

Parameter: $\text{NO}_3^- \text{N}$

Name of Supervisor: Mr. Md. A. Rafiq

Sample details: NW/BR00038, 39, 40 } 2324/RDKL
 FW/SR00027, 26, 28

Allocation date: 10-11-23

Analysis date: 13-11-23

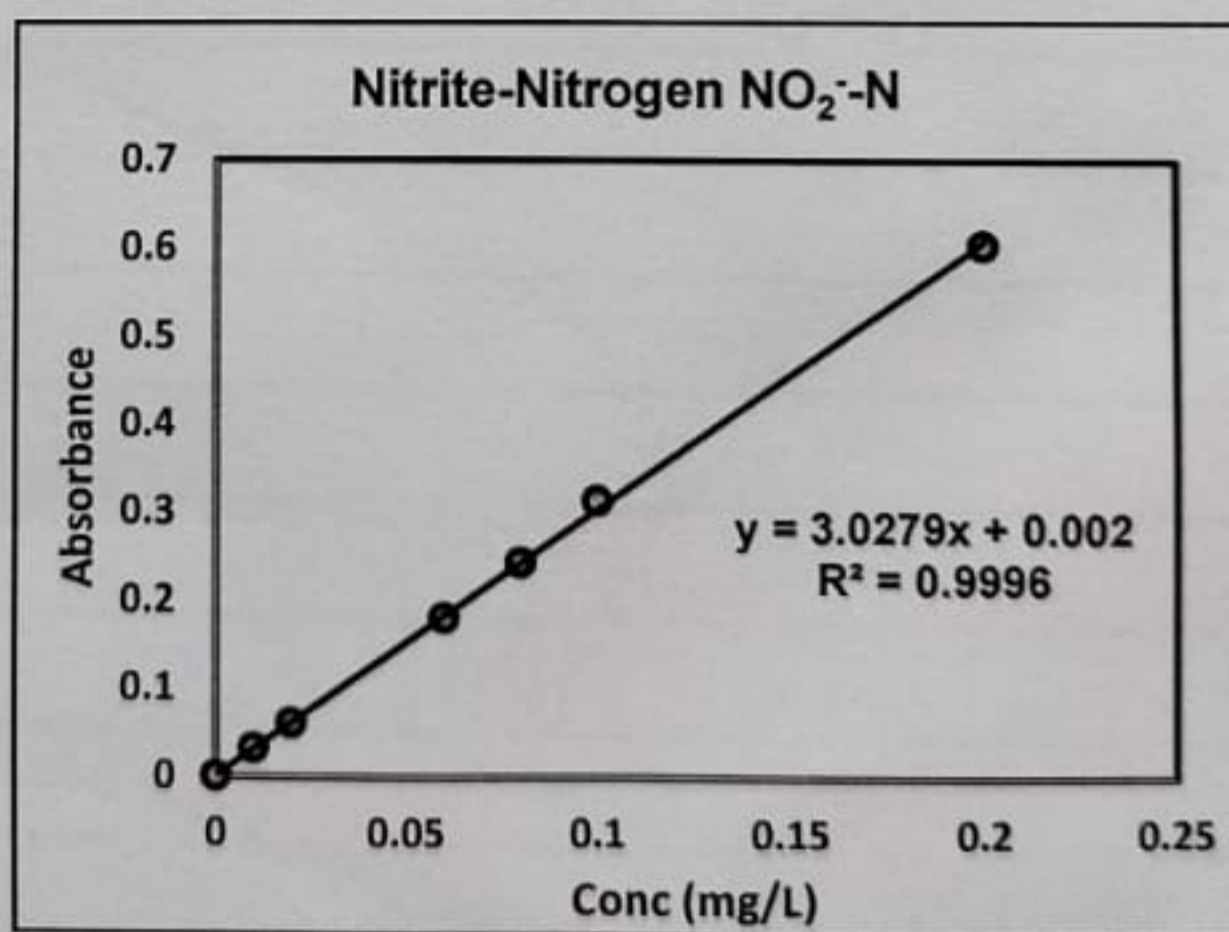
Calculations

$$\text{NO}_2^- \text{N} \text{ (mg/L)} = \frac{(\text{Abs} - \text{intercept}) \times \text{DF}}{\text{Slope}}$$

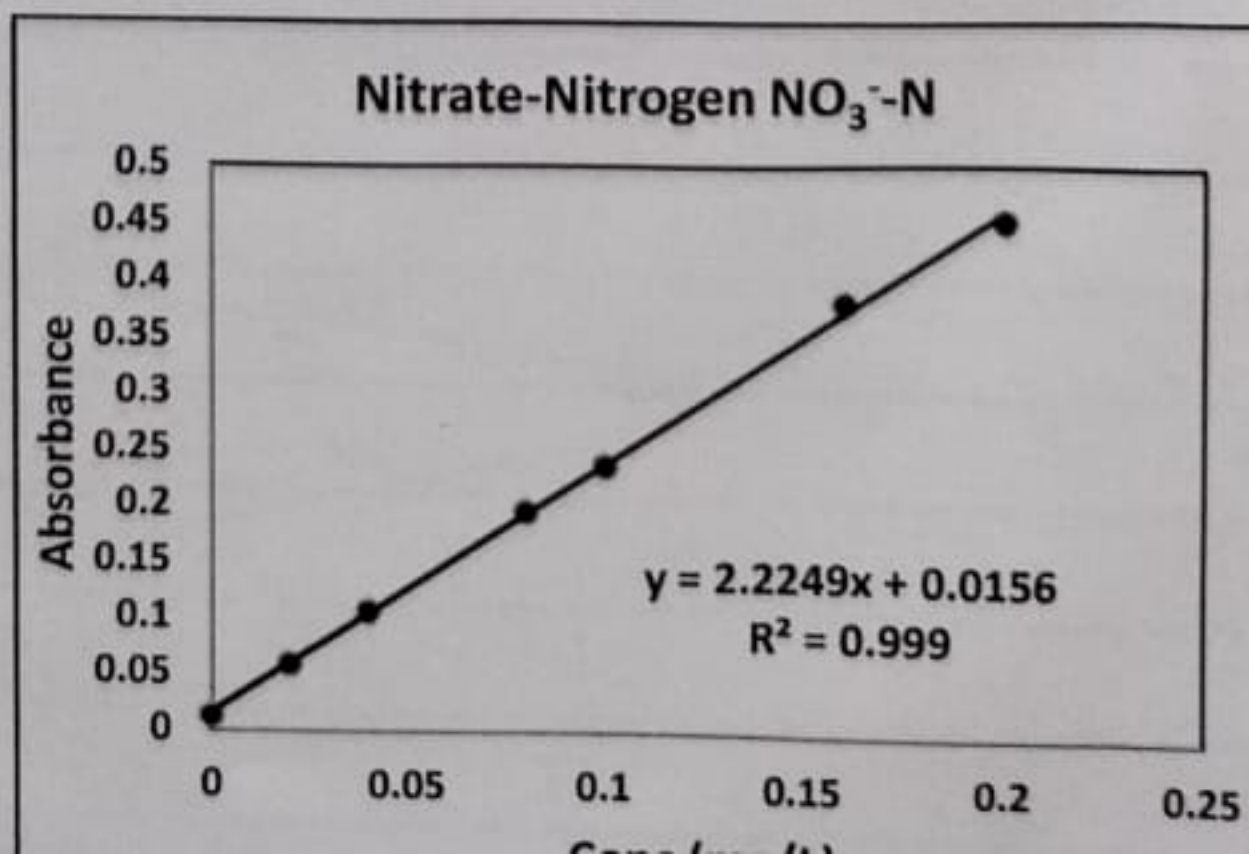
$$\text{NO}_3^- \text{N} \text{ (mg/L)} = \frac{(\text{Abs} - \text{Intercept}) \times 4 \times \text{DF}}{\text{Slope}}$$

SLNO	Requisition No. Sample Code	Nitrite Estimation (mg/L)			Nitrate Estimation (mg/L)			
		Abs	DF	$\text{NO}_2^- \text{N}$	ABS	DF	$(\text{NO}_2^- \text{N}) + (\text{NO}_3^- \text{N})$	$\text{NO}_3^- \text{N}$
1	RN: RDKL/WW/2324/SR00038 SC: 2324/RDKL/WW/WW/L00070	0.011	1	0.003	0.019	1	0.006	0.00/BLQ
2	RN: RDKL/WW/2324/SR00038 SC: 2324/RDKL/WW/WW/L00073	0.232	25	1.899	0.26	25	10.985	9.09
3	RN: RDKL/WW/2324/SR00039 SC: 2324/RDKL/WW/WW/L00074	0.308	1	0.101	0.131	1	0.207	0.11
4	RN: RDKL/WW/2324/SR00039 SC: 2324/RDKL/WW/WW/L00077	0.46	2	0.303	0.302	5	2.574	2.27
5	RN: RDKL/WW/2324/SR00040 SC: 2324/RDKL/WW/WW/L00078	0.491	1	0.161	0.152	1	0.245	0.08
6	RN: RDKL/WW/2324/SR00040 SC: 2324/RDKL/WW/WW/L00081	0.562	25	4.624	0.439	25	19.030	14.41
7	RN: RDKL/FW/2324/SR00026 SC: 2324/RDKL/FW/FW/L00026	0.011	1	0.003	0.536	1	0.936	0.93
8	RN: RDKL/FW/2324/SR00027 SC: 2324/RDKL/FW/FW/L00027	0.005	1	0.001	0.018	1	0.004	0.00/BLQ
9	RN: RDKL/WW/2324/SR00028 SC: 2324/RDKL/WW/WW/L00028	0.377	5	0.619	0.1	5	0.759	0.14
	Blank	0.001	-	-	0.008	-	-	-

Conc. (mg/L)	Abs (543 nm)
0	0.001
0.01	0.032
0.02	0.061
0.06	0.181
0.08	0.244
0.1	0.314
0.2	0.604
Slope	3.028
Intercept	0.002



Conc(mg/L)	Abs (543 nm)
0	0.012
0.02	0.059
0.04	0.107
0.08	0.196
0.1	0.237
0.16	0.38
0.2	0.453
Slope	2.2249



Parameter: TH, Ca, Mg
 Name of Supervisor: Mr. Md. A. Rafiq
 Sample details: SR00025, 26, 27, 28 } FW/RDKL/234
 Allocation date: 7, 10-11-23
 Analysis date: 13/11/23

SLNO	Requisition No. Sample Code	Sample vol (ml)	IR	FR	Titre Value (mL)	Total Hardness (mg CaCO ₃ /L)
1	RN: RDKL/FW/2324/SR00025 SC: 2324/RDKL/FW/FW/L00025	50	0	8.3	8.3	166
2	RN: RDKL/FW/2324/SR00026 SC: 2324/RDKL/FW/FW/L00026	50	8.4	18.1	9.7	194
3	RN: RDKL/FW/2324/SR00027 SC: 2324/RDKL/FW/FW/L00027	50	18.1	34.5	16.4	328
4	RN: RDKL/WW/2324/SR00028 SC: 2324/RDKL/WW/WW/L00028	25	0	15	15	600
	Standard analysis for Calagmite	10	0	10	10	

SLNO	Requisition No. Sample Code	Sample vol (ml)	IR	FR	Titre Value (mL)	Calcium Hardness (mg CaCO ₃ /L)	Ca (mg/L)	Mg (mg/L)
1	RN: RDKL/FW/2324/SR00025 SC: 2324/RDKL/FW/FW/L00025	50	0	6	6	121.20	48.48	10.89
2	RN: RDKL/FW/2324/SR00026 SC: 2324/RDKL/FW/FW/L00026	50	6	13.2	7.2	145.44	58.18	11.80
3	RN: RDKL/FW/2324/SR00027 SC: 2324/RDKL/FW/FW/L00027	50	13.2	20.4	7.2	145.44	58.18	44.36
4	RN: RDKL/WW/2324/SR00028 SC: 2324/RDKL/WW/WW/L00028	25	0	9.2	9.2	371.84 185.84 8.2	148.67	55.44 100.64 8.2
	Standard analysis for Murexide	10	0	9.9	9.9	-	-	-

Calculation:

$$\text{EDTA equiv for Calagmite Indicator (C)} = \frac{\text{CaCO}_3 \text{ vol} \times \text{CaCO}_3 \text{ strength}}{\text{Titre (EDTA) Vol}} = \frac{10 \times 1}{10} = 1$$

$$\text{EDTA equiv for Murexide Indicator (M)} = \frac{\text{CaCO}_3 \text{ vol} \times \text{CaCO}_3 \text{ strength}}{\text{Titre (EDTA) Vol}} = \frac{10 \times 1}{9.9} = 1.01$$

$$\text{Total Hardness (mg/CaCO}_3\text{L)} = \frac{\text{Titre (EDTA) Vol (mL)} \times C \times 1000}{\text{Sample Volume (mL)}}$$

$$\text{Calcium Hardness (mg/CaCO}_3\text{L)} = \frac{\text{Titre (EDTA) Vol (mL)} \times M \times 1000}{\text{Sample Volume (mL)}}$$

$$\text{Ca (mg/L)} = \frac{\text{Titre (EDTA) Vol (mL)} \times M \times 400}{\text{Sample Volume (mL)}}$$

$$\text{Mg (mg/L)} = (\text{Total Hardness} - \text{Calcium Hardness}) \times 0.243$$

S. Anwar