

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: 05/02/2018
Received By: David Cassada
Batch: **W18200**

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
18-1813	D2A	05/01/2018	+17.1	+8.63	05/14/2018
18-1814	D2B	05/01/2018	+6.94	+0.877	05/14/2018
18-1815	D3A	05/01/2018	+1.07	+0.470	05/14/2018
18-1816	D3B	05/01/2018	+1.46	+1.57	05/14/2018
18-1817	D4A	05/01/2018	+1.33	-0.252	05/14/2018
18-1818	D4B	05/01/2018	+1.64	-1.72	05/14/2018
18-1819	C5AA	05/01/2018	+2.32	-1.91	05/14/2018
18-1820	C5AB	05/01/2018	+3.42	-0.803	05/14/2018
18-1821	C6A	05/01/2018	+2.40	-0.950	05/14/2018
18-1822	C6B	05/01/2018	+1.19	+0.788	06/06/2018
18-1823	C7A	05/01/2018	+0.446	-0.847	05/14/2018
18-1824	C7B	05/01/2018	+0.780	+2.17	05/14/2018
18-1825	C8A	05/01/2018	+1.99	+10.4	05/14/2018
18-1826	C8B	05/01/2018	+6.53	+1.34	05/14/2018
18-1827	C9A	05/01/2018	+1.81	+3.76	05/14/2018
18-1828	C9B	05/01/2018	-6.33	+4.59	05/14/2018
18-1829	C10A	05/01/2018	-1.46	+5.69	05/14/2018
18-1830	C10B	05/01/2018	+3.03	+5.99	05/14/2018
18-1832	C11B	05/01/2018	+6.10	+12.3	05/14/2018

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

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