Lab_ID_String	Sample_ID	Collection_D	15N_NO3	18O_NO3	Batch	Analysis Date
18-1774	A1A	4/30/2018			W18197	
18-1775	A1B	4/30/2018	-4.94	9.19	W18197	5/14/2018
18-1777	A2A	4/30/2018			W18197	
18-1778	A2B	4/30/2018			W18197	
18-1779	A3A	4/30/2018			W18197	
18-1780	A3B	4/30/2018	-4.15	12.52	W18197	5/14/2018
18-1781	A4A	4/30/2018	4.76	5.27	W18197	5/14/2018
18-1782	A4B	4/30/2018	3.23	0.70	W18197	5/14/2018
18-1783	B1A	4/30/2018			W18197	
18-1784	B1B	4/30/2018	-3.89	17.57	W18197	5/14/2018
18-1785	B2A	4/30/2018			W18197	
18-1786	B2B	4/30/2018	-7.73	2.04	W18197	5/14/2018
18-1787	B3A	4/30/2018	-4.83	-3.64	W18197	5/14/2018
18-1788	B3B	4/30/2018			W18197	
18-1789	B4A	4/30/2018			W18197	
18-1790	B4B	4/30/2018	1.41	2.66	W18197	5/14/2018
18-1791	C3A	4/30/2018	3.88	4.41	W18197	5/14/2018
18-1792	C3B	4/30/2018	0.81	-1.22	W18197	5/14/2018
18-1793	C1A	4/30/2018			W18197	
18-1794	C1B	4/30/2018	-11.41	1.50	W18197	5/14/2018
18-1795	C2A	4/30/2018	0.75	2.30	W18197	5/14/2018
18-1796	C2B	4/30/2018	3.22	1.51	W18197	5/14/2018
18-1806	C12A	5/1/2018			W18200	
18-1808	C12B	5/1/2018			W18200	
18-1809	C13A	5/1/2018			W18200	
18-1810	C13B	5/1/2018			W18200	
18-1811	D1A	5/1/2018			W18200	
18-1812	D1B	5/1/2018			W18200	
18-1813	D2A	5/1/2018	17.09	8.63	W18200	5/14/2018
18-1814	D2B	5/1/2018	6.94	0.88	W18200	5/14/2018
18-1815	D3A	5/1/2018	1.07	0.47	W18200	5/14/2018
18-1816	D3B	5/1/2018	1.46	1.57	W18200	5/14/2018
18-1817	D4A	5/1/2018	1.33	-0.25	W18200	5/14/2018
18-1818	D4B	5/1/2018	1.64	-1.72	W18200	5/14/2018
18-1819	C5AA	5/1/2018	2.32	-1.91	W18200	5/14/2018
18-1820	C5AB	5/1/2018	3.42	-0.80	W18200	5/14/2018
18-1821	C6A	5/1/2018	2.40	-0.95	W18200	5/14/2018
18-1822	C6B	5/1/2018	1.19	0.79	W18200	6/6/2018
18-1823	C7A	5/1/2018	0.45	-0.85	W18200	5/14/2018
18-1824	C7B	5/1/2018	0.78	2.17	W18200	5/14/2018
18-1825	C8A	5/1/2018	1.99	10.37	W18200	5/14/2018
18-1826	C8B	5/1/2018	6.53	1.34	W18200	5/14/2018
18-1827	C9A	5/1/2018	1.81	3.76	W18200	5/14/2018
18-1828	C9B	5/1/2018	-6.33	4.59	W18200	5/14/2018
18-1829	C10A	5/1/2018	-1.46	5.69	W18200	5/14/2018
18-1830	C10B	5/1/2018	3.03	5.99	W18200	5/14/2018

18-1831	C11A	5/1/2018			W18200	
18-1832	C11B	5/1/2018	6.10	12.32	W18200	5/14/2018
18-1865	D5A	5/2/2018	-0.68	1.22	W18206	5/23/2018
18-1867	D5B	5/2/2018	-8.93	-4.10	W18206	6/6/2018
18-1868	D6A	5/2/2018	-0.83	-2.95	W18206	5/23/2018
18-1869	D6B	5/2/2018	-2.70	-0.51	W18206	5/23/2018
18-1870	D7A	5/2/2018	-2.62	1.53	W18206	5/23/2018
18-1871	D7B	5/2/2018	-4.99	-3.17	W18206	5/23/2018
18-1872	D8A	5/2/2018	8.24	4.86	W18206	6/6/2018
18-1873	D8B	5/2/2018	0.23	2.27	W18206	5/23/2018
18-1874	D9A	5/2/2018	-1.65	1.23	W18206	5/23/2018
18-1875	D9B	5/2/2018	2.72	1.35	W18206	5/23/2018
18-1876	D10A	5/2/2018	-6.75	-3.01	W18206	6/6/2018
18-1877	D10B	5/2/2018	-1.72	0.08	W18206	5/23/2018
18-1878	D11A	5/2/2018	1.96	5.26	W18206	5/23/2018
18-1879	D11B	5/2/2018	5.06	2.47	W18206	5/24/2018
18-1880	E1A	5/2/2018	3.35	6.17	W18206	5/24/2018
18-1881	E1B	5/2/2018	6.84	5.39	W18206	5/24/2018
18-1882	E2A	5/2/2018	2.63	6.36	W18206	5/24/2018
18-1883	E2B	5/2/2018	1.89	-0.20	W18206	5/24/2018
18-1884	E3A	5/2/2018	-0.03	1.74	W18206	5/24/2018
18-1885	E3B	5/2/2018	0.68	1.59	W18206	5/24/2018
18-1886	E4A	5/2/2018	3.69	5.12	W18206	5/24/2018
18-1887	E4B	5/2/2018	-0.84	4.71	W18206	5/24/2018
18-1888	E5A	5/2/2018	1.29	4.91	W18206	5/24/2018
18-1889	E5B	5/2/2018	2.59	5.44	W18206	5/24/2018
18-1890	E6A	5/2/2018	-6.39	3.20	W18206	5/24/2018
18-1891	E6B	5/2/2018	-2.48	4.47	W18206	5/24/2018
18-1892	E7A	5/2/2018	3.76	7.91	W18206	5/24/2018
18-1893	E7B	5/2/2018	-4.23	-2.39	W18206	5/24/2018
18-2011	E10A	5/3/2018	-4.15	2.91	W18216	6/7/2018
18-2013	E10B	5/3/2018	12.57	35.93	W18216	5/30/2018
18-2014	E8A	5/3/2018	11.47	15.97	W18216	5/30/2018
18-2015	E8B	5/3/2018	6.01	9.17	W18216	5/30/2018
18-2016	E9A	5/3/2018	29.64	22.79	W18216	5/30/2018
18-2017	E9B	5/3/2018	9.39	13.17	W18216	5/30/2018
(b) (6)	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]

Project	Protocol	NotRun
CSD GROUNDWATER SAMPLING	12_02_11_01	1
CSD GROUNDWATER SAMPLING	12_02_11_01	0
CSD GROUNDWATER SAMPLING	12_02_11_01	1
CSD GROUNDWATER SAMPLING	12_02_11_01	1
CSD GROUNDWATER SAMPLING	12_02_11_01	1
CSD GROUNDWATER SAMPLING	12_02_11_01	0
CSD GROUNDWATER SAMPLING	12_02_11_01	0
CSD GROUNDWATER SAMPLING	12_02_11_01	0
CSD GROUNDWATER SAMPLING	12_02_11_01	1
CSD GROUNDWATER SAMPLING	12_02_11_01	0
CSD GROUNDWATER SAMPLING	12_02_11_01	1
CSD GROUNDWATER SAMPLING	12_02_11_01	0
CSD GROUNDWATER SAMPLING	12_02_11_01	0
CSD GROUNDWATER SAMPLING	12_02_11_01	1
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CSD GROUNDWATER SAMPLING	12_02_11_01	0
CSD GROUNDWATER SAMPLING	12_02_11_01	0
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CSD GROUNDWATER SAMPLING	12_02_11_01	0
CSD GROUNDWATER SAMPLING	12_02_11_01	0
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CSD GROUNDWATER SAMPLING	12_02_11_01	1
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CSD GROUNDWATER SAMPLING	12_02_11_01	1
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CSD GROUNDWATER SAMPLING	12_02_11_01	0
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CSD GROUNDWATER SAMPLING	12_02_11_01	0

"1" = Insufl

15N_NO3N
18O_NO3N

$\delta(o/$

CSD GROUNDWATER SAMPLING	12_02_11_01	1
CSD GROUNDWATER SAMPLING	12_02_11_01	0
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CSD GROUNDWATER SAMPLING	12_02_11_01	0
CSD GROUNDWATER SAMPLING	12_02_11_01	0

ficient NO3N to measure

l (o/oo) relative to atmospheric nitrogen
l (o/oo) relative to SMOW

$$oo) = \frac{R_{sample} - R_{\text{standard}}}{R_{\text{standard}}} \times 1000$$