

XXXVITH ANALYTICAL QUALITY CONTROL (AQC) PROGRAMME (2023-24) PERFORMANCE REPORT



LAB CODE:- 176



CENTRAL POLLUTION CONTROL BOARD

(Ministry of Environment, Forest & Climate Change)

Parivesh Bhawan, East Arjun Nagar

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Ministry of Environment, Forest & Climate Change,

Parivesh Bhawan, East Arjun Nagar,

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XXXVIth ANALYTICAL QUALITY CONTROL/ PROFICIENCY TESTING PROGRAMME

LAB CODE	176
Central Mine Planning & Design Institute Limited (CMPDI, HQ), Environment Division, 7th Floor , Kanke Road, Ranchi - 834008, Jharkhand, India	

PROFICIENCY EVALUATION REPORT

S. No.	Test Parameter	Assigned Value	Reference Value	SD (NIQR Basis)	Lab's result A (X)	Lower Acceptable Limit	Higher Acceptable Limit	Robust Z-score	Performance
1.	Nitrate as N	1.87	1.61	0.16	1.54	1.29	1.93	-0.44	S
2.	Sulfate as SO ₄	43.65	45.10	6.17	45.5	32.76	57.44	0.06	S
3.	Phosphate as P	0.68	0.67	0.04	0.67	0.60	0.74	0.0	S
4.	Total Hardness as CaCO ₃	154.76	155.60	5.49	156	144.63	166.57	0.07	S
5.	Calcium as Ca	45.37	43.30	1.63	43.20	40.04	46.56	-0.06	S
6.	Magnesium as Mg	11.00	11.70	1.19	11.70	9.33	14.07	0.0	S
7.	Sodium as Na	26.00	25.60	1.26	24.80	23.08	28.12	-0.63	S
8.	Potassium as K	5.21	6.00	0.44	5.40	5.11	6.89	-1.35	S
9.	Fluoride as F	1.22	1.19	0.10	1.03	0.98	1.40	-1.54	S
10.	Chloride as Cl	115.06	118.10	4.30	119.8	109.50	126.70	0.40	S
11.	Ammonia as N	3.50	3.50	0.18	3.53	3.14	3.86	0.17	S
12.	Hexavalent Chromium	2.40	2.41	0.11	2.52	2.20	2.62	1.04	S
13.	COD	182.00	182.50	4.83	184	172.83	192.17	0.31	S
14.	BOD	130.00	125.00	8.90	120	107.21	142.79	-0.56	S
15.	pH	4.20	4.26	0.09	4.38	4.08	4.44	1.35	S

16.	TSS	258.00	265.20	9.64	274	245.93	284.47	0.91	S
17.	Conductivity	578.00	577.00	20.76	562.70	535.49	618.51	-0.69	S
18.	TDS	295.00	294.00	14.83	301	264.35	323.65	0.47	S
Overall Performance of Laboratory in %					100.0				

Note: 1. Acceptable limits are fixed based on Reference value (Median) \pm 2 Standard Deviation (NIQR basis) i.e. within \pm 2 Z Scores values for reported result by individual laboratory.

2. All results are expressed in mg/L except pH and conductivity ($\mu\text{mhos/cm}$).

Abbreviations:

IQR = Inter Quartile Range

Q1 = 1st Quartile ;

Q3 = 3rd Quartile

NIQR = Normalized IQR

Z Score = (Observed value - Reference Value) / 1 Standard Deviation

S - satisfactory; **NS** - not satisfactory; **NR** - Not Reported

For the result, where Z-Score is not satisfactory, laboratory has to take corrective action, as per the format has been attached

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