

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 190311

Grade 12-12-2.5

Statistical Summary

Methods: 148

Labs Reporting: 90

Issue Date : 04/30/2019

Method Code	Analyte & Method Sample # 190311	# 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
001.10	Ammoniacal N, Magnesium Oxide Method (%)	9	9	4.937	1.443	4.925		1.013	0.4223	20.58%		0.1135	3.15%
001.99	Ammoniacal N, Other (%)	15	15	5.316	3.200	4.774		1.837	0.5930	38.49%		0.0839	3.16%
002.20	Nitrate N, Jones Modified (%)	1		0.6444									
002.99	Nitrate N, Other (%)	10	9	0.0818	0.0645	0.0723		0.0482	0.0201	66.66%		0.0091	5.94%
003.10	Water Insoluble N, Method I (%)	5	5	7.303	0.8771	7.303		0.8771	0.4903	12.01%		0.2020	2.97%
003.99	Water Insoluble N, Other (%)	2	2	4.375	1.450								
005.00	Urea N, Urease (as N) (%)	1		3.475									
010.11	Total N, Modified Comprehensive (12%)	3	3	13.52	3.578	13.52	0.6252	3.578	2.582	26.47%	13.34	0.2733	2.70%
010.12	Total N, Salicylic (12%)	3	3	15.01	1.139	15.01	0.6503	1.139	0.8218	7.58%	4.08	0.0992	2.66%
010.17	Total N, Comprehensive (12%)	1		12.28									
010.60	Total N, Combustion (12%)	56	55	15.61	0.5723	15.72	0.6645	0.1805	0.0304	1.15%	0.63	0.1371	2.64%
010.99	Total N, Other (12%)	14	14	13.77	1.917	13.77	0.6277	2.173	0.7261	15.79%	8.07	0.2117	2.70%
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	3	3	12.52	0.0918	12.52		0.0918	0.0662	0.73%		0.0967	2.73%
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	19	18	12.50	0.3102	12.50		0.3332	0.0982	2.67%		0.1262	2.73%
020.40	Total P2O5, Automated (%)	2	2	12.54	0.1308								
020.50	Total P2O5, ICP (%)	20	20	12.72	0.5854	12.68		0.5357	0.1497	4.23%		0.4198	2.73%
020.99	Total P2O5, Other (%)	3	3	12.28	0.4920	12.28		0.4920	0.3551	4.01%		0.2206	2.74%
030.20	Citrate Insoluble P2O5, Spectrophotometric MolybdovanadoP (%)	1		0.0650									
030.40	Citrate Insoluble P2O5, Automated, test portion 963.03 A-B (%)	1		0.0300									
040.20	Indirect Available P2O5, Spectrophotometric (12%)	3	3	12.44	0.0679	12.44	0.6922	0.0679	0.0490	0.55%	0.23	0.0367	2.74%
040.40	Indirect Available P2O5, Automated (12%)	1		12.42									
041.10	Direct Available P2O5, Gravimetric Quinolinium (12%)	6	6	12.35	0.1472	12.35	0.6918	0.1669	0.0852	1.35%	0.56	0.1770	2.74%
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (12%)	3	3	12.33	0.2982	12.33	0.6916	0.2982	0.2152	2.42%	1.00	0.0613	2.74%
041.20	Direct Available P2O5, Spectrophotometric (12%)	1		8.100									
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (12%)	2	2	11.96	0.2758								
041.40	Direct Available P2O5, Automated (12%)	2	2	11.97	0.8167								
041.50	Direct Available P2O5, ICP (12%)	2	2	12.42	0.0248								
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)	10	10	12.43	0.3696	12.43	0.6922	0.4192	0.1657	3.37%	1.41	0.1039	2.74%
041.60	Direct Available P2O5, Citrate-EDTA Ext. (12%)	11	11	12.33	0.7656	12.46	0.6923	0.3911	0.1474	3.14%	1.32	0.1218	2.74%
041.99	Direct Available P2O5, Other (12%)	9	9	12.23	0.2985	12.23	0.6911	0.3385	0.1410	2.77%	1.14	0.1078	2.74%
042.10	Water Soluble OrthoP As P2O5, Spectrophotometric (%)	1		1.175									
048.20	Water Soluble P2O5, Spectrophotometric (%)	1		6.750									
048.40	Water Soluble P2O5, Automated (%)	1		5.630									

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048.50	Water Soluble P2O5, ICP (%)	1		5.810									
048.99	Water Soluble P2O5, Other (%)	2	2	8.435	5.325								
050.00	Soluble K2O, STPB Oxalate (2.5%)	11	11	2.376	0.6425	2.500	0.4100	0.2455	0.0925	9.82%	1.40	0.2073	3.48%
050.30	Soluble K2O, AA (Oxalate) (2.5%)	4	4	2.450	0.1811	2.450	0.4100	0.1811	0.1132	7.39%	1.03	0.1700	3.50%
050.31	Soluble K2O, AA (Citrate) (2.5%)	2	2	2.720	0.4667								
050.50	Soluble K2O, ICP (Oxalate) (2.5%)	10	9	2.671	0.0857	2.665	0.4100	0.0823	0.0343	3.09%	0.47	0.0255	3.45%
050.51	Soluble K2O, ICP (Citrate) (2.5%)	4	4	2.526	0.4022	2.526	0.4100	0.4022	0.2514	15.92%	2.29	0.0123	3.48%
050.52	Soluble K2O, ICP (Citrate-EDTA) (2.5%)	10	9	2.555	0.2125	2.530	0.4100	0.1782	0.0742	7.04%	1.01	0.0223	3.48%
050.60	Soluble K2O, Flame Photometric (Oxalate) (2.5%)	3	3	2.551	0.1594	2.551	0.4100	0.1594	0.1150	6.25%	0.91	0.0636	3.47%
050.61	Soluble K2O, Flame Photometric (Citrate) (2.5%)	2	2	2.570	0.2616								
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (2.5%)	5	5	2.559	0.1831	2.559	0.4100	0.1831	0.1024	7.15%	1.04	0.1530	3.47%
050.99	Soluble K2O, Other (2.5%)	34	31	2.536	0.4081	2.608	0.4100	0.1580	0.0355	6.06%	0.90	0.0658	3.46%
060.00	Water (Free), Vacuum Oven (%)	1		4.750									
060.99	Water (Free), Other (%)	1		6.200									
101.00	Acid Soluble Ca, AA, inorganic 965.09 (6%)	5	5	7.514	0.5073	7.514	0.5757	0.5073	0.2836	6.75%	2.05	0.1436	2.95%
101.03	Acid Soluble Ca, AA, 965.09, test portion 2006.03A-C w/dual acid (6%)	1		7.281									
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	20	20	7.846	0.4592	7.883	0.5941	0.4040	0.1129	5.12%	1.58	0.2448	2.93%
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (6%)	3	3	8.038	0.3452	8.038	0.6019	0.3452	0.2491	4.29%	1.34	0.2300	2.92%
101.33	Acid Soluble Ca, ICP, 2017.02 (6%)	14	14	7.632	0.9044	7.838	0.5919	0.3008	0.1005	3.84%	1.18	0.1958	2.93%
101.70	Acid Soluble Ca, Titrimetric (6%)	1		6.036									
101.99	Acid Soluble Ca, Other (6%)	9	9	7.254	0.6589	7.266	0.5633	0.7195	0.2998	9.90%	2.98	0.1695	2.97%
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	1		0.4550									
121.03	Acid Soluble Mg, AA, 965.09, test portion 2006.03A-C w/dual acid (%)	1		0.4620									
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	10	9	0.4892	0.0384	0.4888	0.2244	0.0428	0.0178	8.76%	0.44	0.0066	4.45%
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	2	2	0.4745	0.0332								
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	7	7	0.4772	0.0347	0.4783	0.2239	0.0370	0.0175	7.73%	0.38	0.0226	4.47%
121.99	Acid Soluble Mg, Other (%)	3	3	0.4701	0.0849	0.4701	0.2235	0.0849	0.0613	18.06%	0.88	0.0292	4.48%
131.00	Water Soluble Mg, AA (%)	1		0.0505									
143.00	Elemental S, Gravimetric Sulfur - carbon disulfide soluble sulfur (%)	1		0.1450									
143.99	Elemental S, Other (%)	5	5	1.587	0.2312	1.587		0.2312	0.1292	14.57%		0.0402	3.73%
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	8	6	2.115	1.139	1.927		0.8240	0.4205	42.76%		0.0897	3.62%
145.99	Sulfate S, HCl soluble, Other (%)	2	2	1.708	0.1591								
148.00	Total S, Combustion (1.5%)	9	9	1.799	0.1468	1.799	0.2899	0.1665	0.0694	9.26%	1.34	0.0651	3.66%
148.01	Total S, Gravimetric - sulfate and elemental (1.5%)	11	11	1.690	0.4823	1.561	0.2780	0.2419	0.0912	15.50%	2.03	0.0932	3.74%
148.07	Total S, ICP, test portion as in 2017.02 (1.5%)	15	14	1.811	0.1798	1.806	0.2903	0.1687	0.0564	9.34%	1.35	0.0547	3.66%
148.99	Total S, Other (1.5%)	12	11	1.826	0.2151	1.824	0.2912	0.2225	0.0838	12.20%	1.78	0.0727	3.65%
149.04	S - HNO3 soluble, ICP (%)	2	2	1.723	0.1969								
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	3	2	0.9550	0.2970	0.9550		0.2970	0.2625	31.10%		0.1200	16.11%
151.30	Acid Soluble As, ICP (ppm)	8	6	7.064	1.253	7.064		1.420	0.7248	20.11%		0.1812	11.92%
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	5	4	8.708	3.089	8.708		3.089	1.931	35.47%		1.674	11.55%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	2	2	7.542	1.629								
151.99	Acid Soluble As, Other (ppm)	4	3	4.437	1.384	4.437		1.384	0.9987	31.19%		0.0067	12.78%
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	1		0.0100									
165.99	Acid Soluble B, Other (%)	7	4	0.0034	0.0029	0.0034	0.0035	0.0029	0.0018	85.60%	1.94	0.0014	9.40%

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181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	3	2	2.688	0.0601	2.688		0.0601	0.0531	2.24%		0.1350	13.79%
181.30	Acid Soluble Cd, ICP (ppm)	10	9	2.608	0.4368	2.608		0.4954	0.2064	18.99%		0.1533	13.85%
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	5	4	2.807	1.119	2.807		1.119	0.6996	39.88%		0.2482	13.70%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	2	1	2.613									
181.99	Acid Soluble Cd, Other (ppm)	4	4	2.315	1.444	2.315		1.444	0.9022	62.36%		0.0250	14.10%
190.00	Water Soluble Cl, Titrimetric (%)	5	5	2.106	1.724	2.106	0.2156	1.724	0.9635	81.85%	18.63	0.0308	3.58%
190.99	Water Soluble Cl, Other (%)	4	4	6.711	10.24	6.711	0.6761	10.24	6.399	152.57%	35.29	0.0612	3.00%
191.00	Acid Soluble Cr, AA, test portion 2006.03 modified w/dual acid (ppm)	3	2	1.945	1.493	1.945		1.493	1.319	76.77%		0.1930	14.47%
191.30	Acid Soluble Cr, ICP (ppm)	9	8	8.015	2.368	7.822		2.221	0.9815	28.39%		1.047	11.74%
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	5	5	11.30	1.866	11.30		1.866	1.043	16.52%		1.450	11.11%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	2	2	6.540	3.372								
191.99	Acid Soluble Cr, Other (ppm)	4	4	7.496	5.470	7.496		5.470	3.419	72.97%		0.1325	11.81%
202.00	Acid Soluble Co, AA, test portion 2006.03 modified w/dual acid (ppm)	1		0.0100									
202.30	Acid Soluble Co, ICP (ppm)	6	5	5.482	2.668	5.482	2.6445	2.668	1.491	48.67%	2.35	0.6448	12.38%
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	1		6.010									
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	7	6	7.261	1.297	7.261	3.1784	1.471	0.7508	20.26%	1.08	0.5394	11.87%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	3	3	4.332	2.832	4.332	2.2997	2.832	2.044	65.38%	2.87	0.4457	12.83%
202.99	Acid Soluble Co, Other (ppm)	5	4	3.724	2.820	3.724	2.1172	2.820	1.762	75.72%	3.10	0.0908	13.12%
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	3	3	0.0017	0.0008	0.0017	0.0052	0.0008	0.0006	49.82%	0.38	0.0006	10.46%
221.03	Acid Soluble Cu, AA, 965.09, test portion 2006.03A-C w/dual acid (%)	1		1.169									
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	8	6	0.0013	0.0008	0.0010	0.0051	0.0002	0.0001	16.44%	0.08	0.0000	11.25%
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	1		0.0010									
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	7	5	0.0011	0.0002	0.0011	0.0051	0.0002	0.0001	15.41%	0.08	0.0001	11.14%
221.99	Acid Soluble Cu, Other (%)	10	8	1.310	3.693	0.0056	0.0056	0.0068	0.0030	121.40%	2.86	0.0125	8.72%
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	1		0.0970									
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	9	8	0.1139	0.0148	0.1169	0.0167	0.0086	0.0038	7.33%	1.20	0.0046	5.52%
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	2	2	0.1118	0.0032								
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	7	7	0.1213	0.0106	0.1218	0.0172	0.0108	0.0051	8.88%	1.47	0.0039	5.49%
241.99	Acid Soluble Fe, Other (%)	3	2	0.1033	0.0252	0.1033	0.0153	0.0252	0.0223	24.40%	3.83	0.0111	5.63%
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid (ppm)	2	1	0.5780									
251.30	Acid Soluble Pb, ICP (ppm)	6	4	0.5095	0.1847	0.5095		0.1847	0.1154	36.25%		0.1155	17.71%
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	3	2	1.536	1.200	1.536		1.200	1.061	78.17%		1.801	15.00%
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	2	1	18.36									
251.99	Acid Soluble Pb, Other (ppm)	4	4	1.169	1.020	1.169		1.020	0.6373	87.24%		0.0575	15.63%
261.00	Acid Soluble Mn, AA, Mn2+ only (%)	1		0.0054									
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	3	2	0.0037	0.0000	0.0037	0.0054	0.0000	0.0000	0.96%	0.02	0.0003	9.30%
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)	2	2	0.0420	0.0537								
261.33	Acid Soluble Mn, ICP, test portion organic 965.09 (%)	1		0.0037									
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	2	2	0.0037	0.0002								
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	5	3	0.0038	0.0003	0.0038	0.0054	0.0003	0.0002	6.58%	0.11	0.0001	9.25%
261.99	Acid Soluble Mn, Other (%)	2	2	0.0031	0.0000								
281.00	Acid Soluble Hg, AA (ppm)	3	2	0.0487	0.0274	0.0487		0.0274	0.0243	56.39%		0.0050	25.21%
281.30	Acid Soluble Hg, ICP (ppm)	3	2	0.0723	0.0527	0.0723		0.0527	0.0466	72.94%		0.0074	23.75%
281.99	Acid Soluble Hg, Other (ppm)	5	4	0.0862	0.0731	0.0862		0.0731	0.0457	84.79%		0.0053	23.13%

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289.00	Acid Soluble Mo, AA, test portion 2006.03 modified w/dual acid (ppm)	2	2	1.313	0.5158								
289.30	Acid Soluble Mo, ICP (ppm)	6	5	5.125	8.331	5.125	2.5376	8.331	4.657	162.54%	7.65	0.5366	12.51%
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	5	3	1.229	0.2478	1.229	1.3688	0.2478	0.1789	20.16%	0.42	0.1525	15.51%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	3	3	3.179	1.648	3.179	1.9536	1.648	1.189	51.84%	1.97	1.758	13.44%
289.99	Acid Soluble Mo, Other (ppm)	3	2	0.6950	0.5020	0.6950	1.2085	0.5020	0.4438	72.24%	0.97	0.1700	16.90%
291.00	Acid Soluble Ni, AA, test portion 2006.03 modified w/dual acid (ppm)	1		0.6000									
291.30	Acid Soluble Ni, ICP (ppm)	7	6	2.809	0.6003	2.809		0.6807	0.3474	24.23%		0.4738	13.69%
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	4	3	3.565	1.696	3.565		1.696	1.224	47.57%		0.3620	13.21%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	2	2	2.003	0.1132								
291.99	Acid Soluble Ni, Other (ppm)	5	4	3.001	1.388	3.001		1.388	0.8674	46.24%		0.3903	13.56%
301.00	Acid Soluble Se, AA, test portion 2006.03 modified w/dual acid (ppm)	3	3	2.459	3.958	2.459		3.958	2.856	160.94%		0.0000	13.97%
301.30	Acid Soluble Se, ICP (ppm)	3	2	3.950	0.7778	3.950		0.7778	0.6875	19.69%		0.5800	13.01%
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	3	3	3.765	2.545	3.765		2.545	1.836	67.58%		0.7885	13.10%
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	2	1	3.029									
301.99	Acid Soluble Se, Other (ppm)	4	4	2.184	1.488	2.184		1.488	0.9302	68.14%		0.3350	14.22%
311.00	Sodium, AA (%)	1		1.445									
311.30	Sodium, Flame Photometric (%)	1		3.685									
311.32	Sodium, ICP, 2006.03 test portion (%)	1		1.533									
311.33	Sodium, ICP, test portion as in 2017.02 (%)	14	14	1.485	0.2027	1.490	0.1540	0.1910	0.0638	12.82%	2.89	0.0398	3.77%
311.99	Sodium, Other (%)	11	11	1.400	0.4697	1.509	0.1559	0.1800	0.0678	11.93%	2.69	0.0357	3.76%
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	3	3	0.0207	0.0040	0.0207	0.0071	0.0040	0.0029	19.56%	1.33	0.0031	7.17%
321.03	Acid Soluble Zn, AA, 965.09, test portion 2006.03A-C w/dual acid (%)	1		0.0201									
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	12	11	0.0193	0.0023	0.0191	0.0069	0.0018	0.0007	9.58%	0.62	0.0012	7.26%
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	2	2	0.0190	0.0021								
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	10	8	19.70	55.68	0.0188	0.0069	0.0018	0.0008	9.62%	0.61	0.1255	7.27%
321.99	Acid Soluble Zn, Other (%)	11	10	0.0309	0.0449	0.0175	0.0068	0.0012	0.0005	6.59%	0.40	0.0020	7.35%
325.00	Water Soluble Zn, AA (%)	1		0.0050									

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.

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 190311

Method Precision Report

Grade 12-12-2.5

Issue Date : 04/30/2019

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 (%)	9	9	4.937	1.443	1.441	0.1015	1.445	29.19%	2.06%	29.26%	14.23
001.99	Ammoniacal N, Other (%)	15	14	4.577	1.484	1.483	0.0786	1.485	32.39%	1.72%	32.44%	18.88
002.99	Nitrate N, Other (%)	10	8	0.0632	0.0350	0.0348	0.0056	0.0352	54.96%	8.84%	55.67%	6.294
010.60	Total N, Combustion (12%)	56	50	15.73	0.2327	0.2152	0.1251	0.2489	1.37%	0.80%	1.58%	1.989
010.99	Total N, Other (12%)	14	14	13.77	1.917	1.910	0.2323	1.924	13.87%	1.69%	13.97%	8.282
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	19	18	12.50	0.3102	0.2981	0.1212	0.3218	2.39%	0.97%	2.58%	2.654
020.50	Total P2O5, ICP (%)	20	19	12.77	0.5623	0.5055	0.3481	0.6138	3.96%	2.73%	4.81%	1.763
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)	10	10	12.43	0.3696	0.3641	0.0902	0.3751	2.93%	0.73%	3.02%	4.157
041.60	Direct Available P2O5, Citrate-EDTA Ext. (12%)	11	10	12.54	0.3492	0.3444	0.0818	0.3539	2.75%	0.65%	2.82%	4.325
041.99	Direct Available P2O5, Other (12%)	9	9	12.23	0.2985	0.2917	0.0897	0.3051	2.39%	0.73%	2.50%	3.403
050.00	Soluble K2O, STPB Oxalate (2.5%)	11	10	2.558	0.2356	0.2151	0.1358	0.2544	8.41%	5.31%	9.94%	1.874
050.50	Soluble K2O, ICP (Oxalate) (2.5%)	10	9	2.671	0.0856	0.0841	0.0227	0.0871	3.15%	0.85%	3.26%	3.842
050.99	Soluble K2O, Other (2.5%)	34	28	2.597	0.1958	0.1922	0.0524	0.1992	7.40%	2.02%	7.67%	3.803
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	20	19	7.917	0.3404	0.3005	0.2262	0.3761	3.80%	2.86%	4.75%	1.663
101.33	Acid Soluble Ca, ICP, 2017.02 (6%)	14	12	7.872	0.2692	0.2494	0.1430	0.2875	3.17%	1.82%	3.65%	2.010
101.99	Acid Soluble Ca, Other (6%)	9	8	7.207	0.6880	0.6827	0.1208	0.6933	9.47%	1.68%	9.62%	5.738
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	10	9	0.4892	0.0384	0.0381	0.0062	0.0386	7.80%	1.26%	7.90%	6.273
148.00	Total S, Combustion (1.5%)	9	9	1.799	0.1468	0.1414	0.0561	0.1521	7.86%	3.12%	8.46%	2.709
148.01	Total S, Gravimetric - sulfate and elemental (1.5%)	11	10	1.586	0.3551	0.3516	0.0697	0.3585	22.18%	4.40%	22.61%	5.142
148.07	Total S, ICP, test portion as in 2017.02 (1.5%)	15	14	1.811	0.1798	0.1744	0.0621	0.1851	9.63%	3.43%	10.22%	2.979
148.99	Total S, Other (1.5%)	12	11	1.826	0.2151	0.2097	0.0678	0.2204	11.48%	3.72%	12.07%	3.249
181.30	Acid Soluble Cd, ICP (ppm)	10	8	2.553	0.4321	0.4269	0.0946	0.4373	16.72%	3.71%	17.13%	4.622
311.33	Sodium, ICP, test portion as in 2017.02 (%)	14	13	1.498	0.2055	0.2043	0.0307	0.2066	13.64%	2.05%	13.80%	6.736
311.99	Sodium, Other (%)	11	9	1.565	0.1082	0.1067	0.0259	0.1098	6.81%	1.66%	7.01%	4.233
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	12	10	0.0188	0.0015	0.0014	0.0005	0.0015	7.60%	2.56%	8.02%	3.134
321.99	Acid Soluble Zn, Other (%)	11	9	0.0167	0.0026	0.0026	0.0006	0.0026	15.30%	3.70%	15.74%	4.258

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 # 190311

Grade 12-12-2.5

Lab Values

Methods: 148

Labs Reporting: 90

Issue Date : 04/30/2019

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	2.255	0.2300	4.925	1.013	0.1135	9	-2.43	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0444	3.725	0.0100	4.925	1.013	0.1135	9	-1.09	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0177	4.947	0.2253	4.925	1.013	0.1135	9	0.02	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0230	5.030	0.0800	4.925	1.013	0.1135	9	0.10	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0231	5.115	0.0100	4.925	1.013	0.1135	9	0.17	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0526	5.121	0.1958	4.925	1.013	0.1135	9	0.18	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0451	5.140	0.1200	4.925	1.013	0.1135	9	0.20	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0498	5.400	0.0000	4.925	1.013	0.1135	9	0.43	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0486	7.705	0.1500	4.925	1.013	0.1135	9	2.53	NA	0
001.99	Ammoniacal N, Other (%)	0532	2.455	0.0500	4.774	1.837	0.0839	15	-1.26	NA	0
001.99	Ammoniacal N, Other (%)	0420	2.490	0.0400	4.774	1.837	0.0839	15	-1.24	NA	0
001.99	Ammoniacal N, Other (%)	0519	2.560	0.0200	4.774	1.837	0.0839	15	-1.20	NA	0
001.99	Ammoniacal N, Other (%)	0527	3.160	0.0200	4.774	1.837	0.0839	15	-0.88	NA	0
001.99	Ammoniacal N, Other (%)	0533	3.560	0.1200	4.774	1.837	0.0839	15	-0.66	NA	0
001.99	Ammoniacal N, Other (%)	0423	4.290	0.0800	4.774	1.837	0.0839	15	-0.26	NA	0
001.99	Ammoniacal N, Other (%)	0476	5.206	0.0578	4.774	1.837	0.0839	15	0.23	NA	0
001.99	Ammoniacal N, Other (%)	0481	5.335	0.0100	4.774	1.837	0.0839	15	0.31	NA	0
001.99	Ammoniacal N, Other (%)	0522	5.455	0.1100	4.774	1.837	0.0839	15	0.37	NA	0
001.99	Ammoniacal N, Other (%)	0405	5.485	0.1300	4.774	1.837	0.0839	15	0.39	NA	0
001.99	Ammoniacal N, Other (%)	0255	5.525	0.2300	4.774	1.837	0.0839	15	0.41	NA	0
001.99	Ammoniacal N, Other (%)	0096	5.610	0.1600	4.774	1.837	0.0839	15	0.46	NA	0
001.99	Ammoniacal N, Other (%)	0220	5.825	0.0100	4.774	1.837	0.0839	15	0.57	NA	0
001.99	Ammoniacal N, Other (%)	0368	7.122	0.1907	4.774	1.837	0.0839	15	1.28	NA	0
001.99	Ammoniacal N, Other (%)	0556	15.67	0.0300	4.774	1.837	0.0839	15	5.93	NA	0
002.20	Nitrate N, Jones Modified (%)	0526	0.6444	0.0000				1			0
002.99	Nitrate N, Other (%)	0220	0.0350	0.0100	0.0723	0.0482	0.0091	9	-0.71	NA	0
002.99	Nitrate N, Other (%)	0527	0.0355	0.0050	0.0723	0.0482	0.0091	9	-0.70	NA	0
002.99	Nitrate N, Other (%)	0027	0.0400	0.0000	0.0723	0.0482	0.0091	9	-0.62	NA	0
002.99	Nitrate N, Other (%)	0423	0.0400	0.0000	0.0723	0.0482	0.0091	9	-0.62	NA	0
002.99	Nitrate N, Other (%)	0486	0.0420	0.0000	0.0723	0.0482	0.0091	9	-0.58	NA	0
002.99	Nitrate N, Other (%)	0532	0.0950	0.0100	0.0723	0.0482	0.0091	9	0.44	NA	0
002.99	Nitrate N, Other (%)	0476	0.0984	0.0166	0.0723	0.0482	0.0091	9	0.50	NA	0
002.99	Nitrate N, Other (%)	0519	0.1200	0.0000	0.0723	0.0482	0.0091	9	0.91	NA	0
002.99	Nitrate N, Other (%)	0481	0.2300	0.0400	0.0723	0.0482	0.0091	9	3.02	NA	0
002.99	Nitrate N, Other (%)	0368	0.3780	0.0840	0.0723	0.0482	0.0091	9	5.86	NA	1
003.10	Water Insoluble N, Method I (%)	0451	6.305	0.3300	7.303	0.8771	0.2020	5	-1.14		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				
003.10	Water Insoluble N, Method I (%)	0526	6.508	0.0000	7.303	0.8771	0.2020	5	-0.91		0
003.10	Water Insoluble N, Method I (%)	0423	7.600	0.1400	7.303	0.8771	0.2020	5	0.34		0
003.10	Water Insoluble N, Method I (%)	0220	7.700	0.2400	7.303	0.8771	0.2020	5	0.45		0
003.10	Water Insoluble N, Method I (%)	0027	8.400	0.3000	7.303	0.8771	0.2020	5	1.25		0
003.99	Water Insoluble N, Other (%)	0498	3.350	0.5000				2			0
003.99	Water Insoluble N, Other (%)	0519	5.400	0.0000				2			0
005.00	Urea N, Urease (as N) (%)	0027	3.475	0.0500				1			0
010.11	Total N, Modified Comprehensive (12%)	0546	9.385	0.6500	13.52	3.578	0.2733	3	-1.15		0
010.11	Total N, Modified Comprehensive (12%)	0105	15.55	0.0600	13.52	3.578	0.2733	3	0.57		0
010.11	Total N, Modified Comprehensive (12%)	0220	15.62	0.1100	13.52	3.578	0.2733	3	0.59		0
010.12	Total N, Salicylic (12%)	0498	13.70	0.2000	15.01	1.139	0.0992	3	-1.15		0
010.12	Total N, Salicylic (12%)	0397	15.67	0.0875	15.01	1.139	0.0992	3	0.58		0
010.12	Total N, Salicylic (12%)	0416	15.68	0.0100	15.01	1.139	0.0992	3	0.58		0
010.17	Total N, Comprehensive (12%)	0526	12.28	0.0346				1			0
010.60	Total N, Combustion (12%)	0443	12.80	0.1000	15.72	0.1805	0.1371	55	-16.20	Low	0
010.60	Total N, Combustion (12%)	0523	13.80	0.0000	15.72	0.1805	0.1371	55	-10.66	Low	0
010.60	Total N, Combustion (12%)	0420	13.88	0.0500	15.72	0.1805	0.1371	55	-10.24	Low	0
010.60	Total N, Combustion (12%)	0555	14.63	0.0700	15.72	0.1805	0.1371	55	-6.09	Low	0
010.60	Total N, Combustion (12%)	0234	15.40	0.0000	15.72	0.1805	0.1371	55	-1.79	OK	0
010.60	Total N, Combustion (12%)	0421	15.45	0.3600	15.72	0.1805	0.1371	55	-1.52	OK	0
010.60	Total N, Combustion (12%)	0550	15.50	0.6200	15.72	0.1805	0.1371	55	-1.24	OK	0
010.60	Total N, Combustion (12%)	0027	15.55	0.1000	15.72	0.1805	0.1371	55	-0.96	OK	0
010.60	Total N, Combustion (12%)	0354	15.56	0.0110	15.72	0.1805	0.1371	55	-0.91	OK	0
010.60	Total N, Combustion (12%)	0501	15.56	0.2800	15.72	0.1805	0.1371	55	-0.91	OK	0
010.60	Total N, Combustion (12%)	0444	15.58	0.0300	15.72	0.1805	0.1371	55	-0.83	OK	0
010.60	Total N, Combustion (12%)	0422	15.59	0.3800	15.72	0.1805	0.1371	55	-0.74	OK	0
010.60	Total N, Combustion (12%)	0105	15.61	0.1700	15.72	0.1805	0.1371	55	-0.66	OK	0
010.60	Total N, Combustion (12%)	0486	15.61	0.0700	15.72	0.1805	0.1371	55	-0.66	OK	0
010.60	Total N, Combustion (12%)	0525	15.62	0.3900	15.72	0.1805	0.1371	55	-0.60	OK	0
010.60	Total N, Combustion (12%)	0040	15.65	0.1000	15.72	0.1805	0.1371	55	-0.41	OK	0
010.60	Total N, Combustion (12%)	0527	15.65	0.0870	15.72	0.1805	0.1371	55	-0.39	OK	0
010.60	Total N, Combustion (12%)	0423	15.66	0.0500	15.72	0.1805	0.1371	55	-0.38	OK	0
010.60	Total N, Combustion (12%)	0292	15.66	0.0600	15.72	0.1805	0.1371	55	-0.35	OK	0
010.60	Total N, Combustion (12%)	0360	15.66	0.1000	15.72	0.1805	0.1371	55	-0.35	OK	0
010.60	Total N, Combustion (12%)	0542	15.67	0.0040	15.72	0.1805	0.1371	55	-0.31	OK	0
010.60	Total N, Combustion (12%)	0451	15.69	0.2600	15.72	0.1805	0.1371	55	-0.19	OK	0
010.60	Total N, Combustion (12%)	0231	15.70	0.0100	15.72	0.1805	0.1371	55	-0.16	OK	0
010.60	Total N, Combustion (12%)	0494	15.70	0.1300	15.72	0.1805	0.1371	55	-0.16	OK	0
010.60	Total N, Combustion (12%)	0324	15.70	0.0000	15.72	0.1805	0.1371	55	-0.13	OK	0
010.60	Total N, Combustion (12%)	0043	15.71	0.0800	15.72	0.1805	0.1371	55	-0.08	OK	0
010.60	Total N, Combustion (12%)	0095	15.72	0.0100	15.72	0.1805	0.1371	55	-0.05	OK	0
010.60	Total N, Combustion (12%)	0106	15.72	0.1300	15.72	0.1805	0.1371	55	-0.05	OK	0
010.60	Total N, Combustion (12%)	0035	15.73	0.0000	15.72	0.1805	0.1371	55	0.03	OK	0
010.60	Total N, Combustion (12%)	0034	15.74	0.1000	15.72	0.1805	0.1371	55	0.09	OK	0
010.60	Total N, Combustion (12%)	0472	15.74	0.0800	15.72	0.1805	0.1371	55	0.09	OK	0
010.60	Total N, Combustion (12%)	0405	15.74	0.0200	15.72	0.1805	0.1371	55	0.09	OK	0
010.60	Total N, Combustion (12%)	0534	15.75	0.1000	15.72	0.1805	0.1371	55	0.14	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				
010.60	Total N, Combustion (12%)	0547	15.76	0.1900	15.72	0.1805	0.1371	55	0.17	OK	0
010.60	Total N, Combustion (12%)	0368	15.77	0.0680	15.72	0.1805	0.1371	55	0.27	OK	0
010.60	Total N, Combustion (12%)	0131	15.79	0.0130	15.72	0.1805	0.1371	55	0.36	OK	0
010.60	Total N, Combustion (12%)	0102	15.80	0.2000	15.72	0.1805	0.1371	55	0.42	OK	0
010.60	Total N, Combustion (12%)	0041	15.81	0.0600	15.72	0.1805	0.1371	55	0.48	OK	0
010.60	Total N, Combustion (12%)	0485	15.82	0.4830	15.72	0.1805	0.1371	55	0.55	OK	0
010.60	Total N, Combustion (12%)	0356	15.83	0.0300	15.72	0.1805	0.1371	55	0.56	OK	0
010.60	Total N, Combustion (12%)	0177	15.83	0.0200	15.72	0.1805	0.1371	55	0.59	OK	0
010.60	Total N, Combustion (12%)	0452	15.83	0.0400	15.72	0.1805	0.1371	55	0.59	OK	0
010.60	Total N, Combustion (12%)	0136	15.84	0.0400	15.72	0.1805	0.1371	55	0.64	OK	0
010.60	Total N, Combustion (12%)	0255	15.84	0.2460	15.72	0.1805	0.1371	55	0.65	OK	0
010.60	Total N, Combustion (12%)	0325	15.85	0.1000	15.72	0.1805	0.1371	55	0.70	OK	0
010.60	Total N, Combustion (12%)	0114	15.89	0.3300	15.72	0.1805	0.1371	55	0.89	OK	0
010.60	Total N, Combustion (12%)	0482	15.90	0.6000	15.72	0.1805	0.1371	55	0.97	OK	0
010.60	Total N, Combustion (12%)	0029	15.95	0.1400	15.72	0.1805	0.1371	55	1.25	OK	0
010.60	Total N, Combustion (12%)	0055	15.95	0.3800	15.72	0.1805	0.1371	55	1.25	OK	0
010.60	Total N, Combustion (12%)	0025	15.96	0.4000	15.72	0.1805	0.1371	55	1.31	OK	0
010.60	Total N, Combustion (12%)	0086	15.98	0.0870	15.72	0.1805	0.1371	55	1.44	OK	0
010.60	Total N, Combustion (12%)	0377	16.00	0.0300	15.72	0.1805	0.1371	55	1.50	OK	0
010.60	Total N, Combustion (12%)	0483	16.02	0.0500	15.72	0.1805	0.1371	55	1.61	OK	0
010.60	Total N, Combustion (12%)	0049	16.04	0.0800	15.72	0.1805	0.1371	55	1.75	OK	0
010.60	Total N, Combustion (12%)	0230	16.40	0.0000	15.72	0.1805	0.1371	55	3.74	High	0
010.60	Total N, Combustion (12%)	0307	15.38	1.235	15.72	0.1805	0.1371	55	-1.92	OK	1
010.99	Total N, Other (12%)	0553	11.06	0.6340	13.77	2.173	0.2117	14	-1.25	Low	0
010.99	Total N, Other (12%)	0519	11.92	0.0500	13.77	2.173	0.2117	14	-0.85	Low	0
010.99	Total N, Other (12%)	0537	12.06	0.1700	13.77	2.173	0.2117	14	-0.79	Low	0
010.99	Total N, Other (12%)	0532	12.10	0.0400	13.77	2.173	0.2117	14	-0.77	Low	0
010.99	Total N, Other (12%)	0545	12.13	0.0300	13.77	2.173	0.2117	14	-0.76	Low	0
010.99	Total N, Other (12%)	0558	12.25	0.7000	13.77	2.173	0.2117	14	-0.70	Low	0
010.99	Total N, Other (12%)	0420	13.23	0.0400	13.77	2.173	0.2117	14	-0.25	OK	0
010.99	Total N, Other (12%)	0533	13.73	0.7000	13.77	2.173	0.2117	14	-0.02	OK	0
010.99	Total N, Other (12%)	0481	14.88	0.2300	13.77	2.173	0.2117	14	0.51	High	0
010.99	Total N, Other (12%)	0476	15.00	0.1601	13.77	2.173	0.2117	14	0.57	High	0
010.99	Total N, Other (12%)	0371	15.49	0.0200	13.77	2.173	0.2117	14	0.79	High	0
010.99	Total N, Other (12%)	0513	15.56	0.0500	13.77	2.173	0.2117	14	0.82	High	0
010.99	Total N, Other (12%)	0559	16.46	0.0400	13.77	2.173	0.2117	14	1.24	High	0
010.99	Total N, Other (12%)	0493	16.90	0.1000	13.77	2.173	0.2117	14	1.44	High	0
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0493	12.45	0.1000	12.52	0.0918	0.0967	3	-0.71		0
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0049	12.48	0.1700	12.52	0.0918	0.0967	3	-0.44		0
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0114	12.62	0.0200	12.52	0.0918	0.0967	3	1.14		0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0553	11.91	0.0700	12.50	0.3332	0.1262	18	-1.78	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0558	12.10	0.2000	12.50	0.3332	0.1262	18	-1.19	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0420	12.10	0.0600	12.50	0.3332	0.1262	18	-1.19	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0027	12.18	0.1200	12.50	0.3332	0.1262	18	-0.95	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0476	12.19	0.3272	12.50	0.3332	0.1262	18	-0.91	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0534	12.30	0.2000	12.50	0.3332	0.1262	18	-0.59	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0220	12.47	0.0200	12.50	0.3332	0.1262	18	-0.08	NA	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				
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0324	12.50	0.0000	12.50	0.3332	0.1262	18	0.01	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0231	12.53	0.0100	12.50	0.3332	0.1262	18	0.08	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0419	12.58	0.0200	12.50	0.3332	0.1262	18	0.25	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0416	12.61	0.0700	12.50	0.3332	0.1262	18	0.32	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0405	12.61	0.0800	12.50	0.3332	0.1262	18	0.34	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0522	12.63	0.2400	12.50	0.3332	0.1262	18	0.40	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0526	12.68	0.0836	12.50	0.3332	0.1262	18	0.54	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0356	12.79	0.3200	12.50	0.3332	0.1262	18	0.88	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0481	12.84	0.0400	12.50	0.3332	0.1262	18	1.03	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0371	12.87	0.3700	12.50	0.3332	0.1262	18	1.10	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0292	13.06	0.0400	12.50	0.3332	0.1262	18	1.69	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0550	15.48	2.900	12.50	0.3332	0.1262	18	8.95	NA	1
020.40	Total P2O5, Automated (%)	0096	12.45	0.3300				2			0
020.40	Total P2O5, Automated (%)	0035	12.63	0.0600				2			0
020.50	Total P2O5, ICP (%)	0555	11.82	0.3810	12.68	0.5357	0.4198	20	-1.61	NA	0
020.50	Total P2O5, ICP (%)	0552	11.84	1.560	12.68	0.5357	0.4198	20	-1.56	NA	0
020.50	Total P2O5, ICP (%)	0472	12.03	0.3500	12.68	0.5357	0.4198	20	-1.22	NA	0
020.50	Total P2O5, ICP (%)	0525	12.34	0.2300	12.68	0.5357	0.4198	20	-0.64	NA	0
020.50	Total P2O5, ICP (%)	0547	12.35	0.1000	12.68	0.5357	0.4198	20	-0.61	NA	0
020.50	Total P2O5, ICP (%)	0501	12.41	0.5900	12.68	0.5357	0.4198	20	-0.51	NA	0
020.50	Total P2O5, ICP (%)	0422	12.54	0.3000	12.68	0.5357	0.4198	20	-0.26	NA	0
020.50	Total P2O5, ICP (%)	0234	12.55	0.3000	12.68	0.5357	0.4198	20	-0.24	NA	0
020.50	Total P2O5, ICP (%)	0421	12.55	0.1000	12.68	0.5357	0.4198	20	-0.24	NA	0
020.50	Total P2O5, ICP (%)	0255	12.57	1.381	12.68	0.5357	0.4198	20	-0.20	NA	0
020.50	Total P2O5, ICP (%)	0444	12.70	0.0900	12.68	0.5357	0.4198	20	0.03	NA	0
020.50	Total P2O5, ICP (%)	0433	12.71	0.0100	12.68	0.5357	0.4198	20	0.05	NA	0
020.50	Total P2O5, ICP (%)	0523	12.75	0.1000	12.68	0.5357	0.4198	20	0.14	NA	0
020.50	Total P2O5, ICP (%)	0546	12.93	0.9860	12.68	0.5357	0.4198	20	0.48	NA	0
020.50	Total P2O5, ICP (%)	0451	12.97	0.0300	12.68	0.5357	0.4198	20	0.54	NA	0
020.50	Total P2O5, ICP (%)	0483	13.01	0.2500	12.68	0.5357	0.4198	20	0.61	NA	0
020.50	Total P2O5, ICP (%)	0527	13.15	0.2984	12.68	0.5357	0.4198	20	0.89	NA	0
020.50	Total P2O5, ICP (%)	0482	13.30	0.6000	12.68	0.5357	0.4198	20	1.16	NA	0
020.50	Total P2O5, ICP (%)	0423	13.98	0.2100	12.68	0.5357	0.4198	20	2.42	NA	0
020.50	Total P2O5, ICP (%)	0542	14.01	0.5300	12.68	0.5357	0.4198	20	2.48	NA	0
020.99	Total P2O5, Other (%)	0515	11.72	0.3117	12.28	0.4920	0.2206	3	-1.15		0
020.99	Total P2O5, Other (%)	0443	12.56	0.2000	12.28	0.4920	0.2206	3	0.56		0
020.99	Total P2O5, Other (%)	0513	12.58	0.1500	12.28	0.4920	0.2206	3	0.59		0
030.20	Citrate Insoluble P2O5, Spectrophotometric MolybdovanadoP (%)	0220	0.0650	0.0500				1			0
030.40	Citrate Insoluble P2O5, Automated, test portion 963.03 A-B (%)	0096	0.0300	0.0000				1			0
040.20	Indirect Available P2O5, Spectrophotometric (12%)	0498	12.40	0.0000	12.44	0.0679	0.0367	3	-0.61		0
040.20	Indirect Available P2O5, Spectrophotometric (12%)	0220	12.41	0.0300	12.44	0.0679	0.0367	3	-0.54		0
040.20	Indirect Available P2O5, Spectrophotometric (12%)	0405	12.52	0.0800	12.44	0.0679	0.0367	3	1.15		0
040.40	Indirect Available P2O5, Automated (12%)	0096	12.42	0.3300				1			0
041.10	Direct Available P2O5, Gravimetric Quinolinium (12%)	0102	12.15	0.3000	12.35	0.1669	0.1770	6	-1.09	OK	0
041.10	Direct Available P2O5, Gravimetric Quinolinium (12%)	0055	12.22	0.0000	12.35	0.1669	0.1770	6	-0.72	OK	0
041.10	Direct Available P2O5, Gravimetric Quinolinium (12%)	0494	12.40	0.5900	12.35	0.1669	0.1770	6	0.21	OK	0
041.10	Direct Available P2O5, Gravimetric Quinolinium (12%)	0086	12.40	0.0844	12.35	0.1669	0.1770	6	0.23	OK	0

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			Value	Range	Rob Mean	Rob SD	R-bar				
041.10	Direct Available P2O5, Gravimetric Quinolinium (12%)	0177	12.41	0.0677	12.35	0.1669	0.1770	6	0.27	OK	0
041.10	Direct Available P2O5, Gravimetric Quinolinium (12%)	0041	12.56	0.0200	12.35	0.1669	0.1770	6	1.09	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (12%)	0513	12.01	0.0200	12.33	0.2982	0.0613	3	-1.07		0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (12%)	0220	12.38	0.0500	12.33	0.2982	0.0613	3	0.16		0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (12%)	0485	12.60	0.1139	12.33	0.2982	0.0613	3	0.91		0
041.20	Direct Available P2O5, Spectrophotometric (12%)	0027	8.100	0.4000				1			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (12%)	0106	11.76	0.0800				2			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (12%)	0522	12.15	0.3000				2			0
041.40	Direct Available P2O5, Automated (12%)	0131	11.39	0.0600				2			0
041.40	Direct Available P2O5, Automated (12%)	0095	12.55	0.4300				2			0
041.50	Direct Available P2O5, ICP (12%)	0325	12.40	0.8000				2			0
041.50	Direct Available P2O5, ICP (12%)	0452	12.44	0.0500				2			0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)	0117	11.91	0.1144	12.43	0.4192	0.1039	10	-1.17	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)	0368	11.94	0.2750	12.43	0.4192	0.1039	10	-1.09	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)	0423	12.12	0.1200	12.43	0.4192	0.1039	10	-0.69	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)	0040	12.25	0.1000	12.43	0.4192	0.1039	10	-0.40	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)	0043	12.49	0.0200	12.43	0.4192	0.1039	10	0.13	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)	0486	12.55	0.1100	12.43	0.4192	0.1039	10	0.25	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)	0494	12.59	0.1600	12.43	0.4192	0.1039	10	0.35	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)	0025	12.65	0.1000	12.43	0.4192	0.1039	10	0.48	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)	0377	12.80	0.0400	12.43	0.4192	0.1039	10	0.82	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (12%)	0360	13.03	0.0000	12.43	0.4192	0.1039	10	1.33	OK	0
041.60	Direct Available P2O5, Citrate-EDTA Ext. (12%)	0230	10.25	0.3000	12.46	0.3911	0.1218	11	-5.28	Low	0
041.60	Direct Available P2O5, Citrate-EDTA Ext. (12%)	0397	11.94	0.0168	12.46	0.3911	0.1218	11	-1.23	OK	0
041.60	Direct Available P2O5, Citrate-EDTA Ext. (12%)	0231	12.33	0.0700	12.46	0.3911	0.1218	11	-0.32	OK	0
041.60	Direct Available P2O5, Citrate-EDTA Ext. (12%)	0472	12.40	0.1400	12.46	0.3911	0.1218	11	-0.14	OK	0
041.60	Direct Available P2O5, Citrate-EDTA Ext. (12%)	0136	12.43	0.1000	12.46	0.3911	0.1218	11	-0.07	OK	0
041.60	Direct Available P2O5, Citrate-EDTA Ext. (12%)	0177	12.44	0.1624	12.46	0.3911	0.1218	11	-0.04	OK	0
041.60	Direct Available P2O5, Citrate-EDTA Ext. (12%)	0055	12.50	0.2000	12.46	0.3911	0.1218	11	0.10	OK	0
041.60	Direct Available P2O5, Citrate-EDTA Ext. (12%)	0354	12.55	0.1000	12.46	0.3911	0.1218	11	0.22	OK	0
041.60	Direct Available P2O5, Citrate-EDTA Ext. (12%)	0105	12.68	0.0900	12.46	0.3911	0.1218	11	0.52	OK	0
041.60	Direct Available P2O5, Citrate-EDTA Ext. (12%)	0029	12.86	0.1100	12.46	0.3911	0.1218	11	0.95	OK	0
041.60	Direct Available P2O5, Citrate-EDTA Ext. (12%)	0034	13.27	0.0510	12.46	0.3911	0.1218	11	1.94	High	0
041.99	Direct Available P2O5, Other (12%)	0520	11.75	0.1000	12.23	0.3385	0.1078	9	-1.30	OK	0
041.99	Direct Available P2O5, Other (12%)	0519	11.94	0.0000	12.23	0.3385	0.1078	9	-0.79	OK	0
041.99	Direct Available P2O5, Other (12%)	0532	11.98	0.1200	12.23	0.3385	0.1078	9	-0.68	OK	0
041.99	Direct Available P2O5, Other (12%)	0533	12.10	0.1100	12.23	0.3385	0.1078	9	-0.36	OK	0
041.99	Direct Available P2O5, Other (12%)	0536	12.30	0.2000	12.23	0.3385	0.1078	9	0.20	OK	0
041.99	Direct Available P2O5, Other (12%)	0559	12.38	0.0500	12.23	0.3385	0.1078	9	0.40	OK	0
041.99	Direct Available P2O5, Other (12%)	0405	12.49	0.1800	12.23	0.3385	0.1078	9	0.71	OK	0
041.99	Direct Available P2O5, Other (12%)	0545	12.53	0.0300	12.23	0.3385	0.1078	9	0.81	OK	0
041.99	Direct Available P2O5, Other (12%)	0537	12.60	0.1800	12.23	0.3385	0.1078	9	1.01	OK	0
042.10	Water Soluble OrthoP As P2O5, Spectrophotometric (%)	0553	1.175	0.0700				1			0
048.20	Water Soluble P2O5, Spectrophotometric (%)	0420	6.750	0.1000				1			0
048.40	Water Soluble P2O5, Automated (%)	0096	5.630	0.1400				1			0
048.50	Water Soluble P2O5, ICP (%)	0444	5.810	0.0400				1			0
048.99	Water Soluble P2O5, Other (%)	0513	4.670	0.1400				2			0

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048.99	Water Soluble P2O5, Other (%)	0556	12.20	0.4000				2			0
050.00	Soluble K2O, STPB Oxalate (2.5%)	0055	0.5600	0.8000	2.500	0.2455	0.2073	11	-7.39	Low	0
050.00	Soluble K2O, STPB Oxalate (2.5%)	0550	2.225	0.2700	2.500	0.2455	0.2073	11	-1.05	OK	0
050.00	Soluble K2O, STPB Oxalate (2.5%)	0416	2.415	0.0500	2.500	0.2455	0.2073	11	-0.32	OK	0
050.00	Soluble K2O, STPB Oxalate (2.5%)	0405	2.425	0.0500	2.500	0.2455	0.2073	11	-0.29	OK	0
050.00	Soluble K2O, STPB Oxalate (2.5%)	0231	2.445	0.1700	2.500	0.2455	0.2073	11	-0.21	OK	0
050.00	Soluble K2O, STPB Oxalate (2.5%)	0522	2.465	0.2500	2.500	0.2455	0.2073	11	-0.13	OK	0
050.00	Soluble K2O, STPB Oxalate (2.5%)	0220	2.470	0.0000	2.500	0.2455	0.2073	11	-0.11	OK	0
050.00	Soluble K2O, STPB Oxalate (2.5%)	0230	2.675	0.1700	2.500	0.2455	0.2073	11	0.67	OK	0
050.00	Soluble K2O, STPB Oxalate (2.5%)	0494	2.680	0.0200	2.500	0.2455	0.2073	11	0.69	OK	0
050.00	Soluble K2O, STPB Oxalate (2.5%)	0102	2.700	0.4000	2.500	0.2455	0.2073	11	0.76	OK	0
050.00	Soluble K2O, STPB Oxalate (2.5%)	0114	3.080	0.1000	2.500	0.2455	0.2073	11	2.21	High	0
050.30	Soluble K2O, AA (Oxalate) (2.5%)	0040	2.250	0.1000	2.450	0.1811	0.1700	4	-1.10		0
050.30	Soluble K2O, AA (Oxalate) (2.5%)	0231	2.385	0.3100	2.450	0.1811	0.1700	4	-0.36		0
050.30	Soluble K2O, AA (Oxalate) (2.5%)	0136	2.485	0.0700	2.450	0.1811	0.1700	4	0.19		0
050.30	Soluble K2O, AA (Oxalate) (2.5%)	0356	2.680	0.2000	2.450	0.1811	0.1700	4	1.27		0
050.31	Soluble K2O, AA (Citrate) (2.5%)	0472	2.390	0.0200				2			0
050.31	Soluble K2O, AA (Citrate) (2.5%)	0498	3.050	0.1000				2			0
050.50	Soluble K2O, ICP (Oxalate) (2.5%)	0419	2.549	0.0290	2.665	0.0823	0.0255	9	-1.30	OK	0
050.50	Soluble K2O, ICP (Oxalate) (2.5%)	0106	2.575	0.0500	2.665	0.0823	0.0255	9	-1.01	OK	0
050.50	Soluble K2O, ICP (Oxalate) (2.5%)	0292	2.635	0.0500	2.665	0.0823	0.0255	9	-0.33	OK	0
050.50	Soluble K2O, ICP (Oxalate) (2.5%)	0055	2.655	0.0100	2.665	0.0823	0.0255	9	-0.11	OK	0
050.50	Soluble K2O, ICP (Oxalate) (2.5%)	0397	2.681	0.0265	2.665	0.0823	0.0255	9	0.19	OK	0
050.50	Soluble K2O, ICP (Oxalate) (2.5%)	0086	2.685	0.0100	2.665	0.0823	0.0255	9	0.23	OK	0
050.50	Soluble K2O, ICP (Oxalate) (2.5%)	0324	2.705	0.0500	2.665	0.0823	0.0255	9	0.45	OK	0
050.50	Soluble K2O, ICP (Oxalate) (2.5%)	0444	2.710	0.0000	2.665	0.0823	0.0255	9	0.51	OK	0
050.50	Soluble K2O, ICP (Oxalate) (2.5%)	0420	2.844	0.0040	2.665	0.0823	0.0255	9	2.01	OK	0
050.50	Soluble K2O, ICP (Oxalate) (2.5%)	0422	2.370	0.1600	2.665	0.0823	0.0255	9	-3.31	OK	1
050.51	Soluble K2O, ICP (Citrate) (2.5%)	0547	2.070	0.0000	2.526	0.4022	0.0123	4	-1.13		0
050.51	Soluble K2O, ICP (Citrate) (2.5%)	0555	2.407	0.0193	2.526	0.4022	0.0123	4	-0.29		0
050.51	Soluble K2O, ICP (Citrate) (2.5%)	0452	2.590	0.0000	2.526	0.4022	0.0123	4	0.16		0
050.51	Soluble K2O, ICP (Citrate) (2.5%)	0483	3.035	0.0300	2.526	0.4022	0.0123	4	1.27		0
050.52	Soluble K2O, ICP (Citrate-EDTA) (2.5%)	0485	2.297	0.0060	2.530	0.1782	0.0223	9	-1.21	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (2.5%)	0377	2.410	0.1000	2.530	0.1782	0.0223	9	-0.62	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (2.5%)	0117	2.413	0.0183	2.530	0.1782	0.0223	9	-0.61	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (2.5%)	0043	2.465	0.0100	2.530	0.1782	0.0223	9	-0.34	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (2.5%)	0025	2.500	0.0200	2.530	0.1782	0.0223	9	-0.16	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (2.5%)	0360	2.565	0.0100	2.530	0.1782	0.0223	9	0.18	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (2.5%)	0354	2.630	0.0200	2.530	0.1782	0.0223	9	0.52	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (2.5%)	0486	2.695	0.0100	2.530	0.1782	0.0223	9	0.85	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (2.5%)	0423	3.021	0.0060	2.530	0.1782	0.0223	9	2.54	High	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (2.5%)	0494	2.450	0.2200	2.530	0.1782	0.0223	9	-0.42	OK	1
050.60	Soluble K2O, Flame Photometric (Oxalate) (2.5%)	0526	2.377	0.0608	2.551	0.1594	0.0636	3	-1.09		0
050.60	Soluble K2O, Flame Photometric (Oxalate) (2.5%)	0041	2.585	0.0900	2.551	0.1594	0.0636	3	0.22		0
050.60	Soluble K2O, Flame Photometric (Oxalate) (2.5%)	0443	2.690	0.0400	2.551	0.1594	0.0636	3	0.87		0
050.61	Soluble K2O, Flame Photometric (Citrate) (2.5%)	0035	2.385	0.2100				2			0
050.61	Soluble K2O, Flame Photometric (Citrate) (2.5%)	0131	2.755	0.0100				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				
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (2.5%)	0105	2.305	0.1700	2.559	0.1831	0.1530	5	-1.39		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (2.5%)	0513	2.505	0.0900	2.559	0.1831	0.1530	5	-0.30		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (2.5%)	0029	2.510	0.4000	2.559	0.1831	0.1530	5	-0.27		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (2.5%)	0095	2.735	0.0300	2.559	0.1831	0.1530	5	0.96		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (2.5%)	0034	2.742	0.0750	2.559	0.1831	0.1530	5	1.00		0
050.99	Soluble K2O, Other (2.5%)	0553	0.5800	0.0200	2.608	0.1580	0.0658	31	-12.83	Low	0
050.99	Soluble K2O, Other (2.5%)	0556	1.900	0.1000	2.608	0.1580	0.0658	31	-4.48	Low	0
050.99	Soluble K2O, Other (2.5%)	0476	2.316	0.0128	2.608	0.1580	0.0658	31	-1.84	OK	0
050.99	Soluble K2O, Other (2.5%)	0493	2.425	0.0500	2.608	0.1580	0.0658	31	-1.16	OK	0
050.99	Soluble K2O, Other (2.5%)	0533	2.440	0.1000	2.608	0.1580	0.0658	31	-1.06	OK	0
050.99	Soluble K2O, Other (2.5%)	0481	2.455	0.0100	2.608	0.1580	0.0658	31	-0.97	OK	0
050.99	Soluble K2O, Other (2.5%)	0559	2.465	0.0100	2.608	0.1580	0.0658	31	-0.90	OK	0
050.99	Soluble K2O, Other (2.5%)	0368	2.501	0.1797	2.608	0.1580	0.0658	31	-0.67	OK	0
050.99	Soluble K2O, Other (2.5%)	0519	2.520	0.0000	2.608	0.1580	0.0658	31	-0.56	OK	0
050.99	Soluble K2O, Other (2.5%)	0501	2.535	0.0100	2.608	0.1580	0.0658	31	-0.46	OK	0
050.99	Soluble K2O, Other (2.5%)	0234	2.550	0.1000	2.608	0.1580	0.0658	31	-0.37	OK	0
050.99	Soluble K2O, Other (2.5%)	0532	2.575	0.0300	2.608	0.1580	0.0658	31	-0.21	OK	0
050.99	Soluble K2O, Other (2.5%)	0371	2.580	0.0200	2.608	0.1580	0.0658	31	-0.18	OK	0
050.99	Soluble K2O, Other (2.5%)	0558	2.590	0.0200	2.608	0.1580	0.0658	31	-0.11	OK	0
050.99	Soluble K2O, Other (2.5%)	0096	2.605	0.0100	2.608	0.1580	0.0658	31	-0.02	OK	0
050.99	Soluble K2O, Other (2.5%)	0433	2.620	0.0000	2.608	0.1580	0.0658	31	0.08	OK	0
050.99	Soluble K2O, Other (2.5%)	0389	2.635	0.0100	2.608	0.1580	0.0658	31	0.17	OK	0
050.99	Soluble K2O, Other (2.5%)	0537	2.640	0.2600	2.608	0.1580	0.0658	31	0.20	OK	0
050.99	Soluble K2O, Other (2.5%)	0546	2.666	0.1410	2.608	0.1580	0.0658	31	0.37	OK	0
050.99	Soluble K2O, Other (2.5%)	0525	2.672	0.0530	2.608	0.1580	0.0658	31	0.40	OK	0
050.99	Soluble K2O, Other (2.5%)	0027	2.685	0.0500	2.608	0.1580	0.0658	31	0.49	OK	0
050.99	Soluble K2O, Other (2.5%)	0552	2.685	0.3300	2.608	0.1580	0.0658	31	0.49	OK	0
050.99	Soluble K2O, Other (2.5%)	0482	2.690	0.0600	2.608	0.1580	0.0658	31	0.52	OK	0
050.99	Soluble K2O, Other (2.5%)	0444	2.710	0.0000	2.608	0.1580	0.0658	31	0.65	OK	0
050.99	Soluble K2O, Other (2.5%)	0177	2.710	0.0311	2.608	0.1580	0.0658	31	0.65	OK	0
050.99	Soluble K2O, Other (2.5%)	0527	2.711	0.0125	2.608	0.1580	0.0658	31	0.65	OK	0
050.99	Soluble K2O, Other (2.5%)	0421	2.735	0.0100	2.608	0.1580	0.0658	31	0.80	OK	0
050.99	Soluble K2O, Other (2.5%)	0523	2.800	0.2000	2.608	0.1580	0.0658	31	1.22	OK	0
050.99	Soluble K2O, Other (2.5%)	0542	2.840	0.1000	2.608	0.1580	0.0658	31	1.47	OK	0
050.99	Soluble K2O, Other (2.5%)	0508	2.865	0.0700	2.608	0.1580	0.0658	31	1.63	OK	0
050.99	Soluble K2O, Other (2.5%)	0451	2.910	0.0400	2.608	0.1580	0.0658	31	1.91	OK	0
050.99	Soluble K2O, Other (2.5%)	0255	2.579	0.5930	2.608	0.1580	0.0658	31	-0.19	OK	1
050.99	Soluble K2O, Other (2.5%)	0325	2.600	0.6000	2.608	0.1580	0.0658	31	-0.05	OK	1
050.99	Soluble K2O, Other (2.5%)	0545	13.02	0.0700	2.608	0.1580	0.0658	31	65.85	High	2
060.00	Water (Free), Vacuum Oven (%)	0096	4.750	0.4200				1			0
060.99	Water (Free), Other (%)	0055	6.200	0.4000				1			0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (6%)	0498	6.750	0.1000	7.514	0.5073	0.1436	5	-1.51		0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (6%)	0485	7.330	0.3400	7.514	0.5073	0.1436	5	-0.36		0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (6%)	0157	7.565	0.0700	7.514	0.5073	0.1436	5	0.10		0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (6%)	0553	7.900	0.1000	7.514	0.5073	0.1436	5	0.76		0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (6%)	0029	8.024	0.1080	7.514	0.5073	0.1436	5	1.01		0
101.03	Acid Soluble Ca, AA, 965.09, test portion 2006.03A-C w/dual acid (6%)	0526	7.281	0.0000				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				
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0255	6.496	0.4830	7.883	0.4040	0.2448	20	-3.43	Low	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0472	7.380	0.1800	7.883	0.4040	0.2448	20	-1.24	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0324	7.495	0.1700	7.883	0.4040	0.2448	20	-0.96	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0234	7.550	0.5000	7.883	0.4040	0.2448	20	-0.82	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0420	7.556	0.1200	7.883	0.4040	0.2448	20	-0.81	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0102	7.565	0.4120	7.883	0.4040	0.2448	20	-0.79	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0354	7.680	0.0800	7.883	0.4040	0.2448	20	-0.50	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0231	7.735	0.1300	7.883	0.4040	0.2448	20	-0.37	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0360	7.845	0.0900	7.883	0.4040	0.2448	20	-0.09	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0444	7.845	0.0100	7.883	0.4040	0.2448	20	-0.09	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0114	7.855	0.6900	7.883	0.4040	0.2448	20	-0.07	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0041	7.960	0.2800	7.883	0.4040	0.2448	20	0.19	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0096	8.020	0.0600	7.883	0.4040	0.2448	20	0.34	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0482	8.025	0.3900	7.883	0.4040	0.2448	20	0.35	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0371	8.125	0.0700	7.883	0.4040	0.2448	20	0.60	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0451	8.215	0.2100	7.883	0.4040	0.2448	20	0.82	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0433	8.230	0.0400	7.883	0.4040	0.2448	20	0.86	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0483	8.340	0.1000	7.883	0.4040	0.2448	20	1.13	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0486	8.470	0.0800	7.883	0.4040	0.2448	20	1.45	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (6%)	0035	8.540	0.8000	7.883	0.4040	0.2448	20	1.63	High	0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (6%)	0028	7.640	0.0800	8.038	0.3452	0.2300	3	-1.15		0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (6%)	0422	8.225	0.5900	8.038	0.3452	0.2300	3	0.54		0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (6%)	0423	8.250	0.0200	8.038	0.3452	0.2300	3	0.61		0
101.33	Acid Soluble Ca, ICP, 2017.02 (6%)	0555	4.611	0.2926	7.838	0.3008	0.1958	14	-10.73	Low	0
101.33	Acid Soluble Ca, ICP, 2017.02 (6%)	0177	7.284	0.1495	7.838	0.3008	0.1958	14	-1.84	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (6%)	0034	7.618	0.0290	7.838	0.3008	0.1958	14	-0.73	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (6%)	0040	7.625	0.0100	7.838	0.3008	0.1958	14	-0.71	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (6%)	0546	7.777	0.6659	7.838	0.3008	0.1958	14	-0.20	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (6%)	0292	7.810	0.0600	7.838	0.3008	0.1958	14	-0.09	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (6%)	0117	7.818	0.0560	7.838	0.3008	0.1958	14	-0.07	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (6%)	0397	7.903	0.1373	7.838	0.3008	0.1958	14	0.22	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (6%)	0055	7.920	0.3400	7.838	0.3008	0.1958	14	0.27	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (6%)	0421	7.965	0.0700	7.838	0.3008	0.1958	14	0.42	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (6%)	0043	7.985	0.2500	7.838	0.3008	0.1958	14	0.49	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (6%)	0527	8.099	0.0078	7.838	0.3008	0.1958	14	0.87	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (6%)	0494	8.184	0.2090	7.838	0.3008	0.1958	14	1.15	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (6%)	0086	8.252	0.4640	7.838	0.3008	0.1958	14	1.38	OK	0
101.70	Acid Soluble Ca, Titrimetric (6%)	0476	6.036	0.3702				1			0
101.99	Acid Soluble Ca, Other (6%)	0519	6.075	0.0100	7.266	0.7195	0.1695	9	-1.53	Low	0
101.99	Acid Soluble Ca, Other (6%)	0481	6.875	0.2100	7.266	0.7195	0.1695	9	-0.50	OK	0
101.99	Acid Soluble Ca, Other (6%)	0368	6.983	0.0051	7.266	0.7195	0.1695	9	-0.36	OK	0
101.99	Acid Soluble Ca, Other (6%)	0558	6.995	0.1500	7.266	0.7195	0.1695	9	-0.35	OK	0
101.99	Acid Soluble Ca, Other (6%)	0501	7.000	0.4000	7.266	0.7195	0.1695	9	-0.34	OK	0
101.99	Acid Soluble Ca, Other (6%)	0042	7.525	0.0100	7.266	0.7195	0.1695	9	0.33	OK	0
101.99	Acid Soluble Ca, Other (6%)	0552	7.630	0.6400	7.266	0.7195	0.1695	9	0.47	OK	0
101.99	Acid Soluble Ca, Other (6%)	0513	7.890	0.0800	7.266	0.7195	0.1695	9	0.80	High	0
101.99	Acid Soluble Ca, Other (6%)	0405	8.310	0.0200	7.266	0.7195	0.1695	9	1.34	High	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				
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	0553	0.4550	0.0100				1			0
121.03	Acid Soluble Mg, AA, 965.09, test portion 2006.03A-C w/dual acid (%)	0546	0.4620	0.0300				1			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0420	0.4385	0.0070	0.4888	0.0428	0.0066	9	-1.08	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0419	0.4625	0.0010	0.4888	0.0428	0.0066	9	-0.57	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	0.4650	0.0100	0.4888	0.0428	0.0066	9	-0.51	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0472	0.4700	0.0000	0.4888	0.0428	0.0066	9	-0.41	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0041	0.4800	0.0000	0.4888	0.0428	0.0066	9	-0.19	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0096	0.4850	0.0100	0.4888	0.0428	0.0066	9	-0.08	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0451	0.5035	0.0030	0.4888	0.0428	0.0066	9	0.32	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0035	0.5420	0.0180	0.4888	0.0428	0.0066	9	1.15	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0483	0.5560	0.0100	0.4888	0.0428	0.0066	9	1.45	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0482	0.4800	0.0400	0.4888	0.0428	0.0066	9	-0.19	OK	1
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0423	0.4510	0.0060				2			0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0028	0.4980	0.0080				2			0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0515	0.4155	0.0433	0.4783	0.0370	0.0226	7	-1.54	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0034	0.4625	0.0010	0.4783	0.0370	0.0226	7	-0.39	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0086	0.4635	0.0348	0.4783	0.0370	0.0226	7	-0.36	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0117	0.4734	0.0021	0.4783	0.0370	0.0226	7	-0.12	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0494	0.5027	0.0043	0.4783	0.0370	0.0226	7	0.60	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0421	0.5100	0.0600	0.4783	0.0370	0.0226	7	0.78	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0527	0.5130	0.0130	0.4783	0.0370	0.0226	7	0.85	OK	0
121.99	Acid Soluble Mg, Other (%)	0515	0.3853	0.0375	0.4701	0.0849	0.0292	3	-1.00		0
121.99	Acid Soluble Mg, Other (%)	0389	0.4700	0.0000	0.4701	0.0849	0.0292	3	0.00		0
121.99	Acid Soluble Mg, Other (%)	0552	0.5550	0.0500	0.4701	0.0849	0.0292	3	1.00		0
131.00	Water Soluble Mg, AA (%)	0553	0.0505	0.0030				1			0
143.00	Elemental S, Gravimetric Sulfur - carbon disulfide soluble sulfur (%)	0095	0.1450	0.0300				1			0
143.99	Elemental S, Other (%)	0481	1.235	0.0300	1.587	0.2312	0.0402	5	-1.52		0
143.99	Elemental S, Other (%)	0255	1.583	0.0070	1.587	0.2312	0.0402	5	-0.02		0
143.99	Elemental S, Other (%)	0472	1.585	0.0500	1.587	0.2312	0.0402	5	-0.01		0
143.99	Elemental S, Other (%)	0389	1.655	0.0100	1.587	0.2312	0.0402	5	0.29		0
143.99	Elemental S, Other (%)	0086	1.879	0.1040	1.587	0.2312	0.0402	5	1.26		0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0177	1.363	0.0225	1.927	0.8240	0.0897	6	-0.61	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0397	1.386	0.0356	1.927	0.8240	0.0897	6	-0.59	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0522	1.395	0.0300	1.927	0.8240	0.0897	6	-0.57	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0498	1.865	0.3100	1.927	0.8240	0.0897	6	-0.07	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0095	2.390	0.0000	1.927	0.8240	0.0897	6	0.50	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0027	4.290	0.1400	1.927	0.8240	0.0897	6	2.55	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0550	2.100	1.600	1.927	0.8240	0.0897	6	0.19	NA	1
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0485	0.0000	0.0000	1.927	0.8240	0.0897	6			4
145.99	Sulfate S, HCl soluble, Other (%)	0444	1.595	0.0300				2			0
145.99	Sulfate S, HCl soluble, Other (%)	0231	1.820	0.0400				2			0
148.00	Total S, Combustion (1.5%)	0377	1.600	0.0600	1.799	0.1665	0.0651	9	-1.10	OK	0
148.00	Total S, Combustion (1.5%)	0131	1.619	0.0080	1.799	0.1665	0.0651	9	-1.00	OK	0
148.00	Total S, Combustion (1.5%)	0029	1.660	0.1470	1.799	0.1665	0.0651	9	-0.77	OK	0
148.00	Total S, Combustion (1.5%)	0136	1.770	0.1000	1.799	0.1665	0.0651	9	-0.16	OK	0
148.00	Total S, Combustion (1.5%)	0114	1.815	0.0500	1.799	0.1665	0.0651	9	0.09	OK	0
148.00	Total S, Combustion (1.5%)	0049	1.900	0.0200	1.799	0.1665	0.0651	9	0.56	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				
148.00	Total S, Combustion (1.5%)	0451	1.901	0.1110	1.799	0.1665	0.0651	9	0.56	OK	0
148.00	Total S, Combustion (1.5%)	0555	1.908	0.0120	1.799	0.1665	0.0651	9	0.61	OK	0
148.00	Total S, Combustion (1.5%)	0025	2.017	0.0780	1.799	0.1665	0.0651	9	1.21	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (1.5%)	0405	1.220	0.1200	1.561	0.2419	0.0932	11	-1.32	Low	0
148.01	Total S, Gravimetric - sulfate and elemental (1.5%)	0220	1.405	0.0100	1.561	0.2419	0.0932	11	-0.60	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (1.5%)	0105	1.430	0.0400	1.561	0.2419	0.0932	11	-0.51	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (1.5%)	0029	1.440	0.0200	1.561	0.2419	0.0932	11	-0.47	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (1.5%)	0055	1.460	0.0400	1.561	0.2419	0.0932	11	-0.39	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (1.5%)	0534	1.530	0.0600	1.561	0.2419	0.0932	11	-0.12	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (1.5%)	0177	1.599	0.0412	1.561	0.2419	0.0932	11	0.15	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (1.5%)	0526	1.601	0.0000	1.561	0.2419	0.0932	11	0.16	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (1.5%)	0324	1.635	0.2700	1.561	0.2419	0.0932	11	0.29	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (1.5%)	0095	2.535	0.0300	1.561	0.2419	0.0932	11	3.77	High	0
148.01	Total S, Gravimetric - sulfate and elemental (1.5%)	0485	2.730	0.3945	1.561	0.2419	0.0932	11	4.52	High	0
148.07	Total S, ICP, test portion as in 2017.02 (1.5%)	0486	1.480	0.0600	1.806	0.1687	0.0547	14	-1.93	Low	0
148.07	Total S, ICP, test portion as in 2017.02 (1.5%)	0525	1.629	0.0240	1.806	0.1687	0.0547	14	-1.05	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1.5%)	0444	1.670	0.0000	1.806	0.1687	0.0547	14	-0.80	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1.5%)	0040	1.700	0.0000	1.806	0.1687	0.0547	14	-0.63	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1.5%)	0043	1.730	0.0400	1.806	0.1687	0.0547	14	-0.45	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1.5%)	0117	1.735	0.0020	1.806	0.1687	0.0547	14	-0.42	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1.5%)	0177	1.820	0.0119	1.806	0.1687	0.0547	14	0.08	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1.5%)	0546	1.826	0.2102	1.806	0.1687	0.0547	14	0.12	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1.5%)	0102	1.827	0.1690	1.806	0.1687	0.0547	14	0.12	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1.5%)	0494	1.827	0.0030	1.806	0.1687	0.0547	14	0.13	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1.5%)	0483	1.905	0.0700	1.806	0.1687	0.0547	14	0.59	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1.5%)	0421	1.975	0.0100	1.806	0.1687	0.0547	14	1.00	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1.5%)	0292	2.025	0.0100	1.806	0.1687	0.0547	14	1.30	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1.5%)	0527	2.199	0.1561	1.806	0.1687	0.0547	14	2.33	High	0
148.07	Total S, ICP, test portion as in 2017.02 (1.5%)	0515	1.756	0.3571	1.806	0.1687	0.0547	14	-0.30	OK	1
148.99	Total S, Other (1.5%)	0476	1.446	0.1612	1.824	0.2225	0.0727	11	-1.70	Low	0
148.99	Total S, Other (1.5%)	0368	1.692	0.0890	1.824	0.2225	0.0727	11	-0.59	OK	0
148.99	Total S, Other (1.5%)	0433	1.700	0.0200	1.824	0.2225	0.0727	11	-0.56	OK	0
148.99	Total S, Other (1.5%)	0096	1.735	0.0300	1.824	0.2225	0.0727	11	-0.40	OK	0
148.99	Total S, Other (1.5%)	0354	1.760	0.0000	1.824	0.2225	0.0727	11	-0.29	OK	0
148.99	Total S, Other (1.5%)	0501	1.765	0.0500	1.824	0.2225	0.0727	11	-0.27	OK	0
148.99	Total S, Other (1.5%)	0220	1.770	0.0200	1.824	0.2225	0.0727	11	-0.24	OK	0
148.99	Total S, Other (1.5%)	0523	1.905	0.1300	1.824	0.2225	0.0727	11	0.36	OK	0
148.99	Total S, Other (1.5%)	0558	1.985	0.1900	1.824	0.2225	0.0727	11	0.72	OK	0
148.99	Total S, Other (1.5%)	0371	2.105	0.0100	1.824	0.2225	0.0727	11	1.26	OK	0
148.99	Total S, Other (1.5%)	0482	2.220	0.1000	1.824	0.2225	0.0727	11	1.78	High	0
148.99	Total S, Other (1.5%)	0422	17.60	0.1600	1.824	0.2225	0.0727	11	70.92	High	2
149.04	S - HNO3 soluble, ICP (%)	0519	1.584	0.0080				2			0
149.04	S - HNO3 soluble, ICP (%)	0423	1.863	0.0650				2			0
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	0498	0.7450	0.0500				2			0
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	1.165	0.1900				2			0
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	0526	< 50					2			5
151.30	Acid Soluble As, ICP (ppm)	0255	5.126	0.6270	7.064	1.420	0.1812	6	-1.22	NA	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				
151.30	Acid Soluble As, ICP (ppm)	0444	6.405	0.0500	7.064	1.420	0.1812	6	-0.41	NA	0
151.30	Acid Soluble As, ICP (ppm)	0523	6.855	0.0100	7.064	1.420	0.1812	6	-0.13	NA	0
151.30	Acid Soluble As, ICP (ppm)	0096	7.300	0.0000	7.064	1.420	0.1812	6	0.15	NA	0
151.30	Acid Soluble As, ICP (ppm)	0405	8.000	0.0000	7.064	1.420	0.1812	6	0.59	NA	0
151.30	Acid Soluble As, ICP (ppm)	0501	8.700	0.4000	7.064	1.420	0.1812	6	1.03	NA	0
151.30	Acid Soluble As, ICP (ppm)	0389	5.970	1.721	7.064	1.420	0.1812	6	-0.69	NA	1
151.30	Acid Soluble As, ICP (ppm)	0555	< 0.5		7.064	1.420	0.1812	6			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0515	5.368	2.098	8.708	3.089	1.674	4	-1.08		0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0086	7.983	1.037	8.708	3.089	1.674	4	-0.23		0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0527	8.659	0.3394	8.708	3.089	1.674	4	-0.02		0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0494	12.82	3.220	8.708	3.089	1.674	4	1.33		0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0117	< 10		8.708	3.089	1.674	4			5
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0368	6.390	0.1436				2			0
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0515	8.694	0.4820				2			0
151.99	Acid Soluble As, Other (ppm)	0520	2.860	0.0200	4.437	1.384	0.0067	3	-1.14		0
151.99	Acid Soluble As, Other (ppm)	0220	5.000	0.0000	4.437	1.384	0.0067	3	0.41		0
151.99	Acid Soluble As, Other (ppm)	0519	5.450	0.0000	4.437	1.384	0.0067	3	0.73		0
151.99	Acid Soluble As, Other (ppm)	0481	< 0.5		4.437	1.384	0.0067	3			5
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	< 0.01					0			5
165.99	Acid Soluble B, Other (%)	0546	0.0007	0.0001	0.0034	0.0029	0.0014	4	-0.80		0
165.99	Acid Soluble B, Other (%)	0423	0.0013	0.0004	0.0034	0.0029	0.0014	4	-0.61		0
165.99	Acid Soluble B, Other (%)	0086	0.0050	0.0037	0.0034	0.0029	0.0014	4	0.45		0
165.99	Acid Soluble B, Other (%)	0527	0.0068	0.0015	0.0034	0.0029	0.0014	4	0.97		0
165.99	Acid Soluble B, Other (%)	0515	0.0000	0.0000	0.0034	0.0029	0.0014	4			4
165.99	Acid Soluble B, Other (%)	0552	0.0000	0.0000	0.0034	0.0029	0.0014	4			4
165.99	Acid Soluble B, Other (%)	0117	< 0.01		0.0034	0.0029	0.0014	4			5
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	2.645	0.0300				2			0
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	0498	2.730	0.2400				2			0
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	0526	< 0.0028					2			5
181.30	Acid Soluble Cd, ICP (ppm)	0444	1.960	0.0200	2.608	0.4954	0.1533	9	-1.21	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0255	2.021	0.1420	2.608	0.4954	0.1533	9	-1.09	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0389	2.357	0.1480	2.608	0.4954	0.1533	9	-0.47	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0523	2.525	0.0300	2.608	0.4954	0.1533	9	-0.15	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0096	2.550	0.1000	2.608	0.4954	0.1533	9	-0.11	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0035	2.875	0.2700	2.608	0.4954	0.1533	9	0.50	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0482	3.050	0.5000	2.608	0.4954	0.1533	9	0.82	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0405	3.065	0.0500	2.608	0.4954	0.1533	9	0.85	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0501	3.070	0.1200	2.608	0.4954	0.1533	9	0.86	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0555	< 0.5		2.608	0.4954	0.1533	9			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0515	1.265	0.4800	2.807	1.119	0.2482	4	-1.38		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0086	2.881	0.0440	2.807	1.119	0.2482	4	0.07		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0527	3.152	0.0043	2.807	1.119	0.2482	4	0.31		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0494	3.928	0.4645	2.807	1.119	0.2482	4	1.00		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0117	< 5		2.807	1.119	0.2482	4			5
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0368	2.613	0.0720				1			0
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0515	0.0000	0.0000				1			4
181.99	Acid Soluble Cd, Other (ppm)	0520	0.1700	0.0000	2.315	1.444	0.0250	4	-1.49		0

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			Value	Range	Rob Mean	Rob SD	R-bar				
181.99	Acid Soluble Cd, Other (ppm)	0481	2.805	0.0700	2.315	1.444	0.0250	4	0.34		0
181.99	Acid Soluble Cd, Other (ppm)	0220	3.000	0.0000	2.315	1.444	0.0250	4	0.47		0
181.99	Acid Soluble Cd, Other (ppm)	0519	3.285	0.0300	2.315	1.444	0.0250	4	0.67		0
190.00	Water Soluble Cl, Titrimetric (%)	0526	0.0332	0.0041	2.106	1.724	0.0308	5	-1.20		0
190.00	Water Soluble Cl, Titrimetric (%)	0444	1.660	0.1200	2.106	1.724	0.0308	5	-0.26		0
190.00	Water Soluble Cl, Titrimetric (%)	0498	1.985	0.0100	2.106	1.724	0.0308	5	-0.07		0
190.00	Water Soluble Cl, Titrimetric (%)	0546	2.030	0.0200	2.106	1.724	0.0308	5	-0.04		0
190.00	Water Soluble Cl, Titrimetric (%)	0550	4.820	0.0000	2.106	1.724	0.0308	5	1.57		0
190.99	Water Soluble Cl, Other (%)	0555	0.3174	0.0018	6.711	10.24	0.0612	4	-0.62		0
190.99	Water Soluble Cl, Other (%)	0029	2.015	0.0100	6.711	10.24	0.0612	4	-0.46		0
190.99	Water Soluble Cl, Other (%)	0368	2.507	0.2230	6.711	10.24	0.0612	4	-0.41		0
190.99	Water Soluble Cl, Other (%)	0519	22.01	0.0100	6.711	10.24	0.0612	4	1.49		0
191.00	Acid Soluble Cr, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	0.8890	0.2060				2			0
191.00	Acid Soluble Cr, AA, test portion 2006.03 modified w/dual acid (ppm)	0498	3.000	0.1800				2			0
191.00	Acid Soluble Cr, AA, test portion 2006.03 modified w/dual acid (ppm)	0526	< 0.0054					2			5
191.30	Acid Soluble Cr, ICP (ppm)	0035	5.240	3.380	7.822	2.221	1.047	8	-1.06	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0389	5.824	0.1790	7.822	2.221	1.047	8	-0.82	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0482	6.300	1.000	7.822	2.221	1.047	8	-0.63	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0405	8.000	2.000	7.822	2.221	1.047	8	0.07	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0444	8.300	0.4000	7.822	2.221	1.047	8	0.20	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0523	8.510	0.1200	7.822	2.221	1.047	8	0.28	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0096	9.250	0.9000	7.822	2.221	1.047	8	0.59	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0501	12.70	0.4000	7.822	2.221	1.047	8	2.01	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0555	< 0.5		7.822	2.221	1.047	8			5
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0527	9.788	0.2851	11.30	1.866	1.450	5	-0.81		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0086	10.33	0.1100	11.30	1.866	1.450	5	-0.52		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0515	10.33	2.118	11.30	1.866	1.450	5	-0.52		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0117	11.63	0.6900	11.30	1.866	1.450	5	0.18		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0494	14.41	4.045	11.30	1.866	1.450	5	1.67		0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0368	4.156	1.420				2			0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0515	8.925	0.9960				2			0
191.99	Acid Soluble Cr, Other (ppm)	0519	2.205	0.0100	7.496	5.470	0.1325	4	-0.97		0
191.99	Acid Soluble Cr, Other (ppm)	0520	3.810	0.0200	7.496	5.470	0.1325	4	-0.67		0
191.99	Acid Soluble Cr, Other (ppm)	0220	10.00	0.0000	7.496	5.470	0.1325	4	0.46		0
191.99	Acid Soluble Cr, Other (ppm)	0481	13.97	0.5000	7.496	5.470	0.1325	4	1.18		0
202.00	Acid Soluble Co, AA, test portion 2006.03 modified w/dual acid (ppm)	0526	< 0.01					0			5
202.30	Acid Soluble Co, ICP (ppm)	0035	2.405	0.7100	5.482	2.668	0.6448	5	-1.01		0
202.30	Acid Soluble Co, ICP (ppm)	0482	3.700	0.4000	5.482	2.668	0.6448	5	-0.58		0
202.30	Acid Soluble Co, ICP (ppm)	0389	4.798	0.1040	5.482	2.668	0.6448	5	-0.22		0
202.30	Acid Soluble Co, ICP (ppm)	0096	8.205	1.210	5.482	2.668	0.6448	5	0.89		0
202.30	Acid Soluble Co, ICP (ppm)	0405	8.300	0.8000	5.482	2.668	0.6448	5	0.92		0
202.30	Acid Soluble Co, ICP (ppm)	0555	< 0.5		5.482	2.668	0.6448	5			5
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0423	6.010	0.1800				1			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0515	5.107	1.085	7.261	1.471	0.5394	6	-1.30	OK	0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0527	6.825	0.1325	7.261	1.471	0.5394	6	-0.26	OK	0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0086	7.056	0.0300	7.261	1.471	0.5394	6	-0.12	OK	0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0546	7.427	0.9040	7.261	1.471	0.5394	6	0.10	OK	0

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			Value	Range	Rob Mean	Rob SD	R-bar				
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0494	8.412	0.4280	7.261	1.471	0.5394	6	0.70	OK	0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0117	8.742	0.6570	7.261	1.471	0.5394	6	0.90	OK	0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0550	< 0.09		7.261	1.471	0.5394	6			5
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0368	2.217	0.5880	4.332	2.832	0.4457	3	-0.75		0
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0515	3.230	0.6490	4.332	2.832	0.4457	3	-0.39		0
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0501	7.550	0.1000	4.332	2.832	0.4457	3	1.14		0
202.99	Acid Soluble Co, Other (ppm)	0519	0.4350	0.0100	3.724	2.820	0.0908	4	-1.17		0
202.99	Acid Soluble Co, Other (ppm)	0520	2.530	0.0200	3.724	2.820	0.0908	4	-0.42		0
202.99	Acid Soluble Co, Other (ppm)	0255	5.081	0.2330	3.724	2.820	0.0908	4	0.48		0
202.99	Acid Soluble Co, Other (ppm)	0220	6.850	0.1000	3.724	2.820	0.0908	4	1.11		0
202.99	Acid Soluble Co, Other (ppm)	0481	< 10		3.724	2.820	0.0908	4			5
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0553	0.0012	0.0001	0.0017	0.0008	0.0006	3	-0.64		0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0498	0.0013	0.0001	0.0017	0.0008	0.0006	3	-0.52		0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0550	0.0027	0.0017	0.0017	0.0008	0.0006	3	1.15		0
221.03	Acid Soluble Cu, AA, 965.09, test portion 2006.03A-C w/dual acid (%)	0526	1.169	0.0000				1			0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0096	0.0008	0.0001	0.0010	0.0002	0.0000	6	-1.50	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0041	0.0010	0.0000	0.0010	0.0002	0.0000	6	-0.20	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0255	0.0010	0.0000	0.0010	0.0002	0.0000	6	-0.20	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0035	0.0011	0.0001	0.0010	0.0002	0.0000	6	0.07	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0483	0.0011	0.0000	0.0010	0.0002	0.0000	6	0.33	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0444	0.0030	0.0000	0.0010	0.0002	0.0000	6	10.25	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0552	0.0500	0.0400	0.0010	0.0002	0.0000	6	255.63	High	1
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	< 0.01		0.0010	0.0002	0.0000	6			5
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0423	0.0010	0.0000				1			0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0546	0.0009	0.0003	0.0011	0.0002	0.0001	5	-1.33		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0086	0.0011	0.0001	0.0011	0.0002	0.0001	5	-0.31		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0527	0.0012	0.0001	0.0011	0.0002	0.0001	5	0.20		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0515	0.0012	0.0000	0.0011	0.0002	0.0001	5	0.46		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0494	0.0013	0.0002	0.0011	0.0002	0.0001	5	0.97		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0117	< 0.0025		0.0011	0.0002	0.0001	5			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0555	< 0.5		0.0011	0.0002	0.0001	5			5
221.99	Acid Soluble Cu, Other (%)	0220	0.0012	0.0001	0.0056	0.0068	0.0125	8	-0.60	OK	0
221.99	Acid Soluble Cu, Other (%)	0368	0.0012	0.0000	0.0056	0.0068	0.0125	8	-0.59	OK	0
221.99	Acid Soluble Cu, Other (%)	0481	0.0012	0.0000	0.0056	0.0068	0.0125	8	-0.59	OK	0
221.99	Acid Soluble Cu, Other (%)	0515	0.0016	0.0001	0.0056	0.0068	0.0125	8	-0.55	OK	0
221.99	Acid Soluble Cu, Other (%)	0523	0.0020	0.0000	0.0056	0.0068	0.0125	8	-0.49	OK	0
221.99	Acid Soluble Cu, Other (%)	0519	0.0100	0.0000	0.0056	0.0068	0.0125	8	0.59	OK	0
221.99	Acid Soluble Cu, Other (%)	0501	0.0120	0.0000	0.0056	0.0068	0.0125	8	0.86	High	0
221.99	Acid Soluble Cu, Other (%)	0405	10.45	0.1000	0.0056	0.0068	0.0125	8	1400.54	High	0
221.99	Acid Soluble Cu, Other (%)	0389	6.810	0.2800	0.0056	0.0068	0.0125	8	912.43	High	1
221.99	Acid Soluble Cu, Other (%)	0558	< 0.3		0.0056	0.0068	0.0125	8			5
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	0553	0.0970	0.0040				1			0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0472	0.0800	0.0000	0.1169	0.0086	0.0046	8	-3.94	Low	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0035	0.1105	0.0150	0.1169	0.0086	0.0046	8	-0.69	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0419	0.1110	0.0000	0.1169	0.0086	0.0046	8	-0.63	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0096	0.1200	0.0000	0.1169	0.0086	0.0046	8	0.33	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0354	0.1200	0.0000	0.1169	0.0086	0.0046	8	0.33	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 (%)	0482	0.1200	0.0000	0.1169	0.0086	0.0046	8	0.33	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0041	0.1250	0.0100	0.1169	0.0086	0.0046	8	0.86	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0483	0.1250	0.0120	0.1169	0.0086	0.0046	8	0.86	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0552	0.2750	0.1700	0.1169	0.0086	0.0046	8	16.87	High	1
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	0423	0.1095	0.0030				2			0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	0028	0.1140	0.0040				2			0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0515	0.1020	0.0020	0.1218	0.0108	0.0039	7	-1.65	Low	0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0546	0.1145	0.0051	0.1218	0.0108	0.0039	7	-0.61	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0117	0.1206	0.0037	0.1218	0.0108	0.0039	7	-0.10	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0086	0.1235	0.0005	0.1218	0.0108	0.0039	7	0.14	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0527	0.1262	0.0004	0.1218	0.0108	0.0039	7	0.37	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0494	0.1273	0.0053	0.1218	0.0108	0.0039	7	0.46	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0421	0.1350	0.0100	0.1218	0.0108	0.0039	7	1.11	OK	0
241.99	Acid Soluble Fe, Other (%)	0389	0.0855	0.0006				2			0
241.99	Acid Soluble Fe, Other (%)	0515	0.1212	0.0215				2			0
241.99	Acid Soluble Fe, Other (%)	0027	< 0.005					2			5
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	0.5780	0.1880				1			0
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid (ppm)	0526	< 0.016					1			5
251.30	Acid Soluble Pb, ICP (ppm)	0389	0.3450	0.0020	0.5095	0.1847	0.1155	4	-0.76		0
251.30	Acid Soluble Pb, ICP (ppm)	0255	0.3575	0.2530	0.5095	0.1847	0.1155	4	-0.70		0
251.30	Acid Soluble Pb, ICP (ppm)	0501	0.6355	0.0070	0.5095	0.1847	0.1155	4	0.58		0
251.30	Acid Soluble Pb, ICP (ppm)	0405	0.7000	0.2000	0.5095	0.1847	0.1155	4	0.87		0
251.30	Acid Soluble Pb, ICP (ppm)	0555	< 0.5		0.5095	0.1847	0.1155	4			5
251.30	Acid Soluble Pb, ICP (ppm)	0096	< 1		0.5095	0.1847	0.1155	4			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0527	0.6868	0.0168				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0515	2.384	3.585				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0117	< 5					2			5
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0368	18.36	9.267				1			0
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0515	0.0000	0.0000				1			4
251.99	Acid Soluble Pb, Other (ppm)	0520	0.3800	0.0000	1.169	1.020	0.0575	4	-0.77		0
251.99	Acid Soluble Pb, Other (ppm)	0481	0.6450	0.0100	1.169	1.020	0.0575	4	-0.51		0
251.99	Acid Soluble Pb, Other (ppm)	0220	1.000	0.2000	1.169	1.020	0.0575	4	-0.17		0
251.99	Acid Soluble Pb, Other (ppm)	0519	2.650	0.0200	1.169	1.020	0.0575	4	1.45		0
261.00	Acid Soluble Mn, AA, Mn2+ only (%)	0553	0.0054	0.0001				1			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0035	0.0037	0.0005				2			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0096	0.0037	0.0000				2			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0354	< 0.01					2			5
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)	0041	0.0040	0.0000				2			0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)	0552	0.0800	0.0000				2			0
261.33	Acid Soluble Mn, ICP, test portion organic 965.09 (%)	0086	0.0037	0.0000				1			0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	0028	0.0035	0.0000				2			0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	0423	0.0039	0.0003				2			0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0546	0.0036	0.0003	0.0038	0.0003	0.0001	3	-1.00		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0527	0.0038	0.0000	0.0038	0.0003	0.0001	3	0.00		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0494	0.0041	0.0001	0.0038	0.0003	0.0001	3	1.00		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0515	0.0000	0.0000	0.0038	0.0003	0.0001	3			4
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0117	< 0.005		0.0038	0.0003	0.0001	3			5

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			Value	Range	Rob Mean	Rob SD	R-bar				
261.99	Acid Soluble Mn, Other (%)	0389	0.0031	0.0000				2			0
261.99	Acid Soluble Mn, Other (%)	0515	0.0031	0.0002				2			0
281.00	Acid Soluble Hg, AA (ppm)	0550	0.0293	0.0093				2			0
281.00	Acid Soluble Hg, AA (ppm)	0035	0.0681	0.0007				2			0
281.00	Acid Soluble Hg, AA (ppm)	0526	< 60					2			5
281.30	Acid Soluble Hg, ICP (ppm)	0405	0.0350	0.0100				2			0
281.30	Acid Soluble Hg, ICP (ppm)	0527	0.1096	0.0047				2			0
281.30	Acid Soluble Hg, ICP (ppm)	0515	0.0000	0.0000				2			4
281.99	Acid Soluble Hg, Other (ppm)	0519	0.0100	0.0000	0.0862	0.0731	0.0053	4	-1.04		0
281.99	Acid Soluble Hg, Other (ppm)	0368	0.0648	0.0012	0.0862	0.0731	0.0053	4	-0.29		0
281.99	Acid Soluble Hg, Other (ppm)	0220	0.0850	0.0100	0.0862	0.0731	0.0053	4	-0.02		0
281.99	Acid Soluble Hg, Other (ppm)	0520	0.1850	0.0100	0.0862	0.0731	0.0053	4	1.35		0
281.99	Acid Soluble Hg, Other (ppm)	0481	< 0.5		0.0862	0.0731	0.0053	4			5
289.00	Acid Soluble Mo, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	0.9485	0.0550				2			0
289.00	Acid Soluble Mo, AA, test portion 2006.03 modified w/dual acid (ppm)	0526	1.678	0.0000				2			0
289.30	Acid Soluble Mo, ICP (ppm)	0433	0.7344	0.0069	5.125	8.331	0.5366	5	-0.46		0
289.30	Acid Soluble Mo, ICP (ppm)	0035	1.340	0.4800	5.125	8.331	0.5366	5	-0.40		0
289.30	Acid Soluble Mo, ICP (ppm)	0405	1.495	0.0900	5.125	8.331	0.5366	5	-0.38		0
289.30	Acid Soluble Mo, ICP (ppm)	0255	2.053	2.096	5.125	8.331	0.5366	5	-0.32		0
289.30	Acid Soluble Mo, ICP (ppm)	0519	20.01	0.0100	5.125	8.331	0.5366	5	1.56		0
289.30	Acid Soluble Mo, ICP (ppm)	0555	< 0.5		5.125	8.331	0.5366	5			5
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0546	1.056	0.3560	1.229	0.2478	0.1525	3	-0.70		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0086	1.119	0.0220	1.229	0.2478	0.1525	3	-0.45		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	1.513	0.0794	1.229	0.2478	0.1525	3	1.15		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0515	0.0000	0.0000	1.229	0.2478	0.1525	3			4
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0117	< 5		1.229	0.2478	0.1525	3			5
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0501	1.569	0.0180	3.179	1.648	1.758	3	-0.98		0
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0515	3.105	3.622	3.179	1.648	1.758	3	-0.04		0
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0368	4.862	1.635	3.179	1.648	1.758	3	1.02		0
289.99	Acid Soluble Mo, Other (ppm)	0520	0.3400	0.0400				2			0
289.99	Acid Soluble Mo, Other (ppm)	0220	1.050	0.3000				2			0
289.99	Acid Soluble Mo, Other (ppm)	0481	< 60					2			5
291.00	Acid Soluble Ni, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 0.6					0			5
291.30	Acid Soluble Ni, ICP (ppm)	0482	2.115	0.2900	2.809	0.6807	0.4738	6	-0.91	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0389	2.324	0.1030	2.809	0.6807	0.4738	6	-0.64	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0035	2.420	1.320	2.809	0.6807	0.4738	6	-0.51	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0444	3.145	0.0300	2.809	0.6807	0.4738	6	0.44	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0405	3.250	0.7000	2.809	0.6807	0.4738	6	0.58	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0096	3.600	0.4000	2.809	0.6807	0.4738	6	1.04	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0555	< 0.5		2.809	0.6807	0.4738	6			5
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0515	1.667	0.5260	3.565	1.696	0.3620	3	-1.12		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0527	4.099	0.3360	3.565	1.696	0.3620	3	0.31		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0494	4.929	0.2240	3.565	1.696	0.3620	3	0.80		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0117	< 5		3.565	1.696	0.3620	3			5
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0515	1.923	2.086				2			0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0368	2.083	0.6823				2			0
291.99	Acid Soluble Ni, Other (ppm)	0520	1.130	0.0200	3.001	1.388	0.3903	4	-1.35		0

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291.99	Acid Soluble Ni, Other (ppm)	0255	2.915	0.3410	3.001	1.388	0.3903	4	-0.06		0
291.99	Acid Soluble Ni, Other (ppm)	0519	3.560	0.0000	3.001	1.388	0.3903	4	0.40		0
291.99	Acid Soluble Ni, Other (ppm)	0220	4.400	1.200	3.001	1.388	0.3903	4	1.01		0
291.99	Acid Soluble Ni, Other (ppm)	0481	< 5		3.001	1.388	0.3903	4			5
301.00	Acid Soluble Se, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	0.0506	0.0000	2.459	3.958	0.0000	3	-0.61		0
301.00	Acid Soluble Se, AA, test portion 2006.03 modified w/dual acid (ppm)	0498	0.3000	0.0000	2.459	3.958	0.0000	3	-0.55		0
301.00	Acid Soluble Se, AA, test portion 2006.03 modified w/dual acid (ppm)	0526	7.027	0.0000	2.459	3.958	0.0000	3	1.15		0
301.30	Acid Soluble Se, ICP (ppm)	0389	3.400	0.1600				2			0
301.30	Acid Soluble Se, ICP (ppm)	0405	4.500	1.000				2			0
301.30	Acid Soluble Se, ICP (ppm)	0555	< 0.5					2			5
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0515	1.766	1.563	3.765	2.545	0.7885	3	-0.79		0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0527	2.900	0.2119	3.765	2.545	0.7885	3	-0.34		0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0494	6.629	0.5909	3.765	2.545	0.7885	3	1.13		0
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0515	3.029	0.0270				1			0
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0368	< 1.2					1			5
301.99	Acid Soluble Se, Other (ppm)	0220	0.7000	0.0000	2.184	1.488	0.3350	4	-1.00		0
301.99	Acid Soluble Se, Other (ppm)	0520	1.110	0.0200	2.184	1.488	0.3350	4	-0.72		0
301.99	Acid Soluble Se, Other (ppm)	0519	3.375	0.0100	2.184	1.488	0.3350	4	0.80		0
301.99	Acid Soluble Se, Other (ppm)	0255	3.552	1.310	2.184	1.488	0.3350	4	0.92		0
311.00	Sodium, AA (%)	0550	1.445	0.2100				1			0
311.30	Sodium, Flame Photometric (%)	0526	3.685	0.1020				1			0
311.32	Sodium, ICP, 2006.03 test portion (%)	0419	1.533	0.0430				1			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0555	1.051	0.0096	1.490	0.1910	0.0398	14	-2.30	Low	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0220	1.210	0.0600	1.490	0.1910	0.0398	14	-1.47	Low	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0444	1.320	0.0000	1.490	0.1910	0.0398	14	-0.89	Low	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0136	1.325	0.1700	1.490	0.1910	0.0398	14	-0.86	Low	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0043	1.485	0.0100	1.490	0.1910	0.0398	14	-0.03	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0546	1.502	0.1101	1.490	0.1910	0.0398	14	0.06	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0034	1.507	0.0030	1.490	0.1910	0.0398	14	0.09	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0086	1.522	0.0180	1.490	0.1910	0.0398	14	0.17	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0035	1.560	0.0200	1.490	0.1910	0.0398	14	0.37	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0423	1.575	0.0100	1.490	0.1910	0.0398	14	0.44	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0494	1.601	0.0579	1.490	0.1910	0.0398	14	0.58	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0117	1.624	0.0010	1.490	0.1910	0.0398	14	0.70	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	1.653	0.0277	1.490	0.1910	0.0398	14	0.85	High	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0486	1.860	0.0600	1.490	0.1910	0.0398	14	1.94	High	0
311.99	Sodium, Other (%)	0520	0.0400	0.0000	1.509	0.1800	0.0357	11	-7.64	Low	0
311.99	Sodium, Other (%)	0255	1.271	0.1140	1.509	0.1800	0.0357	11	-1.24	Low	0
311.99	Sodium, Other (%)	0368	1.444	0.0284	1.509	0.1800	0.0357	11	-0.34	OK	0
311.99	Sodium, Other (%)	0405	1.475	0.0500	1.509	0.1800	0.0357	11	-0.18	OK	0
311.99	Sodium, Other (%)	0481	1.490	0.0200	1.509	0.1800	0.0357	11	-0.10	OK	0
311.99	Sodium, Other (%)	0444	1.500	0.0400	1.509	0.1800	0.0357	11	-0.05	OK	0
311.99	Sodium, Other (%)	0558	1.505	0.0100	1.509	0.1800	0.0357	11	-0.02	OK	0
311.99	Sodium, Other (%)	0482	1.605	0.0700	1.509	0.1800	0.0357	11	0.50	OK	0
311.99	Sodium, Other (%)	0354	1.620	0.0000	1.509	0.1800	0.0357	11	0.58	OK	0
311.99	Sodium, Other (%)	0096	1.695	0.0300	1.509	0.1800	0.0357	11	0.97	High	0
311.99	Sodium, Other (%)	0519	1.755	0.0300	1.509	0.1800	0.0357	11	1.28	High	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				
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0498	0.0170	0.0000	0.0207	0.0040	0.0031	3	-0.91		0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0553	0.0200	0.0002	0.0207	0.0040	0.0031	3	-0.16		0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0550	0.0250	0.0090	0.0207	0.0040	0.0031	3	1.07		0
321.03	Acid Soluble Zn, AA, 965.09, test portion 2006.03A-C w/dual acid (%)	0526	0.0201	0.0000				1			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0255	0.0160	0.0000	0.0191	0.0018	0.0012	11	-1.68	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0433	0.0170	0.0000	0.0191	0.0018	0.0012	11	-1.13	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0444	0.0180	0.0000	0.0191	0.0018	0.0012	11	-0.58	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0483	0.0180	0.0002	0.0191	0.0018	0.0012	11	-0.58	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0035	0.0187	0.0021	0.0191	0.0018	0.0012	11	-0.23	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0096	0.0199	0.0004	0.0191	0.0018	0.0012	11	0.46	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0292	0.0200	0.0000	0.0191	0.0018	0.0012	11	0.51	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0354	0.0200	0.0000	0.0191	0.0018	0.0012	11	0.51	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0472	0.0200	0.0000	0.0191	0.0018	0.0012	11	0.51	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0482	0.0200	0.0000	0.0191	0.0018	0.0012	11	0.51	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0041	0.0250	0.0100	0.0191	0.0018	0.0012	11	3.25	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0552	0.2050	0.3300	0.0191	0.0018	0.0012	11	101.86	High	2
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0028	0.0175	0.0002				2			0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0423	0.0205	0.0010				2			0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0515	0.0170	0.0013	0.0188	0.0018	0.1255	8	-0.95	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0546	0.0174	0.0013	0.0188	0.0018	0.1255	8	-0.75	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0043	0.0178	0.0001	0.0188	0.0018	0.1255	8	-0.55	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0086	0.0184	0.0013	0.0188	0.0018	0.1255	8	-0.25	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0527	0.0186	0.0001	0.0188	0.0018	0.1255	8	-0.15	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0421	0.0200	0.0000	0.0188	0.0018	0.1255	8	0.59	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0555	0.0202	0.0002	0.0188	0.0018	0.1255	8	0.69	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0136	157.5	1.000	0.0188	0.0018	0.1255	8	79480.56	High	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0494	199.7	6.271	0.0188	0.0018	0.1255	8	100760.43	High	1
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0117	< 0.02		0.0188	0.0018	0.1255	8			5
321.99	Acid Soluble Zn, Other (%)	0519	0.0100	0.0000	0.0175	0.0012	0.0020	10	-6.06	Low	0
321.99	Acid Soluble Zn, Other (%)	0368	0.0169	0.0002	0.0175	0.0012	0.0020	10	-0.50	OK	0
321.99	Acid Soluble Zn, Other (%)	0389	0.0170	0.0000	0.0175	0.0012	0.0020	10	-0.42	OK	0
321.99	Acid Soluble Zn, Other (%)	0481	0.0170	0.0000	0.0175	0.0012	0.0020	10	-0.42	OK	0
321.99	Acid Soluble Zn, Other (%)	0515	0.0173	0.0009	0.0175	0.0012	0.0020	10	-0.22	OK	0
321.99	Acid Soluble Zn, Other (%)	0220	0.0175	0.0010	0.0175	0.0012	0.0020	10	-0.02	OK	0
321.99	Acid Soluble Zn, Other (%)	0558	0.0175	0.0010	0.0175	0.0012	0.0020	10	-0.02	OK	0
321.99	Acid Soluble Zn, Other (%)	0501	0.0180	0.0000	0.0175	0.0012	0.0020	10	0.39	OK	0
321.99	Acid Soluble Zn, Other (%)	0523	0.0190	0.0020	0.0175	0.0012	0.0020	10	1.19	OK	0
321.99	Acid Soluble Zn, Other (%)	0027	0.1585	0.0150	0.0175	0.0012	0.0020	10	113.65	High	0
321.99	Acid Soluble Zn, Other (%)	0405	169.0	10.00	0.0175	0.0012	0.0020	10	136217.94	High	2
325.00	Water Soluble Zn, AA (%)	0027	< 0.005					0			5

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.