



# Tamilnadu Petroproducts Limited

Ref: TPL – LAB/ 2024/EC Comp/04

7<sup>th</sup> May- 2024

The Director (S)  
Ministry of Environment, Forest & Climate Change  
Integrated Regional Office  
First Floor, Additional Office Block for GPOA  
Shastri Bhawan, Haddows Road,  
Nungambakkam,  
Chennai – 600 006.

Dear Sir,

**Sub: TPL – LAB Plant – Environmental Clearance (EC) – Six Monthly Compliance Report – Oct 2023 to Mar-2024 - reg.**

Ref: Ref No: J-11011/469/2021-IA-II(I) dated 28.11.2022

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This has reference to the Environmental Clearance (EC) obtained from MoEF&CC, New Delhi for Expansion of Linear Alkyl Benzene (LAB) production from 1,20,000 TPA to 1,45,000 TPA within the existing plant at Manali Industrial Area, Chennai, Tamil Nadu

We herewith attach the EC compliance status report for the period from October 2023 to March 2024 for your kind reference.

Thanking you,

Yours faithfully,  
For Tamilnadu Petroproducts Limited

  
N. Murugan  
AVP – Operations



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**Environmental Clearance Compliance Status Report*****For the period from Oct 2023 to Mar 2024***

Ref No: J-11011/469/2021-IA-II(I) dated 28.11.2022

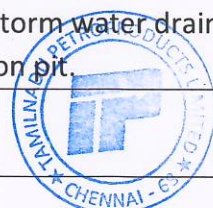
**(A) Specific Condition**

S.No	Condition	Compliance
1	EC will be subject to the decision of Hon'ble NGT (SZ). The project proponent shall abide by all orders and judicial pronouncements made from time to time in the case filed in Hon'ble NGT.	Shall be complied.
2	The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.	Complied All the environmental protection measures and safeguards proposed in the documents submitted to the Ministry will be complied. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures are being implemented.
3	NOC from the Central Ground Water Authority (CGWA)/ Concerned Local authority shall be obtained before start of the construction of plant and drawing of the ground water for the project activities, State Pollution Control Board / Pollution Control Committees shall not issue the Consent to Operate (CTO) under Air (Prevention and Control of Pollution) Act and Water (Prevention and Control of Pollution) Act till the project proponent shall obtain such permission.	Complied No ground water withdrawal for the existing & proposed expansion, hence NOC from the Central Ground Water Authority (CGWA)/ Concerned Local authority is not envisaged. Tertiary Treatment Reverse Osmosis (TTRO water) from CMWSSB is being used for the existing operation and same will be using for the expansion project.
4	As proposed, 2 Nos (1 No of 3MW & 1 No of 6 MW) of the above HFO based DG sets shall be replaced with 2 Nos of 7 MW each LNG based Gas Engines during this Financial year 2022-23. As committed, PP shall replace the remaining 1 No of HFO based 6 MW DG set with a Gas Engine within 1 year from the date of issue of EC.	Being complied As committed, 2 Nos of HFO based DG sets (1 X 3MW & 1 X 6.6 MW) have replaced with 2 Nos of 7 MW LNG based Gas Engines. Remaining 1 No of HFO based DG set (1X6.6MW) will be removed or replaced with a Gas Engine in the year-2024.
5	Total freshwater requirement is 1000 m3 /day which will be met from TTRO supply	Complied





	from CMWSSB. Necessary permission in this regard shall be obtained from the concerned regulatory authority. The project proponent will treat and reuse the treated water within the factory and no waste or treated water shall be discharged outside the premises.	Fresh water requirement of 1000 m <sup>3</sup> /day will be met from TTRO supply from CMWSSB. Agreement is executed with CMWSSB, Effluent is treated in the ETP & RO Plant. RO permeate is reused in cooling tower as make up water and RO Reject is reused in TPL - ECH PO Plant process. No waste or treated water is discharged outside the premises.
6	PP shall ensure that effluent shall be treated through existing Effluent Treatment Plant of capacity 300 m <sup>3</sup> /day. Domestic wastewater is being/will be treated in existing STP of Capacity 160 KLD. The plant is being/will be based on Zero Liquid discharge system and hence treated effluent water / will not be discharged outside the factory premises.	Complied Effluent is treated through existing Effluent Treatment Plant and RO Plant of capacity 300 m <sup>3</sup> /day each. <ul style="list-style-type: none"> <li>RO permeate is reused in cooling tower as make up water and RO Reject is sent to TPL - ECH PO Plant and the same is reused in their process.</li> <li>Domestic wastewater is treated in existing STP of Capacity 160 KLD</li> <li>Treated sewage is utilised for green belt development inside the unit premises. ZLDS is being achieved.</li> </ul>
7	3D risk study shall be done including consideration of vertical components and submit to IRO, MOEFCC within 6 months.	Complied 3D risk study including consideration of vertical components was conducted through accredited consultant M/s. Efficaz Consulting Services, Chennai. and report submitted to IRO, MOEF&CC.
8	Comprehensive water audit to be conducted on annual basis and report to the concerned Regional Office of MEF&CC. Outcome from the report to be implemented for conservation scheme.	Complied. Comprehensive water audit conducted through accredited consultant M/s. Hubert Enviro care system, Chennai on Sep-23 and report has been submitted to IRO, MOEF&CC, Chennai.
9	Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.	Complied Dedicated storm water drains are provided to avoid Process effluent/any wastewater mix with storm water. Storm water drain is passed through collection pit.
10	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc.	Complied



	Flame arresters shall be provided on tank farm, and solvent transfer to be done through pumps.	Hazardous chemicals are stored in dedicated tanks located in tank farms. Necessary safety measures are provided in the tank farm.
11	Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF. The ash from boiler shall be sold to brick manufacturers/cement industry.	Complied Hazardous wastes are being disposed as per the authorisation issued by TNPCB. (HWA 22HFC30934995 dated 10/01/2022. Valid up to 31.03.2026). RLNG is used as fuel in boiler hence no generation of ash.
12	Regular VOC monitoring shall be done at vulnerable points.	Complied LDAR survey (VOC Monitoring) is being carried out at vulnerable points periodically. Latest LDAR survey has been conducted in April'24
13	The oily sludge shall be subjected to melting point for oil recovery and the residue shall be bio-remediated. The sludge shall be stored in HDPE lined pit with proper leachate collection system.	Complied Oil sludge is being disposed to authorised TSDF for incineration as per the Hazardous Waste Authorisation issued by TNPCB. (HWA No. 22HFC30934995 dated 10/01/2022. Valid up to 31.03.2026).
14	Oil catchers / oil traps shall be provided at all possible locations in rain/ storm water drainage system inside the factory premises.	Complied Oil traps are provided in rain/ storm water drainage system inside the factory premises.
15	The company shall undertake waste minimization measures as below: a) Metering and control of quantities of active ingredients to minimize waste. b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. c) Use of automated filling to minimize spillage. d) Use of Close Feed system into batch reactors. e) Venting equipment through vapour recovery system.	Complied a) Flow meters are provided to monitor and control of raw material consumption and to minimise waste. b) Off gas and Slop oil is reused as fuel in heaters. c) Automated filling system with magnetic flow meter is provided for product despatch to avoid spillage. d) All Raw material & products are handled in pipelines. e) Off gas generated are routed through Pilot Gas Balance Drum and reused as fuel in heaters.



	f) Use of high pressure hoses for equipment cleaning etc. to reduce wastewater generation.	f) High pressure hoses are being used for equipment cleaning etc., to reduce wastewater generation.																
16	<p>The green belt of 5-10 m width shall be developed in 8.76 Ha i.e. nearly 54.12% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department. Development of Green belt in the 18 Acre land area (at a distance of 0.36 km, NE from the project site) shall be done to compensate for the deficit Green Belt (30.875%) for LAB Project within 1 year. Status of development of greenbelt in this area shall be informed to the IRO, MOEFCC regularly.</p>	<p>Being complied</p> <ul style="list-style-type: none"><li>• We have developed 3.65 Acres (9.125 %) of green belt area within the premises (No. of Trees – 3800).</li><li>• As per the EC condition, we have been developed a green belt of 18 Acre (45 %) outside the premises at a distance of 0.36 km, NE from LAB site to achieve 40 % green belt coverage. (No. of tree sapling proposed – 18000).</li></ul> <table><tr><th>Green Belt Detail</th><th>Area Acre</th><th>%</th><th>Trees</th></tr><tr><td>Existing GB (inside )</td><td>3.65</td><td>9.125</td><td>3800</td></tr><tr><td>GB is under progress near the plant.</td><td>18.00</td><td>45.000</td><td>18000</td></tr><tr><td>Total Green Belt</td><td>21.65</td><td>54.125</td><td>21800</td></tr></table> <p>Apart from the above green belt developed, the following green belt areas have been developed outside of the plant.</p> <ul style="list-style-type: none"><li>• Tree &amp; flower plantation has been developed on the banks of Korattur lake and fencing provided under Greater Chennai Corporation Greenery of Chennai city scheme.</li></ul> <p>1400 Nos of avenue plantation developed in highway median nearby plant.</p> <ul style="list-style-type: none"><li>• We have developed a green belt area of around 15.14 acres outside the plant premises at Morai, Village, Pandeswaram Village and Grandlyon village, Thiruvallur District during 2022 – 2023. (No. of tree sapling planted – 15000).</li></ul>	Green Belt Detail	Area Acre	%	Trees	Existing GB (inside )	3.65	9.125	3800	GB is under progress near the plant.	18.00	45.000	18000	Total Green Belt	21.65	54.125	21800
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17	As per the Ministry's OM dated 30.09.2020 superseding the OM dated 01.05.2018 regarding the Corporate Environmental Responsibility, and as per the action plan proposed by the project proponent of Rs. 3.6 Crores to address the socio-economic and environmental issues in the study area, the project proponent, as committed, shall provide education funds in technical training centres / support in nearby village's schools, support in health care facilities, drinking water supply and funds for miscellaneous activities like solar streetlights, battery, solar panel etc., in the nearby villages. The action plan shall be completed within time as proposed.	Being complied As per the Ministry's OM dated 30.09.2020 superseding the OM dated 01.05.2018, Corporate Environmental Responsibility amount for the proposed project is calculated as Rs. INR 3.6 Crores and amount will be spent towards the socio-economic and environmental issues in the nearby communities. Action plan is prepared and will be completed within the time schedule as proposed.
18	The project proponent shall ensure 70% of the employment to the local people, as per the applicable law. The project proponent shall set up a skill development centre/provide skill development training to village people.	Being Complied Preference has been given to local people for employment as per the rules & regulation of company and will be ensured. Skill development centre will be provided, and skill development training will be imparted to village people.
19	A separate Environmental Management Cell (having qualified person with Environmental Science / Environmental Engineering / specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.	Complied A separate Environmental Management cell is available with environmental science qualified personnel. Full-fledged laboratory is available to carryout Environmental Management and Monitoring functions.
20	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.	Complied Firefighting system is provided as per the Tamilnadu Factories Rules. Fire hydrant system along with hydrants, fire monitors, portable fire extinguishers, foam pourers, sprinkler system, and flame detectors, etc are provided in the process as well as in the storage areas for protection of possible fire hazards during manufacturing process in material handling.



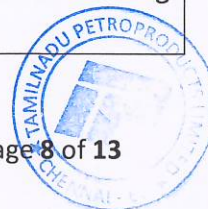


		Fire license obtained from Tamilnadu Fire & Rescue services, Govt. of Tamilnadu. (Renewal Fire license validity is up to 19.09.2024).
21	Storage of raw materials shall be either in silos or in covered areas to prevent dust pollution and other fugitive emissions. All stockpiles should be constructed over impervious soil and garland drains with catch pits to trap runoff material shall be provided. All Internal roads shall be paved. Industrial vacuum cleaner shall be provided to sweep the internal roads. The Air Pollution Control System shall be interlocked with process plant/machinery for shutdown in case of operational failure of Air Pollution Control Equipment.	<p>Complied</p> <p>Raw materials are stored in closed storage tanks to prevent dust pollution and other fugitive emissions.</p> <p>Storage Tanks are constructed over concrete floor and dykes are provided to trap runoff material.</p> <p>All roads are paved properly, and roads are being cleaned by using industrial vacuum cleaner.</p> <p>The Air Pollution Control Systems will be interlocked with process plant/ machinery for shutdown in case of operational failure of Air Pollution Control Equipment.</p>
22	Continuous online (24x7) monitoring system for stack emissions/effluent shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.	<p>Complied</p> <p><u>Emission Monitoring system</u></p> <p>Online Continuous Emission Monitoring system (OCEMS) is installed in the following stacks to monitor PM, SO<sub>2</sub>, NO<sub>x</sub> and CO parameters and the monitoring data is being transmitted to the CPCB and SPCB server.</p> <p>OCEMS provided at the following locations.</p> <ol style="list-style-type: none"> <li>1) Stack attached to Hot oil heater.</li> <li>2) Stack attached to Hydrotreater heater.</li> <li>3) Stack attached to PACOL heater.</li> <li>4) Stack attached to Boiler.</li> <li>5) Stack attached to CPP DG Sets and</li> <li>6) Camera installed to view Flare stacks.</li> </ol> <p>OCEMS connectivity details attached as <u>Effluents monitoring system</u></p> <p>Effluents are transferred through pipelines and not through channel/drain and hence online flowmeters are provided at the inlet and outlet of ETP and RO plant.</p> <p>Flow meters are provided at the following locations and connected to TNPCB/CPCB.</p> <ol style="list-style-type: none"> <li>1) Inlet &amp; Outlet of the ETP,</li> </ol>

		<p>2) RO Feed 3) RO Permeate 4) RO Reject and 5) Combined effluent outlet from LAB - RO Reject &amp; HCD to ECH PO Plant process.</p> <p>Online Continuous Effluent Monitoring system (OCEMS) is installed at the combined effluent outlet from LAB &amp; HCD plants to ECH PO Plant process for monitoring PH, BOD/COD, TSS and the data is being transmitted to the CPCB and SPCB server.</p>
23	<p>PP to set up occupational health Centre for surveillance of the worker's health within and outside the plant on a regular basis. The health data shall be used in deploying the duties of the workers. All workers &amp; employees shall be provided with required safety kits/mask for personal protection.</p>	<p>Complied</p> <p>Occupational health centre is available in the site with the following facility.</p> <p>1) Doctor 2) Nurse, round the clock. 3) Ambulance</p> <p>Periodic medical check-up for all employees is being done at regular interval. Records are maintained. The health data is being used in deploying the duties of the employees.</p> <p>Primary Health Care Centres (PHCC) and mobile clinic are provided at nearby villages (Vichoor, Sadayankuppam, Periyasekkadu, Kannampalayam &amp; Seemavaram) to cater to the primary health care needs of the peoples residing nearby areas.</p> <p>Required Personal Protective Equipment (PPEs) including COVID mask are being given to all employees &amp; contractors.</p>
24	<p>The National Emission Standards for Petrochemical (Basic &amp; Intermediates) issued by the Ministry vide G.S.R. 820 (E) dated 9th November, 2012 as amended time to time shall be followed.</p>	<p>Complied</p> <p>The National Emission Standards for Petrochemical (Basic &amp; Intermediates) issued by the Ministry vide G.S.R. 820 (E) dated 9th November, 2012 as amended time to time is being followed.</p>
25	<p>Recommendations of mitigation measures from possible accident shall be</p>	<p>Complied</p>



<p>implemented based on advanced risk Assessment studies conducted for worst case scenarios using latest techniques.</p>	<p>Adequate safety measures are provided to mitigate possible accident.</p> <p>Risk Assessment studies were conducted for worst case scenarios using latest techniques through accredited consultant and the recommendations given in the risk assessment studies are being implemented.</p> <p><b>Existing safety measures:</b></p> <ul style="list-style-type: none"> <li>• TPL – LAB has a well laid individual Fire Water pumping system with Jockey pumps, Main motor driven pumps and Diesel engine driven pumps.</li> <li>• Fire hydrant ring header runs throughout the plant, covering the entire LAB plant with sufficient numbers of hydrants and monitors as per the Tamil Nadu Factories Rules requirements.</li> <li>• Sprinkler systems are provided in the storage tanks storing class A chemical.</li> <li>• Nitrogen blanketing system is provided in the benzene storage tanks.</li> <li>• Benzene Online analyzer is provided.</li> <li>• LNG, LPG, Hydrogen, HF and HC detectors are provided at handling areas.</li> <li>• Necessary PPEs are provided.</li> <li>• Hydrant system, Foam pourer, water monitor, are provided.</li> <li>• Fire alarm manual call points provided.</li> <li>• Dyke walls are provided for all storage tanks to contain the liquid in case of any leakages.</li> </ul> <p><b>Risk assessment study – Recommendations.</b></p> <ul style="list-style-type: none"> <li>• Fixed water spray system is provided to HF handling area to minimize the HF dispersion into surroundings.</li> <li>• Online HF leak detectors are provided in and around HF storage and handling areas.</li> </ul>
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		<ul style="list-style-type: none"> <li>• Chemical Protective suit with dual air system and necessary PPE are provided.</li> <li>• Periodic training is given to all employees using PPEs and handling emergencies.</li> <li>• Periodic thickness survey is being carried out for HF pipelines, storage tank and vessels.</li> <li>• Standard Operating Procedures is available to take care of emergencies.</li> <li>• Operator training and retraining are being carried out continuously and Mock Drills are being carried out regularly on identified scenarios.</li> <li>• Work Permit System is being strictly enforced.</li> <li>• Explosion proof electrical equipment and lighting features are provided in the classified area.</li> <li>• Smoking and carrying smoking accessories are strictly prohibited.</li> <li>• Ensure that safe work practices are followed in premises, including hot work procedures in areas near flammable inventories.</li> <li>• Safety Procedures and Do's and Don'ts is prepared and displayed in handling and storage area.</li> <li>• Periodic inspection of Pipelines and painting are being carried out to avoid corrosion and subsequent leak.</li> </ul>
26	PP shall sensitize and create awareness among the people working within the project area as well as its surrounding area on the ban of Single Use Plastic in order to ensure the compliance of Notification published by MOEFCC on 12th August, 2021. A report along with photographs on the measures taken shall also be included in the six-monthly compliance report being submitted to concerned authority.	<p>Complied</p> <p>TPL plant premises is declared as 'Plastic Free Zone'.</p> <p>Display board made of metal with pictorial representation of the banned <b>"one time use and throwaway plastic"</b> items is provided at the entrance of the industry.</p> <p>Conducted awareness programs on ban on use of <b>"one time use and throwaway plastic"</b> and the alternatives for the banned plastics Eco-friendly alternatives</p>





		such as banana leaf, arecanut palm plate, stainless steel, glass porcelain plants/cups cloth bag, jute bag etc are being encouraged for use.
	<b>General Condition</b>	
1	No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.,	Complied. No further expansion or modification in the plant will be carried out without prior approval of the Ministry of Environment, Forests & Climate Change. in case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference will be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.,
2	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.	Complied Energy efficient LED bulbs are being used for lighting purpose to conserve energy and environment betterment.
3	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (night time).	Complied Acoustic hoods, silencers, enclosures, etc., are provided at DG sets to keep the noise level within the prescribed standards. All machineries like blowers, compressors are being maintained properly and preventive maintenance are taken as per the schedule to control the noise levels. Ambient noise levels are being monitored periodically through in-house laboratory and TNPCB laboratory.
4	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented. The company shall undertake eco-developmental measures including community welfare	Being Complied All relevant measures will be taken towards the improvement of socio-economic conditions of the surrounding area. Action plan is prepared to undertake eco-developmental measures including community welfare measures under Corporate Environmental Responsibility



	measures in the project area for the overall improvement of the environment.	<p>(CER) involving local villages and administration in the project area for the overall improvement of the environment. Following community welfare measures are taken under CSR activities.</p> <p>Primary Health Care Centre (PHCC) is provided at following location in Manali area to cater to the primary health care needs of the peoples residing nearby areas.</p> <ul style="list-style-type: none"> <li>• Sadayankuppam</li> <li>• Vichoor</li> <li>• Periyasekkadu</li> <li>• Kannampalayam</li> <li>• Seemavaram</li> <li>• Mobile Primary Health Care Centre (Dr. Mobile).</li> </ul> <p>Constructed rest rooms in Government schools at following location in, Manali.</p> <ul style="list-style-type: none"> <li>• Government high school at Manali New Town</li> <li>• Government high school at Redhill</li> <li>• Government high school at Vichoor</li> </ul>
5	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.	<p>Being Complied</p> <p>Sufficient funds are earmarked towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government and implementation schedule is prepared and being followed.</p> <p>Funds earmarked for environmental management / pollution control measures will not be diverted for any other purpose.</p>
6	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.	<p>Complied</p> <p>No suggestion was received from Panchayat / Municipal corporation urban local body and local NGO while processing the proposal.</p>
7	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated	Being Complied





	<p>Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&amp;CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.</p>	<p>Six monthly reports on the status of the compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) will be submitted to MOEF Regional Office/ the Zonal Office of CPCB and SPCB.</p> <p>A copy of Environmental Clearance and six-monthly compliance status report are uploaded in our company's website (<a href="http://www.tnpetro.com">www.tnpetro.com</a>) and also will be updated periodically.</p>
8	<p>The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF&amp;CC by e-mail.</p>	<p>Being Complied</p> <p>The environmental statement (Form V) is being submitted to TNPCB once in a year before 30<sup>th</sup> Sep every year.</p> <p>Environmental statement (Form V) for the year 2022 – 2023 was submitted to TNPCB on 27.09.2023.</p> <p>The six-monthly compliance status of environmental clearance conditions including results of monitored data is being submitted to MOEF Regional Office through e-mail.</p> <p>A copy of Form V and six-monthly compliance status of environmental clearance conditions were uploaded in the company's website. (<a href="http://www.tnpetro.com">www.tnpetro.com</a>)</p>
9	<p>The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at <a href="https://parivesh.nic.in/">https://parivesh.nic.in/</a>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be</p>	<p>Complied</p> <p>Detail of the Environmental clearance obtained for the project was published in English &amp; Tamil newspapers (The Financial Express on 03.12.2022 and Makkal Kural on 02.12.2022) as public notice advertisements.</p> <p>Advertisements were submitted to the Regional Office, MOEFCC on 27.12.2022.</p>

	forwarded to the concerned Regional Office of the Ministry.	
10	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Shall be complied. The details of date of financial closure, final approval of the project by the concerned authorities and the date of start of the project will be submitted to IRO, MOEFCC.
11	This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.	Shall be complied.





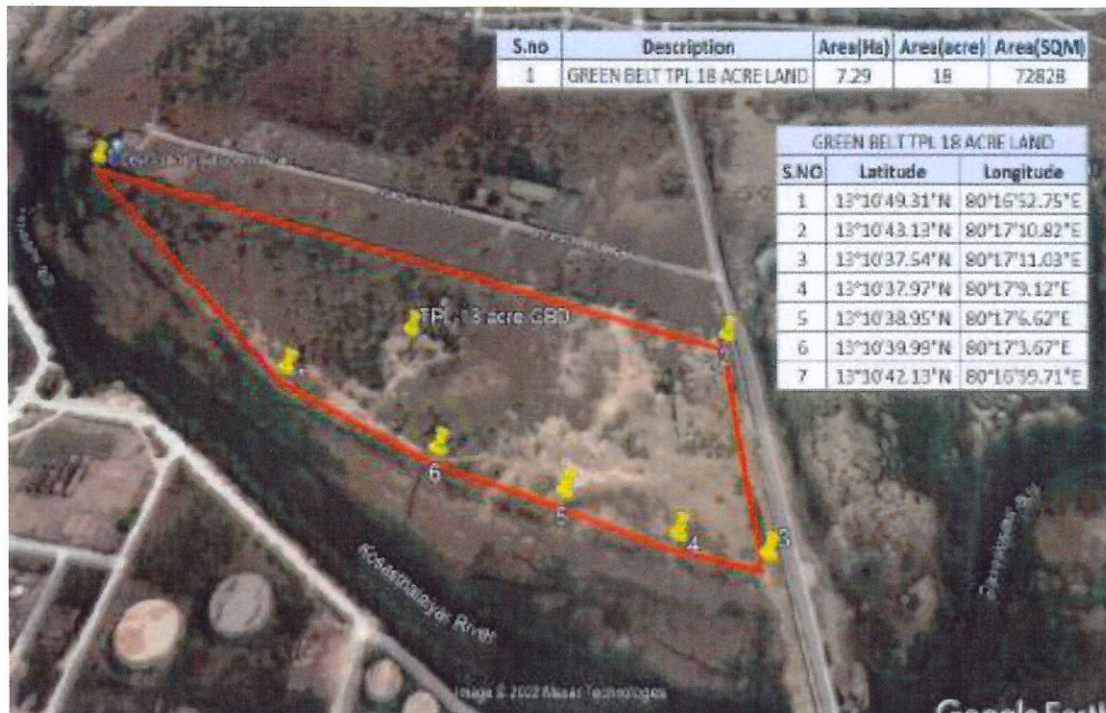
Green Belt Development for LAB at 18 Acre











Coordinates of the Proposed Green belt Area



Google image showing the connectivity of existing and proposed greenbelt site location.









# HUBERT ENVIRO CARE SYSTEMS P.LTD

## Water Audit Report of M/s. Tamilnadu Petroproducts Limited LAB Plant



**Client**



**M/s. TAMILNADU PETROPRODUCTS LIMITED (TPL)**

**Manali Industrial Area**

**Taluk: Thiruvottiyur**

**District: Chennai State**

**State: Tamil Nadu**

**Consultant**



**Hubert Enviro Care Systems P. Ltd  
Chennai**



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## 1. INTRODUCTION

Hubert Enviro Care Systems Pvt. Ltd, Chennai was entrusted by M/s. TAMILNADU PETROPRODUCTS LIMITED (TPL) as an external consultant to conduct the water audit on the following aspects,

1. Water consumption for domestic and industrial applications
2. Sources of waste water generation
3. Remediation measures to optimize and discharge wastewater generations within the industrial premises

Tamil Nadu Petroproducts Limited (TPL) is a joint venture promoted with equity participation by Tamil Nadu Industrial Development Corporation Limited (TIDCO) - wholly owned by the Government of Tamil Nadu and Southern Petrochemical Industries Corporation Ltd. (SPIC) & with remaining equity contributed by around 80,000 public shareholders. TPL is a listed company on Bombay Stock Exchange and National Stock Exchange. M/s. SPIC Limited has diverse interest ranging from Fertilizers, Petrochemicals & other services. TIDCO is a public financial institution engaged in promoting industries in the State of Tamil Nadu.

TPL was established in 1984 at Manali, Thiruvallur district in Tamil Nadu State to manufacture Linear Alkyl Benzene (LAB), an industrial intermediary chemical, which finds application in manufacture of detergents and cleaning agents.

TPL acquired its Heavy Chemicals Division (HCD) from SPIC in the year 2000, which manufactures Chloro Alkali Comprising Caustic Soda & Chlorine, which are widely used industrial chemicals in Textile, Paper and Pulp, Soaps & Detergents and Aluminium industries in India.

TPL established its Propylene Oxide manufacturing facility in the year 2019, in the existing ECH plant, which is used as a key raw material in the manufacture of Polyol.

TPL commenced its Linear Alkyl Benzene (LAB) facility in 1987 with technology from UOP, USA. The LAB manufacturing facility is integrated with the production unit of intermediate Normal Paraffin.



## 2. SITE VISIT AND DATA COLLECTION

HECS, Chennai team visited M/s. Tamil Nadu Petro Products Limited on 13.09.2023 to 15.09.2023 for technical discussion, water audit kick off meeting, site visit and data collection. Water audit check list is submitted to the client and the following details have been collected from the checklist sheet and the consent order from the Tamil Nadu Pollution Control Board.

**Table 1: Details**

1.	<b>Name of the company/ Industry/ Unit &amp; Address:</b>	<b>Tamil Nadu Petro products Limited (TPL) - LAB Plant</b>  265 (Part), 266 (Part), Manali Industrial Area, Manali village, Thiruvottiyur Taluk, Chennai District, Tamil Nadu
2.	<b>Contact Person:</b>	Mr. Senthil Kumar D - whole time director
3.	<b>Audit Period:</b>	2023-24
4.	<b>Company / Industry / Unit details &amp; Manufacturing details:</b>	Manufacturing of LINEAR ALKYL BENZENE
5.	<b>No of Employees Staffs</b>	333 Nos. (Including contract workers)

## 2.1. LAYOUT OF THE UNIT



Figure 1: layout of the project



## 2.2. BUILT UP AREA DETAILS

Table 2: Extend land details

Extent of Land	Acres
a) Total area	40.0
b) Built up area	34.85
c) Solid waste storage / disposal area	1.0
d) Green Belt / Irrigation area	3.65
e) Vacant area	0.5

## 2.3. GREEN BELT AREA AVAILABLE

Table 3:Green Belt Area Details

Green Belt Detail	Area (in Acres)	%	Trees
Existing GB (inside plant)	3.65	9.125	3800
Proposed GB at outside plant.	18.00	45.000	18000
Total Green Belt	21.65	54.125	21800

## 2.4. POWER REQUIREMENT

Table 4::Details of Power Requirement

Description	Unit	Existing	Proposed	After Expansion	Source
Power requirement	MW	7.5	2.5	10	Captive Generation

## 2.5. DG DETAILS WITH CAPACITY AND NOS.

Table 5: DG details

1	DG Set 3.2 MW
2	DG Set 6.6 MW
3	DG Set 6.6 MW

## 2.6. SOURCES OF WATER

a) CMWSSB -TTRO water 2039 KLD

## 2.7. WATER CONSUMPTION DETAILS (LIT / KL) / DAY:

**Table 6: Water Consumption Details**

PARTICULARS	EXISTING	EXPANSION
Source of Water - TTRO	2039	1170
WCI (Cooling and boiler feed)	134 040	1025 5
WCII (Domestic)	60	40
WCIII (Process – Easily biodegradable)	639	105
WCIV (Process–Non easily biodegradable)	----	----

**NOTE:** Existing values updated as per CTO

## 2.8. EFFLUENT ARISING FROM THE INDUSTRY / KLD

**Table 7: Details of Effluent Arising from The Industry / KLD**

PARTICULARS	EXISTING	EXPANSION
Sewage	60	35
Trade Effluent	1164	180

## 2.9. EXISTING ETP /STP DETAILS IF ANY

### SEWAGE TREATMENT PLANT

**Table 8: Details of Sewage Treatment Plant**

S. No	Name of the Treatment Unit	No. of Units	Dimensions (m)
1.	Collection Tank	01	11.5 X 7.8 X 4.0m
2.	Screen chamber	01	1.0 X 1.0 X 1.0m
3.	Aeration Tank	01	8.0 X 8.0 X 2.5m
4.	Clarifier-1	01	4.0 Dis X 2.5m
5.	Treated Water Tank	01	4.5 X 4.5 X 4.5 m
6.	Sludge Drying Bed	04	5.0 X 5.0 X 5.0m

### Sewage Treatment Plant - Proposed

- Existing STP Capacity is adequate for treating the additional quantity of effluent generated from the proposed expansion.
- No changes in existing STP components.
- Treated sewage is utilized for Green Belt Development.



## EXISTING ETP

**Table 9: Existing ETP details**

S. No	Name of the Treatment Unit	No. of Units	Dimensions in meters
1	Oily process water Stream Pit	01	14 x 2.25 x 5.5
2	Collection Tank	01	3.04 x 1.524 x 4
3	Tilted Plate Separator	01	3.84 x 1.2
4	API Separator	01	25 x 2.0 x 1.0
5	Recycle sump	01	2.05 x 2.8
6	Low Rate Bio Filter	01	3.5 x 3
7	Settling Tank	01	2.8 x 6.2 x 3
8	Neutralizing pit	01	8.0 x 8.0 x 2.5
9	Primary Neutralizing pit	01	2.5 x 2.8 x 3
10	Secondary Neutralizing pit	01	2.5 x 2.8 x 2.1
11	Clarifier	01	4.0 x 2.5
12	Polishing Tank-17nos.	01	2.8 x 2.8 x 2.2
13	V Notch chamber-4nos.	02	1.2 x 2.8 x 1.2
14	Final mixing Chamber-8nos.	01	2.0 x 2.0 x 2.0
15	Sand Filter	01	1.4 x 3.2
16	Sludge Drying Beds	04	5.0 x 5.0 x 0.8
17	Guard Pond	01	57m x 30m x 3
	RO PLANT 300KLD		

**RO PERMEATE WATER RECYCLED IN COOLING TOWER**

**RO REJECT REUSED IN ECH-PO PLANT PROCESS**

### 3. Actual Water Consumption based on the site visit

#### 3.1. Domestic Purposes

**Table 10: Actual Water Consumption for domestic purposes**

Water calculation as per NBC code		
Total number of employees / visitors	—	333
Water requirements as per NBC code (Domestic – 20, Flushing – 10) (Bathing facilities are not provided)	—	45 LPCD
Total water requirements (Domestic)	333 * 45	15 KLD
Employees Kitchen & Canteen usage (client data)	10 KLD (Drinking water)	
Contractors Canteen usage	9 KLD	
Total Domestic water requirement	<b>34 KLD</b>	

## 3.2. Water Balance Diagram

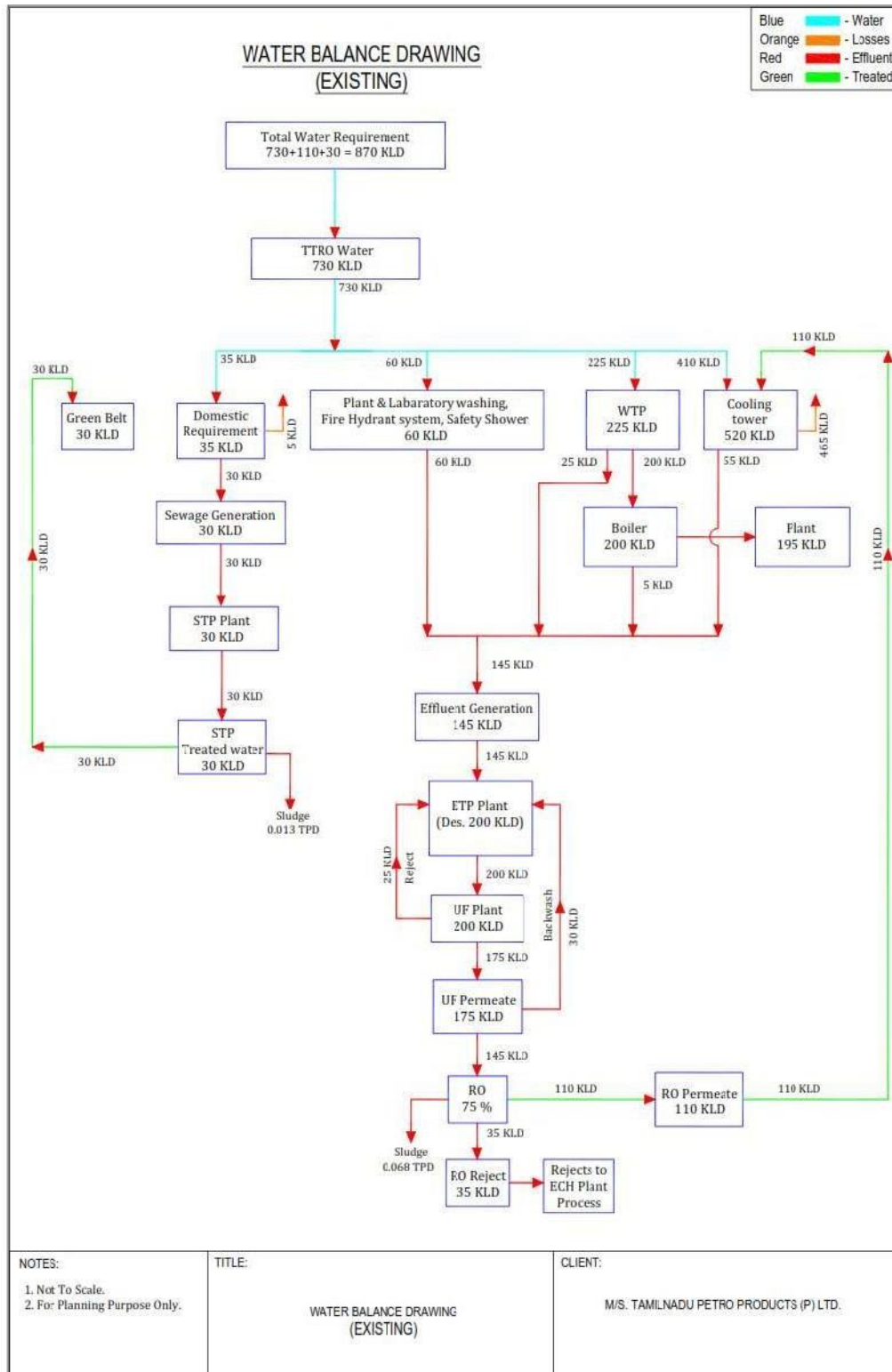


Figure 2: Water Balance Diagram



**Table 11: Actual Total Water Requirement per day in TPL -LAB**

S. No	Purpose	Quantity (KLD)	Percentage of total use
1	Domestic Water Requirement	15.0	2.28
2	Hand wash water	2.0	0.30
3	Kitchen vessels washing & cooking	17.0	2.58
	<b>Total Domestic Water</b>	<b>34.0</b>	<b>5.17</b>
4	For water treatment plant ( DM water generation)	80.0	12.17
5	Fire hydrant and plant safety shower	68.50	10.42
6	Water requirement for cooling tower	353.0	53.72
7	RO permeate for makeup CT	121.50	18.50
8	<i>Total water for plant usage</i>	623.0	94.83
	<b>Total Water requirement</b>	<b>657.0</b>	<b>100</b>

Total water requirement –657.00KLD

### 3.3. SEWAGE GENERATION DETAILS

**Table 12: Sewage Generation Details**

Domestic Sewage generation as per consent order	60 KLD
Domestic Sewage generation as per calculation	33.5 KLD

### 3.4. EFFLUENT GENERATION DETAILS

**Table 13: Effluent Generation Details**

Total Effluent Generation	137 KLD
---------------------------	---------

### 3.5. PHOTOGRAPH



API Oil Separator



Low Rate Bio Filter (LRBF)



Tilted Plate Separator



Polishing Tank



Primary & Secondary Neutraliser

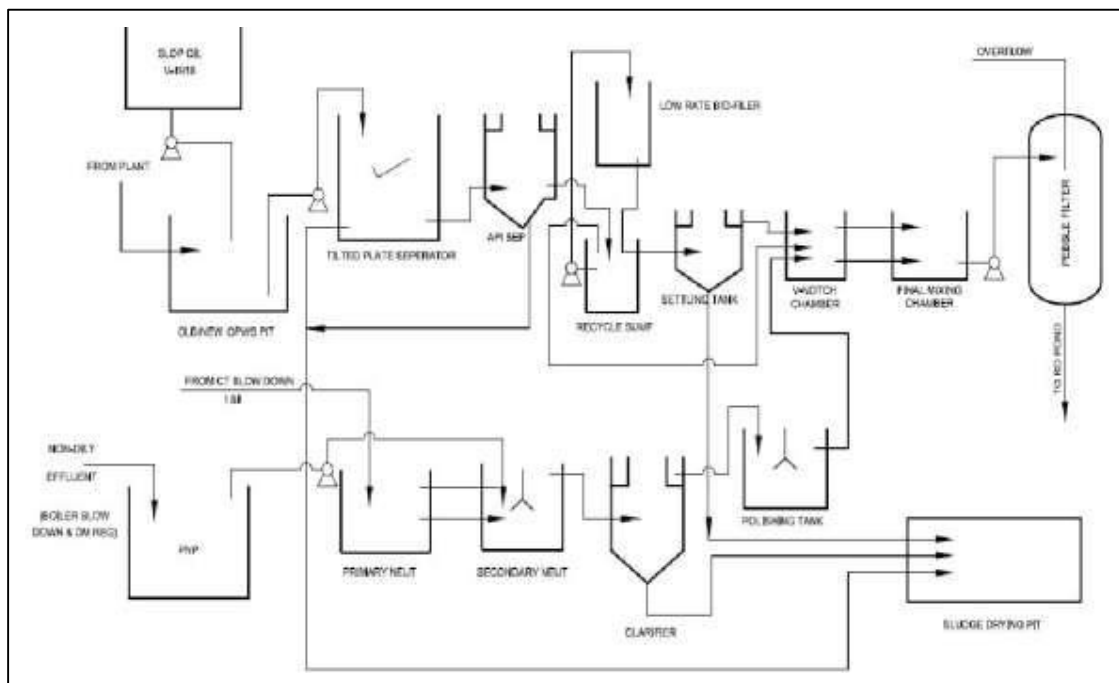


Clarifier





**Figure 3: photograph of existing ETP units**



**Figure 4: process flow diagram of existing ETP**

### 3.6. ETP COMPONENTS & SIZE:

**Table 14: Existing RO Components & Size**

S.No.	Type of Treatment	Instruments	Size (m)
1	Oily Effluent Treatment	Oily process water Stream Pit	14 x 2.25 x 5.5
		Collection Tank	3.04 x 1.524x 4
		Tilted Plate Separator	3.84 x 1.2
		API Separator	25 x 2.0 x 1.0
		Recycle sump	2.05 x 2.8
		Low Rate Bio Filter	3.5 x 3
		Settling Tank	2.8 x 6.2 x 3
2	Non Oily Effluent Treatment	Neutralizing pit	8.0 x 8.0 x 2.5
		Primary Neutralizing pit	2.5x 2.8 x 3
		Secondary Neutralizing pit	2.5x 2.8 x 2.1
		Clarifier	4.0 x 2.5
		Polishing Tank – 17 nos.	2.8 x 2.8 x 2.2
3	Oily &Non Oily Effluent Treatment	V-Notch chamber – 4 nos.	1.2 x 2.8 x 1.2
		Final mixing Chamber – 8 nos.	2.0 x 2.0 x 2.0
		Sand Filter	1.4 x 3.2
		Sludge Drying Beds – 4 nos.	5.0 x 5.0 x 0.8



## 4. RO PLANT

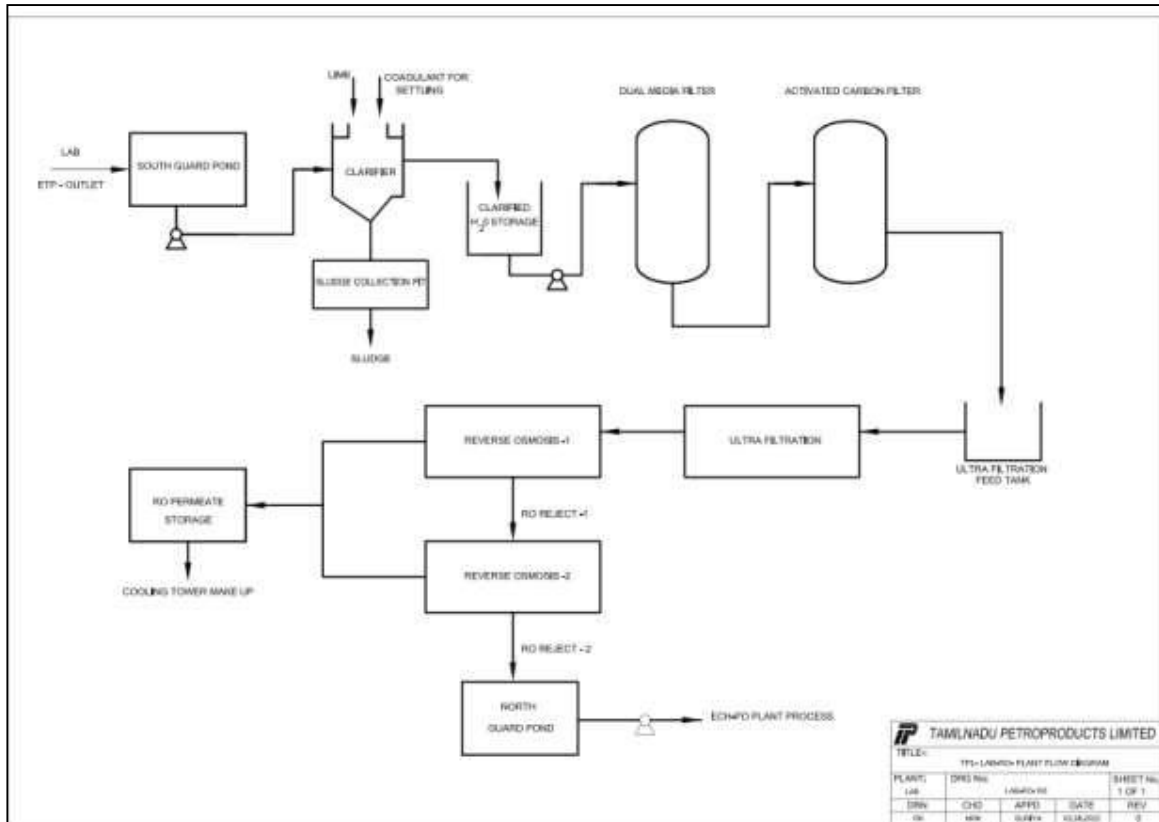


Figure 5: Flow Diagram of RO Plant



Figure 6: Photograph of Existing RO plant

**RO CAPACITY - 300 KLD**

## EXISTING RO COMPONENTS & SIZE

**Table 15: existing RO components & size**

S. No.	Tank Name	Capacity (KL)
1.	HRSCC Feed Pond (south guard Pond)	3000
2.	Filter feed tank	15
3.	RO feed tank	15
4.	RO final product tank (RO 1& 2 Permeate tank)	15
5.	RO-2 feed tank (RO-1reject tank)	5
6.	HRSCC (High rate solid contact clarifier)	75
7.	Sludge pits (4*1)	4
8.	RO-2reject Pond (North guard Pond)	1000

## RO MEMBRANE DETAILS

**Table 16:RO membrane details**

Description	Membrane	Quantity (Nos.)
RO-1	Thin Film Composite membrane (Brackish membrane)	18
RO-2	Thin Film Composite membrane (sea water membrane)	6

## 5. SITE INSPECTION & SAMPLE TESTING

HECS and Tamil Nadu Petro products Limited visited all the water use facilities in industrial premises. Sewage samples were collected and the quality parameters were tested as per IS 3025. The detailed list of sampling location and its quality characteristics are mentioned in section 5.1.



## 5.1. TEST REPORTS

### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TPL Lab  
 Address of the Client : Manali  
 Sample Description : Waste Water  
 Sample Mark : Fire Water  
 Sample Drawn By : Hubert Enviro Care Systems ( P ) Ltd.,  
 Sampling/received Date : 22/09/2023 - 22/09/2023  
 Analysis Commenced On : 22/09/2023  
 ULR No. : TC 578623000015186F

Report No. : HECSL/WW/010/220923  
 Report Date : 30/09/2023

Completed On : 30/09/2023

S.No.	Parameters	Units	Results	Test Method
1	Total suspended Solids	mg/l	20.0	IS 3025 (Part 17) 1984
2	pH @ 25°C	-	8.72	IS 3025 (Part 11) 2022
3	Total Dissolved Solids	mg/l	668.0	IS 3025 (Part 16) 1984
4	Oil & Grease	mg/l	BLQ(LOQ 4.0)	IS 3025 (Part 39) 1991
5	BOD, 3 days @ 27°C as O <sub>2</sub>	mg/l	BLQ(LOQ 1.0)	IS 3025 (Part 44) 1993
6	COD as O <sub>2</sub>	mg/l	BLQ(LOQ 4.0)	IS 3025 (Part 58) 2006
7	Sulphate as SO <sub>4</sub>	mg/l	12.27	IS 3025 (Part 24) 1986
8	Turbidity	NTU	0.8	IS 3025 (Part 10) 1984
9	Electrical Conductivity @ 25°C	µS/cm	983.0	IS 3025 (Part 14) 1983
10	Calcium as Ca	mg/l	32.0	IS 3025 (Part 40) 1991
11	Magnesium as Mg	mg/l	19.2	IS 3025 (Part 46) 1994
12	Reactive Silica as SiO <sub>2</sub>	mg/l	2.45	IS 3025 (Part 35) 1988
13	Nitrate	mg/l	9.065	IS 3025 (Part 34) 1988
14	Methyl Orange Alkalinity as CaCO <sub>3</sub>	mg/l	160.0	IS 3025 (Part 23) 1986
15	Chloride as Cl	mg/l	169.94	IS 3025 (Part 32) 1988
16	Total hardness as CaCO <sub>3</sub>	mg/l	160.0	IS 3025 (Part 21) 1983

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

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



# WATER AUDIT REPORT



## TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TPL Lab  
Address of the Client : Manali  
Sample Description : Waste Water

Report No. : HECSL/WW/012/220923  
Report Date : 30/09/2023

Sample Mark : Boiler BlowDown Water  
Sample Drawn By : Hubert Enviro Care Systems ( P ) Ltd.,  
Sampling/received Date : 22/09/2023 -22/09/2023  
Analysis Commenced On : 22/09/2023  
ULR No. : TCS78623000015188F

Completed On : 30/09/2023

S.No.	Parameters	Units	Results	Test Method
1	Total suspended Solids	mg/l	1.0	IS 3025 (Part 17) 1984
2	pH @ 25°C	-	10.59	IS 3025 (Part 11) 2022
3	Total Dissolved Solids	mg/l	3088.0	IS 3025 (Part 16) 1984
4	Oil & Grease	mg/l	BLQ(LOQ 4.0)	IS 3025 (Part 39) 1991
5	BOD, 3 days @ 27°C as O <sub>2</sub>	mg/l	8.0	IS:3025 (Part 44)1993
6	COD as O <sub>2</sub>	mg/l	32.0	IS 3025 (Part 58) 2006
7	Sulphate as SO <sub>4</sub>	mg/l	1071.38	IS 3025 (Part 24) 1986
8	Turbidity	NTU	0.7	IS:3025:(Part-10):1984
9	Electrical Conductivity @ 25°C	µS/cm	4610.0	IS:3025:(Part-14):1983
10	Calcium as Ca	mg/l	16.0	IS 3025 (Part 40) 1991
11	Magnesium as Mg	mg/l	19.2	IS 3025 (Part 46) 1994
12	Reactive Silica as SiO <sub>2</sub>	mg/l	27.21	IS 3025 (Part 35) 1988
13	Nitrate	mg/l	13.54	IS 3025 (Part 34) 1988
14	Methyl Orange Alkalinity as CaCO <sub>3</sub>	mg/l	300.0	IS 3025 (Part 23) 1986
15	Chloride as Cl	mg/l	274.91	IS 3025 (Part 32) 1988
16	Total hardness as CaCO <sub>3</sub>	mg/l	100.0	IS 3025 (Part 21) 1983

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligram per litre.

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





## WATER AUDIT REPORT



### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TPL Lab  
Address of the Client : Manali  
Sample Description : Waste Water

Report No. : HECSL/WW/013/220923  
Report Date : 30/09/2023

Sample Mark : Cooling Tower Blowdown  
Sample Drawn By : Hubert Enviro Care Systems ( P ) Ltd.,  
Sampling/received Date : 22/09/2023 -22/09/2023  
Analysis Commenced On : 22/09/2023  
ULR No. : TC578623000015189F

Completed On : 30/09/2023

S.No.	Parameters	Units	Results	Test Method
1	Total suspended Solids	mg/l	2.0	IS 3025 (Part 17) 1984
2	pH @ 25°C	-	6.78	IS 3025 (Part 11) 2002
3	Total Dissolved Solids	mg/l	3685.0	IS 3025 (Part 16) 1984
4	Oil & Grease	mg/l	BLQ(LOQ 4.0)	IS 3025 (Part 39) 1991
5	BOD, 3 days @ 27°C as O <sub>2</sub>	mg/l	7.0	IS 3025 (Part 44) 1993
6	COD as O <sub>2</sub>	mg/l	32.0	IS 3025 (Part 58) 2006
7	Sulphate as SO <sub>4</sub>	mg/l	270.86	IS 3025 (Part 24) 1986
8	Turbidity	NTU	14.3	IS 3025 (Part 10) 1984
9	Electrical Conductivity @ 25°C	µS/cm	5500.0	IS 3025 (Part 14) 1983
10	Calcium as Ca	mg/l	64.0	IS 3025 (Part 40) 1991
11	Magnesium as Mg	mg/l	43.2	IS 3025 (Part 46) 1994
12	Reactive Silica as SiO <sub>2</sub>	mg/l	8.94	IS 3025 (Part 35) 1988
13	Nitrate	mg/l	13.19	IS 3025 (Part 34) 1988
14	Methyl Orange Alkalinity as CaCO <sub>3</sub>	mg/l	130.0	IS 3025 (Part 23) 1986
15	Chloride as Cl	mg/l	1164.6	IS 3025 (Part 32) 1988
16	Total hardness as CaCO <sub>3</sub>	mg/l	340.0	IS 3025 (Part 21) 1983

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

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



## WATER AUDIT REPORT



### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TPL Lab  
Address of the Client : Manali  
Sample Description : Waste Water

Report No. : HECSL/WW/016/220923  
Report Date : 30/09/2023

Sample Mark : Ro Reject  
Sample Drawn By : Hubert Enviro Care Systems (P) Ltd.,  
Sampling/received Date : 22/09/2023 -22/09/2023  
Analysis Commenced On : 22/09/2023  
ULR No. : TC578623000015192F

Completed On : 30/09/2023

S.No.	Parameters	Units	Results	Test Method
1	Total suspended Solids	mg/l	2.0	IS 3025 (Part 17) 1988
2	pH @ 25°C	-	7.66	IS 3025 (Part 11) 2022
3	Total Dissolved Solids	mg/l	8924.0	IS 3025 (Part 10) 1988
4	Oil & Grease	mg/l	BLQ(LOQ 4.0)	IS 3025 (Part 39) 1991
5	BOD, 3 days @ 27°C as O <sub>2</sub>	mg/l	16.0	IS 3025 (Part 44) 1993
6	COD as O <sub>2</sub>	mg/l	92.0	IS 3025 (Part 58) 2000
7	Sulphate as SO <sub>4</sub>	mg/l	578.85	IS 3025 (Part 24) 1990
8	Turbidity	NTU	1.0	IS 3025 (Part 10) 1988
9	Electrical Conductivity @ 25°C	µS/cm	13320.0	IS 3025 (Part 14) 1983
10	Calcium as Ca	mg/l	104.0	IS 3025 (Part 40) 1991
11	Magnesium as Mg	mg/l	14.4	IS 3025 (Part 46) 1994
12	Reactive Silica as SiO <sub>2</sub>	mg/l	6.10	IS 3025 (Part 35) 1988
13	Nitrate	mg/l	33.0	IS 3025 (Part 34) 1988
14	Methyl Orange Alkalinity as CaCO <sub>3</sub>	mg/l	350.0	IS 3025 (Part 23) 1980
15	Chloride as Cl	mg/l	3248.0	IS 3025 (Part 32) 1988
16	Total hardness as CaCO <sub>3</sub>	mg/l	320.0	IS 3025 (Part 21) 1983

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

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



## TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TPL Lab  
Address of the Client : Manali  
Sample Description : Waste Water

Report No. : HECSL/WW/017/220923  
Report Date : 30/09/2023

Sample Mark : STP Inlet  
Sample Drawn By : Hubert Enviro Care Systems ( P ) Ltd.,  
Sampling/received Date : 22/09/2023 - 22/09/2023  
Analysis Commenced On : 22/09/2023  
ULR No. : TC578623000015193F

Completed On : 30/09/2023

S.No.	Parameters	Unit	Result	Test Method
1	Total suspended Solids	mg/l	98	IS 3025 (Part 17) 1994
2	pH @ 25°C	-	6.3	IS 3025 (Part 11) 2022
3	Total Dissolved Solids	mg/l	1956	IS 3025 (Part 16) 1994
4	Oil & Grease	mg/l	4	IS 3025 (Part 39) 1991
5	BOD, 3 days @ 27°C as O <sub>2</sub>	mg/l	60	IS 3025 (Part 44) 1993
6	COD as O <sub>2</sub>	mg/l	216	IS 3025 (Part 58) 2006
7	Chloride as Cl <sup>-</sup>	mg/l	564.8	IS 3025 (Part 32) 1988
8	Sulphate as SO <sub>4</sub>	mg/l	9.1	IS 3025 (Part 24) 1986
9	Electrical Conductivity @ 25°C	µS/cm	2920	IS 3025 (Part 34) 1983

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

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

## TEST REPORT

Page : 1 of 1

Name of the Client	: M/a. TPL Lab	Report No. : HECSL/WW/018/220923	
Address of the Client	: Manali	Report Date : 30/09/2023	
Sample Description	: Waste Water		
Sample Mark	: STP Outlet		
Sample Drawn By	: Hubert Enviro Care Systems ( P ) Ltd.,		
Sampling/received Date	: 22/09/2023 - 22/09/2023		
Analysis Commenced On	: 22/09/2023	Completed On : 30/09/2023	
ULR No.	: TC578623000015194F		

S.No.	Parameters	Units	Results	Test Method	TNPSB Limits*
1	Total suspended Solids	mg/l	5.0	IS-3025 (Part 17) 1984	20
2	pH @ 25°C	-	7.07	IS-3025 (Part 11) 2022	5.5 - 9.0
3	Total Dissolved Solids	mg/l	1958.0	IS-3025 (Part 16) 1984	-
4	Oil & Grease	mg/l	BLQ(LOQ 4.0)	IS-3025 (Part 39) 1991	10
5	BOD, 3 days @ 27°C as O2	mg/l	BLQ(LOQ 1.0)	IS-3025 (Part 44) 1991	10
6	COD as O2	mg/l	BLQ(LOQ 4.0)	IS-3025 (Part 56) 2006	50
7	Chloride as Cl-	mg/l	484.84	IS-3025 (Part 32) 1988	-
8	Sulphate as SO4	mg/l	208.37	IS-3025 (Part 24) 1986	-
9	Electrical Conductivity @ 25°C	µS/cm	2880.0	IS-3025 (Part 14) 1993	-

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

\*Mega and metropolitan city As Per Standards for STP Outlet.

Remarks: STP Outlet as above parameters meets TNPSB Standards.

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

**TEST REPORT**

Page: 1 of 1

Name of the Client : M/s. TPL Lab  
 Address of the Client : ~~Manali~~  
 Sample Description : Waste Water

Report No. : HECSL/WW/014/220923  
 Report Date : 30/09/2023

Sample Mark : ETP Outlet  
 Sample Drawn By : ~~Hubert Enviro Care Systems (P) Ltd.,~~  
 Sampling/received Date : 22/09/2023 - 22/09/2023  
 Analysis Commenced On : 22/09/2023  
 U.L.R.No. : TC578623000015190F

Completed On: 30/09/2023

S.No.	Parameters	Units	Results	Test Method	TNPCB Limits
1	Total suspended Solids	mg/l	68.0	IS 3025 (Part 17) 1984	100
2	pH @ 25°C	-	6.56	IS 3025 (Part 11) 2022	5.5 - 9.0
3	Total Dissolved Solids	mg/l	1034.0	IS 3025 (Part 16) 1984	2100
4	Oil & Grease	mg/l	2.0	IS 3025 (Part 39) 1991	10
5	BOD, 3 days @ 27°C as O <sub>2</sub>	mg/l	10.0	IS 3025 (Part 44) 1993	30
6	COD as O <sub>2</sub>	mg/l	40.0	IS 3025 (Part 58) 2006	250
7	Sulphate as SO <sub>4</sub>	mg/l	79.61	IS 3025 (Part 24) 1986	1000
8	Turbidity	NTU	17.5	IS 3025 (Part 10) 1984	NA
9	Electrical Conductivity @ 25°C	µS/cm	1521.0	IS 3025 (Part 14) 1983	NA
10	Calcium as Ca	mg/l	24.0	IS 3025 (Part 40) 1991	NA
11	Magnesium as Mg	mg/l	24.0	IS 3025 (Part 46) 1994	NA
12	Reactive Silica as SiO <sub>2</sub>	mg/l	6.93	IS 3025 (Part 35) 1988	NA
13	Nitrate	mg/l	6.59	IS 3025 (Part 34) 1988	NA
14	Methyl Orange Alkalinity as CaCO <sub>3</sub>	mg/l	130.0	IS 3025 (Part 23) 1986	NA
15	Chloride as Cl	mg/l	244.92	IS 3025 (Part 32) 1988	NA
16	Total hardness as CaCO <sub>3</sub>	mg/l	160.0	IS 3025 (Part 21) 1983	NA

Note: BLQ - Below the Limit of Quantification, LOQ - Limit of Quantification, mg/l - Milligrams per litre.

Remarks: ETP Outlet as above parameters meets TNPCB Standards.



**TEST REPORT**

Page : 1 of 1

Name of the Client : M/s. TPL Lab  
 Address of the Client : Manali  
 Sample Description : Waste Water

Report No. : HECSL/WW/011/220923  
 Report Date : 30/09/2023

Sample Mark : WTP Outlet  
 Sample Drawn By : Hubert Enviro Care Systems ( P ) Ltd.,  
 Sampling/received Date : 22/09/2023 - 22/09/2023  
 Analysis Commenced On : 22/09/2023  
 ULR No. : TC578623000015187F

Completed On : 30/09/2023

S.No	Parameters	Units	Results	Test Method	TNPCB Limits
1	Total suspended Solids	mg/l	28.	IS 3025 (Part 17) 1984	100
2	pH @ 25°C	-	8.6	IS 3025 (Part 11) 2002	5.5 - 9.0
3	Total Dissolved Solids	mg/l	765.	IS 3025 (Part 16) 1984	2100
4	Oil & Grease	mg/l	BLQ(LOQ 4.0)	IS 3025 (Part 39) 1991	10
5	BOD, 3 days @ 27°C as O <sub>2</sub>	mg/l	3.	IS 3025 (Part 44) 1993	30
6	COD as O <sub>2</sub>	mg/l	12.	IS 3025 (Part 58) 2006	250
7	Sulphate as SO <sub>4</sub>	mg/l	62.0	IS 3025 (Part 24) 1986	1000
8	Turbidity	NTU	0.	IS 3025 (Part 10) 1984	NA
9	Electrical Conductivity @	µS/cm	1125.0	IS 3025 (Part 14) 1983	NA
10	Calcium as Ca	mg/l	40.	IS 3025 (Part 40) 1991	NA
11	Magnesium as Mg	mg/l	19.	IS 3025 (Part 46) 1994	NA
12	Reactive Silica as SiO <sub>2</sub>	mg/l	2.4	IS 3025 (Part 35) 1988	NA
13	Nitrate	mg/l	10.2	IS 3025 (Part 34) 1988	NA
14	Methyl Orange Alkalinity as CaCO <sub>3</sub>	mg/l	160. 0	IS 3025 (Part 23) 1986	NA
15	Chloride as Cl	mg/l	159.95	IS 3025 (Part 32) 1988	NA
16	Total hardness as CaCO <sub>3</sub>	mg/l	180.	IS 3025 (Part 21) 1983	NA

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, mg/l- Milligrams per litre.

Remarks: WTP Outlet as above parameters meets TNPCB Standards

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



## 5.2. FIELD OBSERVATIONS AND WATER QUALITY ANALYSIS

Table 17: Water Quality Analysis

SAMPLING LOCATIONS	pH	TDS (IN mg/L)	REMARKS
TTRO	7.07	620	<ul style="list-style-type: none"><li>• Clear liquid is observed in the TTRO water reservoir.</li><li>• Presence of Total Suspended Solids (TSS) is 30.0 ppm which is within the permissible limit ( &lt; 100ppm)</li><li>• The BOD and COD Presence in the TTRO water is within the acceptable limit</li><li>• TTRO storage tank is to be cleaned annually/during shutdown to avoid sludge accumulation.</li></ul>
FIRE WATER	8.72	668.0	<ul style="list-style-type: none"><li>• Presence of Total Suspended Solids (TSS) is 20.0 ppm which is within the permissible limit ( &lt; 100ppm)</li><li>• The BOD and COD Presence in the FIRE Water is within the acceptable limit</li><li>• Fire water storage tank is to be cleaned annually/during shutdown to avoid sludge accumulation.</li></ul>
WTP OUTLET	8.68	765.0	<ul style="list-style-type: none"><li>• Presence of Total Suspended Solids (TSS) is 28.0 ppm which is within the permissible limit ( &lt; 100ppm)</li><li>• The BOD 3.0 ppm and COD 12.0 ppm Presence in the WTP OUTLET Water is within the acceptable limit</li><li>• This water is to be treated in ETP and followed by Reverse Osmosis. Before treatment in RO plant,</li><li>• removal of TSS through sand filter and carbon filter followed with Ultra Filtration and regular Hypo dosing continue to ensure.</li></ul>



## WATER AUDIT REPORT



<b>BOILER BLOW DOWN WATER</b>	10.59	3088.0	<ul style="list-style-type: none"><li>• Presence of Total Suspended Solids (TSS) is 1.0 ppm which is within the permissible limit ( &lt; 100ppm)</li><li>• The BOD 8.0 ppm and COD 32.0 ppm Presence in BOILER BLOW DOWN WATER Water is within the acceptable limit</li><li>• This water is to be treated in ETP and followed by Reverse Osmosis for TDS reduction and before treatment in RO plant, removal of TSS through sand filter and carbon filter followed with Ultra Filtration and regular Hypo dosing continue to ensure.</li></ul>
<b>COOLING TOWER BLOW DOWN</b>	6.78	3685.0	<ul style="list-style-type: none"><li>• Presence of Total Suspended Solids (TSS) is 2.0 ppm which is within the permissible limit ( &lt; 100ppm)</li><li>• The BOD 7.0 ppm and COD 32.0 ppm Presence in COOLING TOWER BLOW DOWN WATER is within the acceptable limit</li><li>• This water is to be treated in ETP &amp; followed by Reverse Osmosis system for removal of TDS of 3685 ppm. Before treatment in RO plant, removal of TSS through sand filter and carbon filter followed with Ultra Filtration and regular Hypo dosing continue to ensure</li></ul>
<b>ETP OUTLET</b>	6.56	1034.0	<ul style="list-style-type: none"><li>• Presence of Total Suspended Solids (TSS) is 68.0 ppm which is though within the permissible limit (&lt; 100ppm) it can be further treated thro' sand filter and Carbon Filter for removal of TSS followedby Ultra Filtration systems for removal TSS..</li><li>• The BOD 10.0 ppm and COD 40.0 ppm and O&amp;G 2.0 presence ETP treated water is within the acceptable limit, further treatment is required to recycle the treated water by using of sand filter andcarbon filter with Ultra Filtration as pre-treatment for processing in RO system to avoid fouling on the membranes.</li><li>• Please ensure the sand and carbon filter medias are replaced periodically.</li><li>• This ETP outlet water has a TDS of 1034.0 ppm is to be treated with Suitable RO systems withoptimum recovery for reuse.</li></ul>





## WATER AUDIT REPORT



<b>RO PERMEATE</b>	6.76	356.0	<ul style="list-style-type: none"><li>• The presence of Total Dissolved Solids (TDS) is 356.0 ppm which is better than TTRO water TDS and this water can be used for Boiler Feed and Cooling Tower topping up with residual hardness of 60 ppm. Suitable treatment can be incorporated for removal of hardness in RO permeate, i.e., softener or any suitable system as per your process requirements.</li><li>• This water can be fed to DM plant for getting enhanced output instead of using TTRO water and</li><li>• reduce the chemical effluent during DM Plant regenerations. / Permeate water being utilized for cooling water make up.</li></ul>
<b>RO REJECT</b>	7.66	8924.0	<ul style="list-style-type: none"><li>• Possibility of reuse of RO reject water can be assessed i.e., by further treatment in RO / by considering economic feasibility for treating final RO reject via MEE and ATFD - ZLD.</li><li>• The inlet quality of water has a Total Suspended Solids (TSS) of 98.0 ppm shall be treated through the filtering systems available in the STP plant.</li><li>• The BOD 60.0 ppm and COD 216.0 ppm is reported in STP inlet water shall be treated in available Sewage Treatment Plant comprising Aeration and Hypo Dosing along with clarifier systems</li></ul>
<b>STP OUTLET</b>	7.07	1958.0	<ul style="list-style-type: none"><li>• This STP treated water having TSS &lt;5.0ppm and TDS &lt; 1958.0 ppm can be used for gardening / Floor washing and having parameters within specified limits.</li><li>• BOD and COD in the treated water is observed to be within the limits and shall be used for Gardening and floor washing purposes</li></ul>

### **5.3. Observations from the Site Visit**

HECS team visited site on 13<sup>th</sup> September 2023 and carried out audit and had detailed discussions. Water samples collected on 21.09.2023 and tested at M/s. Hubert Enviro Care Systems laboratory.



## WATER AUDIT REPORT

### 6. Remedial Action for Sewage management / Effluent in Tamil Nadu Petroproducts Ltd

Table 18: Proposed Remedial Actions

S. No	Areas / Point of use	Remarks	Actions / Recommendations
1	Water Usage	For Canteen vessel washing	<ul style="list-style-type: none"><li>Proposed to provide separate flow meter to monitor and regulate the water usage at canteen area.</li><li>Provide jet spray type arrangement can reduce the water usage especially in utensil cleaning.</li></ul>
2	Cooling Tower evaporation loss/make up water	More Water loss in cooling tower More evaporation of water in CT found. Poor makeup water leading to higher blow down.	<ul style="list-style-type: none"><li>To control over the evaporation loss incoming water, ETP RO permeate can be taken as topping up with optimum TDS which will increase the COC in turn it will reduce the frequent bleed offs.</li><li>Ensure make up water with less TDS with periodic analysis</li></ul>
3	Boiler more Steam consumption/condensate recovery	Steam leakages near furnace area and steam trap points	Reduce Steam consumption by <ul style="list-style-type: none"><li>Steam trap leakages shall be attended.</li><li>Steam consumption can be reduced by ensuring the proper insulation in the piping network.</li></ul>





## WATER AUDIT REPORT

4	DM plant regeneration	Higher DM water consumption to meet Steam demand. Higher frequency of regeneration whenever supplies TTRO having more conductivity.	<ul style="list-style-type: none"> <li>Reduced DM water consumption in line with reduced steam demand</li> <li>Ensure Possibility /economic feasibility for ETP RO permeate as feed to DM Plant. or go for additional RO system for treating TTRO water to feed ROpermeate to DM Plant, Boiler, Cooling Tower.</li> </ul>
5	Reuse of water	RO recovery/ performance	<ul style="list-style-type: none"> <li>RO plant for treating treated effluent &amp;percentage of recovery needs to bereviewed</li> <li>Continuation of reuse of harvested rainwater</li> <li>Treated sewage continue use for green belt</li> </ul>
6	Domestic water	Reduction of sewage water	<ul style="list-style-type: none"> <li>Auto cut press Water tap provision for hand wash and toilet area could control the excess water usage.</li> </ul>
7	Effluent water	Reduction of effluent	<ul style="list-style-type: none"> <li>Optimum utilization of process water with minimum effluent generation.</li> <li>By avoiding mixing of storm water, which may contain chemical spill-over, which can be treated separately in the pre-treatment</li> </ul>

## WATER AUDIT REPORT

8	Oil contamination	Oil mix-up	<ul style="list-style-type: none"> <li>Recommended to divert the oily content to a separate collection sump through pipeline arrangement to reduce oil mix up in effluent and this water can be treated separately with suitable de-watering system.</li> </ul>
9	Operation of Effluent Treatment Plant	Treatment efficiency	<ul style="list-style-type: none"> <li>Ensure Continuous operation of ETP.</li> <li>Proper chemical dosing should be done continuously.</li> <li>The efficiency of ACF and PSF operations at RO needs to be monitored and back washing of filters are to be done periodically (at least once in a day)</li> </ul>
10	Main Sewage Collection Tank	Anaerobic condition of sewage	<ul style="list-style-type: none"> <li>The collected sewage should not be stored for a long period of time and should be treated and consumed for gardening purposes.</li> <li>It should be transported to the sewage treatment plant continuously.</li> <li>Storing the sewage is one of the reasons for black colour and high total suspended solids concentration due to sludge accumulation.</li> </ul>



## **7. Conclusion**

M/s Hubert Enviro Care Systems Pvt Ltd, Chennai was entrusted by M/s. Tamilnadu Petroproducts Ltd, Manali to conduct water audit study. The study is performed to identify the water consumption and sources of wastewater generation in the industrial premises. Also the possible reason for high Chemical Oxygen Demand, Biochemical Oxygen Demand and Total Suspended Solids in the sewage water has been identified. Based on the identified sources proposed remedial actions have been given for the better management of Sewage Treatment Plant and Effluent Treatment Plant.





**TAMILNADU POLLUTION CONTROL BOARD**

District Environmental Laboratory, Manali

From

To

Dr. P.Vijayalakshmi, M.Sc., Ph.D.,  
Deputy Chief Scientific Officer,(Adl Charge)  
District Environmental Laboratory, Manali  
Tamil Nadu Pollution Control Board,  
950/1, Poonamallee High Road,  
Arumbakkam, Chennai-106

**M/s. TPL (LAB),**  
Manali Express Highway,  
Manali,  
Chennai – 600 068.

Lr.No.TNPC Bd/DEL-MNL/Air Survey/F. No.74/2021-22, Dt. 22.11.2023

Sir,

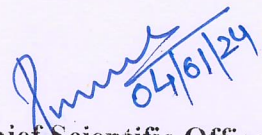
Sub: Furnishing of Report of Analysis of Ambient Air Quality /  
Stack Monitoring / Ambient Noise Level Survey – Reg.

- Ref: 1. This office Lr.No. TNPCB/DEL/MNL/AAQS/SM/NLS/F.No.74/2023-24 dt. 07.08.2023  
2. Your Lr.No.Nil dt:29.08.2023  
3. Cash Receipt No.147288 dt.15.02.2022 Rs.1,60,465/-

----

I am herewith sending the Report of Analysis of Ambient Air Quality / Stack Monitoring / Ambient Noise Level Survey conducted in the vicinity of your industry on **M/s. TPL (LAB), Manali Express Highway, Chennai – 68** on **16.10.2023** with invoice for Rs.1,60,250/- (Rupees One Lakh Sixty thousand Two Hundred and Fifty only) towards the above survey / analytical charges, and the same has been adjusted vide reference (3) cited.

Kindly acknowledge the receipt of the above without fail.

  
**Deputy Chief Scientific Officer,(A/C)**  
**District Environmental Laboratory**  
**Tamil Nadu Pollution Control Board**  
**Manali**

Encl.: As above.

Copy submitted to:

1. The Joint Chief Environmental Engineer (M), TNPC Bd, Chennai for favour of kind information please.
2. The District Environmental Engineer, TNPC Bd, Ambattur for favour of kind information please.
3. Copy to file.





**TAMIL NADU POLLUTION CONTROL BOARD**  
District Environmental Laboratory, Manali  
**AMBIENT AIR QUALITY SURVEY – Report of Analysis**

**Report No. 42/AAQS/2023-24**

**Date: 22.11.2023**

1. Name of the Industry : **M/s. TPL (LAB),**  
2. Address of the Industry : **Manali Express Highway, Chennai - 68.**  
3. Date of Survey : **16.10.2023**  
4. Duration of Survey : **8 Hours / 24 hours**  
5. Category : **Red / Orange / Green – Large / Medium / Small**  
6. Land use classification : **Industrial / Commercial / Residential / Sensitive**

**Meteorological Conditions**

Ambient Temperature (°C)	Min 26	Max 32	Relative Humidity (%)	Min 54	Max 72
Weather Condition	Partially Cloudy		Rain Fall (mm)	Nil	
Predominant Wind Direction	ENE – WSW		Mean Wind Speed (km/hr)	10	

**Ambient Air Quality Survey Results**

Sl. No.	Location	Direction *	Distance (m) *	Height Form GL (m)	Pollutants Concentration (microgram / m <sup>3</sup> )			
					PM 2.5	PM 10	SO <sub>2</sub>	NO <sub>2</sub>
1	On top of platform adjacent to Raw water pond	NE	100	4.0	20	32	7	10
2	On top of platform near hot-oil heater	E	50	4.5	--	40	9	14
3	On top of CP station near flare stack	SE	100	4.5	--	57	11	16
4	On top of CP station – I	SW	100	4.0	32	83	14	24
5	On Top of Drivers rest Room	W	75	4.0		73	11	19
6	On top of the weigh bridge office room	NW	150	4.0	--	76	12	21

Note: \* With respect to major emission sources. The analytical results are restricted to the sampling period of **8 hrs/24hrs**

*[Signature]*  
**Deputy Chief Scientific Officer,(A/C)**  
**District Environmental Laboratory**  
**Tamil Nadu Pollution Control Board**  
**Manali**

Test Performed	Test Method
PM10	IS 5182 : (Part 23) – 2006
SO2	Modified West – Gaeke / IS 5182 : (Part 2) – 2001 RA: 2012
NO2	Jacobs – Hochheiser / IS 5182 : (Part 6) – 2006 RA:2012



## **TAMILNADU POLLUTION CONTROL BOARD**

District Environmental Laboratory, Manali

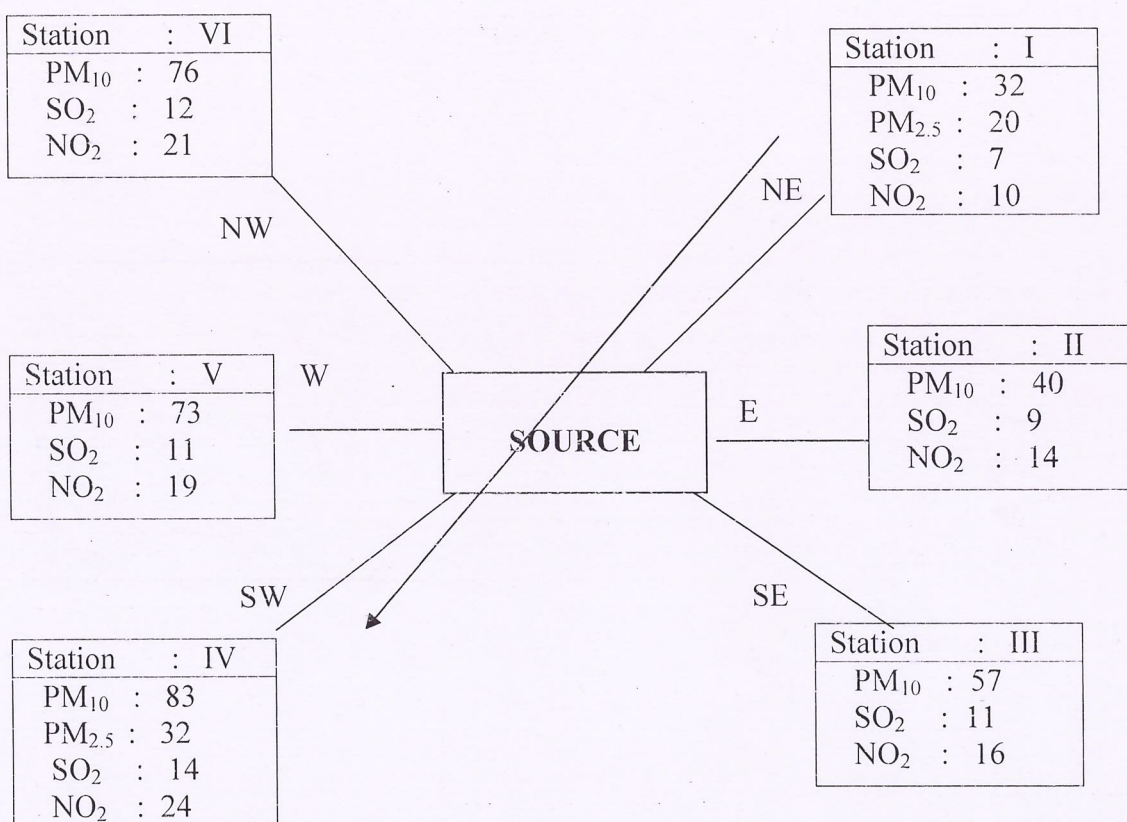
### **AMBIENT AIR QUALITY SURVEY**

Schematic Diagram Showing Location of Sampling

Report No.42 /AAQ/SM/2023-24


Name and Address of the Industry : **M/s. TPL (LAB)**  
Manali Express Highway, Chennai – 68.

Date of Survey : 16.10.2023



Note: All the values are expressed in  $\mu\text{g}/\text{m}^3$  and restricted to sampling period of 8 hrs/24hrs

Meteorological Conditions:	
Predominant Wind Direction	ENE – WSW
Wind Speed (Km/hr)	10
Weather Condition	Partially Cloudy
Rainfall	Nil

  
Deputy Chief Scientific Officer(A/C)  
District Environmental Laboratory  
Tamil Nadu Pollution Control Board  
Manali





## TAMIL NADU POLLUTION CONTROL BOARD

District Environmental Laboratory, Manali

### STACK MONITORING SURVEY – Report of Analysis

**Report No.** 42/ SM/2023-24

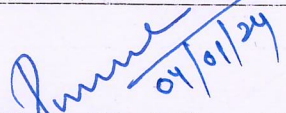
**Date:** 22.11.2023

1. Name of the Industry : **M/s. TPL (LAB),**
2. Address of the Industry : **Manali Express Highway, Chennai – 68**
3. Date of Survey : **16.10.2023**
4. Type of Industry : **Coal/Chemical/Sugar/Paper & Pulp/  
Power plant / Textile Processing/Petroproducts**

#### Stack Monitoring Survey Results

Sl. No.	Stack attached to	Fuel used	Stack Temp °K	Velocity in (m/ sec)	Discharge rate In Nm <sup>3</sup> /hr	Pollutants (mg / Nm <sup>3</sup> )		
						PM	SO <sub>2</sub>	NO <sub>x</sub>
1	Boiler – 8T	LNG	442	10.4	40000	2	36	44
2	PACOL Heater	LNG	386	31.7	57173	4	17	35
3	Hydrobon Heater	LNG	435	17.4	16360	6	19	56
4	CPP-II	FO	433	22.3	63712	11	386	143
5	Hot Oil Heater	LNG	419	15.1	356726	2	19.2	36.2

Test Performed	Test Method
PM10	IS 5182 : (Part 23) – 2006
SO <sub>2</sub>	Modified West – Gaeke / IS 5182 : (Part 2) – 2001 RA: 2012
NO <sub>x</sub>	Jacobs – Hochheiser / IS 5182 : (Part 6) – 2006 RA:2012

  
**Deputy Chief Scientific Officer(A/C)**  
**District Environmental Laboratory**  
**Tamil Nadu Pollution Control Board**  
**Manali**





**TAMILNADU POLLUTION CONTROL BOARD**  
District Environmental Laboratory, Manali

**Stack Details**

**Report No.42/AAQ/SM/2023-24**

1. Name and Address of the Industry : **M/s. TPL (LAB)**  
Manali Express Highway, Chennai – 68
2. Date of Survey : 16.10.2023

Sl. No.	Particulars	1	2	3
1.	Stack attached to	Boiler	Heater	Heater
2.	Details of process stack	<b>Boiler- 8T</b>	<b>PACOL</b>	<b>Hydrobon</b>
3.	Height from G Level in (m)	30	42	30
4.	Diameter in (m)	1.4	1.1	0.69
5.	Port hole height from Ground Level or bends or ducts in (m)	16.7	40.0	20.0
6.	Fuel Used (with % Sulphur content)	LNG	LNG	LNG
7.	Fuel Consumption rate per hr (mention units)	10 kg / hr	880 kg / hr	120 kg / hr
8.	Type of Stack and capacity	Round	Round	Round
9.	Production on 16.10.2023	Linear Alkyl Benzene 295 MT, Heavy Alkylate – 13 MT, N-Paraffin – 214MT		
10.	APC Measures provided	Stack. Automatic Air / Fuel ratio	Stack. Automatic Air / Fuel ratio	Stack. Automatic Air / Fuel ratio
11.	APC functional status	Functional	Functional	Functional
12.	Moisture content in %	--	--	--
13.	Ambient temp in °K	304	303	304
14.	Temp of flue gas in °K	442	386	435
15.	Velocity of flue gas in m/sec	10.4	21.3	17.4
16.	Volume of flue gas sampled in m <sup>3</sup>	1.0074	0.9827	0.9933
17.	Gaseous Discharge rate per day in Nm <sup>3</sup> /hr	40000	57173	16360
18.	Combustion efficiency %	--	--	--

*[Signature]*  
04/01/24  
**Deputy Chief Scientific Officer(A/C)**  
**District Environmental Laboratory**  
**Tamil Nadu Pollution Control Board**  
**Manali**

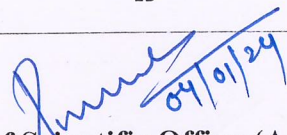


**TAMILNADU POLLUTION CONTROL BOARD**  
District Environmental Laboratory, Manali  
**Stack Details**

**Report No.42/AAQ/SM/2023-24**

1. Name and Address of the Industry : **M/s. TPL (LAB)**  
Manali Express Highway, Chennai – 68
2. Date of Survey : 16.10.2023

Sl. No.	Particulars	4	5
1.	Stack attached to	CPP	Heater
2.	Details of process stack	<b>CPP-II</b>	<b>Hot Oil Heater</b>
3.	Height from G Level in (m)	31.5	76
4.	Diameter in (m)	1.2	3.4
5.	Port hole height from Ground Level or bends or ducts in (m)	23	68
6.	Fuel Used (with % Sulphur content)	FO	LNG
7.	Fuel Consumption rate per hr (mention units)	1500 kg / hr	3500 kg / hr
8.	Type of Stack and capacity	Round	Round
9.	Production on 16.10.2023	Linear Alkyl Benzene 295 MT, Heavy Alkylate – 13 MT, N-Paraffin – 214MT	
10.	APC Measures provided	Stack. Automatic Air / Fuel ratio	Stack. Automatic Air / Fuel ratio
11.	APC functional status	Functional	Functional
13.	Moisture content in %	--	--
14.	Ambient temp in °K	304	303
15.	Temp of flue gas in °K	433	419
16.	Velocity of flue gas in m/sec	22.3	15.1
17.	Volume of flue gas sampled in m <sup>3</sup>	1.0132	0.987
18.	Gaseous Discharge rate per day in Nm <sup>3</sup> /hr	63712	356726
19.	Combustion efficiency %	--	--

  
**Deputy Chief Scientific Officer(A/C)**  
**District Environmental Laboratory**  
**Tamil Nadu Pollution Control Board**  
**Manali**





**TAMIL NADU POLLUTION CONTROL BOARD**  
District Environmental Laboratory, Manali

**STACK MONITORING SURVEY – Additional details**

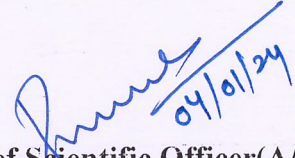
Report No. 42/ SM/2023-24

Date: 22.11.2023

1. Name of the Industry : **M/s. TPL (LAB)**
2. Address of the Industry : **Manali Express Highway, Chennai – 68**
3. Date of Survey : **16.10.2023**
4. Type of Industry : **Coal/Chemical/Sugar/Paper & Pulp/  
Power plant / Textile Processing/ **Petroproducts****

**Stack Monitoring Additional details**

Sl. No.	Details of stack mentioned in the Air Consent order	Details of stack available and in working condition	Details of stack for which stack Emission sampling have been done	Justification for the left out of stack Emission Sampling
1.	Boiler – 8T	Working	Sampling Done	--
2.	PACOL Heater	Working	Sampling Done	--
3.	Hydrobon Heater	Working	Sampling Done	--
4.	CPP-II	Working	Sampling Done	--
5.	Hot Oil Heater	Working	Sampling Done	--

  
**Deputy Chief Scientific Officer(A/C)**  
**District Environmental Laboratory**  
**Tamil Nadu Pollution Control Board**  
**Manali**





**TAMIL NADU POLLUTION CONTROL BOARD**  
District Environmental Laboratory, Manali  
AMBIENT/SOURCE NOISE LEVEL SURVEY - Report of Analysis

Report No. 42/ NLS/2023-24

Date: 22.11.2023

1.	Name of the Industry	M/s. TPL (LAB)		
2.	Address of the Industry	Manali Express Highway, Chennai - 68		
3.	Date of Survey	16.10.2023		
Category		RL	Land use Classification	Industrial
Type of Survey		Ambient/Source	Time of Survey	Day
Meteorological conditions			Calm/Windy/Rainy	Windy

**Logging Parameters**

Instrument Used		CESVA Model SC310		Serial No		T243103	
Logging Interval		10 Minutes each point		Measuring Range		50-110 dB(A)	
Weighting	“A”	Peak Weighting	“C”	Time Weighting		FAST	
Sound Incidence		RANDOM		Time in hrs		14.00 – 15.00	

**Report of Noise Level Monitoring**

Sl No	Location	Duration (min)	Distance (M)	Direction	Sound Level -- dB (A)		
					L <sub>eq</sub>	Min	Max
1	Near Raw Water Pond	10	100	NE	58.4	55.1	65.5
2	Near Flare Area	10	100	SE	53.7	50.6	68.1
3	Near CP Station -I	10	100	SW	52.1	50.7	63.7
4	Near Drivers Leisure Room	10	75	W	54.0	51.3	70.1
5	Near Temple	10	100	NW	57.8	55.0	65.3

**Note:** Leq value is the average energy for the measured period.

*[Signature]*  
04/01/24

**Deputy Chief Scientific Officer(A/C)**  
**District Environmental Laboratory**  
**Tamil Nadu Pollution Control Board**  
**Manali**



## **TAMIL NADU POLLUTION CONTROL BOARD**

District Environmental Laboratory, Manali

### **INFERENCE REPORT ON A.A.Q.S./ S.M.**

1. Name of Industry : M/s. TPL (LAB)
2. Pollution Category : Red Large
3. Date of A.A.Q. Survey : 16.10.2023
4. Predominant Wind Direction : ENE - WSW
5. Weather condition : Partially Cloudy

### **STATUS OF POLLUTANTS LEVEL**

#### **I. AMBIENT AIR QUALITY :-**


1. Total No. of A.A.Q. stations monitored : 6
2. No. of A.A.Q. stations in which Pollutants Level exceeded the Boards standards : Nil

Maximum and Minimum values of Pollutants Level observed:

Sl. No.	POLLUTANT	Values in microgram/m <sup>3</sup>		BOARD's STANDARD (As per consent order)
		Maximum	Minimum	
1.	PM <sub>10</sub>	83	32	100
	PM <sub>2.5</sub>	32	20	60
2.	<u>GASEOUS POLLUTANTS:-</u>			
	(i) SO <sub>2</sub>	14	7	80
	(ii) NO <sub>2</sub>	24	10	80

#### **II. STACK MONITORING:-**

1. Total No. of Stacks Monitored : 5
2. No. of Stacks in which Pollutants level Exceeded the Boards standards : Nil

  
Deputy Chief Scientific Officer(A/C)  
District Environmental Laboratory  
Tamil Nadu Pollution Control Board  
Manali



**TAMIL NADU POLLUTION CONTROL BOARD**

District Environmental Laboratory, Manali

**BILL****Report No.42/AAQ/SM/2023-24**

Bill No.	42/2023-24
Date	22.11.2023

To

**M/s. TPL (LAB),** Manali Express Highway, Chennai - 600 068

Ref: 1. B.PMs.No.6 Dt.31.03.2009.

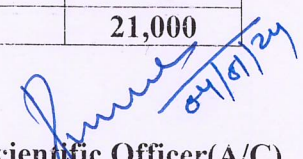
2. This office Lr.No. TNPCB/DEL/MNL/AAQS/SM/NLS/F.No.74/2023-24 dt. 07.08.2023

3. Your Lr.No.Nil dt:29.08.2023

4. Cash Receipt No.252 dt.01.09.2023 Rs.1,60,250/-

\*\*\*\*\*

Sl. No.	Description	Rate (Rs.)	No. of Stations/ Stacks	Amount (Rs.)
1.	<b>SAMPLING CHARGES:</b>			
	(i) Ambient Air Quality monitoring PM <sub>10</sub>	3500	6	21,000
	(ii) Source Emission Monitoring (PM, SO <sub>2</sub> , NO <sub>x</sub> etc.,)	13100	5	65,500
	(iii) Ambient Air Quality monitoring PM <sub>2.5</sub>	3500	2	7,000
2.	<b>ANALYTICAL CHARGES:</b>			
	(i) Ambient Air Samples PM <sub>10</sub> , SO <sub>2</sub> , NO <sub>2</sub> (each Rs.1050/-)	3150	6	18,900
	(ii) Ambient Air Samples PM <sub>2.5</sub>	1800	2	3,600
	(iii) Source Emission Samples PM, SO <sub>2</sub> , NO <sub>x</sub> (each Rs.1050/-)	3150	5	15,750
3.	<b>AMBIENT NOISE MONITORING CHARGES:</b>			
	(i) For first 5 stations	1400	5	7,000
<b>Transportation Charges</b>				<b>500</b>
<b>Total</b>				<b>1,39,250</b>
Received Vide Canara Bank DD No. 476386 dated 28.08.2023 Our CR.No.252 dated :01.09.2023				<b>1,60,250</b>
<b>LESS:</b> Excess amount of TVOC analytical charges will be deducted in the demand of the next survey.				<b>21,000</b>
<b>Balance to be adjusted</b>				<b>21,000</b>

  
 Deputy Chief Scientific Officer(A/C)  
 District Environmental Laboratory  
 Tamil Nadu Pollution Control Board  
 Manali



# Hubert Enviro Care Systems (P) Ltd.

A-21, III Phase, Thiru Vi Ka Industrial Estate,  
Guindy, Chennai - 600 032.  
Ph: 42985555 / 43635555 Fax : 42985500  
E-mail : labsales@hecs.in



TC-12310

## Laboratory Services Division

(Chemical & Biological Testing)  
FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.



### TEST REPORT

Page : 1 of 2

ULR : TC1231024000021113F  
Report No. : HECS/AP/117/050424  
Sample ID No : 050424319  
Sampling Date : 05/04/2024

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Atmospheric Pollution  
Sample Name : Ambient Air  
Sample Mark : NA  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : Near Raw water pump house  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 5182 Part 5 & Part 14

Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/05/2024  
Report Date : 11/05/2024  
Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method	NAAQ Standards : 2009	
Discipline : Chemical						
1	Lead	µg/m³	BLQ (LOQ: 0.002)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	1 (24 hours)	0.5 (Annual)
2	Arsenic	ng/m³	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	6 (Annual)	6 (Annual)
3	Nickel	ng/m³	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	20 (Annual)	20 (Annual)
4	Benzene-AAQ	µg/m³	BLQ (LOQ: 0.1)	IS 5182 Part 11: 2006	5 (Annual)	5 (Annual)
5	Benzo (a) pyrene-AAQ	ng/m³	BLQ (LOQ: 0.1)	IS : 5182 Part 12: 2004	1 (Annual)	1 (Annual)
6	Ammonia as NH3	µg/m³	8.30	IS 5182 (Part 25) 2018	400 (24 hours)	100 (Annual)
7	Carbon Monoxide (CO)	mg/ m³	BLQ(LOQ 0.05)	IS 5182 (Part 10) Clause 4 1999	4 (1 hours)	2 (8 hours)
8	Nitrogen dioxides as NO2	µg/m³	20.66	IS 5182 (Part 6) 2006	80 (24 hours)	40 (Annual)
9	Ozone as O3	µg/m³	13.53	IS 5182 (Part 9) 1974	180 (1 hours)	100 (8 hours)
10	Particulate matter (Size less than 10 µm)	µg/m³	54.41	IS 5182 (Part 23) 2006	100 (24 hours)	60 (Annual)
11	Particulate matter (Size less than 2.5 µm)	µg/m³	18.36	IS 5182 (Part 24) 2019	60 (24 hours)	40 (Annual)
12	Sulphur dioxide as SO2	µg/m³	10.22	IS 5182 (Part 2) 2001	80 (24 hours)	50 (Annual)
13	Total Suspended Particular Matter	µg/m³	72.77	IS 5182 (Part 4) 1999	-	-

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, µg/m³- Micrograms per cubic meter, mg/m³-Milligrams per cubic meter, ng/m³-Nanograms per cubic meter, NA -Not Applicable.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

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



D. Anusuya  
Deputy Quality Manager  
Authorized Signatory

# Hubert Enviro Care Systems (P) Ltd.

A-21, III Phase, Thiru Vi Ka Industrial Estate,  
Guindy, Chennai - 600 032.  
Ph: 42985555 / 43635555 Fax : 42985500  
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TC-12310

## Laboratory Services Division

(Chemical & Biological Testing)  
FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.



### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Atmospheric Pollution  
Sample Name : Ambient Air  
Sample Mark : NA  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : Near Security Gate I  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 5182 Part 5 & Part 14

ULR : TC1231024000016112F  
Report No. : HECS/AP/7676/050424  
Sample ID No : 050424257  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method	NAAQ Standards : 2009	
Discipline : Chemical						
1	Lead	µg/m³	BLQ (LOQ: 0.002)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	1 (24 hours)	0.5 (Annual)
2	Arsenic	ng/m³	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	6 (Annual)	6 (Annual)
3	Nickel	ng/m	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	20 (Annual)	20 (Annual)
4	Benzene-AAQ	µg/m³	BLQ (LOQ: 0.1)	IS 5182 Part 11: 2006	5 (Annual)	5 (Annual)
5	Benzo (a) pyrene-AAQ	ng/m³	BLQ (LOQ: 0.1)	IS : 5182 Part 12: 2004	1 (Annual)	1 (Annual)
6	Ammonia as NH3	µg/m³	8.93	IS 5182 (Part 25) 2018	400 (24 hours)	100 (Annual)
7	Carbon Monoxide (CO)	mg/ m³	BLQ(LOQ 0.05)	IS 5182 (Part 10) Clause 4 1999	4 (1 hours)	2 (8 hours)
8	Nitrogen dioxides as NO2	µg/m³	25.67	IS 5182 (Part 6) 2006	80 (24 hours)	40 (Annual)
9	Ozone as O3	µg/m³	12.94	IS 5182 (Part 9) 1974	180 (1 hours)	100 (8 hours)
10	Particulate matter (Size less than 10 µm)	µg/m³	50.26	IS 5182 (Part 23) 2006	100 (24 hours)	60 (Annual)
11	Particulate matter (Size less than 2.5 µm)	µg/m³	21.30	IS 5182 (Part 24) 2019	60 (24 hours)	40 (Annual)
12	Sulphur dioxide as SO2	µg/m³	14.79	IS 5182 (Part 2) 2001	80 (24 hours)	50 (Annual)
13	Total Suspended Particular Matter	µg/m³	71.50	IS 5182 (Part 4) 1999	-	

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, µg/m³- Micrograms per cubic meter, mg/m³-Milligrams per cubic meter, ng/m³-Nanograms per cubic meter, NA -Not Applicable.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

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



  
M.Sivaprakasam  
Lab Manager  
Authorized Signatory



# Hubert Enviro Care Systems (P) Ltd.

A-21, III Phase, Thiru Vi Ka Industrial Estate,  
Guindy, Chennai - 600 032.  
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## Laboratory Services Division

(Chemical & Biological Testing)  
FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.



### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Atmospheric Pollution  
Sample Name : Ambient Air  
Sample Mark : NA  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : Near RO Plant  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 5182 Part 5 & Part 14

ULR : TC1231024000016264F  
Report No. : HECS/AP/7777/050424  
Sample ID No : 050424258  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 10/04/2024  
Report Date : 11/04/2024  
Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method	NAAQ Standards : 2009	
Discipline : Chemical						
1	Lead	µg/m³	BLQ (LOQ: 0.002)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	1 (24 hours)	0.5 (Annual)
2	Arsenic	ng/m³	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	6 (Annual)	6 (Annual)
3	Nickel	ng/m³	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	20 (Annual)	20 (Annual)
4	Benzene-AAQ	µg/m³	BLQ (LOQ: 0.1)	IS 5182 Part 11: 2006	5 (Annual)	5 (Annual)
5	Benzo (a) pyrene-AAQ	ng/m³	BLQ (LOQ: 0.1)	IS : 5182 Part 12: 2004	1 (Annual)	1 (Annual)
6	Ammonia as NH3	µg/m³	5.59	IS 5182 (Part 25) 2018	400 (24 hours)	100 (Annual)
7	Carbon Monoxide (CO)	mg/ m³	BLQ(LOQ 0.05)	IS 5182 (Part 10) Clause 4 1999	4 (1 hours)	2 (8 hours)
8	Nitrogen dioxides as NO2	µg/m³	21.83	IS 5182 (Part 6) 2006	80 (24 hours)	40 (Annual)
9	Ozone as O3	µg/m³	10.37	IS 5182 (Part 9) 1974	180 (1 hours)	100 (8 hours)
10	Particulate matter (Size less than 10 µm)	µg/m³	45.78	IS 5182 (Part 23) 2006	100 (24 hours)	60 (Annual)
11	Particulate matter (Size less than 2.5 µm)	µg/m³	18.44	IS 5182 (Part 24) 2019	60 (24 hours)	40 (Annual)
12	Sulphur dioxide as SO2	µg/m³	10.13	IS 5182 (Part 2) 2001	80 (24 hours)	50 (Annual)
13	Total Suspended Particular Matter	µg/m³	64.22	IS 5182 (Part 4) 1999	-	

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, µg/m³- Micrograms per cubic meter, mg/m³-Milligrams per cubic meter, ng/m³-Nanograms per cubic meter, NA -Not Applicable.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

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

  
M. Sivaprakasam  
Lab Manager  
Authorized Signatory





# Hubert Enviro Care Systems (P) Ltd.

A-21, III Phase, Thiru Vi Ka Industrial Estate,  
Guindy, Chennai - 600 032.  
Ph: 42985555 / 43635555 Fax : 42985500  
E-mail : labsales@hecs.in



## Laboratory Services Division

(Chemical & Biological Testing)  
FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.



### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TamilNadu Petro Products Ltd.,

Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.

Group : Atmospheric Pollution

Sample Name : Ambient Air

Sample Mark : NA

Sample Reference : NA

Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.

Sample Location : Near Driver Rest Room Filling Paint Backside

Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0

Sampling Method & Plan : IS 5182 Part 5 & Part 14

ULR : TC1231024000016265F

Report No. : HECS/AP/7878/050424

Sample ID No : 050424259

Sampling Date : 05/04/2024

Received Date : 05/04/2024

Commenced Date : 05/04/2024

Completed On : 10/04/2024

Report Date : 11/04/2024

Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method	NAAQ Standards : 2009	
Discipline : Chemical						
1	Lead	µg/m³	BLQ (LOQ: 0.002)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	1 (24 hours)	0.5 (Annual)
2	Arsenic	ng/m³	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	6 (Annual)	6 (Annual)
3	Nickel	ng/m³	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	20 (Annual)	20 (Annual)
4	Benzene-AAQ	µg/m³	BLQ (LOQ: 0.1)	IS 5182 Part 11: 2006	5 (Annual)	5 (Annual)
5	Benzo (a) pyrene-AAQ	ng/m³	BLQ (LOQ: 0.1)	IS : 5182 Part 12: 2004	1 (Annual)	1 (Annual)
6	Ammonia as NH3	µg/m³	7.33	IS 5182 (Part 25) 2018	400 (24 hours)	100 (Annual)
7	Carbon Monoxide (CO)	mg/ m³	BLQ(LOQ 0.05)	IS 5182 (Part 10) Clause 4 1999	4 (1 hours)	2 (8 hours)
8	Nitrogen dioxides as NO2	µg/m³	18.79	IS 5182 (Part 6) 2006	80 (24 hours)	40 (Annual)
9	Ozone as O3	µg/m³	11.33	IS 5182 (Part 9) 1974	180 (1 hours)	100 (8 hours)
10	Particulate matter (Size less than 10 µm)	µg/m³	49.21	IS 5182 (Part 23) 2006	100 (24 hours)	60 (Annual)
11	Particulate matter (Size less than 2.5 µm)	µg/m³	23.20	IS 5182 (Part 24) 2019	60 (24 hours)	40 (Annual)
12	Sulphur dioxide as SO2	µg/m³	8.66	IS 5182 (Part 2) 2001	80 (24 hours)	50 (Annual)
13	Total Suspended Particular Matter	µg/m³	72.41	IS 5182 (Part 4) 1999	-	

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, µg/m³- Micrograms per cubic meter, mg/m³-Milligrams per cubic meter, ng/m³-Nanograms per cubic meter, NA -Not Applicable.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

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



Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory

# Hubert Enviro Care Systems (P) Ltd.

A-21, III Phase, Thiru Vi Ka Industrial Estate,  
Guindy, Chennai - 600 032.  
Ph: 42985555 / 43635555 Fax : 42985500  
E-mail : labsales@hecs.in



TC-12310

## Laboratory Services Division

(Chemical & Biological Testing)  
FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.



### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Atmospheric Pollution  
Sample Name : Ambient Air  
Sample Mark : NA  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : South West Tank Farm CP Station 01  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 5182 Part 5 & Part 14

ULR : TC1231024000016321F  
Report No. : HECS/AP/8080/050424  
Sample ID No : 050424261  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 10/04/2024  
Report Date : 11/04/2024  
Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method	NAAQ Standards : 2009	
Discipline : Chemical						
1	Lead	µg/m³	BLQ (LOQ: 0.002)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	1 (24 hours)	0.5 (Annual)
2	Arsenic	ng/m³	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	6 (Annual)	6 (Annual)
3	Nickel	ng/m³	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	20 (Annual)	20 (Annual)
4	Benzene-AAQ	µg/m³	BLQ (LOQ: 0.1)	IS 5182 Part 11: 2006	5 (Annual)	5 (Annual)
5	Benzo (a) pyrene-AAQ	ng/m³	BLQ (LOQ: 0.1)	IS : 5182 Part 12: 2004	1 (Annual)	1 (Annual)
6	Ammonia as NH3	µg/m³	5.74	IS 5182 (Part 25) 2018	400 (24 hours)	100 (Annual)
7	Carbon Monoxide (CO)	mg/ m³	BLQ(LOQ 0.05)	IS 5182 (Part 10) Clause 4 1999	4 (1 hours)	2 (8 hours)
8	Nitrogen dioxides as NO2	µg/m³	19.35	IS 5182 (Part 6) 2006	80 (24 hours)	40 (Annual)
9	Ozone as O3	µg/m³	10.56	IS 5182 (Part 9) 1974	180 (1 hours)	100 (8 hours)
10	Particulate matter (Size less than 10 µm)	µg/m³	45.93	IS 5182 (Part 23) 2006	100 (24 hours)	60 (Annual)
11	Particulate matter (Size less than 2.5 µm)	µg/m³	20.16	IS 5182 (Part 24) 2019	60 (24 hours)	40 (Annual)
12	Sulphur dioxide as SO2	µg/m³	9.82	IS 5182 (Part 2) 2001	80 (24 hours)	50 (Annual)
13	Total Suspended Particular Matter	µg/m³	66.09	IS 5182 (Part 4) 1999	-	

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, µg/m³- Micrograms per cubic meter, mg/m³-Milligrams per cubic meter, ng/m³-Nanograms per cubic meter, NA -Not Applicable.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

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



Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory



# Hubert Enviro Care Systems (P) Ltd.

A-21, III Phase, Thiru Vi Ka Industrial Estate,  
Guindy, Chennai - 600 032.  
Ph: 42985555 / 43635555 Fax : 42985500  
E-mail : labsales@hecs.in



## Laboratory Services Division

(Chemical & Biological Testing)  
FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.



### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TamilNadu Petro Products Ltd.,

Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.

Group : Atmospheric Pollution

Sample Name : Ambient Air

Sample Mark : NA

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : East Compound Wall CP Station 03

Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0

Sampling Method & Plan : IS 5182 Part 5 & Part 14

ULR : TC1231024000016267F

Report No. : HECS/AP/8181/050424

Sample ID No : 050424262

Sampling Date : 05/04/2024

Received Date : 05/04/2024

Commenced Date : 05/04/2024

Completed On : 11/04/2024

Report Date : 11/04/2024

Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method	NAAQ Standards : 2009	
Discipline : Chemical						
1	Lead	µg/m³	BLQ (LOQ: 0.002)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	1 (24 hours)	0.5 (Annual)
2	Arsenic	ng/m³	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	6 (Annual)	6 (Annual)
3	Nickel	ng/m³	BLQ (LOQ: 2.0)	HECS-G/INS/SOP/ 041 Issue No.:01 Issue Date:01.03.2021	20 (Annual)	20 (Annual)
4	Benzene-AAQ	µg/m³	BLQ (LOQ: 0.1)	IS 5182 Part 11: 2006	5 (Annual)	5 (Annual)
5	Benzo (a) pyrene-AAQ	ng/m³	BLQ (LOQ: 0.1)	IS : 5182 Part 12: 2004	1 (Annual)	1 (Annual)
6	Ammonia as NH3	µg/m³	6.10	IS 5182 (Part 25) 2018	400 (24 hours)	100 (Annual)
7	Carbon Monoxide (CO)	mg/ m³	BLQ(LOQ 0.05)	IS 5182 (Part 10) Clause 4 1999	4 (1 hours)	2 (8 hours)
8	Nitrogen dioxides as NO2	µg/m³	19.28	IS 5182 (Part 6) 2006	80 (24 hours)	40 (Annual)
9	Ozone as O3	µg/m³	11.49	IS 5182 (Part 9) 1974	180 (1 hours)	100 (8 hours)
10	Particulate matter (Size less than 10 µm)	µg/m³	46.32	IS 5182 (Part 23) 2006	100 (24 hours)	60 (Annual)
11	Particulate matter (Size less than 2.5 µm)	µg/m³	19.93	IS 5182 (Part 24) 2019	60 (24 hours)	40 (Annual)
12	Sulphur dioxide as SO2	µg/m³	9.32	IS 5182 (Part 2) 2001	80 (24 hours)	50 (Annual)
13	Total Suspended Particular Matter	µg/m³	65.25	IS 5182 (Part 4) 1999	-	

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, µg/m³- Micrograms per cubic meter, mg/m³-Milligrams per cubic meter, ng/m³-Nanograms per cubic meter, NA -Not Applicable.

Remarks: The Tested Parameters as above are within the Limits of NAAQ Standards 2009.

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



Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory



# Hubert Enviro Care Systems (P) Ltd.

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TC-12310

## Laboratory Services Division

(Chemical & Biological Testing)  
FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.



### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TamilNadu Petro Products Ltd.,

Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.

Group : Atmospheric Pollution

Sample Name : Stack Emission

Sample Mark : Emergency DG Set

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0

Sampling Method & Plan : ISO 16000

ULR : TC1231024000021115F

Report No. : HECS/AP/119/050424

Sample ID No : 050424321

Sampling Date : 05/04/2024

Received Date : 05/04/2024

Commenced Date : 05/04/2024

Completed On : 11/05/2024

Report Date : 11/05/2024

Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method	CPCB Standards
Discipline : Chemical					
1	Carbon Monoxide (CO)	mg/Nm <sup>3</sup>	56.95	IS 13270 Clause 4 1992	150
2	Flue Gas Velocity	m/sec	9.3	IS 11255 (Part 3) 2008	-
3	Particulate matter (PM)	mg/Nm <sup>3</sup>	33.08	IS 11255 Part 1 1985	75
4	Sulphur dioxide (SO <sub>2</sub> )	mg/Nm <sup>3</sup>	9.66	IS 11255 (Part 2) 1985	-
5	Nitrogen dioxide (NO <sub>2</sub> )	mg/Nm <sup>3</sup>	285.27	ASTM Method D6522 (by Flue gas Analyzer) 2000	710*
6	Carbon dioxide (CO <sub>2</sub> )	%	8.5	IS 13270 Clause 4 1992	-
7	Flue Gas Discharge (Flow Rate)	Nm <sup>3</sup> /hr	3980.0	IS 11255 (Part 3) 2008	-
8	Flue Gas Temperature	°C	117.0	IS 11255 (Part 3) 2008	-

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, Nm<sup>3</sup>/hr - Normal cubic meter per hour,  
CNTE- Concentration not to Exceed, mg/Nm<sup>3</sup>- Milligrams per Normal cubic meter, °C- Degree Celsius,

m/s- Meter per second, %V/V - Percentage, NA - Not Applicable, \*ppm- Parts Per Million.

Remarks: The Tested Parameters as above are within the Limits of CPCB Stack Emission Standards.

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



M.   
M. Sivaprakasam  
Lab Manager  
Authorized Signatory

# Hubert Enviro Care Systems (P) Ltd.

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## Laboratory Services Division

(Chemical & Biological Testing)  
FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.

### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Atmospheric Pollution  
Sample Name : Stack Emission  
Sample Mark : Emergency DG Set  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : ISO 16000


Report No. : HECS/AP/119/050424/N  
Sample ID No : 050424321  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/05/2024  
Report Date : 11/05/2024  
Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Non Methane Hydrocarbons	mg/Nm <sup>3</sup>	BLQ(LOQ 0.2)	HECS-G/INS/SOP/056 Issue
2	Hydrocarbons	µg/Nm <sup>3</sup>	BLQ (LOQ: 0.1)	HECS-G/INS/SOP/019 Issue No.:01 Issue Date:01.03.2021
3	Olefins	µg/Nm <sup>3</sup>	BLQ (LOQ: 0.1)	Inhouse Method

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, °C- Degree Celsius.

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



  
M.Sivaprakasam  
Lab Manager  
Authorized Signatory



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## Laboratory Services Division

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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Atmospheric Pollution  
Sample Name : Stack Emission  
Sample Mark : Hot Oil Heater Stack  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : ISO 16000

ULR : TC1231024000016268F  
Report No. : HECS/AP/082/050424  
Sample ID No : 050424263  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 10/04/2024  
Report Date : 11/04/2024  
Sample quantity : NA

#### Stack Details

S.No.	Particulars	Units	Stack Specification
1	Stack Height	Meter	76.0
2	Stack Diameter	Meter	3.41

#### Discipline : Chemical

S.No.	Test Parameters	Units	Results	Test Method	CPCB Standards
1	Carbon Monoxide (CO)	mg/Nm <sup>3</sup>	57.29	IS 13270 Clause 4 1992	Max 150
2	Flue Gas Velocity	m/sec	8.5	IS 11255 (Part 3) 2008	-
3	Particulate matter (PM)	mg/Nm <sup>3</sup>	6.42	IS 11255 Part 1 1985	Max 10
4	Sulphur dioxide (SO <sub>2</sub> )	mg/Nm <sup>3</sup>	8.93	IS 11255 (Part 2) 1985	Max 50
5	Nitrogen dioxide (NO <sub>2</sub> )	mg/Nm <sup>3</sup>	71.50	ASTM Method D6522 (by Flue gas Analyzer) 2000	Max 350
6	Carbon dioxide (CO <sub>2</sub> )	%	7.3	IS 13270 Clause 4 1992	Max 150
7	Flue Gas Discharge (Flow Rate)	Nm <sup>3</sup> /hr	104379.0	IS 11255 (Part 3) 2008	-
8	Fluegas Temperature	°K	451.0	IS 11255 (Part 3) 2008	-

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, Nm<sup>3</sup>/hr - Normal cubic meter per hour, CNTE- Concentration not to Exceed, mg/Nm<sup>3</sup>- Milligrams per Normal cubic meter, °C- Degree Celsius, % V/V - Percentage, NA - Not Applicable.  
Remarks: The Tested Parameters as above are within the Limits of CPCB Stack Emission Standards.

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



Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory



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## Laboratory Services Division

(Chemical & Biological Testing)

FSSAI Notified Laboratory

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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Atmospheric Pollution  
Sample Name : Stack Emission  
Sample Mark : Hot Oil Heater Stack  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : ISO 16000

Report No. : HECS/AP/082/050424/N  
Sample ID No : 050424263  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 10/04/2024  
Report Date : 11/04/2024  
Sample quantity : NA

S.No.	Particulars	Units	Stack Specification	
Discipline : Chemical				
	Test Parameters	Units	Results	Test Method
1	Hydrocarbons	µg/Nm3	BLQ (LOQ: 0.1)	HECS-G/INS/SOP/019 Issue No.:01 Issue Date:01.03.2021
2	Non Methane Hydrocarons	mg/Nm3	BLQ (LOQ:0.2)	HECS-G/INS/SOP/056 Issue No.:01 Issue Date:01.03: 2021
3	Olefins	µg/Nm3	BLQ (LOQ: 0.1)	Inhouse Method

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification.

Remarks: The Tested Parameters as above are within the Limits of CPCB Stack Emission Standards.

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



Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory

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## Laboratory Services Division

(Chemical & Biological Testing)

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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Atmospheric Pollution  
Sample Name : Stack Emission  
Sample Mark : PACOL Heater Stack  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : ISO 16000

ULR : TC1231024000016269F  
Report No. : HECS/AP/083/050424  
Sample ID No : 050424264  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date: 05/04/2024  
Completed On : 10/04/2024  
Report Date : 11/04/2024  
Sample quantity : NA

#### Stack Details

S.No.	Particulars	Units	Stack Specification
1	Stack Height	Meter	56.0
2	Stack Diameter	Meter	1.1

#### Discipline : Chemical

S.No.	Test Parameters	Units	Results	Test Method	CPCB Standards
1	CarbonMonoxide (CO)	mg/Nm <sup>3</sup>	60.43	IS 13270 Clause 4 1992	Max 150
2	Flue Gas Velocity	m/sec	6.4	IS 11255 (Part 3) 2008	-
3	Particulate matter (PM)	mg/Nm <sup>3</sup>	8.90	IS 11255 Part 1 1985	Max 10
4	Sulphur dioxide (SO <sub>2</sub> )	mg/Nm <sup>3</sup>	13.71	IS 11255 (Part 2) 1985	Max 50
5	Nitrogen dioxide(NO <sub>2</sub> )	mg/Nm <sup>3</sup>	65.88	ASTM Method D6522 (by Flue gas Analyzer) 2000	Max 350
6	Carbon dioxide (CO <sub>2</sub> )	%	9.32	IS 13270 Clause 4 1992	-
7	Flue Gas Discharge (Flow Rate)	Nm <sup>3</sup> /hr	14406.0	IS 11255 (Part 3) 2008	-
8	Fluegas Temperature	°K	138.0	IS 11255 (Part 3) 2008	-

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, Nm<sup>3</sup>/hr - Normal cubic meter per hour, CNTE- Concentration not to Exceed, mg/Nm<sup>3</sup>- Milligrams per Normal cubic meter, °C- Degree Celsius, %V/V - Percentage, NA - Not Applicable.

Remarks: The Tested Parameters as above are within the Limits of CPCB Stack Emission Standards.

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



Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory



## Hubert Enviro Care Systems (P) Ltd.

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## Laboratory Services Division

(Chemical & Biological Testing)  
FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.

### TEST REPORT

Page : 1 of 1

Name of the Client	: M/s. TamilNadu Petro Products Ltd.,	Report No.	: HECS/AP/083/050424/N
Address of the Client	: LAB Plant, Manali Express High Way, Manali, Chennai - 600 068.	Sample ID No	: 050424264
Group	: Atmospheric Pollution	Sampling Date	: 05/04/2024
Sample Name	: Stack Emission	Received Date	: 05/04/2024
Sample Mark	: PACOL Heater Stack	Commenced Date	: 05/04/2024
Sample Reference	: NA	Completed On	: 10/04/2024
Sample Drawn By	: M/s.Hubert Enviro care Systems (P) Ltd.	Report Date	: 11/04/2024
Sample Location	: NA	Sample quantity	: NA
Environmental Condition	: Temperature (°C) : 32.0   Humidity (%) : 56.0		
Sampling Method & Plan	: ISO 16000		

#### Stack Details

Stack Details				
S.No.	Particulars	Units	Stack Specification	
Discipline : Chemical				
	Test Parameters	Units	Results	Test Method
1	Hydrocarbons	µg/Nm3	BLQ (LOQ: 0.1)	HECS-G/INS/SOP/019 Issue No.:01 Issue Date:01.03.2021
2	Non Methane Hydrocarons	mg/Nm3	BLQ (LOQ:0.2)	HECS-G/INS/SOP/056 Issue No.:01 Issue Date:01.03: 2021
3	Olefins	µg/Nm3	BLQ (LOQ: 0.1)	Inhouse Method

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification.

Remarks: The Tested Parameters as above are within the Limits of CPCB Stack Emission Standards.

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



  
Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory



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## Laboratory Services Division

(Chemical & Biological Testing)  
FSSAI Notified Laboratory  
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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Atmospheric Pollution  
Sample Name : Stack Emission  
Sample Mark : Boiler Stack  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : ISO 16000

ULR : TC1231024000016270F  
Report No. : HECS/AP/084/050424  
Sample ID No : 050424265  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 10/04/2024  
Report Date : 11/04/2024  
Sample quantity : NA

#### Stack Details

S.No.	Particulars	Units	Stack Specification
1	Stack Height	Meter	30.0
2	Stack Diameter	Meter	1.4

#### Discipline : Chemical

S.No.	Test Parameters	Units	Results	Test Method	CPCB Standards
1	Carbon Monoxide (CO)	mg/Nm <sup>3</sup>	10.5	IS 13270 Clause 4 1992	Max 150
2	Flue Gas Velocity	m/sec	2.9	IS 11255 (Part 3) 2008	-
3	Particulate matter (PM)	mg/Nm <sup>3</sup>	7.74	IS 11255 Part 1 1985	Max 10
4	Sulphur dioxide (SO <sub>2</sub> )	mg/Nm <sup>3</sup>	14.93	IS 11255 (Part 2) 1985	Max 50
5	Nitrogen dioxide (NO <sub>2</sub> )	mg/Nm <sup>3</sup>	74.08	ASTM Method D6522 (by Flue gas Analyzer) 2000	Max 350
6	Flue Gas Discharge (Flow Rate)	Nm <sup>3</sup> /hr	10892.0	IS 11255 (Part 3) 2008	-
7	Fluegas Temperature	°K	176.0	IS 11255 (Part 3) 2008	-

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, Nm<sup>3</sup>/hr - Normal cubic meter per hour, CNTE- Concentration not to Exceed, mg/Nm<sup>3</sup>- Milligrams per Normal cubic meter, °C- Degree Celsius, % V/V - Percentage, NA - Not Applicable.  
Remarks: The Tested Parameters as above are within the Limits of CPCB Stack Emission Standards.

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



Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory

# Hubert Enviro Care Systems (P) Ltd.

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## Laboratory Services Division

(Chemical & Biological Testing)  
FSSAI Notified Laboratory  
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### TEST REPORT

Page : 1 of 1

Name of the Client	: M/s. TamilNadu Petro Products Ltd.,	Report No.	: HECS/AP/084/050424/N
Address of the Client	: LAB Plant, Manali Express High Way, Manali, Chennai - 600 068.	Sample ID No	: 050424265
Group	: Atmospheric Pollution	Sampling Date	: 05/04/2024
Sample Name	: Stack Emission	Received Date	: 05/04/2024
Sample Mark	: Boiler Stack	Commenced Date	: 05/04/2024
Sample Reference	: NA	Completed On	: 10/04/2024
Sample Drawn By	: M/s.Hubert Enviro care Systems (P) Ltd.	Report Date	: 11/04/2024
Sample Location	: NA	Sample quantity	: NA
Environmental Condition	: Temperature (°C) : 32.0   Humidity (%) : 56.0		
Sampling Method & Plan	: ISO 16000		

#### Stack Details

S.No.	Particulars	Units	Stack Specification	
Discipline : Chemical				
	Test Parameters	Units	Results	Test Method
1	Hydrocarbons	µg/Nm3	BLQ (LOQ: 0.1)	HECS-G/INS/SOP/019 Issue No.:01 Issue Date:01.03.2021
2	Non Methane Hydrocarons	mg/Nm3	BLQ (LOQ:0.2)	HECS-G/INS/SOP/056 Issue No.:01 Issue Date:01.03: 2021

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification.

Remarks: The Tested Parameters as above are within the Limits of CPCB Stack Emission Standards.

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



Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory



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## Laboratory Services Division

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### TEST REPORT

Page : 1 of 2

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Atmospheric Pollution  
Sample Name : Stack Emission  
Sample Mark : Hydrocarbon Stack  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : ISO 16000

ULR Report : TC1231024000021111F  
No. Sample : HECS/AP/115/050424  
ID No : 050424317  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/05/2024  
Report Date : 11/05/2024  
Sample quantity : NA

### Stack Details

S.No.	Particulars	Units	Stack Specification
1	Stack Height	Meter	30.0
2	Stack Diameter	Meter	0.69

### Discipline : Chemical

S.No.	Test Parameters	Units	Results	Test Method	CPCB Standards
1	Carbon Monoxide (CO)	mg/Nm <sup>3</sup>	43.26	IS 13270 Clause 4 1992	Max 150
2	Flue Gas Velocity	m/sec	6.2	IS 11255 (Part 3) 2008	-
3	Particulate matter (PM)	mg/Nm <sup>3</sup>	8.32	IS 11255 Part 1 1985	Max 10
4	Sulphur dioxide (SO <sub>2</sub> )	mg/Nm <sup>3</sup>	14.20	IS 11255 (Part 2) 1985	Max 50
5	Nitrogen dioxide (NO <sub>2</sub> )	mg/Nm <sup>3</sup>	80.39	ASTM Method D6522 (by Flue gas Analyzer) 2000	Max 350
6	Carbon dioxide (CO <sub>2</sub> )	%	7.2	IS 13270 Clause 4 1992	-
7	Flue Gas Discharge (Flow Rate)	Nm <sup>3</sup> /hr	4315.0	IS 11255 (Part 3) 2008	-
8	Fluegas Temperature	°C	250.0	IS 11255 (Part 3) 2008	-

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, Nm<sup>3</sup>/hr - Normal cubic meter per hour,

CNTE- Concentration not to Exceed, mg/Nm<sup>3</sup>- Milligrams per Normal cubic meter, °C- Degree Celsius,

m/s- Meter per second, %V/V - Percentage, NA - Not Applicable.

Remarks: The Tested Parameters as above are within the Limits of CPCB Stack Emission Standards.

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



D. Anusuya  
Deputy Quality Manager  
Authorized Signatory



## Hubert Enviro Care Systems (P) Ltd.

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## Laboratory Services Division

(Chemical & Biological Testing)  
FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.

### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Atmospheric Pollution  
Sample Name : Stack Emission  
Sample Mark : Hydrocarbon Stack  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : ISO 16000


Report No. : HECS/AP/115/050424/N  
Sample ID No : 050424317  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/05/2024  
Report Date : 11/05/2024  
Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Non Methane Hydrocarbons	mg/Nm <sup>3</sup>	BLQ(LOQ 0.2)	HECS-G/INS/SOP/056 Issue No.:01 Issue Date:01.03: 2021
2	Hydrocarbons	µg/Nm <sup>3</sup>	BLQ (LOQ: 0.1)	HECS-G/INS/SOP/019 Issue No.:01 Issue Date:01.03.2021
3	Olefins	µg/Nm <sup>3</sup>	BLQ (LOQ: 0.1)	Inhouse Method

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, °C- Degree Celsius.

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



  
D. Anusuya  
Deputy Quality Manager  
Authorized Signatory

# Hubert Enviro Care Systems (P) Ltd.

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## Laboratory Services Division

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### TEST REPORT

Page : 1 of 2

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Atmospheric Pollution  
Sample Name : Stack Emission  
Sample Mark : Captive Power Plant (CPP) DG Set 6.6MW  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : ISO 16000

ULR : TC1231024000021112F  
Report No. : HECS/AP/116/050424  
Sample ID No : 050424318  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/05/2024  
Report Date : 11/05/2024  
Sample quantity : NA

### Stack Details

S.No.	Particulars	Units	Stack Specification
1	Stack Height	Meter	32.5
2	Stack Diameter	Meter	1.2

### Discipline : Chemical

S.No.	Test Parameters	Units	Results	Test Method	CPCB Standards
1	CarbonMonoxide (CO)	mg/Nm <sup>3</sup>	45.39	IS 13270 Clause 4 1992	Max 150
2	Flue Gas Velocity	m/sec	12.6	IS 11255 (Part 3) 2008	-
3	Particulate matter (PM)	mg/Nm <sup>3</sup>	43.79	IS 11255 Part 1 1985	Max 150
4	Sulphur dioxide (SO <sub>2</sub> )	mg/Nm <sup>3</sup>	180.54	IS 11255 (Part 2) 1985	-
5	Nitrogen dioxide(NO <sub>2</sub> )	mg/Nm <sup>3</sup>	578.41	ASTM Method D6522 (by Flue gas Analyzer) 2000	Max 1100
6	Carbon dioxide (CO <sub>2</sub> )	%	8.5	IS 13270 Clause 4 1992	-
7	Flue Gas Discharge (Flow Rate)	Nm <sup>3</sup> /hr	36895.0	IS 11255 (Part 3) 2008	-
8	Fluegas Temperature	°C	103.0	IS 11255 (Part 3) 2008	-

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, Nm<sup>3</sup>/hr - Normal cubic meter per hour, CNTE- Concentration not to Exceed, mg/Nm<sup>3</sup>- Milligrams per Normal cubic meter, °C- Degree Celsius, m/s- Meter per second, %V/V - Percentage, NA - Not Applicable.

Remarks: The Tested Parameters as above are within the Limits of CPCB Stack Emission Standards.

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



D.Anusuya  
Deputy Quality Manager  
Authorized Signatory



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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Atmospheric Pollution  
Sample Name : Stack Emission  
Sample Mark : Captive Power Plant (CPP) DG Set 6.6MW  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : ISO 16000

Report No. : HECS/AP/116/050424/N  
Sample ID No : 050424318  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/05/2024  
Report Date : 11/05/2024  
Sample quantity : NA

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Non Methane Hydrocarbons	mg/Nm <sup>3</sup>	BLQ(LOQ 0.2)	HECS-G/INS/SOP/056 Issue
2	Olefins	µg/Nm <sup>3</sup>	BLQ (LOQ: 0.1)	Inhouse Method
3	Hydrocarbons	mg/Nm <sup>3</sup>	BLQ (LOQ:0.2)	HECS-G/INS/SOP/056 Issue No.:01 Issue Date:01.03: 2021

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, °C- Degree Celsius.

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



  
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### TEST REPORT

Page : 1 of 2

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Water  
Sample Name : Drinking Water  
Sample Mark : Drinking Water  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-1):2021

ULR : TC1231024000016091F  
Report No. : HECSL/WT/082/050424  
Sample ID No : 050424229  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
Discipline : Chemical						
1	Colour	Hazen units	BLQ(LOQ:1.0)	IS 3025 Part 4: 2021	5	15
2	Odour	-	Agreeable	IS 3025 (Part 5): 2018	Agreeable	Agreeable
3	pH at 25°C	-	7.98	IS 3025 Part 11 : 2022 (Electrometric method)	6.5-8.5	No relaxation
4	Taste	-	Agreeable	IS 3025 Part 8: 1984	Agreeable	Agreeable
5	Turbidity	NTU	BLQ(LOQ:1.0)	IS 3025 Part 10: 1984	1	5
6	Total Dissolved Solids	mg/l	42.0	IS 3025 Part 16: 1984	500	2000
7	Aluminium as Al	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.03	0.2
8	Calcium as Ca	mg/l	2.4	IS 3025 Part 40: 1991(EDTA Titrimetric Method)	75	200
9	Chloride as Cl	mg/l	10.89	IS 3025 Part 32 (Argentometric method): 1988	250	1000
10	Copper	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.05	1.5
11	Fluoride as F	mg/l	BLQ(LOQ:0.2)	APHA 23rd edition (Method 4500 F -B,D): 2017	1.0	1.5
12	Residual free chlorine	mg/l	BLQ(LOQ:0.1)	IS 3025 (Part 26): 2021 (DPD method b,c)	0.2	1
13	Iron as Fe	mg/l	BLQ(LOQ:1.0)	IS 3025 (Part 53) (1,10 Phenanthroline Method): 2003	1.0	No relaxation



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TC-12310

## Laboratory Services Division

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### TEST REPORT

Page : 2 of 2

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Water  
Sample Name : Drinking Water  
Sample Mark : Drinking Water  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-1):2021

ULR : TC1231024000016091F  
Report No. : HECSL/WT/082/050424  
Sample ID No : 050424229  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
14	Magnesium as Mg	mg/l	1.7	IS 3025 Part 46: 1994 ( Valumetric Method using EDTA)	30	100
15	Manganese	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.1	0.3
16	Nitrate as NO3	mg/l	2.81	APHA 23rd edition (Method 4500 NO3B): 2017	45	No relaxation
17	Sulphate as SO4	mg/l	4.11	IS 3025 Part 24 Sec 1: 2022 ( Turbidity method)	200	400
18	Total alkalinity as CaCO3	mg/l	18.0	IS 3025 Part 23: 1986	200	600
19	Total Hardness as CaCO3	mg/l	13.0	IS 3025 Part 21: 2009	200	600
20	Zinc	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	5	15
21	Cadmium	mg/l	BLQ (LOQ: 0.001)	USEPA 200.8 : 1994	0.003	No relaxation
22	Lead	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.01	No relaxation
23	Mercury	mg/l	BLQ (LOQ: 0.0005)	USEPA 200.8 : 1994	0.001	No relaxation
24	Total arsenic (as As), mg/l, Max	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.01	0.05
25	Total chromium (as Cr), mg/l, Max	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.05	No relaxation

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, NTU- Nephelometric Turbidity Unit, mg/l- Milligrams per litre, NA - Not Applicable.

Remarks: The Tested Parameters as above are within the Limits of Drinking Water Standards IS:10500:2012.

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

D.Anusuya  
Deputy Quality Manager  
Authorized Signatory



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## Laboratory Services Division

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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Water  
Sample Name : Drinking Water  
Sample Mark : Drinking Water  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 22.0 | Humidity (%) : 46.0  
Sampling Method & Plan : HECS-G/Micro/Sop/04

ULR : TC1231024000016105F  
Report No. : HECSL/WT/092/050424  
Sample ID No : 050424243  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 06/04/2024  
Completed On : 07/04/2024  
Report Date : 11/04/2024  
Sample quantity : 100ml

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
Discipline : Biological						
1	Escherichia Coli	Per 100ml	Absent	IS 15185:2016	Absent/100ml	NA
2	Total Coliform	Per 100ml	Absent	IS 15185 : 2016	Absent/100ml	NA

Remarks: The Tested Parameters as above are within the Limits of Drinking Water Standards IS:10500:2012.

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



Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory



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## Laboratory Services Division

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### TEST REPORT

Page : 1 of 3

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Water  
Sample Name : Ground Water  
Sample Mark : Borewell Water-West  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : West  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-1):2021

ULR : TC1231024000016092F  
Report No. : HECSL/WT/083/050424  
Sample ID No : 050424230  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
Discipline : Chemical						
1	Biological Oxygen Demand (BOD)@ 27°C For 3 days	mg/l	BLQ(LOQ:2.0)	IS 3025 Part 44: 1993	NA	NA
2	Calcium as Ca	mg/l	96.19	IS 3025 Part 40: 1991(EDTA Titrimetric Method)	75	200
3	Chemical Oxygen Demand (COD)	mg/l	BLQ(LOQ:4.0)	IS 3025 Part 58: 2006	NA	NA
4	Chloride as Cl	mg/l	861.09	IS 3025 Part 32: 1988 ( Argentometric Method)	250	1000
5	Residual free chlorine	mg/l	BLQ(LOQ:0.1)	IS 3025 (Part 26): 2021 (DPD method b,c)	0.2	1
6	Colour	Hazen units	BLQ(LOQ:1.0)	IS 3025 (Part4): 2021	5	15
7	Dissolved oxygen	mg/l	6.5	IS 3025 (Part 38): 1989 ( Titrimetric Method)	NA	NA
8	Electrical Conductivity at 25°C	µS/cm	4450.0	IS 3025 Part-14: 2013	NA	NA
9	Fluoride as F	mg/l	0.51	APHA 23rd edition (Method 4500F-B , D): 2017	1.0	1.5
10	Iron as Fe	mg/l	0.084	IS 3025 (Part 53): 2003	1.0	No relaxation
11	Magnesium as Mg	mg/l	48.6	IS 3025 Part 46: 1994 ( Valumetric Method using EDTA)	30	100



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TC-12310

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### TEST REPORT

Page : 2 of 3

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Water  
Sample Name : Ground Water  
Sample Mark : Borewell Water-West  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : West  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-1):2021

ULR : TC1231024000016092F  
Report No. : HECSL/WT/083/050424  
Sample ID No : 050424230  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
12	Nitrate as NO3	mg/l	23.03	APHA 23rd edition (Method 4500 NO3B): 2017	45	No relaxation
13	Odour		Agreeable	IS 3025 (Part 5): 2018	Agreeable	Agreeable
14	pH at 25°C	-	7.61	IS 3025(Part 11) : 2022 (Electrometric method)	6.5-8.5	No relaxation
15	Salinity	ppt	1.56	APHA 23rd edition (Method 2520 B): 2017	NA	NA
16	Sodium as Na	mg/l	413.0	IS 3025 Part 45: 1993 ( Flame emission Photometric Method)	NA	NA
17	Sulphate as SO4	mg/l	120.0	IS 3025 Part 24 Sec 1: 2022( Turbidity Method)( Turbidity Method)	200	400
18	Temperature(°C)	°C	26.6	IS 3025 (Part 9): 1984	NA	NA
19	Total alkalinity as CaCO3	mg/l	470.0	IS 3025 (Part 23): 1986	200	600
20	Total dissolved solids	mg/l	1879.0	IS 3025 (Part 16): 1984	500	2000
21	Total hardness as CaCO3	mg/l	440.0	IS 3025 (Part 21): 2009	200	600
22	Turbidity, NTU	NTU	1.2	IS 3025 (Part 10): 1984	1	5
23	Taste		Agreeable	IS 3025 Part 8: 1984	Agreeable	Agreeable
24	Aluminium	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.03	0.2
25	Arsenic	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.01	No relaxation



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Deputy Quality Manager  
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## Laboratory Services Division

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### TEST REPORT

Page : 3 of 3

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Water  
Sample Name : Ground Water  
Sample Mark : Borewell Water-West  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : West  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-1):2021

ULR : TC1231024000016092F  
Report No. : HECSL/WT/083/050424  
Sample ID No : 050424230  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
26	Cadmium	mg/l	BLQ (LOQ: 0.001)	USEPA 200.8 : 1994	0.003	No relaxation
27	Chromium	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.05	No relaxation
28	Copper	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.05	1.5
29	Lead	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.01	No relaxation
30	Manganese	mg/l	0.081	USEPA 200.8 : 1994	0.1	0.3
31	Mercury	mg/l	BLQ (LOQ: 0.0005)	USEPA 200.8 : 1994	0.001	No relaxation
32	Zinc	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	5	15

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, NTU- Nephelometric Turbidity Unit, mg/l- Milligrams per litre, NA - Not Applicable.

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



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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Water  
Sample Name : Ground Water  
Sample Mark : Test Bore-West  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 22.0 | Humidity (%) : 46.0  
Sampling Method & Plan : HECS-G/Micro/Sop/04


ULR : TC1231024000016103F  
Report No. : HECSL/WT/90/050424  
Sample ID No : 050424241  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 06/04/2024  
Completed On : 08/04/2024  
Report Date : 11/04/2024  
Sample quantity : 100ml

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
Discipline : Biological						
1	Faecal Coliform	MPN/100ml	<2	IS 1622 : 1981	Absent/100ml	NA
2	Total Coliform	MPN/100ml	<2	IS 1622 : 1981	Absent/100ml	NA

Note:- MPN-Most Propable Number, <2 is Considered as Absent.

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



  
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Director Technical  
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### TEST REPORT

Page : 1 of 3

Name of the Client : M/s. TamilNadu Petro Products Ltd.,

Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.

Group : Water

Sample Name : Ground Water

Sample Mark : Borewell Water-East

Sample Reference : NA

Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.

Sample Location : East

Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0

Sampling Method & Plan : IS 17614(Part-1):2021

ULR : TC1231024000016093F

Report No. : HECSL/WT/084/050424

Sample ID No : 050424231

Sampling Date : 05/04/2024

Received Date : 05/04/2024

Commenced Date : 05/04/2024

Completed On : 11/04/2024

Report Date : 11/04/2024

Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
Discipline : Chemical						
1	Biological Oxygen Demand (BOD)@ 27°C For 3 days	mg/l	3.0	IS 3025 Part 44: 1993	NA	NA
2	Calcium as Ca	mg/l	40.08	IS 3025 Part 40: 1991(EDTA Titrimetric Method)	75	200
3	Chemical Oxygen Demand (COD)	mg/l	24.0	IS 3025 Part 58: 2006	NA	NA
4	Chloride as Cl	mg/l	791.81	IS 3025 Part 32: 1988 ( Argentometric Method)	250	1000
5	Residual free chlorine	mg/l	BLQ(LOQ:0.1)	IS 3025 (Part 26): 2021 (DPD method b,c)	0.2	1
6	Colour	Hazen units	5.0	IS 3025 (Part4): 2021	5	15
7	Dissolved oxygen	mg/l	6.4	IS 3025 (Part 38): 1989 ( Titrimetric Method)	NA	NA
8	Electrical Conductivity at 25°C	µS/cm	4890.0	IS 3025 Part-14: 2013	NA	NA
9	Fluoride as F	mg/l	0.91	APHA 23rd edition (Method 4500F-B , D): 2017	1.0	1.5
10	Iron as Fe	mg/l	0.24	IS 3025 (Part 53): 2003	1.0	No relaxation
11	Magnesium as Mg	mg/l	24.3	IS 3025 Part 46: 1994 ( Valumetric Method using EDTA)	30	100



D.Anusuya  
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TC-12310

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### TEST REPORT

Page : 2 of 3

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Water  
Sample Name : Ground Water  
Sample Mark : Borewell Water-East  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : East  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-1):2021

ULR : TC1231024000016093F  
Report No. : HECSL/WT/084/050424  
Sample ID No : 050424231  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
12	Nitrate as NO3	mg/l	28.84	APHA 23rd edition (Method 4500 NO3B): 2017	45	No relaxation
13	Odour		Agreeable	IS 3025 (Part 5): 2018	Agreeable	Agreeable
14	pH at 25°C	-	8.17	IS 3025(Part 11) : 2022 (Electrometric method)	6.5-8.5	No relaxation
15	Salinity	ppt	1.43	APHA 23rd edition (Method 2520 B): 2017	NA	NA
16	Sodium as Na	mg/l	400.0	IS 3025 Part 45: 1993 ( Flame emission Photometric Method)	NA	NA
17	Sulphate as SO4	mg/l	160.7	IS 3025 Part 24 Sec 1: 2022( Turbidity Method)( Turbidity Method)	200	400
18	Temperature(°C)	°C	26.7	IS 3025 (Part 9): 1984	NA	NA
19	Total alkalinity as CaCO3	mg/l	420.0	IS 3025 (Part 23): 1986	200	600
20	Total dissolved solids	mg/l	1730.0	IS 3025 (Part 16): 1984	500	2000
21	Total hardness as CaCO3	mg/l	200.0	IS 3025 (Part 21): 2009	200	600
22	Turbidity, NTU	NTU	4.1	IS 3025 (Part 10): 1984	1	5
23	Taste		Agreeable	IS 3025 Part 8: 1984	Agreeable	Agreeable
24	Aluminium	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.03	0.2
25	Arsenic	mg/l	0.009	USEPA 200.8 : 1994	0.01	No relaxation
26	Cadmium	mg/l	BLQ (LOQ: 0.001)	USEPA 200.8 : 1994	0.003	No relaxation



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Deputy Quality Manager  
Authorized Signatory



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## Laboratory Services Division

(Chemical & Biological Testing)  
FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.



### TEST REPORT

Page : 3 of 3

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Water  
Sample Name : Ground Water  
Sample Mark : Borewell Water-East  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : East  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-1):2021

ULR : TC1231024000016093F  
Report No. : HECSL/WT/084/050424  
Sample ID No : 050424231  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
27	Chromium	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.05	No relaxation
28	Copper	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	0.05	1.5
29	Lead	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 : 1994	0.01	No relaxation
30	Manganese	mg/l	0.136	USEPA 200.8 : 1994	0.1	0.3
31	Mercury	mg/l	BLQ (LOQ: 0.0005)	USEPA 200.8 : 1994	0.001	No relaxation
32	Zinc	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 : 1994	5	15

Note :- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, NTU- Nephelometric Turbidity Unit, mg/l- Milligrams per litre, NA - Not Applicable.

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



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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Water  
Sample Name : Ground Water  
Sample Mark : Test Bore-East  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 22.0 | Humidity (%) : 46.0  
Sampling Method & Plan : HECS-G/Micro/Sop/04

ULR : TC1231024000016104F  
Report No. : HECSL/WT/91/050424  
Sample ID No : 050424242  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 06/04/2024  
Completed On : 08/04/2024  
Report Date : 11/04/2024  
Sample quantity : 100ml

S.No.	Test Parameters	Units	Results	Test Method	IS 10500 : 2012	
					Acceptable Limits (Max)	Permissible Limits (Max)
Discipline : Biological						
1	Faecal Coliform	MPN/100ml	<2	IS 1622 : 1981	Absent/100ml	NA
2	Total Coliform	MPN/100ml	<2	IS 1622 : 1981	Absent/100ml	NA

Note:- MPN-Most Probable Number, <2 is Considered as Absent.

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



  
Dr. Rajkumar Samuel  
Director Technical  
Authorized Signatory



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TC-12310

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### TEST REPORT

Page : 1 of 5

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Pollution & Environment  
Sample Name : Waste Water  
Sample Mark : RO Permeate  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-10):2021

ULR : TC1231024000016095F  
Report No. : HECS/PE/052/050424  
Sample ID No : 050424233  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	TNPCB Limits*
Discipline : Chemical					
Pesticides					
1	Alachlor	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
2	Aldrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
3	Alpha BHC	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
4	Atrazine	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
6	Beta BHC	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
7	Butachlor	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
8	Chloropyrifos	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
9	Delta BHC	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
10	Dieldrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent



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### TEST REPORT

Page : 2 of 5

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Pollution & Environment  
Sample Name : Waste Water  
Sample Mark : RO Permeate  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-10):2021

ULR : TC1231024000016095F  
Report No. : HECS/PE/052/050424  
Sample ID No : 050424233  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	TNPCB Limits*
11	Deltamethrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
12	Endosulfan alpha	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
13	Endosulfan beta	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
14	Endosulfan sulfate	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
15	Ethion	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
16	Gamma BHC	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
17	Malathion	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
18	o,p-DDD	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
19	o,p-DDE	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
20	o,p-DDT	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent



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TC-12310

## Laboratory Services Division

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### TEST REPORT

Page : 3 of 5

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Pollution & Environment  
Sample Name : Waste Water  
Sample Mark : RO Permeate  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-10):2021

ULR : TC1231024000016095F  
Report No. : HECS/PE/052/050424  
Sample ID No : 050424233  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	TNPCB Limits*
21	p,p'-DDD	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
22	p,p'-DDE	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
23	p,p'-DDT	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
24	Parathion-methyl	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
25	Phorate	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
26	2,4-D	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
27	Isoproturon	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
28	Malaoxon	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
29	Methyl Paraaxon	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
30	Methyl Parathion	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent



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TC-12310

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### TEST REPORT

Page : 4 of 5

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Pollution & Environment  
Sample Name : Waste Water  
Sample Mark : RO Permeate  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-10):2021

ULR : TC1231024000016095F  
Report No. : HECS/PE/052/050424  
Sample ID No : 050424233  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	TNPCB Limits*
31	Monocrotophos	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
32	Phorate Sulfone	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
33	Phorate Sulfoxide	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
34	Arsenic	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 Revision 5.4: 1994	Absent
35	Cadmium	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 Revision 5.4: 1994	Absent
36	Chromium	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 Revision 5.4: 1994	Absent
37	Copper	mg/l	BLQ (LOQ: 0.1)	USEPA 200.8 Revision 5.4: 1994	Absent
38	Nickel	mg/l	BLQ (LOQ: 0.1)	USEPA 200.8 Revision 5.4: 1994	Absent
39	Selenium	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 Revision 5.4: 1994	Absent
40	Zinc	mg/l	BLQ (LOQ: 0.1)	USEPA 200.8 Revision 5.4: 1994	Absent



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### TEST REPORT

Page : 5 of 5

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Pollution & Environment  
Sample Name : Waste Water  
Sample Mark : RO Permeate  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-10):2021

ULR : TC1231024000016095F  
Report No. : HECS/PE/052/050424  
Sample ID No : 050424233  
Sampling Date : 05/04/2024

Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	TNPCB Limits *
41	Ammonia as NH <sub>3</sub>	mg/l	BLQ (LOQ 0.1)	IS 3025 (Part 34) Clause 2.3 1988	5
42	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	BLQ (LOQ 0.1)	IS 3025 (Part 34) Clause 2.5 1988	50
43	Bio-Chemical Oxygen Demand(BOD) 3 days @27 ° C	mg/l	2.0	IS 3025 (Part 44) 1993	30
44	Boron as B	mg/l	BLQ (LOQ 0.1)	IS 3025 (Part 57) Clause 6 2021	2
45	Sodium as Na	mg/l	56.0	IS: 3025 (Part 45) Clause 5 1993	-
46	Chemical Oxygen Demand (COD)	mg/l	16.0	IS 3025 (Part 58) 2006	250
47	Chloride as Cl-	mg/l	174.94	IS 3025 (Part 32) Clause 2 1988	1000
48	Cyanide as CN	mg/l	BLQ (LOQ 0.01)	IS 3025 Part 27 Clause 2 1986	0.2
49	Fluorides as F	mg/l	BLQ (LOQ 0.1)	APHA 23 rd Edn. 4500 D-F Spadns method: 2017	2
50	Free Residual Chlorine	mg/l	BLQ (LOQ 0.1)	IS 3025 (Part 26) Clause 5 2021	-
51	Hexavalent Chromium as Cr <sup>6+</sup>	mg/l	BLQ (LOQ 0.05)	IS 3025 (Part 52) Clause 6 2003	-
52	Oil and grease	mg/l	BLQ (LOQ 4.0)	IS : 3025 (Part 39) Clause 5 2021	10
53	pH value @ 25 ° C	-	7.35	IS 3025 (Part 11) Clause 2 2022	5.5 to 9.0
54	Phenolic compound	mg/l	BLQ (LOQ 0.01)	IS 3025 (Part 43) Clause 5 1992	1
55	Dissolved Phosphate as P	mg/l	BLQ (LOQ 0.1)	APHA 23 rd Edn. 4500 P-B,D 2017	5



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### TEST REPORT

Page : 6 of 5

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Pollution & Environment  
Sample Name : Waste Water  
Sample Mark : RO Permeate  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-10):2021

ULR : TC1231024000016095F  
Report No. : HECS/PE/052/050424  
Sample ID No : 050424233  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	TNPCB Limits*
56	Residual Sodium Carbonate	mEq/L	BLQ (LOQ 0.1)	IS:11624 1986	NA
57	Sulphate as SO42-	mg/l	32.3	IS:3025 (Part 24) Clause 4 1986	1000
58	Sulphide as S2-	mg/l	BLQ (LOQ 1.0)	IS 3025 (Part 29) Clause 2 1986	2
59	Temperature	°C	27.1	IS:3025 (Part 09) 1984	40°C at the point of discharge
60	Total dissolved solids @ 180° C	mg/l	722.0	IS 3025 (Part 16) 1984	2100
61	Total Kjeldahl Nitrogen as N	mg/l	BLQ (LOQ 0.1)	IS 3025 (Part 34) Clause 5.3 1988	100
62	Total suspended solids @ 105° C	mg/l	BLQ (LOQ 2.0)	IS: 3025 (Part 17) 1984	100

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, °C - Degree Celsius,

mg/l - Milligrams per liter, \* - Marine Coastal Areas.

Remarks:- Treated Effluent Water as above parameters meets TNPCB Standards.

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



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Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Pollution & Environment  
Sample Name : Waste Water  
Sample Mark : RO Permeate  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-10):2021

Report No. : HECS/PE/052/050424/N  
Sample ID No : 050424233  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Alphamethrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
2	Cypermethrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
3	Deltamethrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
4	Permethrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
5	Mercury	mg/l	BLQ (LOQ: 0.1)	USEPA 200.8 Revision 5.4: 1994
6	Lead	mg/l	BLQ (LOQ: 0.1)	USEPA 200.8 Revision 5.4: 1994
7	Alpha Emitters	microcurie/ml	BLQ(LOQ 0.000000001)	IS 14194 (Part-2)-1994
8	Beta emitters	microcurie/ml	BLQ(LOQ 0.000000001)	IS 14194 (Part -1)-1994

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, °C - Degree Celsius,  
mg/l - Milligrams per liter.

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



D. Anusuya  
Deputy Quality Manager  
Authorized Signatory



# Hubert Enviro Care Systems (P) Ltd.

A-21, III Phase, Thiru Vi Ka Industrial Estate,  
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TC-12310

## Laboratory Services Division

(Chemical & Biological Testing)  
FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.



### TEST REPORT

Page : 1 of 5

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Pollution & Environment  
Sample Name : Waste Water  
Sample Mark : RO Reject  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-10):2021

ULR : TC1231024000016096F  
Report No. : HECS/PE/053/050424  
Sample ID No : 050424234  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
Pesticides				
1	Alachlor	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
2	Aldrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
3	Alpha BHC	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
4	Atrazine	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
5	Beta BHC	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
6	Butachlor	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
7	Chloropyrifos	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
8	Delta BHC	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
9	Dieldrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
10	Endosulfan alpha	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021



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### TEST REPORT

Page : 2 of 5

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Pollution & Environment  
Sample Name : Waste Water  
Sample Mark : RO Reject  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-10):2021

ULR : TC1231024000016096F  
Report No. : HECS/PE/053/050424  
Sample ID No : 050424234  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method
11	Endosulfan beta	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
12	Endosulfan sulfate	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
13	Ethion	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
14	Gamma BHC	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
15	Malathion	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
16	o,p-DDD	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
17	o,p-DDE	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
18	o,p-DDT	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
19	p,p'-DDD	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
20	p,p'-DDE	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
21	p,p'-DDT	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021



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## Laboratory Services Division

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### TEST REPORT

Page : 3 of 5

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Pollution & Environment  
Sample Name : Waste Water  
Sample Mark : RO Reject  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-10):2021

ULR : TC1231024000016096F  
Report No. : HECS/PE/053/050424  
Sample ID No : 050424234  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method
22	Parathion-methyl	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
23	Phorate	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
24	2,4-D	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
25	Isoproturon	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
26	Malaoxon	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
27	Methyl Paraaxon	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
28	Methyl Parathion	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
29	Monocrotophos	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
30	Phorate Sulfone	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
31	Phorate Sulfoxide	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
32	Arsenic	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 Revision 5.4: 1994
33	Cadmium	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 Revision 5.4: 1994



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TC-12310

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### TEST REPORT

Page : 4 of 5

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Pollution & Environment  
Sample Name : Waste Water  
Sample Mark : RO Reject  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-10):2021

ULR : TC1231024000016096F  
Report No. : HECS/PE/053/050424  
Sample ID No : 050424234  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method
34	Chromium	mg/l	0.035	USEPA 200.8 Revision 5.4: 1994
35	Copper	mg/l	BLQ (LOQ: 0.1)	USEPA 200.8 Revision 5.4: 1994
36	Nickel	mg/l	BLQ (LOQ: 0.1)	USEPA 200.8 Revision 5.4: 1994
37	Selenium	mg/l	BLQ (LOQ: 0.1)	USEPA 200.8 Revision 5.4: 1994
38	Zinc	mg/l	BLQ (LOQ: 0.1)	USEPA 200.8 Revision 5.4: 1994
39	Ammonia as NH <sub>3</sub>	mg/l	9.07	IS 3025 (Part 34) Clause 2.3 1988
40	Ammonical Nitrogen as NH <sub>3</sub> -N	mg/l	7.49	IS 3025 (Part 34) Clause 2.5 1988
41	Bio-Chemical Oxygen Demand(BOD) 3 days @27 ° C	mg/l	24.0	IS 3025 (Part 44) 1993
42	Boron as B	mg/l	BLQ (LOQ 0.1)	IS 3025 (Part 57) Clause 6 2021
43	Sodium as Na	mg/l	540.0	IS: 3025 (Part 45) Clause 5 1993
44	Chemical Oxygen Demand (COD)	mg/l	184.0	IS 3025 (Part 58) 2006
45	Chloride as Cl-	mg/l	1140.0	IS 3025 (Part 32) Clause 2 1988
46	Cyanide as CN	mg/l	BLQ (LOQ 0.01)	IS 3025 Part 27 Clause 2 1986
47	Fluorides as F	mg/l	BLQ (LOQ 0.1)	APHA 23 rd Edn. 4500 D-F Spadns method: 2017
48	Free Residual Chlorine	mg/l	BLQ (LOQ 0.1)	IS 3025 (Part 26) Clause 5 2021
49	Hexavalent Chromium as Cr <sup>6+</sup>	mg/l	BLQ (LOQ 0.05)	IS 3025 (Part 52) Clause 6 2003
50	Oil and grease	mg/l	BLQ (LOQ 4.0)	IS : 3025 (Part 39) Clause 5 2021
51	pH value @ 25 ° C	-	5.93	IS 3025 (Part 11) Clause 2 2022
52	Phenolic compound	mg/l	BLQ (LOQ 0.01)	IS 3025 (Part 43) Clause 5 1992



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TC-12310

## Laboratory Services Division

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### TEST REPORT

Page : 5 of 5

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Pollution & Environment  
Sample Name : Waste Water  
Sample Mark : RO Reject  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-10):2021

ULR : TC1231024000016096F  
Report No. : HECS/PE/053/050424  
Sample ID No : 050424234  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method
53	Dissolved Phosphate as P	mg/l	0.17	APHA 23 rd Edn. 4500 P-B,D 2017
54	Residual Sodium Carbonate	mEq/L	BLQ (LOQ 0.1)	IS:11624 1986
55	Sulphate as SO42-	mg/l	606.13	IS:3025 (Part 24) Clause 4 1986
56	Sulphide as S2-	mg/l	BLQ (LOQ 1.0)	IS 3025 (Part 29) Clause 2 1986
57	Temperature	°C	27.1	IS:3025 (Part 09) 1984
58	Total dissolved solids @ 180° C	mg/l	7236.0	IS 3025 (Part 16) 1984
59	Total Kjeldahl Nitrogen as N	mg/l	11.54	IS 3025 (Part 34) Clause 5.3 1988
60	Total suspended solids @ 105° C	mg/l	BLQ (LOQ 2.0)	IS: 3025 (Part 17) 1984

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, °C - Degree Celsius,  
mg/l - Milligrams per liter.

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



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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Pollution & Environment  
Sample Name : Waste Water  
Sample Mark : RO Reject  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-10):2021

Report No. : HECS/PE/053/050424/N  
Sample ID No : 050424234  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method
Discipline : Chemical				
1	Alphamethrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
2	Cypermethrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
3	Deltamethrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
4	Permethrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021
5	Mercury	mg/l	BLQ (LOQ: 0.1)	USEPA 200.8 Revision 5.4: 1994
6	Lead	mg/l	BLQ (LOQ: 0.1)	USEPA 200.8 Revision 5.4: 1994
7	Alpha Emitters	microcurie/ml	BLQ(LOQ 0.0000000001)	IS 14194 (Part-2)-1994
8	Beta emitters	microcurie/ml	BLQ(LOQ 0.0000000001)	IS 14194 (Part -1)-1994

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, °C - Degree Celsius,  
mg/l - Milligrams per liter.

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



  
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Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Pollution & Environment  
Sample Name : Waste Water  
Sample Mark : Raw Effluent  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-10):2021

ULR : TC1231024000016097F  
Report No. : HECS/PE/054/050424  
Sample ID No : 050424235  
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Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	TNPCB Limits *
Discipline : Chemical					
Pesticides					
1	Alachlor	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
2	Aldrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
3	Alpha BHC	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
4	Atrazine	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
5	Beta BHC	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
6	Butachlor	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
7	Chlorpyrifos	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
8	Delta BHC	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
9	Dieldrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
10	Endosulfan alpha	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent



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### TEST REPORT

Page : 2 of 5

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Pollution & Environment  
Sample Name : Waste Water  
Sample Mark : Raw Effluent  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-10):2021

ULR : TC1231024000016097F  
Report No. : HECS/PE/054/050424  
Sample ID No : 050424235  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
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Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	TNPCB Limits *
11	Endosulfan beta	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
12	Endosulfan sulfate	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
13	Ethion	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
14	Gamma BHC	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
15	Malathion	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
16	o,p-DDD	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
17	o,p-DDE	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
18	o,p-DDT	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
19	p,p'-DDD	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
20	p,p'-DDE	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
21	p,p'-DDT	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent



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### TEST REPORT

Page : 3 of 5

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Pollution & Environment  
Sample Name : Waste Water  
Sample Mark : Raw Effluent  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-10):2021

ULR : TC1231024000016097F  
Report No. : HECS/PE/054/050424  
Sample ID No : 050424235  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	TNPCB Limits *
22	Parathion-methyl	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
23	Phorate	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
24	2,4-D	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
25	Isoproturon	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
26	Malaoxon	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
27	Methyl Paraaxon	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
28	Methyl Parathion	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
29	Monocrotophos	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
30	Phorate Sulfone	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
31	Phorate Sulfoxide	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent



D.Anusuya  
Deputy Quality Manager  
Authorized Signatory



# Hubert Enviro Care Systems (P) Ltd.

A-21, III Phase, Thiru Vi Ka Industrial Estate,  
Guindy, Chennai - 600 032.  
Ph: 42985555 / 43635555 Fax : 42985500  
E-mail : labsales@hecs.in



## Laboratory Services Division

(Chemical & Biological Testing)  
FSSAI Notified Laboratory  
ISO 9001, 14001 & 45001 Certified.



### TEST REPORT

Page : 4 of 5

ULR : TC1231024000016097F  
Report No. : HECS/PE/054/050424  
Sample ID No : 050424235  
Sampling Date : 05/04/2024

Name of the Client : M/s. TamilNadu Petro Products Ltd.,

Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.

Group : Pollution & Environment

Sample Name : Waste Water

Sample Mark : Raw Effluent

Sample Reference : NA

Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.

Sample Location : NA

Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0

Sampling Method & Plan : IS 17614(Part-10):2021

Received Date : 05/04/2024

Commenced Date : 05/04/2024

Completed On : 11/04/2024

Report Date : 11/04/2024

Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	TNPCB Limits *
32	Arsenic	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 Revision 5.4: 1994	0.2
33	Cadmium	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 Revision 5.4: 1994	2.0
34	Chromium	mg/l	BLQ (LOQ: 0.1)	USEPA 200.8 Revision 5.4: 1994	2.0
35	Copper	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 Revision 5.4: 1994	3.0
36	Nickel	mg/l	BLQ (LOQ: 0.1)	USEPA 200.8 Revision 5.4: 1994	3.0
37	Selenium	mg/l	BLQ (LOQ: 0.005)	USEPA 200.8 Revision 5.4: 1994	0.05
38	Zinc	mg/l	BLQ (LOQ: 0.1)	USEPA 200.8 Revision 5.4: 1994	1.5
39	Ammonic as NH3	mg/l	0.99	IS 3025 (Part 34) Clause 2.3 1988	5
40	Ammonical Nitrogen as NH3-N	mg/l	0.82	IS 3025 (Part 34) Clause 2.5 1988	50
41	Bio-Chemical Oxygen Demand(BOD) 3 days @27 ° C	mg/l	8.0	IS 3025 (Part 44) 1993	30
42	Boron as B	mg/l	BLQ (LOQ 0.1)	IS 3025 (Part 57) Clause 6 2021	2
43	Sodium as Na	mg/l	324.0	IS: 3025 (Part 45) Clause 5 1993	-
44	Chemical Oxygen Demand (COD)	mg/l	56.0	IS 3025 (Part 58) 2006	250
45	Chloride as Cl-	mg/l	676.7	IS 3025 (Part 32) Clause 2 1988	-



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## Laboratory Services Division

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### TEST REPORT

Page : 5 of 5

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Pollution & Environment  
Sample Name : Waste Water  
Sample Mark : Raw Effluent  
Sample Reference : NA  
Sample Drawn By : M/s. Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-10):2021

ULR : TC1231024000016097F  
Report No. : HECS/PE/054/050424  
Sample ID No : 050424235  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	TNPSB Limits *
46	Cyanide as CN	mg/l	BLQ (LOQ 0.01)	IS 3025 Part 27 Clause 2 1986	0.2
47	Fluorides as F	mg/l	BLQ (LOQ 0.1)	APHA 23 rd Edn. 4500 D-F Spadns method: 2017	2
48	Free Residual Chlorine	mg/l	BLQ (LOQ 0.1)	IS 3025 (Part 26) Clause 5 2021	-
49	Hexavalent Chromium as Cr6+	mg/l	BLQ (LOQ 0.05)	IS 3025 (Part 52) Clause 6 2003	1
50	Oil and grease	mg/l	BLQ (LOQ 4.0)	IS : 3025 (Part 39) Clause 5 2021	10
51	pH value @ 25 ° C	-	7.13	IS 3025 (Part 11) Clause 2 2022	5.5 to 9.0
52	Phenolic compound	mg/l	BLQ (LOQ: 0.01)	IS 3025 (Part 43) Clause 5 1992	1
53	Dissolved Phosphate as P	mg/l	0.35	APHA 23 rd Edn. 4500 P-B,D 2017	5
54	Residual Sodium Carbonate	mEq/L	BLQ (LOQ 0.1)	IS:11624 1986	NA
55	Sulphate as SO42-	mg/l	252.6	IS:3025 (Part 24) Clause 4 1986	1000
56	Sulphide as S2-	mg/l	BLQ (LOQ 1.0)	IS 3025 (Part 29) Clause 2 1986	2
57	Temperature	°C	27.1	IS:3025 (Part 09) 1984	40°C at the point of discharge
58	Total dissolved solids @ 180° C	mg/l	2054.0	IS 3025 (Part 16) 1984	-
59	Total Kjeldahl Nitrogen as N	mg/l	1.26	IS 3025 (Part 34) Clause 5.3 1988	100
60	Total suspended solids @ 105° C	mg/l	8.0	IS: 3025 (Part 17) 1984	100

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, °C - Degree Celsius,  
mg/l - Milligrams per liter.

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

D. Anusuya  
Deputy Quality Manager  
Authorized Signatory





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## Laboratory Services Division

(Chemical & Biological Testing)  
FSSAI Notified Laboratory  
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### TEST REPORT

Page : 1 of 1

Name of the Client : M/s. TamilNadu Petro Products Ltd.,  
Address of the Client : LAB Plant,  
Manali Express High Way, Manali, Chennai - 600 068.  
Group : Pollution & Environment  
Sample Name : Waste Water  
Sample Mark : Raw Effluent  
Sample Reference : NA  
Sample Drawn By : M/s.Hubert Enviro care Systems (P) Ltd.  
Sample Location : NA  
Environmental Condition : Temperature (°C) : 32.0 | Humidity (%) : 56.0  
Sampling Method & Plan : IS 17614(Part-10):2021

Report No. : HECS/PE/054/050424/N  
Sample ID No : 050424235  
Sampling Date : 05/04/2024  
Received Date : 05/04/2024  
Commenced Date : 05/04/2024  
Completed On : 11/04/2024  
Report Date : 11/04/2024  
Sample quantity : 2 Litres

S.No.	Test Parameters	Units	Results	Test Method	TNPCB Limits *
Discipline : Chemical					
1	Alphamethrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
2	Cypermethrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
3	Deltamethrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
4	Permethrin	mg/L	BLQ (LOQ: 0.0001)	HECSG/INS/SOP/032 Issue No.:01 Issue Date:01.03.2021	Absent
5	Mercury	mg/l	BLQ (LOQ: 0.01)	USEPA 200.8 Revision 5.4: 1994	0.01
6	Lead	mg/l	BLQ (LOQ: 0.1)	USEPA 200.8 Revision 5.4: 1994	0.1
7	Alpha Emitters	microcurie/ml	BLQ(LOQ 0.000000001)	IS 14194 (Part-2)-1994	0.0000001
8	Beta emitters	microcurie/ml	BLQ(LOQ 0.000000001)	IS 14194 (Part -1)-1994	0.000001

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, °C - Degree Celsius,  
mg/l - Milligrams per liter.

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



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Deputy Quality Manager  
Authorized Signatory



## ANNEXURE – 6

## CORPORATE SOCIAL RESPONSIBILITY

Primary Health Care Centre is provided at Sadayankuppam Village, Kannampalayam & Seemavaram, Manali by AM Foundation on behalf of **Tamilnadu Petroproducts Limited** under its CSR project and Inaugurated.









