE  
MANAGEMENT AUTHORITY VIDE LETTER DATED 03.04.2009**

Period: January 2024 to June 2024

Sl.No.	CONDITIONS STIPULATED BY TNCZM AUTHORITY	COMPLIANCE
a)	The unit should adhere to the norms prescribed by Ministry of Environment and Forests, Government of India and State Pollution Control Board in respect of discharging of cooling water / treated effluent in to sea.	Complied. In respect of discharging of cooling water / treated effluent in to sea, All the norms prescribed by MoEF & CC/ SPCB is being followed.
b)	The unit shall consider adopting the latest technologies such as providing cooling towers to reduce the temperature of the condenser cooling water, so as to safe guard the marine eco-system	Complied. Cooling towers to reduce the temperature of the condenser cooling water is Installed, commissioned and in operation.
c)	Marking the intake and outfall pipelines adequately such that fishing vessels and fishermen are made aware of its presence.	Complied. Marker Buoys Provided.
d)	It may be ensured that mercury concentration is not present in the end product.	Being ensured
e)	The activities such as intake pipeline and outfall line and intake arrangement in sea and the pipeline should not cause hindrance to fishing activities and to boat movement.	Complied. No hindrance for fishing or boat movement.
f)	The proposed activities should not cause coastal erosion and alter the beach configuration	Complied. No Such activities are being carried out which can cause coastal erosion or beach configuration.
g)	No blasting activities in Coastal Regulation Zone is permissible	Complied. No Such activities are being carried out.
h)	The proponent should not prevent public from easy access to the beach.	Complied. Access is not prevented from Public.
i)	Untreated chemical waste generated due to membrane protection activity and the sewage generated should not be discharged into the sea.	Complied. No Untreated chemical waste is being discharged into sea.
j)	The proponent should ensure that the saline water shall not gain access into ground while conveying or processing the sea water	Being Ensured that the saline water is not gaining access into ground while conveying or processing the sea water.
k)	The project activity should not affect the coastal ecosystem including marine flora and fauna.	The project activity does not affect the coastal ecosystem including marine flora and fauna.
l)	There should not be any extraction of ground water in Coastal Regulation Zone.	Complied. Ground Water not extracted in the Coastal Regulation Zone.
m)	The proponent shall not undertake any activity, which is violative of the provisions of Coastal Regulation zone Notification 1991 and the subsequent amendments.	Complied. No Such activities are being carried out.
n)	The Coastal Regulation Zone clearance will be revoked if any of the condition stipulated is not complied with	Agreed.



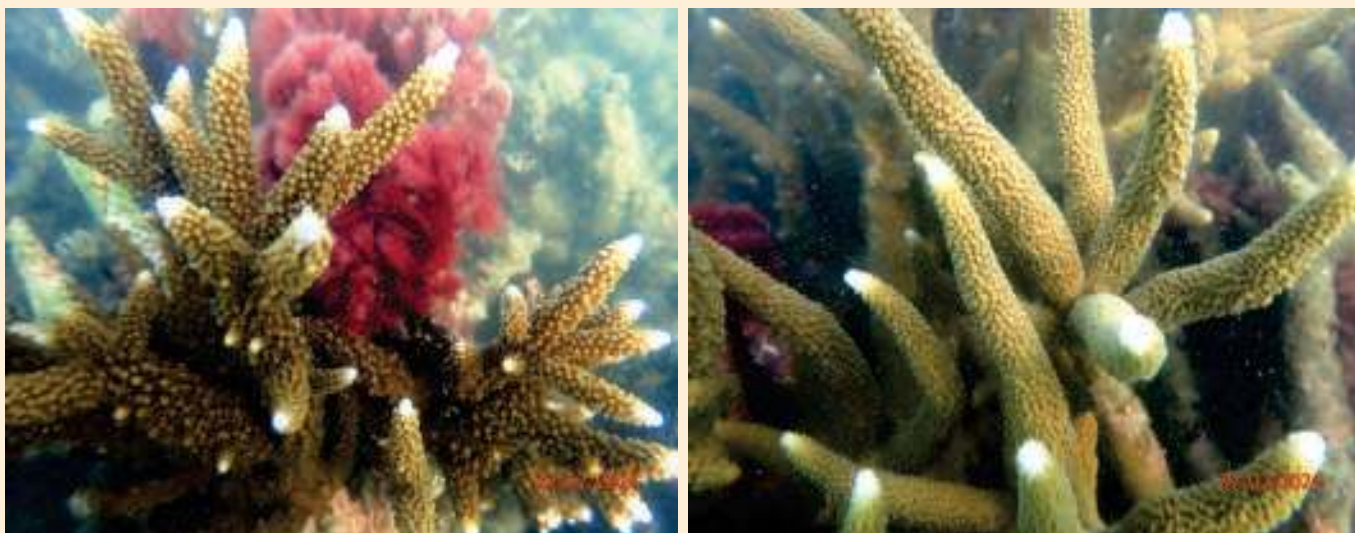
# **ANNEXURE - 7**

# Comprehensive Environmental Monitoring for 2 X 600 MW Mutiara Thermal Power Plant at Pattinamaruthoor, Tuticorin

## Monitoring Report

(January 2024 - June 2024)

## Executive Summary



*Submitted to*

### **Mutiara Thermal Power Plant**

Melamaruthur Village, Ottapidaram Thaluk,  
Tuticorin District - 628 105

*By*



### **Suganthi Devadason Marine Research Institute (SDMRI)**

(Recognized by Manonmaniam Sundaranar University and U.G.C. &  
Recognized by Scientific and Industrial Research Organization of the DSIR, GOI)

44 - Beach Road, Tuticorin - 628 001, Tamil Nadu

Tel: 0461 - 2336488, 2323007; E.mail: [director@sdmri.in](mailto:director@sdmri.in)

Web: <http://www.sdmri.in>

**12 July 2024**

**Comprehensive Environmental Monitoring for 2 X 600 MW  
Mutiara Thermal Power Plant at Pattinamaruthoor,  
Tuticorin**

**Monitoring Report**

**Executive Summary**

(January 2024 - June 2024)

*Submitted to*

**M/S. Mutiara Thermal Power Plant,  
Melamaruthur Village, Ottapidaram Thaluk,  
Tuticorin District - 628 105**

*By*



**Suganthi Devadason Marine Research Institute (SDMRI)**

(Recognized by Manonmaniam Sundaranar University and U.G.C. &  
Recognized by Scientific and Industrial Research Organization of the DSIR, GOI)

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Tel: 0461 - 2336488, 2323007; E.mail: [director@sdmri.in](mailto:director@sdmri.in)

Web: <http://www.sdmri.in>

**12 July 2024**



## Contents

<b>Chapter No.</b>	<b>Chapter title</b>	<b>Page</b>
1.	Background	3
2.	Methodology	3
2.1.	Fixing Permanent Monitoring Locations	3
2.2.	Parameters are being monitored	9
2.3.	Analysis and monitoring methods	9
3.	Results - Executive summary (January 2024 to June 2024 - Half Yearly Report)	13
3.1.	Marine water and sediment quality	13
3.2.	Coral monitoring	13
3.3.	Seagrass and fish population monitoring	15
3.4.	Cage culture of fishes near outfall in Pattinamaruthoor coast	16
3.5.	Fish Landing Data	16
4.	Remarks	22
5.	References	22
6.	Photos	24

# **Comprehensive Coastal Environmental Monitoring for 2 X 600 MW Mutiara Thermal Power Plant at Pattinamaruthoor, Tuticorin**

## **1. Background**

M/S. Mutiara Thermal Power Plant has started production of its first unit of 2 x 600 MW coal based thermal power plant near Pattinamaruthur village of Tuticorin District, Tamilnadu and comprehensive coastal monitoring has been started from February 2015.

The comprehensive baseline data collection on physical, chemical and biological, covering all marine flora & fauna covering four seasons in each year was conducted for 3 years from 2010 to 2013 and comprehensive data on fish landings and catch details in was collected for one year from 10 coastal villages located within 10 km radius of the project site.

While granting No Objection Certificate to establish the Thermal Power Plant, the Tamil Nadu Forest Department made it compulsory to implement the following Coastal Environmental Management Plan and Monitoring Protocol.

1. Marine Water Quality
2. Marine Sediment Quality
3. Coral Reef Monitoring
4. Seagrass Monitoring
5. Fish Production Monitoring

The details of parameters, monitoring locations and monitoring frequency provided by the Tamil Nadu Forest Department are followed and the present half yearly report provides the results of the monitoring from January 2024 to June 2024.

## **2. Methodology**

### **2.1. Fixing Permanent Monitoring Locations**

Permanent monitoring locations were fixed to study the marine water and sediment quality and to monitor seagrasses and coral reefs. Totally 4 locations were fixed for the analysis of marine water and sediment quality at intake site. Location 1 is on the intake point and locations 2 and 3 are 100 m away in each side of the intake point while location 4 is 200 m away from the intake point into the sea. Totally 12 stations were fixed at discharge point. Locations 2 and 3 occur near the discharge point and locations 1 and 4 are 100 m away from locations 2 and 3 respectively. Locations 5 and 6 occur 25 m away from Location 2 and 3 and locations 7 and 8 fixed at 50m away from location 5 and 6 respectively. Locations 9 and 10 were fixed at 200m away from discharge point and Locations 11 and 12 were located 400m away from discharge point towards marine side. Parameters monitored in water samples were physical parameters such as pH, salinity, temperature, turbidity and total suspended solids; chemical parameters such as dissolved oxygen, nutrients, BOD and COD; heavy metals were Copper, Lead, Nickel, Cadmium, Chromium and Mercury; bacterial parameter coliform count; marine biological parameters such as phytoplankton and zooplankton. Parameters monitored in sediment samples were pH, organic matter and nutrients.

For coral monitoring, totally 13 sites were selected. Three locations were selected around each of the Tuticorin islands Vaan, Koswari, Kariyachalli and Vilanguchalli and one location at Vilanguchalli patch reef. Physical parameters such as temperature, turbidity, total suspended solids and sedimentation were analysed in these locations and biological parameters such as coral status, growth, recruitment, diseases and bleaching were monitored. Temperature loggers will be deployed in these locations also. For seagrass monitoring, totally 13 sites were selected randomly within 3 km radius from the discharge point. Physical parameters such as temperature, turbidity, total suspended solids and sedimentation were assessed. Biological properties such as seagrass status, growth, shoot density, diseases, productivity and biomass were monitored. Fish diversity and abundance were also monitored in all the seagrass monitoring locations.

The details of monitoring locations and GPS coordinates are given in Figs. 1 to 3 and Tables 1 to 3.

The fish landing data and catch details will be collected from 10 landing centres / villages (Thirespuram, Mottaigopuram, Siluvaipatti, Vellapatti, Tharuvaikulam, Pattinamaruthoor, Sippikulam, Vaipar, Periyasamipuram and Vembar) located in and around Pattinamaruthur coast, covering 10 km radius from the project site (Fig.4)



**Fig.1: Monitoring Locations Marine Water and Sediment Quality Monitoring**

**Table 1: GPS Mark for locations for Marine water and sediment quality monitoring**

<b>Intake point</b>	<b>GPS Mark</b>
Location- 1	N8 55.084 E78 11.229
Location- 2	N8 55.143 E78 11.252
Location- 3	N8 55.046 E78 11.357
Location- 4	N8 55.007 E78 11.198
<b>Discharge point</b>	
Location- 1	N8 55.125 E78 11.252
Location- 2	N8 55.189 E78 11.285
Location- 3	N8 55.266 E78 11.333
Location- 4	N8 55.336 E78 11.374
Location- 5	N8 55.086 E78 11.654
Location- 6	N8 55.067 E78 11.624
Location- 7	N8 55.070 E78 11.666
Location- 8	N8 55.059 E78 11.657
Location- 9	N8 55.112 E78 11.409
Location- 10	N8 55.186 E78 11.461
Location- 11	N8 55.071 E78 11.540
Location- 12	N8 55.168 E78 11.610



**Fig.2: Locations for coral reef monitoring**

**Table 2: Coral reef monitoring locations**

<b>Location</b>	<b>GPS Mark</b>
<b>Vaan Island</b>	
Location 1	N8 50.487 E78 12.759
Location 2	N8 50.099 E78 12.974
Location 3	N8 49.729 E78 12.881
<b>Koswari Island</b>	
Location 1	N8 51.829 E78 13.376
Location 2	N8 51.791 E78 13.793
Location 3	N8 52.193 E78 13.909
<b>Vilanguchalli patch reef</b>	
Location 1	N8 54.127 E78 15.391
<b>Vilanguchalli Island</b>	
Location 1	N8 56.606 E78 16.423
Location 2	N8 56.109 E78 16.245
Location 3	N8 56.369 E78 15.936
<b>Kariyachalli Island</b>	
Location 1	N8 57.185 E78 14.921
Location 2	N8 56.950 E78 15.202
Location 3	N8 57.198 E78 15.584



**Fig.3: Seagrass and fish population monitoring locations**

**Table 3: GPS Mark for Seagrass and Fish Population monitoring locations**

Location	GPS Mark
Location 1	N8 54.919 E78 11.338
Location 2	N8 55.043 E78 11.244
Location 3	N8 54.589 E78 11.177
Location 4	N8 54.128 E78 11.209
Location 5	N8 54.342 E78 11.921
Location 6	N8 54.652 E78 12.110
Location 7	N8 55.019 E78 11.971
Location 8	N8 55.351 E78 11.618
Location 9	N8 55.701 E78 11.940
Location 10	N8 55.224 E78 12.588
Location 11	N8 54.526 E78 12.508
Location 12	N8 53.885 E78 12.203
Location 13	N8 53.799 E78 11.357



**Fig.4: Map showing the 10 coastal villages / fish landing centres for fish landing data and catch details monitoring**

## **2.2. Parameters are being monitored**

### Marine Water Quality

Physical properties: pH, Salinity, Temperature, Turbidity, Total Suspended Solids

Chemical Properties: Dissolved Oxygen, Nutrients, BOD, COD

Heavy metals: Cu, Pb, Ni, Cd, Cr, Hg

Bacteriological parameters: Coliform Count

Marine Biology: Phytoplankton, Zooplankton

Monitoring frequency - Fortnight Sampling

### Marine Sediment Quality

Physical & Chemical properties: pH, Organic Matter, Nutrients

Heavy metals: Cu, Pb, Ni, Cd, Cr, Hg

Bacteriological parameters: Coliform Count

Marine Biology: Macro and meio benthic fauna and Macro flora

Monitoring frequency - Fortnight Sampling

### Coral Reef Monitoring

Physical properties: Temperature, Turbidity, Total Suspended Solids, Sedimentation

Biological properties: Status, Coral growth, recruits, disease, bleaching

Monitoring frequency - Fortnight Sampling

### Seagrass Monitoring

Physical properties: Temperature, Turbidity, Total Suspended Solids, Sedimentation

Biological properties: Status, Growth, shoot density, disease, Productivity, Biomass

Monitoring frequency - Fortnight Sampling

### Fish Population Monitoring

Diversity and Abundance

Monitoring frequency - Fortnight Sampling

### Fish Landing and Catch Monitoring

Common fish landed

Seasonal landing pattern

Total fish landing - quantity, species wise, landing as per craft and gear

Monitoring frequency - Daily

## **2.3. Analysis and monitoring methods**

### Physico-chemical parameters

Seawater temperature was measured using a standard digital thermometer. Salinity was determined using refracto meter. Seawater pH was measured soon after collection by using pre-calibrated digital pH-meter. Turbidity was measured using Elico water quality analyzer. Total Suspended Solids (TSS) was measured by filtering a known volume of sample through a pre-weighed 0.45 $\mu$  Whatman glass fibre filter paper (GF/C) using a Millipore filtering system. Dissolved oxygen (DO), Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) were analyzed by following Strickland and Parsons



method (1972). Analyses of calcium (Ca), magnesium (Mg) and chlorides will be done titrimetrically. Nitrates (NO<sub>3</sub>) and nitrites (NO<sub>2</sub>) were measured spectrophotometrically by following the method of Strickland and Parson (1972). Total coliform bacteria were measured using MPN method.

Sediment samples were collected from all the sites by using Van Veen Grab sampler. Sediment pH was measured using pH meter. Oil and grease in sediment was analysed using separating funnel method. Organic matter in sediment was estimated by the method described by El Wakeel and Riley (1957). Phytoplankton and zoo plankton samples were collected from the surface water at all the stations. For the quantitative estimation, a Sedgewick Rafter Counting Cell was used. The sediment samples pre stained with Rose Bengal was sieved through 1 mm and 63µ mesh sieves by adding copious amount of water for separating macro and meio benthic fauna respectively. The organisms retained in the sieves were preserved in 5% formalin and were identified using standard manuals. Heavy metals such as lead, nickel, cadmium, chromium and mercury in the water samples and heavy metals such as manganese, lead, nickel, cadmium, chromium and mercury in the sediment samples were analysed using Atomic Absorption Spectrophotometer (AAS). Sedimentation rate was measured by deploying sediment traps (English et al, 1997) under the water.

Coral monitoring

The percentage cover of corals and other sessile benthic categories were assessed by Line Intercept Transect (LIT) method following English *et al.*, (1997). The survey was started with mapping of Island reef areas, using manta tow technique (Done *et al.*, 1982). The assessment involved SCUBA diving. Depending on the size of the reefs, 15 to 25 transects were laid on each Island. The percentage cover of each life form category, percentage of bleaching and disease prevalence were calculated following the method of English *et al.*, (1997). Coral recruitment was recorded using haphazardly placed permanent 1 m<sup>2</sup> quadrats. The permanent quadrats, used for long term monitoring of recruits, were placed on substrates suitable for coral settlement, in particular dead reefs (Tamelander, 2002). Linear growth coral of coral colonies were measured by tagging the colony and measuring the distance from the baseline to the end of the branch with flexible plastic ruler (Gladfelter, *et al.*, 1978). Coral diseases were identified by following the coral disease handbook of Raymundo and Harvell, (2008). Disease prevalence in a study location were calculated by a simple formula; percentage of diseases is the proportion of diseased colonies to the total measured population of colonies.

$$\text{Disease prevalence} = \frac{\text{Number of diseased colonies per site}}{\text{Number of colonies examined per site}} \times 100$$

## Life form Categories and codes

CATEGORIES		CODE	NOTES / REMARKS
Dead Coral		DC	recently dead, white to dirty white
Dead Coral with Algae		DCA	this coral is standing, skeletal structure can still be seen
Acropora	Branching	ACB	at least 2° branching, e.g. <i>Acropora palmate</i> , <i>A. formosa</i>
	Encrusting	ACE	usually the base-plate of immature <i>Acropora</i> forms, e.g. <i>A. palifera</i> and <i>A. cuneata</i>
	Sub massive	ACS	robust with knob or wedge-like form e.g. <i>A. palifera</i>
	Digitate	ACD	no least 2° branching, typically includes <i>A. humilis</i> , <i>A. digitifera</i> and <i>A. gemmifera</i>
	Tabular	ACT	horizontal flattened plates e.g. <i>A. hyacinthus</i>
Non – Acropora	Branching	CB	at least 2° branching e.g. <i>Seriatopora hystrix</i>
	Encrusting	CE	major portion attached to substratum as a laminar plate e.g. <i>Porites vaughani</i> , <i>Montipora undata</i>
	Foliose	CF	Coral attached at one or more points, leaf-like, or plate-like appearance e.g. <i>Merulina ampliata</i> , <i>Montipora aequituberculata</i>
	Massive	CM	Soild boulder or mound e.g. <i>Platygyra daedalea</i>
	Submassive	CS	tends to form small columns, knobs, or wedges e.g. <i>Porites lichen</i> , <i>Psammocora digitata</i>
	Mushroom	CMR	solitary, free-living corals of the <i>Fungia</i>
	Heliopora	CHL	blue coral
	Millepora	CME	fire coral
	Tubipora	CTU	organ-pipe coral, <i>Tubipora musica</i>
<b>Other Fauna:</b>			
Soft Coral		SC	soft bodied coral
Sponge		SP	
Zoanthids		ZO	examples are <i>Platythoa</i> , <i>Protopalythoa</i>
Others		OT	Ascidians, anemones, gorgonians, giant clams etc.
Algae	Algal Assemblage	AA	consists of more than one species
	Coralline Algae	CA	
	Halimeda	HA	
	Macroalgae	MA	weedy/fleshy browns, reds, etc.
	Turf Algae	TA	lush filamentous algae, often found inside damselfish territories
Abiotic	Sand	S	
	Rubble	R	unconsolidated coral fragments
	Silt	SI	
	Water	WA	fissures deeper than 50 cm
	Rock	RCK	
Other		DDD	Missing data

## Seagrass monitoring

Quadrates (50 cm×50 cm) divided into 25 squares (10 cm × 10 cm) were used to study the percentage cover of seagrass species through visual estimation (Saito and Atobe,

1970). 100 m transects were made on the seagrass meadows and transects were separated from each other by a reasonable distance (50 -100 m) and were parallel to each other and perpendicular to the shore. Quadrates were laid at regular intervals (5 m) along each transect. Minimum 2-4 replicates of quadrates were laid depending on the abundance of the seagrass. Individual shoots were also counted randomly at every transect. Each seagrass species was collected and sorted by taxonomical order for further identification (English *et al.*, 1997). Biomass was estimated using the method of Mellors (1991). The biomass or standing crop is expressed in dry weight  $m^2$ .

### Fish population monitoring

Fish density and diversity was assessed by visual census applying Belt Transect method (English *et al.*, 1997).

### Fish Landing Data

Fish landing data was collected by following the method of Srinath *et al.*, (2005). The following are the steps:

- i. Enquiring of the total number of fishing days in the particular village (Sampling will be done normally for 16-18 days per month in each selected village).
- ii. Enquiring of the total number of fishing crafts on the particular fishing day.
- iii. 1: 6 boats will be surveyed in case of large numbers of boats (Random). A minimum total of 15 boats at least will be surveyed in which 100% of the catch has to be checked.
- iv. The different fishing gears will be surveyed. Fish catch by different gears will be noted down if necessary.
- v. Species composition of the fish landed will be checked out.
- vi. Weight of a group (eg: carangids, groupers) / genus (*Scomberoides*, *Tylosurus* etc.) / species (*Sardinella longiceps*, *Rastrelliger kanagurta*) per the fishing crafts surveyed to be calculated. For this the weight of a standard basket will be enquired and the total number of standard baskets in that boat has to be enquired (Eg:- Weight of one standard basket of Grouper in Tuticorin landing center = 10 kg. Total number of standard baskets in the boat 'A' = 5. Groupers landed in boat 'A' =  $10 \times 5 = 50$ ).
- vii. Similarly the weight of groupers in all the boats surveyed is calculated. The resultant data gives the total groupers landed in the given day in the surveyed boats. This data is then made up to the total number of boats gone for fishing in the particular fishing day. The resultant data is further calculated up to one month by multiplying the total number of fishing days during that month.

### 3. Results - Executive Summary (January 2024 to June 2024 - Half Yearly Report)

#### 3.1. Marine water and sediment quality

The water temperature was recorded between 27.15 and 32.5°C; Salinity value was recorded between 34.10 and 36.60 ppt; pH level was recorded between 7.81 and 8.37; turbidity level ranged from 5.32 to 8.37 NTU; the TSS level ranged from 92 to 149 mg/l; dissolved oxygen level was recorded between 4.87 and 5.76 mg/l; BOD level ranged from 1.40 to 2.81 mg/l; COD level ranged from 1.23 to 1.68 mg/l; calcium content was recorded between 420 and 630 mg/l; magnesium value ranged from 1224 to 1400 mg/l; nitrate level ranged from 1.16 to 1.61 µg at/l; nitrite level ranged from 0.22 to 0.98 µg at/l; chloride level ranged from 16.6 to 18.0 g/l; and oil and grease level ranged from 0.23 to 0.51 mg/l.

In sediment samples, the pH value was recorded between 7.85 and 8.55; oil and grease level ranged from 0.30 to 0.59 mg/kg; organic matter value was recorded between 2.268 and 3.810%; and heavy metal level in water and sediment samples was within the acceptable limits.

No coliform bacteria were recorded in water and sediment samples. The phytoplankton density was recorded between 250.23 and 435.25 cells/l. The zooplankton density was between 177231 and 384025 no/m<sup>3</sup>. Among the benthic macro fauna, gastropods and bivalves were the dominant categories.

In coral reef area, the water temperature was recorded between 26.43 and 31.95°C; turbidity level ranged from 5.16 to 7.19 NTU; TSS level ranged from 94.50 to 166 mg/l and sedimentation rate was recorded between 58.46 and 86.5 mg/cm<sup>2</sup>/day during the study period of all the island.

In sea grass area, the water temperature was recorded between 26.28 and 31.90°C; turbidity level varied from 4.88 to 7.12 NTU; TSS level was recorded between 94.55 and 160.50 mg/l and sedimentation rate was recorded between 47.91 and 84.3 mg/cm<sup>2</sup>/day during the study period in surface and bottom water of seagrass area.

#### 3.2. Coral monitoring

The live coral cover in Vaan Island was 22.67, 32.23 and 34.98% respectively in sites 1, 2 and 3 during January 2024; it was 22.69, 32.20 and 34.97% respectively during February 2024; it was 22.67, 32.18 and 34.98% respectively during March 2024; it was 22.68, 32.19 and 34.99% respectively during April 2024; it was 21.56, 31.47 and 32.53% respectively during May 2024; it was 21.52, 31.45 and 32.42% respectively in June 2024. In January 2024, the soft coral cover was 7.70, 2.01 and 2.34% respectively in sites 1, 2 and 3; it was 7.71, 2.02 and 2.32% respectively during February 2024; it was 7.72, 2.03 and 2.31% respectively during March 2024; during April 2024, it was 7.73, 2.02 and 2.32% respectively; during May 2024, it was 7.75, 2.01 and 2.31% respectively and it was 7.74, 2.02 and 2.33% respectively during June 2024. CM and ACB were the dominant coral life form categories during January to June 2024. Coral recruitment was highest for the genera *Acropora*, *Porites* and *Montipora* and most common coral species were *Acropora muricata*, *A. cytherea*, *A. intermedia*, *A. robusta*, *Montipora foliosa*, *Pocillopora damicornis* and *Porites* sp. In Vaan Island, nine types of coral health issues were recorded which include bleaching, BBD, BSD, PSD, WBD, WPD, WSD, YBD, YSD and B. Among disease type, BBD was the most

dominant category with 2.52% followed by WBD with 2.19% respectively during January to June 2024 mainly in genus *Montipora*. Totally six coral genera were affected by them which are *Goniastrea*, *Dipsastrea*, *Favites*, *Porites*, *Turbinaria* and *Acropora*.

The live coral cover in Koswari Island was 21.58, 21.22 and 19.47% respectively in sites 1, 2 and 3 during January 2024; it was 21.60, 21.23 and 19.45% respectively during February 2024; it was 21.61, 21.22 and 19.44% respectively during March 2024; during April 2024, it was 21.60, 21.23 and 19.45% respectively; during May 2024, it was 21.17, 20.36 and 19.21% respectively and during June 2024, it was 21.13, 20.33 and 19.22% respectively. In January 2024, the soft coral cover was 1.87, 3.57 and 2.68% respectively; it was 1.85, 3.58 and 2.67% respectively during February 2024; it was, 1.84, 3.59 and 2.66% respectively during March 2024; during April 2024, it was 1.85, 3.60 and 2.67% respectively; during May 2024, it was 1.84, 3.62 and 2.65% respectively and it was 1.85, 3.61 and 2.67% respectively during June 2024. CM, CF and ACB were the dominant coral life form categories during January to June 2024. Coral recruitment was highest for the genera *Acropora*, *Turbinaria* and *Porites* and most common coral species were *Acroporamuricata*, *A.cytherea*, *A.intermedia*, *A.robusta*, *Montipora foliosa*, *Pocillopora damicornis* and *Porites* sp. In Koswari Island, ten types of coral health issues were recorded which are BBD, BSD, PSD, WBD, WPD, WSD, YBD, YSD, T and B. Among disease type, BBD was the most dominant category with 1.94% followed by PSD with 1.61% respectively during January to June 2024 mainly in genus *Acropora*. Totally six coral genera were affected which are *Goniastrea*, *Dipsastrea*, *Favites*, *Porites*, *Turbinaria* and *Acropora*.

The live coral cover in Kariyachalli Island was 34.12, 33.47 and 33.92% respectively in sites 1, 2 and 3 during January 2024; it was 34.13, 34.49 and 33.93% respectively during February 2024; it was 34.14, 34.48 and 33.95% respectively during March 2024; during April 2024, it was 34.15, 34.5 and 33.96% respectively; during May 2024, it was 33.24, 32.36 and 32.58% respectively and during June 2024 it was 33.18, 32.34 and 32.60% respectively. The soft coral cover in January 2024 was 4.88, 4.44 and 7.42% respectively; it was 4.89, 4.44 and 7.43% respectively during February 2024; it was 4.88, 4.44 and 7.41% respectively during March 2024; it was 4.89, 4.45 and 7.42% respectively during April 2024; it was 4.85, 4.42 and 7.41% respectively during May 2024; and it was 4.83, 4.40 and 7.40% respectively during June 2024. The CM and CF were the dominant coral life form categories during January to June 2024. Coral recruitment was highest for the genera *Acropora*, *Montipora* and *Porites* and most common coral species were *Acropora muricata*, *A.cytherea*, *A.intermedia*, *A.robusta*, *Montipora foliosa*, *Pocillopora damicornis* and *Porites* sp. Totally ten types of coral health issues were recorded which include bleaching, BBD, BSD, PSD, WBD, WPD, WSD, YBD, YSD, T and B. Among disease type, BBD was the most dominant category with 1.81% followed by B with 1.75% respectively during January to June 2024 mainly in genus *Acropora*. Totally seven coral genera were affected by them which are *Montipora*, *Goniastrea*, *Dipsastrea*, *Favites*, *Porites*, *Turbinaria* and *Acropora*.

The live coral cover in Vilanguchalli Island was 19.64, 20.13 and 26.60% respectively in sites 1, 2 and 3 during January 2024; it was 19.65, 20.15 and 26.61% respectively during February 2024; it was 19.64, 20.17 and 26.63% respectively during March 2024; it was 19.66, 20.22 and 26.64% respectively during April 2024; it was 16.86, 18.12 and 23.86% respectively during May 2024; and during June 2024 it was 16.84, 18.10 and 23.83% respectively. In January 2024, the soft coral cover was 1.87, 1.78 and 1.84% respectively; it was 1.86, 1.79 and 1.86% during February 2024; it was 1.87, 1.78 and 1.85% respectively during March 2024; it was 1.85, 1.78 and 1.84% respectively during April 2024; 1.86, 1.78

and 1.85% respectively during May 2024; and during June 2024, it was 1.86, 1.78 and 1.86% respectively. The CF and CE were the dominant coral life form categories during the period January to June 2024. Coral recruitment was highest for the genera *Acropora* and *Turbinaria* while most common coral species were *Acropora muricata*, *A. cytherea*, *A. intermedia*, *A. robusta*, *Pocillopora damicornis* and *Porites* sp. In Vilanguchalli Island, ten types of coral health issues were recorded which are BBD, BSD, PSD, WBD, WPD, WSD, YBD, YSD, T and B. Among disease type, B was the most dominant category with 2.37% followed by BBD with 1.89% respectively during January to June 2024 mainly in genus *Acropora*. Five coral genera were affected by them which are *Goniastrea*, *Porites*, *Montipora*, *Turbinaria* and *Acropora*.

The live coral cover in Villanguchalli Patch reef was 43.41, 43.42, 43.44, 43.45, 42.71 and 42.68% respectively during January, February, March, April, May and June 2024. Soft coral cover was 3.35, 3.33, 3.34, 3.35, 3.31 and 3.29% respectively. The CF and ACB were the dominant coral life form categories during the period between January to June 2024. Coral recruitment was highest for the genera *Acropora*, *Turbinaria*, *Dipsastraea* and *Favites* while most common coral species were *Acropora muricata*, *A. cytherea*, *A. intermedia*, *A. robusta*, *Montipora foliosa*, *Pocillopora damicornis* and *Porites* sp. Totally ten types of coral health issues were recorded which are BBD, BSD, PSD, WBD, WPD, WSD, YBD, YSD, T and B. Among disease type, B was the most dominant category with 2.04% respectively during January to June 2024 mainly in genus *Acropora*. Five coral genera were affected by them *Goniastrea*, *Porites*, *Montipora*, *Turbinaria* and *Acropora*.

Moderate to severe coral bleaching was witnessed during April and May due to the prolonged elevated sea surface temperature. *Porites*, *Acropora*, *Dipsastraea* and *Montipora* genera were the most affected in the monitoring sites. However, in June, most of the affected colonies got recovered from bleaching due to the reduction in water temperature level mainly because of rainfall and changing weather condition. .

### 3.3. Seagrass and fish population monitoring

The overall seagrass percentage cover was observed as 65.69% in February 2024 at station 13 followed by 65.54% in January 2024 at station 13. No diseases were observed. In total, seven seagrass species were recorded and they are *Thalassia hemprichii*, *Halophila stipulacea*, *Halophila ovalis*, *Cymodocea serrulata*, *Halodule pinifolia*, *Halodule uninervis* and *Syringodium isoetifolium*. Among the seven seagrass species, the dominant shoot density was recorded in *Cymodocea serrulata* as 172.18 nos.m<sup>-2</sup> in January 2024 at station-8 followed by *Thalassia hemprichii* as 168.54 nos.m<sup>-2</sup> in January 2024 at station 2. The maximum productivity was recorded in *Cymodocea serrulata* as 73.66 cm<sup>-2</sup>day<sup>-1</sup> in January 2024 at station-8 followed by *Thalassia hemprichii* as 54.25 cm<sup>-2</sup>day<sup>-1</sup> in April 2024 at station-9. The maximum seagrass biomass was recorded in *Cymodocea serrulata* as 155.43 g dry weight m<sup>-2</sup> in January 2024 at station-9 followed by *Thalassia hemprichii* as 117.77 g dry weight m<sup>-2</sup> in April 2024 at station-2.

A total of 19 fish species were recorded and among them, *Lutjanus* sp. was the dominant followed by *Terapon* p. during the entire survey period. Maximum number of fish density was observed at Station-13 during April 2024 with 215 / 50 m<sup>-2</sup> followed by Station-13 in May 2024 with 210 / 50 m<sup>-2</sup>.

### 3.4. Cage culture of fishes near outfall in Pattinamaruthoor coast

In Pattinamaruthoor fish cage, observations on fish revealed 11 species were recorded during January 2024 to June 2024. Among them, *Lutjanus* sp. was dominant followed by *Siganus* sp. Maximum number of fish density was observed during January 2024 with 251 Nos. followed by February 2024 with 249 nos.

### 3.5. Fish Landing Data

**Study area:** Landing areas of ten fishing villages - Thirespuram, Mottaigopuram, Siluvaipatti, Vellapatti, Tharuvaikulam, Pattinamaruthoor, Sippikulam, Vaipar, Periyasamipuram, Vembar.

The major fishery resources of Tuticorin coast are Tuna, Seer fishes, Groupers, Ribbon fishes, Penaeid shrimps, Crabs, lobster and so on. The fish stocks from the coast tend to concentrate along the continental shelf and the biodiversity is substantially higher than in temperate waters. Tuticorin is one of the major fish landing center along the Gulf of Mannar coast by both mechanized as well as traditional crafts. Tuticorin coast has 21 fishing villages which include 2 major landing and 20 minor landing areas. Among the 22 fish landing areas of Tuticorin coast, 10 major and minor landing areas have been randomly surveyed for the fish species and weight of fishes landed from January 2024 to June 2024. Major fishing gears operated in Tuticorin fishing area is Trawl net, Long line fishing, Gill net, Drift net, Purse seine, Trammel net, Stake net, traps and Hand line nets. Fishing activity in Tuticorin region was carried out by Deep Sea, Traditional and mechanized fishing vessels like Trawlers, Kattumaram, Fiber boats and Vallams. Commercial fish species and total catch landed at each village during this period was recorded and illustrated as follows.

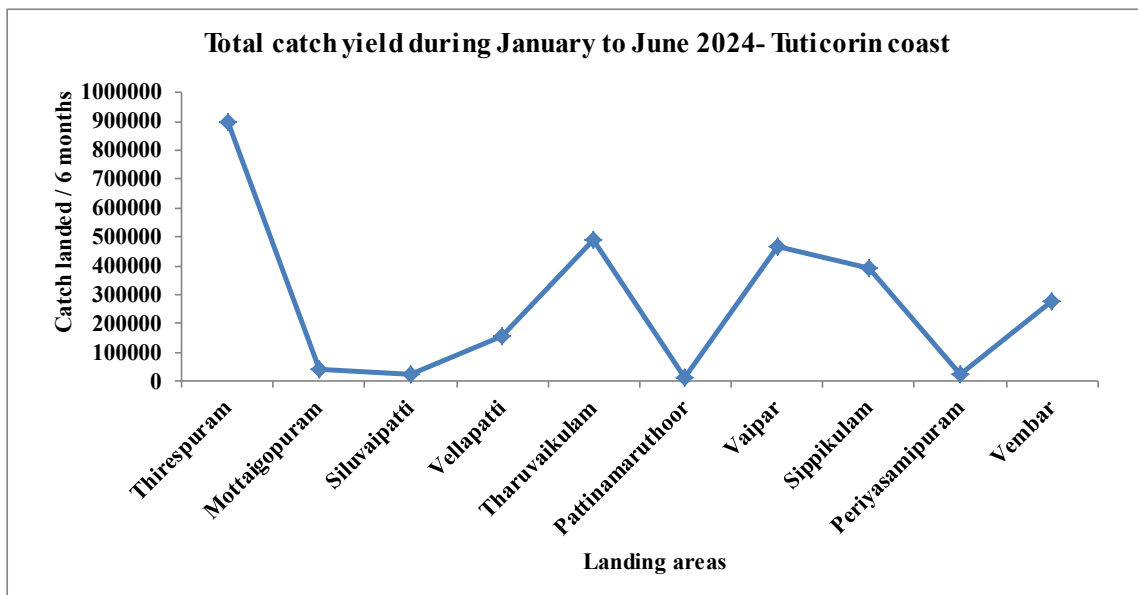
The survey recorded maximum landing in Thirespuram with about 899591 kg followed by Tharuvaikulam with about 490645 kg during January 2024 to June 2024. The catch yield obtained in all ten landing areas has been illustrated in the table 4 and Fig. 5. During the study, 104 species of fishery resources have been identified under the commercial fishery resource and are illustrated in the following table 5.

**Table 4: Total catch in major landing centres during January 2024 to June 2024 in Tuticorin coast**

Landing areas	Catch landed / 6 months
Thirespuram	899591
Mottaigopuram	38497
Siluvaipatti	24103
Vellapatti	157466
Tharuvaikulam	490645
Pattinamaruthoor	14666
Vaipar	468450
Sippikulam	388765
Periyasamipuram	26264
Vembar	276248
<b>Total catch</b>	<b>2784695</b>

1	<i>Ablennes hians</i>	36	<i>Euthynnus affinis</i>	71	<i>Portunus sanguinolentus</i>
2	<i>Acanthocybium solandri</i>	37	<i>Gerres</i> sp.	72	<i>Psettodus</i> sp.
3	<i>Acanthurus</i> sp.	38	<i>Harpulina</i> sp.	73	<i>Rachycentron canadum</i>
4	<i>Aetoplatea</i> sp.	39	<i>Hemiramphus far</i>	74	<i>Rastrelliger kanagurta</i>
5	<i>Alectis indicus</i>	40	<i>Hilsa keele</i>	75	<i>Rhizoprionodon</i> sp.
6	<i>Aluterus monoceros</i>	41	<i>Himantura uarnak</i>	76	<i>Sardinella albella</i>
7	<i>Alopias</i> sp.	42	<i>Irundichthys</i> sp.	77	<i>Sardinella</i> sp.
8	<i>Arius</i> sp.	43	<i>Istiophorus</i> sp.	78	<i>Sargocentron rubrum</i>
9	<i>Atule mate</i>	44	<i>Isuruso xyrinchus</i>	79	<i>Saurida tumbil</i>
10	<i>Auxis thazard</i>	45	<i>Katsuwonu pelamis</i>	80	<i>Scarus ghibbus</i>
11	<i>Carangoides armatus</i>	46	<i>Lates calcarifer</i>	81	<i>Scarus ghobban</i>
12	<i>Carangoides</i> sp.	47	<i>Leiognathus</i> sp.	82	<i>Scolopsis vosmeri</i>
13	<i>Caranx</i> sp.	48	<i>Leiognathus equulus</i>	83	<i>Scomberoides commersonianus</i>
14	<i>Cardisoma canarium</i>	49	<i>Lethrinus</i> sp.	84	<i>Scomberoides tol</i>
15	<i>Cephalopholis boenack</i>	50	<i>Liza tade</i>	85	<i>Scomberoides lysan</i>
16	<i>Cephalopholis formosa</i>	51	<i>Lobotes surinamensis</i>	86	<i>Scomberomorous commerson</i>
17	<i>Cephalopholis sonnerati</i>	52	<i>Loligo</i> sp.	87	<i>Scylla serrata</i>
18	<i>Charybdis cruciata</i>	53	<i>Loligo duvauceli</i>	88	<i>Scylla tranquebarica</i>
19	<i>Chichoreus ramosus</i>	54	<i>Lutjanus</i> sp.	89	<i>Sepia pharonis</i>
20	<i>Chirocentrus</i> sp.	55	<i>Mene maculata</i>	90	<i>Sepiella</i> sp.
21	<i>Chiloscyllium griseum</i>	56	<i>Metapenaeus</i> sp.	91	<i>Sepioteuthis</i> sp.
22	<i>Coryphaena hippurus</i>	57	<i>Mobula japonica</i>	92	<i>Siganus javus</i>
23	<i>Cynoglossus</i> sp.	58	<i>Mugil cephalus</i>	93	<i>Sphyrnae putnamae</i>
24	<i>Dasyatis kuhlii</i>	59	<i>Nemapterus japonicus</i>	94	<i>Sphyrnae barracuda</i>
25	<i>Dasyatis</i> sp.	60	<i>Nemapteryx caelata</i>	95	<i>Stolephorus commersonnii</i>
26	<i>Dasyatis uarnak</i>	61	<i>Octopus aegina</i>	96	<i>Strongylura leiura</i>
27	<i>Decapterus russelli</i>	62	<i>Octopus cyaneus</i>	97	<i>Synatpura</i> sp.
28	<i>Destodus erumi</i>	63	<i>Octopus dofusii</i>	98	<i>Thunnus albacares</i>
29	<i>Diagramma pictum</i>	64	<i>Pampusampus</i>	99	<i>Thunnusthynnus</i>
30	<i>Dorytheuthis</i> sp.	65	<i>Panulirus homarus</i>	100	<i>Trachurus japonicus</i>
31	<i>Drepane punctata</i>	66	<i>Panulirus ornatus</i>	101	<i>Trichurus saavala</i>
32	<i>Epinephelus undulosus</i>	67	<i>Paraupeneus indicus</i>	102	<i>Turbinella pyrum</i>
33	<i>Epinephelus areolatus</i>	68	<i>Penaeus</i> sp.	103	<i>Tylosurus</i> sp.
34	<i>Epinephelus malabaricus</i>	69	<i>Plectrohinchus</i> sp.	104	<i>Upeneus vittatus</i>
35	<i>Epinephelus merra</i>	70	<i>Portunus pelagicus</i>		





**Fig.5: Total catch obtained during January 2024 to June 2024 in Tuticorin coast**

### Thirespuram

Total landing was recorded as 899591 Kg. Maximum landing was recorded in the April 2024 with about 194979 kg and minimum in June 2024 with about 85796 kg. Species dominantly found varied according to the season – Jacks (*Caranx* sp.) dominantly found during April 2024; Emperors (*Lutjanus* sp.) dominantly landed during January 2024; and . Dolphin fish (*Coryphaena hippurus*) was dominant during January 2024. Species commonly observed includes *Scomberomorous commerson*, *Auxis thazard*, etc.

- Dominant species - *Caranx* sp., *Lujanus* sp., *Coryphaena hippurus*, *Scomberomorous commerson*. *Auxis thazard*.
- Maximum catch recorded - April 2024
- Minimum catch recorded - June 2024

### Mottaigopuram

Total landing was recorded as 38497 Kg. Maximum landing was recorded in April 2024 with about 7974 kg and minimum in March 2024 with about 5136 kg. Species dominantly recorded varied according to the season - Shrimp (*Penaeus* sp.) dominantly found during April 2024; Shrimp (*Metapenaeus* sp.) dominantly found during April 2024; and Crab (*Portunus* sp.) was dominant during May 2024. Species commonly recorded includes *Lethrinus* sp., *Sepiella* sp., *Sepioteuthis* sp., etc.

- Dominant species - *Penaeus* sp., *Metapenaeus* sp., *Portunus* sp., *Lethrinus* sp.,
- Maximum catch recorded - April 2024
- Minimum catch recorded - March 2024

## **Siluvaipatti**

Total landing was recorded as 24103 Kg. Maximum landing was recorded in April 2024 with about 5278 kg and minimum in June 2024 with about 3021 kg. Species dominantly observed varied according to the season – Crabs (*Portunus* sp.) found dominantly in April 2024; Emperors (*Lethrinus* sp.) dominantly found during January 2024; and Shrimp (*Penaeus* sp.) dominantly recorded in April 2024. Species commonly observed includes *Metapenaeus* sp., *Sepiella* sp., *Lutjanus* sp., etc.

- Dominant species - *Portunus* sp., *Lethrinus* sp., *Penaeus* sp., *Meytapenaeus* sp.,
- Maximum catch recorded - April 2024
- Minimum catch recorded - June 2024

## **Vellapatti**

Total landing was recorded as 157466 Kg. Maximum landing was recorded in April 2024 with about 28539 kg and minimum in January 2024 with about 22110 kg. Species dominantly noted varied according to the season – Crabs (*Portunus pelagicus*., and *Portunus sanguinolentus*.) dominantly found during February and May 2024 and Emperors (*Lethrinus* sp., and *Lutjanus* sp.) found during May and March 2024. Species commonly observed includes *Parupeneus indicus*, *Ablennes hians*, *Sepiella* sp., *Caranx* sp. etc.

- Dominant species - *Portunus pelagicus*., *Portunus sanguinolentus*., *Lethrinus* sp.
- Maximum catch recorded - April 2024
- Minimum catch recorded - January 2024

## **Tharuvaikulam**

Total landing was recorded as 490645 Kg. Maximum landing was recorded in February 2024 with about 106781 kg and minimum in May 2024 with about 52102 kg. Species dominantly observed varied according to the season – Needle fish (*Strongylura leiura*) dominantly recorded in January 2024 and Needle fish (*Tylosurus* sp.) dominantly observed in January 2024. Species commonly found includes *Lethrinus* sp, *Ablennes hians*., *Euthynnus affinis*, *Sphyraena barracuda* etc.

- Dominant species - *Strongylura leiura*, *Tylosurus* sp., *Lethrinus* sp., *Ablennes hians* etc..
- Maximum catch recorded - February 2024
- Minimum catch recorded - May 2024

## **Pattinamaruthoor**

Total landing was recorded as 14666 Kg. Maximum landing was recorded in April 2024 with about 3062 kg and minimum landing in June 2024 with about 1734 kg. Species dominantly found varied according to the season –Crustaceans - crabs (*Portunus pelagicus*., and *Portunus sanguinolentus*.) dominantly found during April and February 2024 and Emperors (*Lethrinus* sp.) in May 2024. Species commonly recorded includes *Hemiramphus far*, *Leiognathus* sp., *Sepiella* sp., *Tylosurus* sp., *Parupeneus indicus* etc.

- Dominant species - *Portunus pelagicus.*, *Portunus sanguinolentus*, *Lethrinus sp.*, *Hemiramphus far.*
- Maximum catch recorded - April 2024
- Minimum catch recorded - June 2024

### **Vaipar**

Total landing was recorded as 468450 Kg. Maximum landing was recorded in January 2024 with about 89024 kg and minimum landing in June 2024 with about 63779 kg. Species dominantly recorded varied according to the season –Barracuda (*Sphyraena sp.*) dominantly found during month of April 2024; Indian mackerel (*Rastrelliger kanagurta*) during the February 2024; and Hound fish (*Tylosurus sp.*) found during January 2024. Species commonly observed includes *Lethrinus sp.*, *Sardinella sp.*, *Caranx sp.*, etc.

- Dominant species - *Sphyraena sp.*, *Rastrelliger kanagurta.*, *Tylosurus sp.*, etc.
- Maximum catch recorded - January 2024
- Minimum catch recorded - June 2024

### **Sippikulam**

Total landing was recorded as 388765 Kg. Maximum landing was recorded in January 2024 with about 70473 kg and minimum landing in June 2024 with about 55210 kg. Species dominantly observed varied according to the season –Needlefish (*Strongylura sp.*) dominantly found during February 2024; Barracuda (*Sphyraena sp.*) were found dominant during January 2024; and Trevally (*Carangoides sp.*) dominantly recorded during April 2024. Species commonly observed includes *Tylosurus sp.*, *Rastrelliger kanagurta*, *Sardinella sp.*, *Lethrinus sp.*, *Auxis thazard* etc.

- Dominant species - *Strongylura sp.*, *Sphyraena sp.*, *Carangoides sp.*, *Tylosurus sp.*, etc.
- Maximum catch recorded - January 2024
- Minimum catch recorded - June 2024

### **Periyasamypuram**

Total landing was recorded as 26264 Kg. Maximum landing was recorded in January 2024 with about 4868 kg and minimum landing in June 2024 with about 3721 kg. Species dominantly recorded varied according to the season –Squids (*Sepiella sp.*) were dominantly found during February 2024; Crab (*Portunus sp.*) was dominantly found during April 2024; and *Doryteuthis sp.* was dominantly recorded in February 2024 Species commonly observed includes *Penaeus sp.*, *Charybdis natator*, *Metapenaeus sp.*, etc.

- Dominant species - *Sepiella sp.*, *Portunus sp.*, *Doryteuthis sp.*, *Penaeus sp.* and *Charybdis natator.*, etc.
- Maximum catch recorded - January 2024
- Minimum catch recorded - June 2024

## Vembar

Total landing was recorded as 276248 Kg. Maximum landing was recorded in March 2024 with about 69188 kg and minimum landing was recorded in June 2024 with about 19177 kg. Species dominantly recorded varied according to the season – Emperors (*Lethrinus* sp.), were dominantly found during January 2024; Jacks (*Caranx* sp.) were dominantly found during March 2024; and Indian mackerel (*Rastrelliger kanagartha*) were dominantly recorded during February 2024. Species commonly observed includes *Saurida tumbil*, *Sardinella* sp., *Upeneus* sp., etc.

- Dominant species - *Lethrinus* sp., *Caranx* sp., *Rastrelliger kanagartha* sp., *Saurida tumbil*, etc.
- Maximum catch recorded - March 2024
- Minimum catch recorded - June 2024

The major dominant fishery resources and the peak landing month in the 10 landing areas are given in Table 6.

**Table 6: Dominant fishery resources and maximum catch month/s in the 10 landing areas of Tuticorin coast during January 2024 - June 2024**

Landing areas	Dominant fishery resources	Peak season / Month
Thirespuram	Jacks ( <i>Caranx</i> sp.,)	Apr 2024
	Emperors ( <i>Lutjanus</i> sp.,)	Jan 2024
	dolphin fish ( <i>Coryphaena hippurus</i> )	Jan 2024
	Seer fish( <i>Scomberomorous commerson</i> )	Apr 2024
Mottaigopuram	Shrimp ( <i>Penaeus</i> sp.,)	Apr 2024
	Shrimp ( <i>Metapenaeus</i> sp.,)	Apr 2024
	Crustaceans - crab ( <i>Portunus</i> sp.)	May 2024
	Emperors ( <i>Lethrinus</i> sp.,)	May 2024
Siluvaipatti	Crustaceans - crab ( <i>Portunus</i> sp.)	Apr 2024
	Emperors ( <i>Lethrinus</i> sp.,)	Jan 2024
	Shrimp ( <i>Penaeus</i> sp.,)	Apr 2024
	Shrimp ( <i>Metapenaeus</i> sp.,)	May 2024
Vellapatti	Crustaceans - crab ( <i>Portunus pelagicus</i> ,.)	Feb 2024
	Crustaceans - crab ( <i>Portunus sanguinolentus</i> ,.)	May 2024
	Emperors ( <i>Lethrinus</i> sp.,)	May 2024
	Emperors ( <i>Lutjanus</i> sp.,)	Mar 2024
Tharuvaikulam	Needlefish ( <i>Strongylura leiura</i> )	Jan 2024
	Needlefish ( <i>Tylosurus</i> sp.,)	Jan 2024
	Emperors ( <i>Lethrinus</i> sp.,)	Jun 2024
	Flat needle fish ( <i>Ablennes hians</i> )	Jan 2024
Pattinamaruthoor	Crustaceans - crabs ( <i>Portunus pelagicus</i> ,.)	Apr 2024
	Crustaceans - crabs ( <i>Portunus sanguinolentus</i> ,.)	Feb 2024

	Emperors ( <i>Lethrinus sp.</i> )	May 2024
	Halfbeak ( <i>Hemiramphus far.</i> )	Jan 2024
Vaipar	Barracudas ( <i>Sphyraena sp.</i> )	Apr 2024
	Indian mackerel ( <i>Rastrelliger kanagurta</i> )	Feb 2024
	Hound fish ( <i>Tylosurus sp.</i> )	Jan 2024
	Emperors ( <i>Lethrinus sp.</i> )	May 2024
Sippikulam	Needlefish ( <i>Strongylura sp.</i> )	Feb 2024
	Barracuda ( <i>Sphyraena sp.</i> )	Jan 2024
	Trevally ( <i>Carangoides sp.</i> )	Apr 2024
	Needlefish ( <i>Tylosurus sp.</i> )	Jan 2024
Periyasampuram	Cephalopods ( <i>Sepiella sp.</i> )	Feb 2024
	Crustaceans ( <i>Portunus sp.</i> )	Jun 2024
Vembar	Cephalopods ( <i>Doryteuthis sp.</i> )	Feb 2024
	Crustaceans ( <i>Penaeus sp.</i> )	Feb 2024
	Emperors ( <i>Lethrinus sp.</i> )	Jan 2024

#### 4. Remarks

The marine environmental monitoring carried out during the period from January 2024 to June 2024 recorded no impact on the coastal ecology of Pattinamarudur including the coral reefs, seagrasses, associated fish population and other biological resources like macro- and meiobenthos and plankton. Also, there were no notable impacts on the physical and chemical properties and heavy metal concentrations of the marine water and sediment except for the seasonal variations. The water temperature increased during April and May 2024. The elevated prolonged sea surface temperature due to climate change caused moderate to severe coral bleaching, however most of the bleached coral colonies recovered due to fall of temperature level in June mainly due to rainfall and the changing climatic condition. The seawater became turbulent with high turbidity during April to June and so underwater visibility was not good. Fishing activity was almost normal except during strong wind days and deviation in fish landing data from the baseline can be due to fishing effort days, seasonal changes, and fishing pattern. The monitoring of cage culture of fish shows good fish population within and outside the cages, which indicates that the environment is healthy and conducive for marine organisms.

#### 5. References

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## **6. Photos**

## Status of seagrass, corals and fish population







# Fishing Landing & Catch Monitoring

## Therespuram



# Mottaigopuram



Siluvaipatti



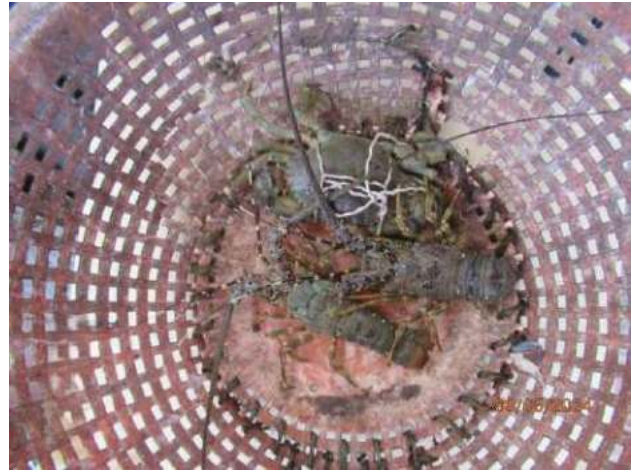
# Vellapatti



Tharuvaikulam



Pattinamaruthoor



# Sippikulam





Vaipar



# Periyasampuram



Vembar





# **ANNEXURE -8**

**COMPLIANCE TO THE CONDITIONS LAID BY MoEF VIDE OFFICE MEMORANDUM  
No.F.No.J-13012 /8/2009-IA.II(T) dated 11.11.2020**

Period: January 2024 to June 2024

Sl.No.	CONDITIONS STIPULATED BY MoEF	COMPLIANCE
a)	Details regarding change in source (Location of the source, Proposed Quantity, Distance from the power plant and mode of transportation), Quality (Ash, Sulphur, Moisture Content and Calorific Value) shall be informed to the Ministry and its Concerned Regional Office .The Quantity of coal transported from each source along with the mode of transportation shall be submitted as part of EC Compliance Report.	Our Boiler is Designed with a blend of 50:50 imported and Indian Coal. We are using imported coal in our plant from Indonesia and we are transporting the coal from port/Melavittan Station to plant by using trucks. The quantity of coal transported for the period from January'24 to June'24 is as mentioned below; Total - 2245157 MT Imported Coal (Indonesia) - 2245157 MT Indian Coal - Nil
b)	The Applicable flue gas emissions standards for particulate matter, Sulphur Dioxide, Oxides of Nitrogen and Mercury Shall be complied in line with Ministry's Notification Vide S.O 3305 (E) dated 7.12.2015 and subsequent emissions. A Progress of implementation and its compliance shall be submitted as part of Compliance Report.	Continuous Stack emission and ambient air quality monitoring are being carried out and records are being maintained. The monitored data for the period of January'24 to June'24 is enclosed as Annexure - 1. The results are well within the prescribed norms. FGD Feasibility Study Completed. We have floated Tenders and awaiting Bids for Appointment of Consulting agency for Tender Preparation, Bid Evaluation, and Engineering Support during Execution.
c)	Ash Content in the coal and coal Transportation is governed by the Ministry's Notification Vide S.O 1561(E) dated 21.5.2020.As far as possible, Coal Transportation shall be done by rail/conveyor or other eco-friendly modes. However, road transportation is allowed with tarpaulin covered trucks till the railway / conveyor belt infrastructure is made available. A Progress (Physical and Financial) of rail connectivity from nearest railway siding or conveyor connectivity to the power plant shall be submitted in the EC Compliance Report.	At present Coal is being transported to our plant through trucks which are fully covered with tarpaulin.  Railway line laying work is under Progress by Southern Railways close to our Plant.  Engineering Scale Plan for "Takeoff line" to our Plant submitted to Southern Railways for Approval.
d)	Additional ash pond is not allowed due to increase in ash content in the raw coal as against the ash pond permitted in the Environment Clearance. The 100% Fly ash utilization is to be achieved within four years in line with fly ash notification dated 14.09.1999, 27.8.2003,03.11.2009 & 25.01.2016 and amended time to time or extant regulation on fly ash utilization.	100 % Fly Ash utilization is being achieved.
e)	In case of exceptional circumstances project proponents may approach the ministry for seeking permission to use an emergency ash pond with cogent reasons if any.	Noted.
f)	The Details Regarding monthly generation , utilization and disposal of fly ash (including bottom ash) shall be submitted to the ministry and its regional office	Complied. Attached as Annexure -09



# **ANNEXURE - 9**

FLY ASH GENERATION & UTILISATION DETAILS

Name of the Industry: Coastal Energen Private Limited,  
 2 X 600 MW Coal based Thermal Power Plant,  
 Thoothukudi District - 628 105.

Period: January'2024 to June'2024

FOR THE YEAR	TOTAL ASH GENERATION		USAGE OF FLY ASH		TOTAL FLY ASH UTILISATION	USAGE OF BOTTOM ASH			TOTAL BOTTOM ASH UTILISATION (LMT)	TOTAL ASH UTILISATION (LMT)
	FLY ASH GENERATION (LMT)	BOTTOM ASH GENERATION (LMT)	CEMENT PLANT	BRICK INDUSTRIES (LMT)		LANDFILL (LMT)	BRICK INDUSTRIES (LMT)	CEMENT PLANTS (LMT)		
JANUARY - 2024	0.1291796	0.0114487	-	0.1291796	0.1291796	0.0110682	0.0003805	-	0.0114487	0.1406283
FEBRUARY-2024	0.1330721	0.0198	-	0.1330721	0.1330721	0.0198	-	-	0.0198	0.1528721
MARCH-2024	0.1408926	0.0195202	-	0.1408926	0.1408926	0.0195202	-	-	0.0195202	0.1604128
APRIL-2024	0.1401226	0.02371075	-	0.1401226	0.1401226	0.0237107	-	-	0.0237107	0.1638333
MAY-2024	0.1364425	0.0232	-	0.1364425	0.1364425	0.0232	-	-	0.0232	0.1596425
JUNE-2024	0.1042715	0.0147	-	0.1042715	0.1042715	0.0147	-	-	0.0147	0.1189715

\* 100% Utilization of Ash achieved.



MK Parameswaran

Station Director