BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

Original Application No. 10 of 2025

In the matter of:

News Item titled "Districts with excess nitrates in groundwater at seven year high" appearing in the Hindu dated 01.01.2025

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1.	**Reply by way of affidavit** on behalf of CPCB respondent no. 1 in compliance to Hon'ble NGT order dated 20.01.2025 in O.A. No. 10/2025.	
2.	**Annexure A-** A copy of state wise ground water locations monitored under National Water Quality Monitoring Network (NWMP) during 2023.	
3.	**Annexure B-** A copy of district wise exceedance of fluoride in ground water monitored under National Water Quality Monitoring Network (NWMP) during 2023.	
4.	**Annexure C-** A copy of letter dated 14.01.2025 issued by CPCB to all SPCBs/PCCs.	

Filed by Advocate Rajkumar
On behalf of Central Pollution Control Board

Place: Delhi
Dated: 12.07.2025

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

Original Application No. 10 of 2025

In the matter of:

News Item titled "Districts with excess nitrates in groundwater at seven years high" appearing in the Hindu dated 01.01.2025

REPLY BY WAY OF AFFIDAVIT ON BEHALF OF CENTRAL POLLUTION CONTROL BOARD i.e. R-1

I, **Nazimuddin** working as Scientist 'F', Divisional Head, WQM-I Division in Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi, the Respondent No. 1 in the above matter, do hereby solemnly affirm, declare on oath and state as under:-

IT IS SUBMITTED AS UNDER: -

1. That I, the deponent herein is well conversant with the facts and circumstances of the present case on the basis of the information derived from the official records, and hence, I am competent to verify, sign and swear this affidavit on behalf of the Respondent no. 1, CPCB.

2. That Hon'ble NGT vide order dated 20.01.2025 issued notice to all the Respondents including Central Pollution Control Board (herein after referred as CPCB) for filing their response/reply in the instant matter. Thereby, the reply is made in succeeding paragraphs.

3. That, CPCB is a statutory Board constituted under Section 3 of The Water (Prevention and control of Pollution) Act, 1974. It performs the functions under The Water (Prevention and control of Pollution) Act 1974 (herein after Water Act), The Air (Prevention and control of Pollution) Act, 1981 (herein after Air Act) and The Environment (Protection) Act, 1986.

4. That, it is humbly submitted that the State Pollution Control Boards/ Pollution Control Committees (herein after referred as SPCBs/ PCCs) have been constituted in States/ Union Territories under Water Act, 1974 and Air Act, 1981 to perform the functions and implement the provisions of these Acts in respect of territories falling in their respective territorial Jurisdiction.

5. That, the present matter is related to newspaper report wherein excessive nitrate levels found in the groundwater of 440 districts in India, as per report by Central Groundwater Board (herein after referred as CGWB) has been brought out. The news item also highlighted the exceedance of fluoride and uranium in ground water samples w.r.t. their permissible limit prescribed for drinking purposes (BIS,10500:2012).

6. That, brief of Ground Water Quality status in India w.r.t Nitrate, Fluoride and Uranium reported in the "**ANNUAL GROUND WATER QUALITY REPORT, 2024**" as available in the website of CGWB is as follows:

A. Nitrate:

- Approximately 19.8% of samples analysed (total analysed samples 15,259 nos.) exceeded the nitrate permissible limit (>45 mg/L).
- Analysis of samples collected from **31** States and Union Territories during Pre-monsoon 2023 reveals that the percentage

of non-complying samples (nitrate concentration >45 mg/l) exceeds 20% (ranging from 20–50%) in **09** States: Rajasthan, Karnataka, Tamil Nadu, Maharashtra, Telangana, Pondicherry, Andhra Pradesh, Madhya Pradesh and Delhi. In **06** States (namely: Gujarat, Uttarakhand, Haryana, Odisha, Punjab and Chhattisgarh) the percentage of non-compliant samples falls between 10-20%; in **08** States (namely: Uttar Pradesh, Himachal Pradesh, Jammu & Kashmir, West Bengal, Kerala, Jharkhand, Tripura and Bihar), it is less than 10%. The remaining **08** States (namely: A & N Islands, Arunachal Pradesh, Assam, Chandigarh UT, Goa, Meghalaya, Mizoram, Nagaland) reported full compliance with the permissible nitrate limit of 45 mg/l in all collected samples.

- High nitrate levels are particularly evident in agricultural regions.
- In the years 2017 and 2023, a total of 13,028 and 15,259 ground (well) water samples were analysed, respectively, to assess nitrate contamination levels. Out of total 13,028 samples analysed in the year 2017, **21.6%** of the samples spread in 359 districts were found exceeding the permissible limit of 45 mg/L prescribed by Bureau Indian standards (IS 10500) for drinking water quality. Whereas, in the year 2023, out of total 15,259 samples analysed, **19.8%** of samples spread over 440 districts were found exceeding the prescribed norms.
- States such as Uttar Pradesh, Tamil Nadu, Andhra Pradesh and Haryana have shown an increasing trend in the number of districts where nitrate concentrations exceed the permissible limit in 2023 as compared to 2017.
- Seasonal comparisons reveal that monsoon recharge tends to dilute nitrate concentrations in some areas.

B. Fluoride:

- Approximately 9% of the analysed samples (total analysed samples 15,259 nos.) exceeded the fluoride permissible limit.
- Analysis of 15,259 samples collected from **33** States and Union Territories during Pre-monsoon 2023 reveals that the percentage of non-complying samples (fluoride concentration >1.5 mg/l) exceeds 20% (ranging from 20–50%) in **02** States: Rajasthan and Haryana. In **06** States, the percentage of non-compliant samples falls between 10–20%; in **12** States, it is less than 10%. The remaining 13 States reported full compliance with the permissible fluoride limit of 1.5 mg/l in all collected samples. (namely: A & N Islands, Arunachal Pradesh, Assam, Chandigarh UT, D & N Haveli, Daman and Diu, Goa, Jammu & Kashmir, Meghalaya, Mizoram, Nagaland, Pondicherry, Tripura).
- In states like Rajasthan, Maharashtra, and Karnataka, the number of districts with fluoride levels above the permissible limit has remained relatively stable or constant over the past several years (2015–2023). On the contrary, states like Gujarat, Uttar Pradesh, Tamil Nadu, Telangana, Andhra Pradesh, and Haryana have shown an increasing trend in the number of districts with fluoride concentrations exceeding the permissible limit from 2017 to 2023.
- Comparison of pre-monsoon and post-monsoon trends suggest some dilution of fluoride concentration in groundwater due to monsoon recharge.

C. Uranium:

Water with uranium concentration above the maximum permissible limit of **30 ppb** (BIS,10500:2012) is not safe for drinking purposes as it can cause damage to internal organs, on continuous intake.

- A total of **11,445** water samples were collected from shallow aquifers across various states of India.
- Analytical data reveals that while uranium concentrations in the majority of samples were within permissible limits, a substantial number of samples exceeded the 30-ppb threshold. Moreover, the majority of the samples exceeding the permissible limit fall within the 30-40 ppb range (34.5% of total exceeding samples), a smaller proportion of the samples have uranium concentrations exceeding 70 ppb (about 21.4% of total exceeding samples), and 60 samples (9.14% of the exceeding samples) have uranium concentrations greater than 100 ppb.
- 42% of the samples with uranium concentration greater than 100 ppb are from **Rajasthan** and 30% of the samples with uranium concentration greater than 100 ppb are from **Punjab**. Some other states such as Haryana, Karnataka, Uttar Pradesh, Madhya Pradesh, Tamilnadu, Chhattisgarh, Maharashtra, and Bihar have also been observed to have Uranium concentration above the permissible level of 30 µg/L in some localized pockets.

7. That, mandate of Central Ground Water Board (CGWB) is mentioned on CGWB website as - "To develop and disseminate technologies, and monitor and implement national policies for the scientific and sustainable development and management of India's ground water resources, including their exploration, assessment, conservation, augmentation, protection from pollution and distribution, based on principles of economic and ecological efficiency and equity."

8. That, CPCB in collaboration with SPCBs in the States and PCCs in Union Territories has established a National Water Quality Monitoring Network

(NWMP) *with an objective* to assess status of water quality of water resources and to facilitate for prevention and control of pollution in water bodies. Criteria specified by CPCB for selection of monitoring locations on ground water is as follows:

- *Drinking water sources located in sanitary conditions and prone to sewage contamination, preferably in shallow aquifer in the vicinity of septic tanks, sewage treatment plant, oxidation pond, cess pools, garbage dump site etc.*
- *Tube-wells, hand pumps or dug-wells located in industrial areas and prone to contamination and are in use.*
- *Ground water sources in residential areas.*

9. That, CPCB under National Water Quality Monitoring Programme (hereinafter referred as NWMP) presently monitors water quality of aquatic resources at 4736 locations in 29 states & 7 union territories. The present monitoring network covers 1233 locations on wells (ground water) in the country. State-wise distribution of ground water monitoring locations - Andhra Pradesh (33), Assam (67), Bihar (70), Chandigarh (7), Chhattisgarh (8), Daman and Diu (12), Delhi (45), Goa (9), Gujarat (88), Haryana (29), Himachal Pradesh(55), Jammu & Kashmir(23), Jharkhand (3), Karnataka(2), Kerala (35), Lakshadweep (42), Madhya Pradesh (54), Maharashtra (50), Manipur (10), Meghalaya (13), Mizoram (26), Nagaland (10), Odisha (90), Puducherry (22),Punjab (46), Rajasthan (131), Tamil Nadu (22), Telangana (48), Tripura (57), Uttar Pradesh (39), Uttarakhand (19) and West Bengal (68). The state-wise and district wise compliance assessment of ground water quality monitored under NWMP during 2023 for Nitrate and Fluoride are annexed herein. The Copy of the state-wise compliance assessment of ground water quality monitored under NWMP during 2023 for Nitrate and Fluoride is annexed

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herewith as **ANNEXURE-A.** The district wise compliance assessment of ground water quality monitored under NWMP during 2023 for Nitrate and Fluoride is annexed herewith as **ANNEXURE-B.**

10. That, based on the assessment of ground water quality data under CPCB's NWMP for the year 2023, the places where concentration of fluoride, Arsenic and other Heavy Metals were found exceeding BIS Drinking Water Standards IS 10500:2012, the Pollution Control Board/ Committee of concerned States/ UTs were requested vide CPCB letter dated 14.01.2025 to ask the concerned State Depts. to take appropriate actions such as:

A. Sealing of hand pumps/ wells having contaminated ground water
B. Display sign board indicating (Not Fit for Drinking Water purposes) in vernacular language.
C. Arrangement of alternate drinking water supply in the affected areas.

The copy of letter of CPCB dated 14-01-2025 to states/UTs and PCB/PCCs is annexed herewith as **ANNEXURE-C.**

11. That, the answering respondent craves leave of the Hon'ble Tribunal to file additional reply, if required, in future.

12. That in the light of the above submissions, it is respectfully submitted that this Answering Respondent, i.e., CPCB, shall abide by any order(s) or direction(s) passed by this Hon'ble Court in the instant OA.

NOTARY PUBLIC
Ram Krishan Gupta
Area-Delhi
Regd. No. 10666/14
INDIA

DEPONENT

नाज़िमउद्दीन / Nazimuddin
वैज्ञानिक 'एफ' / Scientist 'F'
केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)
(M/o Environment, Forest And Climate Change, Govt. of India)
परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली–110032
Parivesh Bhawan, East Arjun Nagar, Delhi-110032

VERIFICATION

Verified at Delhi on this 15 JUL 2025 .....day 2025 that the content of this Affidavit which is based on official record and information available in the office are true and correct. Nothing has been concealed therefrom or mis-stated.

DEPONENT

नाज़िमउद्दीन / Nazimuddin
वैज्ञानिक 'एफ' / Scientist 'F'
केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार)
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Parivesh Bhawan, East Arjun Nagar, Delhi-110032

NOTARY PUBLIC
Ram Krishan Gupta
Area-Delhi
Regd. No. 10666/14
GOVT. OF INDIA

ATTESTED
NOTARY
DELHI (INDIA)

15 JUL 2025

Annexure-A

STATE WISE GROUND WATER LOCATIONS MONITORED UNDER NWMP DURING 2023

S. No.	State/UT	Nitrate-N (mg/L)		Fluoride (mg/L)	
		Min	Max	Min	Max
BIS Drinking Water Specification - IS 10500:2012 (Permissible Limit)		**45 mg/L**		**1.5 mg/L**	
1	Andhra Pradesh	0.5	9.6	0.22	**1.86**
2	Assam	0.5	3.7	0.23	0.33
3	Bihar	0.31	7.51	0.24	1.32
4	Chandigarh	2.2	4.1	0.22	0.79
5	Chhattisgarh	0.4	3.25	-	-
6	Delhi	0.31	1.03	-	-
7	Goa	0.52	6.6	0.31	0.7
8	Gujarat	0.31	20.16	0.21	**2.96**
9	Haryana	BDL	BDL	0.3	0.9
10	Himachal Pradesh	0.31	34.45	0.21	0.94
11	Jammu & Kashmir	1.47	1.47	-	-
12	Jharkhand	-	-	-	-
13	Karnataka	0.35	1.94	BDL	BDL
14	Kerala	0.32	7.07	0.24	0.5
15	Lakshadweep	-	-	-	-
16	Madhya Pradesh	0.39	40.57	0.21	0.87
17	Maharashtra	0.31	16.2	0.28	1.16
18	Manipur	-	-	-	-
19	Meghalaya	0.32	13.5	0.39	**23**
20	Mizoram	0.45	9.98	-	-
21	Nagaland	0.6	1.2	0.23	0.4
22	Odisha	0.31	21.23	0.21	**5.45**
23	Puducherry	0.38	8.42	BDL	BDL
24	Punjab	0.4	0.9	0.3	0.6
25	Rajasthan	0.67	41.5	0.21	**6.89**
26	Tamil Nadu	0.32	1.94	0.23	1.16
27	Telangana	0.58	29	0.21	**2.01**
28	Tripura	0.31	0.69	0.29	0.29
29	Uttar Pradesh	0.32	2.06	0.3	1.4
30	Uttarakhand	0.32	1.73	0.21	0.74
31	West Bengal	0.31	4.81	0.21	**12.4**

Note:

- **BDL value for Nitrate (0.3 mg/L) and Fluoride (0.2 mg/L)**
- **Blank Cell represents data not analysed**

Annexure-B

DISTRICT WISE EXCEEDANCE OF FLUORIDE IN GROUND WATER MONITORED UNDER NWMP DURING 2023

States	Districts	Fluoride (mg/L)	
		Min	Max
BIS Drinking Water Specification - IS 10500:2012 (Permissible Limit)		**1.5 mg/L**	
Andhra Pradesh	Kadapa	0.98	**1.6**
	Visakhapatnam	0.41	**1.86**
Gujarat	Ahmedabad	0.29	**2.46**
	Gandhinagar	0.85	**1.85**
	Palanpur	0.42	**1.97**
	Patan	**1.53**	**2.96**
Meghalaya	South West Khasi Hills	18	**23**
Odisha	Balasore	0.3	**5.45**
Rajasthan	Alwar	0.24	**2.08**
	Barmer	0.52	**2.14**
	Dausa	**1.7**	**6.74**
	Jaipur	0.21	**6.61**
	Jodhpur	0.28	**6.89**
	Pali	0.86	**1.75**
	Sirohi	**2.11**	**2.11**
Telangana	Bhadradri Kothagudem	0.98	**1.65**
	Medak	**2.01**	**2.01**
	Warangal (R)	0.98	**1.58**
West Bengal	Bankura	0.68	**1.98**
	Birbhum	0.24	**12.4**

Annexure- C

Office Copy

F No. A-14011/1/2025/WQM-I /28/8579-8606

14/1/2025

To

The Member Secretary
(SPCBs/PCCs)

Subject: Review of Water Quality data (Ground Water) submitted under National Water Quality Monitoring Programme (NWMP) during the year 2023, regarding.

Sir,

CPCB periodically review water quality data of aquatic resources monitored under National Water Quality Monitoring Programme (NWMP). In continuation, water quality data of Ground Water locations submitted under NWMP for the year 2023 has been reviewed. Critical parameters, such as Nitrate, Nitrite, TDS, Fluoride, and Arsenic, etc. are compared with Drinking Water Specification (IS 10050:2012) and observed that some of the ground water locations require attention. Location-wise details are attached as Annexure for information and record.

In view of above, it is requested to identify the sources of pollution specially at the non-complying ground water monitoring locations. The ground water contamination mainly due to the anthropogenic activities need actions as follows:

1) Sealing the hand pumps / wells having of contaminated ground water to avoid supply to public for drinking purpose.
2) Display sign board indicating (Not Fit for Drinking Water Purpose) in vernacular languages.
3) Arrangement of alternate drinking water supply in the affected areas.

Action taken report on the afore-said aspects may please be informed to CPCB, at an early date.

Yours faithfully

(Vishal Gandhi)
Scientist E, WQM-I Division

O/C

Encl: As above
Copy to:

All RDs, CPCB : For kind information and follow-up with respective SPCBs/PCCs, please

PS to MS, CPCB : For kind information to 'MS', please

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
निर्गत.....
दिनांक 21/01/2025

O/C

(Vishal Gandhi)