

Water Sciences Laboratory

Analytical Report



**Nebraska
Water Center**

Daugherty Water for Food Global Institute

Nebraska Water Center, a part of the
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**Project: ERG CSD GROUNDWATER
SAMPLING**

Sampled By: Cheryl Burdett
Received: 05/04/2018
Received By: David Cassada
Batch: **W18216**

Protocol: 12_02_11_01

Nitrogen and Oxygen Isotopes using azide
reduction and Trace gas Preconcentrator
Method
Protocol Reference:
McIlvin, Matthew R Altabet, Mark A (2005)
Chemical conversion of nitrate and nitrite to
nitrous oxide for nitrogen and oxygen
isotopic analysis in freshwater and seawater.
Anal. Chem., 77, 5589-5595.

*** Results of Analysis ***

Lab ID	Sample ID	Collection Date	$\delta^{15}\text{N-NO}_3$ (‰)	$\delta^{18}\text{O-NO}_3$ (‰)	Analysis Date
18-2011	E10A	05/03/2018	-4.15	+2.91	06/07/2018
18-2013	E10B	05/03/2018	+12.6	+35.9	05/30/2018
18-2014	E8A	05/03/2018	+11.5	+16.0	05/30/2018
18-2015	E8B	05/03/2018	+6.01	+9.17	05/30/2018
18-2016	E9A	05/03/2018	+29.6	+22.8	05/30/2018
18-2017	E9B	05/03/2018	+9.39	+13.2	05/30/2018
18-2018	S01	05/03/2018	+7.33	+9.15	05/30/2018
18-2019	S02	05/03/2018	+4.76	+8.57	05/30/2018
18-2020	S04	05/03/2018	+3.70	+5.16	05/30/2018
18-2021	S05	05/03/2018	+4.90	+9.20	05/30/2018
18-2022	S03	05/03/2018	+4.14	+6.25	05/30/2018

$$\delta (\text{‰}) = \frac{R_{\text{sample}} - R_{\text{standard}}}{R_{\text{standard}}} \times 1000$$

Rstandard: D/H= 0.00015575, 18O/16=0.0020052; Standard Mean
Ocean Water; 15N/14N=0.0036765 Atmospheric Nitrogen