IN THE HON'BLE NATIONAL GREEN TRIBUNAL, SOUTHERN ZONE BENCH, CHENNAI

ORIGINAL APPLICATION NO. 107 of 2023

IN THE MATTER OF: -

Suo Motto based on the News item published in the

New Indian Express dated 09.08.2023

"Huge Pollution risk around 8 km of NLC" **.....Applicant**

Versus

Union of India and Others **.... Respondent(s)**

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Place: Chennai

Dated:10.01.2024

Advocate for MoEF&CC

Mob. No.9444012986

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Versus

1.NLC and others **.... Respondent(s)**

Report filed on behalf of Regional Office, MoEF&CC, Chennai.

1. Background

The Hon'ble NGT(SZ) Chennai on its motion, Suo Motu based on a news item published in the New Indian Express, dated 09.08.2023, under the caption "Huge pollution risk in 8Km around NLC" and in The Times of India, Chennai Edition dated 09.08.2023 under the caption " water near NLC full of Mercury". The NGT in its order dated 28.08.2023 stated that "The MoEF&CC and the CPCB are directed to file their respective reports in this regard before the next date of hearing. The copy of the NGT order dated 28.08. In compliance with the NGT direction. Dr. E. Arockia Lenin, Scientist D has been nominated to carry out a site visit of M/s.

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Nungambakkam, Chennai - 600 006

NLC India Limited, Neyveli, and Dr. E. Arockia Lenin, Scientist D visited the site on 05.10.2023-06.10.2023.

2. Officer Nominated from Regional Office, MoEF&CC, Chennai:

1. Dr. E. Arockia Lenin, Scientist D, Regional Office, MoEF&CC, Chennai

3. Officers from NLC India Limited, Neyveli accompanied the site visit:

1. Mr. Kamal Basha, Nodal Officer, Thermal (Environment)
2. Mr. Pradeep Kumar, Assistant Chief Manager, Mines.

4. Terms of Reference (ToR) stipulated by Hon'ble NGT(SZ), Chennai:

The Hon'ble NGT in its order dated 10.10.2023 directed "The MoEF&CC and the CPCB to file their respective reports in this regard before the next date of hearing".

5. Site visit of the Projects: The site visit of this project is monitored by Dr. E. Arockia Lenin, Scientist D nominated from the Regional Office, MoEF&CC, Chennai along with officers from NLC India Limited, Neyveli on 05.10.2023-06.10.2023. During the site visit, the compliance status of conditions stipulated in the Environmental Clearance for monitoring of mercury and other parameters was observed by Dr. E. Arockia Lenin. The observations are given below.,

6. About M/s. NLC India Limited (NLCIL): M/s. NLC India Limited (NLCIL) is a Government of India Enterprise functioning under the Ministry of Coal. NLCIL started its mining operation of Mine I in the year 1956 after the finding of lignite deposits in Neyveli, Tamil Nadu. NLC has three open-cast lignite mining. i.e., Mine I, Mine IA & Mine II. The total capacity of mining is 32.5 million Tonnes per Annum (MTPA). NLC India Limited also has four thermal power stations with a total installed capacity of 3390MW. NLC has a total area of 200 sqkm. NLC has obtained Environmental Clearance from MoEF&CC Consent to Establish (CTE) and Consent to Operate (CTO) from the Tamil Nadu Pollution Control Board for the operation of mining and TPS.

7. Mine-I of M/s. NLC: Mine I was started in the year 1957. The total lease area of Mine – I is 3635.4 Ha for mining of lignite of 10.5 MTPA capacity. This unit has obtained Environmental Clearance from the Ministry of Environment and Forest vide letter no. J-

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11015/11/88-IA dated 06.03.1989, and subsequently, the unit has obtained environmental clearance for expansion from MoEF for 10.5 MTPA capacity with a mine lease area from 3174. Ha to 3635.4 Ha vide letter no. J-11015/01/2012-IA-II(M) dated 02.09.2015. The unit has obtained the latest Consent to Operate (CTO) by TNPCB valid up to 31.03.2027. Periodical ambient air quality is monitored for five locations in a core zone by an in-house laboratory and TNPCB and in the buffer zone, ambient air quality is monitored in thirteen locations by a third-party NABL laboratory periodically. Heavy metals in the air such as Hg, As, Ni, Cd, and Cr in the air are being monitored by third-party NABL laboratory and IIT. The reports show that all the monitored parameters for heavy metals are within the prescribed standards (Annexure 1A). Effluents are generated from the aquifer, seepage, and rainwater. As per the CTO, 65480 KLD of mine seepage water from Mine 1 is permitted to discharge for irrigation. It was informed that the mine seepage water along with rainwater is partially discharged to a canal and partially to an artificially created pond for utilization in M/s. TPS-I Expansion and M/s New Neyeli Thermal Power Plant. ETP is provided to treat wastewater generated from the workshop for Mine I. Water Quality of seepage water is being monitored by the project authority. During the inspection, Mine I was in operation.

8. Mine-1A: The total project area of Mine – 1 A is 2005.8 Ha. The mine was commissioned in 2001 with mining of 3.0 MTPA of lignite. Mining is expanded to 7.0 MTPA . This unit has obtained Environmental Clearance from MoEFCC vide letter no. J-11015/02/2012-IA-II (M) dated 02.09.2015 & J-11015/02/2012-IA (. The Mine – 1A has a valid CTO from TNPCB up to 31.03.2026. Mine IA seepage and rainwater of 1,05,777.3 KLD is permitted to discharge. It was informed that 59975.0 KLD is utilized in M/s TPS-I Expansion and M/s New Neyveli Thermal Power Plant. Further, 13090.0 KLD is planned to supply Chennai Metro Water supply to the public during the summer season. The remaining 32551.6 KLD of water from mine seepage & rainwater is discharged to the canal for irrigation. Periodical ambient air quality is monitored for five locations in a core zone by an in-house laboratory (CARD) and TNPCB and in the buffer zone, ambient air quality is monitored in thirteen locations by a third-party NABL laboratory. Parameters SO2, NO, PM10, PM2.5, CO, Lead, Ozone, Ammonia, Benzene, Benzo(a)pyrene, Arsenic, and Nickel have been monitored by a third-party NABL accredited laboratory. Heavy metals such as Hg, As, Ni, Cd, and Cr in the air in the core zone are being monitored by an in-house laboratory and SWC Water (Anneuxure-1A-Page no. 8 & 12). As

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per the report submitted by them, the monitored parameters are confirming standards. ETP is dismantled for Mine IA. ETP of Mine I am used to treating wastewater generated from the workshop of Mine-1A. Water Quality of seepage water is being monitored by an In-house NABL-approved laboratory (CARD) and TNPCB (Annexure-1A-Page no. 13). During the site visit, the unit was in operation.

9. Mine-II: Mine II has obtained Environmental Clearance from MoEF&CC for 15 MTPA of open-cast lignite mining vide letter no. J-11015/30/2001-IA. II (M) dated 24.02.2002 and CTO from TNPCB which is valid up to 31.03.2027. Mine II seepage & rainwater of 78475 KLD are permitted to discharge for irrigation. About 33.69 MCM per annum seepage/rainwater collected is used by M/s TPS-II & M/s TPS-II Expansion. The remaining 78475 KLD of water from mine seepage and rainwater is discharged outside for irrigation. STP is provided to treat the domestic Effluents. ETP is provided to treat the wastewater generated from the workshop for Mine II. Periodical ambient air quality is monitored for five locations in a core zone by an in-house laboratory and TNPCB and in the buffer zone, ambient air quality is monitored in thirteen locations by a third-party NABL laboratory periodically. Heavy metals such as Hg, As, Ni, Cd, and Cr in the air are being monitored by third-party NABL laboratories and IIT. Water quality of seepage water is being monitored by an In-house NABL-approved laboratory (CARD) (Annexure-1A, page no.13). During the site visit, the unit was in operation.

10. M/s Neyveli Thermal Power Station I: M/s Neyveli Thermal Power Station I started its operation in the year 1960. The unit obtained CTO in the year 1984 and subsequently renewed up to 31.03.2020. The unit had 6 x 50MW and 3 x 100MW capacity. The unit was decommissioned in the year 2020, after considering the conditions of the machinery. During the inspection, TPS-I was not in operation.

11. M/s Neyveli Thermal Power Station-I Expansion: This Unit has obtained environmental clearance from the MoEF&CC for the Expansion of Unit-I in vide letter no. J-13011/31/87-IA II 29.06.1990 for 2 x 210MW. This unit obtained CTO from TNPCB in 2001 and subsequently renewed, now valid up to 31.03.2023. As per CTO, the treated effluent of 9000KLD is allowed to discharge for irrigation. Ambient air quality is monitored at thirteen locations in and around Neyveli. The main water source of the plant is from Mine-I/1A discharge water which is

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collected in the artificial lake located within the NLC campus. The unit has having common stack along with ESP for the boilers. The Unit is provided with a continuous online stack monitoring system for parameters of SPM, SO2, and NOx which is connected to TNPCB servers (Annexure-1B). A bag filter is provided for the lignite crusher house. Dust extraction systems and sprinklers are provided in the lignite conveyor to reduce dust emission. ETP is provided to treat the effluents. Installation of FGD is in progress. During the site visit, the unit in operation

12. M/s Neyveli Thermal Power Station II: The Unit obtained Environmental clearance from MoEFCC in 1977 (Stage I) & 1983 (State II) having a capacity of 7x210 MW. The unit has obtained CTO from TNPCB which is valid up to 31.03.2027. This unit discharged 89040 KLD trade effluent discharged outside the unit for irrigation after treatment. Ambient air quality is monitored at thirteen locations in and around Neyveli. The unit has provided a continuous system for parameters of SPM, SO2, and NOx which are connected to the TNPCB server. ETP is provided to treat the effluents. Treated effluents are discharged into nearby channels for irrigation purposes. The unit has provided an online effluent monitoring system for pH, Temperature, and TSS in the treated trade effluent disposal line and is connected with TNPCB servers. This unit discharges emissions from three boilers through a stack of 170 m each and four builders with a stack of 220m each. ESP is provided for boilers. Dust extraction and sprinklers are provided for a lignite conveyor handling system to suppress dust. A bag filter is provided for the fly ash silo. The unit is provided with a continuous online stack monitoring system for parameters of SPM, SO2, and NOx (Annexure 1B). The online system is connected to the TNPCB server. Fly ash from the unit is being utilized by cement and brick units. Installation of FGD is in progress. During the site visit, the unit was in operation.

13. Neyveli Thermal Power Station – II Expansion: The unit has obtained Environmental Clearance from MoEF&CC vide letter no J-13011/8/2002-IA.11(T) dated 09.01.2003 for 2x250 MW. The unit obtained CTO from TNPCB in 2005, subsequently, it was renewed up to 31.03. 2027. The unit consented to discharge 21440 KLD of treated effluent for irrigation. The unit has consented to discharge emissions from two boilers of 850TPH through a Stack of 220m. The main water source of the plant is from Mine-II discharge water and it is collected in the artificial lake located in the NLC campus. The unit has STP and ETP. The Unit is

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provided with an Online effluent quality system for pH, Temperature, and TSS for ETP. The online monitoring system is connected to TNPCB servers. The unit has provided a common stack along with ESP for boilers. The Unit has provided Circulating Fluidized Bed Combustion (CFBC) boilers with limestone feeders to control SO2 Emission. The unit has provided an online stock emission monitoring system for parameters of SPM, SO2, and NOx which are connected to TNPCB servers (Annexure-1B). Fly ash is being used by cement and brick units. Bottom ash is used for Mine-II backfilling. During the site visit, the unit in operation

14. M/s. Neyveli New Thermal Power Station (NNTPS): This unit has obtained Environmental clearance from MoEF&CC for 2x500 MW vide letter no. J-13012/250/2007-IA.II (T) dated 21.10.2010. The has obtained CTO from TNPCB which is valid up to 31.03.2024. The unit consented to discharge 35 KLD of sewage and 15600 KLD of treated effluent for irrigation. The main water source of the plant is from Mine-I/1A discharge water and it is collected in the artificial lake located within the NLC campus. The unit has two boilers of 1600 TPH and consented to discharge emissions through a 275m stack. The unit has provided an effluent treatment plant and the treated trade effluent is discharged into a nearby channel for irrigation purposes. The unit has provided an online effluent quality monitoring system for pH, Temperature, and TSS. The online system is connected to TNPCB servers. The unit has provided a common stack along with ESP for the boilers. The unit has provided a continuous online stack monitoring system for parameters SPM, SO2, and NOx (Annexure-1B). The online system is connected to TNPCB servers. Installation of FGD is in progress. The unit has provided a bag filter for the lignite crusher house. The unit has provided four dust extraction systems and sprinklers for the lignite conveyor belt to suppress dust. The unit is disposing of the fly ash to cement industries and brick manufacturers. Bottom ash is utilized for backfilling of Mine-I. During the inspection, the NNTPS was operational.

SUMMARY

- Three lignite mines (Mine 1, Mine 1A, and Mine II) and Four lignite-based thermal power plants are operated by NLC India Limited at Neyveli, Cuddalore District, Tamil Nadu.
- It is submitted that the combustion of coals, in particular lignite, is one of the main sources of anthropogenic emission of mercury. Mercury compounds which occur in coals/lignite,

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are decomposed at high temperatures in the boiler furnace and mercury is released from the coal/lignite as elemental mercury.

- The mercury compounds and elemental mercury (Hg0) are removed partially during the flow of the flue gas through purification systems such as electrostatic precipitators (ESPs) or flue gas desulfurization (FGD) installations. The mercury that is not retained by those systems is released into the atmosphere mainly in the form of Hg0, which is insoluble in water and may be transported over long distances. Hg0 can be converted into oxidized mercury (Hg2+) in the atmosphere. In the form of Hg2+ mercury may reach the water reservoirs with rain. In water bodies, mercury can be transformed into methylmercury, which is the form of most concern and which is a threat to living species.
- ESP and FGD are to capture the mercury and other particulate matter released into the atmospheric air. It is observed that ESPs are provided for all stacks of thermal power plants. FGD installation in TPS 1 Expansion TPS II, NNTPS Units are in progress. TPS II Expansion unit has an inbuilt FGD mechanism.
- The ground level concentration of SO2, NOx, PM2.5 & PM10 and other parameters are being monitored in the impact zone by TNPCB and Project authority by NABL accredited In-House laboratory (Centre for Applied Research & Development (CARD)) (Annexure-1B, Page 49-71). The monitoring locations were set up in consultation with TNPCB. As per the report, the monitored data confirms the prescribed standards (page no. 49. CEMS (Continuous Emission Monitoring System) is installed at the project which transmits the data to the TNPCB server.
- The ash from ESP and other sources is extracted and is being stored in 4 numbers of 1000 Cu.M each capacity silos in dry form. The fly ash is being supplied to Cement Plants and Brick Manufacturers in dry form. Mercury and other heavy metals in the bottom ash were monitored periodically by the project authority (Annexure 1B, page no 49).
- The bag filters are provided to collect the dust emission and keep the area clean from lignite dust. Bunkers are provided with bag filters of a capacity of 20,000 Am3/hr to extract the dust. Monthly groundwater level monitoring manually from dug wells (121 Nos) and piezometers (171 Nos) are being carried out regularly. Groundwater quality is being monitored for four times in a year.

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- For the mines, Periodic ambient air quality is monitored for five locations in a core zone by an in-house laboratory (CARD) and TNPCB, and in the buffer zone, ambient air quality is monitored in thirteen locations by a third-party NABL laboratory. Parameters SO2, NO, PM10, PM2.5, CO, Lead, Ozone, Ammonia, Benzene, Benzo(a)pyrene, Arsenic, and Nickel have been monitored by a third-party NABL accredited laboratory. Heavy metals such as Hg, As, Ni, Cd, and Cr in the air in the core zone are being monitored by the in-house laboratory (Annexure-1A, Page no.24-40). ETP and STP are provided to treat the effluents. The quality of treated water is being monitored by TNPCB periodically.

Therefore, it is humbly submitted that the Project authority namely M/s. NLC India Ltd., operating three mines and four thermal units at Neyveli, Cuddalore District has been implementing the conditions stipulated in the environmental clearance granted by MoEF&CC. Project authority is monitoring ambient air quality, groundwater quality, stack emissions, ETP & STP treated sample quality, and concentration of mercury and other heavy metals. In addition, the Concentration of mercury levels in lignite samples, fly ash, bottom ash, groundwater, surface water, and in ambient air are being monitored by In-House Laboratory, third Party NABL approved laboratory, and TNPCB periodically. The monitoring data for air, water, noise levels and heavy metals are being submitted by project authority to the regional office along with six monthly compliance reports (Annexure 1A & 1B). As per the monitored report, monitored parameters for ambient air, groundwater, and stack emission for heavy metals are confirmed to standards. It is humbly submitted that, concerning the monitoring parameters for the concentration of heavy metals such as Mercury, Cadmium & Selenium, and other parameters for this matter, the Hon'ble NGT(SZ) may consider the report of CPCB, as CPCB is one of organization of MoEF&CC.

The above report based on the field visit undertaken by the undersigned on behalf of MoEF&CC is submitted humbly for the perusal of Hon'ble NGT (SZ), Chennai.

Dated at Chennai on this 10th day of January,2024.

Counsel for the 2nd Respondent

Respondent -2

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Annexure-X

Mine I (Core Zone) Ambient air-Heavy metal analysis report-					
S.No.	Date of sample collection	Test parameter	Crawler Yard	BHD site office	CPCB std.for Ambient Air
1	24.02.2023	Mercury as Hg (ng/m3)	0.0064	0.0070	NA
2		As ng/m3	0.65	0.20	6 ng/m3 (Annual)
3		Cr ng/m3	0.0322	0.0218	NA
4		Ni ng/m3	1.6	2.2	20 ng/m3 (Annual)
5		Cd ng/m3	BDL	BDL	NA

The above data is based on analytical report submitted by project authority, as part of monitoring report of air, water and noise levels. These data analysed by In-house Laboratory (CARD) by PA.

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TAMIL NADU POLLUTION CONTROL BOARD

1. Name of the Industry : NLC India Limited, **Mine-I,**
2. Address of the Industry : Administrative Office (Mine I & IA), Block – 26, Neyveli – 607 803.
3. Date of Survey : 23.02.2023
4. Duration of Survey : 24 Hours.
5. Category : Red/Large.
6. Land use classification : Industrial

Meteorological Conditions.

Ambient Temperature (°C)	Min	Max	Relative Humidity(%)	Min	Max
	28	34		54	91
Weather condition	Clear sky		Rain Fall(mm)	Nil	
Predominant Wind Direction	NE - SW		Mean Wind Speed (Km/hr.)	9.3	

Fugitive Emission Source Monitoring Results

Sl. No.	Location	Direction	Pollutants Concentration (µg/m^3)			
			PM_{10}	$PM_{2.5}$	SO_2	NO_2
			Mines Standard for 24 hrs **300**	National Standard for 24 hrs **60**	Mines Standard for 24 hrs **120**	Mines Standard for 24 hrs **120**
1	Lignite Storage Yard	NE	250	32	16	20
2	Lignite Transfer Point – 1	E	254	-	20	26
3	Lignite Transfer Point – 2	SE	258	-	24	30
4	Lignite Transfer Point – 3	SW	264	56	32	38
5	Lignite Transfer Point – 4	W	238	-	16	20
6	Lorry Movement on Road	NW	230	-	14	15

Dy.CSO

Assistant Director (Lab),
TNPCB/AEL/CUDDALORE

Annexure II

एनएलसी इंडिया लिमिटेड
अनुप्रयुक्त अनुसंधान एवं विकास केंद्र(कार्ड)
नेयवेली - 607807
NLC INDIA LIMITED
CENTRE FOR APPLIED RESEARCH AND DEVELOPMENT (CARD)
NEYVELI – 607 807

कार्ड /संदर्भ सं. एवं दिनांक/ CARD /Ref No & Date : Reg.No :11080/23-24 Dt: 27 Sep 2023

परीक्षण प्रतिवेदन/ TEST REPORT

ग्राहक / Customer : M/s.MANAGER/GEO/MINE-IA	रिपोर्ट सं./दिनांक / Report No / Date	TR/1371/23-24 Dt-06 Nov 2023
	उपभोक्ता सं./ दिनांक / Customer Ref. / Date	AS , 12 TNPCB DT.:27/09/2023 D
	नमूने का विवरण/Description of the Sample	SWC WATER
	नमूनों की संख्या/ No. of Samples	1
	परीक्षण की तिथि / Date of Testing	27 Sep 2023 - 06 Nov 2023
	नमूने की प्रक्रिया तथा के द्वारा किया गया / Sampling Procedures & Done by	BY CUSTOMER
	कोई विशिष्ट जानकारी / Any Specific Information	

नमूने का ब्यौरा **Sample particulars : AS 12**

क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	pH @ 25 C (--)	IS: 3025 Part No.11	6.85	5.5-9.0
2	Colour in Hazen (--)	--	-	-
3	Temperature (--)	--	30	40
4	Particle size of total suspended soilds		passes 850 microns IS seive	Shall pass 850 micron IS
5	Total solids* (mg/l)	IS 3025 Part No.15	252	-
6	Dissolved solids (mg/l)	IS 3025 Part No.16	236	2100
7	Suspended solids (mg/l)	IS 3025 Part No.17	16	100
8	Dissolved oxygen (mg/l)		6.65	-
9	Biological Oxygen Demand for 3 days @ 27 C (mg/l)		17	30
10	Chemical Oxygen Demand (mg/l)	IS 3025 Part No.58	54.1	250
11	Oil & Grease (mg/l)		1	10
12	Total nitrogen as N (mg/l)		0.56	100
13	Ammoniacal nitrogen as N (mg/l)	-	nil	50
14	Organic Nitrogen as N (mg/l)		0.56	-

नोट : यह परिणाम परीक्षण के लिए प्रस्तुत विशेष नमूने से संबंधित है। प्रयोगशाला की सहमति के बिना, जब तक पूर्ण रूप से रिपोर्ट नहीं की जाएगी, पुनः प्रस्तुत नहीं किया जाएगा। नमूना विवरण ग्राहक द्वारा दिया गया है। जब तक अन्यथा न कहा जाए, नमूने हमारे द्वारा नहीं लिए गए हैं।

Note : This result relates to the particular sample tested. The results apply to the sample as received. Report shall not be reproduced, unless in full, without consent of the laboratory. Sample description is given by the Customer. Samples are not drawn by us unless otherwise stated.

रिपोर्ट सं./दिनांक / Report No / Date TR/1371/23-24 Dt-06 Nov 2023

15	Free Ammonia as NH3 (mg/l)		nil	5.0
16	Phosphates as P (mg/l)	4110 B APHA 21ST EDITION	2.32	5.0
17	Phenolic compounds (mg/l)	--	nil	5.0
18	Sulphides as S (mg/l)		0.30	1.0
19	Sulphates as SO_4 (mg/l)	IS-3025 Part No.24/ 4110 B APHA 21ST EDITION	68.3	1000
20	Total residual chlorine (mg/l)		nil	1.00
21	Flourides (mg/l)	4110 B APHA 21ST EDITION	0.32	2.00
22	Chlorides as Cl (mg/l)	IS-3025 Part No.32/ 4110 B APHA 21ST EDITION	36	1000
23	Calcium as Ca (mg/l)	IS-3025 Part No.40/ 3120 B APHA 21ST EDITION	30.7	-
24	Magnesium as Mg (mg/l)	3500-Mg B APHA 21ST EDITION	13.7	-
25	Potassium as K (mg/l)	--	1.87	-
26	Sodium as Na (mg/l)	IS-3025 Part No.45/ 3120 B APHA 21ST EDITION	38.4	-
27	Percent sodium as Na (mg/l)	--	38.1	-
28	Boron as B (mg/l)	3120 B APHA 21ST EDITION	0.039	2.00
29	Barium as Ba (mg/l)	3120 B APHA 21ST EDITION	-	-
30	Cadmium as Cd (mg/l)	3120 B APHA 21ST EDITION	BDL	2.00

नोट : यह परिणाम परीक्षण के लिए प्रस्तुत विशेष नमूने से संबंधित है। प्रयोगशाला की सहमति के बिना, जब तक पूर्ण रूप से रिपोर्ट नहीं की जाएगी, पुन: प्रस्तुत नहीं किया जाएगा। नमूना विवरण ग्राहक द्वारा दिया गया है। जब तक अन्यथा न कहा जाए, नमूने हमारे द्वारा नहीं लिए गए हैं।

Note : This result relates to the particular sample tested. The results apply to the sample as received. Report shall not be reproduced, unless in full, without consent of the laboratory. Sample description is given by the Customer. Samples are not drawn by us unless otherwise stated

रिपोर्ट सं./दिनांक / Report No / Date TR/1371/23-24 Dt-06 Nov 2023

31	Lead as Pb (mg/l)	3120 B APHA 21ST EDITION	0.005	0.10
32	Hexavalent chromium as Cr (mg/l)		0.001	0.01
33	Mercury as Hg (mg/l)	3120B APHA 21st Edition	0.002	0.01
34	Nickel as Ni (mg/l)	3120 B APHA 21ST EDITION	0.008	3.00
35	Selenium as Se (mg/l)	3120 B APHA 21ST EDITION	0.001	0.05
36	Silver Ag (mg/l)	3120 B APHA 21ST EDITION	BDL	-
37	Zinc as Zn (mg/l)	3120 B APHA 21ST EDITION	0.008	1

प्रयोगशाला द्वारा कोई विशेष उल्लेख, यदि हो तो / Special mention if any by the Laboratory	ACCEPTABLE RANGE AS PER TNPCB NORMS

परीक्षण परिणाम का अंत/ End of the test result

1कृते एनएलसी इंडिया लिमिटेड / For NLC INDIA LIMITED

A. Francis Xavier
ACM/Sci/CARD

S.Prabakaran
CM/Sci/CARD

द्वारा सत्यापित किया गया / Verified By

अधिकृत हस्ताक्षरकर्ता / Authorized Signatory

नोट : यह परिणाम परीक्षण के लिए प्रस्तुत विशेष नमूने से संबंधित है। प्रयोगशाला की सहमति के बिना, जब तक पूर्ण रूप से रिपोर्ट नहीं की जाएगी, पुन: प्रस्तुत नहीं किया जाएगा। नमूना विवरण ग्राहक द्वारा दिया गया है। जब तक अन्यथा न कहा जाए, नमूने हमारे द्वारा नहीं लिए गए हैं।

Note : This result relates to the particular sample tested. The results apply to the sample as received. Report shall not be reproduced, unless in full, without consent of the laboratory. Sample description is given by the Customer. Samples are not drawn by us unless otherwise stated

Annexure IIA

TAMIL NADU POLLUTION CONTROL BOARD

REPORT OF ANALYSIS

ROA NO 08/638 Dt 30.08.2023

Name & Address of the sender		District Environmental Engineer, Tamilnadu Pollution Control Board, Cuddalore.		Date of Analysis	16.08.2023
Nature & Number of samples.		1 Number of Trade Effluent sample	Sample Quantity	Sealed and Fastened in 2.5 L polythene container	
Date & Time of sample collection		16.08.2023 at 13:00 Hrs	Date & Time of sample receipt at the lab	16.08.2023 at 17:30 Hrs	
Point of Collection	1.	Seepage Water		Page No	1 of 1

Sl. No	DEE Code no		ICP 08/14	
	Lab Code no		638	Tested as per APHA23rd edition 2017
	Parameters	Unit		
1.	pH @ 25° C	No.	3.13	APHA 23rdEdn 2017 – 4500 H^+ B
2.	Total Suspended Solids @ 105 C	mg/L	10	APHA 23rdEdn2017 – 2540D
3.	Total Dissolved Solids @ 180°C	mg/L	690	APHA 23rdEdn 2017 - 2540 C
4.	Chloride as Cl	mg/L	255	APHA 23rdEdn 2017- 4500 - Cl^- B
5.	Sulphate as SO_4	mg/L	105	APHA 23rdEdn 2017-4500- SO_4^{2-} E
6.	BOD @ 27°C 3 days	mg/L	06	IS 3025 (Part 44) - 1993 (RA : 2009)
7.	COD	mg/L	32	IS 3025 (Part 58) – 2006 (RA 2017)
8.	Percent Sodium	%	8.99	In House Method : AEL-CUD/SOP/27 Issue No.01/Date. 18.10.2013

Note: <MDL indicates Less than minimum detectable limit.
Statement to the effect that the results relate only to the items tested.

31/8

Assistant Director (Lab),
TNPCB/AEL/CUDDALORE.

LB

Annexure III

MONITORING OF WATER TABLE- (Spefic condition (xlv)

Sl.No	Well No.	Locations	DTW at MP May-2023	DTW at MP Aug-2023
1	D-01	CUDDALORE	4.30	5.45
2	D-03	SATTIPATTU	15.20	Dry
3	D-04	NADUVEERAPATTU	8.90	10.40
4	D-05	MARIAMMANKOVIL	3.30	3.50
5	D-06	RAGHAVENDRA KOVIL	11.65	11.15
6	D-07	VADAKUTHU	11.00	10.90
7	D-08	KULLANCHAVADI	3.20	3.80
8	D-09	RAMANATHANKUPPAM	1.00	1.10
9	D-10	VIRDHACHALAM	5.00	1.65
10	D-11	VADALUR SABAI	5.70	4.70
11	D-12A	VADALUR SANDAI	4.80	4.40
12	D-13	KARUNKUZHI	2.70	2.05
13	D-14	MEENASHIPETTAI	9.00	9.75
14	D-15	VILLIYANALLUR	2.20	2.90
15	D-16A	VEPANKURICHI	1.45	1.15
16	D-17A	T.PALAYAM	1.75	2.15
17	D-18A	KUNAMKURICHI	1.30	1.40
18	D-19	SRIMUSHNAM	2.15	2.30
19	D-20	KAVARAPALAYAM	5.80	5.90
20	D-21	KUZHAI	2.55	3.00
21	D-22	KONDASAMUDRAM	1.10	1.60
22	D-23	SOLATHARAM	1.40	1.70
23	D-24	CHIDAMBARAM	7.60	8.70
24	D-25	JAYAMKONDAM	2.65	3.10
25	D-26	GANGAI KONDACHOLAPURAM	3.80	7.70
26	D-28	PUDUKOORAPETTAI	10.85	11.80
27	D-29	VEERASINGAKUPPAM	6.30	6.35
28	D-30	CHATHRAM X ROAD	8.40	8.40
29	D-31	SILAMBINATHANPETTAI	6.65	8.05

MP* - Measuring point

DTW* - Depth to water (in meters)

Annexure IIIA

ANALYTICAL RESULTS OF WATER SAMPLES (DUG WELLS) CUDDALORE & ARIYALUR DISTRICT, TAMIL NADU
(Pre Monsoon June-2023)

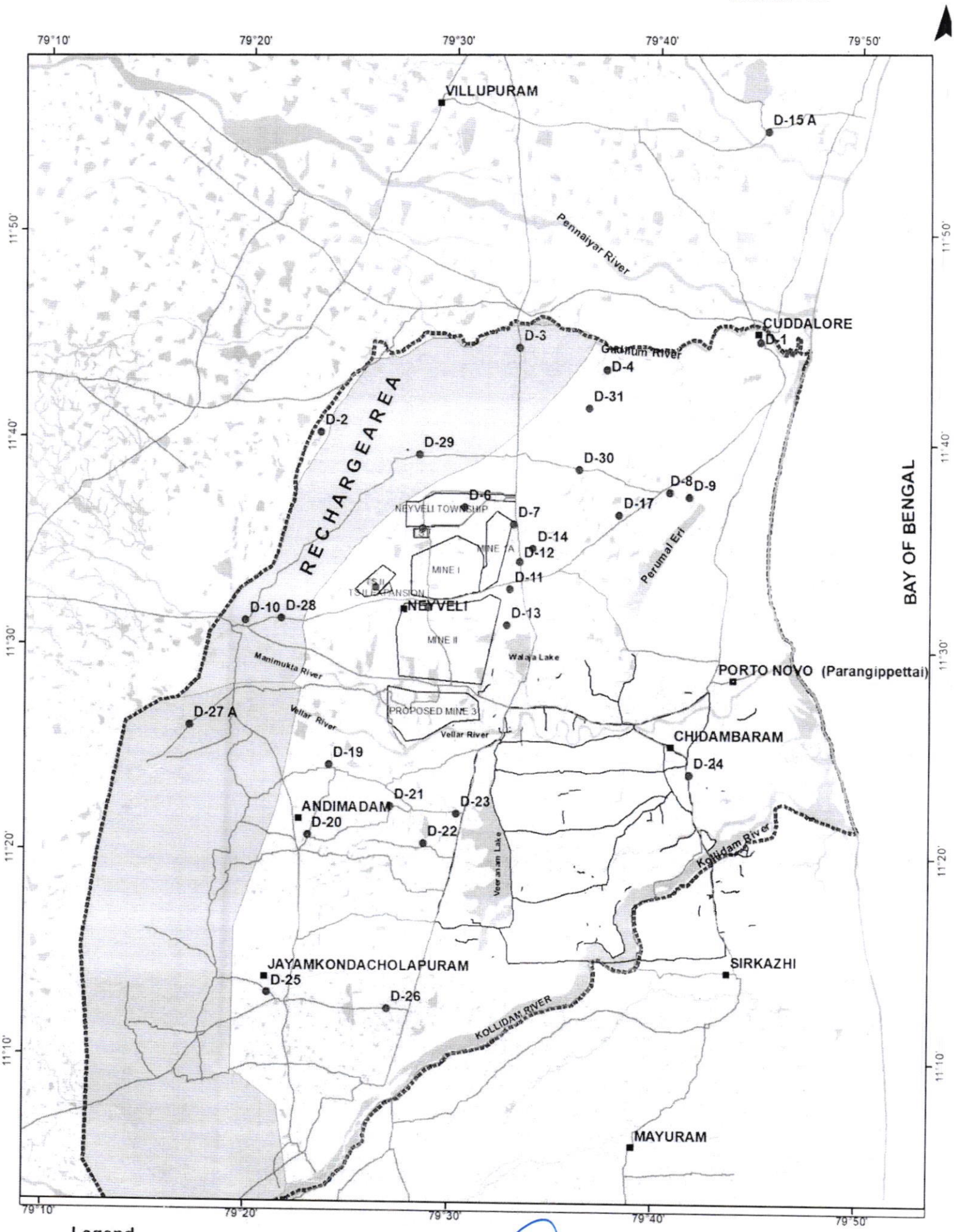
Sl. No.	Parameters	D-01	D-03	D-04	D-06	D-07	D-08	D-09	D-10	D-11	D-12A	D-13	D-14	D-15	BIS Permisible limit
1	Calcium as Ca	86	31	17	55	63	27	55	86	71	63	36	43	39	200
2	Magnesium as Mg	60	5	10	7	12	7	12	28	17	14	19	26	14	50
3	Sodium as Na	131	26	29	37	13	52	50	253	41	60	152	90	87	-
4	Iron & Aluminium oxide as R_2O_3	6	4.4	6.4	6.4	5.6	4.8	5.2	6.4	6	6.4	6	5.6	6.4	
5	Iron as Fe	0.1	0.8	0.4	0.6	0.3	1.1	0.4	0.31	0.8	0.7	0.4	0.7	0.7	1.0
6	Silica as SiO_2	48	49.2	48	49	49	47.2	49	49	47	49	49.6	50	48.4	
7	Chloride as Cl^-	187	60	45	30	22	89	83	266	59	69	181	148	99	1000
8	Sulphate as SO_4^{--}	121	40	19	42	4	16	30	241	188	141	170	110	50	400
9	Free CO_2	0	11	11	50	52.8	38	12	26	7.2	27	0	16	46	
10	Total Solids	815	209	185	296	272	274	333	1158	420	721	663	487	401	2000
11	Dissolved Solids	798	197	172	281	256	256	316	1144	404	704	648	469	384	
12	Suspended Solids	17	12	13	15	16	18	17	14	16	17	15	18	17	
13	Total Alkalinity	392	43	65	174	218	87	153	436	74	109	119	87	185	
14	Bicarbonate Alkalinity as $CaCO_3$	327	43	65	174	218	87	153	436	74	109	102	87	185	600
15	Carbonate Alkalinity as $CaCO_3$	65	0	0	0	0	0	0	0	0	0	17	0	0	
16	Hydroxide Alkalinity as $CaCO_3$	0	0	0	0	0	0	0	0	0	0	0	0	0	
17	Total Hardness as $CaCO_3$	461	97	82	165	206	98	186	470	245	216	166	216	157	600
18	Temp.Hardness as $CaCO_3$	392	43	65	165	206	87	153	436	74	109	119	87	157	
19	Permanent Hardness as $CaCO_3$	68	54	17	0	0	11	34	34	171	107	47	128	0	
20	Conductivity in micromhos @ 25^0 C	1330	329	286	468	427	427	526	1908	674	704	1080	782	640	
21	pH @ room temperature	8.43	7.9	6.6	7.3	8.07	6.6	7.64	8.17	7.83	7.44	8.43	6.6	7.5	6.5-8.5
22	Temperature	30	30	30	30	30	30	30	31	30	30	30	30	30	
23	Dissolved Oxygen	6.32	6.12	6.08	6.32	6.08	6.08	6.28	6.24	6.32	6.21	6.08	6.14	6.18	
24	Flouride as F	0.22	0.21	0.2	0.21	0.2	0.22	0.21	0.18	0.21	0.19	0.22	0.18	0.18	1.5
25	Nitrate as NO_3	3.04	2.06	17.75	4	0.92	5	13.15	21.96	1.95	16	4	21.48	1.67	100
26	Copper as Cu	0.002	BDL	0.002	0.001	0.001	BDL	0.001	0.003	0.001	0.002	BDL	0.003	BDL	1.5
27	Manganese as Mn	0.038	0.071	0.064	0.063	0.064	0.068	0.064	0.052	0.068	0.062	0.072	0.068	0.072	0.3
28	Zinc as Zn	0.051	0.064	0.06	0.054	0.063	0.07	0.064	0.056	0.064	0.065	0.06	0.06	0.068	15
29	Pottassium as K	18.23	1.41	0.83	0.35	0.61	4.3	0.65	32.38	1.59	3.23	32.64	1	11.43	
30	Depth to water Level (in m)	5.45	Dry	10.40	11.15	10.90	3.80	1.10	5.00	4.70	4.40	2.05	9.75	2.90	

ANALYTICAL RESULTS OF WATER SAMPLES (DUG WELLS) CUDDALORE & ARIYALUR DISTRICT, TAMIL NADU
(Pre Monsoon June-2023)

Sl. No.	Parameters	D-17	D-18A	D-19	D-20	D-21	D-22	D-24	D-25	D-26	D-28	D-29	D-30	D-31	BIS Permisible limit
1	Calcium as Ca	55	74	120	9	33	43.12	55	71	82	67	17	10	8	200
2	Magnesium as Mg	14	29	24	3	10	23.8	7	21	31	24	8	2	2	50
3	Sodium as Na	54	106	63	17	29	58.7	37	79	59	101	28	11	9	-
4	Iron & Aluminium oxide as R_2O_3	5.2	8.8	6.8	4	4.8	5.2	6.4	5.6	5.6	6	4.8	4.4	4	
5	Iron as Fe	0.5	0.8	0.2	0.3	0.15	0.1	0.6	0.2	0.1	0.2	0.35	0.4	0.5	1.0
6	Silica as SiO_2	48	50	46	42	46	45.2	49	47	56	46	48	47	46	
7	Chloride as Cl^-	79	99	123	18	41	88.7	30	71	113	94	34	24	17	1000
8	Sulphate as SO_4^{--}	40	220	59	25	19	30.4	42	84	54	149	34	5	9	400
9	Free CO_2	16	10	82	21	23	67	50	0	0	8.4	6	10	12.4	
10	Total Solids	351	662	624	86	239	379	296	479	509	559	189	95	87	2000
11	Dissolved Solids	334	645	606	78	223	364	281	461	492	546	171	87	78	
12	Suspended Solids	17	17	18	-8	16	15	158	18	17	13	18	8	9	
13	Total Alkalinity	174	196	360	28	122	187	174	270	262	218	61	20	17	
14	Bicarbonate Alkalinity as $CaCO_3$	174	196	360	28	122	187	174	235	262	218	61	20	17	600
15	Carbonate Alkalinity as $CaCO_3$	0	0	0	0	0	0	0	35	0	0	0	0	0	
16	Hydroxide Alkalinity as $CaCO_3$	0	0	0	0	0	0	0	0	0	0	0	0	0	
17	Total Hardness as $CaCO_3$	196	304	421	35	122	206	165	265	333	265	74	33	27	600
18	Temp.Hardness as $CaCO_3$	174	196	360	28	121	187	165	265	262	218	61	20	17	
19	Permanent Hardness as $CaCO_3$	22	108	62	7	1	19	0	0	72	47	13	14	10	
20	Conductivity in micromhos @ 25^0 C	556	1076	1010	130	372	607	468	768	820	910	286	145	130	
21	pH @ room temperature	7.56	7.8	7.41	7.05	8.17	7.42	-	8.5	8.33	8.01	7.59	6.5	6.6	6.5-8.5
22	Temperature	30	30	30	30	30	30	30	31	30	31	31	30	30	
23	Dissolved Oxygen	6.08	6.12	6.08	6.12	6.22	6.24	6.31	6.2	6.14	6.08	6.28	6.21	6.02	
24	Flouride as F	0.19	0.18	0.19	0.2	0.18	0.21	0.21	0.19	0.21	0.22	0.21	0.21	0.19	1.5
25	Nitrate as NO_3	16	1.43	4.47	14.1	5.81	6.31	4	4.31	22.1	10.7	19.25	13.15	16	100
26	Copper as Cu	0.002	0.003	0.002	0.002	0.003	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.002	1.5
27	Manganese as Mn	0.061	0.071	0.064	0.062	0.07	0.068	0.054	0.064	0.062	0.06	0.048	0.062	0.068	0.3
28	Zinc as Zn	0.068	0.061	0.064	0.063	0.058	0.054	0.058	0.09	0.06	0.054	0.052	0.062	0.064	15
29	Pottassium as K	8	1.9	16.44	17.37	6.07	2.47	0.35	7.18	17	7.5	8	0.56	3.23	
30	Depth to water Level (in m)	1.40	2.30	5.90	3.00	1.60	1.70	8.70	3.10	7.70	11.80	6.35	8.40	8.05	

MAP SHOWING THE DUG WELLS IN THE PART OF NEYVELI BASIN, CUDDDALORE DISTRICT, TAMILNADU

Annexure IIIB



Annexure IIIC

Monitoring of Piezometer well Spefic condition (xlv)

SL-No	Piezometer Well ID	Piezometer well Location	DTW at MP May-2023	DTW at MP Aug-2023
1	CGWB-17A	T_Cholankurichi-OW-I	68.90	74.60
2	CGWB-17B	T_Cholankurichi-OW-II	24.20	24.10
3	CGWB-24A	Elaiyur- Kandiyankollai - S	67.40	68.20
4	CGWB-23A	Gangaikonda cholapuram EW	Box Fixed	43.68
5	CGWB-23B	Gangaikonda cholapuram-OW-I	Box Fixed	29.34
6	CGWB-23C	Gangaikonda cholapuram-OW-II	Box Fixed	31.82
7	CGWB-33A	Irrupu-N	42.90	43.60
8	CGWB-33B	Irrupu-S	53.55	54.40
9	CGWB-36A	Karaikurichi-Exploratory	5.75	6.00
10	CGWB-36B	Karaikurichi-M	5.60	5.90
11	CGWB-36C	Karaikurichi-W	5.65	5.85
12	CGWB-36D	Karaikurichi-House	5.78	6.00
13	CGWB-34A	Kattiyankuppam-N-EW-2	Box Fixed	69.93
14	CGWB-34B	Kattiyankuppam-M-EW-1	Box Fixed	73.75
15	CGWB-34-C	Kattiyankuppam-S-Ew	Box Fixed	67.00
16	CGWB-22B	Kavarapalayam-Ow-I	Box Fixed	97.32
17	CGWB-22C	Kavarapalayam-Ow-II	Box Fixed	84.15
18	CGWB-22A	Kavarapalayam EW	88.20	88.60
19	CGWB-29A	Keeranur-EW	42.25	42.90
20	CGWB-29B	Keeranur-OW-I	52.30	51.90
21	CGWB-29C	Keeranur-OW-II	Box Fixed	43.45
22	CGWB-49A	Kirumambakkam- East	5.25	5.45
23	CGWB-49B	Kirumambakkam-West	7.30	7.70
24	CGWB-44	Kothandaramapuram	Box Fixed	37.50
25	CGWB-21B	Mahimaipuram-Ex	68.82	70.40
26	CGWB-21C	Mahimaipuram-OW-II	Box Fixed	41.52
27	CGWB-1A	Mangalm-EW	22.70	23.75
28	CGWB-1D	Mangalm-Pz-IV	27.55	25.35
29	CGWB-1E	Mangalm-Pz-III	25.50	Dry
30	CGWB-1F	Mangalm-Pz-II	18.10	18.25
31	CGWB-1G	Mangalm-Pz-I	18.40	18.40
32	CGWB-18A	Manjakuppam Middle	18.65	19.15
33	CGWB-18B	Manjakuppam west	18.60	19.00
34	CGWB-18C	Manjakuppam east	14.20	14.60
35	CGWB-31A	Marungur-East	Box Fixed	Box Fixed
36	CGWB-31B	Marungur-West	Box Fixed	Box Fixed

SL-No	Piezometer Well ID	Piezometer well Location	DTW at MP May-2023	DTW at MP Aug-2023
37	CGWB-9A	Maruthur pumpwell	Box Fixed	40.90
38	CGWB-9B	Maruthur-Piezometer-II	Box Fixed	8.75
39	CGWB-9E	Maruthur-Piezometer-IV	51.60	51.70
40	CGWB-11	Melkudirrupu	80.85	84.55
41	CGWB	Melur-UC2	69.90	70.00
42	CGWB	Melur-LC-3	63.70	64.35
43	CGWB	Melur-SC	48.40	49.10
44	CGWB-4	Nellikuppam	24.20	24.55
45	CGWB-25A	Olaiyur-II	Box Fixed	55.11
46	CGWB-25B	Olaiyur-I	Box Fixed	55.60
47	CGWB-25C	Olaiyur-EW	Box Fixed	55.45
48	CGWB-40A	Pacharapalayam-E	Box Fixed	74.80
49	CGWB-40B	Pacharapalayam-W	Box Fixed	74.73
50	CGWB-16A	Padanilai OBS	40.20	40.20
51	CGWB-16B	Padanilai-Pw	60.65	63.55
52	CGWB-27A	Palayamkottai-Ow-I M	71.26	72.50
53	CGWB27B	Palayamkottai-EW	Box Fixed	72.22
54	CGWB-27C	Palayamkottai-Ow-II	Box Fixed	43.80
55	CGWB-15A	Parangipettai-West	25.50	Dry
56	CGWB-32A	Parathur-N	52.80	54.50
57	CGWB-32B	Parathur-M	Box Fixed	51.40
58	CGWB-32C	Parathur-S	Box Fixed	47.00
59	CGWB-47A	Periyakarukai-OW-I	Locked	Locked
60	CGWB-47B	Periyakarukai-OW-II	Locked	Locked
61	CGWB-35A	Ramapuram-N	Box Fixed	41.55
62	CGWB-35B	Ramapuram-S	Box Fixed	45.77
63	CGWB-30A	Semakottai-N	29.65	38.75
64	CGWB-30B	Semakottai-S	40.70	43.30
65	CGWB-10A	Sethiyathope-E	Box Fixed	45.62
66	CGWB-10B	Sethiyathope-W	Box Fixed	58.82
67	CGWB-43A	Silambinathanpettai-North	Box Fixed	64.60
68	CGWB-43B	Silambinathanpettai-South	Box Fixed	63.28
69	CGWB-12B	Srimushnam-East	Box Fixed	46.40
70	CGWB-20A	Thirtanagiri-North	41.60	43.85
71	CGWB-20B	Thirtanagiri-Middle	26.75	29.85
72	CGWB-37	Thiyalkunampattinam	Box Fixed	35.85
73	CGWB-28A	Vadalur Uzhavar sandai-E	Box Fixed	79.56
74	CGWB-41A	Vanathirayapurm- East	Box Fixed	86.14

SL-No	Piezometer Well ID	Piezometer well Location	DTW at MP May-2023	DTW at MP Aug-2023
75	CGWB-41B	Vanathirayapurm-West	Box Fixed	23.75
76	CGWB-45	Vegakollai	67.78	69.65
77	CGWB-19	Vengatanpettai	61.55	70.00
78	CGWB-13	Virdhachalam	51.80	52.90
79	SAL-8C	Mettupalayam	22.30	24.70
80	SAL-9	Ramanathankuppam	46.60	48.45
81	SAL-11A	Kattusagipuliyur	Box Fixed	56.75
82	SAL-11B	Kattusagipuliyur	Box Fixed	64.83
83	SAL-12	Rajakuppam	26.95	30.00
84	SAL-15	Villiyanur	20.80	21.20
85	SAL-16	Thukkanambakkam	28.50	29.00
86	SAL-20	Thondamanatham	32.00	31.60
87	SAL-23	T.Palayam	62.55	63.90
88	SAL-24	Thiyalkunampatinam	47.45	49.25
89	SAL-25	Trichopuram	20.40	21.00
90	SAL-26A	Periyapattu-I	21.40	24.30
91	SAL-26B	Periyapattu-II	4.65	5.10
92	SAL-27A	S.Pudur	42.70	43.35
93	SAL-28	Poochimedu	14.60	15.40
94	SAL-29	Cuddalore-Agri	19.55	20.65
95	SAL-30	Kodiyalam	36.60	39.70
96	SAL-31	Chidambaram	41.40	43.50
97	SAL-32A	Pichavaram-N	5.80	6.95
98	SAL-32B	Pichavaram-S	4.50	5.40
99	SV-31A	Ambujavallipettai	59.70	58.05
100	NRO-2A	Sattipattu	52.40	53.30
101	NRO-7A	Veeraredikuppam	10.67	106.40
102	NRO-9A	TV.Puthur	28.40	31.35
103	NRO/11A	Reddipalayam	76.50	71.80
104	NRO-15A	Solatharam	25.00	25.55
105	NRO-18	Manakollai	29.65	29.55
106	NRO-19	Thoppaiyakulam-Confined	44.90	45.40
107	NRO-19A	Thoppaiyakulam-SC	32.90	33.55
108	NRO-21	Silambur	78.70	79.10
109	NRO-22	Periyapurangani	87.20	87.35
110	MI-31B	TS-II-Notrh east- Inside	97.55	97.65
111	MI-35A	Vanathirayapuram	93.80	94.00
112	RO/13A	Block-7	108.55	108.65

SL-No	Piezometer Well ID	Piezometer well Location	DTW at MP May-2023	DTW at MP Aug-2023
113	Block-24	Near 8 Road	94.35	94.65
114	Block-16	Horticulture	90.45	90.70
115	HS-II/6	Alichikudi	30.00	21.00
116	HS-II/7	Irrupu	117.95	116.65
117	HS-II/8	Kotteri	52.60	52.80
118	HS-III/1	Kammapuram	65.20	50.70
119	HS-III/5	Sottavanam	51.25	50.70
120	CST-2	Maligampttu	77.10	77.50
121	CST-4	Block-14	111.10	111.75
122	Xo-34A	Block-3	100.65	100.60
123	JK-133	Kallathur(South)	67.60	67.90
124	JK-136	Pudukudi	-	61.40
125	JHS-1	Irumbulikurichi	51.95	52.65
126	JHS-2	Udayarpalayam	76.35	77.00
127	JHS-3	Melur LC pump well	50.90	51.40
128	JHS-5	Vizhapallam	Mud	63.99
129	JHS-6	Kallathur	68.00	69.75
130	JHS-8	Senguntapuram	87.10	88.70
131	JHS-9	Illamangalam	81.00	81.60
132	JHS-10	Vilangudi	46.85	47.00
133	PWD-2	Komathanmedu-S	5.50	Box Fixed
134	PWD-1	Komathanmedu-N	21.55	21.35
135	PWD-8	Murugampakkam-W	16.30	16.70
136	PWD-8A	Murugampakkam-E	3.70	5.20
137	PWD-10	Mangalm-west	18.65	18.55
138	PWD-11	Mangalm-East	25.10	26.20
139	OB-I/50	Devangudi	7.20	7.90
140	Combined	Devangudi	16.10	17.50
141	PZ-I/125	Perumal Eri	40.00	41.90
142	OBSE-3	Mine-II	72.90	74.30
143	OBSE-1	Mine-II	69.50	71.35
144	OBSE-9	Mine-II	76.15	76.70

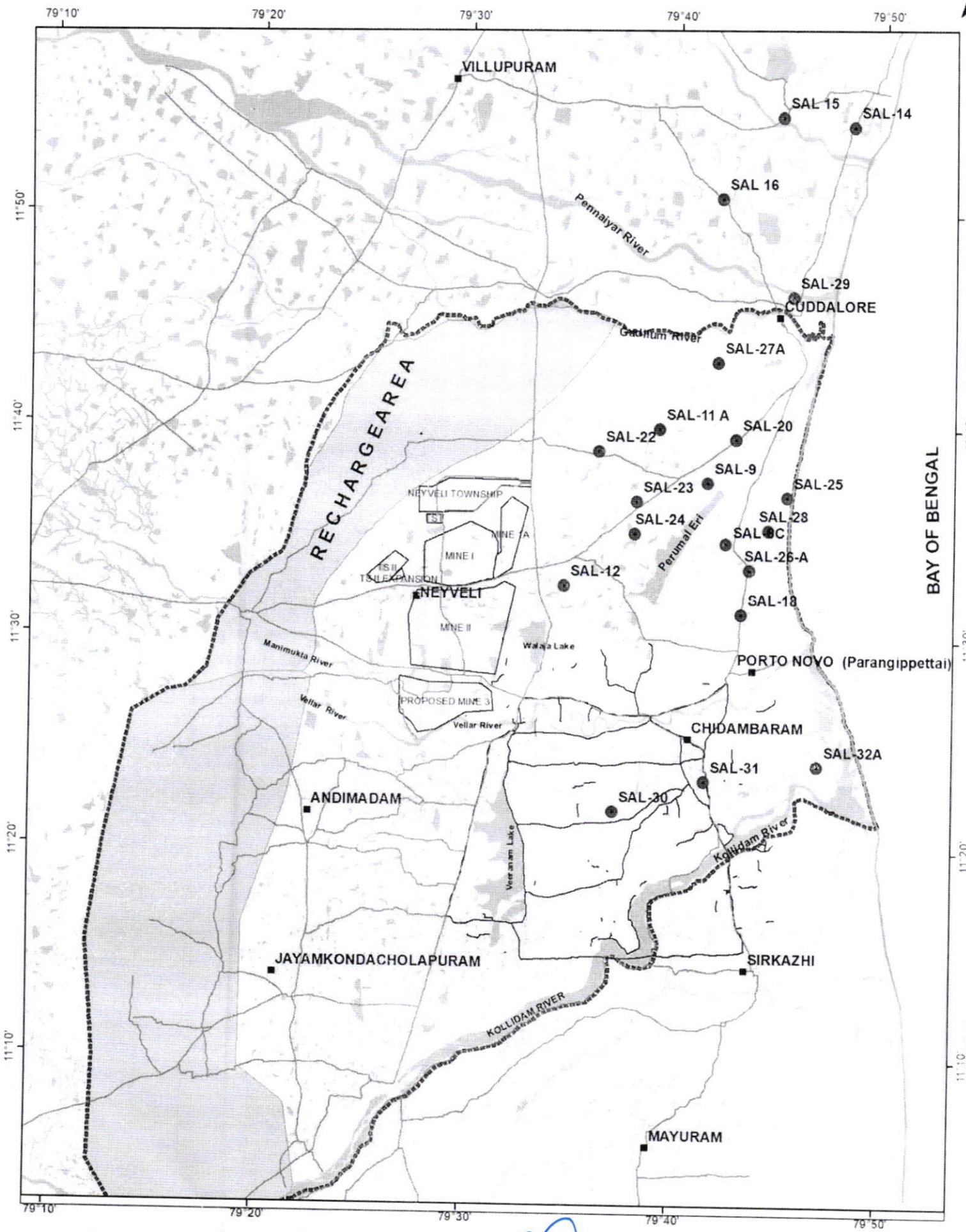
MP* - Measuring Point

DTW*-Depth to water (in meters)

ANALYTICAL RESULTS OF WATER SAMPLES (TUBE WELLS) COLLECTED FROM COASTAL AREA, CUDDALORE DISTRICT, TAMIL NADU (Pre Monsoon June-2023)

Sl.No.	Parameters	Metu palayam	Raja Kuppam	Villiyanur	Thukanam bakkam	Thondama natham	Thaiyal kunam pattinam	Periya pattu shallow	S.Pudur	Poochi medu	Kodi yalam	Chidambar am school	BIS-Per misible limit
		SAL-8C	SAL-12	Sal-15	SAL-16	SAL-20	SAL-24	SAL-26B	SAL-27A	SAL-28	SAL-30	SAL-31	
1	Calcium as Ca	78	22	86	35	24	44	44	58	162	10	8	200
2	Magnesium as Mg	14	4	26	29	10	9	34	11	20	2	2	50
3	Sodium as Na	60	18	192	200	67	56	191	22	240	11	9	-
4	Iron & Aluminium oxide as R_2O_3	5.2	4.4	6	5.6	4.8	5.6	6.4	4.8	6.8	4.4	4	
5	Iron as Fe	0.6	0.2	0.4	0.2	0.6	0.4	0.8	0.2	0.7	0.4	0.5	1.0
6	Silica as SiO_2	44	41	48	49	46	50	45	47.6	48	47	46	
7	Chloride as Cl^-	197	13	197	123	42	43	151	70	554	24	17	1000
8	Sulphate as SO_4^{--}	60	28	97	86	10	45	212	50	180	5	9	400
9	Free CO_2	27	14	0	0	0	13.6	0	0	7.2	10	12.4	
10	Total Solids	483	142	830	712	257	343	816	313	1227	95	87	2000
11	Dissolved Solids	483	127	816	699	241	325	797	299	1208	87	78	
12	Suspended Solids	15	15	14	13	16	18	19	14	19	8	9	
13	Total Alkalinity	64	96	382	392	145	183	256	98	77	20	17	
14	Bicarbonate Alkalinity as $CaCO_3$	64	96	312	305	119	183	170	72	77	20	17	600
15	Carbonate Alkalinity as $CaCO_3$	0	0	70	87	26	0	85	26	0	0	0	
16	Hydroxide Alkalinity as $CaCO_3$	0	0	0	0	0	0	0	0	0	0	0	
17	Total Hardness as $CaCO_3$	255	71	323	206	101	145	253	190	485	33	27	600
18	Temp.Hardness as $CaCO_3$	64	71	323	206	101	145	253	98	77	20	17	
19	Permanent Hardness as $CaCO_3$	191	0	0	0	0	0	0	92	408	14	10	
20	Conductivity in micromhos @ 25^0 C	780	211	1360	1166	402	531	1329	499	2014	145	130	
21	pH @ room temperature	6.85	7	7.5	8.3	8.5	7.49	8.57	8.4	7.8	-	-	6.5-8.5
22	Temperature	30	30	30	30	31	30	31	30	31	30	30	
23	Dissolved Oxygen	6.12	6.06	6.21	6.12	6.22	6.12	6.2	6.14	6.14	6.12	6.04	
24	Flouride as F	0.21	0.21	0.19	0.18	0.19	0.2	0.18	0.18	0.22	0.21	0.19	1.5
25	Nitrate as NO_3	1.95	5.14	5.54	5.43	7	2.23	5.84	5.84	4	13.15	16	100
26	Copper as Cu	BDL	0.002	0.002	0.001	0.002	0.003	0.002	BDL	0.001	0.001	0.002	1.5
27	Manganese as Mn	0.072	0.06	0.068	0.064	0.064	0.062	0.062	0.07	0.068	0.064	0.063	0.3
28	Zinc as Zn	0.063	0.052	0.056	0.058	0.051	0.062	0.054	0.062	0.058	0.061	0.062	15
29	Pottassium as K	4.82	18	8.32	4.58	4.62	6.07	5.8	2.28	12.36	0.56	3.23	
30	Depth drilled (in m)	300	300	300	300.5	250	260	60	245	300	180	171	
31	Depth to water Level (in m)	24.70	30.00	21.20	29.00	31.60	49.25	5.10	43.35	15.40	39.70	43.50	

MAP SHOWING THE LOCATION OF TUBE WELLS IN COASTAL AREA,, CUDDDALORE DISTRICT, TAMILNADU



Legend

SAL Borehole

SCALE

Kilometers

0 3 6 12 18

23

NLC INDIA LTD., NEYVELI

REGIONAL GEOLOGY DIVISION

TUBE WELLS FOR SALINITY MONITORIN

एनएलसी इंडिया लिमिटेड
अनुप्रयुक्त अनुसंधान एवं विकास केंद्र(कार्ड)
नेयवेली - 607807
NLC INDIA LIMITED
CENTRE FOR APPLIED RESEARCH AND DEVELOPMENT (CARD)
NEYVELI – 607 807

कार्ड /संदर्भ सं. एवं दिनांक/ CARD /Ref No & Date : Reg.No :11107/23-24 Dt: 30 Sep 2023

परीक्षण प्रतिवेदन/ TEST REPORT

ग्राहक / Customer : M/s.CGM Mine IA	रिपोर्ट सं./दिनांक / Report No / Date	TR/1228/23-24 Dt-17 Oct 2023
	उपभोक्ता सं./ दिनांक / Customer Ref. / Date	AAQM at corezone MineIA Dt-30 Se
	नमूने का विवरण/Description of the Sample	AAQM
	नमूनों की संख्या/ No. of Samples	10
	परीक्षण की तिथि / Date of Testing	30 Sep 2023 - 17 Oct 2023
	नमूने की प्रक्रिया तथा के द्वारा किया गया / Sampling Procedures & Done by	
	कोई विशिष्ट जानकारी / Any Specific Information	

नमूने का ब्यौरा **Sample particulars : Afforestation** **Sample Dated :09.09.2023**

क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	AAQM (--)	IS5182		
	PM10 (µg/m³)		75.24	100
	Sulphur Dioxide (µg/m³)		2.14	80
	Nitrogen Oxides (µg/m³)		14.88	80
2	SPM in corezone Mines (ug/m3)	IS 5182	151.67	600

नमूने का ब्यौरा **Sample particulars : Track shifting** **Sample Dated :09.09.2023**

क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	AAQM (--)	IS5182		
	PM10 (µg/m³)		82.47	100
	Sulphur Dioxide (µg/m³)		3.07	80
	Nitrogen Oxides (µg/m³)		22.33	80
2	SPM in corezone Mines (ug/m3)	IS 5182	198.62	600

नमूने का ब्यौरा **Sample particulars : Vanathirayapuram** **Sample Dated :09.09.2023**

क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	AAQM (--)	IS5182		
	PM10 (µg/m³)		73.18	100
	Sulphur Dioxide (µg/m³)		2.85	80
	Nitrogen Oxides (µg/m³)		20.78	80
2	SPM in corezone Mines (ug/m3)	IS 5182	158.36	600

नमूने का ब्यौरा **Sample particulars : Parvathipuram** **Sample Dated :09.09.2023**

नोट : यह परिणाम परीक्षण के लिए प्रस्तुत विशेष नमूने से संबंधित है। प्रयोगशाला की सहमति के बिना, जब तक पूर्ण रूप से रिपोर्ट नहीं की जाएगी, पुन: प्रस्तुत नहीं किया जाएगा। नमूना विवरण ग्राहक द्वारा दिया गया है। जब तक अन्यथा न कहा जाए, नमूने हमारे द्वारा नहीं लिए गए हैं।

Note : This result relates to the particular sample tested. The results apply to the sample as received. Report shall not be reproduced, unless in full, without consent of the laboratory. Sample description is given by the Customer. Samples are not drawn by us unless otherwise stated.

एनएलसी इंडिया लिमिटेड
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NLC INDIA LIMITED
CENTRE FOR APPLIED RESEARCH AND DEVELOPMENT (CARD)
NEYVELI – 607 807

रिपोर्ट सं./दिनांक / Report No / Date TR/1228/23-24 Dt-17 Oct 2023

क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	AAQM (--)	IS5182		
	PM10 (µg/m³)		74.86	100
	Sulphur Dioxide (µg/m³)		3.64	80
	Nitrogen Oxides (µg/m³)		16.45	80
2	SPM in corezone Mines (ug/m3)	IS 5182	144.74	600

नमूने का ब्यौरा **Sample particulars : Thenkuthu** **Sample Dated :09.09.2023**

क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	AAQM (--)	IS5182		
	PM10 (µg/m³)		65.38	100
	Sulphur Dioxide (µg/m³)		2.04	80
	Nitrogen Oxides (µg/m³)		16.03	80
2	SPM in corezone Mines (ug/m3)	IS 5182	151.66	600

नमूने का ब्यौरा **Sample particulars : Afforestation** **Sample Dated :27.09.2023**

क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	AAQM (--)	IS5182		
	PM10 (µg/m³)		63.22	100
	Sulphur Dioxide (µg/m³)		2.68	80
	Nitrogen Oxides (µg/m³)		11.98	80
2	PM 2.5 60 (ug/m3)	IS 5182(Part 24)	28.90	

नमूने का ब्यौरा **Sample particulars : Track shifting** **Sample Dated :28.09.2023**

क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	AAQM (--)	IS5182		
	PM10 (µg/m³)		90.80	100
	Sulphur Dioxide (µg/m³)		3.16	80
	Nitrogen Oxides (µg/m³)		12.37	80
2	PM 2.5 60 (ug/m3)	IS 5182(Part 24)	25.25	

नमूने का ब्यौरा **Sample particulars : Vanathirayapuram** **Sample Dated :28.09.2023**

क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	AAQM (--)	IS5182		

नोट : यह परिणाम परीक्षण के लिए प्रस्तुत विशेष नमूने से संबंधित है। प्रयोगशाला की सहमति के बिना, जब तक पूर्ण रूप से रिपोर्ट नहीं की जाएगी, पुन: प्रस्तुत नहीं किया जाएगा। नमूना विवरण ग्राहक द्वारा दिया गया है। जब तक अन्यथा न कहा जाए, नमूने हमारे द्वारा नहीं लिए गए हैं।

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	PM10 (µg/m³)		86.0	100
	Sulphur Dioxide (µg/m³)		2.64	80
	Nitrogen Oxides (µg/m³)		19.0	80
2	PM 2.5 60 (ug/m3)	IS 5182(Part 24)	26.85	

नमूने का ब्यौरा **Sample particulars : Parvathipuram** **Sample Dated :28.09.2023**

क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	AAQM (--)	IS5182		
	PM10 (µg/m³)		79.74	100
	Sulphur Dioxide (µg/m³)		2.75	80
	Nitrogen Oxides (µg/m³)		22.18	80
2	PM 2.5 60 (ug/m3)	IS 5182(Part 24)	26.10	

नमूने का ब्यौरा **Sample particulars : Thenkuthu** **Sample Dated :27.09.2023**

क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	AAQM (--)	IS5182		
	PM10 (µg/m³)		85.83	100
	Sulphur Dioxide (µg/m³)		3.27	80
	Nitrogen Oxides (µg/m³)		14.44	80
2	PM 2.5 60 (ug/m3)	IS 5182(Part 24)	24.01	

प्रयोगशाला द्वारा कोई विशेष उल्लेख, यदि हो तो / Special mention if any by the Laboratory	

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नोट : यह परिणाम परीक्षण के लिए प्रस्तुत विशेष नमूने से संबंधित है। प्रयोगशाला की सहमति के बिना, जब तक पूर्ण रूप से रिपोर्ट नहीं की जाएगी, पुन: प्रस्तुत नहीं किया जाएगा। नमूना विवरण ग्राहक द्वारा दिया गया है। जब तक अन्यथा न कहा जाए, नमूने हमारे द्वारा नहीं लिए गए हैं।

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रिपोर्ट सं./दिनांक / Report No / Date TR/1228/23-24 Dt-17 Oct 2023

----------परीक्षण परिणाम का अंत/ End of the test result----------

1कृते एनएलसी इंडिया लिमिटेड / For NLC INDIA LIMITED

Ambati Basava Rao
DM/Sci./CARD

K.Elangovan
ACM/Sci/CARD

द्वारा सत्यापित किया गया / Verified By

अधिकृत हस्ताक्षरकर्ता / Authorized Signatory

नोट : यह परिणाम परीक्षण के लिए प्रस्तुत विशेष नमूने से संबंधित है। प्रयोगशाला की सहमति के बिना, जब तक पूर्ण रूप से रिपोर्ट नहीं की जाएगी, पुन: प्रस्तुत नहीं किया जाएगा। नमूना विवरण ग्राहक द्वारा दिया गया है। जब तक अन्यथा न कहा जाए, नमूने हमारे द्वारा नहीं लिए गए हैं।

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Hubert Enviro Care Systems (P) Ltd.
18, 92nd Street, Ashok Nagar,
Chennai - 600 083.
Ph: 42985555 Fax : 42985500
E-mail : labsales@hecs.in

TC-5786

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

TEST REPORT

Name of the Client : **M/s. NLC India Ltd.,**

Report No. : **HECSL/AA/018/280823**
Report Date : **05/09/2023**

Address of the Client : **Neyveli**

Sample Description : **Ambient Air Quality**
Sampling Location : **Vadalur**
Sample Drawn By : **Hubert Enviro Care Systems (P) Ltd**
Sampling/received Date : **26/08/2023 -28/08/2023**
Analysis Commenced On : **28/08/2023** Completed On :**05/09/2023**

ULR No. : **TC578623000012701F**

S.No.	Parameters	Units	Results Obtained	Test Method	NAAQ Standards : 2009	
1	Sulphur Dioxide	µg/m³	12.54	CPCB guide lines Volume 1: 2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	µg/m³	22.66	IS 5182 (Part - 6) : 2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than 10 µm	µg/m³	50.75	IS 5182 (Part - 23) : 2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than 2.5 µm	µg/m³	24.87	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)	IS 5182 (Part - 22) : 2004	1 (24 hours)	0.5 (Annual)
7	Ozone	µg/m³	12.40	IS 5182 (Part - 9) : 1974	180 (1 hours)	100 (8 hours)
8	Ammonia	µg/m³	7.36	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/AA/SOP/019 : 2016	6 (Annual)	6 (Annual)
12	Nickel	ng/m³	BLQ(LOQ 10)	HECS/AA/SOP/009 : 2016	20 (Annual)	20 (Annual)

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.

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

End of Report

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TC-5786

Laboratory Services Division
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FSSAI Notified Laboratory
ISO 9001, 14001 & 45001 Certified.

TEST REPORT

Name of the Client : M/s. NLC India Ltd.,
Address of the Client : Neyveli

Report No. : HECSL/AA/019/280823
Report Date : 05/09/2023

Sample Description : Ambient Air Quality
Sampling Location : Vadakuthu
Sample Drawn By : Hubert Enviro Care Systems (P) Ltd
Sampling/received Date : 26/08/2023 -28/08/2023
Analysis Commenced On : 28/08/2023
Completed On : 05/09/2023

ULR No. : TC578623000012702F

S.No.	Parameters	Units	Results Obtained	Test Method	NAAQ Standards : 2009	
1	Sulphur Dioxide	µg/m³	10.78	CPCB guide lines Volume 1: 2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	µg/m³	20.66	IS 5182 (Part - 6) : 2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than 10 µm	µg/m³	51.43	IS 5182 (Part - 23) : 2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than 2.5 µm	µg/m³	23.97	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)	IS 5182 (Part - 22) : 2004	1 (24 hours)	0.5 (Annual)
7	Ozone	µg/m³	10.65	IS 5182 (Part - 9) : 1974	180 (1 hours)	100 (8 hours)
8	Ammonia	µg/m³	6.89	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/AA/SOP/019 : 2016	6 (Annual)	6 (Annual)
12	Nickel	ng/m³	BLQ(LOQ 10)	HECS/AA/SOP/009 : 2016	20 (Annual)	20 (Annual)

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.

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

End of Report

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TEST REPORT

Name of the Client : **M/s. NLC India Ltd.,**

Address of the Client : **Neyveli**

Report No. : **HECSL/AA/20/280823**
Report Date : **05/09/2023**

Sample Description : **Ambient Air Quality**
Sampling Location : **Block-8**
Sample Drawn By : **Hubert Enviro Care Systems (P) Ltd**
Sampling/received Date : **26/08/2023 -28/08/2023**
Analysis Commenced On : **28/08/2023**

Completed On :**05/09/2023**

ULR No. : TC578623000012703F

S.No.	Parameters	Units	Results Obtained	Test Method	NAAQ Standards : 2009	
1	Sulphur Dioxide	µg/m³	11.43	CPCB guide lines Volume I: 2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	µg/m³	22.56	IS 5182 (Part - 6) : 2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than 10 µm	µg/m³	50.48	IS 5182 (Part - 23) : 2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than 2.5 µm	µg/m³	22.95	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)	IS 5182 (Part - 22) : 2004	1 (24 hours)	0.5 (Annual)
7	Ozone	µg/m³	12.04	IS 5182 (Part - 9) : 1974	180 (1 hours)	100 (8 hours)
8	Ammonia	µg/m³	6.52	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/AA/SOP/019 : 2016	6 (Annual)	6 (Annual)
12	Nickel	ng/m³	BLQ(LOQ 10)	HECS/AA/SOP/009 : 2016	20 (Annual)	20 (Annual)

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.

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

End of Report

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TEST REPORT

Name of the Client : M/s. NLC India Ltd.,
Address of the Client : Neyveli

Report No. : HECSL/AA/21/280823
Report Date : 05/09/2023

Sample Description : Ambient Air Quality
Sampling Location : Block-6
Sample Drawn By : Hubert Enviro Care Systems (P) Ltd
Sampling/received Date : 26/08/2023 -28/08/2023
Analysis Commenced On : 28/08/2023

ULR No. : TC578623000012704F

Completed On :05/09/2023

S.No.	Parameters	Units	Results Obtained	Test Method	NAAQ Standards : 2009	
1	Sulphur Dioxide	µg/m³	12.66	CPCB guide lines Volume 1: 2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	µg/m³	20.43	IS 5182 (Part - 6) : 2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than 10 µm	µg/m³	49.85	IS 5182 (Part - 23) : 2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than 2.5 µm	µg/m³	23.41	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)	IS 5182 (Part - 22) : 2004	1 (24 hours)	0.5 (Annual)
7	Ozone	µg/m³	10.45	IS 5182 (Part - 9) : 1974	180 (1 hours)	100 (8 hours)
8	Ammonia	µg/m³	7.53	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/AA/SOP/019 : 2016	6 (Annual)	6 (Annual)
12	Nickel	ng/m³	BLQ(LOQ 10)	HECS/AA/SOP/009 : 2016	20 (Annual)	20 (Annual)

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.

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

End of Report

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TEST REPORT

Name of the Client : **M/s. NLC India Ltd.,**

Report No. : **HECSL/AA/22/280823**
Report Date : **05/09/2023**

Address of the Client : **Neyveli**

Sample Description : **Ambient Air Quality**
Sampling Location : **Block-29**
Sample Drawn By : **Hubert Enviro Care Systems (P) Ltd**
Sampling/received Date : **26/08/2023 -28/08/2023**
Analysis Commenced On : **28/08/2023**

Completed On : **05/09/2023**

ULR No. : **TC578623000012705F**

S.No.	Parameters	Units	Results Obtained	Test Method	NAAQ Standards : 2009	
1	Sulphur Dioxide	µg/m³	13.43	CPCB guide lines Volume 1: 2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	µg/m³	22.87	IS 5182 (Part - 6) : 2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than 10 µm	µg/m³	51.76	IS 5182 (Part - 23) : 2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than 2.5 µm	µg/m³	24.20	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)	IS 5182 (Part - 22) : 2004	1 (24 hours)	0.5 (Annual)
7	Ozone	µg/m³	12.98	IS 5182 (Part - 9) : 1974	180 (1 hours)	100 (8 hours)
8	Ammonia	µg/m³	7.54	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/AA/SOP/019 : 2016	6 (Annual)	6 (Annual)
12	Nickel	ng/m³	BLQ(LOQ 10)	HECS/AA/SOP/009 : 2016	20 (Annual)	20 (Annual)

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.**

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

End of Report

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TEST REPORT

Name of the Client : **M/s. NLC India Ltd.,**

Address of the Client : **Neyveli**

Report No. : **HECSL/AA/023/280823**
Report Date : **05/09/2023**

Sample Description : **Ambient Air Quality**
Sampling Location : **Periyakurichi**
Sample Drawn By : **Hubert Enviro Care Systems (P) Ltd**
Sampling/received Date : **26/08/2023 -28/08/2023**
Analysis Commenced On : **28/08/2023**

Completed On : **05/09/2023**

ULR No. : **TC578623000012706F**

S.No.	Parameters	Units	Results Obtained	Test Method	NAAQ Standards : 2009	
1	Sulphur Dioxide	µg/m³	12.79	CPCB guide lines Volume 1: 2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	µg/m³	21.86	IS 5182 (Part - 6) : 2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than 10 µm	µg/m³	52.95	IS 5182 (Part - 23) : 2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than 2.5 µm	µg/m³	24.78	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)	IS 5182 (Part - 22) : 2004	1 (24 hours)	0.5 (Annual)
7	Ozone	µg/m³	10.92	IS 5182 (Part - 9) : 1974	180 (1 hours)	100 (8 hours)
8	Ammonia	µg/m³	6.99	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/AA/SOP/019 : 2016	6 (Annual)	6 (Annual)
12	Nickel	ng/m³	BLQ(LOQ 10)	HECS/AA/SOP/009 : 2016	20 (Annual)	20 (Annual)

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.

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

End of Report

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TEST REPORT

Name of the Client : **M/s. NLC India Ltd.,**

Report No. : **HECSL/AA/024/280823**
Report Date : **05/09/2023**

Address of the Client : **Neyveli**

Sample Description : **Ambient Air Quality**
Sampling Location : **Vadaku Vellore**
Sample Drawn By : **Hubert Enviro Care Systems (P) Ltd**
Sampling/received Date : **27/08/2023 -28/08/2023**
Analysis Commenced On : **28/08/2023**

Completed On :**05/09/2023**

ULR No. : **TC578623000012707F**

S.No.	Parameters	Units	Results Obtained	Test Method	NAAQ Standards : 2009	
1	Sulphur Dioxide	µg/m³	13.08	CPCB guide lines Volume 1: 2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	µg/m³	24.92	IS 5182 (Part - 6) : 2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than 10 µm	µg/m³	51.75	IS 5182 (Part - 23) : 2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than 2.5 µm	µg/m³	24.48	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)	IS 5182 (Part - 22) : 2004	1 (24 hours)	0.5 (Annual)
7	Ozone	µg/m³	11.57	IS 5182 (Part - 9) : 1974	180 (1 hours)	100 (8 hours)
8	Ammonia	µg/m³	7.91	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/AA/SOP/019 : 2016	6 (Annual)	6 (Annual)
12	Nickel	ng/m³	BLQ(LOQ 10)	HECS/AA/SOP/009 : 2016	20 (Annual)	20 (Annual)

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.

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

End of Report

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TEST REPORT

Name of the Client : M/s. NLC India Ltd.,
Address of the Client : Neyveli

Report No. : HECSL/AA/025/280823
Report Date : 05/09/2023

Sample Description : Ambient Air Quality
Sampling Location : Umangalam
Sample Drawn By : Hubert Enviro Care Systems (P) Ltd
Sampling/received Date : 27/08/2023 -28/08/2023
Analysis Commenced On : 28/08/2023

Completed On : 05/09/2023

ULR No. : TC578623000012708F

S.No.	Parameters	Units	Results Obtained	Test Method	NAAQ Standards : 2009	
1	Sulphur Dioxide	µg/m³	11.43	CPCB guide lines Volume I: 2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	µg/m³	21.86	IS 5182 (Part - 6) : 2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than 10 µm	µg/m³	51.48	IS 5182 (Part - 23) : 2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than 2.5 µm	µg/m³	23.08	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)	IS 5182 (Part - 22) : 2004	1 (24 hours)	0.5 (Annual)
7	Ozone	µg/m³	10.92	IS 5182 (Part - 9) : 1974	180 (1 hours)	100 (8 hours)
8	Ammonia	µg/m³	6.58	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/AA/SOP/019 : 2016	6 (Annual)	6 (Annual)
12	Nickel	ng/m³	BLQ(LOQ 10)	HECS/AA/SOP/009 : 2016	20 (Annual)	20 (Annual)

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.

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

End of Report

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TEST REPORT

Name of the Client : **M/s. NLC India Ltd.,**

Report No. : **HECSL/AA/026/280823**
Report Date : **05/09/2023**

Address of the Client : **Neyveli**

Sample Description : **Ambient Air Quality**
Sampling Location : **Kammapuram**
Sample Drawn By : **Hubert Enviro Care Systems (P) Ltd**
Sampling/received Date : **27/08/2023 -28/08/2023**
Analysis Commenced On : **28/08/2023**

Completed On :**05/09/2023**

ULR No. : **TC578623000012709F**

S.No.	Parameters	Units	Results Obtained	Test Method	NAAQ Standards : 2009	
1	Sulphur Dioxide	µg/m³	12.46	CPCB guide lines Volume 1: 2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	µg/m³	21.18	IS 5182 (Part - 6) : 2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than 10 µm	µg/m³	52.39	IS 5182 (Part - 23) : 2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than 2.5 µm	µg/m³	24.08	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)	IS 5182 (Part - 22) : 2004	1 (24 hours)	0.5 (Annual)
7	Ozone	µg/m³	13.48	IS 5182 (Part - 9) : 1974	180 (1 hours)	100 (8 hours)
8	Ammonia	µg/m³	8.17	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/AA/SOP/019 : 2016	6 (Annual)	6 (Annual)
12	Nickel	ng/m³	BLQ(LOQ 10)	HECS/AA/SOP/009 : 2016	20 (Annual)	20 (Annual)

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.**

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

End of Report

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TEST REPORT

Name of the Client : **M/s. NLC India Ltd.,**

Report No. : **HECSL/AA/027/280823**
Report Date : **05/09/2023**

Address of the Client : **Neyveli**

Sample Description : **Ambient Air Quality**
Sampling Location : **Sathapadi**
Sample Drawn By : **Hubert Enviro Care Systems (P) Ltd**
Sampling/received Date : **27/08/2023 - 28/08/2023**
Analysis Commenced On : **28/08/2023**

Completed On : **05/09/2023**

ULR No. : **TC578623000012710F**

S.No.	Parameters	Units	Results Obtained	Test Method	NAAQ Standards : 2009	
1	Sulphur Dioxide	µg/m³	11.82	CPCB guide lines Volume 1: 2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	µg/m³	23.75	IS 5182 (Part - 6) : 2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than 10 µm	µg/m³	50.25	IS 5182 (Part - 23) : 2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than 2.5 µm	µg/m³	23.86	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)	IS 5182 (Part - 22) : 2004	1 (24 hours)	0.5 (Annual)
7	Ozone	µg/m³	12.07	IS 5182 (Part - 9) : 1974	180 (1 hours)	100 (8 hours)
8	Ammonia	µg/m³	7.83	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/AA/SOP/019 : 2016	6 (Annual)	6 (Annual)
12	Nickel	ng/m³	BLQ(LOQ 10)	HECS/AA/SOP/009 : 2016	20 (Annual)	20 (Annual)

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.

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

End of Report

HUBERT ENVIRO CARE SYSTEMS (P) LTD. Chennai 600 083

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Authorized Signatory

Dr. RAJKUMAR SAMUEL
Director Technical

Hubert Enviro Care Systems (P) Ltd.
18, 92nd Street, Ashok Nagar,
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TC-5786

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

TEST REPORT

Name of the Client : **M/s. NLC India Ltd.,**

Report No. : **HECSL/AA/028/280823**
Report Date : **05/09/2023**

Address of the Client : **Neyveli**

Sample Description : **Ambient Air Quality**
Sampling Location : **Kolakudi**
Sample Drawn By : **Hubert Enviro Care Systems (P) Ltd**
Sampling/received Date : **27/08/2023 -28/08/2023**
Analysis Commenced On : **28/08/2023**

Completed On : **05/09/2023**

ULR No. : **TC578623000012711F**

S.No.	Parameters	Units	Results Obtained	Test Method	NAAQ Standards : 2009	
1	Sulphur Dioxide	µg/m³	10.55	CPCB guide lines Volume 1: 2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	µg/m³	21.62	IS 5182 (Part - 6) : 2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than 10 µm	µg/m³	52.18	IS 5182 (Part - 23) : 2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than 2.5 µm	µg/m³	23.75	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)	IS 5182 (Part - 22) : 2004	1 (24 hours)	0.5 (Annual)
7	Ozone	µg/m³	11.06	IS 5182 (Part - 9) : 1974	180 (1 hours)	100 (8 hours)
8	Ammonia	µg/m³	7.82	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/AA/SOP/019 : 2016	6 (Annual)	6 (Annual)
12	Nickel	ng/m³	BLQ(LOQ 10)	HECS/AA/SOP/009 : 2016	20 (Annual)	20 (Annual)

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.

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

End of Report

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Authorized Signatory

Dr. RAJKUMAR SAMUEL
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TC-5786

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

TEST REPORT

Name of the Client : **M/s. NLC India Ltd.,**

Address of the Client : **Neyveli**

Report No. : **HECSL/AA/029/280823**
Report Date : **05/09/2023**

Sample Description : **Ambient Air Quality**
Sampling Location : **Mudhanai**
Sample Drawn By : **Hubert Enviro Care Systems (P) Ltd**
Sampling/received Date : **27/08/2023 -28/08/2023**
Analysis Commenced On : **28/08/2023**

Completed On : **05/09/2023**

ULR No. : **TC578623000012712F**

S.No.	Parameters	Units	Results Obtained	Test Method	NAAQ Standards : 2009	
1	Sulphur Dioxide	µg/m³	12.47	CPCB guide lines Volume 1: 2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	µg/m³	23.16	IS 5182 (Part - 6) : 2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than 10 µm	µg/m³	49.22	IS 5182 (Part - 23) : 2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than 2.5 µm	µg/m³	23.45	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)	IS 5182 (Part - 22) : 2004	1 (24 hours)	0.5 (Annual)
7	Ozone	µg/m³	12.05	IS 5182 (Part - 9) : 1974	180 (1 hours)	100 (8 hours)
8	Ammonia	µg/m³	7.88	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/AA/SOP/019 : 2016	6 (Annual)	6 (Annual)
12	Nickel	ng/m³	BLQ(LOQ 10)	HECS/AA/SOP/009 : 2016	20 (Annual)	20 (Annual)

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.

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

End of Report

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HUBERT ENVIRO CARE SYSTEMS (P) LTD. Chennai 600 083

Authorized Signatory

Dr. RAJKUMAR SAMUEL
Director Technical

Hubert Enviro Care Systems (P) Ltd.
18, 92nd Street, Ashok Nagar,
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TC-5786

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

TEST REPORT

Name of the Client : **M/s. NLC India Ltd.,**

Report No. : **HECSL/AA/030/280823**
Report Date : **05/09/2023**

Address of the Client : **Neyveli**

Sample Description : **Ambient Air Quality**
Sampling Location : **Chinnakappankulam**
Sample Drawn By : **Hubert Enviro Care Systems (P) Ltd**
Sampling/received Date : **27/08/2023 -28/08/2023**
Analysis Commenced On : **28/08/2023**

Completed On : **05/09/2023**

ULR No. : **TC578623000012713F**

S.No.	Parameters	Units	Results Obtained	Test Method	NAAQ Standards : 2009	
1	Sulphur Dioxide	µg/m³	11.81	CPCB guide lines Volume 1: 2012	80 (24 hours)	50 (Annual)
2	Nitrogen Dioxide	µg/m³	20.49	IS 5182 (Part - 6) : 2006	80 (24 hours)	40 (Annual)
3	Particulate Matter Size Less than 10 µm	µg/m³	51.25	IS 5182 (Part - 23) : 2006	100 (24 hours)	60 (Annual)
4	Particulate Matter Size Less than 2.5 µm	µg/m³	25.38	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)	IS 5182 (Part - 22) : 2004	1 (24 hours)	0.5 (Annual)
7	Ozone	µg/m³	13.25	IS 5182 (Part - 9) : 1974	180 (1 hours)	100 (8 hours)
8	Ammonia	µg/m³	6.08	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/AA/SOP/019 : 2016	6 (Annual)	6 (Annual)
12	Nickel	ng/m³	BLQ(LOQ 10)	HECS/AA/SOP/009 : 2016	20 (Annual)	20 (Annual)

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.

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

End of Report

Authorized Signatory
Dr. M. KUMAR SAMUEL
Director Technical

Annexure XI

TAMIL NADU POLLUTION CONTROL BOARD
REPORT OF ANALYSIS.

1. Name of the Industry : NLC India Limited, **Mine-IA,**
2. Address of the Industry : Administrative Office (Mine I & IA), Block – 26, Neyveli – 607 803.
3. Date of Survey : 24.02.2023
4. Duration of Survey : 24 Hours.
5. Category : Red/Large.
6. Land use classification : Industrial

Meteorological Conditions.

Ambient Temperature (°C)	Min	Max	Relative Humidity(%)	Min	Max
	28	35		44	89
Weather condition	Clear sky		Rain Fall(mm)	Nil	
Predominant Wind Direction	NE - SW		Mean Wind Speed (Km/hr.)	8.9	

Fugitive Emission Monitoring Results

Sl. No.	Location	Direction	Pollutants Concentration (µg/m^3)			
			PM_{10}	$PM_{2.5}$	SO_2	NO_2
			Mines Standard for 24 hrs **300**	National Standard for 24 hrs **60**	Mines Standard for 24 hrs **120**	Mines Standard for 24 hrs **120**
1	Lignite Storage yard	NE	252	34	18	22
2	Lignite Transfer Point – 1	E	256	-	20	24
3	Lignite Transfer Point – 1	SE	260	-	26	30
4	Lignite Transfer Point – 1	SW	268	58	30	38
5	Lignite Transfer Point – 1	W	240	-	18	20
6	Lignite Transport by Trucks	NW	232	-	14	15

Dy.CSO

Assistant Director (Lab),
TNPCB/AEL/CUDDALORE

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TAMIL NADU POLLUTION CONTROL BOARD

Report of Anlysis.

1	Name of the Industry	M/s. NLC India Limited **Mine-IA**		
2	Address of the Industry	Administrative Office (Mine I & IA), Block-26, Neyveli – 607 803.		
3	Date of Survey	24.02.2023		
Category	R-L	Land use Classification	Industrial	
Type of Survey	Ambient	Time of Survey	Day	
Meteorological conditions		Calm		

Logging Parameters

Instrument Used	**Casella** Serial No. **5007321**		
Logging Interval	10 Minutes at each point	Measuring Range 50 dBA – 110 dBA	
Weighting	"A"	Time Weighting	"FAST"
Sound Incidence	Frontal	Time in hrs.	10.00-12.00

Report of Noise Level Monitoring

Sl. No.	Location	Duration (Min)	Direction	Distance (Km)	Sound Level in dB(A)		
					L_{eq}	Min	Max
1	Near Fire Station	10	N	550	56.3	52.7	61.6
2	CME Yard	10	NE	1600	51.7	48.5	58.9
3	Mine-I Bunker	10	E	1650	54.3	49.6	59.3
4	Near Booster to metro water	10	SE	1600	61.5	57.7	64.7
5	Veenankeni Village	10	S	3500	62.5	58.3	67.7

Dy.CSO

A. B Sen 24/3/23
Assistant Director (Lab),
TNPCB/AEL/CUDDALORE

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Mine -I

Annexure-1

TAMIL NADU POLLUTION CONTROL BOARD

REPORT OF ANALYSIS

ROA NO: 12/1077,12/1079 Dt: 26.12.2022.

Name & Address of the sender		District Environmental Engineer, Tamilnadu Pollution Control Board, Cuddalore.		Date of Analysis	08.12.2022
Nature & Number of samples.	:	2 Number of Sewage samples	Sample Quantity	Sealed and Fastened in 2.5 L polythene container	
Date & Time of sample collection		08.12.2022 at 14.40Hrs	Date & Time of sample receipt at the lab	08.12.2022 at 17.30 Hrs	
Point of Collection	1. 2.	JT Cateen STP Outlet (Treated) Main Canteen STP Outlet (Treated)		Page No 1 of 1	

Sl No	DEE Code no		ICP 12/07	ICP 12/09	
	Lab Code no		1077	1079	Tested as per APHA 23rd Edition 2017
	Parameters	Unit			
1.	pH @ 25° C	No.	7.07	9.52	APHA 23rd Edn 2017 - 4500 H^+ B
2.	Total Suspended Solids @ 105 C	mg/L	12	18	APHA 23rd Edn2017 – 2540D
3.	BOD @ 27°C 3 days	mg/L	8.0	12.0	IS 3025 (Part 44) - 1993 (RA : 2009)
4.	COD	mg/L	32	64	IS 3025 (Part 58) – 2006 (RA 2017)
5.	Ammonical nitrogen as NH_3-N	mg/L	6.72	4.48	APHA 23rd Edn2017 - 4500-NH_3, B, C
6.	Total Kjeldhal Nitrogen	mg/L	10.09	6.72	APHA 23rd Edn 2017 - 4500-N_{org}-B

Note: <MDL indicates Less than minimum detectable limit.
Statement to the effect that the results relate only to the items tested.

19/12/23

Assistant Director (Lab),
for TNPCB/AEL/CUDDALORE.

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TAMIL NADU POLLUTION CONTROL BOARD

REPORT OF ANALYSIS

ROA NO 12/1078 Dt 26.12.2022

Name & Address of the sender		District Environmental Engineer, Tamilnadu Pollution Control Board, Cuddalore.		Date of Analysis	08.12.2022
Nature & Number of samples.		1 Number of Trade Effluent sample	Sample Quantity	Sealed and Fastened in 2.5 L polythene container	
Date & Time of sample collection		08.12.2022 at 14.40 Hrs	Date & Time of sample receipt at the lab	08.12.2022 at 17.30 Hrs	
Point of Collection	1	Mini Auto ETP Outlet (Treated)		Page No	1 of 1

Sl. No	DEE Code no		ICP 12/08	
	Lab Code no		1078	Tested as per APHA23rd edition 2017
	Parameters	Unit		
1.	pH @ 25° C	No.	7.18	APHA 23rdEdn 2017 – 4500 H^+ B
2.	Total Suspended Solids @ 105 C	mg/L	18	APHA 23rd Edn2017 – 2540D
3.	Total Dissolved Solids @ 180°C	mg/L	1852	APHA 23rdEdn 2017 - 2540 C
4.	Chloride as Cl	mg/L	960	APHA 23rd Edn 2017- 4500 - Cl^- B
5.	Sulphate as SO_4	mg/L	218	APHA 23rdEdn 2017-4500- SO_4^{2-} E
6.	BOD @ 27°C 3 days	mg/L	28.0	IS 3025 (Part 44) - 1993 (RA : 2009)
7.	COD	mg/L	144	IS 3025 (Part 58) – 2006 (RA 2017)
8.	Percent Sodium	mg/L	15.45	In House Method : AEL-CUD/SOP/27 Issue No.01/Date. 18.10.2013

Note: <MDL indicates Less than minimum detectable limit.
Statement to the effect that the results relate only to the items tested.

17/12/23

Assistant Director (Lab),
For TNPCB/AEL/CUDDALORE

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TAMIL NADU POLLUTION CONTROL BOARD

REPORT OF ANALYSIS

ROA NO: 12/1053 & 12/1054 Dt: 22.12.2022

Name & Address of the sender		District Environmental Engineer, Tamilnadu Pollution Control Board, Cuddalore.		Date of Analysis	01.12.2022
Nature & Number of samples.	:	2 Number of Sewage samples	Sample Quantity	Sealed and Fastened in 2.5 L polythene container	
Date & Time of sample collection		30.11.2022 at 15.00 Hrs	Date & Time of sample receipt at the lab	01.12.2022 at 10.00 Hrs	
Point of Collection	1. 2	JT CANTEEN ETP Outlet (Treated). Main Canteen ETP Outlet(Treated).		Page No 1 of 1	

Sl No	DEE Code no		ICP 11/15	ICP 11/16	
	Lab Code no		1053	1054	Tested as per APHA 23rd Edition 2017
	Parameters	Unit			
1.	pH @ 25° C	No.	7.96	8.92	APHA 23rd Edn 2017 - 4500 H^+ B
2.	Total Suspended Solids @ 105 C	mg/L	12	8	APHA 23rd Edn2017 – 2540D
3.	BOD @ 27°C 3 days	mg/L	12.0	36.0	IS 3025 (Part 44) - 1993 (RA : 2009)
4.	COD	mg/L	32	144.0	IS 3025 (Part 58) – 2006 (RA 2017)
5.	Ammonical nitrogen as NH_3-N	mg/L	4.48	1.68	APHA 23rd Edn2017 - 4500-NH_3, B, C
6.	Total Kjeldhal Nitrogen	mg/L	6.72	2.80	APHA 23rd Edn 2017 - 4500-N_{org}-B

Note: <MDL indicates Less than minimum detectable limit.
Statement to the effect that the results relate only to the items tested.

16/12/22

Assistant Director (Lab),
For TNPCB/AEL/CUDDALORE.

TAMIL NADU POLLUTION CONTROL BOARD

REPORT OF ANALYSIS

ROA NO 12/1055 & 12/1056 Dt 22.12.2022

Name & Address of the sender		District Environmental Engineer, Tamilnadu Pollution Control Board, Cuddalore.		Date of Analysis	01.12.2022
Nature & Number of samples.		2 Number of Trade Effluent sample	Sample Quantity	Sealed and Fastened in 2.5 L polythene container	
Date & Time of sample collection		30.11.2022 at 15.00 Hrs	Date & Time of sample receipt at the lab	01.12.2022 at 10.00 Hrs	
Point of Collection	1 2	Mini Auto ETP Outlet (Treated). Seepage Water (Untreated).		Page No	1 of 1

Sl. No	DEE Code no		ICP 11/17	ICP 11/18	
	Lab Code no		1055	1056	Tested as per APHA23rd edition 2017
	Parameters	Unit			
1.	pH @ 25° C	No.	6.62	6.43	APHA 23rdEdn 2017 – 4500 H^+ B
2.	Total Suspended Solids @ 105 C	mg/L	8	12	APHA 23rdEdn2017 – 2540D
3.	Total Dissolved Solids @ 180°C	mg/L	688	294	APHA 23rdEdn 2017 - 2540 C
4.	Chloride as Cl	mg/L	440	110	APHA 23rdEdn 2017- 4500 - Cl^- B
5.	Sulphate as SO_4	mg/L	212	62	APHA 23rdEdn 2017-4500- SO_4^{2-} E
6.	BOD @ 27°C 3 days	mg/L	18	8.0	IS 3025 (Part 44) - 1993 (RA : 2009)
7.	COD	mg/L	64	32	IS 3025 (Part 58) – 2006 (RA 2017)
8.	Percent Sodium	mg/L	16.03	4.68	In House Method : AEL-CUD/SOP/27 Issue No.01/Date. 18.10.2013

Note: <MDL indicates Less than minimum detectable limit.
Statement to the effect that the results relate only to the items tested.

5/12/2022

For Assistant Director (Lab),
TNPCB/AEL/CUDDALORE.

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TAMIL NADU POLLUTION CONTROL BOARD

REPORT OF ANALYSIS

ROA NO: 10/879 & 10/880 Dt: 19.12.2022.

Name & Address of the sender		District Environmental Engineer, Tamilnadu Pollution Control Board, Cuddalore.		Date of Analysis	20.10.2022
Nature & Number of samples.	:	02 Number of Sewage samples	Sample Quantity	Sealed and Fastened in 2.5 L polythene container	
Date & Time of sample collection		19.10.2022 at 17.45 Hrs	Date & Time of sample receipt at the lab	20.10.2022 at 17.00 Hrs	
Point of Collection	1.	Main Canteen ETP Outlet (Treated)		Page No 1 of 1	
	2	JT Canteen ETP Outlet (Treated)			

Sl No	DEE Code no		ICP 10/06	ICP 10/07	
	Lab Code no		879	880	Tested as per APHA 23rd Edition 2017
	Parameters	Unit			
1.	pH @ 25° C	No.	6.73	6.66	APHA 23rd Edn 2017 - 4500 H^+ B
2.	Total Suspended Solids @ 105 C	mg/L	10	12	APHA 23rd Edn 2017 – 2540D
3.	BOD @ 27°C 3 days	mg/L	13	5.8	IS 3025 (Part 44) - 1993 (RA : 2009)
4.	COD	mg/L	48	24	IS 3025 (Part 58) – 2006 (RA 2012)
5.	Ammonical nitrogen as NH_3-N	mg/L	<MDL	<MDL	APHA 23rd Edn 2017 - 4500-NH_3, B, C

Note: <MDL indicates Less than minimum detectable limit.
Statement to the effect that the results relate only to the items tested.

Assistant Director (Lab),
TNPCB/AEL/Cuddalore

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TAMIL NADU POLLUTION CONTROL BOARD

REPORT OF ANALYSIS

ROA NO 10/881, 10/882 Dt 19.12.2022

Name & Address of the sender		District Environmental Engineer, Tamilnadu Pollution Control Board, Cuddalore.		Date of Analysis	20.10.2022
Nature & Number of samples.		02 Number of Trade Effluent sample	Sample Quantity	Sealed and Fastened in 2.5 L polythene container	
Date & Time of sample collection		19.10.2022 at 17.45 Hrs	Date & Time of sample receipt at the lab	20.10.2022 at 17.00 Hrs	
Point of Collection	1 2	Mini Auto ETP Outlet (Treated). Seepage Water(Untreated).		Page No	1 of 1

Sl. No	DEE Code no		ICP 10/05	ICP 10/08	
	Lab Code no		881	882	Tested as per APHA23rd edition 2017
	Parameters	Unit			
1.	pH @ 25° C	No.	7.91	6.29	APHA 23rdEdn 2017 – 4500 H^+ B
2.	Total Suspended Solids @ 105 C	mg/L	12	12	APHA 23rdEdn2017 – 2540D
3.	Total Dissolved Solids @ 180°C	mg/L	110	182	APHA 23rdEdn 2017 - 2540 C
4.	Chloride as Cl	mg/L	72	88	APHA 23rdEdn 2017- 4500 - Cl B
5.	Sulphate as SO_4	mg/L	26	34	APHA 23rdEdn 2017-4500- SO_4^{2-} E
6.	BOD @ 27°C 3 days	mg/L	6.1	1.8	IS 3025 (Part 44) - 1993 (RA : 2009)
7.	COD	mg/L	24	08	IS 3025 (Part 58) – 2006 (RA 2017)
8.	Percent Sodium	mg/L	14.02	15.28	In House Method : AEL-CUD/SOP/27 Issue No.01/Date. 18.10.2013

Note: <MDL indicates Less than minimum detectable limit.

Assistant Director (Lab),
TNPCB/AEL/CUDDALORE

REPORT OF ANALYSIS OF LIGNITE AND ASH SAMPLE COLLECTED AT M/S. NLC INDIA LTD

Sl. No.	Parameters	Unit	Composite Sample from M/s. NNTPS		
			Lignite	Fly Ash	Bottom Ash
1.	pH at 25°C	-	6.17	10.91	7.53
2.	Conductivity at 25°C	µs/cm	394	386	274
3.	Moisture	%	48.51	<1.0	19.03
4.	Zinc as Zn	mg/kg	23.7	97.2	44.5
5.	Cadmium as Cd	mg/kg	BLQ[LOQ:1.0]	BLQ[LOQ:1.0]	BLQ[LOQ:1.0]
6.	Nickel as Ni	mg/kg	60.9	116	96.9
7.	Lead as Pb	mg/kg	56.3	54.6	45.6
8.	Arsenic as As	mg/kg	BLQ[LOQ:1.0]	BLQ[LOQ:1.0]	BLQ[LOQ:1.0]
9.	Chromium as Cr	mg/kg	BLQ[LOQ:1.0]	23.22	BLQ[LOQ:1.0]
10.	Mercury as Hg	mg/kg	BLQ[LOQ: 0.04]	BLQ[LOQ: 0.04]	BLQ[LOQ: 0.04]
11.	Selenium as Se	mg/kg	1.26	8.23	1.11
12.	Boron as B	mg/kg	5.21	39.74	7.38
13.	Calcium as Ca	mg/kg	97.2	96	176
14.	Magnesium as Mg	mg/kg	82.4	117	155
15.	Manganese as Mn	mg/kg	9.75	38.88	32.82
16.	Aluminium as Al	mg/kg	19144	83562	18980
17.	Iron as Fe	mg/kg	9042	1842	10823
18.	Potassium as K	mg/kg	12	42	22
19.	Sodium as N	mg/kg	186	152	68
20.	Chlorides as Cl	mg/kg	72.7	144	73.3
21.	Total Soluble Sulphate as SO4	%	0.06	0.01	0.07
22.	Total Hardness as CaCO3	mg/kg	582	721	1076
23.	Sulphide	mg/kg	BLQ[LOQ:1.0]	BLQ[LOQ:1.0]	BLQ[LOQ:1.0]
24.	Total Alkalinity as CaCO3	mg/kg	149	491	99.9

CONSOLIDATED ROA OF TREATED EFFLUENT FROM M/S. NEYVELI THERMAL POWER STATION II FOR THE YEAR 2018-2023

NLC Limited Thermal Power Station II – Outlet of Effluent Treatment Plant										
S. No.	Month	pH	TSS	TDS	Chlorides	Sulphates	Oil& Grease	BOD	COD	% Sodium
1	Apr-18	8.18	8	620	230	132	2	16	64	13.16
2	May-18	8.08	6	1016	140	96	–	8	64	31.63
3	Jun-18	8.29	8	714	318	126	–	8	64	47.67
4	Jul-18	8.32	8	608	105	31	<1.0	8	28	10.02
5	Aug-18	8.24	8	698	160	92	2	18	72	12.37
6	Sep-18	8.02	6	764	255	150	2	8	32	8.14
7	Oct-18	8.02	12	886	245	112	2	12	44	10.1
8	Nov-18	7.97	8	996	215	62	2	18	64	10.1
9	Dec-18	8.16	8	936	310	260	2	18	64	10.1
10	Jan-19	7.81	8	698	315	168	2	10	44	6.82
11	Feb-19	7.73	8	472	215	110	2	18	64	8.95
12	Mar-19	7.9	8	800	355	120	2	8	32	8.14
13	Apr-19	7.85	6	1176	305	152	2	18	64	8.14
14	May-19	8.19	10	754	210	68	2	18	64	10.1
15	Jun-19	7.08	8	850	220	102	2	8	32	6.78
16	Jul-19	7.52	6	326	105	60	2	12	32	8.14
17	Sep-19	7.87	12	768	255	82	2	20	72	6.78
18	Oct-19	8.78	12	2458	805	400	2	18	72	10.1
19	Nov-19	8.19	12	958	255	112	2	22	92	10.1
20	Dec-19	7.46	18	902	255	102	<MDL	24	92	8.14
21	Jan-20	7.87	18	586	220	102	–	22	88	10.1
22	Feb-20	8.03	14	954	210	102	–	26	124	12.37
23	Mar-20	8.34	20	820	255	112	2	22	104	10.1
24	May-20	8.22	18	1116	355	152	<MDL	24	108	10.1
25	Jun-20	8.39	14	1308	455	252	<MDL	18	80	8.14
26	Jul-20	8.2	14	1018	210	102	<MDL	18	72	8.99
27	Aug-20	6.39	86	810	280	122	2	24	108	10.1
28	Sep-20	7.28	104	932	185	187	<2	21	176	
29	Oct-20	8.22	18	802	225	122	2	22	96	10.1
30	Nov-20	7.72	20	830	210	102	<MDL	22	92	8.99
31	Dec-20	8.3	12	810	255	112	<MDL	22	104	11.64
32	Jan-21	8.12	18	1670	625	302	<MDL	22	96	10.02
33	Feb-21	8.08	20	852	225	132	<MDL	20	80	9.61
34	Apr-21	7.92	20	1152	405	204	–	22	96	7.75
35	Jun-21	7.23	16	1016	255	126	–	22	88	7.75
36	Jul-21	7.1	18	1012	230	120	–	22	92	6.16

CONSOLIDATED ROA OF TREATED SEWAGE FROM M/S. NEYVELI THERMAL POWER STATION II FOR THE YEAR 2020-23

NLC Limited Thermal Power Station II Outlet of Sewage Treatment Plant						
S. No.	Month	pH	TSS	BOD	COD	Ammonical Nitrogen (NH_3-N)
1	Oct-20	7.98	8	10	44	4.48
2	Nov-20	7.25	8	10	40	2.8
3	Dec-20	8.41	10	16	48	3.92
4	Jan-21	8.2	14	20	56	8.4
5	Feb-21	6.94	10	16	44	4.48
6	Apr-21	6.31	10	16	44	<MDL
7	Jun-21	6.78	12	18	44	<MDL
8	Jul-21	6.22	10	16	44	<MDL
9	Aug-21	6.45	16	18	44	
10	Sep-21	7.76	10	16	44	<MDL
11	Oct-21	6.48	10	16	44	<MDL
12	Nov-21	7.49	10	16	40	<MDL
13	Jan-22	7.26	14	16	44	<MDL
14	Feb-22	7.83	12	18	56	4.48
15	Mar-22	7.45	14	18	44	<MDL
16	Apr-22	7.17	12	18	48	<MDL
17	May-22	7.54	16	18	40	<MDL
18	Jun-22	7.65	12	16	64	8.4
19	Jul-22	8.44	12	20	80	5.3
20	Aug-22	7.43	68	64	256	15.12
21	Sep-22	8.08	24	18	48	5.04
22	Oct-22	6.52	8	34	112	<MDL
23	Nov-22	7.74	16	12	32	10.65
24	Dec-22	7.75	18	60	80	6.72
25	Jan-23	6.33	23	6.4	40	4.48
26	Feb-23	6.56	12	24	80	8.96
27	Mar-23	6.34	14	4.6	40	<2
Standards for STP		*5.5-9.0*	*30*	*20*	*100*	*15*

Parameters		PM		SO2		NOx	
Standards		100		600		600	
Year		Min.	Max.	Min.	Max.	Min.	Max.
2018-19	1st Half year	62	138	3728	3737	120	650
	2nd Half year	102	132	3518	3750	610	652
2019-20	1st Half year	52	56	3210	3700	133	134
	2nd Half year	108	138	3530	3700	614	640
2020-21	1st Half year	52	80	2380	2851	191	260
	2nd Half year	48	56	1641	2714	183	714
2021-22	1st Half year	46	56	2253	3078	265	310
	2nd Half year	20	65	645	1442	90	215
2022-23	1st Half year	104	120	2512	2528	464	478

NLC Limited Thermal Power Station II – Outlet of Effluent Treatment Plant										
S. No.	Month	pH	TSS	TDS	Chlorides	Sulphates	Oil& Grease	BOD	COD	% Sodium
37	Aug-21	7.5	18	862	260	134	–	24	108	8.99
38	Oct-21	7.85	18	896	305	126	–	22	96	25.36
39	Dec-21	8.12	14	934	325	126	–	22	80	8.99
40	Jan-22	7.9	18	534	210	122	–	20	80	7.04
41	Feb-22	8.03	16	1098	310	172	–	22	96	7.75
42	Mar-22	8.19	18	1034	305	165	–	22	96	6.34
43	Apr-22	8.29	18	1182	455	212	–	20	92	6.16
44	May-22	7.07	14	316	110	58	–	20	64	
45	Jun-22	7.79	12	488	220	152	–	12	32	17.35
46	Jul-22	7.44	20	82	25	14	–	10	24	1.47
47	Aug-22	8.32	18	284	145	62	–	12	72	3.52
48	Oct-22	7.49	12	360	142	48	–	36	128	8.14
49	Nov-22	7.94	14	2810	725	428	–	16	64	16.03
50	Dec-22	6.12	20	198	115	53	–	6	32	40.59
51	Jan-23	7.21	4	738	218	78	–	16	32	4.27
52	Feb-23	6.38	165	288	145	35	–	62	240	6.23
53	Mar-23	6.9	100	330	115	25	–	12	40	5.66
Standards for ETP		*5.5-9.0*	*100*	*2100*	*1000*	*1000*	*10*	*30*	*250*	-

NLC Limited Thermal Power Station II Outlet of Sewage Treatment Plant						
Sl. No.	Month	pH	TSS	BOD	COD	Ammonical Nitrogen (NH_3-N)
1	Apr-18	7.87	8	8	32	10.65
2	May-18	7.86	6	8	45	<MDL
3	Jun-18	8.32	8	4	16	<MDL
4	Jul-18	8.36	10	6	16	7.28
5	Aug-18	7.98	10	16	64	12.59
6	Sep-18	7.96	8	18	32	10.09
7	Oct-18	7.64	12	8	28	10.09
8	Nov-18	8.02	8	12	32	10.09
9	Dec-18	8.01	12	12	64	12.33
10	Jan-19	7.74	8	16	32	6.72
11	Feb-19	7.79	8	6	16	8.4
12	Mar-19	7.89	6	8	32	6.72
13	Apr-19	7.59	6	12	32	10.09
14	May-19	7.23	8	12	32	8.4
15	Jun-19	7.69	6	4	16	6.72
16	Jul-19	7.7	8	18	64	12.33
17	Aug-19	7.26	8	12	32	8.4
18	Sep-19	7.45	8	8	32	8.4
19	Oct-19	8.78	18	20	80	10.09
20	Nov-19	8.85	12	18	72	8.96
21	May-20	7.99	12	18	48	8.48
22	Jun-20	7.55	12	14	64	8.4
23	Jul-20	7.63	14	18	72	8.4
24	Aug-20	7.07	14	16	64	6.72
25	Oct-20	8.36	16	20	52	8.4
26	Nov-20	7.71	14	18	52	4.48
27	Apr-21	7.22	10	16	48	<MDL
28	Jun-21	7.08	14	18	48	<MDL
29	Jul-21	6.22	10	16	44	<MDL
30	Aug-21	7.28	10	16	44	<MDL
31	Sep-21	8.1	12	14	44	<MDL
32	Oct-21	7.27	10	16	40	<MDL
33	Nov-21	7.16	10	16	44	<MDL
34	Jan-22	6.86	18	20	56	<MDL
35	Feb-22	7.5	18	22	80	6.72

CONSOLIDATED ROA OF THE AMBIENT AIR QUALITY MONITORING SURVEY CONDUTED AT M/S. NEYVELI THERMAL POWER STATION II FOR YEAR 2018-2023

Parameters		PM10		PM2.5		SO2		NOx	
Standards		100		60		80		80	
Year		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
2018-19	1st Half year	56	108	20	64	52	86	56	90
	2nd Half year	54	112	56	62	46	84	52	88
2019-20	1st Half year	95	124	44	78	68	89	72	95
	2nd Half year	85	112	45	80	56	86	60	90
2020-21	1st Half year	88	95	52	56	20	26	16	21
	2nd Half year	89	97	55	59	23	29	18	24
2021-22	1st Half year	82	129	49	57	18	23	21	28
	2nd Half year	68	124	51	62	17	29	18	31
2022-23	1st Half year	50	88	32	48	40	68	44	68
	2nd Half year	44	80	32	48	40	68	42	70

CONSOLIDATED ROA OF EFFLUENT TREATMENT PLANT OF M/S. NLC INDIA LTD – TPS II EXP FOR THE YEAR 2019 – 2023

Sl. No	MONTH	pH	TSS	TDS	Chlorides	Sulphates	Oil& Grease	BOD	COD	% Sodium
1.	FEB-19	7.63	8	1524	610	252	2	8	32	12.37
2.	MAR-19	7.88	8	**2230**	655	252	2	12	64	8.95
3.	APR-19	7.73	8	1964	415	218	2	18	64	8.14
4.	MAY-19	6.78	8	518	145	68	2	8	32	9.11
5.	JUN-19	7.8	8	2022	610	220	2	18	40	8.14
6.	JUL-19	6.83	8	534	155	62	2	12	32	8.14
7.	AUG-19	6.63	8	1892	620	240	2	18	64	8.14
8.	SEP-19	7.84	8	776	205	102	2	8	32	8.14
9.	OCT-19	8.61	8	1942	505	252	<MDL	16	64	8.14
10.	NOV-19	8.41	10	1982	695	302	<MDL	18	80	6.16
11.	MAY-20	7.95	14	1982	610	312	2	24	112	13.16
12.	JUN-20	7.63	14	1950	555	284	<MDL	22	108	10.62
13.	AUG-20	6.34	18	**2982**	610	422	<MDL	22	104	10.1
14.	SEP-20	8.68	20	1814	460	252	<MDL	26	104	8.14
15.	OCT-20	8.64	20	1860	510	252	2	24	108	11.64
16.	NOV-20	7.85	20	1930	705	302	<MDL	26	116	9.61
17.	JAN-21	7.85	10	**2160**	705	362	-	28	164	6.34
18.	FEB-21	8.12	18	1670	455	252	-	24	104	10.43
19.	APR-21	8.23	18	**2768**	825	402	-	28	108	9.5
20.	JUN-21	6.98	18	1938	610	328	-	28	124	10.43
21.	JUL-21	7.38	22	2098	635	318	-	28	124	10.43
22.	SEP-21	8.25	16	1942	450	204	-	26	112	10.02
23.	OCT-21	7.69	22	1528	505	202	-	26	108	20.02
24.	NOV-21	7.91	22	1942	555	250	-	26	116	10.02
25.	APR-22	7.83	18	1004	350	190	-	20	92	10.02

NLC Limited Thermal Power Station II Outlet of Sewage Treatment Plant						
Sl. No.	Month	pH	TSS	BOD	COD	Ammonical Nitrogen (NH_3-N)
36	Mar-22	7.62	14	18	48	<MDL
37	Apr-22	7.73	10	16	44	<MDL
38	May-22	7.12	16	18	48	<MDL
39	Jun-22	4.29	8	4	8	6.72
40	Jul-22	8.4	18	24	88	7.84
41	Aug-22	7.68	12	12	64	7.24
42	Sep-22	8.18	16	48	64	4.48
43	Oct-22	6.99	24	3.8	16	<MDL
44	Nov-22	6.7	18	8	32	3.92
45	Dec-22	7.63	8	8	32	4.48
46	Jan-23	7.84	8	12	64	3.92
47	Feb-23	8.45	18	16	40	3.92
48	Mar-23	8.6	6	4	72	5.6
Standards for STP		*5.5-9.0*	*30*	*20*	*100*	*15*

CONSOLIDATED ROA OF STACK EMISSION SURVEY CONDUTED M/S. NEYVELI THERMAL POWER STATION II EXP FOR YEAR 2018-2023

Parameters		PM		SO2		NOx	
Standards		50		600		450	
Year		Min.	Max.	Min.	Max.	Min.	Max.
2018-19	1st Half year	42	-	544	-	101	-
	2nd Half year	41	-	537	-	102	-
2019-20	1st Half year	35	36	520	531	94	94
	2nd Half year	38	-	528	-	122	-
2020-21	1st Half year	34	36	513	522	85	90
	2nd Half year	36	38	518	531	188	192
2021-22	1st Half year	39	40	2338	**2719**	154	175
	2nd Half year	30	32	348	359	194	197
2022-23	1st Half year	37	-	**741**	-	110	-

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CONSOLIDATED ROA OF THE AMBIENT AIR QUALITY MONITORING SURVEY CONDUCTED AT M/S. NLC INDIA LTD. TPS II EXPANSION FOR THE YEAR 2018 – 2023

Parameters		PM10		PM2.5		SO2		NOx	
Standards		100		60		80		80	
Year		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
2018-19	1st Half year	52	80	24	58	48	70	54	78
2019-20	1st Half year	76	**112**	43	**68**	57	**86**	64	**91**
	2nd Half year	70	98	40	58	56	76	60	78
2020-21	1st Half year	88	94	57	59	46	58	21	33
	2nd Half year	91	98	52	56	12	26	11	19
2021-22	1st Half year	72	**148**	36	42	17	31	19	26
	2nd Half year	68	**124**	51	**62**	17	29	18	31
2022-23	1st Half year	48	74	32	46	12	19	15	22
	2nd Half year	45	72	38	48	24	40	26	42

26.	MAY-22	8.25	14	236	80	44	-	18	48	
27.	JUN-22	8.01	4	1075	723.1	152	-	16	64	11.78
28.	JUL-22	8.12	10	648	230	109	-	10	40	3.61
29.	AUG-22	8.27	6	76	40	8	-	8	32	2.45
30.	SEP-22	8.16	26	838	744	16	-	28	96	1.2
31.	OCT-22	7.06	28	620	244	92	-	12	40	9.59
32.	NOV-22	8.3	6	6.72	10.09	-	-	8	32	
33.	DEC-22	7.9	6	1568	870	112	-	26	114	16.03
TNPCB NORMS		5.5-9.0	100	2100	1000	1000	10	30	250	

NLC LIMITED TPS- 1 EXPANSION – OUTLET OF SEWAGE TREATMENT PLANT						
S. No	MONTH	pH	TSS	BOD	COD	Ammonical Nitrogen
37.	Aug-21	7.28	10	16	44	<MDL
38.	Sep-21	8.1	12	14	44	<MDL
39.	Oct-21	7.27	10	16	40	<MDL
40.	Nov-21	7.16	10	16	44	<MDL
41.	Jan-22	6.86	18	20	56	<MDL
42.	Feb-22	7.5	18	22	80	6.72
43.	Mar-22	7.62	14	18	48	<MDL
44.	Apr-22	7.73	10	16	44	<MDL
45.	May-22	7.12	16	18	48	<MDL
46.	Jun-22	4.29	8	4	8	6.72
47.	July-22	8.4	18	24	88	7.84
48.	Aug-22	7.68	12	12	64	7.24
49.	Sep-22	8.18	16	48	64	4.48
50.	Oct-22	6.99	24	3.8	16	<MDL
51.	Nov-22	6.7	18	8	32	3.92
52.	Dec-22	7.63	8	8	32	4.48
53.	Jan-23	7.84	8	12	64	3.92
54.	Feb-23	8.45	18	16	40	3.92
55.	Mar-23	8.6	6	4	72	5.6
	standards	5.5-9.0	30	20	100	15

NLC LIMITED TPS- 1 EXPANSION – OUTLET OF SEWAGE TREATMENT PLANT						
S. No	MONTH	pH	TSS	BOD	COD	Ammonical Nitrogen
1.	Apr-18	7.04	4	4	16	5.04
2.	May-18	7.26	6	4	16	<MDL
3.	June-18	7.64	8	6	64	<MDL
4.	July-18	7.78	6	6	32	12.89
5.	Aug-18	7.14	6	8	32	<MDL
6.	Sep-18	7.78	4	4	16	6.72
7.	Oct-18	7.91	10	8	32	4.48
8.	Nov-18	6.83	6	8	32	6.72
9.	Dec-18	7.81	8	8	32	6.72
10.	Jan-19	7.46	4	4	16	5.04
11.	Feb-19	7.97	4	4	16	4.48
12.	Mar-19	7.29	6	8	32	5.04
13.	Apr-19	7.42	4	2	8	4.48
14.	May-19	7.19	6	4	16	6.72
15.	Jun-19	7.76	4	6	16	5.04
16.	Jul-19	7.23	6	8	32	6.72
17.	Aug-19	7.06	6	4	16	6.72
18.	Sep-19	7.65	8	4	32	8.4
19.	Oct-19	8.82	8	8	32	6.72
20.	Nov-19	7.36	22	24	100	8.4
21.	Dec-19	8.49	20	16	64	6.16
22.	Jan-20	7.82	14	22	88	8.4
23.	Feb-20	6.29	12	24	104	12.33
24.	Apr-20	7.86	14	18	80	8.4
25.	May-20	6.38	10	6	32	5.04
26.	Jun-20	7.48	12	18	60	8.4
27.	Jul-20	8.37	12	14	32	6.72
28.	Aug-20	8.11	12	18	48	8.96
29.	Oct-20	8.5	10	8	32	3.98
30.	Nov-20	8.98	12	18	56	6.16
31.	Dec-20	8.38	12	18	44	4.48
32.	Jan-21	7.14	14	18	52	5.04
33.	Feb-21	7.86	10	18	48	4.48
34.	Apr-21	7.22	10	16	48	<MDL
35.	Jun-21	7.08	14	18	48	<MDL
36.	July-21	6.22	10	16	44	<MDL

NLC Thermal Power Station I Expansion – Outlet of Effluent Treatment Plant										
Sl. No	MONTH	pH	TSS	TDS	Chlorides	Sulphates	Oil& Grease	BOD	COD	% Sodium
42	Feb-22	7.79	16	–	–	–	–	20	64	5.04
43	Mar-22	7.97	20	1146	365	204	–	20	104	6.16
44	Apr-22	7.56	14	1018	305	204	–	24	108	8.99
45	May-22	7.18	14	256	90	52	–	16	44	–
46	Jun-22	4.51	12	206	70.9	18	–	10	40	5.17
47	Jul-22	8.84	10	220	80	39	–	10	24	2.68
48	Aug-22	7.78	24	148	65	12	–	8	32	5.47
49	Sep-22	7.57	12	188	75	18	–	24	88	0.13
50	Oct-22	8.18	16	318	126	48	–	6.8	24	10.2
51	Nov-22	7.93	12	112	75	28	–	8	16	4.68
52	Dec-22	6.58	32	496	160	68	–	8	32	4.68
53	Jan-23	6.85	18	442	250	68	–	20	80	12.37
54	Feb-23	7.69	10	520	260	62	–	10.6	40	6.69
55	Mar-23	7.1	8	380	195	60	–	5.6	56	9.08
Standards for ETP		*5.5-9.0*	*100*	*2100*	*1000*	*1000*	*10*	*30*	*250*	-

CONSOLIDATED ROA OF STACK EMISSION SURVEY CONDUTED AT M/S. NEYVELI THERMAL POWER STATION I EXPANSION FOR YEAR 2018-2023

Parameters		PM		SO2		NOx	
Standards		100		600		600	
Year		Min.	Max.	Min.	Max.	Min.	Max.
2018-19	1st Half year	102	–	2866	–	540	–
	2nd Half year	104	–	3803	–	544	–
2019-20	1st Half year	84	–	2842	–	484	–
	2nd Half year	106	–	2945	–	618	–
2020-21	1st Half year	60	66	1704	2104	291	356
	2nd Half year	52	54	516	536	264	267
2021-22	1st Half year	64	66	2102	2115	293	297
	2nd Half year	28	70	2442	2844	70	131
2022-23	1st Half year	97	98	2500	2512	408	472
	2nd Half year	52	–	1433	–	400	–

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CONSOLIDATED ROA OF TREATED EFFLUENT FROM M/S. NEYVELI THERMAL POWER STATION - I EXPANSION FROM THE YEAR 2018-23

NLC Thermal Power Station I Expansion – Outlet of Effluent Treatment Plant										
Sl. No	MONTH	pH	TSS	TDS	Chlorides	Sulphates	Oil& Grease	BOD	COD	% Sodium
1	Apr-18	7.73	12	352	105	58	2	16	64	9.59
2	May-18	7.35	8	296	120	86	<MDL	4	16	16.03
3	Jun-18	7.81	36	1818	718	360	4	26	148	62.98
4	Jul-18	7.82	12	266	33	47	<1	6	28	–
5	Aug-18	7.76	12	788	215	320	2	26	144	10.1
6	Sep-18	7.52	8	890	335	152	2	6	32	8.14
7	Oct-18	7.84	14	280	110	32	2	8	32	6.69
8	Nov-18	7.83	8	830	305	112	2	14	56	4.68
9	Dec-18	7.82	10	230	115	60	2	8	32	10.62
10	Jan-19	7.53	8	618	255	128	2	12	32	8.95
11	Feb-19	7.92	6	620	265	132	2	16	60	8.14
12	Mar-19	7.65	6	992	355	68	2	8	32	6.78
13	Apr-19	7.61	8	930	250	116	2	8	32	10.1
14	May-19	7.88	8	540	145	68	2	16	32	8.14
15	Jun-19	8.03	8	398	105	52	2	16	32	6.16
16	Jul-19	7.6	8	622	245	120	2	8	32	6.78
17	Aug-19	7.86	8	90	12	8	2	8	16	10.1
18	Sep-19	7.49	8	1142	390	128	2	16	64	8.14
19	Oct-19	8.47	14	516	135	52	2	16	64	8.14
20	Nov-19	7.56	8	3602	995	602	<MDL	20	80	6.34
21	Dec-19	7.5	12	1246	505	172	<MDL	18	72	8.99
22	Jan-20	8.03	12	522	155	62	<MDL	20	84	8.14
23	Feb-20	6.19	16	176	55	22	<MDL	8	40	6.78
24	May-20	7.84	12	106	40	22	<MDL	8	32	6.78
25	Jun-20	6.07	10	82	35	22	<MDL	8	32	6.78
26	Jul-20	6.35	10	130	40	22	<MDL	8	32	4.12
27	Aug-20	8.38	10	438	155	92	<MDL	14	72	6.78
28	Sep-20	8.72	14	556	205	102	<MDL	18	72	6.78
29	Oct-20	8.21	18	2758	685	362	<MDL	20	88	8.99
30	Nov-20	9.24	14	226	85	48	<MDL	16	52	5.61
31	Dec-20	7.04	10	168	65	42	<MDL	18	64	4.12
32	Jan-21	7.81	16	542	195	122	<MDL	20	80	6.34
33	Feb-21	7.4	12	676	225	128	<MDL	22	96	6.16
34	Apr-21	6.16	14	726	245	122	–	20	88	8.99
35	Jun-21	7.29	18	794	265	110	–	22	96	8.99
36	Jul-21	6.34	14	698	205	102	–	22	88	8.99
37	Aug-21	7.35	18	716	200	102	–	22	88	7.75
38	Sep-21	7.98	18	658	210	102	–	24	104	8.99
39	Oct-21	6.93	16	812	255	116	–	20	88	26.16
40	Nov-21	6.66	18	680	205	102	–	20	80	5.34
41	Jan-22	7.17	12	–	–	–	–	18	44	–

CONSOLIDATED ROA OF TREATED SEWAGE FROM M/S. NEYVELI NEW THERMAL POWER STATION FOR THE YEAR DEC 2020-MAR 2023

NEYVELI NEW THERMAL POWER STATION Outlet of Sewage Treatment Plant						
S. No.	Month	pH	TSS	BOD	COD	Ammonical Nitrogen (NH_3-N)
1	Dec-20	8.82	10	16	52	3.92
2	Nov-20	7.09	14	18	48	5.6
3	Jan-21	6.94	12	18	48	4.48
4	Feb-21	8.12	12	18	48	5.54
5	Mar-21	7.91	10	16	44	<MDL
6	Mar-21	7.08	16	18	48	5.04
7	Apr-21	7.57	12	18	48	<MDL
8	Jun-21	7.59	14	18	44	<MDL
9	Jul-21	6.4	12	18	44	<MDL
10	Aug-21	7.35	12	18	48	<MDL
11	Sep-21	8.14	12	18	48	<MDL
12	Oct-21	7.57	12	18	44	4.48
13	Nov-21	7.43	12	18	44	<MDL
14	Dec-21	7.32	14	16	40	<MDL
15	Jan-22	7.5	16	18	48	<MDL
16	Mar-22	7.87	12	18	44	<MDL
17	Apr-22	7.86	12	16	44	<MDL
18	May-22	7.9	10	18	44	<MDL
19	Jun-22	**4.63**	8	2	8	5.04
20	Jul-22	8.36	12	**26**	80	7.28
21	Aug-22	8.19	12	8	32	2.8
22	Sep-22	8	14	20	48	<MDL
23	Oct-22	7.53	10	21	72	<MDL
24	Nov'22	8.06	12	8	32	4.48
25	Dec-22	7.5	12	12	32	12.89
26	Jan-23	7.32	12	14	64	6.72
27	Feb-23	7.76	10	10.6	32	3.92
28	Mar-23	7.39	6	4.2	24	<2
Standards for STP		*5.5-9.0*	*30*	*20*	*100*	*15*

CONSOLIDATED ROA OF THE AMBIENT AIR QUALITY MONITORING SURVEY CONDUTED AT M/S. NLC INDIA LTD., TPS I EXPANSION FOR THE YEAR 2018-23

Parameters		PM10		PM2.5		SO2		NOx	
Standards		100		60		80		80	
Year		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
2018-19	1st Half year	54	**110**	38	**80**	40	60	46	64
	2nd Half year	72	118	58	**66**	42	64	48	68
2019-20	1st Half year	72	122	42	84	54	**88**	57	**92**
	2nd Half year	74	118	40	82	58	**85**	62	**90**
2020-21	1st Half year	94	98	55	58	22	28	18	22
	2nd Half year	92	98	58	59	23	29	18	25
2021-22	1st Half year	91	**126**	58	**78**	13	23	15	28
	2nd Half year	81	148	56	**122**	14	25	16	27
2022-23	1st Half year	58	70	32	52	14	20	16	22
	2nd Half year	48	79	46	53	28	38	30	40

CONSOLIDATED ROA OF STACK EMISSION SURVEY CONDUTED M/S. NEW NEYVELI THERMAL POWER STATION FOR THE YEAR 2020-2023

Parameters		PM		SO2		NOx	
Standards		30		100		100	
Year		Min.	Max.	Min.	Max.	Min.	Max.
2020-21	1st Half year	28	-	673	-	255	-
	2nd Half year	**39**	46	**592**	681	258	283
2021-22	1st Half year	**39**	48	1497	1499	**142**	146
	2nd Half year	42	49	1507	**1518**	233	239
2022-23	1st Half year	**56**	-	1480	-	432	-
	2nd Half year	52	-	1348	-	**488**	-

CONSOLIDATED ROA OF TREATED EFFLUENT FROM M/S. NEYVELI NEW THERMAL POWER STATION FROM THE YEAR SEP 2020- MARCH 2023

NEYVELI NEW THERMAL POWER STATION – Outlet of Effluent Treatment Plant									
Sl. No.	Month	pH	TSS	TDS	Chlorides	Sulphates	BOD	COD	% Sodium
1	Sep'20	8.3	18	1368	495	222	22	88	-
2	Oct'20	9.28	18	1678	450	262	24	104	10.62
3	Nov'20	8.39	24	2770	655	316	24	112	10.43
4	Dec'20	8.58	18	2384	610	318	26	116	10.43
5	Jan'21	8.58	20	2872	805	402	24	96	7.75
6	Feb'21	9.44	22	2580	625	326	26	116	10.43
7	Mar'21	8.4	18	2308	855	532	24	108	8.99
8	April'21	7.62	20	2334	725	328	28	116	10.02
9	June'21	6.24	22	2120	725	326	28	116	9.61
10	Jul'21	8.16	20	2034	625	322	26	116	9.61
11	Aug'21	3.26	22	4908	1050	602	28	136	10.02
12	Sep'21	8.33	22	1860	605	302	28	124	11.64
13	Oct'21	7.65	20	1436	455	242	24	116	29.5
14	Nov'21	7.07	22	1456	525	210	26	124	10.1
15	Dec-21	3.2	18	1324	455	220	24	112	7.75
16	Jan-22	3.82	18	1066	325	182	24	108	8.99
17	Mar-22	7.51	16	842	325	122	20	80	6.34
18	Apr-22	8	18	1580	495	252	24	112	10.1
19	May-22	8.42	12	362	105	68	20	64	-
20	Jun-22	5.04	8	521	326	110	12	48	18.97
21	Jul-22	8.74	12	104	35	19.4	6	24	5.69
22	Aug-22	7.83	18	712	510	218	28	8	6.26
23	Sep-22	8.37	18	570	320	136	16	48	1.2
24	Oct-22	8.13	14	416	168	56	23	80	11.64
25	Nov'22	7.22	18	424	120	80	18	72	15.45
26	Dec-22	6.99	18	980	465	118	28	176	16.03
27	Jan-23	7.13	12	1332	675	230	18	80	9.59
28	Feb-23	8.29	12	612	305	85	8	32	14.09
29	Mar-23	8.6	12	510	245	65	5.2	56	12.19
Standards for ETP		*5.5-9.0*	*100*	*2100*	*1000*	*1000*	*30*	*250*	-

Location	Type of Sample
Ash from ash pond Lat:11.540708,Lon: 79.41781	Ash sample

S. No	Test Parameters	Canadian Soil Quality Guidelines for the Protection of Environmental and Human Health (mg/kg)	TNPCB Committee Result
25.	pH at 25°C	-	6.98
26.	Conductivity at 25°C	-	512
27.	Moisture	-	25.08
28.	Zinc as Zn	250	97.4
29.	Cadmium as Cd	1.4	BLQ[LOQ:1]
30.	Nickel as Ni	45	39.9
31.	Lead as Pb	70	BLQ[LOQ:1]
32.	Arsenic as As	12	BLQ[LOQ:1]
33.	Chromium as Cr	64	BLQ[LOQ:1]
34.	Mercury as Hg	6.6	BLQ[LOQ:0.04]
35.	Selenium as Se	1.0	BLQ[LOQ:0.5]
36.	Boron as B	-	15.32
37.	Calcium as Ca	-	3142
38.	Magnesium as Mg	-	566
39.	Manganese as Mn	-	15.54
40.	Aluminium as Al	-	4588.7
41.	Iron as Fe	-	7035.9
42.	Potassium as K	-	26.19
43.	Sodium as Na	-	217.5
44.	Chlorides as Cl	-	278
45.	Total Soluble Sulphate as SO4	-	0.18
46.	Total Hardness as CaCO3	-	42871
47.	Sulphide	-	BLQ[LOQ:1]
48.	Total Alkalinity as CaCO3	-	245

CONSOLIDATED ROA OF THE AMBIENT AIR QUALITY MONITORING SURVEY CONDUTED AT M/S. NEYVELI NEW THERMAL POWER STATION FOR THE YEAR 2020-23

Parameters		PM10		PM2.5		SO2		NOx	
Standards		100		60		80		80	
Year		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
2020-21	1st Half year	85	96	54	57	19	30	16	25
	2nd Half year	74	96	42	49	12	26	12	38
2021-22	1st Half year	87	**129**	32	46	12	22	15	26
	2nd Half year	46	**144**	50	**118**	12	20	15	24
2022-23	1st Half year	42	68	26	32	08	42	12	48
	2nd Half year	52	74	40	48	30	38	34	40

HON'BLE NATIONAL GREEN

TRIBUNAL, SOUTHERN ZONE BENCH,

CHENNAI

ORIGINAL APPLICATION NO. 107 of 2023

Suo Motto based on the News item

published in the

New Indian Express dated 09.08.2023

"Huge Pollution risk around 8 km of NLC"

.....Applicant

Versus

1.NLC and others

.... Respondent(s)

Report filed on behalf of Regional Office,

MoEF&CC, Chennai.

M/s.R.Thirunavukarasu

Counsel for 2nd Respondent

M-9444012986