

**BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI**

Original Application No.24 of 2024 (SZ)

IN THE MATTER OF

Tribunal on its own motion
Suo Motu based on the
News Item in South First
dated 19.09.2023 titled
"Wages of mining Neyveli
turns ashtray, leaving
farmers with broken
promises and uncertain
future"

With

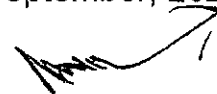
Central Pollution Control Board,
Through its Member Secretary,
New Delhi and Others.

...Respondent(s)

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Dated at Chennai on this 5th day of September, 2024



Counsel for 5th Respondent

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REPORT FILED BY THE 5TH RESPONDENT

The 5th Respondent/NLCIL respectfully submits as follows: -

1. It is respectfully submitted that the above Suo Motu case been registered on the basis of the news report published in South First dated 19.09.2023 titled "Wages of mining Neyveli turns ashtray, leaving farmers with broken promises and uncertain future" originally by the Hon'ble National Green Tribunal, Principal Bench, New Delhi as O.A.No.608 of 2023 arraying the Respondents 1 to 4 as parties to the said OA.
2. On earlier occasion, on the same lines, this Hon'ble Tribunal based on the similar/identical news items published in "The New Indian Express" dated 09.08.2023, under the caption "Huge pollution risk in 8 Km around NLC" and in "The Times of India", Chennai Edition dated 09.08.2023 under the caption "Water near NLC full of Mercury" purportedly



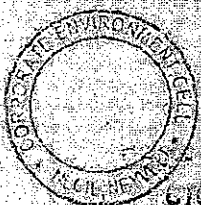
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relying upon the Test Reports of the NGO, namely, "Poovulagin Narbargal" and "Manthan Adhyayan Kendra" registered an O.A.No 107 of 2023 Suo Motu in which all the Respondents have filed their respective Reports explaining that the allegations made in the said news items are unfounded and unsubstantiated and the same is pending for consideration of this Hon'ble Tribunal since then.

3. It is submitted that the Hon'ble National Green Tribunal, Principal Bench, New Delhi considering the facts that the alleged issue stated in the O.A.No.608 of 2023 (registered Suo Motu based on the news item reported in South First dated 19.09.2023) relates to Southern Bench of this Hon'ble Tribunal, by Order dated 09.10.2023 transferred the said OA to this Hon'ble Tribunal. Accordingly, this Hon'ble Tribunal renumbered the said OA as O.A.No.24 of 2024. However, the 5th Respondent was not arrayed as Respondent in the said OA.

4. On coming to know of the pendency of the above OA before this Hon'ble Tribunal, the 5th Respondent moved an I.A.No.63 of 2024(SZ) seeking to implead in the above OA as 5th Respondent. Accordingly, this Hon'ble Tribunal by Order dated 16.05.2024 allowed the said IA to implead the 5th Respondent. Thereafter, at the instance of this Respondent, by Order dated 05.08.2024 this Hon'ble Tribunal while directing this Respondent to file Reply/Report and also directed the Registry of this Hon'ble Tribunal to tag the pending connected above said O.A.No 107 of 2023. In compliance with the same, the present Report/Reply is filed by the 5th Respondent.



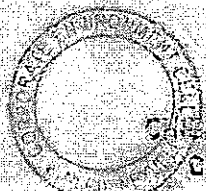
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C/O. NLC India Ltd. NEW DELHI

5. This Respondent craves leave of this Hon'ble Tribunal to read and treat all the Reports/Replies filed by the concerned Respondents in O.A.No.107 of 2023 as part and parcel of this Report in order to avoid repetition and also for the reason that both the OAs are related to the identical/similar issues.

6. In this regard, it is pertinent to state that in O.A.No.107 of 2023, this Hon'ble Court by Order dated 29.11.2023 directed the NGO to furnish the lab analysis reports based on which the said news items had appeared, in a sealed cover and send the same to the Registry of this Hon'ble Tribunal. In compliance with the said directions of this Hon'ble Tribunal, the above said NGO submitted their Lab Analysis Reports of the Testing Centres in a sealed cover to the Hon'ble Tribunal, which was opened by this Hon'ble Tribunal on the date of hearing on 18.01.2024 and accordingly, the copies of the said Reports were shared to the Respondents therein, namely, NLCIL, TNPCB, CPCB, TWAD Board and directed them to file their respective Comparative Test Reports by an Order dated 18.01.2024 of this Hon'ble Tribunal.

7. In terms of the said directions of this Hon'ble Tribunal, TNPCB, CPCB, CMWSSB & NLCIL have filed their respective Comparative Statements on scrutinizing all the Test Reports of the said NGOs. The Test Analyses carried out by NLCIL, CPCB, TNPCB and CMWSSB have cogently revealed that the samples collected in the localities concerned, the presence of Mercury and Selenium are below the permissible level and there were no pollution either in the water or air as alleged by the said NGOs.

8. Despite the said unambiguous findings of all the statutory authorities



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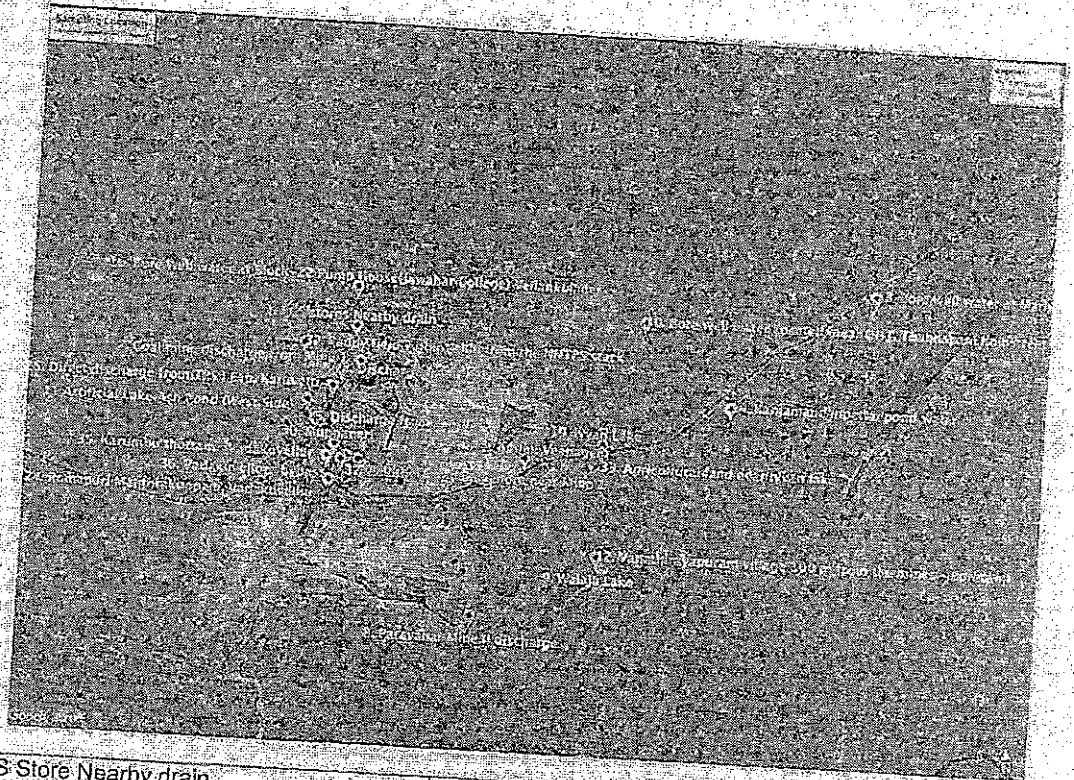
that there is no pollution as alleged in the said news items, this Hon'ble Tribunal in order to clear any kind of cloud on the said wild allegations of the said NGOs has directed the TNPCB to collect samples again at the same locations of NGO's and send to the same Laboratories who have furnished the Reports to the said NGOs based on which the news items were published and also further directed that the same samples shall also be tested by TNPCB laboratory and furnish both the reports on or before the next hearing i.e. on 21.05.2024.

9. In these circumstances, though there is no direction from this Hon'ble Tribunal, NLCIL/5th Respondent herein thought it fit to undertake similar analyses to establish the ground reality by carrying out the exercise of taking samples from all the locations as mentioned in the NGOs Reports and the said Reports of analysis are submitted by NLCIL for the better appreciation of the Hon'ble Tribunal: -

a. Based on the test results (analysed by in-house NABL accredited lab in Centre for Applied Research & Development – CARD/NLCIL) of the samples taken during April, 2024 by NLCIL specifically states that all the parameters for Surface Water, Ground Water & Soil are well below the permissible standard limits as prescribed by the Competent Authorities. The exact locations of the samples collected are provided in the map below: -



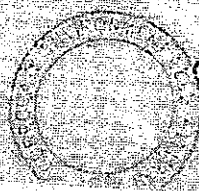
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1. PCS Store Nearby drain	SW - No Water	2. Discharge from NNTPS	SW
4. Direct Discharge from TPS 1	SW	5. Discharge from TPS II	SW
6. Kootu Kudineer thittam near valiyamadevi - Opp mine 2	SW	7. Coal mine discharge from Mine 1	SW
8. Paravanar river carrying Mine 2 discharge Water	SW	9. Walajah lake	SW
10. Borewell Water near OHT, Thandapani koil street, kaikalakuppam	GW	11. Artificial lake (Ash Pond West side, NNTPS South side)	SW
12. Vanathirayapuram village - Borewell	GW	13. Borewell at mariamman temple, Ayikuppam village (Control point)	GW
14. Kanjamandappettai pond water	SW	15. TAQA pipe water, Umangalam	GW
16. Borewell water at Block 22 pump house (Jawahar college) Vellankulam	GW	17. Iyyan lake	SW
23. Mine 1 Outlet, Veenageni	SW	24. Romapuri, Mantharakuppam, Vadakuvellore	SW
25. Vadkuvellore - Ammeri Sivan Koil Kulam	SW	25. Direct discharge from TPS I Exp, Karuvatti	SW - No water
29. Tholkappier nager	GW	30. Muppaneri	SW
32. Paddy field within 1 km from NNTPS stack	Soil	33. Agricultural land near Iyyan lake	Soil
35. Karumbu thottam - Vadakuvellore	Soil	36. Vadakuvellore bypass	Soil
37. Pallitheru Vadakuvellore near mine 1	Fly Ash		

SW- Surface Water, GW - Ground Water, Soil - Soil Sample

Location Map of Sample collection

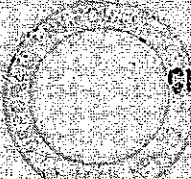


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I. Surface Water


NLCIL has collected samples in the same locations as specified in the said Reports of NGOs and it had analyzed through in-house NABL accredited lab in Centre for Applied Research & Development (CARD/NLCIL). Based on the said Reports, the surface water locations were identified and the samples were collected scientifically in sealed containers. A total of 15 Nos. of samples were collected (1 sample location near PCS stores - No water available) and sent for analysis. The results are tabulated below in seriatim:-

	Aluminium (mg/L)	Chromium (mg/L)	pH @ 25°C	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Iron (mg/L)	BOD for 3 days @ 27°C (mg/L)	COD (mg/L)	Dissolved Solids (mg/L)	Total Alkalinity (mg/L)	Total Hardness as CaCO ₃ (mg/L)	Sulphates as SO ₄ (mg/L)	Sulphates as SO ₄ (mg/L)
PCS Stores Discharge	NO WATER													
Discharge from NNTPS	0.052	0.004	7.77	117.16	14.7	300.9	100	9.5	83.3	1166	129	354	BDL	566
Discharge from TPS II	0.064	0.014	6.43	161.6	61.4	200	4	12	208.1	1134	97	657	BDL	476
Artificial lake North of TPS II	0.062	0.0036	7.48	141.4	24.5	162.6	0.1	13.6	125	811	54	455	BDL	440
Valyamadevi	0.052	0.015	8.05	68.68	41.7	131.8	0.5	7.8	41.7	662	129	343	BDL	289
Mine II Discharge Parvathi River	0.058	0.012	8.53	137.16	54	114.2	0.08	9.2	83.3	900	150	515.1	BDL	476
Walaja Lake	0.068	0.0022	8.19	36.6	41.7	161.2	0.2	11	125	663	215	313	BDL	294
Mine II Discharge	0.032	0.016	6.31	33.55	16.7	53.6	0.3	10	200	256.8	172	158	BDL	38.8
Discharge from TPS I	0.062	0.0011	7.48	16.2	4.9	14.9	0.1	9	150	108	52	61	BDL	26.1
Romapuram Vadakkuvilur	0.044	0.014	3.64	125.24	49.1	282.8	0.9	8	150	1086	172	515	BDL	400
Vadakkuvilur pond Near Sivankoil	0.056	0.018	8.31	157.5	54	290.6	0.1	7	150	1171.2	172	616.1	BDL	469
Kanjamana danjettai Pond Water	0.064	0.001	6.98	12.12	1	54	0.6	8	150	58.6	45	34	BDL	2.7


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	Aluminium (mg/L)	Chromium (mg/L)	pH @ 25°C	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Iron (mg/L)	BOD for 3 days @ 20°C (mg/L)	COD (mg/L)	Dissolved Solids (mg/L)	Total Alkalinity (mg/L)	Total Hardness as CaCO ₃ (mg/L)	Sulphides as S (mg/L)	Sulphates as SO ₄ (mg/L)
Mine I Outlet - Venangeni	0.04	0.013	7.47	51.71	19.8	27.9	0.2	9	150	311.8	23	182	BDL	156
Iyyan Lake	0.028	0.011	8.3	55.09	18.7	63.9	0.2	9	150	341	108	202	BDL	131
Muppaneri	0.046	0.016	8.43	133.53	44.2	157.6	1.4	8	150	1034	118	515	BDE	542
Norms	NA	NA	5.5-9.0	NA	NA	NA	NA	30	250	2100	NA	NA	2.0	1000

	Conductivity @ 25°C (Micro ohms)	Chlorides (mg/L)	Potassium (mg/L)	Fluoride (mg/L)	Manganese (mg/L)	Arsenic (mg/L)	Turbidity	Cadmium (mg/L)	Lead (mg/L)	Mercury (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Zinc (mg/L)
PCS Stores Discharge	NO WATER												
Discharge from NNTDS	1943	353	1.6	1.7	0.0098	0.0035	24.5	0.0015	0.0023	0.0007	0.0446	0.0031	0.0012
Discharge from TPS II	1890	282	2	0.4	0.0097	0.0042	216	0.0015	0.0013	0.0005	0.0404	0.0021	0.0013
Artificial lake North of TPS II	1352	106	0.53	0.36	0.0097	0.0004	5	0.001	BDL	0.0009	0.0095	0.001	0.0004
Valyamadevi	1104	101	0.99	1.29	0.009	0.0004	18	0.0029	0.0006	0.0005	0.0159	0.0017	0.0010
Mine II Discharge - Parayanar River	1500	91	1.15	1.26	0.0098	0.0009	63	0.0009	0.0001	0.0004	0.0192	0.0018	0.0007
Walaja Lake	1105	105.7	1.6	1.09	0.0098	0.0009	29	0.0004	0.0002	0.0004	0.0087	0.0026	0.0008
Mine I Discharge	428	30	0.5	1.79	0.0096	0.0012	7	0.0015	0.0007	0.0004	0.0019	0.001	0.001
Discharge from TPS I	180	10	3	0.97	0.0079	0.0037	1.7	0.0038	0.0005	0.0008	0.0148	0.0006	0.0011
Romapur - Vadakkovellur	1810	217	1	0.83	0.0097	0.0019	4	0.0005	0.0002	0.0003	0.0056	0.0022	0.0008
Vadakkuvellole pond - Near Siyan kottai	1952	75.5	1.2	0.56	0.0095	0.0015	5	0.0004	0.0002	0.0006	0.0032	0.0028	0.0005
Kanjamanadampettai Pond Water	643	3	0.5	1.41	0.0093	0.0038	6	0.0025	0.0004	0.0003	0.0172	0.0009	0.0014
Mine I Outlet - Venangeni	553	38.3	1	0.24	0.0096	0.0013	6	0.0014	0.0003	0.0003	0.0103	0.0004	0.001
Iyyan Lake	368	50	7	0.37	0.0097	0.0013	16	0.0016	0.0009	0.0003	0.0101	0.0008	0.001
Muppaneri	1740	116	0.53	0.63	0.0096	0.0026	3	0.008	0.0002	0.0006	0.0089	0.0034	0.0008
Norms	NA	1000	NA	2.0	2.0	0.2	NA	2.0	0.1	0.01	3.0	0.05	1.0



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Inference: The surface water analysis of the samples carried out by NLCIL depicted above reveals that all the parameters measured are well below the permissible limits. It is also noted that the presence of heavy metals, such as, Cadmium, Mercury, Lead, Nickel, Selenium etc., are well below the permissible limits. The previous analysis test reports (carried out during Aug'23, Sep'23, Oct'23) of NLCIL & TNPCB also indicate that the parameters are/were well below the permissible limits. No abnormalities of whatsoever are/were noted in the any of the analyses reports of the answering Respondent as allegedly claimed in the said Reports of the NGOs in the 2nd cycle of sampling also. That apart, it is pertinent to state and bring it to the kind notice of this Hon'ble Tribunal that the said NGOs have deliberately compared all the Test Reports with Drinking Water Standards (IS 10500-2012) for samples collected from Surface Water & Treated Effluent Discharge Water, which is impermissible, unscientific and unreliable. The comparison of the test results by the NGOs with Drinking Water Standards is not as per the Statutory Guidelines. Hence, based on the test reports, it is submitted that the surface water samples are meeting the permissible standards and may be inferred that there are no alarming levels of pollution as stated falsely in the news articles of the NGOs.

ii. **Ground Water**

The samples of Ground Water were collected from the Ground Water sampling locations identified in the said NGOs Reports scientifically in sealed



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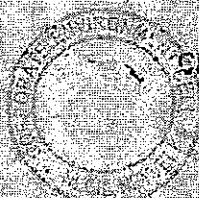
containers and they were tested in NABL accredited laboratory in CARD of NLCIL. A total of 6 Nos. of samples were collected and sent for analysis. The results are tabulated below for the better appreciation of this Hon'ble Tribunal.

	Aluminium (mg/L)	Chromium (mg/L)	pH @ 25°C	Calcium (mg/L)	Magnesium (mg/L)	Sulphur (mg/L)	Iron (mg/L)	BOD for 3 days @ 20°C (mg/L)	COD (mg/L)	Dissolved Solids (mg/L)	Total Alkalinity (mg/L)	Total Hardness as CaCO ₃ (mg/L)	Sulphides as S (mg/L)	Sulphates as SO ₄ (mg/L)
Borewell OHT, Raikalakuppam	0.02	0.005	6.14	14.8	3.9	21.5	0.1	4	100	101	56	53	BDL	10.7
U. Mangalam Tank	0.01	0.004	6.47	22.6	9.8	18.7	0.15	4.5	100	150	63	97	BDL	39
Vanathiravapuram	0.022	0.007	6.57	44.44	22.1	85.9	0.35	5	150	485	191	202	BDL	87.6
Borewell, Mariamman temple	0.021	0.005	6.54	30.7	12.8	51.5	0.04	3.5	150	246	112	129	BDL	39
Borewell B122	0.023	0.002	5.98	16.2	2	7.8	0.2	4	100	67	45	40	BDL	3
Tholkappiar Nagar	0.02	0.004	8.48	27.47	14.7	35.1	0.3	4.5	100	188.4	99	129	BDL	60.52
Norms	0.03	0.05	6.5-8.5	75	30	NA	0.3	NA	NA	500	200	200	0.05	200

	Conductivity @ 25°C (Micro ohms)	Chloride (mg/L)	Potassium (mg/L)	Fluoride (mg/L)	Manganese (mg/L)	Arsenic (mg/L)	Turbidity (NTU)	Cadmium (mg/L)	Lead (mg/L)	Mercury (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Zinc (mg/L)
Borewell OHT, Raikalakuppam	168.5	18	2.99	0.79	0.0067	0.0002	2	0.0019	0.0011	0.0003	0.0017	0.0007	0.0009
U. Mangalam Tank	250	10	2	0.47	0.0094	0.0005	1	0.0018	0.0009	0.0002	0.0026	0.0003	0.001
Vanathiravapuram	809	76	1.6	1	0.0097	0.0009	2	0.0003	0.0001	0.0004	0.0031	0.0006	0.001
Borewell, Mariamman temple	410	52	2	0.62	0.0097	0.0008	1	0.0011	0.0009	0.0005	0.0062	0.0002	0.001
Borewell B122	111.2	12	2.99	0.38	0.0083	0.0007	1	0.0015	0.0009	0.0004	0.0028	0.0006	0.001
Tholkappiar Nagar	314	26.2	1.9	0.62	0.0095	0.001	0.62	0.0013	0.0006	0.0004	0.0068	0.0006	0.001
Norms	NA	250	NA	1.0	0.10	0.01	1.0	0.003	0.01	0.001	0.02	0.01	5.0

INFERENCE

From the above Ground Water analysis of the samples, it is evident that the parameters measured are meeting the standards as per IS 10500:2012





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Drinking Water Standards. The heavy metal parameters, such as, Mercury, Selenium etc., are also well below the norms prescribed for Drinking Water. It is pertinent to state that the water samples collected by the NGOs are/were raw samples directly from bore wells without any treatment process and the said analysis values are/were compared with drinking standards (IS10500-2012), which is unscientific. The parameters in Ground Water will vary depending on the type of soil strata and/or the geological formations prevailing in the area. It is ensured through continuous monitoring that no process of NLCIL is discharging water without treatment that may cause environmental degradation. Therefore, from the above test reports, it is evidently established that there is no alarming levels of pollution in the Ground Water in the region surrounding the industrial premises of NLCIL, Neyveli as falsely alleged by the NGOs.

iii. Soil

Similarly, based on the said NGOs Reports, the soil sample locations were identified and the samples were collected scientifically in sealed containers and were tested in NABL accredited laboratory in CARD/NLCIL. A total of 5 Nos. of samples were collected from the locations specified in the NGO Reports and were analyzed in accordance with the applicable norms. The said results are tabulated below for the better appreciation of this Hon'ble Tribunal: -


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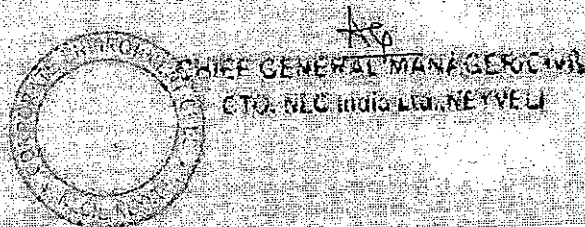


Parameter	Paddy Field near NNTES	Near Iyyan Lake Agriculture Land	Vadakuvellore	Bypass Vadakuvellore	Palitharu Vadakuvellore
Moisture (%)	8.50	15.34	6.43	16.78	6.78
pH	4.70	5.67	7.53	7.78	5.68
Electrical Conductivity ($\mu\text{S}/\text{cm}$)	188	1163	558	686	588
Organic Carbon (%)	0.77	1.56	2.10	3.75	1.35
Organic Matter (%)	1.34	2.69	3.62	4.73	2.53
Available Nitrogen (Kg/Ha)	174.23	158.92	149.34	123.67	124.67
Available Potassium (Kg/ha)	217.3	89.80	463.70	333.80	225
Humid Acid content (%)	0.26	0.34	0.54	0.71	0.48
Mercury Content ($\mu\text{g}/\text{kg}$)	60.20	79.04	53.14	159	64.78

The Report of additional 26 parameters analysis for soil is also provided in the enclosed Report.

INFERENCE

The said Soil sample analysis Report once again reveals that overall the parameters do not point out to any alarming levels of pollution. In addition, it is pertinent to note that there are no specific standards available for Mercury content in soil, however, based on the document published by CPCB (Mercury - Environmental Implications & Toxicity), it is noted that the stringent permitted limits for Mercury content in soil is 6.6 mg/kg or 6600 $\mu\text{g}/\text{kg}$ (referring to CCME - Canadian Council of Ministers for Environment, 1999, revised again in 2001, 2002, 2004, 2006 & 2007). Based on the above results, the maximum Mercury content present is only 0.159 mg/Kg or 159 $\mu\text{g}/\text{kg}$, which is well below the guidelines, referred in the CPCB publications. Thus, there is no truth in the wild



allegations of the NGOs on any aspect.

iv. **The Observations of NLCIL from the Report of TNPCB filed before this Hon'ble Tribunal in this O.A.No.24 of 2024: -**

a. The said Report highlights that the samples collected during April, 2024 were tested in the private labs (where the earlier samples were tested by the NGO) viz., M/s Chennai Mettlex Lab Pvt Ltd & M/s Tamil Nadu Test house Pvt Ltd. In addition, samples were also sent to IIT-Madras, Cube and Advanced Environmental lab, TNPCB, Chennai/Cuddalore.

b. **The observations from the said Report are:**

i. The tests reports of the private labs (where the earlier samples were tested by the NGO viz., M/s Chennai Mettlex Lab Pvt Ltd & M/s Tamil Nadu Test house Pvt Ltd) discloses that the levels of Mercury & Selenium are well within the limits in both ground water & surface water samples. However, presence of heavy metals like zinc, Arsenic, Nickel & Total Chromium were present in 4/6 soil samples.

ii. The reports of TNPCB for samples collected during April, 2024 have indicated presence of heavy metals in ground water, surface water and soil. The observations of the TNPCB reports are submitted for kind information to this Hon'ble Tribunal.

Soil:

Heavy metal concentration (such as zinc, selenium & nickel) presence in soil was noted in 2/6 samples. As there are no standards prescribed by TNPCB/CPCB, the results have been compared with Canadian Standards. It may be noted that the



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heavy metal concentration in soil may be attributed to natural occurrence or due to the use agricultural products (fertilizers or pesticides).

Surface Water:

The report of the TNPCB indicates presence of Mercury in 6/19 samples. However, the sample results of the Discharge of TPS - II have been repeated twice in Annexure II (page 23 & page 30 of the TNPCB report). Hence, the presence of Mercury as per TNPCB report is found in 5 out of 19 samples (instead of 6 out of 19 samples). In addition, the Annexure - II from pages 22 to 31 & in Annexure - I from pages 6 to 13, Neyveli PCS Stores discharge is specified as the location of sampling repeatedly.

i. The comparative statement of the recent test results (of Mercury in mg/L) with previous test results are tabulated below:-

Location	Sampling during April 2024				Sampling during Aug'23, Sep'23 & Oct'23			
	TNPCB AEL	Mettex	TNTH	NLC	TNPCB IIT-M Cube	CPCB	Mettex	TNTH
Discharge from TPS II	0.027	BDL	BQL	0.0005	BLQ	BLQ	BDL	0.14
Opp to M.II - Kootu Kudineer (Valalyamadevi)	0.014	BDL	BQL	0.0005	BLQ	BLQ	0.003	-
Walajah Lake	0.018	BDL	BQL	0.0004	BLQ	BLQ	BDL	-
Iyyan Lake	0.01	BDL	BQL	0.0003	BLQ	-	BDL	-
Vadakkuvellfore - Ammeri	0.019	BDL	BQL	0.0006	BLQ	BLQ	-	BQL

All units in mg/L

ii. Although TNPCB Report during April, 2024 has indicated presence of Mercury in the surface water, the test results of all the laboratories including IIT-M (Cube), CPCB and the private laboratories (where the earlier samples were tested by the NGO viz., M/s Chennai Mettex Lab Pvt Ltd & M/s Tamil Nadu Test house Pvt Ltd) have indicated the mercury levels are Below Detectable Limits



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(BDL/BQL).

Ground Water:

i. The Report of the TNPCB indicates presence of Mercury in 2/9 samples. The comparative statement of the recent test results (of Mercury in mg/L) with last test results are tabulated below: -

Location	Sampling during April 2024				Sampling during Aug'23, Sep'23 & Oct'23			
	TNPCB AEL	Mettex	TNTH	NLC	TNPCB IIT-M Cube	CPCB	Mettex	TNTH
Vellankulam (Bl 22)	0.005	BDL	BQL	0.0004	BLQ	BLQ	BDL	
Pudukkuppam	0.007	BDL	BQL	-*	BLQ	-*	BDL	

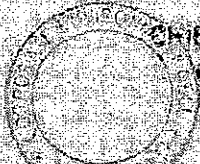
All units in mg/L

*Pudukkuppam village is located in Parangipettai, Cuddalore (Not in the vicinity of NLCIL)

i. Although TNPCB Report of April, 2024 has indicated presence of Mercury in the ground water in 2 locations, the test results of all the laboratories including IIT-M (Cube), CPCB and the private laboratories (where the earlier samples were tested by the NGO viz., M/s Chennai Mettex Lab Pvt Ltd & M/s Tamil Nadu Test house Pvt Ltd) have indicated the mercury levels Below Detectable Limits (BDL / BQL) in all the samples tested.

Other Observations:

i. It may also be noted that the locations where presence of Mercury was indicated as 250 times higher in Ground water samples of the earlier reports of the private laboratories (where the earlier samples were tested by the NGO viz., M/s Chennai Mettex Lab Pvt Ltd & M/s Tamil Nadu Test house Pvt Ltd) are now indicated with mercury level Below Detectable Limits (BDL / BQL) in all the reports including the same private laboratories. The comparative statement is provided below for the better appreciation of this Hon'ble Tribunal: -



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Location	Sampling during April 2024				Sampling during 2023			
	TNPCB AEL	Mettex	TNTH	NLC	TNPCB IIT-M Cube	CPCB	Mettex	TNTH
Tholkapier Nagar	BLQ	BDL	BDL	0.0004	BLQ	BLQ	-	0.25

All units in mg/L

From the above table, it is evident that there is no alarming pollution of mercury in the vicinity of the NLCIL, Neyveli and the statement of Mercury Pollution being 250 times higher in the news items are palpably false.

ii. The results of TNPCB for Sulphide & Chromium are mentioned as <1mg/L and <0.06 mg/L, whereas the standards prescribed in Ground water are 0.05mg/L and 0.05 mg/L respectively. The specific values of the parameters are not provided in the Report.

iii. It is mentioned in the Report of TNPCB that a set of samples collected during April, 2024 were analyzed through IIT-M, Cube. However, the test results of the samples analyzed through IIT-M, Cube are not compiled in the said Report. Further, it may please be noted that results of the testing done at different labs are compiled in the said Report submitted by TNPCB. However, reports of different labs have not been attached along with the report submitted by TNPCB.

iv. From the above it may be inferred that the results of testing done at TNPCB lab are not consistent and hence, the testing done at the labs from where testing was done by NGO (viz., M/s Chennai Mettex Lab Pvt Ltd & M/s Tamil Nadu Test house Pvt Ltd) based on which news article dated 08.08.2023 was published may only be considered. Therefore, it can be inferred that there is no alarming level of Mercury or Heavy metals in the Soil, Ground Water and Surface Water as alleged in the News



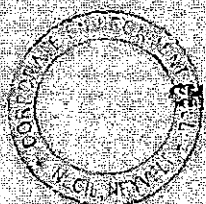
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CTO, NLC India Ltd., NEYVELI

Items. It may also be noted that, there is no involvement of any Mercury based materials in any of the industrial processes (mining & power generation) of NLCIL. Hence, the possibility of Heavy metal contamination, such as, Mercury, Selenium, Lead, Zinc etc., in water and soil is non-viable and untruthful. Further, it is an admitted position that regular monitoring by TNPCB is being carried out in NLCIL Units and the earlier results of analysis of TNPCB, CPCB & CMWSSB are also depicting that no alarming situation of pollution and no Environmental degradation exists in Neyveli and the surrounding areas of NLCIL.

CONCLUSION

- i. Based on the results of the previous analysis (Sampling during Aug'23, Sep'23 & Oct 23) carried out by various agencies & latest analysis by the private laboratories (where the earlier samples were tested by the NGO viz. M/s Chennai Mettlex Lab Pvt Ltd & M/s Tamil Nadu Test house Pvt Ltd), it is established that there is no situation of pollution and no Environmental degradation exists in Neyveli and the surrounding areas as falsely alleged by the said NGOs.
- ii. NLCIL is adhering to the Environmental regulations and continually improving the monitoring & control measures to meet the environmental norms/conditions stipulated to its industries on timely basis. In addition, the conditions stipulated to the Units by TNPCB and other statutory bodies are being continually implemented.

For all the reasons stated above, it is humbly submitted that the news items reported in the "The New Indian Express" dated 09.08.2023, under the caption "Huge pollution risk in 8 Km around NLC", in "The Times of India", Chennai Edition dated 09.08.2023



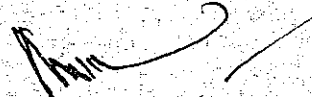
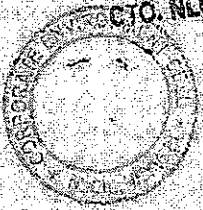
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CHIEF GENERAL MANAGER/CMA
CTO, NLC Unit No. 1, NEYVELI

under the caption "Water near NLC full of Mercury" and in the news report published in South First dated 19.09.2023 titled "Wages of mining Neyveli turns ashtray, leaving farmers with broken promises and uncertain future" are unverified, false, motivated, publicity oriented and contrary to the records of the competent authorities and deserves to be rejected and accordingly it is prayed this Hon'ble Tribunal may be pleased to close the Sub Motu Petitions as baseless and pass such further or other orders as this Hon'ble Tribunal may deem fit and proper in the facts and circumstances of the case and render justice.

Dated at Neyveli on this the 4th day of September, 2024.



1st Respondent
CHIEF GENERAL MANAGER/CIVIL
CTO, NLC India Ltd., NEYVELI



Counsel for the 1st Respondent

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CENTRE FOR APPLIED RESEARCH AND DEVELOPMENT (CARD)
NLC INDIA LIMITED, NEYVELI - 607 807

Report No. : MB/CGM/CARD / TS II Expn/Results/2024, Dt:02.05.2024

Sample received from TS II Expn

Sample details: Soil

Registration no.: I0026

Received date: 04.04.2024

Number of samples: 5 (32, 33, 35, 36, 37)

Results*

S. No.	Parameter	Sample 32	Sample 33	Sample 35	Sample 36	Sample 37
1	Moisture content (%)	8.50	15.34	6.43	16.78	6.78
2	pH	4.70	5.67	7.53	7.78	5.68
3	Electrical Conductivity (µS/cm)	188.00	1163.00	558.00	686.00	588.00
4	Organic carbon (%)	0.77	1.56	2.10	2.75	1.35
5	Organic matter (%)	1.34	2.69	3.62	4.73	2.33
6	Available nitrogen (kg/ha)	174.23	158.92	149.34	123.67	124.67
7	Available potassium (kg/ha)	217.30	89.80	463.70	333.80	275.00
8	Humic acid content (%)	0.26	0.34	0.54	0.71	0.48
9	Mercury content (µg/kg)	60.20	79.04	53.14	159.00	64.78

S. No.	Elements requested	Elements reported in ED XRF as	Sample 32	Sample 33	Sample 35	Sample 36	Sample 37
1	Chlorides	Chlorine (µg/g)	142.3	327.8	315.4	314.9	421.7
2	Sulphate	Sulphur (%)	0.267	0.609	0.5519	0.6327	0.3071
3	Zinc	Zinc (µg/g)	74.1	109	673.8	1990	116.5
4	Cadmium	Cadmium (µg/g)	<0.2	<0.9	1.3	<0.9	<0.2
5	Nickel	Nickel (µg/g)	47.8	4.2	106.4	241.1	71.6
6	Lead	lead (µg/g)	18.3	16.3	15.1	18.7	17
7	Arsenic	Arsenic (µg/g)	6.3	5.5	20.4	21	39.6
8	Total chromium	Chromium (µg/g)	125.8	175	131.1	151.4	151.8
9	Selenium	Selenium (µg/g)	0.7	0.5	1.3	3.4	1.1
10	Calcium	Calcium (%)	0.3936	0.8365	1.309	3.671	0.748
11	Magnesium	Magnesium (%)	0.592	0.664	1.508	3.03	0.892
12	Manganese	Manganese (µg/g)	603.3	350.2	340.7	524	291.4
13	Sulphide	Sulphur (%)	0.267	0.609	0.5519	0.6327	0.3071
14	Aluminium	Aluminium (%)	27.39	21.77	32.11	36.43	31.45
15	Iron	Iron (%)	3.59	3.862	3.986	5.1	3.939
16	Potassium	Potassium (%)	0.4156	0.3496	0.3792	0.249	0.4465
17	Sodium	Sodium (%)	0.155	0.275	0.374	0.7	0.247
18	Antimony	Antimony (µg/g)	<0.4	<0.4	<0.4	<0.4	<0.4
19	Barium	Barium (µg/g)	159.3	171	181.8	271.3	159.5
20	Bromine	Bromine (µg/g)	3.5	14.5	15.4	45.4	5.5

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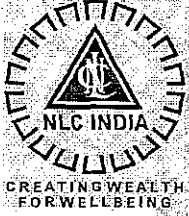
21	Cesium	Cesium ($\mu\text{g/g}$)	24.9	29.6	25.5	19.8	25.1
22	Cobalt	Cobalt ($\mu\text{g/g}$)	<1.0	<1.0	<1.0	55.8	<1.0
23	Copper	Copper ($\mu\text{g/g}$)	38.4	39.7	38.1	64.3	51.4
24	Gallium	Gallium ($\mu\text{g/g}$)	13.6	12.5	18	24.9	19.9
25	Iodine	Iodine ($\mu\text{g/g}$)	13.2	4.3	23.5	44.5	14.6
26	Germanium	Germanium ($\mu\text{g/g}$)	1.2	0.7	3.4	8.4	1.9

*All experiments except moisture content were carried out in dry soils and results are expressed in dry weight basis

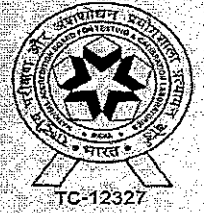
J. Pichler
02/05/2024
DM/MB/CARD

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2/5/24
DGM/MB/CARD

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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 :10025/24-25 Dt: 04 Apr 2024

परीक्षण प्रतिवेदन/ TEST REPORT

ULR: TC:1232724900000001F

ग्राहक / Customer :	रिपोर्ट सं./दिनांक / Report No / Date	TR/177/24-25 Dt-11 May 2024
M/s.DGM/PLANNING/TPS-II EXPAN.	उपभोक्ता सं./ दिनांक / Customer Ref. / Date	ENV. CELL/APR_ 2024 DT.:03/04/
	नमूने का विवरण/Description of the Sample	GROUND WATER SAMPLES FROM SURR
	नमूनों की संख्या/ No. of Samples	6
	परीक्षण की तिथि / Date of Testing	04 Apr 2024 - 11 May 2024
	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 : BW OHT

क्र.सं. SlNo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Total Chromium as Cr (mg/l)	-	0.003	0.005 MAX
2	Aluminum as Al (mg/l)	-	0.020	0.03 MAX
3	pH @ 25 C (-)	-	6.14	6.5 TO 8.5
4	Calcium as Ca (mg/l)	-	14.5	75 MAX
5	Magnesium as Mg (mg/l)	-	3.9	30 MAX
6	Sodium as Na (mg/l)	-	21.30	-
7	Iron as Fe (mg/l)	-	0.10	0.3 MAX
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	-	4	-
9	Chemical Oxygen Demand (mg/l)	-	100.0	-
10	Dissolved Solids (mg/l)	-	101	500 MAX
11	Total Alkanity (mg/l)	-	56	200 MAX
12	Total Hardness as CaCO ₃ (mg/l)	-	53	200 MAX
13	Sulphides as S (mg/l)	-	BDL	0.05 MAX
14	Sulphates as SO ₄ (mg/l)	-	10.7	200 MAX
15	Conductivity in micromhos @ 25°C (-)	-	168.5	-

नोट : यह परिणाम परीक्षण के लिए प्रस्तुत विशेष नमूने से संबंधित है। प्रयोगशाला की महभक्ति 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.



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



रिपोर्ट सं./दिनांक / Report No / Date TR/177/24-25 Dt-11 May 2024

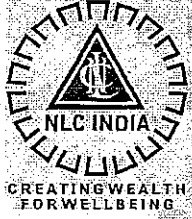
16	Chlorides as Cl (mg/l)	--	18	250 MAX
17	Potassium as K (mg/l)	--	2.99	-
18	Fluoride as F (mg/l)	--	0.79	1.0 MAX
19	Manganese as Mn (mg/l)	--	0.0067	0.10 MAX
20	Arsenic as As (mg/l)	--	0.0002	0.01 MAX
21	Turbidity (NTU)	--	2.00	1.0 MAX
22	Cadmium as Cd (mg/l)	--	0.0019	0.003 MAX
23	Lead as Pb (mg/l)	--	0.0011	0.01 MAX
24	Mercury as Hg (mg/l)	--	0.0003	0.001 MAX
25	Nickel as Ni (mg/l)	--	0.0017	0.02 MAX
26	Selenium as Se (mg/l)	--	0.0007	0.01 MAX
27	Zinc as Zn (mg/l)	--	0.0009	5.0 MAX

नमूने का ब्यौरा Sample particulars : TAQA PIPE WATER

क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Total Chromium as Cr (mg/l)	--	0.004	0.05 MAX
2	Aluminum as Al (mg/l)	--	0.010	0.03 MAX
3	pH @ 25 C (-)	--	6.47	6.5-8.5
4	Calcium as Ca (mg/l)	--	22.6	75 MAX
5	Magnesium as Mg (mg/l)	--	9.8	30 MAX
6	Sodium as Na (mg/l)	--	18.7	-
7	Iron as Fe (mg/l)	--	0.15	0.03 MAX
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	--	4.5	-
9	Chemical Oxygen Demand (mg/l)	--	100.0	-
10	Dissolved Solids (mg/l)	--	150	500 MAX
11	Total Alkalinity (mg/l)	--	63	200 MAX

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, एन. 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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 NEYVELI - 607 807



CREATING WEALTH
 FOR WELLBEING

CENTRE FOR APPLIED RESEARCH AND DEVELOPMENT (CARD)

NEYVELI - 607 807

TC-12327

रिपोर्ट सं./दिनांक / Report No / Date TR/177/24-25 Dt-11 May 2024

12	Total Hardness as CaCO ₃ (mg/l)	--	97.0	200 MAX
13	Sulphides as S (mg/l)	--	BDL	0.05 MAX
14	Sulphates as SO ₄ (mg/l)	--	39.0	200 MAX
15	Conductivity in micromhos @ 25°C (-)	--	250	-
16	Chlorides as Cl (mg/l)	--	19	250 MAX
17	Potassium as K (mg/l)	--	2	-
18	Fluoride as F (mg/l)	--	0.47	1.0 MAX
19	Manganese as Mn (mg/l)	--	0.0094	0.10 MAX
20	Arsenic as As (mg/l)	--	0.0005	0.01 MAX
21	Turbidity (NTU)	--	1.00	1.0 MAX
22	Cadmium as Cd (mg/l)	--	0.0018	0.003 MAX
23	Lead as Pb (mg/l)	--	0.0009	0.01 MAX
24	Mercury as Hg (mg/l)	--	0.0002	0.001 MAX
25	Nickel as Ni (mg/l)	--	0.0026	0.02 MAX
26	Selenium as Se (mg/l)	--	0.0005	0.01 MAX
27	Zinc as Zn (mg/l)	--	0.0010	5.0 MAX

नमूने का ब्यौरा Sample particulars : VANATHARAYAPURAM

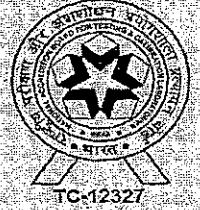
क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Total Chromium as Cr (mg/l)	--	0.007	0.05 MAX
2	Aluminum as Al (mg/l)	--	0.022	0.03 MAX
3	pH @ 25 C (-)	--	6.57	6.5 TO 8.5
4	Calcium as Ca (mg/l)	--	44.44	75 MAX
5	Magnesium as Mg (mg/l)	--	22.1	30 MAX
6	Sodium as Na (mg/l)	--	85.9	-
7	Iron as Fe (mg/l)	--	0.25	0.3 MAX

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।

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अनुसंधान एवं विकास केंद्र (कार्ड)
नेयवेली - 607807
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NEYVELI - 607 807



रिपोर्ट सं./दिनांक / Report No / Date TR/177/24-25 Dt-11 May 2024

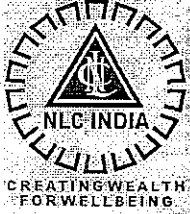
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	--	5	-
9	Chemical Oxygen Demand (mg/l)	--	150.0	-
10	Dissolved Solids (mg/l)	--	485	500 MAX
11	Total Alkanity (mg/l)	--	194	200 MAX
12	Total Hardness as CaCO ₃ (mg/l)	--	202.0	200 MAX
13	Sulphides as S (mg/l)	--	BDL	0.05 MAX
14	Sulphates as SO ₄ (mg/l)	--	87.6	200 MAX
15	Conductivity in micromhos @ 25°C (-)	--	809	-
16	Chlorides as Cl (mg/l)	--	76	250 MAX
17	Potassium as K (mg/l)	--	1.6	-
18	Fluoride as F (mg/l)	--	1.0	1.0 MAX
19	Manganese as Mn (mg/l)	--	0.0097	0.10 MAX
20	Arsenic as As (mg/l)	--	0.0009	0.01 MAX
21	Turbidity (NTU)	--	2.00	1.0 MAX
22	Cadmium as Cd (mg/l)	--	0.0003	0.003 MAX
23	Lead as Pb (mg/l)	--	0.0001	0.01 MAX
24	Mercury as Hg (mg/l)	--	0.0004	0.001 MAX
25	Nickel as Ni (mg/l)	--	0.0051	0.02 MAX
26	Selenium as Se (mg/l)	--	0.0006	0.01 MAX
27	Zinc as Zn (mg/l)	--	0.0010	5.0 MAX

नमूने का ब्यौरा Sample particulars : BW WATER MARIYAMMAN

क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Total Chromium as Cr (mg/l)	--	0.005	0.05 MAX
2	Aluminum as Al (mg/l)	--	0.021	0.03 MAX
3	pH @ 25 C (-)	--	6.54	6.5-8.5

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।

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अनुप्रयुक्त अनुसंधान एवं विकास केंद्र(कार्ड)
नेयवेली - 607807
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NEYVELI - 607 807



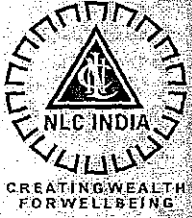
रिपोर्ट सं./दिनांक / Report No / Date TR/177/24-25 Dt-11 May 2024

4	Calcium as Ca (mg/l)	--	30.7	75 MAX
5	Magnesium as Mg (mg/l)	--	12.8	30 MAX
6	Sodium as Na (mg/l)	--	51.5	-
7	Iron as Fe (mg/l)	--	0.04	0.03 MAX
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	--	3.5	-
9	Chemical Oxygen Demand (mg/l)	--	150.0	-
10	Dissolved Solids (mg/l)	--	246	500 MAX
11	Total Alkalinity (mg/l)	--	112	200 MAX
12	Total Hardness as CaCO ₃ (mg/l)	--	129.0	200 MAX
13	Sulphides as S (mg/l)	--	BDL	0.05 MAX
14	Sulphates as SO ₄ (mg/l)	--	39	200 MAX
15	Conductivity in micromhos @ 25°C (-)	--	410	-
16	Chlorides as Cl (mg/l)	--	52	250 MAX
17	Potassium as K (mg/l)	--	2	-
18	Fluoride as F (mg/l)	--	0.62	1.0 MAX
19	Manganese as Mn (mg/l)	--	0.0097	0.10 MAX
20	Arsenic as As (mg/l)	--	0.0008	0.01 MAX
21	Turbidity (NTU)	--	1.00	1.0 MAX
22	Cadmium as Cd (mg/l)	--	0.0011	0.003 MAX
23	Lead as Pb (mg/l)	--	0.0009	0.01 MAX
24	Mercury as Hg (mg/l)	--	0.0005	0.001 MAX
25	Nickel as Ni (mg/l)	--	0.0062	0.02 MAX
26	Selenium as Se (mg/l)	--	0.0002	0.01 MAX
27	Zinc as Zn (mg/l)	--	0.0010	5.0 MAX

नमूने का ब्यौरा Sample particulars : BW WATER AT BL 22

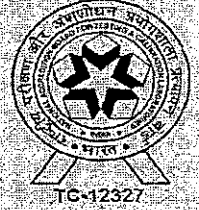
नोट : यह परिणाम परीक्षण के लिए प्रस्तुत विशेष नमूने से संबंधित है। प्रयोगशाला की सहमति के बिना, जब तक पूर्ण रूप से रिपोर्ट नहीं की जाएगी, पुनः प्रस्तुत नहीं किया जाएगा। नमूना विवरण ग्राहक द्वारा दिया गया है। जब तक अन्यथा न कहा जाए, नमूने हमारे द्वारा नहीं लिए गए हैं।

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नेयवेली - 607807
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TG-12327

रिपोर्ट सं./दिनांक / Report No / Date TR/177/24-25 Dt-11 May 2024

क्र.सं. SlNo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Total Chromium as Cr (mg/l)	--	0.002	0.05 MAX
2	Aluminum as Al (mg/l)	--	0.023	0.03 MAX
3	pH @ 25 C (-)	--	5.98	6.5-8.5
4	Calcium as Ca (mg/l)	--	16.2	75 MAX
5	Magnesium as Mg (mg/l)	--	2.0	30 MAX
6	Sodium as Na (mg/l)	--	7.8	-
7	Iron as Fe (mg/l)	--	0.20	0.3 MAX
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	--	4	-
9	Chemical Oxygen Demand (mg/l)	--	100.0	-
10	Dissolved Solids (mg/l)	--	67	500 MAX
11	Total Alkalinity (mg/l)	--	43	200 MAX
12	Total Hardness as CaCO ₃ (mg/l)	--	40.0	200 MAX
13	Sulphides as S (mg/l)	--	BDL	0.05 MAX
14	Sulphates as SO ₄ (mg/l)	--	3	200 MAX
15	Conductivity in micromhos @ 25°C (-)	--	111.2	-
16	Chlorides as Cl ⁻ (mg/l)	--	12	250 MAX
17	Potassium as K (mg/l)	--	2.99	-
18	Fluoride as F (mg/l)	--	0.38	1.0 MAX
19	Manganese as Mn (mg/l)	--	0.0083	0.10 MAX
20	Arsenic as As (mg/l)	--	0.0007	0.01 MAX
21	Turbidity (NTU)	--	1.00	1.0 MAX
22	Cadmium as Cd (mg/l)	--	0.0015	0.003 MAX
23	Lead as Pb (mg/l)	--	0.0009	0.01 MAX
24	Mercury as Hg (mg/l)	--	0.0004	0.001 MAX

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।

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 नेयवेली - 607807
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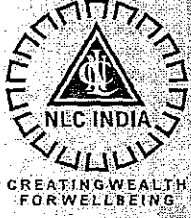
25	Nickel as Ni (mg/l)	-	0.0028	0.02 MAX
26	Selenium as Se (mg/l)	-	0.0006	0.01 MAX
27	Zinc as Zn (mg/l)	-	0.0010	5.0 MAX

नमूने का ब्यौरा Sample particulars : THILKAPIYAR NAGAR

क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Total Chromium as Cr (mg/l)	--	0.004	0.05 MAX
2	Aluminium as Al (mg/l)	--	0.020	0.03 MAX
3	pH @ 25 C (-)	--	8.48	6.5-8.5
4	Calcium as Ca (mg/l)	--	27.472	75 MAX
5	Magnesium as Mg (mg/l)	--	14.7	30 MAX
6	Sodium as Na (mg/l)	--	35.1	-
7	Iron as Fe (mg/l)	--	0.30	0.3 MAX
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	-	4.5	-
9	Chemical Oxygen Demand (mg/l)	-	100.0	-
10	Dissolved Solids (mg/l)	-	188.4	500 MAX
11	Total Alkalinity (mg/l)	--	99	200 MAX
12	Total Hardness as CaCO ₃ (mg/l)	--	129	200 MAX
13	Sulphides as S (mg/l)	--	BDL	0.05 MAX
14	Sulphates as SO ₄ (mg/l)	--	60.52	200 MAX
15	Conductivity in micromhos @ 25°C (-)	-	314	-
16	Chlorides as Cl (mg/l)	--	26.2	250 MAX
17	Potassium as K (mg/l)	--	1.90	-
18	Fluoride as F (mg/l)	--	0.62	1.0 MAX
19	Manganese as Mn (mg/l)	-	0.0095	0.10 MAX
20	Arsenic as As (mg/l)	--	0.0010	0.01 MAX

नोट : यह परिणाम परीक्षण के लिए प्रस्तुत विश्लेषण 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।

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नेयवेली - 607807
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21	Turbidity (NTU)	--	0.62	1.0 MAX
22	Cadmium as Cd (mg/l)	--	0.0013	0.003 MAX
23	Lead as Pb (mg/l)	--	0.0006	0.01 MAX
24	Mercury as Hg (mg/l)	--	0.0004	0.001 MAX
25	Nickel as Ni (mg/l)	--	0.0068	0.02 MAX
26	Selenium as Se (mg/l)	--	0.0006	0.01 MAX
27	Zinc as Zn (mg/l)	--	0.0011	5.0 MAX

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

परीक्षण परिणाम का अंत / End of the test result

1कृते एनएलसी इंडिया लिमिटेड / For NLC INDIA LIMITED

S.Prabakaran
CM/Sci/CARD

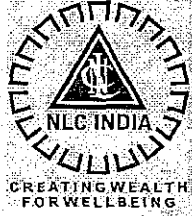
G. Thiru Murugan
CM/Chemical/CARD

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, अब 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।

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कार्ड /संदर्भ सं. एवं दिनांक/ CARD /Ref No & Date : Reg.No :10024/24-25 Dt: 04 Apr 2024

परीक्षण प्रतिवेदन/ TEST REPORT

ग्राहक / Customer : M/s.DGM/PLANNING/TPS-II EXPAN.	रिपोर्ट सं./दिनांक / Report No / Date	TR/175/24-25 Dt-10 May 2024
	उपभोक्ता सं./ दिनांक / Customer Ref. / Date	ENV. CELL/APR, 2024 DT.:03/04/
	नमूने का विवरण/Description of the Sample	SUFACE WATER SAMPLES FROM SURRO
	नमूनों की संख्या/ No. of Samples	15
	परीक्षण की तिथि / Date of Testing	04 Apr 2024 - 10 May 2024
	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 : DISCHARGE FROM NNTP (2)

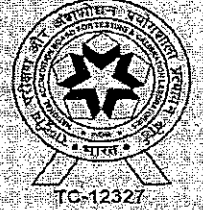
क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Aluminum as Al (mg/l)	--	0.052	-
2	Total Chromium as Cr (mg/l)	--	0.0040	2.0
3	pH @ 25 C (-)	--	7.77	-
4	Calcium as Ca (mg/l)	--	117.16	-
5	Magnesium as Mg (mg/l)	--	14.7	-
6	Sodium as Na (mg/l)	--	300.9	-
7	Iron as Fe (mg/l)	--	100.0	-
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	--	9.5	30
9	Chemical Oxygen Demand (mg/l)	--	83.3	250
10	Dissolved Solids (mg/l)	--	1166	2100
11	Total Alkanity (mg/l)	--	129	-
12	Total Hardness as CaCO ₃ (mg/l)	--	354.0	-
13	Sulphides as S (mg/l)	--	BDL	2.0
14	Sulphates as SO ₄ (mg/l)	--	366	1000
15	Conductivity in micromhos @ 25°C (-)	--	1943	-

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।

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 नेयवेली - 607807
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16	Chlorides as Cl (mg/l)	-	353	1000
17	Potassium as K (mg/l)	-	1.6	-
18	Fluoride as F (mg/l)	--	1.7	2.0
19	Manganese as Mn (mg/l)	--	0.0098	2.0
20	Arsenic as As (mg/l)	--	0.0035	0.20
21	Turbidity (NTU)	--	24.5	-
22	Cadmium as Cd (mg/l)	-	0.0015	2.0
23	Lead as Pb (mg/l)	-	0.0023	0.10
24	Mercury as Hg (mg/l)	--	0.0007	0.01
25	Nickel as Ni (mg/l)	-	0.0446	3.0
26	Selenium as Se (mg/l)	--	0.0031	0.05
27	Zinc as Zn (mg/l)	-	0.0012	1.0

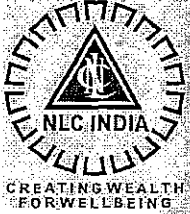
नमूने का व्यौरा Sample particulars : DISCHARGE FROM TPS II (5)

क्र.सं. SlNo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Aluminum as Al (mg/l)	--	0.084	-
2	Total Chromium as Cr (mg/l)	--	0.014	2.0
3	pH @ 25 C (-)	-	6.43	-
4	Calcium as Ca (mg/l)	--	161.60	-
5	Magnesium as Mg (mg/l)	--	61.4	-
6	Sodium as Na (mg/l)	--	200	-
7	Iron as Fe (mg/l)	--	4.0	-
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	-	12	30
9	Chemical Oxygen Demand (mg/l)	--	208.3	250
10	Dissolved Solids (mg/l)	-	1134	2100
11	Total Alkalinity (mg/l)	-	97	-

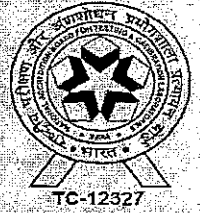
नोट : यह परिणाम परीक्षण के लिए प्रस्तुत विशेष नमूने से संबंधित है। प्रयोगशाला की सहमति के बिना, जब तक पूर्ण रूप से रिपोर्ट नहीं की जाएगी, पुनः प्रस्तुत नहीं किया जाएगा। नमूना विवरण ग्राहक द्वारा दिया गया है, जब तक अन्यथा न कहा जाए, नमूने हमारे द्वारा नहीं लिए गए हैं।

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30



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नेयवेली - 607807
NLC INDIA LIMITED
CENTRE FOR APPLIED RESEARCH AND DEVELOPMENT (CARD)
NEYVELI - 607 807



रिपोर्ट सं./दिनांक / Report No / Date TR/175/24-25 Dt-10 May 2024

12	Total Hardness as CaCO ₃ (mg/l)	--	657.0	-
13	Sulphides as S (mg/l)	--	BDL	2.0
14	Sulphates as SO ₄ (mg/l)	--	476	1000
15	Conductivity in micromhos @ 25°C (-)	--	1890	-
16	Chlorides as Cl (mg/l)	--	282	1000
17	Potassium as K (mg/l)	--	2	-
18	Fluoride as F (mg/l)	--	0.40	2.0
19	Manganese as Mn (mg/l)	--	0.0097	2.0
20	Arsenic as As (mg/l)	--	0.0042	0.20
21	Turbidity (NTU)	--	216.0	-
22	Cadmium as Cd (mg/l)	--	0.0013	2.0
23	Lead as Pb (mg/l)	--	0.0013	0.10
24	Mercury as Hg (mg/l)	--	0.0005	0.01
25	Nickel as Ni (mg/l)	--	0.0404	3.0
26	Selenium as Se (mg/l)	--	0.0021	0.05
27	Zinc as Zn (mg/l)	--	0.0013	1.0

नमूने का श्रृंखला Sample particulars : ARTIFICIAL LAKE (11)

क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Aluminum as Al (mg/l)	--	0.062	-
2	Total Chromium as Cr (mg/l)	--	0.0036	2.0
3	pH @ 25 C (-)	--	7.48	-
4	Calcium as Ca (mg/l)	--	141.4	-
5	Magnesium as Mg (mg/l)	--	24.5	-
6	Sodium as Na (mg/l)	--	162.6	-
7	Iron as Fe (mg/l)	--	0.1	-

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।

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 नेवेली - 607807
NLC INDIA LIMITED
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8	Biological Oxygen Demand for 3 days @ 27°C (mg/l)	--	13.6	30
9	Chemical Oxygen Demand (mg/l)	--	125.0	250
10	Dissolved Solids (mg/l)	--	811	2100
11	Total Alkalinity (mg/l)	--	54.0	-
12	Total Hardness as CaCO ₃ (mg/l)	--	455.0	-
13	Sulphides as S (mg/l)	--	BDL	2.0
14	Sulphates as SO ₄ (mg/l)	--	440	1000
15	Conductivity in micromhos @ 25°C (-)	--	1352	-
16	Chlorides as Cl (mg/l)	--	106	1000
17	Potassium as K (mg/l)	--	0.53	-
18	Fluoride as F (mg/l)	--	0.36	2.0
19	Manganese as Mn (mg/l)	--	0.0097	2.0
20	Arsenic as As (mg/l)	--	0.0004	0.20
21	Turbidity (NTU)	--	5	-
22	Cadmium as Cd (mg/l)	--	0.001	2.0
23	Lead as Pb (mg/l)	--	BDL	0.10
24	Mercury as Hg (mg/l)	--	0.0009	0.01
25	Nickel as Ni (mg/l)	--	0.0095	3.0
26	Selenium as Se (mg/l)	--	0.001	0.05
27	Zinc as Zn (mg/l)	--	0.0004	1.0

नमूने का ब्यौरा Sample particulars : OPP TO MAIN GATE M II (6)

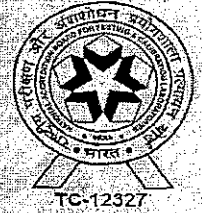
क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Aluminum as Al (mg/l)	--	0.052	-
2	Total Chromium as Cr (mg/l)	--	0.015	2.0
3	pH @ 25 C (-)	--	8.05	-

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।

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TC-12327

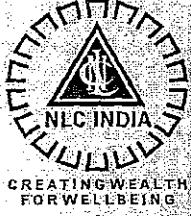
रिपोर्ट सं./दिनांक / Report No / Date TR/175/24-25 Dt-10 May 2024

4	Calcium as Ca (mg/l)	--	68.68	-
5	Magnesium as Mg (mg/l)	--	41.7	-
6	Sodium as Na (mg/l)	--	131.8	-
7	Iron as Fe (mg/l)	--	0.5	-
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	--	7.8	30
9	Chemical Oxygen Demand (mg/l)	--	41.7	250
10	Dissolved Solids (mg/l)	--	662	2100
11	Total Alkanity (mg/l)	--	129	-
12	Total Hardness as CaCO ₃ (mg/l)	--	343.0	-
13	Sulphides as S (mg/l)	--	BDL	2.0
14	Sulphates as SO ₄ (mg/l)	--	289	1000
15	Conductivity in micromhos @ 25°C (-)	--	1104	-
16	Chlorides as Cl (mg/l)	--	101	1000
17	Potassium as K (mg/l)	--	0.99	-
18	Fluoride as F (mg/l)	--	1.29	2.0
19	Manganese as Mn (mg/l)	--	0.0097	2.0
20	Arsenic as As (mg/l)	--	0.0004	0.20
21	Turbidity (NTU)	--	18	-
22	Cadmium as Cd (mg/l)	--	0.0029	2.0
23	Lead as Pb (mg/l)	--	0.0006	0.10
24	Mercury as Hg (mg/l)	--	0.0005	0.01
25	Nickel as Ni (mg/l)	--	0.0159	3.0
26	Selenium as Se (mg/l)	--	0.0017	0.05
27	Zinc as Zn (mg/l)	--	0.0010	1.0

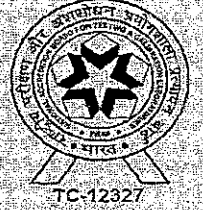
नमूने का ब्यौरा Sample particulars : PARAVANAR RIVER (8)

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।

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नेयवेली - 607807
NLC INDIA LIMITED
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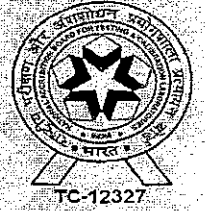
क्र.सं. S/No	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Aluminum as Al (mg/l)	--	0.058	-
2	Total Chromium as Cr (mg/l)	--	0.012	2.0
3	pH @ 25 C (-)	--	8.53	-
4	Calcium as Ca (mg/l)	--	117.16	-
5	Magnesium as Mg (mg/l)	--	54.0	-
6	Sodium as Na (mg/l)	--	114.2	-
7	Iron as Fe (mg/l)	--	0.08	-
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	--	9.2	30
9	Chemical Oxygen Demand (mg/l)	--	83.3	250
10	Dissolved Solids (mg/l)	--	900	2100
11	Total Alkalinity (mg/l)	--	150	-
12	Total Hardness as CaCO ₃ (mg/l)	--	515.1	-
13	Sulphides as S (mg/l)	--	BDL	2.0
14	Sulphates as SO ₄ (mg/l)	--	446	1000
15	Conductivity in micromhos @ 25°C (-)	--	1500	-
16	Chlorides as Cl (mg/l)	--	91	1000
17	Potassium as K (mg/l)	--	1.15	-
18	Fluoride as F (mg/l)	--	1.26	2.0
19	Manganese as Mn (mg/l)	--	0.0098	2.0
20	Arsenic as As (mg/l)	--	0.0009	0.20
21	Turbidity (NTU)	--	63.0	-
22	Cadmium as Cd (mg/l)	--	0.0009	2.0
23	Lead as Pb (mg/l)	--	0.0001	0.10
24	Mercury as Hg (mg/l)	--	0.0004	0.01

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।

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नेयवेली - 607807
NLC INDIA LIMITED
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25	Nickel as Ni (mg/l)	--	0.0192	3.0
26	Selenium as Se (mg/l)	--	0.0018	0.05
27	Zinc as Zn (mg/l)	--	0.0007	1.0

नमूने का स्वरूप Sample particulars : WALAJA RIVER (9)

क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Aluminum as Al (mg/l)	--	0.068	-
2	Total Chromium as Cr (mg/l)	--	0.0022	2.0
3	pH @ 25 C (-)	--	8.19	-
4	Calcium as Ca (mg/l)	--	56.6	-
5	Magnesium as Mg (mg/l)	--	41.7	-
6	Sodium as Na (mg/l)	--	161.2	-
7	Iron as Fe (mg/l)	--	0.20	-
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	--	11.0	30
9	Chemical Oxygen Demand (mg/l)	--	125.0	250
10	Dissolved Solids (mg/l)	--	663	2100
11	Total Alkalinity (mg/l)	--	215	-
12	Total Hardness as CaCO ₃ (mg/l)	--	313	-
13	Sulphides as S (mg/l)	--	BDL	2.0
14	Sulphates as SO ₄ (mg/l)	--	294	1000
15	Conductivity in micromhos @ 25°C (-)	--	1105	-
16	Chlorides as Cl (mg/l)	--	105.7	1000
17	Potassium as K (mg/l)	--	1.6	-
18	Fluoride as F (mg/l)	--	1.09	2.0
19	Manganese as Mn (mg/l)	--	0.0098	2.0
20	Arsenic as As (mg/l)	--	0.0009	0.20

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 दिक्कत ग्राहक द्वारा दिया गया है। जब तक अन्यथा न कहा जाए, नमूने हमारे द्वारा नहीं लिए गए हैं।

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 नेयवेली - 607807
 NLC INDIA LIMITED
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21	Turbidity (NTU)	--	29	-
22	Cadmium as Cd (mg/l)	--	0.0004	2.0
23	Lead as Pb (mg/l)	--	0.0002	0.10
24	Mercury as Hg (mg/l)	--	0.0004	0.01
25	Nickel as Ni (mg/l)	--	0.0087	3.0
26	Selenium as Se (mg/l)	--	0.0026	0.05
27	Zinc as Zn (mg/l)	--	0.0008	1.0

नमूने का ब्यौरा Sample particulars : COAL MINE DISCHARGE (7)

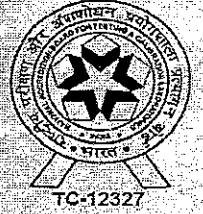
क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Aluminum as Al (mg/l)	--	0.032	-
2	Total Chromium as Cr (mg/l)	--	0.016	2.0
3	pH @ 25 C (-)	--	6.33	-
4	Calcium as Ca (mg/l)	--	35.55	-
5	Magnesium as Mg (mg/l)	--	16.7	-
6	Sodium as Na (mg/l)	--	53.6	-
7	Iron as Fe (mg/l)	--	0.4	-
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	--	10.0	30
9	Chemical Oxygen Demand (mg/l)	--	200.0	250
10	Dissolved Solids (mg/l)	--	256.8	2100
11	Total Alkanity (mg/l)	--	172.0	-
12	Total Hardness as CaCO ₃ (mg/l)	--	158.0	-
13	Sulphides as S (mg/l)	--	BDL	2.0
14	Sulphates as SO ₄ (mg/l)	--	38.8	1000
15	Conductivity in micromhos @ 25°C (-)	--	428	-
16	Chlorides as Cl (mg/l)	--	30	1000

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।

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अनुसंधान एवं विकास केंद्र (कार्ड)
नेयवेली - 607807
NLC INDIA LIMITED
CENTRE FOR APPLIED RESEARCH AND DEVELOPMENT (CARD)
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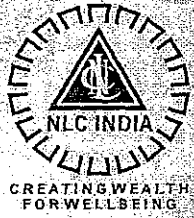
17	Potassium as K (mg/l)	-	0.5	-
18	Fluoride as F (mg/l)	--	1.79	2.0
19	Manganese as Mn (mg/l)	--	0.0096	2.0
20	Arsenic as As (mg/l)	--	0.0012	0.20
21	Turbidity (NTU)	-	7	-
22	Cadmium as Cd (mg/l)	-	0.0015	2.0
23	Lead as Pb (mg/l)	--	0.0007	0.10
24	Mercury as Hg (mg/l)	-	0.0004	0.01
25	Nickel as Ni (mg/l)	-	0.0019	3.0
26	Selenium as Se (mg/l)	-	0.0010	0.05
27	Zinc as Zn (mg/l)	-	0.0010	1.0

नमूने का ब्यौरा Sample particulars : DIRECT DISCHARGE (4)

क्र.सं. S/No	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Aluminum as Al (mg/l)	-	0.062	-
2	Total Chromium as Cr (mg/l)	-	0.0011	2.0
3	pH @ 25 C (-)	-	7.48	-
4	Calcium as Ca (mg/l)	--	16.20	-
5	Magnesium as Mg (mg/l)	--	4.9	-
6	Sodium as Na (mg/l)	-	14.9	-
7	Iron as Fe (mg/l)	-	0.1	-
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	--	9.0	30
9	Chemical Oxygen Demand (mg/l)	-	150.0	250
10	Dissolved Solids (mg/l)	-	108	2100
11	Total Alkalinity (mg/l)	--	52	-
12	Total Hardness as CaCO ₃ (mg/l)	--	61	-

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।

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13	Sulphides as S (mg/l)	-	BDL	2.0
14	Sulphates as SO ₄ (mg/l)	--	26.1	1000
15	Conductivity in micromhos @ 25°C (-)	--	180	-
16	Chlorides as Cl (mg/l)	-	10	1000
17	Potassium as K (mg/l)	--	3.0	-
18	Fluoride as F (mg/l)	--	0.97	2.0
19	Manganese as Mn (mg/l)	--	0.0079	2.0
20	Arsenic as As (mg/l)	--	0.0037	0.20
21	Turbidity (NTU)	-	1.7	-
22	Cadmium as Cd (mg/l)	--	0.0038	2.0
23	Lead as Pb (mg/l)	-	0.0005	0.10
24	Mercury as Hg (mg/l)	--	0.0008	0.01
25	Nickel as Ni (mg/l)	--	0.0148	3.0
26	Selenium as Se (mg/l)	-	0.0006	0.05
27	Zinc as Zn (mg/l)	-	0.0011	1.0

नमूने का ब्यौरा Sample particulars : ROMAPURI (24)

क्र.सं. SlNo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Aluminum as Al (mg/l)	--	0.044	-
2	Total Chromium as Cr (mg/l)	--	0.014	2.0
3	pH @ 25 C (-)	-	8.64	-
4	Calcium as Ca (mg/l)	-	125.24	-
5	Magnesium as Mg (mg/l)	--	49.1	-
6	Sodium as Na (mg/l)	-	282.8	-
7	Iron as Fe (mg/l)	-	0.9	-
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	-	8	30

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।

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 नेयवेली - 607807
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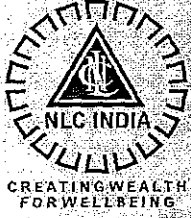
9	Chemical Oxygen Demand (mg/l)	-	150	250
10	Dissolved Solids (mg/l)	--	1086	2100
11	Total Alkalinity (mg/l)	--	172	-
12	Total Hardness as CaCO ₃ (mg/l)	--	515	-
13	Sulphides as S (mg/l)	-	BDL	2.0
14	Sulphates as SO ₄ (mg/l)	--	460	1000
15	Conductivity in micromhos @ 25°C (-)	--	1810	-
16	Chlorides as Cl (mg/l)	--	217	1000
17	Potassium as K (mg/l)	--	1.0	-
18	Fluoride as F (mg/l)	--	0.83	2.0
19	Manganese as Mn (mg/l)	--	0.0097	2.0
20	Arsenic as As (mg/l)	-	0.0019	0.20
21	Turbidity (NTU)	-	4	-
22	Cadmium as Cd (mg/l)	--	0.0003	2.0
23	Lead as Pb (mg/l)	-	0.0002	0.10
24	Mercury as Hg (mg/l)	-	0.0003	0.01
25	Nickel as Ni (mg/l)	--	0.0056	3.0
26	Selenium as Se (mg/l)	-	0.0022	0.05
27	Zinc as Zn (mg/l)	--	0.0008	1.0

नमूने का ब्यौरा Sample particulars : VADAKKUVELLUR (25)

क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Aluminum as Al (mg/l)	--	0.056	-
2	Total Chromium as Cr (mg/l)	-	0.018	2.0
3	pH @ 25 C (-)	-	8.31	-
4	Calcium as Ca (mg/l)	--	157.5	-
5	Magnesium as Mg (mg/l)	-	54	-

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।

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 नेयवेली - 607807
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6	Sodium as Na ⁺ (mg/l)	--	290.6	-
7	Iron as Fe (mg/l)	--	0.1	-
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	--	7	30
9	Chemical Oxygen Demand (mg/l)	--	150	250
10	Dissolved Solids (mg/l)	--	1171.2	2100
11	Total Alkalinity (mg/l)	--	172	-
12	Total Hardness as CaCO ₃ (mg/l)	--	616.1	-
13	Sulphides as S (mg/l)	--	BDL	2.0
14	Sulphates as SO ₄ (mg/l)	--	469.0	1000
15	Conductivity in micromhos @ 25°C (-)	--	1952	-
16	Chlorides as Cl (mg/l)	--	75.5	1000
17	Potassium as K (mg/l)	--	1.2	-
18	Fluoride as F (mg/l)	--	0.56	2.0
19	Manganese as Mn (mg/l)	--	0.0095	2.0
20	Arsenic as As (mg/l)	--	0.0015	0.20
21	Turbidity (NTU)	--	5	-
22	Cadmium as Cd (mg/l)	--	0.0004	2.0
23	Lead as Pb (mg/l)	--	0.0002	0.10
24	Mercury as Hg (mg/l)	--	0.0006	0.01
25	Nickel as Ni (mg/l)	--	0.0032	3.0
26	Selenium as Se (mg/l)	--	0.0028	0.05
27	Zinc as Zn (mg/l)	--	0.0005	1.0

नमूने का ब्यौरा Sample particulars : KANJAMANDANPETTAI (14)

क्र.सं. SlNo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
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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, पुनः प्रस्तुत नहीं किया जाएगा। नमूने विवरण ग्राहक द्वारा दिया गया है। जब तक अन्यथा न कहा जाए, नमूने हमारे द्वारा नहीं लिए गए हैं।

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 नेचवेली - 607807
NLC INDIA LIMITED
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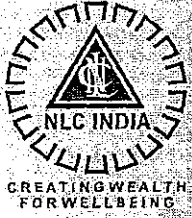


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1	Aluminum as Al (mg/l)	-	0.064	-
2	Total Chromium as Cr (mg/l)	--	0.001	2.0
3	pH @ 25 C (-)	-	6.98	-
4	Calcium as Ca (mg/l)	-	12.12	-
5	Magnesium as Mg (mg/l)	-	1.0	-
6	Sodium as Na (mg/l)	-	5.4	-
7	Iron as Fe (mg/l)	-	0.6	-
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	-	8	30
9	Chemical Oxygen Demand (mg/l)	-	150	250
10	Dissolved Solids (mg/l)	-	38.6	2100
11	Total Alkanity (mg/l)	-	43	-
12	Total Hardness as CaCO ₃ (mg/l)	-	34	-
13	Sulphides as S (mg/l)	-	BDL	2.0
14	Sulphates as SO ₄ (mg/l)	-	2.7	1000
15	Conductivity in micromhos @ 25°C (-)	-	64.3	-
16	Chlorides as Cl (mg/l)	-	3.0	1000
17	Potassium as K (mg/l)	-	0.5	-
18	Fluoride as F (mg/l)	-	1.41	2.0
19	Manganese as Mn (mg/l)	-	0.0093	2.0
20	Arsenic as As (mg/l)	-	0.0038	0.20
21	Turbidity (NTU)	-	6.0	-
22	Cadmium as Cd (mg/l)	-	0.0025	2.0
23	Lead as Pb (mg/l)	-	0.0004	0.10
24	Mercury as Hg (mg/l)	-	0.0003	0.01
25	Nickel as Ni (mg/l)	-	0.0172	3.0

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।

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नेयवेली - 607807
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26	Selenium as Se (mg/l)	--	0.0009	0.05
27	Zinc as Zn (mg/l)	--	0.0014	1.0

नमूने का ब्यौरा Sample particulars : MINE 1 OUTLET (23)

क्र.सं. S/No	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Aluminum as Al (mg/l)	--	0.04	-
2	Total Chromium as Cr (mg/l)	--	0.013	2.0
3	pH @ 25 C (-)	--	7.47	-
4	Calcium as Ca (mg/l)	--	51.71	-
5	Magnesium as Mg (mg/l)	--	12.8	-
6	Sodium as Na (mg/l)	--	27.9	-
7	Iron as Fe (mg/l)	--	0.2	-
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	--	9	30
9	Chemical Oxygen Demand (mg/l)	--	150	250
10	Dissolved Solids (mg/l)	--	331.8	2100
11	Total Alkalinity (mg/l)	--	22	-
12	Total Hardness as CaCO ₃ (mg/l)	--	182	-
13	Sulphides as S (mg/l)	--	BDL	2.0
14	Sulphates as SO ₄ (mg/l)	--	156	1000
15	Conductivity in micromhos @ 25°C (-)	--	553	-
16	Chlorides as Cl (mg/l)	--	38.3	1000
17	Potassium as K (mg/l)	--	1.0	-
18	Fluoride as F (mg/l)	--	0.24	2.0
19	Manganese as Mn (mg/l)	--	0.0096	2.0
20	Arsenic as As (mg/l)	--	0.0013	0.20
21	Turbidity (NTU)	--	6	-

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।

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नेयवेली - 607807
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22	Cadmium as Cd (mg/l)	--	0.0014	2.0
23	Lead as Pb (mg/l)	--	0.0003	0.10
24	Mercury as Hg (mg/l)	--	0.0003	0.01
25	Nickel as Ni (mg/l)	--	0.0103	3.0
26	Selenium as Se (mg/l)	--	0.0004	0.05
27	Zinc as Zn (mg/l)	--	0.0010	1.0

नमूने का ब्यौर Sample particulars : IYYAN LAKE (17)

क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Aluminum as Al (mg/l)	--	0.028	-
2	Total Chromium as Cr. (mg/l)	--	0.0110	2.0
3	pH @ 25 C (-)	--	8.3	-
4	Calcium as Ca (mg/l)	--	55.09	-
5	Magnesium as Mg (mg/l)	--	18.7	-
6	Sodium as Na (mg/l)	--	63.9	-
7	Iron as Fe (mg/l)	--	0.9	-
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	--	9	30
9	Chemical Oxygen Demand (mg/l)	--	150	250
10	Dissolved Solids (mg/l)	--	341	2100
11	Total Alkanity (mg/l)	--	108	-
12	Total Hardness as CaCO ₃ (mg/l)	--	202	-
13	Sulphides as S (mg/l)	--	BDL	2.0
14	Sulphates as SO ₄ (mg/l)	--	131	1000
15	Conductivity in micromhos @ 25°C (-)	--	568	-
16	Chlorides as Cl (mg/l)	--	50	1000
17	Potassium as K (mg/l)	--	7	-

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।

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नेयवेली - 607807
NLC INDIA LIMITED
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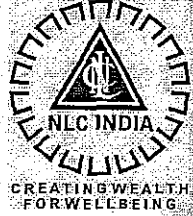
18	Fluoride as F (mg/l)	-	0.37	2.0
19	Manganese as Mn (mg/l)	--	0.0097	2.0
20	Arsenic as As (mg/l)	--	0.0015	0.20
21	Turbidity (NTU)	--	16	-
22	Cadmium as Cd (mg/l)	--	0.0016	2.0
23	Lead as Pb (mg/l)	--	0.0009	0.10
24	Mercury as Hg (mg/l)	--	0.0003	0.01
25	Nickel as Ni (mg/l)	--	0.0101	3.0
26	Selenium as Se (mg/l)	-	0.0008	0.05
27	Zinc as Zn (mg/l)	--	0.0010	1.0

नमूने का ब्यौरा Sample particulars : MUPPANERI (30)

क्र.सं. S/No	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Aluminum as Al (mg/l)	-	0.046	-
2	Total Chromium as Cr (mg/l)	--	0.016	2.0
3	pH @ 25 C (-)	--	8.43	-
4	Calcium as Ca (mg/l)	--	133.3	-
5	Magnesium as Mg (mg/l)	--	44.2	-
6	Sodium as Na (mg/l)	--	157.6	-
7	Iron as Fe (mg/l)	--	1.4	-
8	Biological Oxygen Demand for 3 days @ 27 C (mg/l)	--	8	30
9	Chemical Oxygen Demand (mg/l)	--	150	250
10	Dissolved Solids (mg/l)	-	1044	2100
11	Total Alkalinity (mg/l)	--	118	-
12	Total Hardness as CaCO ₃ (mg/l)	--	515	-
13	Sulphides as S (mg/l)	--	BDL	2.0

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।

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



TC-12327

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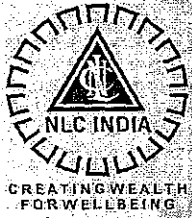
14	Sulphates as SO ₄ (mg/l)	--	542	1000
15	Conductivity in micromhos @ 25°C (-)	-	1740	-
16	Chlorides as Cl (mg/l)	-	116	1000
17	Potassium as K (mg/l)	-	0.53	-
18	Fluoride as F (mg/l)	-	0.63	2.0
19	Manganese as Mn (mg/l)	-	0.0096	2.0
20	Arsenic as As (mg/l)	-	0.0026	0.020
21	Turbidity (NTU)	-	3.0	-
22	Cadmium as Cd (mg/l)	-	0.008	2.0
23	Lead as Pb (mg/l)	-	0.0002	0.10
24	Mercury as Hg (mg/l)	-	0.0006	0.01
25	Nickel as Ni (mg/l)	--	0.0089	3.0
26	Selenium as Se (mg/l)	-	0.0031	0.05
27	Zinc as Zn (mg/l)	-	0.0008	1.0

नमूने का ब्यौरा Sample particulars : NO SAMPLE REQUIRE

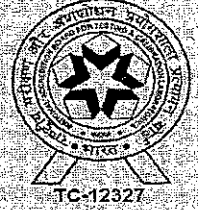
क्र.सं. SINo	परीक्षण मापदंड Test Parameter	विधि Method	परीक्षण परिणाम Test Results	स्वीकार्य सीमा Acceptable range
1	Aluminum as Al (-)	-	-	-
2	Total Chromium as Cr (-)	-	-	-
3	pH @ 25 C (-)	-	-	-
4	Calcium as Ca (-)	-	-	-
5	Magnesium as Mg (-)	-	-	-
6	Sodium as Na (-)	-	-	-
7	Iron as Fe (-)	-	-	-
8	Biological Oxygen Demand for 3 days @ 27 C (-)	--	-	-
9	Chemical Oxygen Demand (-)	-	-	-

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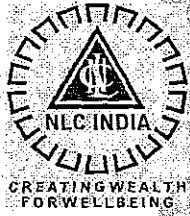
रिपोर्ट सं./दिनांक / Report No / Date TR/175/24-25 Dt-10 May 2024

10	Dissolved Solids (-)	--	-	-
11	Total Alkalinity (-)	--	-	-
12	Total Hardness as CaCO ₃ (-)	--	-	-
13	Sulphides as S (-)	--	-	-
14	Sulphates as SO ₄ (-)	--	-	-
15	Conductivity in micromhos @ 25°C (-)	--	-	-
16	Chlorides as Cl (-)	--	-	-
17	Potassium as K (-)	--	-	-
18	Fluoride as F (-)	--	-	-
19	Manganese as Mn (-)	--	-	-
20	Arsenic as As (-)	--	-	-
21	Turbidity (-)	--	-	-
22	Cadmium as Cd (-)	--	-	-
23	Lead as Pb (-)	--	-	-
24	Mercury as Hg (-)	--	-	-
25	Nickel as Ni (-)	--	-	-
26	Selenium as Se (-)	--	-	-
27	Zinc as Zn (-)	--	-	-

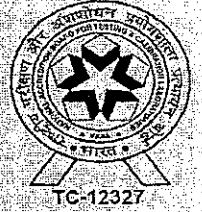
प्रयोगशाला द्वारा कोई विशेष उल्लेख, यदि हो तो /
Special mention if any by the Laboratory

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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

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**BEFORE THE NATIONAL
GREEN TRIBUNAL SOUTHERN
ZONE, CHENNAI**

**Original Application No.24 of 2024
(SZ)**

REPORT FILED BY THE 5TH RESPONDENT

**M/s.N.NITHIANANDAM
A.JAYARAMAN
Counsel for 5th Respondent
9444435089**