

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 200211

Grade 8-0-0 Liquid

Statistical Summary

Methods: 119

Labs Reporting: 90

Issue Date : 03/31/2020

Method Code	Analyte & Method Sample # 200211	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
001.10	Ammoniacal N, Magnesium Oxide Method (%)	11	11	7.676	0.2836	7.683		0.3071	0.1157	4.00%		0.1290	2.94%
001.99	Ammoniacal N, Other (%)	30	30	7.581	1.665	7.822		0.3343	0.0763	4.27%		0.0660	2.93%
002.99	Nitrate N, Other (%)	1		8.030									
010.11	Total N, Modified Comprehensive (8%)	4	4	7.925	0.3104	7.925	0.5493	0.3104	0.1940	3.92%	1.32	0.1500	2.93%
010.12	Total N, Salicylic (8%)	3	3	7.916	0.0835	7.916	0.5492	0.0835	0.0603	1.05%	0.35	0.0513	2.93%
010.60	Total N, Combustion (8%)	51	49	7.706	0.6989	7.788	0.5479	0.5312	0.0949	6.82%	2.26	0.1080	2.94%
010.99	Total N, Other (8%)	14	14	8.085	0.4318	8.120	0.5524	0.2553	0.0853	3.14%	1.08	0.0874	2.92%
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	1		0.0000									
020.50	Total P2O5, ICP (%)	6	4	0.0199	0.0136	0.0199		0.0136	0.0085	68.45%		0.0043	7.21%
020.99	Total P2O5, Other (%)	1		0.0017									
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (%)	1		0.0750									
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	1		0.0235									
050.50	Soluble K2O, ICP (Oxalate) (%)	1		0.0450									
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	1		0.0590									
050.99	Soluble K2O, Other (%)	8	8	0.1811	0.2654	0.1699	0.4100	0.2751	0.1216	161.95%	1.56	0.0043	5.22%
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	1		0.0075									
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	3	2	0.1378	0.1375	0.1378	0.2069	0.1375	0.1216	99.84%	1.55	0.0115	5.39%
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	2	2	0.0301	0.0029								
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	5	5	0.0297	0.0064	0.0297	0.2015	0.0064	0.0036	21.65%	0.07	0.0015	6.79%
101.99	Acid Soluble Ca, Other (%)	1		0.0250									
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	3	2	0.0150	0.0071	0.0150	0.2008	0.0071	0.0063	47.14%	0.08	0.0000	7.53%
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	2	2	0.0221	0.0093								
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	7	5	0.0219	0.0036	0.0219	0.2011	0.0036	0.0020	16.50%	0.04	0.0008	7.11%
121.99	Acid Soluble Mg, Other (%)	5	5	0.0217	0.0125	0.0217	0.2011	0.0125	0.0070	57.69%	0.14	0.0005	7.12%
131.00	Water Soluble Mg, AA (%)	1		0.0225									
143.99	Elemental S, Other (%)	6	6	3.249	0.2333	3.253		0.2551	0.1302	7.84%		0.0518	3.35%
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	6	6	3.363	0.1964	3.388		0.1604	0.0819	4.74%		0.0716	3.33%
145.99	Sulfate S, HCl soluble, Other (%)	2	2	3.703	0.6824								
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (3%)	3	3	3.265	0.2252	3.265	0.3633	0.2252	0.1625	6.90%	1.44	0.1167	3.35%
146.99	Total S in Liquid, Other (3%)	1		3.400									
148.00	Total S, Combustion (3%)	7	7	3.380	0.3384	3.381	0.3691	0.3056	0.1444	9.04%	1.93	0.0916	3.33%
148.01	Total S, Gravimetric - sulfate and elemental (3%)	9	9	3.410	0.2157	3.419	0.3710	0.2228	0.0929	6.52%	1.40	0.0600	3.32%
148.04	Total S, ICP, w/Br digestion (3%)	1		3.585									

Method Code	Analyte & Method Sample # 200211	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Howitz %RSD
148.07	Total S, ICP, test portion as in 2017.02 (3%)	17	16	3.771	0.9205	3.587	0.3794	0.3573	0.1117	9.96%	2.19	0.0576	3.30%
148.99	Total S, Other (3%)	15	15	3.301	0.2163	3.301	0.3651	0.1968	0.0635	5.96%	1.26	0.0629	3.34%
149.04	S - HNO3 soluble, ICP (%)	3	3	3.150	0.5703	3.150		0.5703	0.4116	18.10%		0.2056	3.37%
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	1		0.0800									
151.30	Acid Soluble As, ICP (ppm)	5	3	0.3473	0.5574	0.3473		0.5574	0.4023	160.48%		0.0274	18.76%
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	5	0	0.0000		0.3473		0.5574		160.48%		0.0000	18.76%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	1		0.0000									
151.99	Acid Soluble As, Other (ppm)	3	1	0.7000		0.3473		0.5574	0.6967	160.48%		0.2000	18.76%
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	4	3	0.0027	0.0034	0.0027	0.0034	0.0034	0.0025	125.76%	2.32	0.0001	9.74%
165.99	Acid Soluble B, Other (%)	7	5	0.0015	0.0015	0.0015	0.0032	0.0015	0.0009	100.16%	1.11	0.0008	10.60%
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	2	2	0.3125	0.1591								
181.30	Acid Soluble Cd, ICP (ppm)	7	7	0.2769	0.1667	0.2706		0.1744	0.0824	64.47%		0.0206	19.47%
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	7	4	0.6236	0.6212	0.6236		0.6212	0.3882	99.62%		0.0615	17.18%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	1		0.0000									
181.99	Acid Soluble Cd, Other (ppm)	3	2	0.6200	0.3960	0.6200		0.3960	0.3500	63.87%		0.0000	17.19%
191.00	Acid Soluble Cr, AA, test portion 2006.03 modified w/dual acid (ppm)	1		11.58									
191.30	Acid Soluble Cr, ICP (ppm)	8	7	1.674	1.601	1.235		0.6046	0.2857	48.94%		0.0763	15.50%
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	5	5	3.616	4.135	3.616		4.135	2.311	114.35%		0.8409	13.18%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	1		4.622									
191.99	Acid Soluble Cr, Other (ppm)	3	2	1.925	2.440	1.925		2.440	2.156	126.73%		0.0500	14.50%
202.30	Acid Soluble Co, ICP (ppm)	5	5	22.91	9.476	22.91	7.8717	9.476	5.297	41.37%	2.80	0.7391	9.99%
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	2	2	21.17	1.643								
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	8	6	20.95	1.408	20.95	7.2848	1.596	0.8146	7.62%	0.51	0.5940	10.12%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	2	2	27.82	1.172								
202.99	Acid Soluble Co, Other (ppm)	4	4	21.05	5.022	21.05	7.3140	5.022	3.138	23.86%	1.60	0.7370	10.11%
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	1		5.000									
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	3	0	0.0000		21.05	1.0000	5.022		23.86%	11.70	0.0000	2.53%
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	1		0.0001									
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	4	1	0.0006		21.05	1.0000	5.022	6.277	23.86%	11.70	0.0006	2.53%
221.99	Acid Soluble Cu, Other (%)	5	2	0.0009	0.0001	0.0009	0.0051	0.0001	0.0001	15.71%	0.06	0.0002	11.49%
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	15	15	1.065	0.1651	1.044	0.1094	0.0600	0.0194	5.75%	1.28	0.0394	3.97%
241.02	Acid Soluble Fe, AA, 965.09, test portion 2006.03A-C (1%)	1		0.9750									
241.03	Acid Soluble Fe, AA, 965.09, test portion 2006.03A-C w/dual acid (1%)	1		1.047									
241.20	Acid Soluble Fe, Colorimetric (1%)	1		0.9350									
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	18	17	1.056	0.0753	1.055	0.1105	0.0579	0.0175	5.49%	1.22	0.0218	3.97%
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (1%)	4	4	1.084	0.0999	1.084	0.1134	0.0999	0.0624	9.21%	2.05	0.0038	3.95%
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	14	13	1.068	0.1156	1.039	0.1089	0.0418	0.0145	4.03%	0.89	0.0296	3.98%
241.99	Acid Soluble Fe, Other (1%)	18	17	1.004	0.2527	1.046	0.1096	0.1166	0.0353	11.14%	2.48	0.0340	3.97%
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid (ppm)	1		1.500									
251.30	Acid Soluble Pb, ICP (ppm)	6	5	2.768	2.036	2.768		2.036	1.138	73.58%		0.3264	13.72%
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	5	2	2.715	3.764	2.715		3.764	3.327	138.63%		1.618	13.76%
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	1		6.159									
251.99	Acid Soluble Pb, Other (ppm)	2	2	2.550	0.6364								
261.00	Acid Soluble Mn, AA, Mn2+ only (2%)	2	2	2.373	0.3995								

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261.11	Acid Soluble Mn, AA, total Mn (2%)	2	2	2.003	0.2157								
261.12	Acid Soluble Mn, AA, inorganic 965.09 (2%)	9	9	2.122	0.2672	2.047	0.2097	0.0701	0.0292	3.43%	0.78	0.0710	3.59%
261.14	Acid Soluble Mn, AA, 965.09, test portion 2006.03A-C (2%)	1		2.025									
261.30	Acid Soluble Mn, ICP, test portion 972.02a (2%)	12	12	2.227	0.1292	2.223	0.2273	0.1382	0.0499	6.22%	1.42	0.0288	3.55%
261.31	Acid Soluble Mn, ICP, test portion 972.02b (2%)	3	3	2.053	0.1314	2.053	0.2103	0.1314	0.0948	6.40%	1.46	0.0540	3.59%
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (2%)	3	3	2.175	0.2298	2.175	0.2225	0.2298	0.1659	10.57%	2.41	0.1500	3.56%
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (2%)	3	3	2.199	0.1295	2.199	0.2249	0.1295	0.0934	5.89%	1.34	0.0090	3.55%
261.35	Acid Soluble Mn, ICP, 2017.02 (2%)	14	14	2.164	0.3424	2.105	0.2155	0.1171	0.0391	5.57%	1.27	0.1318	3.58%
261.50	Acid Soluble Mn, Spectrometric (2%)	2	2	2.250	0.0354								
261.99	Acid Soluble Mn, Other (2%)	14	13	1.995	0.5851	2.096	0.2146	0.2573	0.0892	12.28%	2.79	0.0434	3.58%
271.00	Water Soluble Mn, AA (%)	1		2.092									
271.30	Water Soluble Mn, ICP, Ext. 972.03 (%)	1		2.212									
271.99	Water Soluble Mn, Other (%)	2	2	2.268	0.1866								
281.00	Acid Soluble Hg, AA (ppm)	1		1.200									
281.30	Acid Soluble Hg, ICP (ppm)	4	1	0.0001		2.268		0.1866	0.2332	8.23%		0.0000	14.14%
281.99	Acid Soluble Hg, Other (ppm)	2	1	0.0250									
289.00	Acid Soluble Mo, AA, test portion 2006.03 modified w/dual acid (ppm)	1		0.3260									
289.30	Acid Soluble Mo, ICP (ppm)	4	3	5.273	8.424	5.273	2.5819	8.424	6.079	159.76%	7.60	3.356	12.46%
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	4	3	0.2343	0.1656	0.2343	1.0703	0.1656	0.1195	70.69%	0.36	0.0266	19.90%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	2	1	0.5998									
289.99	Acid Soluble Mo, Other (ppm)	3	0	0.3000		0.2343	1.0703	0.1656		70.69%	0.36	0.0000	19.90%
291.00	Acid Soluble Ni, AA, test portion 2006.03 modified w/dual acid (ppm)	2	2	6.508	1.404								
291.30	Acid Soluble Ni, ICP (ppm)	9	8	11.35	4.446	10.19		1.703	0.7527	16.71%		0.3330	11.28%
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	7	6	13.28	4.046	12.63		2.963	1.512	23.46%		1.203	10.92%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	2	2	13.85	1.871								
291.99	Acid Soluble Ni, Other (ppm)	4	4	12.58	2.592	12.58		2.592	1.620	20.61%		3.048	10.93%
301.00	Acid Soluble Se, AA, test portion 2006.03 modified w/dual acid (ppm)	1		0.0800									
301.30	Acid Soluble Se, ICP (ppm)	3	3	6.814	5.858	6.814		5.858	4.228	85.97%		0.4251	11.98%
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	3	1	0.1910		6.814		5.858	7.322	85.97%		0.0360	11.98%
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	1		3.848									
301.99	Acid Soluble Se, Other (ppm)	4	3	2.684	3.738	2.684		3.738	2.697	139.25%		0.0817	13.79%
311.33	Sodium, ICP, test portion as in 2017.02 (%)	6	6	0.5182	0.0528	0.5127	0.0563	0.0466	0.0238	9.08%	1.93	0.0047	4.42%
311.99	Sodium, Other (%)	2	2	0.5100	0.0212								
321.00	Acid Soluble Zn, AA, inorganic 965.09 (3%)	14	14	3.162	0.4649	3.111	0.3161	0.2463	0.0823	7.92%	1.82	0.0705	3.37%
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	21	20	3.218	0.2697	3.220	0.3270	0.2830	0.0791	8.79%	2.02	0.0521	3.35%
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (3%)	4	4	3.381	0.6544	3.381	0.3431	0.6544	0.4090	19.36%	4.44	0.0198	3.33%
321.33	Acid Soluble Zn, ICP, 2017.02 (3%)	14	13	3.383	0.4717	3.284	0.3334	0.1857	0.0644	5.66%	1.30	0.0886	3.34%
321.99	Acid Soluble Zn, Other (3%)	12	11	2.900	0.8691	3.126	0.3176	0.2129	0.0802	6.81%	1.56	0.0479	3.37%
325.00	Water Soluble Zn, AA (%)	2	2	3.134	0.0930								
325.30	Water Soluble Zn, ICP (%)	2	2	3.461	0.2625								
325.99	Water Soluble Zn, Other (%)	4	4	3.465	0.3373	3.465		0.3373	0.2108	9.74%		0.1050	3.32%
431.10	Soluble Si in nonliquids, Na2CO3-NH4NO3 extraction, spectrophomet... (%)	1		0.0350									

The Method IA Ratio = 2.33 * Robust SD / IA at the Method Assigned Value. IA ratios of 1 and less indicate participant data dispersion is as good or less than the IA. Red indicates the IA ratio is significantly greater than 1, Orange indicates marginally greater than 1, Green indicates IA ratio is not significantly greater than 1 and Grey indicates < 6 labs reporting.

Horwitz %RSD	
Average Range (R-bar)	
Method IA Ratio	
Robust % RSD	
Robust Uncertainty (U)	
Robust sd	
IA at Method Value	
Assigned Value Robust Mean	
Raw SD	
Raw Mean	
# Tests in Robust Calculations	
# Tests Submitted	
Analyte & Method Sample # 200211	
Method Code	

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 200211

Method Precision Report

Grade 8-0-0 Liquid

Issue Date : 03/31/2020

Method Code	Analyte & Method	# Tests Submitted	# Tests Used in Precision Calcs	Mean	SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
001.10	Ammoniacal N, Magnesium Oxide Method (%)	11	10	7.729	0.2357	0.2244	0.1017	0.2464	2.90%	1.32%	3.19%	2.424
001.99	Ammoniacal N, Other (%)	30	28	7.884	0.8503	0.8494	0.0543	0.8512	10.77%	0.69%	10.80%	15.69
010.60	Total N, Combustion (8%)	51	46	7.769	0.6209	0.6183	0.0798	0.6234	7.96%	1.03%	8.02%	7.811
010.99	Total N, Other (8%)	14	13	8.172	0.2923	0.2871	0.0776	0.2974	3.51%	0.95%	3.64%	3.833
050.99	Soluble K2O, Other (%)	8	8	0.1811	0.2654	0.2654	0.0047	0.2654	146.55%	2.60%	146.57%	56.44
148.01	Total S, Gravimetric - sulfate and elemental (3%)	9	8	3.437	0.2139	0.2126	0.0336	0.2152	6.19%	0.98%	6.26%	6.400
148.07	Total S, ICP, test portion as in 2017.02 (3%)	17	14	3.566	0.2972	0.2960	0.0381	0.2985	8.30%	1.07%	8.37%	7.829
148.99	Total S, Other (3%)	15	14	3.293	0.2223	0.2202	0.0433	0.2244	6.69%	1.32%	6.81%	5.179
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	15	14	1.027	0.0788	0.0739	0.0387	0.0834	7.19%	3.77%	8.12%	2.155
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	18	16	1.044	0.0604	0.0587	0.0197	0.0620	5.63%	1.89%	5.93%	3.144
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	14	11	1.028	0.0265	0.0207	0.0234	0.0312	2.02%	2.27%	3.04%	1.337
241.99	Acid Soluble Fe, Other (1%)	18	15	1.064	0.1039	0.1017	0.0299	0.1060	9.55%	2.81%	9.96%	3.542
261.12	Acid Soluble Mn, AA, inorganic 965.09 (2%)	9	8	2.034	0.0509	0.0367	0.0500	0.0620	1.80%	2.46%	3.05%	1.241
261.30	Acid Soluble Mn, ICP, test portion 972.02a (2%)	12	11	2.204	0.1079	0.1069	0.0212	0.1090	4.85%	0.96%	4.94%	5.134
261.35	Acid Soluble Mn, ICP, 2017.02 (2%)	14	13	2.101	0.2603	0.2378	0.1497	0.2809	11.31%	7.12%	13.37%	1.877
261.99	Acid Soluble Mn, Other (2%)	14	11	2.125	0.2414	0.2402	0.0339	0.2426	11.30%	1.60%	11.42%	7.154
321.00	Acid Soluble Zn, AA, inorganic 965.09 (3%)	14	13	3.057	0.2594	0.2548	0.0687	0.2639	8.34%	2.25%	8.63%	3.841
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	21	19	3.221	0.2767	0.2753	0.0398	0.2782	8.55%	1.24%	8.64%	6.981
321.33	Acid Soluble Zn, ICP, 2017.02 (3%)	14	11	3.257	0.1575	0.1513	0.0619	0.1635	4.65%	1.90%	5.02%	2.641
321.99	Acid Soluble Zn, Other (3%)	12	9	3.131	0.1491	0.1478	0.0280	0.1504	4.72%	0.89%	4.80%	5.368

Notes: Precision data calculated when 8 or more Tests included.

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 200211
Grade 8-0-0 Liquid

Lab Values

Methods: 119

Labs Reporting: 90

Issue Date : 03/31/2020

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0117	7.150	0.5000	7.683	0.3071	0.1290	11	-1.62	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0309	7.315	0.2700	7.683	0.3071	0.1290	11	-1.12	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0456	7.460	0.0200	7.683	0.3071	0.1290	11	-0.68	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0444	7.485	0.0500	7.683	0.3071	0.1290	11	-0.60	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0563	7.653	0.3290	7.683	0.3071	0.1290	11	-0.09	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0136	7.810	0.1000	7.683	0.3071	0.1290	11	0.39	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0486	7.835	0.0100	7.683	0.3071	0.1290	11	0.46	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0481	7.885	0.1100	7.683	0.3071	0.1290	11	0.62	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0231	7.910	0.0200	7.683	0.3071	0.1290	11	0.69	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0451	7.935	0.0100	7.683	0.3071	0.1290	11	0.77	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0498	8.000	0.0000	7.683	0.3071	0.1290	11	0.97	NA	0
001.99	Ammoniacal N, Other (%)	0524	0.0008	0.0000	7.822	0.3343	0.0660	30	-23.39	NA	0
001.99	Ammoniacal N, Other (%)	0027	5.555	0.0100	7.822	0.3343	0.0660	30	-6.78	NA	0
001.99	Ammoniacal N, Other (%)	0255	6.680	0.2400	7.822	0.3343	0.0660	30	-3.41	NA	0
001.99	Ammoniacal N, Other (%)	0553	6.945	0.0700	7.822	0.3343	0.0660	30	-2.62	NA	0
001.99	Ammoniacal N, Other (%)	0420	7.115	0.1100	7.822	0.3343	0.0660	30	-2.11	NA	0
001.99	Ammoniacal N, Other (%)	0565	7.560	0.0800	7.822	0.3343	0.0660	30	-0.78	NA	0
001.99	Ammoniacal N, Other (%)	0564	7.610	0.0200	7.822	0.3343	0.0660	30	-0.63	NA	0
001.99	Ammoniacal N, Other (%)	0096	7.665	0.0700	7.822	0.3343	0.0660	30	-0.47	NA	0
001.99	Ammoniacal N, Other (%)	0559	7.690	0.0200	7.822	0.3343	0.0660	30	-0.39	NA	0
001.99	Ammoniacal N, Other (%)	0562	7.700	0.1000	7.822	0.3343	0.0660	30	-0.36	NA	0
001.99	Ammoniacal N, Other (%)	0544	7.705	0.0500	7.822	0.3343	0.0660	30	-0.35	NA	0
001.99	Ammoniacal N, Other (%)	0560	7.750	0.1000	7.822	0.3343	0.0660	30	-0.21	NA	0
001.99	Ammoniacal N, Other (%)	0220	7.825	0.0500	7.822	0.3343	0.0660	30	0.01	NA	0
001.99	Ammoniacal N, Other (%)	0423	7.825	0.1300	7.822	0.3343	0.0660	30	0.01	NA	0
001.99	Ammoniacal N, Other (%)	0394	7.863	0.0790	7.822	0.3343	0.0660	30	0.12	NA	0
001.99	Ammoniacal N, Other (%)	0405	7.895	0.0300	7.822	0.3343	0.0660	30	0.22	NA	0
001.99	Ammoniacal N, Other (%)	0550	7.905	0.0100	7.822	0.3343	0.0660	30	0.25	NA	0
001.99	Ammoniacal N, Other (%)	0371	7.925	0.0500	7.822	0.3343	0.0660	30	0.31	NA	0
001.99	Ammoniacal N, Other (%)	0493	7.950	0.1000	7.822	0.3343	0.0660	30	0.38	NA	0
001.99	Ammoniacal N, Other (%)	0538	7.990	0.0600	7.822	0.3343	0.0660	30	0.50	NA	0
001.99	Ammoniacal N, Other (%)	0549	7.990	0.0200	7.822	0.3343	0.0660	30	0.50	NA	0
001.99	Ammoniacal N, Other (%)	0513	8.045	0.0300	7.822	0.3343	0.0660	30	0.67	NA	0
001.99	Ammoniacal N, Other (%)	0200	8.050	0.2000	7.822	0.3343	0.0660	30	0.68	NA	0
001.99	Ammoniacal N, Other (%)	0536	8.050	0.1000	7.822	0.3343	0.0660	30	0.68	NA	0
001.99	Ammoniacal N, Other (%)	0546	8.060	0.0200	7.822	0.3343	0.0660	30	0.71	NA	0

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001.99	Ammoniacal N, Other (%)	0522	8.085	0.0900	7.822	0.3343	0.0660	30	0.79	NA	0
001.99	Ammoniacal N, Other (%)	0532	8.125	0.0900	7.822	0.3343	0.0660	30	0.91	NA	0
001.99	Ammoniacal N, Other (%)	0558	8.140	0.0000	7.822	0.3343	0.0660	30	0.95	NA	0
001.99	Ammoniacal N, Other (%)	0545	8.425	0.0500	7.822	0.3343	0.0660	30	1.80	NA	0
001.99	Ammoniacal N, Other (%)	0527	11.30	0.0000	7.822	0.3343	0.0660	30	10.40	NA	0
002.99	Nitrate N, Other (%)	0371	8.030	0.2400				1			0
010.11	Total N, Modified Comprehensive (8%)	0309	7.480	0.4200	7.925	0.3104	0.1500	4	-1.43		0
010.11	Total N, Modified Comprehensive (8%)	0456	7.945	0.0300	7.925	0.3104	0.1500	4	0.06		0
010.11	Total N, Modified Comprehensive (8%)	0531	8.125	0.0500	7.925	0.3104	0.1500	4	0.64		0
010.11	Total N, Modified Comprehensive (8%)	0551	8.150	0.1000	7.925	0.3104	0.1500	4	0.72		0
010.12	Total N, Salicylic (8%)	0563	7.833	0.0640	7.916	0.0835	0.0513	3	-0.99		0
010.12	Total N, Salicylic (8%)	0481	7.915	0.0900	7.916	0.0835	0.0513	3	-0.01		0
010.12	Total N, Salicylic (8%)	0498	8.000	0.0000	7.916	0.0835	0.0513	3	1.01		0
010.60	Total N, Combustion (8%)	0450	5.350	0.3000	7.788	0.5312	0.1080	49	-4.59	Low	0
010.60	Total N, Combustion (8%)	0419	6.031	0.1490	7.788	0.5312	0.1080	49	-3.31	Low	0
010.60	Total N, Combustion (8%)	0472	6.215	0.1700	7.788	0.5312	0.1080	49	-2.96	Low	0
010.60	Total N, Combustion (8%)	0117	6.305	0.0700	7.788	0.5312	0.1080	49	-2.79	Low	0
010.60	Total N, Combustion (8%)	0523	6.750	0.1000	7.788	0.5312	0.1080	49	-1.95	Low	0
010.60	Total N, Combustion (8%)	0136	6.775	0.1100	7.788	0.5312	0.1080	49	-1.91	Low	0
010.60	Total N, Combustion (8%)	0389	6.945	0.0100	7.788	0.5312	0.1080	49	-1.59	Low	0
010.60	Total N, Combustion (8%)	0527	6.952	0.1900	7.788	0.5312	0.1080	49	-1.57	Low	0
010.60	Total N, Combustion (8%)	0231	7.105	0.4500	7.788	0.5312	0.1080	49	-1.29	Low	0
010.60	Total N, Combustion (8%)	0485	7.181	0.1750	7.788	0.5312	0.1080	49	-1.14	Low	0
010.60	Total N, Combustion (8%)	0521	7.400	0.0000	7.788	0.5312	0.1080	49	-0.73	OK	0
010.60	Total N, Combustion (8%)	0035	7.425	0.0300	7.788	0.5312	0.1080	49	-0.68	OK	0
010.60	Total N, Combustion (8%)	0444	7.435	0.0500	7.788	0.5312	0.1080	49	-0.66	OK	0
010.60	Total N, Combustion (8%)	0157	7.460	0.0800	7.788	0.5312	0.1080	49	-0.62	OK	0
010.60	Total N, Combustion (8%)	0095	7.600	0.0200	7.788	0.5312	0.1080	49	-0.35	OK	0
010.60	Total N, Combustion (8%)	0169	7.675	0.1100	7.788	0.5312	0.1080	49	-0.21	OK	0
010.60	Total N, Combustion (8%)	0451	7.739	0.4260	7.788	0.5312	0.1080	49	-0.09	OK	0
010.60	Total N, Combustion (8%)	0494	7.750	0.0200	7.788	0.5312	0.1080	49	-0.07	OK	0
010.60	Total N, Combustion (8%)	0177	7.811	0.1410	7.788	0.5312	0.1080	49	0.04	OK	0
010.60	Total N, Combustion (8%)	0055	7.830	0.0200	7.788	0.5312	0.1080	49	0.08	OK	0
010.60	Total N, Combustion (8%)	0025	7.857	0.0250	7.788	0.5312	0.1080	49	0.13	OK	0
010.60	Total N, Combustion (8%)	0049	7.870	0.1000	7.788	0.5312	0.1080	49	0.15	OK	0
010.60	Total N, Combustion (8%)	0481	7.920	0.1800	7.788	0.5312	0.1080	49	0.25	OK	0
010.60	Total N, Combustion (8%)	0043	7.935	0.0500	7.788	0.5312	0.1080	49	0.28	OK	0
010.60	Total N, Combustion (8%)	0550	7.935	0.0100	7.788	0.5312	0.1080	49	0.28	OK	0
010.60	Total N, Combustion (8%)	0486	7.970	0.0600	7.788	0.5312	0.1080	49	0.34	OK	0
010.60	Total N, Combustion (8%)	0390	7.975	0.0100	7.788	0.5312	0.1080	49	0.35	OK	0
010.60	Total N, Combustion (8%)	0041	7.981	0.0910	7.788	0.5312	0.1080	49	0.36	OK	0
010.60	Total N, Combustion (8%)	0040	8.000	0.2000	7.788	0.5312	0.1080	49	0.40	OK	0
010.60	Total N, Combustion (8%)	0423	8.005	0.1300	7.788	0.5312	0.1080	49	0.41	OK	0
010.60	Total N, Combustion (8%)	0234	8.010	0.1000	7.788	0.5312	0.1080	49	0.42	OK	0
010.60	Total N, Combustion (8%)	0220	8.015	0.1500	7.788	0.5312	0.1080	49	0.43	OK	0
010.60	Total N, Combustion (8%)	0534	8.040	0.0600	7.788	0.5312	0.1080	49	0.47	OK	0
010.60	Total N, Combustion (8%)	0516	8.050	0.1000	7.788	0.5312	0.1080	49	0.49	OK	0

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010.60	Total N, Combustion (8%)	0291	8.065	0.0100	7.788	0.5312	0.1080	49	0.52	OK	0
010.60	Total N, Combustion (8%)	0501	8.082	0.0509	7.788	0.5312	0.1080	49	0.55	OK	0
010.60	Total N, Combustion (8%)	0452	8.090	0.0400	7.788	0.5312	0.1080	49	0.57	OK	0
010.60	Total N, Combustion (8%)	0029	8.127	0.1930	7.788	0.5312	0.1080	49	0.64	OK	0
010.60	Total N, Combustion (8%)	0354	8.145	0.0300	7.788	0.5312	0.1080	49	0.67	OK	0
010.60	Total N, Combustion (8%)	0292	8.190	0.0000	7.788	0.5312	0.1080	49	0.76	OK	0
010.60	Total N, Combustion (8%)	0230	8.200	0.0000	7.788	0.5312	0.1080	49	0.78	OK	0
010.60	Total N, Combustion (8%)	0405	8.200	0.1800	7.788	0.5312	0.1080	49	0.78	OK	0
010.60	Total N, Combustion (8%)	0377	8.205	0.2700	7.788	0.5312	0.1080	49	0.78	OK	0
010.60	Total N, Combustion (8%)	0547	8.230	0.0000	7.788	0.5312	0.1080	49	0.83	OK	0
010.60	Total N, Combustion (8%)	0086	8.289	0.1135	7.788	0.5312	0.1080	49	0.94	OK	0
010.60	Total N, Combustion (8%)	0073	8.335	0.1100	7.788	0.5312	0.1080	49	1.03	OK	0
010.60	Total N, Combustion (8%)	0114	8.390	0.0800	7.788	0.5312	0.1080	49	1.13	High	0
010.60	Total N, Combustion (8%)	0360	8.725	0.2100	7.788	0.5312	0.1080	49	1.76	High	0
010.60	Total N, Combustion (8%)	0561	9.010	0.1200	7.788	0.5312	0.1080	49	2.30	High	0
010.60	Total N, Combustion (8%)	0255	7.191	0.7800	7.788	0.5312	0.1080	49	-1.12	Low	1
010.60	Total N, Combustion (8%)	0422	7.350	0.9000	7.788	0.5312	0.1080	49	-0.82	OK	1
010.99	Total N, Other (8%)	0553	6.945	0.0700	8.120	0.2553	0.0874	14	-4.60	Low	0
010.99	Total N, Other (8%)	0524	7.637	0.0640	8.120	0.2553	0.0874	14	-1.89	OK	0
010.99	Total N, Other (8%)	0563	7.810	0.0400	8.120	0.2553	0.0874	14	-1.22	OK	0
010.99	Total N, Other (8%)	0551	8.085	0.0700	8.120	0.2553	0.0874	14	-0.14	OK	0
010.99	Total N, Other (8%)	0562	8.085	0.1300	8.120	0.2553	0.0874	14	-0.14	OK	0
010.99	Total N, Other (8%)	0493	8.100	0.1000	8.120	0.2553	0.0874	14	-0.08	OK	0
010.99	Total N, Other (8%)	0531	8.120	0.0200	8.120	0.2553	0.0874	14	0.00	OK	0
010.99	Total N, Other (8%)	0558	8.140	0.0000	8.120	0.2553	0.0874	14	0.08	OK	0
010.99	Total N, Other (8%)	0565	8.240	0.0800	8.120	0.2553	0.0874	14	0.47	OK	0
010.99	Total N, Other (8%)	0420	8.255	0.1700	8.120	0.2553	0.0874	14	0.53	OK	0
010.99	Total N, Other (8%)	0564	8.275	0.0500	8.120	0.2553	0.0874	14	0.61	OK	0
010.99	Total N, Other (8%)	0559	8.295	0.0300	8.120	0.2553	0.0874	14	0.68	OK	0
010.99	Total N, Other (8%)	0560	8.300	0.2000	8.120	0.2553	0.0874	14	0.70	OK	0
010.99	Total N, Other (8%)	0556	8.900	0.2000	8.120	0.2553	0.0874	14	3.05	High	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0450	0.0000	0.0000				0			4
020.50	Total P2O5, ICP (%)	0523	0.0100	0.0000	0.0199	0.0136	0.0043	4	-0.62		0
020.50	Total P2O5, ICP (%)	0422	0.0145	0.0070	0.0199	0.0136	0.0043	4	-0.34		0
020.50	Total P2O5, ICP (%)	0516	0.0150	0.0100	0.0199	0.0136	0.0043	4	-0.30		0
020.50	Total P2O5, ICP (%)	0389	0.0400	0.0000	0.0199	0.0136	0.0043	4	1.25		0
020.50	Total P2O5, ICP (%)	0524	0.0001	0.0001	0.0199	0.0136	0.0043	4			4
020.50	Total P2O5, ICP (%)	0527	< 0.001		0.0199	0.0136	0.0043	4			5
020.99	Total P2O5, Other (%)	0515	0.0017	0.0005				1			0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (%)	0485	0.0750	0.0100				1			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	0354	0.0235	0.0090				1			0
050.50	Soluble K2O, ICP (Oxalate) (%)	0422	0.0450	0.0300				1			0
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	0354	0.0590	0.0040				1			0
050.99	Soluble K2O, Other (%)	0523	0.0100	0.0000	0.1699	0.2751	0.0043	8	-0.53	OK	0
050.99	Soluble K2O, Other (%)	0515	0.0126	0.0067	0.1699	0.2751	0.0043	8	-0.52	OK	0
050.99	Soluble K2O, Other (%)	0389	0.0477	0.0003	0.1699	0.2751	0.0043	8	-0.41	OK	0
050.99	Soluble K2O, Other (%)	0096	0.0500	0.0000	0.1699	0.2751	0.0043	8	-0.40	OK	0

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050.99	Soluble K2O, Other (%)	0524	0.0529	0.0143	0.1699	0.2751	0.0043	8	-0.39	OK	0
050.99	Soluble K2O, Other (%)	0563	0.0634	0.0035	0.1699	0.2751	0.0043	8	-0.35	OK	0
050.99	Soluble K2O, Other (%)	0516	0.5400	0.0000	0.1699	0.2751	0.0043	8	1.23	OK	0
050.99	Soluble K2O, Other (%)	0527	0.6723	0.0096	0.1699	0.2751	0.0043	8	1.67	High	0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	0553	0.0075	0.0010				1			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0096	0.0405	0.0130				2			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0354	0.2350	0.0100				2			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0041	< 0.1					2			5
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	0423	0.0280	0.0000				2			0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	0521	0.0321	0.0000				2			0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0136	0.0230	0.0020	0.0297	0.0064	0.0015	5	-1.05		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0563	0.0256	0.0012	0.0297	0.0064	0.0015	5	-0.64		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0419	0.0295	0.0010	0.0297	0.0064	0.0015	5	-0.04		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0494	0.0307	0.0024	0.0297	0.0064	0.0015	5	0.15		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0527	0.0399	0.0009	0.0297	0.0064	0.0015	5	1.57		0
101.99	Acid Soluble Ca, Other (%)	0389	0.0250	0.0100				1			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	0.0100	0.0000				2			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0096	0.0200	0.0000				2			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0041	< 0.1					2			5
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0423	0.0155	0.0010				2			0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0521	0.0286	0.0000				2			0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0136	0.0180	0.0000	0.0219	0.0036	0.0008	5	-0.93		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0419	0.0205	0.0010	0.0219	0.0036	0.0008	5	-0.33		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0494	0.0211	0.0008	0.0219	0.0036	0.0008	5	-0.18		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0527	0.0220	0.0003	0.0219	0.0036	0.0008	5	0.02		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0563	0.0278	0.0019	0.0219	0.0036	0.0008	5	1.43		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0515	0.0413	0.0279	0.0219	0.0036	0.0008	5	4.69		1
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0421	< 0.012		0.0219	0.0036	0.0008	5			5
121.99	Acid Soluble Mg, Other (%)	0523	0.0100	0.0000	0.0217	0.0125	0.0005	5	-0.93		0
121.99	Acid Soluble Mg, Other (%)	0524	0.0120	0.0005	0.0217	0.0125	0.0005	5	-0.78		0
121.99	Acid Soluble Mg, Other (%)	0389	0.0180	0.0000	0.0217	0.0125	0.0005	5	-0.29		0
121.99	Acid Soluble Mg, Other (%)	0515	0.0283	0.0022	0.0217	0.0125	0.0005	5	0.53		0
121.99	Acid Soluble Mg, Other (%)	0516	0.0400	0.0000	0.0217	0.0125	0.0005	5	1.47		0
131.00	Water Soluble Mg, AA (%)	0553	0.0225	0.0070				1			0
143.99	Elemental S, Other (%)	0255	2.847	0.1310	3.253	0.2551	0.0518	6	-1.42	NA	0
143.99	Elemental S, Other (%)	0481	3.165	0.0300	3.253	0.2551	0.0518	6	-0.31	NA	0
143.99	Elemental S, Other (%)	0472	3.290	0.0200	3.253	0.2551	0.0518	6	0.13	NA	0
143.99	Elemental S, Other (%)	0390	3.320	0.0600	3.253	0.2551	0.0518	6	0.23	NA	0
143.99	Elemental S, Other (%)	0291	3.325	0.0100	3.253	0.2551	0.0518	6	0.25	NA	0
143.99	Elemental S, Other (%)	0389	3.550	0.0600	3.253	0.2551	0.0518	6	1.04	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0518	2.995	0.2700	3.388	0.1604	0.0716	6	-2.18	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0544	3.355	0.0100	3.388	0.1604	0.0716	6	-0.18	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0561	3.355	0.0100	3.388	0.1604	0.0716	6	-0.18	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0550	3.420	0.0000	3.388	0.1604	0.0716	6	0.18	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0485	3.501	0.0395	3.388	0.1604	0.0716	6	0.63	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0498	3.550	0.1000	3.388	0.1604	0.0716	6	0.90	NA	0
145.99	Sulfate S, HCl soluble, Other (%)	0444	3.220	0.0800				2			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
145.99	Sulfate S, HCl soluble, Other (%)	0200	4.185	0.0300				2			0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (3%)	0538	3.005	0.0300	3.265	0.2252	0.1167	3	-1.15		0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (3%)	0117	3.390	0.0000	3.265	0.2252	0.1167	3	0.56		0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (3%)	0220	3.400	0.3200	3.265	0.2252	0.1167	3	0.60		0
146.99	Total S in Liquid, Other (3%)	0560	3.400	0.4000				1			0
148.00	Total S, Combustion (3%)	0114	2.810	0.1000	3.381	0.3056	0.0916	7	-1.69	Low	0
148.00	Total S, Combustion (3%)	0419	3.204	0.0430	3.381	0.3056	0.0916	7	-0.53	OK	0
148.00	Total S, Combustion (3%)	0025	3.386	0.0020	3.381	0.3056	0.0916	7	0.01	OK	0
148.00	Total S, Combustion (3%)	0157	3.415	0.0300	3.381	0.3056	0.0916	7	0.10	OK	0
148.00	Total S, Combustion (3%)	0136	3.435	0.0100	3.381	0.3056	0.0916	7	0.16	OK	0
148.00	Total S, Combustion (3%)	0029	3.466	0.2460	3.381	0.3056	0.0916	7	0.25	OK	0
148.00	Total S, Combustion (3%)	0451	3.945	0.2100	3.381	0.3056	0.0916	7	1.67	High	0
148.01	Total S, Gravimetric - sulfate and elemental (3%)	0534	3.000	0.0200	3.419	0.2228	0.0600	9	-1.74	Low	0
148.01	Total S, Gravimetric - sulfate and elemental (3%)	0073	3.195	0.2100	3.419	0.2228	0.0600	9	-0.93	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (3%)	0565	3.325	0.0500	3.419	0.2228	0.0600	9	-0.39	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (3%)	0564	3.385	0.0700	3.419	0.2228	0.0600	9	-0.14	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (3%)	0029	3.435	0.0300	3.419	0.2228	0.0600	9	0.06	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (3%)	0230	3.535	0.0700	3.419	0.2228	0.0600	9	0.48	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (3%)	0028	3.545	0.0300	3.419	0.2228	0.0600	9	0.52	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (3%)	0055	3.550	0.0600	3.419	0.2228	0.0600	9	0.54	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (3%)	0405	3.720	0.0000	3.419	0.2228	0.0600	9	1.24	OK	0
148.04	Total S, ICP, w/Br digestion (3%)	0169	3.585	0.0500				1			0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0444	3.285	0.0500	3.587	0.3573	0.0576	16	-0.85	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0527	3.336	0.0520	3.587	0.3573	0.0576	16	-0.70	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0040	3.350	0.1000	3.587	0.3573	0.0576	16	-0.66	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0043	3.350	0.1000	3.587	0.3573	0.0576	16	-0.66	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0117	3.351	0.2182	3.587	0.3573	0.0576	16	-0.66	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0177	3.367	0.0459	3.587	0.3573	0.0576	16	-0.62	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0546	3.414	0.0163	3.587	0.3573	0.0576	16	-0.49	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0292	3.415	0.0300	3.587	0.3573	0.0576	16	-0.48	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0494	3.442	0.0309	3.587	0.3573	0.0576	16	-0.41	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0486	3.490	0.0800	3.587	0.3573	0.0576	16	-0.27	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0169	3.585	0.0500	3.587	0.3573	0.0576	16	-0.01	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0563	3.650	0.0319	3.587	0.3573	0.0576	16	0.17	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0421	3.998	0.0334	3.587	0.3573	0.0576	16	1.15	High	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0542	4.118	0.0150	3.587	0.3573	0.0576	16	1.48	High	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0521	4.131	0.0000	3.587	0.3573	0.0576	16	1.52	High	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0394	7.057	0.0676	3.587	0.3573	0.0576	16	9.71	High	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0515	4.264	0.4321	3.587	0.3573	0.0576	16	1.89	High	1
148.99	Total S, Other (3%)	0553	2.890	0.1000	3.301	0.1968	0.0629	15	-2.09	Low	0
148.99	Total S, Other (3%)	0558	2.955	0.0700	3.301	0.1968	0.0629	15	-1.76	OK	0
148.99	Total S, Other (3%)	0422	3.081	0.0990	3.301	0.1968	0.0629	15	-1.12	OK	0
148.99	Total S, Other (3%)	0523	3.115	0.0300	3.301	0.1968	0.0629	15	-0.95	OK	0
148.99	Total S, Other (3%)	0444	3.285	0.0500	3.301	0.1968	0.0629	15	-0.08	OK	0
148.99	Total S, Other (3%)	0559	3.340	0.0200	3.301	0.1968	0.0629	15	0.20	OK	0
148.99	Total S, Other (3%)	0433	3.347	0.0230	3.301	0.1968	0.0629	15	0.23	OK	0
148.99	Total S, Other (3%)	0501	3.349	0.0115	3.301	0.1968	0.0629	15	0.24	OK	0

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			Value	Range	Rob Mean	Rob SD	R-bar				
148.99	Total S, Other (3%)	0371	3.350	0.0600	3.301	0.1968	0.0629	15	0.25	OK	0
148.99	Total S, Other (3%)	0562	3.350	0.1000	3.301	0.1968	0.0629	15	0.25	OK	0
148.99	Total S, Other (3%)	0096	3.395	0.0100	3.301	0.1968	0.0629	15	0.48	OK	0
148.99	Total S, Other (3%)	0450	3.400	0.0000	3.301	0.1968	0.0629	15	0.50	OK	0
148.99	Total S, Other (3%)	0516	3.410	0.2400	3.301	0.1968	0.0629	15	0.55	OK	0
148.99	Total S, Other (3%)	0354	3.490	0.0400	3.301	0.1968	0.0629	15	0.96	OK	0
148.99	Total S, Other (3%)	0452	3.755	0.0900	3.301	0.1968	0.0629	15	2.31	High	0
149.04	S - HNO3 soluble, ICP (%)	0524	2.495	0.4868	3.150	0.5703	0.2056	3	-1.15		0
149.04	S - HNO3 soluble, ICP (%)	0423	3.420	0.0200	3.150	0.5703	0.2056	3	0.47		0
149.04	S - HNO3 soluble, ICP (%)	0231	3.535	0.1100	3.150	0.5703	0.2056	3	0.68		0
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 0.08					0			5
151.30	Acid Soluble As, ICP (ppm)	0523	0.0052	0.0002	0.3473	0.5574	0.0274	3	-0.61		0
151.30	Acid Soluble As, ICP (ppm)	0501	0.0463	0.0029	0.3473	0.5574	0.0274	3	-0.54		0
151.30	Acid Soluble As, ICP (ppm)	0524	0.9905	0.0790	0.3473	0.5574	0.0274	3	1.15		0
151.30	Acid Soluble As, ICP (ppm)	0450	0.0000	0.0000	0.3473	0.5574	0.0274	3			4
151.30	Acid Soluble As, ICP (ppm)	0255	0.0035	0.0070	0.3473	0.5574	0.0274	3			4
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0515	0.0000	0.0000				0			4
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0527	< 0.0001					0			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0563	< 0.01					0			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0136	< 0.1					0			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0117	< 10					0			5
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0515	0.0000	0.0000				0			4
151.99	Acid Soluble As, Other (ppm)	0220	0.7000	0.2000				1			0
151.99	Acid Soluble As, Other (ppm)	0481	< 0.5					1			5
151.99	Acid Soluble As, Other (ppm)	0405	< 3					1			5
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0521	0.0004	0.0000	0.0027	0.0034	0.0001	3	-0.68		0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0389	0.0011	0.0000	0.0027	0.0034	0.0001	3	-0.47		0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0542	0.0066	0.0004	0.0027	0.0034	0.0001	3	1.15		0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	< 0.01		0.0027	0.0034	0.0001	3			5
165.99	Acid Soluble B, Other (%)	0563	0.0005	0.0001	0.0015	0.0015	0.0008	5	-0.62		0
165.99	Acid Soluble B, Other (%)	0523	0.0005	0.0000	0.0015	0.0015	0.0008	5	-0.59		0
165.99	Acid Soluble B, Other (%)	0524	0.0009	0.0000	0.0015	0.0015	0.0008	5	-0.36		0
165.99	Acid Soluble B, Other (%)	0527	0.0017	0.0002	0.0015	0.0015	0.0008	5	0.09		0
165.99	Acid Soluble B, Other (%)	0515	0.0042	0.0035	0.0015	0.0015	0.0008	5	1.48		0
165.99	Acid Soluble B, Other (%)	0516	0.0050	0.0100	0.0015	0.0015	0.0008	5			4
165.99	Acid Soluble B, Other (%)	0421	< 0.0018		0.0015	0.0015	0.0008	5			5
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	0498	0.2000	0.0000				2			0
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	0.4250	0.0500				2			0
181.30	Acid Soluble Cd, ICP (ppm)	0523	0.1274	0.0373	0.2706	0.1744	0.0206	7	-0.74	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0255	0.1365	0.0210	0.2706	0.1744	0.0206	7	-0.69	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0450	0.2000	0.0000	0.2706	0.1744	0.0206	7	-0.37	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0394	0.2280	0.0211	0.2706	0.1744	0.0206	7	-0.22	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0501	0.2351	0.0367	0.2706	0.1744	0.0206	7	-0.18	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0524	0.4348	0.0232	0.2706	0.1744	0.0206	7	0.85	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0389	0.5765	0.0050	0.2706	0.1744	0.0206	7	1.59	NA	0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0136	0.1600	0.0000	0.6236	0.6212	0.0615	4	-0.63		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0494	0.3848	0.0928	0.6236	0.6212	0.0615	4	-0.33		0

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			Value	Range	Rob Mean	Rob SD	R-bar				
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0563	0.4095	0.0730	0.6236	0.6212	0.0615	4	-0.29		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0419	1.540	0.0800	0.6236	0.6212	0.0615	4	1.25		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0515	0.5095	1.019	0.6236	0.6212	0.0615	4			4
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0527	< 0.0001		0.6236	0.6212	0.0615	4			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0117	< 5		0.6236	0.6212	0.0615	4			5
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0515	0.0000	0.0000				0			4
181.99	Acid Soluble Cd, Other (ppm)	0405	0.3400	0.0000				2			0
181.99	Acid Soluble Cd, Other (ppm)	0220	0.9000	0.0000				2			0
181.99	Acid Soluble Cd, Other (ppm)	0481	< 0.5					2			5
191.00	Acid Soluble Cr, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	11.58	0.0000				1			0
191.30	Acid Soluble Cr, ICP (ppm)	0523	0.6044	0.0744	1.235	0.6046	0.0763	7	-0.94	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0524	0.7490	0.0578	1.235	0.6046	0.0763	7	-0.73	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0450	1.000	0.0000	1.235	0.6046	0.0763	7	-0.35	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0096	1.100	0.0000	1.235	0.6046	0.0763	7	-0.20	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0394	1.474	0.0503	1.235	0.6046	0.0763	7	0.36	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0501	1.579	0.0615	1.235	0.6046	0.0763	7	0.51	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0035	5.215	0.2900	1.235	0.6046	0.0763	7	5.95	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0389	8.975	0.8100	1.235	0.6046	0.0763	7	11.57	NA	1
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0563	0.9650	0.0360	3.616	4.135	0.8409	5	-0.64		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0527	0.9828	0.0547	3.616	4.135	0.8409	5	-0.64		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0494	1.572	0.1978	3.616	4.135	0.8409	5	-0.49		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0515	3.860	2.516	3.616	4.135	0.8409	5	0.06		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0136	10.70	1.400	3.616	4.135	0.8409	5	1.71		0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0515	4.622	4.831				1			0
191.99	Acid Soluble Cr, Other (ppm)	0405	0.2000	0.0000				2			0
191.99	Acid Soluble Cr, Other (ppm)	0220	3.650	0.1000				2			0
191.99	Acid Soluble Cr, Other (ppm)	0481	< 10					2			5
202.30	Acid Soluble Co, ICP (ppm)	0523	17.88	0.1368	22.91	9.476	0.7391	5	-0.53		0
202.30	Acid Soluble Co, ICP (ppm)	0524	18.09	0.0885	22.91	9.476	0.7391	5	-0.51		0
202.30	Acid Soluble Co, ICP (ppm)	0096	18.50	0.4300	22.91	9.476	0.7391	5	-0.47		0
202.30	Acid Soluble Co, ICP (ppm)	0035	20.30	2.800	22.91	9.476	0.7391	5	-0.27		0
202.30	Acid Soluble Co, ICP (ppm)	0389	39.77	0.2400	22.91	9.476	0.7391	5	1.78		0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0423	20.01	0.0300				2			0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0521	22.33	0.0000				2			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0563	19.12	0.5010	20.95	1.596	0.5940	6	-1.02	OK	0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0136	19.50	1.000	20.95	1.596	0.5940	6	-0.81	OK	0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0546	21.01	0.3925	20.95	1.596	0.5940	6	0.04	OK	0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0527	21.28	0.3230	20.95	1.596	0.5940	6	0.18	OK	0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0419	22.12	1.320	20.95	1.596	0.5940	6	0.65	OK	0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0494	22.67	0.0275	20.95	1.596	0.5940	6	0.96	OK	0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0515	41.75	24.36	20.95	1.596	0.5940	6	11.60	High	1
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0550	< 0.09		20.95	1.596	0.5940	6			5
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0515	26.99	5.146				2			0
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0501	28.65	1.264				2			0
202.99	Acid Soluble Co, Other (ppm)	0255	15.24	2.248	21.05	5.022	0.7370	4	-1.16		0
202.99	Acid Soluble Co, Other (ppm)	0481	20.60	0.6000	21.05	5.022	0.7370	4	-0.09		0
202.99	Acid Soluble Co, Other (ppm)	0220	20.85	0.1000	21.05	5.022	0.7370	4	-0.04		0

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			Value	Range	Rob Mean	Rob SD	R-bar				
202.99	Acid Soluble Co, Other (ppm)	0405	27.50	0.0000	21.05	5.022	0.7370	4	1.29		0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0550	< 5					0			5
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0255	0.0000	0.0000				0			4
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0041	< 0.001					0			5
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0394	< 0.0001					0			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0515	0.0006	0.0006				1			0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0527	< 0.0001					1			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0563	< 0.0001					1			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0421	< 0.0015					1			5
221.99	Acid Soluble Cu, Other (%)	0515	0.0008	0.0004				2			0
221.99	Acid Soluble Cu, Other (%)	0523	0.0010	0.0000				2			0
221.99	Acid Soluble Cu, Other (%)	0516	0.0000	0.0000				2			4
221.99	Acid Soluble Cu, Other (%)	0524	0.0000	0.0000				2			4
221.99	Acid Soluble Cu, Other (%)	0481	< 0.001					2			5
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0498	0.8000	0.0000	1.044	0.0600	0.0394	15	-4.06	Low	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0200	0.9900	0.0800	1.044	0.0600	0.0394	15	-0.89	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0535	0.9900	0.0200	1.044	0.0600	0.0394	15	-0.89	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0485	1.001	0.0634	1.044	0.0600	0.0394	15	-0.71	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0534	1.010	0.0200	1.044	0.0600	0.0394	15	-0.56	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0551	1.010	0.0200	1.044	0.0600	0.0394	15	-0.56	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0531	1.035	0.0300	1.044	0.0600	0.0394	15	-0.14	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0538	1.050	0.1000	1.044	0.0600	0.0394	15	0.11	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0550	1.050	0.0000	1.044	0.0600	0.0394	15	0.11	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0513	1.055	0.0100	1.044	0.0600	0.0394	15	0.19	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0040	1.065	0.0300	1.044	0.0600	0.0394	15	0.36	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0029	1.078	0.0170	1.044	0.0600	0.0394	15	0.56	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0556	1.100	0.1000	1.044	0.0600	0.0394	15	0.94	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0553	1.145	0.0900	1.044	0.0600	0.0394	15	1.69	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0536	1.595	0.0100	1.044	0.0600	0.0394	15	9.19	High	0
241.02	Acid Soluble Fe, AA, 965.09, test portion 2006.03A-C (1%)	0292	0.9750	0.0100				1			0
241.03	Acid Soluble Fe, AA, 965.09, test portion 2006.03A-C w/dual acid (1%)	0546	1.047	0.0033				1			0
241.20	Acid Soluble Fe, Colorimetric (1%)	0518	0.9350	0.0100				1			0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0255	0.8820	0.0240	1.055	0.0579	0.0218	17	-2.99	Low	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0095	0.9850	0.0300	1.055	0.0579	0.0218	17	-1.21	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0390	0.9995	0.0010	1.055	0.0579	0.0218	17	-0.96	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0096	1.010	0.0000	1.055	0.0579	0.0218	17	-0.78	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0035	1.013	0.0340	1.055	0.0579	0.0218	17	-0.73	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0234	1.040	0.0200	1.055	0.0579	0.0218	17	-0.26	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0371	1.040	0.0000	1.055	0.0579	0.0218	17	-0.26	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0291	1.055	0.0100	1.055	0.0579	0.0218	17	0.00	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0360	1.055	0.0100	1.055	0.0579	0.0218	17	0.00	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0041	1.065	0.0700	1.055	0.0579	0.0218	17	0.17	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0354	1.065	0.0100	1.055	0.0579	0.0218	17	0.17	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0472	1.065	0.0100	1.055	0.0579	0.0218	17	0.17	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0433	1.070	0.0010	1.055	0.0579	0.0218	17	0.25	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0444	1.110	0.0200	1.055	0.0579	0.0218	17	0.95	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0231	1.115	0.0100	1.055	0.0579	0.0218	17	1.03	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0451	1.140	0.0600	1.055	0.0579	0.0218	17	1.47	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0452	1.240	0.0600	1.055	0.0579	0.0218	17	3.19	High	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0049	1.080	0.1600	1.055	0.0579	0.0218	17	0.43	OK	1
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (1%)	0220	1.005	0.0100	1.084	0.0999	0.0038	4	-0.79		0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (1%)	0423	1.011	0.0020	1.084	0.0999	0.0038	4	-0.73		0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (1%)	0394	1.103	0.0033	1.084	0.0999	0.0038	4	0.19		0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (1%)	0521	1.218	0.0000	1.084	0.0999	0.0038	4	1.34		0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0563	0.9907	0.0031	1.039	0.0418	0.0296	13	-1.17	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0043	1.000	0.0400	1.039	0.0418	0.0296	13	-0.94	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0486	1.005	0.0100	1.039	0.0418	0.0296	13	-0.82	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0117	1.011	0.0622	1.039	0.0418	0.0296	13	-0.69	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0025	1.022	0.0570	1.039	0.0418	0.0296	13	-0.43	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0177	1.026	0.0119	1.039	0.0418	0.0296	13	-0.31	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0419	1.031	0.0080	1.039	0.0418	0.0296	13	-0.20	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0055	1.040	0.0000	1.039	0.0418	0.0296	13	0.01	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0527	1.050	0.0190	1.039	0.0418	0.0296	13	0.24	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0136	1.055	0.0500	1.039	0.0418	0.0296	13	0.37	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0494	1.079	0.0111	1.039	0.0418	0.0296	13	0.95	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0561	1.145	0.1100	1.039	0.0418	0.0296	13	2.52	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0421	1.429	0.0024	1.039	0.0418	0.0296	13	9.30	High	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0515	1.269	0.3340	1.039	0.0418	0.0296	13	5.48	High	1
241.99	Acid Soluble Fe, Other (1%)	0524	0.1004	0.0012	1.046	0.1166	0.0340	17	-8.11	Low	0
241.99	Acid Soluble Fe, Other (1%)	0560	0.9000	0.0200	1.046	0.1166	0.0340	17	-1.25	Low	0
241.99	Acid Soluble Fe, Other (1%)	0564	0.9100	0.0200	1.046	0.1166	0.0340	17	-1.17	Low	0
241.99	Acid Soluble Fe, Other (1%)	0559	0.9350	0.0100	1.046	0.1166	0.0340	17	-0.95	Low	0
241.99	Acid Soluble Fe, Other (1%)	0481	0.9650	0.0100	1.046	0.1166	0.0340	17	-0.70	OK	0
241.99	Acid Soluble Fe, Other (1%)	0565	1.000	0.2000	1.046	0.1166	0.0340	17	-0.40	OK	0
241.99	Acid Soluble Fe, Other (1%)	0501	1.029	0.0100	1.046	0.1166	0.0340	17	-0.15	OK	0
241.99	Acid Soluble Fe, Other (1%)	0523	1.032	0.0090	1.046	0.1166	0.0340	17	-0.13	OK	0
241.99	Acid Soluble Fe, Other (1%)	0027	1.064	0.0170	1.046	0.1166	0.0340	17	0.15	OK	0
241.99	Acid Soluble Fe, Other (1%)	0450	1.090	0.1000	1.046	0.1166	0.0340	17	0.38	OK	0
241.99	Acid Soluble Fe, Other (1%)	0562	1.090	0.1200	1.046	0.1166	0.0340	17	0.38	OK	0
241.99	Acid Soluble Fe, Other (1%)	0532	1.110	0.0200	1.046	0.1166	0.0340	17	0.55	OK	0
241.99	Acid Soluble Fe, Other (1%)	0389	1.125	0.0100	1.046	0.1166	0.0340	17	0.68	OK	0
241.99	Acid Soluble Fe, Other (1%)	0042	1.135	0.0100	1.046	0.1166	0.0340	17	0.76	OK	0
241.99	Acid Soluble Fe, Other (1%)	0558	1.140	0.0000	1.046	0.1166	0.0340	17	0.80	OK	0
241.99	Acid Soluble Fe, Other (1%)	0516	1.170	0.0200	1.046	0.1166	0.0340	17	1.06	High	0
241.99	Acid Soluble Fe, Other (1%)	0405	1.270	0.0000	1.046	0.1166	0.0340	17	1.92	High	0
241.99	Acid Soluble Fe, Other (1%)	0515	1.292	0.2876	1.046	0.1166	0.0340	17	2.11	High	1
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 1.5					0			5
251.30	Acid Soluble Pb, ICP (ppm)	0255	0.0900	0.0740	2.768	2.036	0.3264	5	-1.15		0
251.30	Acid Soluble Pb, ICP (ppm)	0523	1.898	0.2661	2.768	2.036	0.3264	5	-0.37		0
251.30	Acid Soluble Pb, ICP (ppm)	0524	2.310	0.0921	2.768	2.036	0.3264	5	-0.20		0
251.30	Acid Soluble Pb, ICP (ppm)	0389	4.305	0.0500	2.768	2.036	0.3264	5	0.66		0
251.30	Acid Soluble Pb, ICP (ppm)	0035	5.235	1.150	2.768	2.036	0.3264	5	1.06		0
251.30	Acid Soluble Pb, ICP (ppm)	0450	0.0000	0.0000	2.768	2.036	0.3264	5			4

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0563	0.0535	0.0090				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0515	5.377	3.226				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0527	< 0.0001					2			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0136	< 0.1					2			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0117	< 5					2			5
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0515	6.159	4.789				1			0
251.99	Acid Soluble Pb, Other (ppm)	0220	2.100	0.0000				2			0
251.99	Acid Soluble Pb, Other (ppm)	0405	3.000	0.0000				2			0
261.00	Acid Soluble Mn, AA, Mn2+ only (2%)	0553	2.090	0.1800				2			0
261.00	Acid Soluble Mn, AA, Mn2+ only (2%)	0536	2.655	0.0100				2			0
261.11	Acid Soluble Mn, AA, total Mn (2%)	0498	1.850	0.1000				2			0
261.11	Acid Soluble Mn, AA, total Mn (2%)	0550	2.155	0.0100				2			0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (2%)	0513	1.965	0.0300	2.047	0.0701	0.0710	9	-1.08	OK	0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (2%)	0534	1.995	0.0300	2.047	0.0701	0.0710	9	-0.69	OK	0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (2%)	0538	1.995	0.0100	2.047	0.0701	0.0710	9	-0.69	OK	0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (2%)	0551	2.015	0.0700	2.047	0.0701	0.0710	9	-0.43	OK	0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (2%)	0531	2.035	0.0300	2.047	0.0701	0.0710	9	-0.16	OK	0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (2%)	0535	2.075	0.0500	2.047	0.0701	0.0710	9	0.36	OK	0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (2%)	0029	2.082	0.1700	2.047	0.0701	0.0710	9	0.46	OK	0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (2%)	0040	2.112	0.0290	2.047	0.0701	0.0710	9	0.84	OK	0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (2%)	0485	2.823	0.2201	2.047	0.0701	0.0710	9	10.21	High	0
261.14	Acid Soluble Mn, AA, 965.09, test portion 2006.03A-C (2%)	0292	2.025	0.0100				1			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (2%)	0157	2.055	0.0100	2.223	0.1382	0.0288	12	-1.22	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (2%)	0291	2.085	0.0100	2.223	0.1382	0.0288	12	-1.00	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (2%)	0390	2.095	0.0500	2.223	0.1382	0.0288	12	-0.93	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (2%)	0096	2.135	0.0020	2.223	0.1382	0.0288	12	-0.64	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (2%)	0444	2.145	0.0100	2.223	0.1382	0.0288	12	-0.56	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (2%)	0433	2.197	0.0030	2.223	0.1382	0.0288	12	-0.19	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (2%)	0354	2.255	0.0100	2.223	0.1382	0.0288	12	0.23	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (2%)	0472	2.270	0.0200	2.223	0.1382	0.0288	12	0.34	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (2%)	0422	2.325	0.0100	2.223	0.1382	0.0288	12	0.74	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (2%)	0035	2.340	0.0400	2.223	0.1382	0.0288	12	0.85	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (2%)	0041	2.345	0.0700	2.223	0.1382	0.0288	12	0.88	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (2%)	0452	2.475	0.1100	2.223	0.1382	0.0288	12	1.82	High	0
261.31	Acid Soluble Mn, ICP, test portion 972.02b (2%)	0542	1.905	0.0320	2.053	0.1314	0.0540	3	-1.13		0
261.31	Acid Soluble Mn, ICP, test portion 972.02b (2%)	0234	2.100	0.1200	2.053	0.1314	0.0540	3	0.36		0
261.31	Acid Soluble Mn, ICP, test portion 972.02b (2%)	0360	2.155	0.0100	2.053	0.1314	0.0540	3	0.77		0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (2%)	0371	1.910	0.0200	2.175	0.2298	0.1500	3	-1.15		0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (2%)	0231	2.295	0.0100	2.175	0.2298	0.1500	3	0.52		0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (2%)	0049	2.320	0.4200	2.175	0.2298	0.1500	3	0.63		0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (2%)	0220	2.050	0.0200	2.199	0.1295	0.0090	3	-1.15		0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (2%)	0521	2.260	0.0000	2.199	0.1295	0.0090	3	0.47		0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (2%)	0423	2.287	0.0070	2.199	0.1295	0.0090	3	0.68		0
261.35	Acid Soluble Mn, ICP, 2017.02 (2%)	0561	1.555	0.2500	2.105	0.1171	0.1318	14	-4.69	Low	0
261.35	Acid Soluble Mn, ICP, 2017.02 (2%)	0546	1.973	0.3973	2.105	0.1171	0.1318	14	-1.12	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (2%)	0563	2.029	0.3175	2.105	0.1171	0.1318	14	-0.64	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (2%)	0419	2.055	0.0030	2.105	0.1171	0.1318	14	-0.43	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
261.35	Acid Soluble Mn, ICP, 2017.02 (2%)	0055	2.055	0.0500	2.105	0.1171	0.1318	14	-0.42	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (2%)	0527	2.071	0.0389	2.105	0.1171	0.1318	14	-0.29	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (2%)	0486	2.085	0.0100	2.105	0.1171	0.1318	14	-0.17	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (2%)	0177	2.085	0.0340	2.105	0.1171	0.1318	14	-0.16	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (2%)	0025	2.130	0.0000	2.105	0.1171	0.1318	14	0.22	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (2%)	0043	2.135	0.0300	2.105	0.1171	0.1318	14	0.26	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (2%)	0117	2.136	0.1321	2.105	0.1171	0.1318	14	0.26	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (2%)	0494	2.222	0.0946	2.105	0.1171	0.1318	14	1.00	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (2%)	0515	2.786	0.4783	2.105	0.1171	0.1318	14	5.82	High	0
261.35	Acid Soluble Mn, ICP, 2017.02 (2%)	0421	2.977	0.0093	2.105	0.1171	0.1318	14	7.44	High	0
261.50	Acid Soluble Mn, Spectrometric (2%)	0565	2.225	0.0500				2			0
261.50	Acid Soluble Mn, Spectrometric (2%)	0564	2.275	0.0500				2			0
261.99	Acid Soluble Mn, Other (2%)	0524	0.2044	0.0024	2.096	0.2573	0.0434	13	-7.35	Low	0
261.99	Acid Soluble Mn, Other (2%)	0255	1.770	0.0350	2.096	0.2573	0.0434	13	-1.27	Low	0
261.99	Acid Soluble Mn, Other (2%)	0558	1.915	0.0100	2.096	0.2573	0.0434	13	-0.70	OK	0
261.99	Acid Soluble Mn, Other (2%)	0095	1.965	0.0300	2.096	0.2573	0.0434	13	-0.51	OK	0
261.99	Acid Soluble Mn, Other (2%)	0481	1.975	0.0100	2.096	0.2573	0.0434	13	-0.47	OK	0
261.99	Acid Soluble Mn, Other (2%)	0523	2.049	0.0370	2.096	0.2573	0.0434	13	-0.18	OK	0
261.99	Acid Soluble Mn, Other (2%)	0532	2.095	0.0500	2.096	0.2573	0.0434	13	0.00	OK	0
261.99	Acid Soluble Mn, Other (2%)	0562	2.200	0.1000	2.096	0.2573	0.0434	13	0.41	OK	0
261.99	Acid Soluble Mn, Other (2%)	0042	2.215	0.0300	2.096	0.2573	0.0434	13	0.46	OK	0
261.99	Acid Soluble Mn, Other (2%)	0559	2.225	0.0100	2.096	0.2573	0.0434	13	0.50	OK	0
261.99	Acid Soluble Mn, Other (2%)	0389	2.285	0.0900	2.096	0.2573	0.0434	13	0.74	OK	0
261.99	Acid Soluble Mn, Other (2%)	0516	2.360	0.1600	2.096	0.2573	0.0434	13	1.03	High	0
261.99	Acid Soluble Mn, Other (2%)	0405	2.680	0.0000	2.096	0.2573	0.0434	13	2.27	High	0
261.99	Acid Soluble Mn, Other (2%)	0515	2.620	0.8112	2.096	0.2573	0.0434	13	2.04	High	1
271.00	Water Soluble Mn, AA (%)	0027	2.092	0.1070				1			0
271.30	Water Soluble Mn, ICP, Ext. 972.03 (%)	0394	2.212	0.0018				1			0
271.99	Water Soluble Mn, Other (%)	0501	2.136	0.0501				2			0
271.99	Water Soluble Mn, Other (%)	0560	2.400	0.2000				2			0
281.00	Acid Soluble Hg, AA (ppm)	0550	1.200	0.0000				1			0
281.30	Acid Soluble Hg, ICP (ppm)	0563	0.0001	0.0000				1			0
281.30	Acid Soluble Hg, ICP (ppm)	0450	0.0000	0.0000				1			4
281.30	Acid Soluble Hg, ICP (ppm)	0515	0.0000	0.0000				1			4
281.30	Acid Soluble Hg, ICP (ppm)	0527	< 0.0001					1			5
281.99	Acid Soluble Hg, Other (ppm)	0220	0.0250	0.0100				1			0
281.99	Acid Soluble Hg, Other (ppm)	0481	< 0.5					1			5
289.00	Acid Soluble Mo, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	0.3260	0.1200				1			0
289.30	Acid Soluble Mo, ICP (ppm)	0524	0.3586	0.0570	5.273	8.424	3.356	3	-0.58		0
289.30	Acid Soluble Mo, ICP (ppm)	0523	0.4604	0.0105	5.273	8.424	3.356	3	-0.57		0
289.30	Acid Soluble Mo, ICP (ppm)	0516	15.00	10.00	5.273	8.424	3.356	3	1.15		0
289.30	Acid Soluble Mo, ICP (ppm)	0255	0.0000	0.0000	5.273	8.424	3.356	3			4
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0546	0.0440	0.0432	0.2343	0.1656	0.0266	3	-1.15		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	0.3129	0.0146	0.2343	0.1656	0.0266	3	0.47		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0563	0.3460	0.0220	0.2343	0.1656	0.0266	3	0.67		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0515	0.0000	0.0000	0.2343	0.1656	0.0266	3			4
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0501	0.5998	0.0582				1			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0515	0.0000	0.0000				1			4
289.99	Acid Soluble Mo, Other (ppm)	0220	< 0.3					0			5
289.99	Acid Soluble Mo, Other (ppm)	0405	< 0.6					0			5
289.99	Acid Soluble Mo, Other (ppm)	0481	< 50					0			5
291.00	Acid Soluble Ni, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	5.515	0.4500				2			0
291.00	Acid Soluble Ni, AA, test portion 2006.03 modified w/dual acid (ppm)	0498	7.500	0.0000				2			0
291.30	Acid Soluble Ni, ICP (ppm)	0444	7.855	0.0900	10.19	1.703	0.3330	8	-1.26	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0524	9.066	0.4467	10.19	1.703	0.3330	8	-0.61	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0523	9.357	0.3456	10.19	1.703	0.3330	8	-0.45	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0394	10.21	0.2420	10.19	1.703	0.3330	8	0.01	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0521	10.32	0.0000	10.19	1.703	0.3330	8	0.07	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0450	10.50	1.000	10.19	1.703	0.3330	8	0.16	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0096	11.50	0.4000	10.19	1.703	0.3330	8	0.70	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0389	22.02	0.1400	10.19	1.703	0.3330	8	6.35	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0035	7.980	6.640	10.19	1.703	0.3330	8	-1.19	NA	1
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0136	9.850	0.9000	12.63	2.963	1.203	6	-0.84	NA	0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0117	10.89	1.040	12.63	2.963	1.203	6	-0.52	NA	0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0527	11.12	0.2003	12.63	2.963	1.203	6	-0.45	NA	0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0563	13.19	1.251	12.63	2.963	1.203	6	0.17	NA	0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0494	13.65	0.6293	12.63	2.963	1.203	6	0.31	NA	0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0419	21.00	3.200	12.63	2.963	1.203	6	2.52	NA	0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0515	20.74	12.78	12.63	2.963	1.203	6	2.44	NA	1
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0515	12.53	3.638				2			0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0501	15.17	0.3290				2			0
291.99	Acid Soluble Ni, Other (ppm)	0481	9.465	0.1100	12.58	2.592	3.048	4	-1.20		0
291.99	Acid Soluble Ni, Other (ppm)	0220	12.35	0.3000	12.58	2.592	3.048	4	-0.09		0
291.99	Acid Soluble Ni, Other (ppm)	0405	12.70	0.0000	12.58	2.592	3.048	4	0.05		0
291.99	Acid Soluble Ni, Other (ppm)	0255	15.80	11.78	12.58	2.592	3.048	4	1.24		0
301.00	Acid Soluble Se, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 0.08					0			5
301.30	Acid Soluble Se, ICP (ppm)	0501	0.0574	0.0154	6.814	5.858	0.4251	3	-1.15		0
301.30	Acid Soluble Se, ICP (ppm)	0523	9.914	0.1399	6.814	5.858	0.4251	3	0.53		0
301.30	Acid Soluble Se, ICP (ppm)	0524	10.47	1.120	6.814	5.858	0.4251	3	0.62		0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0563	0.1910	0.0360				1			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0515	3.639	7.278				1			4
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0527	< 0.001					1			5
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0515	3.848	7.696				0			4
301.99	Acid Soluble Se, Other (ppm)	0255	0.5025	0.1450	2.684	3.738	0.0817	3	-0.58		0
301.99	Acid Soluble Se, Other (ppm)	0220	0.5500	0.1000	2.684	3.738	0.0817	3	-0.57		0
301.99	Acid Soluble Se, Other (ppm)	0405	7.000	0.0000	2.684	3.738	0.0817	3	1.15		0
301.99	Acid Soluble Se, Other (ppm)	0481	< 0.5		2.684	3.738	0.0817	3			5
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0035	0.4610	0.0020	0.5127	0.0466	0.0047	6	-0.99	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0423	0.4950	0.0020	0.5127	0.0466	0.0047	6	-0.34	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0419	0.4993	0.0042	0.5127	0.0466	0.0047	6	-0.26	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	0.5070	0.0064	0.5127	0.0466	0.0047	6	-0.11	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0494	0.5315	0.0103	0.5127	0.0466	0.0047	6	0.36	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0563	0.6154	0.0030	0.5127	0.0466	0.0047	6	1.96	High	0
311.99	Sodium, Other (%)	0096	0.4950	0.0100				2			0

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			Value	Range	Rob Mean	Rob SD	R-bar				
311.99	Sodium, Other (%)	0354	0.5250	0.0100				2			0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (3%)	0200	2.400	0.0400	3.111	0.2463	0.0705	14	-2.89	Low	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (3%)	0553	2.750	0.2000	3.111	0.2463	0.0705	14	-1.47	Low	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (3%)	0485	2.940	0.1274	3.111	0.2463	0.0705	14	-0.70	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (3%)	0535	3.025	0.0500	3.111	0.2463	0.0705	14	-0.35	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (3%)	0538	3.045	0.1100	3.111	0.2463	0.0705	14	-0.27	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (3%)	0531	3.055	0.0500	3.111	0.2463	0.0705	14	-0.23	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (3%)	0551	3.060	0.0800	3.111	0.2463	0.0705	14	-0.21	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (3%)	0513	3.110	0.0200	3.111	0.2463	0.0705	14	-0.01	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (3%)	0040	3.117	0.0110	3.111	0.2463	0.0705	14	0.02	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (3%)	0029	3.266	0.1090	3.111	0.2463	0.0705	14	0.63	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (3%)	0534	3.295	0.0100	3.111	0.2463	0.0705	14	0.75	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (3%)	0498	3.300	0.0000	3.111	0.2463	0.0705	14	0.77	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (3%)	0550	3.375	0.1700	3.111	0.2463	0.0705	14	1.07	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (3%)	0536	4.525	0.0100	3.111	0.2463	0.0705	14	5.74	High	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0255	2.679	0.0890	3.220	0.2830	0.0521	20	-1.91	Low	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0292	2.790	0.0200	3.220	0.2830	0.0521	20	-1.52	Low	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0291	2.815	0.0100	3.220	0.2830	0.0521	20	-1.43	Low	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0371	3.055	0.0300	3.220	0.2830	0.0521	20	-0.58	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0390	3.085	0.0500	3.220	0.2830	0.0521	20	-0.48	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0444	3.150	0.0000	3.220	0.2830	0.0521	20	-0.25	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0433	3.157	0.0010	3.220	0.2830	0.0521	20	-0.22	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0450	3.165	0.2300	3.220	0.2830	0.0521	20	-0.19	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0472	3.175	0.0100	3.220	0.2830	0.0521	20	-0.16	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0169	3.180	0.0200	3.220	0.2830	0.0521	20	-0.14	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0096	3.197	0.0110	3.220	0.2830	0.0521	20	-0.08	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0095	3.200	0.1200	3.220	0.2830	0.0521	20	-0.07	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0234	3.240	0.0800	3.220	0.2830	0.0521	20	0.07	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0035	3.320	0.0800	3.220	0.2830	0.0521	20	0.35	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0422	3.390	0.0400	3.220	0.2830	0.0521	20	0.60	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0354	3.395	0.0700	3.220	0.2830	0.0521	20	0.62	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0360	3.415	0.1100	3.220	0.2830	0.0521	20	0.69	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0452	3.580	0.0200	3.220	0.2830	0.0521	20	1.27	High	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0041	3.650	0.0400	3.220	0.2830	0.0521	20	1.52	High	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0231	3.725	0.0100	3.220	0.2830	0.0521	20	1.78	High	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (3%)	0049	3.485	0.7100	3.220	0.2830	0.0521	20	0.94	OK	1
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (3%)	0542	2.616	0.0290	3.381	0.6544	0.0198	4	-1.17		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (3%)	0220	3.080	0.0400	3.381	0.6544	0.0198	4	-0.46		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (3%)	0423	3.775	0.0100	3.381	0.6544	0.0198	4	0.60		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (3%)	0521	4.054	0.0000	3.381	0.6544	0.0198	4	1.03		0
321.33	Acid Soluble Zn, ICP, 2017.02 (3%)	0043	2.985	0.0700	3.284	0.1857	0.0886	13	-1.61	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (3%)	0025	3.115	0.0300	3.284	0.1857	0.0886	13	-0.91	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (3%)	0055	3.165	0.1300	3.284	0.1857	0.0886	13	-0.64	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (3%)	0527	3.192	0.0376	3.284	0.1857	0.0886	13	-0.50	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (3%)	0177	3.206	0.0381	3.284	0.1857	0.0886	13	-0.42	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (3%)	0494	3.263	0.0833	3.284	0.1857	0.0886	13	-0.11	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (3%)	0117	3.270	0.1898	3.284	0.1857	0.0886	13	-0.07	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
321.33	Acid Soluble Zn, ICP, 2017.02 (3%)	0136	3.275	0.3500	3.284	0.1857	0.0886	13	-0.05	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (3%)	0546	3.303	0.0010	3.284	0.1857	0.0886	13	0.10	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (3%)	0561	3.305	0.0700	3.284	0.1857	0.0886	13	0.12	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (3%)	0486	3.475	0.0900	3.284	0.1857	0.0886	13	1.03	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (3%)	0563	3.551	0.0527	3.284	0.1857	0.0886	13	1.44	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (3%)	0421	4.878	0.0094	3.284	0.1857	0.0886	13	8.59	High	0
321.33	Acid Soluble Zn, ICP, 2017.02 (3%)	0515	4.336	0.5983	3.284	0.1857	0.0886	13	5.67	High	1
321.99	Acid Soluble Zn, Other (3%)	0524	0.3215	0.0020	3.126	0.2129	0.0479	11	-13.17	Low	0
321.99	Acid Soluble Zn, Other (3%)	0558	2.925	0.0100	3.126	0.2129	0.0479	11	-0.94	OK	0
321.99	Acid Soluble Zn, Other (3%)	0523	2.958	0.0451	3.126	0.2129	0.0479	11	-0.79	OK	0
321.99	Acid Soluble Zn, Other (3%)	0532	3.030	0.0200	3.126	0.2129	0.0479	11	-0.45	OK	0
321.99	Acid Soluble Zn, Other (3%)	0481	3.095	0.0300	3.126	0.2129	0.0479	11	-0.15	OK	0
321.99	Acid Soluble Zn, Other (3%)	0042	3.125	0.0700	3.126	0.2129	0.0479	11	0.00	OK	0
321.99	Acid Soluble Zn, Other (3%)	0559	3.185	0.0300	3.126	0.2129	0.0479	11	0.28	OK	0
321.99	Acid Soluble Zn, Other (3%)	0562	3.185	0.0700	3.126	0.2129	0.0479	11	0.28	OK	0
321.99	Acid Soluble Zn, Other (3%)	0389	3.320	0.0000	3.126	0.2129	0.0479	11	0.91	OK	0
321.99	Acid Soluble Zn, Other (3%)	0405	3.360	0.0000	3.126	0.2129	0.0479	11	1.10	OK	0
321.99	Acid Soluble Zn, Other (3%)	0516	3.395	0.2500	3.126	0.2129	0.0479	11	1.26	OK	0
321.99	Acid Soluble Zn, Other (3%)	0515	4.443	0.3832	3.126	0.2129	0.0479	11	6.19	High	1
325.00	Water Soluble Zn, AA (%)	0027	3.069	0.0270				2			0
325.00	Water Soluble Zn, AA (%)	0556	3.200	0.1000				2			0
325.30	Water Soluble Zn, ICP (%)	0501	3.275	0.0000				2			0
325.30	Water Soluble Zn, ICP (%)	0394	3.647	0.5410				2			0
325.99	Water Soluble Zn, Other (%)	0562	2.965	0.1300	3.465	0.3373	0.1050	4	-1.48		0
325.99	Water Soluble Zn, Other (%)	0564	3.575	0.0500	3.465	0.3373	0.1050	4	0.33		0
325.99	Water Soluble Zn, Other (%)	0565	3.620	0.0400	3.465	0.3373	0.1050	4	0.46		0
325.99	Water Soluble Zn, Other (%)	0560	3.700	0.2000	3.465	0.3373	0.1050	4	0.70		0
431.10	Soluble Si in nonliquids, Na2CO3-NH4NO3 extraction, spectrophomet... (%)	0136	0.0350	0.0100				1			0

Interpreting Z Scores: Red indicates a normally distributed Z value >3 or <-3 (requires action), Orange = Z between 2 and 3 or -2 and -3 (warning) and Green = Z < 2 and >-2 (OK at 95%). Flags indicate data usage: 0 = Used, 1 = rejected for duplicates too far apart, 2 = rejected as extreme outlier, 3 = removed from stats, 4 = rejected due to 0s submitted and 5 = LOD. A 9 flag indicates a data problem - scores not calculated. Robust statistics not used if < 6 labs used in calculations, in this case the Z Scores are grey and included for information only. IA Status describes where your result is relative to the Assigned Value ± IA. Red indicates Higher or Lower, Green indicates within the IA range. Method codes in light green indicate a guaranteed analyte. Individual lab values may be below detection limits but are reported solely for the purpose of this Proficiency Testing program.