

Tamilnadu Petroproducts Limited

Ref: TPL - PO/ 2023/41

27th Nov- 2023

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 - ECH - PO Plant - Environmental Clearance (EC) - Six Monthly Compliance

Report - April 2023 to September 2023 - reg.

Ref: F.No. J-11011/280/2013-IA-II (I) dated 15.05.2015

This has reference to the Environmental Clearance obtained from MoEF, New Delhi for product mix change an existing ECH plant located at Manali, Chennai.

We herewith attach the EC compliance status report for the period from April 2023 to September 2023 for your kind reference.

Thanking you,

Yours faithfully, For Tamilnadu Petroproducts Limited

















Regd. Office & Factory:
Post Box No. 9, Manall Express Highway, Manali,
Chennai - 600 068. India.

TPL GSTIN: 33AAACT1295M1Z6

Environmental Clearance Compliance Status Report For the period from April 2023 to Sep 2023

Ref: No. J - 11011/280/2013 - IA.II(I) dated 15.05.2015

(A) Specific Condition:

i Caustic scrubber shall be provided to control Chlorine emissions. The scrubbed water should be sent to ETP for further treatment. Efficiency of scrubber shall be monitored regularly and maintained properly. Scrubber vent shall be provided with on-line detection and alarm system to indicate higher that permissible value of controlled parameters. At no time, the emission levels shall go beyond the prescribed standards. The system should be interlocked with the pollution control equipment so that in case of any increase in pollutants beyond permissible limits, plant should be automatically stopped.

Compliance

Complied

Caustic scrubber is provided to control Chlorine emissions. The scrubbed water is sent to ETP for further treatment.

Efficiency of scrubber is being monitored regularly and maintained properly by following measures.

- Measuring concentration of circulating caustic and vent gas emission level.
- Caustic solution is replenished when there is a depletion of level.
- It is also replaced, whenever the concentration goes below the limit.

Online Chlorine analyser is installed in the scrubber vent stack with alarm set at 1.5 ppm as high alarm value for continuous monitoring and real time online monitoring data is being transmitted to TNPCB and CPCB's servers.

At no time the emission levels have gone beyond the prescribed standards. The emission levels are continuously monitored and real time monitoring data is being transmitted online to TNPCB and CPCB's servers.

Interlocking system is provided with the pollution control equipment, to shut down the unit, in case of any increase in pollution load.

Ambient air quality data shall be collected as per NAAQS standards notified by the ministry vide GSR No. 826 (E) dated 16.09.2009 the levels of PM₁₀, PM_{2.5}, SO₂, NOx, CO, Cl₂, VOC and HC (methane and non-methane) shall be monitored in the ambient air and emission from stacks and displayed at a convenient location near the main gate of the company and at important public places. The company shall upload the results of monitored data on its website and shall update the same periodically. It shall simultaneously be sent to the Regional office of MOEF, the respective Zonal office of CPCB and the Tamilnadu Pollution Control Board /TNPCB)

Complied

- Ambient Air Quality (AAQ) is monitored manually at 2 locations through accredited lab as per NAAQS standards notified by the ministry vide GSR No. 826 (E) dated 16.09.2009 for 12 parameters, once in 6 months basis.
- Ambient Air Quality (AAQ) is being monitored at 2 locations for the parameters such as PM_{2.5}, PM₁₀, SO₂, CO, NO_x, Ammonia, Chlorine by internal lab once in a week.
- Stack emissions are monitored through accredited lab, once in 6 months basis.
- Online continuous Ambient Air Quality monitoring equipment as well as online continuous stack monitoring equipment are installed and the real time monitored data are being transmitted to TNPCB and CPCB's servers.
- The real time data are also displayed near the main gate of the company.
- The monitored data are uploaded on the company's website and also being updated periodically.
- In addition to this the manually monitored data are being submitted to TNPCB on monthly basis and CPCB as well as the Regional office of MoEF once in six months.
- iii In plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Fugitive emissions shall be controlled by providing closed storage, closed handling and conveyance of chemical/materials, multi

Complied

The following measures are taken to control the fugitive emission.

 HC and Chlorine detectors are provided with alarm system to mortions; gitive emission regularly

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Page 2 of 14

cyclone separator and water sprinkler suppression system. Dust system including water sprinkler system shall be provided at loading and unloading areas to control dust emissions. Fugitive emission in the work zone environment. Product, Raw materials storage area, etc., be regularly monitored. shall necessary steps should be taken for monitoring of Chlorine as well as VOC in the proposed plant.

- in the work zone environment, Product, raw materials and storage area.
- Raw material Propylene is stored in bullets with sensors/detectors.
- Chlorine is received through pipeline from the adjacent Heavy Chemicals Division of the same company, thereby avoiding any potential emissions while handling Cylinders
- Propylene Oxide (PO) and Chlorinated Organics are stored in closed tanks with sensors/detectors and handled in closed pipelines.
- Lime (bags) is stored in a closed shed.
- Water sprinkling is being carried out at lime Loading and unloading area for dust suppression.
- Ambient Air Quality (AAQ) is monitored for Chlorine and VOC manually at 2 locations through accredited lab.
- Chlorine in the Ambient Air is monitored at 2 locations by internal lab once in a week.
- Online analysers for Chlorine and VOC are installed for continuous and the real time monitoring monitored data are being transmitted to TNPCB and CPCB's servers

The gaseous emissions from DG set shall iν be disposed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution.

Complied.

Adequate stack height in DG set is provided, as per the CPCB standard to dispose gaseous emission from DG set. Stack height is 31.5m.

Presently DG set is not in operation and decommissioned

		Ambient Noise level is monitored
		manually by internal lab once in a
		month.
v	Leak Detection and Repair programme	Complied
V	Leak Detection and Repair programme shall be prepared and implemented to control HC/VOC emissions. Focus shall be given to prevent fugitive emissions for which preventive maintenance of pumps, valves, pipelines are required. Proper maintenance of mechanical seals of pumps and valves shall be given. A preventive maintenance schedule for each unit shall be prepared and adhered to. Fugitive emissions of HC from product storage tank yards etc., must be regularly monitored. Sensors for detecting HC leakage shall be provided at strategic locations. Company shall protect their equipment from aging.	 Leak Detection And Repair (LDAR) programme is prepared and is being implemented to control HC/VOC emissions. LDAR survey is being carried out through accredited laboratory once in a year. LDAR survey was conducted through M/s. Hubert Enviro Care System (P) Ltd, Chennai in March-2023. Preventive maintenance for Pumps are carried out once in six months. Preventive maintenance for Valves and pipelines are carried out once in a year Proper maintenance and preventive checks for mechanical seals of pumps and valves are carried out once in six months by internal team. VOC detectors are installed at Product Storage Yard (Propylene Oxide and Propylene Storage tanks area) to monitor fugitive emission continuously. VOC detectors/sensors are provided in the work zone environment, Product, Raw materials storage area for continuous monitoring. Proper maintenance program is
		developed & implemented to protect equipment from ageing.
		protect equipment from ageing.

vi	Alarm for chlorine leakage if any in the	Complied
	liquid chlorine storage area is provided	Chlorine is not stored in tanks & is
	along with automatic start of the	received by pipelines from the adjacent
	scrubbing system.	unit of Heavy Chemicals Division of the
		same company
		Chlorine sensors are provided with
		alarm, to monitor continuously for
		chlorine leakage. Chlorine scrubber is
		being operated continuously.
vii	Total water requirement from CMWSSB	Complied.
	water supply shall not exceed 1650	The total water requirement from
	m ³ /day and prior permission should be	CMWSSB water supply (tertiary treated
	obtained from competent authority.	sewage) is consumed based on prior
	•	permission & has not exceeded 1650
		m3/day and obtained prior permission.
viii	As proposed, industrial effluent shall be	Complied
	treated in ETP. Treated effluent from ETP	Effluent generated from PO plant is
	shall be discharged to sea after	treated in the Effluent Treatment plant.
	conforming to the standards prescribed	Treated effluent from ETP is discharged
	for the effluents discharge and obtaining	to sea after conforming to the
	permission from the TNPCB. Domestic	prescribed standards as stipulated by
	sewage should be treated in STP.	TNPCB.
		Obtained permission (CTO) from TNPCB
		for disposal of treated effluent into sea.
		Domestic sewage is treated in the
		common Sewage Treatment Plant (STP).
ix	Treated effluent should be passed	Complied
	through guard pond. Monitoring (24*7)	Collection Pit is provided and treated
	through online pH meter, flow meter and	effluent is pumped to sea through
	TOC analyser should be installed. The	Collection pit.
	data to be made available to the	Online continuous analyser is provided
	respective SPCB and in the company's	to monitor for pH, TOC (BOD / COD), TSS
/	website.	and Flow meters etc., and the real time
		monitored data are being transmitted to
		TNPCB and CPCB's servers.
		The manually monitored data are being
		submitted to TNPCB on monthly basis
		and uploaded on the company's website
		periodically
		EVENTANO)

x The company shall obtain Authorisation Complied	
	for collection, storage and
	Hazardous waste under
waste (MH and TB) Rules 2008 and hazardous wa	ste (MH and TB) Rules
	obtained from TNPCB.
1 1	me sludge) is disposed to
	industries such as brick
of solid / hazardous waste in the TSDF. manufacturers	5.
I I	on is obtained for disposal
· · · · · · · · · · · · · · · · · · ·	waste to TSDF vide
Authorisation	No: 21HFC20874189
dated 28.12	.2021. Validity up to
31.03.2026	
Firefighting f	acilities are provided &
Onsite emerge	ency plan is maintained to
mitigate, in ca	se of any emergency.
xi The company shall strictly comply with Complied	
the rules & guidelines under Hazardous ch	emicals are being handled
Manufacture, Storage and Import of as per the M	lanufacture, Storage and
Hazardous Chemicals (MSIHC) Rules 1989 Import of Haz	ardous Chemicals (MSIHC)
as amended time to time. All Rules 1989 ar	d rules and guidelines are
transportation of Hazardous Chemicals strictly being	followed.
shall be as per the Motor Vehicle Act Material Safet	y data sheets are available
(MVA) 1989 for handling of	hemicals.
Hazardous Ch	emicals are transported as
per the Moto	r Vehicle Act (MVA) 1989.
xii The unit shall make the arrangement for Complied	
protection of possible fire hazards during Arrangement	s such as firefighting
manufacturing process in material facilities, port	able fire extinguisher, fire
handling. Firefighting system shall be as monitors, f	ire hydrants, sprinkler
per the norms. Fire hydrant system shall system, etc., a	are provided for protection
be provided along with fire monitor and of possible	fire hazards during
flame detection system in the process as manufacturin	g process in material
well as storage areas. handling.	
Firefighting s	ystem is provided as per
the norms a	nd obtained Fire license
from Tamilna	du Fire & Rescue services,
Govt. of Tami	lnadu.



		Fire hydrant system along with fire
		monitors, Portable extinguisher and
		flame detectors are provided in the
		process as well as storage areas.
		Additionally, Medium velocity sprinkler
		system is also provided in the
		Propylene, Dichloropropane and
		Propylene oxide storage tanks.
xiii	All the recommendations made in the risk	Complied
,,,,,	assessment report should be	Recommendations given in the risk
	satisfactorily implemented.	assessment report are implemented
	Satisfactory, implementation	and being maintained.
		Salient recommendations are as
		follows;
		Nitrogen gas padding is provided in
		propylene oxide storage and during
		transfer to prevent air entering the
		system and forming explosive
		mixture.
		Remote operated shut off valve is
		provided at inlet of reactor feed line
		to cut off chlorine, in case of
		emergency.
		Manual isolation at Heavy Chemicals
		Division and automatic shutoff valve
		at PO plant are provided in the
		chlorine pipelines.
		Medium velocity sprinkler system is
		provided to propylene oxide and
		propylene storage bullets.
		Dyke is provided in the storage area
		to contain spill.
		Fencing is provided with security, to
		the entire storage area.
		Entry is restricted to 50 m from the
		storage area and being ensured.
		The area around the storage is free
		of ignition sources and other
		hazards.
		(ROPRODU)



		• Sensors with alarm systems are
		provided in the storage bullets
		• Fire hydrant system is provided
		throughout the storage area.
		Regular mock drill is being
		conducted.
		Onsite emergency plan is available
		and recommendations are being
		implemented.
xiv	Occupational health surveillance of the	Complied
	workers shall be done on a regular basis	Occupational health surveillances are
	and records maintained as per the	being conducted for employees
	factories Act	periodically, as per the Factories Act.
		Health records are available and being
		maintained as per the Factories Act.
χv	As proposed, greenbelt should be	Complied
ļ	developed at least 48561 m2 area in and	Green belt is developed in 48561 m²
	around the plant premises to mitigate the	(4.8562 Hectare) area in and around the
	effects of fugitive emissions all around	factory premises to mitigate the effects
	the plant as per the CPCB guidelines in	of fugitive emissions all around the
	consultation with DFO. Selection of plant	factory.
	species should be as per the CPCB	Plant species are selected as per the
	guidelines.	CPCB guidelines.
xvi	Provision shall be made for the housing	Complied
	for the construction labour within the site	Contract workers were engaged for
	with all necessary infrastructure and	construction activity from nearby
	facilities such as fuel for cooking, mobile	location and hence housing facility was
	toilets, safe drinking water, medical	not provided during the construction
	health care, crèche etc., the housing may	time. However other facilities such as
	be in the form of temporary structure to	toilet, safe drinking water, medical
	be removed after the completion of the	facilities were provided to the
	project. All the construction wastes shall	construction workers during the
	be managed so that there is no impact on	construction time.
	the surrounding environment.	Construction wastes were disposed
		within the premises as landfill without
		affecting the surrounding environment.
		cTROPRO



F***	Committee	
	General Conditions	
i	The project authorities shall strictly	Complied
	adhere to the stipulations made by the	All the stipulations made by the State
	State Government and TN Pollution	Government and TN Pollution Control
	Control Board.	Board are being adhered regularly.
ii	No further expansion or modification in	Complied.
	the plant shall be carried out without	No further expansion or modification in
	prior approval of the Ministry of	the plant will be carried out, without
	Environment and Forests.	prior approval of the Ministry of
	In case of deviations or alterations in the	Environment and Forests.
İ	project proposal from those submitted to	Fresh reference were not made to the
	this Ministry for clearance, a fresh	Ministry to assess the adequacy of
	reference shall be made to the Ministry to	conditions imposed and to add
	assess the adequacy of conditions	additional environmental protection
	imposed and to add additional	measures required as there were no
	environmental protection measures	deviations or alterations in the project
	required, if any.	proposal.
iii	The locations of ambient air quality	Complied
	monitoring stations shall be decided in	Locations of ambient air quality
	consultation with the State Pollution	monitoring stations are selected to
	Control board (SPCB) and it shall be	monitor ambient air quality as per given
	ensured that at least one station is	guidelines & in consultation with
	installed in the upwind and downwind	TNPCB.
	direction as well as where maximum	One mobile monitoring station in the
	ground level concentration are	upwind and one mobile monitoring
	anticipated.	station in the downwind direction are
		provided for ambient air quality
		monitoring, which includes where
		maximum ground level concentration is
		anticipated.
iv	The overall noise levels in and around the	Complied
	plant area shall be kept well within the	Acoustic hoods, silencers, enclosures,
	standards by providing noise control	etc., are provided at DG sets to keep the
	measures including acoustic hoods,	noise level within the prescribed
	silencers, enclosures, etc., on all sources	standards.
	of noise generation. The ambient noise	Ambient noise levels at five locations
	levels shall conform to the standards	are being monitored manually during
	prescribed under Environment	day and night time by internal lab once
	presended under Environment	day and night time by internal lab once
		in a month.

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	(Protection) Act 1989 viz 75 dBA (day	
	time) and 70 dBA (night time)	prescribed standards of 75 dBA (day
-		time) and 70 dBA (night time).
	The company shall harvest rainwater	Complied
	from the roof tops of the buildings and	Rain water harvesting facility is provided
.	storm water drains to recharge the	at the following buildings to collect roof
	ground water and use the same water for	top rain water and it is let into
	the process activities of the project to	freshwater reservoir.
	conserve fresh water.	Mechanical workshop
		Fire water pump house
		Raw Water Pump house
		Area covered is 5000 m ² .
		The harvested water is utilised for
		process activities to conserve fresh
		water.
		Additionally, Recharge percolation pits
		are provided to recharge the rainwater
		into the pits.
V	Training shall be imparted to all	Complied
	employees on safety and health aspects	Training on safety and health aspects of
	of chemicals handling. Pre-employment	chemicals handling is conducted to all
	and routine periodical medical	employees regularly.
	examinations for all employees shall be	Pre-employment and routine periodical
	undertaken on regular basis. Training to	medical examinations are being
	all employees on handling of chemicals	conducted to all employees on regular
<u></u>	shall be imparted.	basis.
Vi	- S F	Complied
	(PPEs) by all employees / workers shall be	Personal protective Equipment (PPEs)
	ensured	are provided to all employees / workers
		and ensured for using.
vi	The state of the s	Complied
	the environmental protection measures	The environmental protection measures
	and safe guards proposed in the	and safe guards proposed in the
	documents submitted to the Ministry.	documents submitted to the Ministry
		are being complied at all times.
	All the recommendations made in the	Complied
	EIA/EMP in respect of environmental	Recommendations made in the
	management, Risk mitigation measures	EIA/EMPRIPUREspect of environmental
		13/

and public hearing relating to the project management and risk assessment shall be implemented. report are being implemented regularly. Nitrogen gas padding is provided in propylene oxide storage and during transfer, to prevent air entering the system and forming explosive mixture. • Remote operated shut off valve is provided at inlet of reactor feed line to cut off chlorine, in case of emergency. • Manual isolation at HCD plant and automatic shutoff valve at ECH plant provided in the chlorine are pipelines. Medium velocity sprinkler system is provided to propylene oxide and propylene storage bullets. Dyke is provided in the storage area to contain spill. · Fencing is provided with security, to the entire storage area. Entry is restricted to 50 m from the storage area and being ensured. The area around the storage is free of ignition sources and other hazards. Sensors with alarm systems are provided in the storage bullets • Fire hydrant system is provided throughout the storage area Regular mock drill is being conducted. Onsite emergency plan is available and recommendations are being implemented. The company shall undertake all relevant **Being Complied** measures for improving the socio-Following social upliftment schemes are economic conditions of the surrounding

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being carried out in the nearby area.

	area CSR activities shall be undertaken by	1) Primary Health Care Centre (PHCC)
	administration.	
		is provided at the following location to cater to the primary health carneeds of the people residing in nearby areas. PHCC is provided at Sadayan Kuppam village, Manali PHCC is provided at Vichoor village, Manali PHCC is provided at Seemavaram village PHCC is provided at Seemavaram village PHCC is provided. Rest Rooms were constructed at the following locations. Government high school at Manali New Town. Government high school at Vichoor. Government high school at V
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	The company shall undertake eco-	Complied
	developmental measures including	Eco-developmental measures (mainly
×	community welfare measures in the	green belt development) are taken to
	project area for the overall improvement	improve the environment.
	of the environment.	
	A separate Environmental management	Complied
	cell equipped with full fledged laboratory	A separate Environmental management
	facilities shall be set up to carry out the	cell equipped with full-fledged
xi	~	laboratory facilities is established for
	Monitoring functions.	carrying out the Environmental
}		•
		engaged for monitoring.
	The company shall earmark sufficient	·
xii	funds towards capital cost and recurring	· · · · · · · · · · · · · · · · · · ·
	cost/annum to implement the conditions	
	stipulated by the Ministry of Environment	to implement the conditions stipulated
		(S)

	and Forests as well as the State	, , , , , , , , , , , , , , , , , , , ,
	Government along with the	The state
	implementation schedule for all the	Government.
	conditions stipulated herein.	Implementation schedules are prepared
		for all the conditions stipulated herein
		and are implemented.
	The funds so earmarked for	Complied
	environmental management / pollution	Funds earmarked for environmental
	control measures shall not be diverted for	management / pollution control
	any other purpose.	measures, are not diverted for any other
		purpose.
	A copy of the clearance letter shall be	Complied
	sent by the project proponent to	No suggestion was received from
	concerned Panchayat / Municipal	Panchayat / Municipal corporation
xii	corporation, urban local body and local	urban local body and local NGO while
	NGO, if any from who	processing the proposal.
	suggestions/representations, if any were	
	received while processing the proposal.	
	The project proponent shall also submit	Complied
	six monthly reports on the status of the	Six monthly reports on the status of the
	compliance of the stipulated	compliance of the stipulated
	environmental clearance conditions	environmental clearance conditions
	including results of monitored data (both	including results of monitored data is
	in hard copies as well as email) to the	submitted to MOEF Regional Office
	respective Regional office of MoEF, the	through e-mail regularly.
xiv	respective Zonal office of CPCB and the	
	TN pollution Control Board.	
r	A copy of Environmental clearance and	Complied.
	six-monthly compliance status report	Six monthly compliance reports
	shall be posted on the website of the	including monitoring data are uploaded
	company.	in our company's website
		(www.tnpetro.com) and also updated
į		periodically.
	The environmental statement for each	Complied
	financial year ending 31st March in Form –	The environmental statement (Form V)
V0.4	V as is mandated shall be submitted to	is being submitted to TNPCB once in a
XV	the concerned State pollution Control	year before 30 th Sep every year.
	Board as prescribed under Environment	
	(Protection) Rules 1986, as amended	77200
	, ,	PETROPRO

subsequently shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also sent to the respective Regional offices of MoEF by email.

Environmental statement (Form V) for the year 2022 – 2023 was submitted on 27.09.2023.

Further, a copy of Form V is uploaded in the company's website. (www.tnpetro.com)

The six-monthly compliance status including results of monitored data is being submitted to MOEF Regional Office through e-mail regularly.

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 at http;//envfor.nic.in. this shall be advertised within seven days from the date of issue of the clearance letter, at least in two local news papers 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 forwarded to the concern Regional Office of the Ministry.

Complied

Advertisements in two local news papers (In English in The Financial Express and in Tamil in Makkal Kural) was published on 10.10.2018 and copies of the same were submitted to the Regional Office.

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.

Complied

Details the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project were informed to Regional Office, MoEF&CC.



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 Petroproducts Ltd.,

Report No. : HECSL/AA/004/220923

Address of the Client

: PO Plant, Manali Express High Way,

Report Date: 30/09/2023

: Ambient Air Quality

Sample Description
Sampling Location

: Near Propylene Oxide Filling Plant : Hubert Enviro Care Systems (P) Ltd

Sample Drawn By Sampling/received Date

: 22/09/2023

-22/09/2023

Analysis Commenced On : 22/09/2023

09/2023 *-22*/09/20

Manali, Chennai - 600068.

Completed On: 30/09/2023

S.No.	Parameters	Units	Results Obtained	Test Method	NAAQ Stan	dards : 2009
1	Sulphur Dioxide	μg/m³	12.48	IS 5182 (Part - 2): 2001	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	μg/m³	22.15	IS 5182 (Part - 6): 2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than 10 µm	μg/m³	50.78	IS 5182 (Part - 23): 2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than 2.5 μm	μg/m³	21.35	IS 5182 (Part - 24): 2019	60 (24 hours)	40 (Annual)
5	Carbon Monoxide	mg/m³	BLQ(LOQ 0.05)	IS 5182 (Part - 10): 1999	4 (1 hours)	2 (8 hours)
6	Lead	μg/m³	BLQ(LOQ 0.05)	HECS-G/INS/SOP/ 041	1 (24 hours)	0.5 (Annual)
7	Ozone	μg/m³	11.20	IS 5182 (Part - 9): 1974	180 (1 hours)	100 (8 hours)
8	Ammonia	μg/m³	6.15	IS 5182 (Part - 25): 2018	400 (24 hours)	100 (Annual)
9	Benzene	μg/m³	BLQ(LOQ 1)	IS 5182 (Part - 11): 2006	5 (Annual)	5 (Annual)
10	Benzo(a)pyrene	ng/m³	BLQ(LOQ1)	IS 5182 (Part - 12): 2004	1 (Annual)	1 (Annual)
11	Arsenic	ng/m³	BLQ(LOQ 2)	HECS-G/INS/SOP/041	6 (Annual)	6 (Annual)
12	Nickel	ng/m³	BLQ(LOQ 10)	HECS-G/INS/SOP/041	20 (Annual)	20 (Annual)
13	Suspended Particulate Matter	μg/m³	71.13	IS: 5182 (P-4) 1999	NA	NA

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



Authorized Signatory

Lab Manager

^{1.} The report in full or part shall not be used for any promotional or publicity purpose without written consent by HECS organization 2. Samples are not drawn by HECS unless or otherwise mentioned 3. Unless specifically requested by customer the test items will not be retained more than 15 days from the date of issue of test report. 4. Under no circumstances lab accepts any liability or loss / damage caused by use or misuse of test report after invoicing or issue of test report. 5. The test results relate only to the test items.

HECS-G/Q/FMT/49

18, 92nd Street, Ashok Nagar,

Chennai - 600 083.

Ph: 42985555 Fax: 42985500 E-mail: labsales@hecs.in

Laboratory Services Division

(Chemical & Biological Testing) Recognized by MoEF, BIS **FSSAI Notified Laboratory** ISO 9001, 14001 & 45001 Certified.

TEST REPORT

Page: 1 of 1

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/AA/005/220923

Address of the Client

: PO Plant, Manali Express High Way,

Report Date: 30/09/2023

Sample Description

: Ambient Air Quality

Sampling Location

: Near STP Gate No 5

Manali, Chennai - 600068.

Sample Drawn By Sampling/received Date : Hubert Enviro Care Systems (P) Ltd

: 22/09/2023 -22/09/2023

Analysis Commenced On : 22/09/2023

Completed On: 30/09/2023

S.No.	Parameters	Units	Results Obtained	Test Method	NAAQ Stan	dards : 2009
1	Sulphur Dioxide	μg/m³	8.55	IS 5182 (Part - 2): 2001	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	μg/m³	19.73	IS 5182 (Part - 6): 2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than 10 µm	μg/m³	40.25	IS 5182 (Part - 23): 2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than 2.5 μm	μg/m³	20.66	IS 5182 (Part - 24): 2019	60 (24 hours)	40 (Annual)
5	Carbon Monoxide	mg/m³	BLQ(LOQ 0.05)	IS 5182 (Part - 10): 1999	4 (1 hours)	2 (8 hours)
6	Lead	μg/m³	BLQ(LOQ 0.05)	HECS-G/INS/SOP/ 041	1 (24 hours)	0.5 (Annual)
7	Ozone	μg/m³	10.05	IS 5182 (Part - 9): 1974	180 (1 hours)	100 (8 hours)
8	Ammonia	μg/m³	7.22	IS 5182 (Part - 25): 2018	400 (24 hours)	100 (Annual)
9	Benzene	μg/m³	BLQ(LOQ 1)	IS 5182 (Part - 11): 2006	5 (Annual)	5 (Annual)
10	Benzo(a)pyrene	ng/m³	BLQ(LOQ 1)	IS 5182 (Part - 12): 2004	1 (Annual)	1 (Annual)
11	Arsenic	ng/m³	BLQ(LOQ 2)	HECS-G/INS/SOP/041	6 (Annual)	6 (Annual)
12	Nickel	ng/m³	BLQ(LOQ 10)	HECS-G/INS/SOP/041	20 (Annual)	20 (Annual)
13	Suspended Particulate Matter	μg/m³	60.91	IS: 5182 (P-4) 1999	NA	NA

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

Authorized Signatory
SIVAPRAKASAM. NI Lah Manager

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Chennai - 600 083.

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Laboratory Services Division

(Chemical & Biological Testing) Recognized by MoEF, BIS **FSSAI Notified Laboratory** ISO 9001, 14001 & 45001 Certified.

TEST REPORT

Page: 1 of 1

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/ST/008/220923

Address of the Client

: PO Plant, Manali Express High Way, Manali, Chennai - 600068.

Report Date: 30/09/2023

:Stack Emission

Sample Mark

: Emergency DG Set

Sample Drawn By

Sample Description

: 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

S.No.	Para meters	Units	Results	Test Method	CPCB Standards
i	Ambient Temperature	° C	31.8	IS 11255 (Part-3) 2008	NA
2	Temperature	° C	132.0	IS 11255 (Part-3)2008	NA
3	'/elccity	m/sec	11.0	IS 11255 (Part-3) 2008	NA
4	Flow rate	Nm³/hr	5497.0	IS 11255 (Part-3) 2008	NA
5	Particulate Matter	mg/Nm³	38.12	IS 11255 (Part-1) 1985	75
5	Sulphur Dioxide	mg/Nm³	11.25	IS 11255 (Part-2) 1985	NA
7	Oxides of Nitrogen	mg/Nm³	240.52	IS 11255 (Part-7) 2005	. 710
3	Carbon monoxide	mg/Nm³	42.41	IS 13270 - 1992	NA
)	Carbon dioxide	%V/V	7.2	IS 13270 - 1992	NA
10	Hydrocarbon	mg/Nm³	BLQ(LOQ 1)	IS 5182 (Part-17) 1979	NA
l 1	Non - Methane Hydro Carbon(NMHC)	mg/Nm³	BLQ(LOQ 0.1)	USEPA METHOD 25	NA
12	Olefin (Aromatic)	%	BLQ(LOQ 0.1)	ASTM D6550-05	NA

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, Nm3/hr - Normal cubic meter per hour,



Authorized Signatory SIVAPRAKASAM. M Lab Manager

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TEST REPORT

Page: 1 of 1

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/ST/008/220923

Address of the Client

: PO Plant, Manali Express High Way,

Manali, Chennai - 600068.

Report Date: 30/09/2023

: Stack Emission

Sample Mark

: Boiler Stack

:22/09/2023

Sample Drawn By

Sample Description

: Hubert Enviro Care Systems (P) Ltd

Sampling/received Date

-22/09/2023

Analysis Commonand On 22/09/2023

Completed On:30/09/2023

C 21		Units	Results	Test Method	CPCB
S.No.	Parameters	Onts	Results	rest Method	Standards
1	Stack Height	meter	47.4	-	NA
2	Stack Diameter	meter	0.65	•	NA
3	Stack Temperature	°C	151.0	IS 11255 (Part-3) 2008	NA
4	Velocity	m/sec	14.7	IS 11255 (Part-3) 2008	NA
5	Flow Rate	Nm³/hr	11200.0	IS 11255 (Part-3) 2008	NA
6	Particulate Matter	mg/Nm³	7.25	IS 11255 (Part-1) 1985	Max 10
7	Sulphur Dioxide	mg/Nm³	9.81	IS 11255 (Part-2) 1985	Max 50
8	Oxides of Nitrogen	mg/Nm³	82.66	ASTM Method D6522: 2000	Max 350
9	Carbon monoxide	%V/V	9.28	ASTM Method D6522: 2000	Max 150
10	Hydrocarbon	mg/Nm³	BLQ(LOQ 1)	HECS-G/INS/SOP/019	NA
11	Non - Methane Hydro Carbon(NMHC)	mg/Nm³	BLQ(LOQ 0.1)	USEPA Method 25:1991	NA

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, Nm³/hr - Normal cubic meter per hour, mg/Nm³- Milligrams per Normal cubic meter, %V/V - Percentage, °C- Degree Celsius, NA - Not Applicable.

Values Corrected to 3% Oxygen.

End of Report

Authorized Signatory
SIVAPRAKASAM. M
Lab Manager

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TEST REPORT

Page: 1 of 1

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/ST/011/220923

Address of the Client

: PO Plant, Manali Express High Way,

Report Date: 30/09/2023

:Stack Emission (VOC)

Sample Description Sample Mark

: Boiler Stack

:22/09/2023

Sample Drawn By

: Hubert Enviro Care Systems (P) Ltd

Sampling/received Date

Manali, Chennai - 600068.

Analysis Commenced On

:22/09/2023 -22/09/2023

Completed On:30/09/2023

S.No.	Para meters	Units	Results	Test Method
1	Ethylene Oxide	ppm	BLQ(LOQ 0.01)	HECS/IN S/SOP/073
2	Vinyl Chloride Monomer	ppm	BLQ(LOQ 0.01)	HECS/IN S/SOP/073
3	Ethylene Di Chloride	ppm	BLQ(LOQ 0.01)	HECS/IN S/SOP/073
4	Acrylonitrile	ppm	BLQ(LOQ 0.01)	HECS/IN S/SOP/073
5	Propylene Oxide	ppm	BLQ(LOQ 0.01)	HECS/IN S/SOP/073

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, ppm- Parts per Million. ***End of Report***



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TEST REPORT

Page: 1 of 1

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/ST/010/220923

Address of the Client

: PO Plant, Manali Express High Way,

Report Date: 30/09/2023

:Stack Emission (VOC)

Manali, Chennai - 600068.

Sample Description Sample Mark

: Chlorine Scrubber

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

S.No.	Para meters	Units	Results	Test Method
1	Ethylene Oxide	ppm	BLQ(LOQ 0.01)	HECS/IN S/SOP/073
2 .	Vinyl Chloride Monomer	ppm	BLQ(LOQ 0.01)	HECS/IN S/SOP/073
3	Ethylene Di Chloride	ppm	BLQ(LOQ 0.01)	HECS/IN S/SOP/073
4	Acrylonitrile	ppm	BLQ(LOQ 0.01)	HECS/IN S/SOP/073
5	Propylene Oxide	ppm	BLQ(LOQ 0.01)	HECS/IN S/SOP/073

Note:- BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, ppm- Parts per Million.

End of Report



Authorized Signatory
SIVAPRAKASAM. M
Lab Manager

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TEST REPORT

Page: 1 of 1

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/ST/007/220923

Address of the Client

: PO Plant, Manali Express High Way,

Manali, Chennai - 600068.

Report Date: 30/09/2023

: Stack Emission

Sample Description Sample Mark

: Chlorine Scrubber

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

S.No.	Parameters	Units	Results	Test Method
1	Chlorine	mg/Nm³	1.8	HECS/AIR/STACK/SOP026

Note: - mg/Nm3 - Milligrams per Normal cubic meter.

End of Report



Authorized Signatory

SIVAPRAKASAM. M

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TEST REPORT

Page: 1 of 2

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/WT/068/220923

Address of the Client

: PO Plant, Manali Express High Way, Manali, Chennai - 600068.

Report Date: 30/09/2023

Sample Description

: WATER

Sample Mark

: Borewell Water No:1

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

	T					
S.No.	Parameters	Units	Results	Test Method		
1	pH (at 25 °C)	-	7.82	IS 3025 (Part - 11):2022		
2	Electrical conductivity at 25 °C	μS/cm	5900.0	IS 3025 (Part - 14):2013		
3	Colour	Hazen Unit	4.0	IS 3025(Part - 4):2021		
4	Turbidity	NTU	39.7	IS 3025(Part - 10):1984		
5	Odour	-	Agreeable	IS 3025 (Part - 5):2018		
6	Taste		Disagreeable	IS 3025 (Part - 8):1984		
7	Total Hardness as CaCO3	mg/l	940.0	IS 3025 (Part - 21):1983		
8	Calcium as Ca	mg/l	192.38	IS 3025 (Part - 40):1991		
9	Total Alkalinity as CaCO3	mg/l	510.0	IS 3025 (Part - 23):1986		
10	Chloride as Cl	mg/l	1365.87	IS 3025 (Part - 32):1988		
11	Residual free Chlorine	mg/l	BLQ(LOQ:0.1)	IS 3025 (Part - 26):2021		
12	Magnesium as Mg	mg/l	111.78	IS 3025 (Part - 59) 2006		
13	Total Dissolved Solids	mg/l	3304.0	IS 3025(Part -16):1984		
14	Sulphate as SO4	mg/l	371.69	IS 3025(Part - 24):1986		
15	Fluoride	mg/l	0.47	IS 3025 (Part - 60):2008		
16	Nitrate as NO3	mg/l	11.36	IS 3025 (Part 34) Sec -3: 2021		
17	Iron as Fe	mg/l	4.81	IS 3025 (Part - 53):2003		
18	Aluminium as Al	mg/l	BLQ(LOQ 0.01)	IS 3025 (Part - 55):2003		
19	Zinc as Zn	mg/l	BLQ(LOQ 0.01)	USEPA Method 200.8:1994		
20	Copper as Cu	mg/l	BLQ(LOQ 0.01)	USEPA Method 200.8:1994		
21	Manganese as Mn	mg/l	BLQ(LOQ:0.05)	USEPA Method 200.8:1994		
22	Cadmium as Cd	mg/l	BLQ(LOQ 0.001)	USEPA Method 200.8:1994		
23	Lead as Pb	mg/l	BLQ(LOQ 0.005)	USEPA Method 200.8:1994		
24	Arsenic as As	mg/l	BLQ(LOQ 0.005)	USEPA Method 200.8:1994		



Authorized Signatory SIVAPRAKASAM. M Lab Manager

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TEST REPORT

Page: 2 of 2

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/WT/068/220923

Address of the Client

: PO Plant, Manali Express High Way,

Report Date: 30/09/2023

Address of the Chefit

Manali, Chennai - 600068.

Sample Description

: WATER

Sample Mark

: Borewell Water No:1

Sample Drawn By

: Hubert Enviro Care Systems (P) Ltd

Sample Drawn by

Sampling/received Date : 22/09/2023 -22/09/2023

Analysis Commenced On: 22/09/2023

Completed On: 30/09/2023

S.No.	Parameters	Units	Results	Test Method
25	Mercury as Hg	mg/l	BLQ(LOQ 0.0005)	USEPA Method 200.8:1994
26	Sodium as Na	mg/l	655.0	IS3025 (Part - 35):1988
27	BOD,3 days @27°C as O2	mg/l	5.0	IS 3025 (Part - 44):1993
28	Chemical oxygen demand as O2	mg/l	40.0	IS 3025 (Part - 58):2006
29	Temperature	°C	27.3	IS 3025 (Part - 9):1984
30	Dissolved oxygen	mg/l	6.4	IS 3025 (Part - 38):1989
31	Salinity	ppt	2.46	2520 A APHA 23rd Edn. 2017
32	Total Chromium	mg/l	0.038	USEPA Method 200.8: 1994

Note: BLQ - Below the Limit of Quantification, LOQ-Limit of Quantification, NTU-Nephelometric Turbidity Unit,



Authorized Signatory
SIVAPRAKASAM, M

tah Manager

[°]C - Degree Celsius, mg/l- Milligrams per litre.

^{***}End of Report***

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TEST REPORT

Page: 1 of 1

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/MB/069/220923

Address of the Client

: PO Plant, Manali Express High Way, Manali, Chennai - 600068.

Report Date: 30/09/2023

Sample Description

: WATER

Sample Mark

: Borewell Water No:1

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

S.No.	Parameters	Units	Results	Test Method
1	Total Coliforms	Per 100ml	Absent	IS 1622
2	Faecal coliform	Per 100ml	Absent	IS 1622

End of Report



Authorized Signatory W Lab Manager

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TEST REPORT

Page: 1 of 2

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/WT/005/220923

Address of the Client

: PO Plant, Manali Express High Way,

Report Date: 30/09/2023

Manali, Chennai - 600068.

Sample Description

: WATER

Sample Mark

: Borewell Water No:2

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

S.No.	Parameters	Units	Results	Test Method
1	pH (at 25 °C)	-	7.31	IS 3025 (Part - 11):1983
2	Electrical conductivity at 25 °C	μS/cm	6960.0	IS 3025 (Part - 14):1983
3	Colour	Hazen Unit	4.0	IS 3025(Part - 4):1983
4	Turbidity	NTU	29.7	IS 3025(Part - 10):1984
5	Odour	•	Agreeable	IS 3025 (Part - 5):1983
6	Taste	•	Disagreeable	IS 3025 (Part - 8):1984
7	Total Hardness as CaCO3	mg/l	760.0	IS 3025 (Part - 21):1983
8	Calcium as Ca	mg/l	184.37	IS 3025 (Part - 40):1991
9	Total Alkalinity as CaCO3	mg/l	300.0	IS 3025 (Part - 23):1986
10	Chloride as Cl	mg/l	1207.51	4500 Cl B APHA 23rd Edn: 2017
11	Residual free Chlorine	mg/l	BLQ(LOQ:0.1)	IS 3025 (Part - 26):1986
12	Magnesium as Mg	mg/l	72.9	IS 3025 (Part - 46) 1994
13	Total Dissolved Solids	mg/l	3828.0	IS 3025(Part -16):1984
14	Sulphate as SO4	mg/l	841.34	IS 3025(Part - 24):1986
15	Fluoride	mg/l	0.41	IS 3025 (Part - 60):1986
16	Nitrate as NO3	mg/l	16.31	IS 3025 (Part 34): 1988
17	Iron as Fe	mg/l	3,91	IS 3025 (Part - 53):2003
18	Aluminium as AI	mg/l	BLQ(LOQ 0.03)	IS 3025 (Part - 55):2003
19	Zinc as Zn	mg/l	BLQ(LOQ 0.1)	USEPA Method 200.8:1994
20	Copper as Cu	mg/l	0.030	USEPA Method 200.8:1994
21	Manganese as Mn	mg/l	BLQ(LOQ:0.05)	USEPA Method 200.8:1994
22	Cadmium as Cd	mg/l	BLQ(LOQ 0.001)	USEPA Method 200.8:1994
23	Lead as Pb	mg/l	BLQ(LOQ 0.005)	USEPA Method 200,8:1994



Authorized Signatory SIVAPHAKASAM, M tab Managor

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TEST REPORT

Page: 2 of 2

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/WT/005/220923

Address of the Client

: PO Plant, Manali Express High Way,

Report Date: 30/09/2023

Manali, Chennai - 600068.

Sample Description

: WATER

Sample Mark

: Borewell Water No:2

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

S.No.	Parameters	Units	Results	Test Method
24	Arsenic as As	mg/l	BLQ(LOQ 0.005)	USEPA Method 200.8:1994
25	Mercury as Hg	mg/l	BLQ(LOQ 0.0005)	USEPA Method 200.8:1994
26	Sodium as Na	mg/l	579.0	IS3025 (Part - 45):1993
27	BOD,3 days @27°C as O2	mg/l	4.0	IS 3025 (Part - 44):1993
28	Chemical oxygen demand as O2	mg/l	32.0	IS 3025 (Part - 58):2006
29	Temperature	°C	27.3	IS 3025 (Part - 9):1984
30	Dissolved oxygen	mg/l	6.5	IS 3025 (Part - 38):1989
31	Salinity	ppt	2.18	2520 A APHA 23rd Edn. 2017
32	Total Chromium	mg/l	0.018	USEPA Method 200.8: 1994

Note:-BLQ - Below the Limit of Quantification, LOQ- Limit of Quantification, NTU- Nephelometric Turbidity Unit,

°C - Degree Celsius, mg/l- Milligrams per litre.

End of Report



Authorized Signatory
SIVADDOYASAM M

Lah Manager

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Laboratory Services Division

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TEST REPORT

Page: 1 of 1

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/MB/016/220923

Address of the Client

: PO Plant, Manali Express High Way,

Report Date: 30/09/2023

Manali, Chennai - 600068.

Sample Description

: WATER

Sample Mark

: Borewell Water No:2

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

S.No.	Parameters	Units	Results	Test Method
1	Total Coliforms	Per 100ml	Absent	IS 1622
2	Faecal coliform	Per 100ml	Absent	IS 1622

End of Report



Authorized Signatory

SIVAPRAKASAM, M Lah Manager

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TEST REPORT

Page: 1 of 2

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/WT/071/220923

Address of the Client

: PO Plant, Manali Express High Way,

Report Date : 30/09/2023

Sample Mark

: RO Drinking Water - Canteen

Manali, Chennai - 600068.

Sample Drawn By

Sample Description

: 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

ruiaiys	181/518 Commenced On : 22/09/2023 Completed On : 30/09/2023							
S.No.	Parameters	Units	Results	Test Method	IS:105	00-2012		
5.110.	A COLA GALLACE CA D	0.1110	riosuits	163t Method	Acceptable	Permissible		
					Limits	Limits		
1	pH (at 25 °C)	•	7.23	IS 3025 (Part - 11):2022	6.5 - 8.5	No relaxation		
2	Colour	Hazen Unit	BLQ(LOQ:1.0)	IS 3025(Part - 4):2021	5	15		
3	Turbidity	NTU	BLQ(LOQ:0.1)	IS 3025(Part - 10):1984	1	5		
4	Odour	cs	Agreeable	IS 3025 (Part - 5):2018	Agreeable	Agreeable		
5	Taste	•	Agreeable	IS 3025 (Part - 8):1984	Agreeable	Agreeable		
6	Total Hardness as CaCO3	mg/l	4.0	IS 3025 (Part - 21):2009	200	600		
7	Calcium as Ca	mg/l	BLQ(LOQ:1.0)	IS 3025 (Part - 40):1991	75	200		
8	Total Alkalinity as CaCO3	mg/l	10.0	IS 3025 (Part - 23):1986	200	600		
9	Chloride as Cl	mg/l	11.38	IS 3025 (Part - 32):1988	250	1000		
10	Residual free Chlorine	mg/l	BLQ(LOQ:0.1)	IS 3025 (Part - 26):2021	0.2	1		
11	Magnesium as Mg	mg/l	BLQ(LOQ:1.0)	IS 3025 (Part - 46) 1994	30	100		
12	Total Dissolved Solids	mg/l	28.0	IS 3025(Part -16):1984	500	2000		
13	Sulphate as SO4	mg/l	1.23	IS 3025(Part - 29):2017	200	400		
14	Fluoride	mg/l	BLQ(LOQ:0.2)	IS 3025 (Part - 60):2008	1.0	1.5		
15	Nitrate as NO3	mg/l	1.14	IS 3025 (Part 34) Sec -3: 2021	45	No Relaxation		
16	Iron as Fe	mg/l	BLQ(LOQ:0.01)	IS 3025 (Part - 53):2003	1.0	No Relaxation		
17	Aluminium as Al	mg/l	BLQ(LOQ 0.01)	IS 3025 (Part - 55):2003	0.03	0.2		
18	Zinc as Zn	mg/l	BLQ(LOQ 0.01)	USEPA Method 200.8:1994	5	15		
19	Copper as Cu	mg/l	BLQ(LOQ 0.01)	USEPA Method 200.8:1994	0.05	1.5		
20	Manganese as Mn	mg/l	BLQ(LOQ:0.05)	USEPA Method 200.8:1994	0.1	0.3		
21	Cadmium as Cd	mg/l	BLQ(LOQ 0.001)	USEPA Method 200.8:1994	0.003	No Relaxation		



Authorized Signatory
SIVAPRAKASAM. M

Lah Wanader

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TEST REPORT

Page: 2 of 2

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/WT/071/220923

Address of the Client

: PO Plant, Manali Express High Way,

Report Date : 30/09/2023

Sample Description

: WATER

Sample Mark

: RO Drinking Water - Canteen

Manali, Chennai - 600068.

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: 30/00/2023

S.No.	. Parameters	Units	Results	Test Method	IS:10500-2012	
				a est ividendu	Acceptable Limits	Permissible Limits
22	Lead as Pb	mg/l	BLQ(LOQ 0.005)	USEPA Method 200.8:1994	0.01	No Relaxation
23	Arsenic as As	mg/l	BLQ(LOQ 0.005)	USEPA Method 200.8:1994	0.01	0.05
24	Mercury as Hg	mg/l	BLQ(LOQ 0.0005)	USEPA Method 200.8:1994	0.001	No Relaxation
25	Total Chromium	mg/l	BLQ(LOQ 0.005)	USEPA Method 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



Authorized Signatory SIVAPRAKASAM. M Lah Manager

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TEST REPORT

Page: 1 of 1

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/MB/070/220923

Address of the Client

: PO Plant, Manali Express High Way,

Report Date: 30/09/2023

Manali, Chennai - 600068.

Sample Description

: WATER

Sample Mark

: RO Drinking Water - Canteen

Sample Drawn By

: Hubert Enviro Care Systems (P) Ltd

Analysis Commenced On: 22/09/2023

Sampling/received Date : 22/09/2023-22/09/2023

Completed On: 30/09/2023

S.No.	No. Parameters Units Results	Units	Results	Test Method	IS:1050	0-2012
5.710.		1 35t 1120satou	Acceptable Limits	Permissible Limits		
1	Total Coliforms	Per 100ml	Absent	IS 15185:2016	Absent/100 ml	NA
2	Escherichia coli	Per 100ml	Absent	IS 15185:2016	Absent/100 ml	NA

Note:-NA - Not Applicable.

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

End of Report



Authorized Signatory
SIVAPRAKASAM. M
Lab Manager

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TEST REPORT

Page: 1 of 3

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/WW/020/220923

Address of the Client

: PO Plant, Manali Express High Way,

Report Date: 30/09/2023

Sample Description

:Waste Water

Sample Mark

: Treated Effluent Outlet

Sample Drawn By

: Hubert Enviro Care Systems (P) Ltd

Manali, Chennai - 600068.

Sampling/received Date

:22/09/2023 -22/09/2023

Analysis Commenced On :22/09/2023

Completed On:30/09/2023

	ns commenced on .22/09/20	Units	Results	Completed On :30/09/20;		
S.No.	Parameters	Units	Results	Test Method	TNPCB Limits *	
I	Total suspended Solids	mg/l	24.0	IS 3025 (Part 17) 1984	100	
2	pH @ 25°C		6.58	IS 3025 (Part 11) 2022	5.5 - 9.0	
3	Total Dissolved Solids	mg/l	48626.0	IS 3025 (Part 16) 1984	-	
1	Temperature	°C	27.6	IS 3025 (Part 9):1983	45°C	
5	Oil & Grease	mg/l	BLQ(LOQ4.0)	IS 3025 (Part 39) 2021	20	
5	Ammonical Nitrogen as N	mg/l	9.18	IS 3025 Part (34)1988	50	
7	Total Kjeladahl Nitrogen as N	mg/l	14.13	IS 3025 Part (34)1988	100	
3	Free Ammonia as NH3	mg/l	BLQ(LOQ0.02)	IS:3025 (Part34)1998	5	
)	BOD, 3 days @ 27°C as O2	mg/l	14.0	IS:3025 (Part 44)1993	100	
0	COD as O2	mg/l	112.0	IS 3025 (Part 58) 2006	250	
11	Lead as Pb	mg/l	BLQ(LOQ 0.1)	IS:3025 (Part 47)1994	1	
12	Chromium (Hexavalent) as Cr6+	mg/l	BLQ(LOQ0.1)	IS 3025 Part (52):2003	1	
3	Total Chromium as Cr	mg/l	0.21	IS 3025(Part 52):2003	2	
14	Copper as Cu	mg/l	BLQ(LOQ 0.05)	IS:3025(Part 42)1992	3	
5	Zinc as Zn	mg/l	BLQ(LOQ 0.1)	IS:3025 (Part49)1994	1.5	
6	Nickel as Ni	mg/l	0.28	IS:3025 (Part54)2003	3	
7	Boron as B	mg/l	BLQ(LOQ0.1)	IS 3025:(Part-57):2005	2	
8	Chloride as Cl-	mg/l	9856.0	IS 3025 (Part 32) 1988	-	
9	Fluoride as F-	mg/l	0.86	IS 3025 part (60):2008	15	
.0	Dissolved Phosphate as PO4	mg/l	0.17	IS 3025 (Part 31):1988	100	
21	Sulphate as SO4	mg/l	587.6	IS 3025 (Part 24) 1986	1000	
22	Sulphide as S2-	mg/l	BLQ(LOQ0.04)	IS:3025 (Part 29)1986	5	



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SIVAPRAKASAM. IVI Lab Manager

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TEST REPORT

Page: 2 of 3

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/WW/020/220923

Address of the Client

: PO Plant, Manali Express High Way, Manali, Chennai - 600068.

Report Date: 30/09/2023

Sample Description

: Waste Water

Sample Mark

: Treated Effluent Outlet

Sample Drawn By

: Hubert Enviro Care Systems (P) Ltd

Sampling/received Date

:22/09/2023 -22/09/2023

Analysis Commenced On

	s Commenced On :22/09/20			Completed On:30/09/2023				
S.No.	Parameters	Units	Results	Test Method	TNPCB Limits*			
23 A	Arsenic as As	mg/l	BLQ(LOQ 0.005)	IS:3025 (Part37)1988	0.2			
24 N	Mercury as Hg	mg/l	BLQ(LOQ 0.001)	IS:3025 (Part48)1994	0.01			
25 C	Cadmium as Cd	mg/l	BLQ(LOQ 0.01)	IS:3025 (Part41)1992	2.0			
26 S	Selenium as Se	mg/l	BLQ(LOQ 0.005)	IS:3025 (Part56)2014	0.05			
1	Residual Sodium Carbonate as Na2CO3	meq/l	BLQ(LOQ1.0)	IS 11624-1986	NA			
8 (Cyanide as CN	mg/l	BLQ(LOQ0.01)	IS:3025 (Part27)1986	0.2			
29 P	esticides							
2	2,4-D	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
Is	soproturon	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
N	Malathion	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
N	Methyl Parathion	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
λ	Monochrotophos	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
P	Phorate	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
0	p,p -DDT	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
p	p,p'-DDT	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
0	,p-DDD	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
р	p,p'-DDD	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
o	p,p-DDE	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
o	p,p-DDD	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
p	p,p'-DDD	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
o	p,p-DDE	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
p	p,p'-DDE	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			



Authorized Signatory SIVAPRAKASAM. M Lab Managor

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TEST REPORT

Page: 3 of 3

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/WW/020/220923

Address of the Client

: PO Plant, Manali Express High Way,

Report Date: 30/09/2023

Sample Description

: Waste Water

Sample Mark

: Treated Effluent Outlet

Sample Drawn By

: Hubert Enviro Care Systems (P) Ltd

Sampling/received Date

: 22/09/2023 -22/09/2023

Manali, Chennai - 600068.

Analysis Commonand On

	sis Commenced On :22/09/202		Completed On:30/09/2023 Results Test Method TNPCR					
S.No.	Parameters	Parameters Units		Test Method	TNPCB			
					Limits*			
	Endosulphan alpha	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
	Endosulphan Beta	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
	Endosulphan Sulphate	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
	Alpha HCH	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
	Beta HCH	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
	Gamma HCH	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
	Delta HCH	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
	Butachlor	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
	Chlorpyrifos	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
	Alachlor	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
	Atrazine	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
	Aldrin	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
	Dieldrin	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
	Ethion	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
	Cypermethrin	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
	Alphamethrin	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
	Permethrin	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
	Deltamethrin	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	Absent			
0	Phenolic Compounds as C6H5OH	mg/l	BLQ(LOQ0.01)	IS 3025 Part (43)1992	1.0			
31	Residual Free Chlorine	mg/l	BLQ(LOQ 0.1)	IS 3025 Pt 26 - 1986	NA			
32	Sodium as Na	mg/l	3474.0	IS 3025 (Pt 45) :1993	NA NA			
3	Alpha emitters	microcurie/ml	BLQ(LOQ 0.00000000001)	IS 14194 (Part-2)-1994	0.0000001			
34	Beta emitters	microcurie/ml			0.000001			

Note:- BLQ-Below limit of Quantification, LOQ-Limit of Quantification, mg/l-milligrams per litre, * - Marine Coastal Areas.

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

End of Report

Authorized Signatory

Lab Manager

DIVAPRAKASAM. M

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Laboratory Services Division

TEST REPORT

Page: 1 of 3

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/WW/021/220923

Address of the Client

: PO Plant, Manali Express High Way, Manali, Chennai - 600068.

Report Date: 30/09/2023

Sample Description

: Sewage Water

Sample Mark

: Sewage Treated Effluent 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

S.No.	Parameters	Units	Results	Test Method	TNPCB Limit*
			100	IS 3025 (Part 17) 1984	20
	Total suspended Solids	mg/l	18.0	•	
	pH @ 25°C	-	7.56	IS 3025 (Part 11) 1983	5.5-9.0
3	Total Dissolved Solids	mg/l	2360.0	IS 3025 (Part 16) 1984	•
	Temperature	°C	27.6	IS 3025 (Part 9):1983	-
5	Oil & Grease	mg/l	BLQ(LOQ4.0)	IS 3025 (Part 39) 2021	-
5	Ammonical Nitrogen as N	mg/l	1.18	IS 3025 Part (34)1988	-
7	Total Kjeladahl Nitrogen as N	mg/l	1.81	IS 3025 Part (34)1988	-
8	Free Ammonia as NH3	mg/l	BLQ(LOQ0.02)	IS:3025 (Part34)1998	•
9	BOD, 3 days @ 27°C as O2	mg/l	6.0	IS:3025 (Part 44)1993	10
10	COD as O2	mg/l	32.0	IS 3025 (Part 58) 2006	50
11	Lead as Pb	mg/l	BLQ(LOQ 0.1)	IS:3025 (Part 47)1994	-
12	Chromium (Hexavalent) as Cr6+	mg/l	BLQ(LOQ0.1)	IS 3025 Part (52):2003	-
13	Total Chromium as Cr	mg/l	BLQ(LOQ0.01)	IS 3025(Part 52):2003	-
14	Copper as Cu	mg/l	BLQ(LOQ 0.05)	IS:3025(Part 42)1992	-
15	Zinc as Zn	mg/l	BLQ(LOQ 0.1)	IS:3025 (Part49)1994	-
16	Nickel as Ni	mg/l	BLQ(LOQ0.1)	IS:3025 (Part54)2003	-
17	Boron as B	mg/l	BLQ(LOQ0.1)	IS 3025:(Part-57):2005	-
18	Chloride as Cl-	mg/l	286.5	IS 3025 (Part 32) 1988	-
19	Fluoride as F-	mg/l	BLQ(LOQ0.2)	IS 3025 part (60):2008	-
20	Dissolved Phosphate as PO4	mg/l	0.58	IS 3025 (Part 31):1988	
21	Sulphate as SO4	mg/l	426.2	IS 3025 (Part 24) 1986	-
22	Sulphide as S2-	mg/l	BLQ(LOQ0.04)	IS:3025 (Part 29)1986	-

Authorized Signatory

SIVAFRAKASAM. NI tab Minnager

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HECS/O/EMT/50 HECS/Q/FMT/50

18, 92nd Street, Ashok Nagar,

Chennai - 600 083.

Ph: 42985555 Fax : 42985500 E-mail : labsales@hecs.in

Laboratory Services Division

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

TEST REPORT

Page: 2 of 3

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/WW/021/220923

Address of the Client

: PO Plant, Manali Express High Way,

Report Date: 30/09/2023

Manali, Chennai - 600068.

Sample Description

: Sewage Water

Sample Mark

: Sewage Treated Effluent Outlet

Sample Drawn By Sampling/received Date

: Hubert Enviro Care Systems (P) Ltd : 22/09/2023 -22/09/2023

Analysis Commenced On :22/09/2023

Completed On:30/09/2023

	nalysis Commenced On :22/09/2023 No Parameters Units		Results	Test Method	TNPCB	
S.No.	Parameters	Units	Kesuits	A WAY A LAWRENCE TO	Limit*	
23	Arsenic as As	mg/l	BLQ(LOQ 0.005)	IS:3025 (Part37)1988	•	
24	Mercury as Hg	mg/l	BLQ(LOQ 0.001)	IS:3025 (Part48)1994	•	
25	Cadmium as Cd	mg/l	BLQ(LOQ 0.01)	IS:3025 (Part41)1992	-	
26	Selenium as Se	mg/l	BLQ(LOQ 0.005)	IS:3025 (Part56)2014	-	
27	Residual Sodium Carbonate as	meq/l	BLQ(LOQ1.0)	IS 11624-1986	•	
	Na2CO3			(D. ARMOO)		
28	Cyanide as CN	mg/l	BLQ(LOQ0.01)	IS:3025 (Part27)1986	-	
29	Pesticides					
	2,4-D	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	٠	
	Isoproturon	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	•	
	Malathion	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-	
	Methyl Parathion	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-	
	Monochrotophos	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-	
	Phorate	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-	
<u> </u>	o,p -DDT	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032		
	p,p'-DDT	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-	
-	o,p-DDD	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	M	
	p,p'-DDD	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-	
	o,p-DDE	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-	
	o,p-DDD	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	ou.	
	p,p'-DDD	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	04	
-	o,p-DDE	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-	
	p,p'-DDE	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	14-	



Authorized Signatory
SWAPRAKASAM. W

Lab Manager

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Ph: 42985555 Fax : 42985500 E-mail : labsales@hecs.in

Laboratory Services Division

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

TEST REPORT

Page: 3 of 3

Name of the Client

: M/s. TamilNadu Petroproducts Ltd.,

Report No. : HECSL/WW/021/220923

Address of the Client

: PO Plant, Manali Express High Way,

Report Date: 30/09/2023

uress of the Cheft

: Sewage Water

Sample Mark

: Sewage Treated Effluent Outlet

Sample Drawn By

Sample Description

: Hubert Enviro Care Systems (P) Ltd

Sampling/received Date

: 22/09/2023 -22/09/2023

Manali, Chennai - 600068.

mpling/received Date : 22/09/2023 - 22/09/2023 Completed On:30/09/2023

	sis Commenced On :22/09/2023	\		Completed On:30/09/2023				
.No.	Parameters			Test Method	TNPCB Limit*			
	Endosulphan alpha	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-			
	Endosulphan Beta	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-			
	Endosulphan Sulphate	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-			
	Alpha HCH	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-			
	Beta HCH	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	•			
	Gamma HCH	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	~			
	Delta HCH	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-			
	Butachlor	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-			
	Chlorpyrifos	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-			
	Alachlor	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-			
	Atrazine	mg/l	BLQ(LOQ 0.0001) HE	HECS-G/INS/SOP/032	**			
	Aldrin	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-			
	Dieldrin	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-			
	Ethion	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-			
	Cypermethrin	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-			
	Alphamethrin	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	•			
	Permethrin	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-			
	Deltamethrin	mg/l	BLQ(LOQ 0.0001)	HECS-G/INS/SOP/032	-			
30	Phenolic Compounds as C6H5OH	mg/l	BLQ(LOQ0.01)	IS 3025 Part (43)1992	-			
31	Residual Free Chlorine	mg/l	BLQ(LOQ 0.1)	IS 3025 Pt 26 - 1986	-			
32	Sodium as Na	mg/l	116.0	IS 3025 (Pt 45) :1993	-			
33	Alpha emitters	microcurie/ml	BLQ(LOQ 0.00000000001)	IS 14194 (Part-2)-1994	•			
34	Beta emitters	microcurie/ml	BLQ(LOQ 0.0000000001)	IS 14194 (Part -1)-1994	•			
			T. 1. 00 110 11	mall Milligrams per liter				

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

*-Mega and Metropolitan Cities as per Standards for STP Outlet.

End of Report

Cheudas S

Authorized Signatory

SIVAPRAKASAM. W

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HECS/Q/FMT/50



District Environmental Laboratory, Manali

AMBIENT AIR QUALITY SURVEY - Report of Analysis

Report No. 81/AAQS/2022-23

Date: 28.10.2022

1. Name of the Industry

M/s. TPL (ECH),

2. Address of the Industry

Manali Express Highway, Manali, Chennai - 68.

3. Date of Survey

12.10.2022

4. Duration of Survey

12.10.2022

5. Category

8 Hours / 24 hours

6. Land use classification

Red / Orange / Green – Large / Medium / Small Industrial / Commercial / Residential / Sensitive

Meteorological Conditions

	~ 200001	Modrem Conditions		
Min	Max	Relative	Min	Max
30	32	Humidity (%)		
Partiall	y Cloudy	Rain Fall		<u>84</u>
Predominant Wind SE-NW Direction) 13.	4
	Partiall	Min Max 30 32 Partially Cloudy	Min Max Relative 30 32 Humidity (%) Partially Cloudy Rain Fall (mm)	30 32 Humidity (%) 62 Partially Cloudy Rain Fall (mm)

Ambient Air Quality Survey Results

	T		Dui Vey Ixe	COLLEGE				
Location	Direction *	Distance (m)*	Height Form GL (m)	PM 2.5				Cl ₂
On top of platform near CP Station II	NE	150	3.0	28	58	9	13	BDL
On top of platform near Propylene Oxide Filling Point	E	280	3.0		54	8	12	BDL
On top of platform near STP (Gate No 5)	SE	700	3.0		52	7	10	BDL
On top of platform near ERC Building (Gate No 3)	SW	200	3.0	21	63	10	14	BDL
On top of platform near Flare Area * With respect to major emission	NW	240	3.0		66	11	15	BDL
	On top of platform near CP Station II On top of platform near Propylene Oxide Filling Point On top of platform near STP (Gate No 5) On top of platform near ERC Building (Gate No 3) On top of platform near Flare Area	On top of platform near CP Station II On top of platform near Propylene Oxide Filling Point On top of platform near STP (Gate No 5) On top of platform near ERC Building (Gate No 3) On top of platform near Flare Area NW	Location Don top of platform near CP Station II On top of platform near Propylene Oxide Filling Point On top of platform near STP (Gate No 5) On top of platform near ERC Building (Gate No 3) On top of platform near Flare Area NW SE Too SW 240	Location Section Sect	Location Station II NE 150 3.0 28	Location Locati	Location Solution Location	

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

Deputy Chief Scientific Officer,

Deputy Chief Scientific Officer,
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Manali

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



District Environmental Laboratory, Manali

STACK MONITORING SURVEY - Report of Analysis

Report No. 81/AAQS/2022-23

Date: 28.10.2022

1. Name of the Industry

M/s. TPL (ECH),

2. Address of the Industry

Manali Express Highway, Manali, Chennai – 68

3. Date of Survey

12.10.2022

4. Type of Industry

Coal/Chemical/Sugar/Paper & Pulp/

Power plant / Textile Processing

Stack Monitoring Survey Results

SI.			ŭΩ	in)	rate		Pollutants (mg/Nm³)				
No.	Stack attached to	Fuel used	Stack .Temp	Velocity i (m/ sec)	Discharge rate In Nm³/hr	PM	SO ₂	NOx	Cl ₂		
1	Boiler 12.5 T	LNG	435	9.7	7836	2	BDL	24	-		
2	Vent Gas Scrubber	•	309	8.2	757	2	_	· -	2		

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

Deputy Chief Scientific Officer,

Deputy Chief Scientific Officer,
District Environmental Laboratory
Tamil Nadu Pollution Control Board
Manali



District Environmental Laboratory, Manali

AMBIENT/SOURCE NOISE LEVEL SURVEY - Report of Analysis

Report No. 81/ NLS/2022-23 Date: 28.10.2022 1. Name of the Industry M/s. TPL (ECH) 2. Address of the Industry Manali Express Highway, Manali, Chennai - 68 3. Date of Survey 12.10.2022 Category RLLand use Classification Industrial **Type of Survey** Ambient/Source Time of Survey Day Meteorological conditions Calm/Windy/Rainy Windy

Logging Parameters

Instrument Used	C	COD L. L. L. A. V. O.		S		
		ESVA Model SC3	10	Serial No	T243103	
Logging Interval		10 Minutes each p				
			omi	Measuring Range	50-110 dB(A)	
Weighting	" A"	Peak	6 C2	Time Weighting		
[Weighting		1 me weighting	FAST	
		weighting] .	
Sound Incidence		RANDOM	ī	Time in I		
Ĺ	_	1 1001	L	Time in hrs	14.00 – 15.00	
		'	`-			

Report of Noise Level Monitoring

Sl No		l oo (Distance (M)	Direction	Sound Level - dB (A)		
	Location	Duration (min)			\mathbf{L}_{eq}	Min	Max
1	Near CP Station II	10	150	NE	60.6	57.3	65.2
2	Near Propylene Oxide Filling Point	10	280	E	59.7	55.1	65.7
3	Near STP (Gate No.5)	10	700	SE	57.8	55.5	68.3
4	Near ERC Building (Gate No 3)	10	200	SW	64.0	57.1	70.1
5	Near Flare Area	10	240	NW	53.2	48.7	60.7

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

T. Thomasaire

Deputy Chief Scientific Officer, District Environmental Laboratory Tamil Nadu Pollution Control Board Manali



DISTRICT ENVIRONMENTAL LABORATORY - MANALI

TVOC Survey - Report of Anlaysis

Report No. 81 /TVOC/2022-23

dated 28.10.2022

1. Name of the Industry

M/s. TPL (ECH)

2. Address of the Industry

Manali Express Highway, Chennai - 68

3 Date of Survey

12.10.2022

4. Pollution Category

Red Large

TVOC - Analysis Report

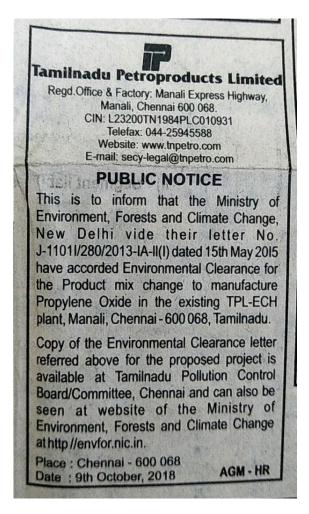
Sl.No.	Location	Direction	Distance (mts)	TVOC (µg/m³)
1	Near CP Station II	NE	150	476
2	Near Propylene Oxide Filling Point	Е	280	410
3	Near STP (Gate No.5)	SE	700	430
4	Near ERC Building (Gate No 3)	SW	200	498
5	Near Flare Area	NW	240	586

Deputy Chief Scientific Officer,

District Environmental Laboratory
Tamil Nadu Pollution Control Board
Manali

Environmental Clearance – News paper Advertisement





Makkal kural dated 10.10.2018

The Financial Express dated 10.10.2018

TPL Plant – CSR Activity





PHCC at Sadayankuppam





PHCC at Vichoor





Mobile PHCC (Dr. Mobile)

TPL Plant – CSR Activity





PHCC at Periyasekkadu







Rest Room at Govt. School, Vitchoor



Rest Room at Govt. School, Manali



Rest Room at Govt. School, Padiyanallur