

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 201012

Grade 0-0-0-4Mg-10S

Statistical Summary

Methods: 103

Labs Reporting: 77

Issue Date : 11/30/2020

Method Code	Analyte & Method Sample # 201012	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
001.99	Ammoniacal N, Other (%)	1		0.0008									
002.99	Nitrate N, Other (%)	1		0.0042									
005.99	Urea N, Other (%)	1		0.0061									
010.60	Total N, Combustion (%)	2	1	0.0655									
010.99	Total N, Other (%)	1		0.1711									
020.50	Total P2O5, ICP (%)	2	2	0.0704	0.0992								
020.99	Total P2O5, Other (%)	1		0.0002									
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	1		0.0300									
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	1		0.0175									
050.99	Soluble K2O, Other (%)	3	2	0.3701	0.4079	0.3701	0.4100	0.4079	0.3605	110.20%	2.32	0.0321	4.65%
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	1		0.5400									
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	2	2	0.1375	0.0248								
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	3	3	0.1080	0.0042	0.1080	0.2054	0.0042	0.0030	3.86%	0.05	0.0012	5.59%
121.00	Acid Soluble Mg, AA, inorganic 965.09 (4%)	13	12	4.052	0.0925	4.051	0.4025	0.1018	0.0367	2.51%	0.59	0.0947	3.24%
121.02	Acid Soluble Mg, AA, 965.09, test portion 2006.03A-C (4%)	1		4.100									
121.03	Acid Soluble Mg, AA, 965.09, test portion 2006.03A-C w/dual acid (4%)	1		4.200									
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	18	18	4.218	0.4384	4.164	0.4082	0.2351	0.0693	5.65%	1.34	0.1086	3.23%
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (4%)	3	3	4.123	0.0761	4.123	0.4061	0.0761	0.0549	1.84%	0.44	0.0577	3.23%
121.33	Acid Soluble Mg, ICP, 2017.02 (4%)	16	15	4.212	0.4604	4.142	0.4071	0.3539	0.1142	8.54%	2.03	0.0891	3.23%
121.99	Acid Soluble Mg, Other (4%)	10	9	4.125	0.3757	4.103	0.4052	0.3759	0.1566	9.16%	2.16	0.0938	3.23%
131.00	Water Soluble Mg, AA (%)	5	5	4.050	0.1490	4.050		0.1490	0.0833	3.68%		0.1000	3.24%
131.30	Water Soluble Mg, ICP (%)	3	3	4.307	0.2150	4.307		0.2150	0.1552	4.99%		0.0277	3.21%
131.70	Water Soluble Mg, Titrimetric (EDTA) (%)	7	7	4.085	0.0951	4.085		0.1079	0.0510	2.64%		0.0711	3.24%
131.99	Water Soluble Mg, Other (%)	3	3	3.983	0.0333	3.983		0.0333	0.0240	0.84%		0.0600	3.25%
143.99	Elemental S, Other (%)	4	4	10.23	1.004	10.23		1.004	0.6273	9.81%		0.1490	2.82%
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	4	4	10.67	0.5761	10.67		0.5761	0.3601	5.40%		0.2400	2.80%
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (10%)	2	2	10.33	0.5303								
146.99	Total S in Liquid, Other (10%)	9	9	10.00	0.1002	9.990	0.6995	0.0820	0.0342	0.82%	0.27	0.0678	2.83%
148.00	Total S, Combustion (10%)	5	5	10.35	0.4495	10.35	0.7175	0.4495	0.2513	4.34%	1.46	0.0700	2.81%
148.01	Total S, Gravimetric - sulfate and elemental (10%)	10	10	10.53	0.4221	10.50	0.7252	0.4126	0.1631	3.93%	1.33	0.1764	2.81%
148.07	Total S, ICP, test portion as in 2017.02 (10%)	14	13	10.71	0.4139	10.71	0.7357	0.3842	0.1332	3.59%	1.22	0.2750	2.80%
148.99	Total S, Other (10%)	11	10	10.39	0.5277	10.43	0.7215	0.5001	0.1977	4.80%	1.62	0.1499	2.81%
149.03	S - HNO3 soluble, Spectrometric (%)	1		10.30									

Method Code	Analyte & Method Sample # 201012	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
149.04	S - HNO3 soluble, ICP (%)	2	2	9.490	1.406								
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	1		0.3000									
151.30	Acid Soluble As, ICP (ppm)	3	2	0.1303	0.0994	0.1303		0.0993	0.0878	76.28%		0.0075	21.74%
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	1		1.000									
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	4	1	0.1395		0.1303		0.0993	0.1242	76.28%		0.2159	21.74%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	1		1.162									
151.99	Acid Soluble As, Other (ppm)	2	0	0.5000									
165.00	Acid Soluble B, Spectrophotometric (%)	1		0.0013									
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	1		0.0100									
165.99	Acid Soluble B, Other (%)	3	3	0.0017	0.0012	0.0017	0.0033	0.0012	0.0009	71.58%	0.86	0.0002	10.47%
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	1		0.0800									
181.30	Acid Soluble Cd, ICP (ppm)	4	2	0.0060	0.0042	0.0060		0.0042	0.0037	70.12%		0.0026	34.59%
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	1		1.000									
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	4	1	0.3036		0.0060		0.0042	0.0052	70.12%		0.2905	34.59%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	1		0.2764									
181.99	Acid Soluble Cd, Other (ppm)	2	0	0.0900									
191.00	Acid Soluble Cr, AA, test portion 2006.03 modified w/dual acid (ppm)	1		0.2500									
191.30	Acid Soluble Cr, ICP (ppm)	3	1	0.0515		0.0060		0.0042	0.0052	70.12%		0.0057	34.59%
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	1		1.000									
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	4	2	4.153	2.795	4.153		2.795	2.471	67.31%		2.012	12.91%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	1		0.6836									
191.99	Acid Soluble Cr, Other (ppm)	2	0	0.1000									
202.30	Acid Soluble Co, ICP (ppm)	2	1	1.978									
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	4	1	2.160		4.153	2.2458	2.795	3.494	67.31%	2.90	0.0000	12.91%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	1		0.3327									
202.99	Acid Soluble Co, Other (ppm)	3	1	0.0065		4.153	2.2458	2.795	3.494	67.31%	2.90	0.0110	12.91%
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	2	0	0.0001									
221.02	Acid Soluble Cu, AA, 965.09, test portion 2006.03A-C (%)	1		0.0020									
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	3	0	0.0000		4.153	0.4203	2.795		67.31%	15.50	0.0000	3.23%
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	2	2	0.0005	0.0005								
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	6	2	0.0003	0.0001	0.0003	0.0050	0.0001	0.0001	23.57%	0.03	0.0001	13.56%
221.99	Acid Soluble Cu, Other (%)	5	2	0.0099	0.0129	0.0099	0.0060	0.0129	0.0114	129.99%	5.01	0.0005	8.01%
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	1		0.0050									
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	2	0	0.0100									
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	1		0.0014									
241.99	Acid Soluble Fe, Other (%)	2	2	0.0066	0.0091								
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid (ppm)	1		7.270									
251.30	Acid Soluble Pb, ICP (ppm)	4	2	0.3549	0.2831	0.3549		0.2831	0.2502	79.77%		0.1217	18.70%
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	3	0	1.270		0.3549		0.2831		79.77%		0.0000	18.70%
251.99	Acid Soluble Pb, Other (ppm)	2	0	0.5000									
261.11	Acid Soluble Mn, AA, total Mn (%)	1		0.0050									
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	2	1	0.0003									
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	2	0	0.0000									
261.99	Acid Soluble Mn, Other (%)	3	3	0.0013	0.0015	0.0013	0.0051	0.0015	0.0011	113.84%	0.67	0.0001	10.87%

Method Code	Analyte & Method Sample # 201012	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
281.00	Acid Soluble Hg, AA (ppm)	3	1	25.25		0.0013		0.0015	0.0018	113.84%		1.300	43.49%
281.30	Acid Soluble Hg, ICP (ppm)	3	1	652.5		0.0013		0.0015	0.0018	113.84%		33.42	43.49%
289.00	Acid Soluble Mo, AA, test portion 2006.03 modified w/dual acid (ppm)	1		1.000									
289.30	Acid Soluble Mo, ICP (ppm)	3	3	4.174	5.949	4.174	2.2522	5.949	4.293	142.52%	6.15	0.3501	12.90%
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	4	1	0.2445		4.174	2.2522	5.949	7.436	142.52%	6.15	0.0986	12.90%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	1		0.3515									
289.99	Acid Soluble Mo, Other (ppm)	2	0	0.6000									
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)	4	1	0.0379		4.174		5.949	7.436	142.52%		0.0137	12.90%
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	4	0	0.0524		4.174		5.949		142.52%		0.1048	12.90%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	1		0.5665									
291.99	Acid Soluble Ni, Other (ppm)	3	1	1.146		4.174		5.949	7.436	142.52%		0.0290	12.90%
301.00	Acid Soluble Se, AA, test portion 2006.03 modified w/dual acid (ppm)	1		0.2550									
301.30	Acid Soluble Se, ICP (ppm)	1		0.0150									
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	2	1	0.2928									
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	1		0.6005									
301.99	Acid Soluble Se, Other (ppm)	4	1	138.5		4.174		5.949	7.436	142.52%		11.00	12.90%
311.00	Sodium, AA (%)	1		0.0135									
311.33	Sodium, ICP, test portion as in 2017.02 (%)	1		0.0103									
311.99	Sodium, Other (%)	2	2	0.0225	0.0106								
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	2	1	0.0950									
321.02	Acid Soluble Zn, AA, 965.09, test portion 2006.03A-C (%)	1		0.0100									
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	3	1	0.0040		0.0225	0.0073	0.0106	0.0133	47.14%	3.41	0.0000	7.08%
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	2	1	0.0003									
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	5	1	0.2854		0.0225	0.0073	0.0106	0.0133	47.14%	3.41	0.3071	7.08%
321.99	Acid Soluble Zn, Other (%)	5	2	1.132	1.561	1.132	0.1182	1.561	1.379	137.92%	30.78	0.8030	3.93%

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.

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STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 201012

Method Precision Report

Grade 0-0-0-4Mg-10S

Issue Date : 11/30/2020

Method Code	Analyte & Method	# Tests Submitted	# Tests Used in Precision Calcs	Mean	SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %r/sd	Reproducibility %RSD	sR/sr
121.00	Acid Soluble Mg, AA, inorganic 965.09 (4%)	13	12	4.052	0.0925	0.0733	0.0798	0.1083	1.81%	1.97%	2.67%	1.358
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	18	16	4.183	0.2284	0.2225	0.0728	0.2341	5.32%	1.74%	5.60%	3.215
121.33	Acid Soluble Mg, ICP, 2017.02 (4%)	16	14	4.133	0.3573	0.3515	0.0904	0.3630	8.51%	2.19%	8.78%	4.014
121.99	Acid Soluble Mg, Other (4%)	10	8	4.108	0.3981	0.3962	0.0542	0.3999	9.64%	1.32%	9.73%	7.372
146.99	Total S in Liquid, Other (10%)	9	8	9.975	0.0595	0.0423	0.0592	0.0728	0.42%	0.59%	0.73%	1.230
148.01	Total S, Gravimetric - sulfate and elemental (10%)	10	10	10.53	0.4221	0.4001	0.1905	0.4431	3.80%	1.81%	4.21%	2.326
148.07	Total S, ICP, test portion as in 2017.02 (10%)	14	12	10.70	0.4293	0.4060	0.1971	0.4514	3.79%	1.84%	4.22%	2.289
148.99	Total S, Other (10%)	11	10	10.39	0.5277	0.5195	0.1309	0.5357	5.00%	1.26%	5.16%	4.092

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

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STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 201012

Grade 0-0-0-4Mg-10S

Lab Values

Methods: 103

Labs Reporting: 77

Issue Date : 11/30/2020

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
001.99	Ammoniacal N, Other (%)	0553	< 0.0008					0			5
002.99	Nitrate N, Other (%)	0553	0.0042	0.0003				1			0
005.99	Urea N, Other (%)	0524	0.0061	0.0002				1			0
010.60	Total N, Combustion (%)	0354	0.0655	0.0250				1			0
010.60	Total N, Combustion (%)	0516	0.0000	0.0000				1			4
010.99	Total N, Other (%)	0524	0.1711	0.0055				1			0
020.50	Total P2O5, ICP (%)	0524	0.0002	0.0002				2			0
020.50	Total P2O5, ICP (%)	0516	0.1405	0.0150				2			0
020.99	Total P2O5, Other (%)	0515	0.0002	0.0000				1			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	0354	0.0300	0.0040				1			0
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	0354	0.0175	0.0030				1			0
050.99	Soluble K2O, Other (%)	0524	0.0817	0.0332				2			0
050.99	Soluble K2O, Other (%)	0516	0.6585	0.0310				2			0
050.99	Soluble K2O, Other (%)	0553	< 0.006					2			5
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	0553	0.5400	0.0000				1			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0096	0.1200	0.0000				2			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0354	0.1550	0.0100				2			0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0025	0.1035	0.0010	0.1080	0.0042	0.0012	3	-1.07		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0419	0.1087	0.0005	0.1080	0.0042	0.0012	3	0.16		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0494	0.1118	0.0021	0.1080	0.0042	0.0012	3	0.91		0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (4%)	0169	3.945	0.0500	4.051	0.1018	0.0947	12	-1.04	OK	0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (4%)	0534	3.945	0.0500	4.051	0.1018	0.0947	12	-1.04	OK	0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (4%)	0040	3.955	0.0300	4.051	0.1018	0.0947	12	-0.94	OK	0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (4%)	0029	3.969	0.0260	4.051	0.1018	0.0947	12	-0.80	OK	0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (4%)	0537	4.000	0.2000	4.051	0.1018	0.0947	12	-0.50	OK	0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (4%)	0535	4.050	0.1000	4.051	0.1018	0.0947	12	-0.01	OK	0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (4%)	0539	4.050	0.1000	4.051	0.1018	0.0947	12	-0.01	OK	0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (4%)	0513	4.095	0.0100	4.051	0.1018	0.0947	12	0.44	OK	0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (4%)	0536	4.100	0.1000	4.051	0.1018	0.0947	12	0.48	OK	0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (4%)	0553	4.120	0.1200	4.051	0.1018	0.0947	12	0.68	OK	0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (4%)	0157	4.175	0.1900	4.051	0.1018	0.0947	12	1.22	OK	0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (4%)	0200	4.220	0.1600	4.051	0.1018	0.0947	12	1.66	OK	0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (4%)	0550	6.850	0.3000	4.051	0.1018	0.0947	12	27.49	High	2
121.02	Acid Soluble Mg, AA, 965.09, test portion 2006.03A-C (4%)	0498	4.100	0.0000				1			0
121.03	Acid Soluble Mg, AA, 965.09, test portion 2006.03A-C w/dual acid (4%)	0422	4.200	0.2000				1			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	0390	3.420	0.3800	4.164	0.2351	0.1086	18	-3.16	Low	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				
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	0096	3.920	0.1600	4.164	0.2351	0.1086	18	-1.04	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	0035	3.935	0.0500	4.164	0.2351	0.1086	18	-0.97	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	0234	4.010	0.0400	4.164	0.2351	0.1086	18	-0.65	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	0371	4.010	0.0800	4.164	0.2351	0.1086	18	-0.65	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	0360	4.015	0.0500	4.164	0.2351	0.1086	18	-0.63	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	0420	4.069	0.1330	4.164	0.2351	0.1086	18	-0.41	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	0291	4.105	0.0100	4.164	0.2351	0.1086	18	-0.25	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	0231	4.130	0.1400	4.164	0.2351	0.1086	18	-0.14	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	0354	4.140	0.0400	4.164	0.2351	0.1086	18	-0.10	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	0377	4.195	0.1100	4.164	0.2351	0.1086	18	0.13	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	0433	4.225	0.0300	4.164	0.2351	0.1086	18	0.26	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	0255	4.257	0.1010	4.164	0.2351	0.1086	18	0.39	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	0444	4.295	0.0300	4.164	0.2351	0.1086	18	0.56	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	0324	4.300	0.2400	4.164	0.2351	0.1086	18	0.58	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	0450	4.500	0.1000	4.164	0.2351	0.1086	18	1.43	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	0472	4.820	0.0200	4.164	0.2351	0.1086	18	2.79	High	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (4%)	0073	5.570	0.2400	4.164	0.2351	0.1086	18	5.98	High	0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (4%)	0095	4.070	0.0200	4.123	0.0761	0.0577	3	-0.69		0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (4%)	0394	4.089	0.0730	4.123	0.0761	0.0577	3	-0.45		0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (4%)	0423	4.210	0.0800	4.123	0.0761	0.0577	3	1.15		0
121.33	Acid Soluble Mg, ICP, 2017.02 (4%)	0561	3.640	0.0200	4.142	0.3539	0.0891	15	-1.42	Low	0
121.33	Acid Soluble Mg, ICP, 2017.02 (4%)	0117	3.801	0.1016	4.142	0.3539	0.0891	15	-0.96	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (4%)	0043	3.830	0.2600	4.142	0.3539	0.0891	15	-0.88	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (4%)	0419	3.930	0.0116	4.142	0.3539	0.0891	15	-0.60	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (4%)	0169	3.945	0.0500	4.142	0.3539	0.0891	15	-0.56	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (4%)	0177	4.001	0.0188	4.142	0.3539	0.0891	15	-0.40	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (4%)	0037	4.058	0.0190	4.142	0.3539	0.0891	15	-0.24	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (4%)	0025	4.090	0.0400	4.142	0.3539	0.0891	15	-0.15	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (4%)	0136	4.150	0.3000	4.142	0.3539	0.0891	15	0.02	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (4%)	0494	4.190	0.1968	4.142	0.3539	0.0891	15	0.13	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (4%)	0421	4.260	0.0240	4.142	0.3539	0.0891	15	0.33	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (4%)	0023	4.350	0.1000	4.142	0.3539	0.0891	15	0.59	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (4%)	0527	4.543	0.0530	4.142	0.3539	0.0891	15	1.13	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (4%)	0486	5.070	0.0600	4.142	0.3539	0.0891	15	2.62	High	0
121.33	Acid Soluble Mg, ICP, 2017.02 (4%)	0515	5.317	0.0812	4.142	0.3539	0.0891	15	3.32	High	0
121.33	Acid Soluble Mg, ICP, 2017.02 (4%)	0106	3.653	0.6998	4.142	0.3539	0.0891	15	-1.38	Low	1
121.99	Acid Soluble Mg, Other (4%)	0506	3.775	0.0500	4.103	0.3759	0.0938	9	-0.81	OK	0
121.99	Acid Soluble Mg, Other (4%)	0524	3.780	0.1494	4.103	0.3759	0.0938	9	-0.79	OK	0
121.99	Acid Soluble Mg, Other (4%)	0516	3.829	0.0180	4.103	0.3759	0.0938	9	-0.67	OK	0
121.99	Acid Soluble Mg, Other (4%)	0558	3.970	0.0000	4.103	0.3759	0.0938	9	-0.33	OK	0
121.99	Acid Soluble Mg, Other (4%)	0481	4.020	0.0000	4.103	0.3759	0.0938	9	-0.20	OK	0
121.99	Acid Soluble Mg, Other (4%)	0547	4.056	0.0380	4.103	0.3759	0.0938	9	-0.12	OK	0
121.99	Acid Soluble Mg, Other (4%)	0027	4.259	0.3990	4.103	0.3759	0.0938	9	0.38	OK	0
121.99	Acid Soluble Mg, Other (4%)	0042	4.575	0.1300	4.103	0.3759	0.0938	9	1.16	High	0
121.99	Acid Soluble Mg, Other (4%)	0405	4.860	0.0600	4.103	0.3759	0.0938	9	1.86	High	0
121.99	Acid Soluble Mg, Other (4%)	0515	5.407	1.287	4.103	0.3759	0.0938	9	3.20	High	1
131.00	Water Soluble Mg, AA (%)	0535	3.950	0.1000	4.050	0.1490	0.1000	5	-0.67		0

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			Value	Range	Rob Mean	Rob SD	R-bar				
131.00	Water Soluble Mg, AA (%)	0539	3.950	0.1000	4.050	0.1490	0.1000	5	-0.67		0
131.00	Water Soluble Mg, AA (%)	0536	3.975	0.0500	4.050	0.1490	0.1000	5	-0.50		0
131.00	Water Soluble Mg, AA (%)	0531	4.075	0.0500	4.050	0.1490	0.1000	5	0.17		0
131.00	Water Soluble Mg, AA (%)	0556	4.300	0.2000	4.050	0.1490	0.1000	5	1.68		0
131.30	Water Soluble Mg, ICP (%)	0444	4.080	0.0400	4.307	0.2150	0.0277	3	-1.06		0
131.30	Water Soluble Mg, ICP (%)	0546	4.334	0.0280	4.307	0.2150	0.0277	3	0.12		0
131.30	Water Soluble Mg, ICP (%)	0027	4.508	0.0150	4.307	0.2150	0.0277	3	0.93		0
131.70	Water Soluble Mg, Titrimetric (EDTA) (%)	0533	3.955	0.1100	4.085	0.1079	0.0711	7	-1.09	NA	0
131.70	Water Soluble Mg, Titrimetric (EDTA) (%)	0535	4.000	0.0000	4.085	0.1079	0.0711	7	-0.71	NA	0
131.70	Water Soluble Mg, Titrimetric (EDTA) (%)	0536	4.050	0.1000	4.085	0.1079	0.0711	7	-0.29	NA	0
131.70	Water Soluble Mg, Titrimetric (EDTA) (%)	0564	4.085	0.1100	4.085	0.1079	0.0711	7	0.00	NA	0
131.70	Water Soluble Mg, Titrimetric (EDTA) (%)	0565	4.105	0.0500	4.085	0.1079	0.0711	7	0.17	NA	0
131.70	Water Soluble Mg, Titrimetric (EDTA) (%)	0518	4.170	0.0800	4.085	0.1079	0.0711	7	0.71	NA	0
131.70	Water Soluble Mg, Titrimetric (EDTA) (%)	0510	4.231	0.0478	4.085	0.1079	0.0711	7	1.22	NA	0
131.99	Water Soluble Mg, Other (%)	0559	3.955	0.0100	3.983	0.0333	0.0600	3	-0.85		0
131.99	Water Soluble Mg, Other (%)	0560	3.975	0.0100	3.983	0.0333	0.0600	3	-0.25		0
131.99	Water Soluble Mg, Other (%)	0532	4.020	0.1600	3.983	0.0333	0.0600	3	1.10		0
143.99	Elemental S, Other (%)	0390	8.875	0.3700	10.23	1.004	0.1490	4	-1.35		0
143.99	Elemental S, Other (%)	0472	10.11	0.0100	10.23	1.004	0.1490	4	-0.13		0
143.99	Elemental S, Other (%)	0291	10.82	0.0100	10.23	1.004	0.1490	4	0.58		0
143.99	Elemental S, Other (%)	0255	11.14	0.2060	10.23	1.004	0.1490	4	0.90		0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0518	10.20	0.2000	10.67	0.5761	0.2400	4	-0.82		0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0106	10.47	0.4900	10.67	0.5761	0.2400	4	-0.36		0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0561	10.51	0.1700	10.67	0.5761	0.2400	4	-0.29		0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0550	11.51	0.1000	10.67	0.5761	0.2400	4	1.46		0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (10%)	0535	9.950	0.1000				2			0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (10%)	0231	10.70	0.0000				2			0
146.99	Total S in Liquid, Other (10%)	0536	9.900	0.1000	9.990	0.0820	0.0678	9	-1.02	OK	0
146.99	Total S in Liquid, Other (10%)	0531	9.915	0.1300	9.990	0.0820	0.0678	9	-0.85	OK	0
146.99	Total S in Liquid, Other (10%)	0532	9.915	0.0500	9.990	0.0820	0.0678	9	-0.85	OK	0
146.99	Total S in Liquid, Other (10%)	0533	9.985	0.0700	9.990	0.0820	0.0678	9	-0.06	OK	0
146.99	Total S in Liquid, Other (10%)	0540	9.990	0.0400	9.990	0.0820	0.0678	9	0.00	OK	0
146.99	Total S in Liquid, Other (10%)	0538	9.995	0.0100	9.990	0.0820	0.0678	9	0.05	OK	0
146.99	Total S in Liquid, Other (10%)	0535	10.05	0.1000	9.990	0.0820	0.0678	9	0.67	OK	0
146.99	Total S in Liquid, Other (10%)	0539	10.05	0.1000	9.990	0.0820	0.0678	9	0.67	OK	0
146.99	Total S in Liquid, Other (10%)	0559	10.23	0.0100	9.990	0.0820	0.0678	9	2.64	OK	0
148.00	Total S, Combustion (10%)	0114	9.870	0.0600	10.35	0.4495	0.0700	5	-1.07		0
148.00	Total S, Combustion (10%)	0049	10.16	0.0200	10.35	0.4495	0.0700	5	-0.42		0
148.00	Total S, Combustion (10%)	0029	10.24	0.0700	10.35	0.4495	0.0700	5	-0.25		0
148.00	Total S, Combustion (10%)	0025	10.41	0.0900	10.35	0.4495	0.0700	5	0.12		0
148.00	Total S, Combustion (10%)	0444	11.08	0.1100	10.35	0.4495	0.0700	5	1.61		0
148.01	Total S, Gravimetric - sulfate and elemental (10%)	0534	10.04	0.0100	10.50	0.4126	0.1764	10	-1.06	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (10%)	0564	10.10	0.1000	10.50	0.4126	0.1764	10	-0.91	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (10%)	0565	10.11	0.0600	10.50	0.4126	0.1764	10	-0.89	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (10%)	0073	10.28	0.4100	10.50	0.4126	0.1764	10	-0.52	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (10%)	0230	10.55	0.5000	10.50	0.4126	0.1764	10	0.10	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (10%)	0157	10.60	0.0000	10.50	0.4126	0.1764	10	0.22	OK	0

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			Value	Range	Rob Mean	Rob SD	R-bar				
148.01	Total S, Gravimetric - sulfate and elemental (10%)	0485	10.65	0.1042	10.50	0.4126	0.1764	10	0.32	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (10%)	0029	10.73	0.0500	10.50	0.4126	0.1764	10	0.50	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (10%)	0481	10.88	0.5300	10.50	0.4126	0.1764	10	0.84	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (10%)	0324	11.40	0.0000	10.50	0.4126	0.1764	10	2.02	High	0
148.07	Total S, ICP, test portion as in 2017.02 (10%)	0117	9.886	0.2931	10.71	0.3842	0.2750	13	-2.16	Low	0
148.07	Total S, ICP, test portion as in 2017.02 (10%)	0444	10.18	0.0900	10.71	0.3842	0.2750	13	-1.40	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (10%)	0037	10.53	0.0840	10.71	0.3842	0.2750	13	-0.49	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (10%)	0177	10.56	0.1634	10.71	0.3842	0.2750	13	-0.40	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (10%)	0546	10.58	0.1741	10.71	0.3842	0.2750	13	-0.35	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (10%)	0040	10.60	0.0000	10.71	0.3842	0.2750	13	-0.30	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (10%)	0421	10.65	0.0119	10.71	0.3842	0.2750	13	-0.17	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (10%)	0043	10.88	1.350	10.71	0.3842	0.2750	13	0.42	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (10%)	0486	10.88	0.1300	10.71	0.3842	0.2750	13	0.42	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (10%)	0515	10.91	0.5540	10.71	0.3842	0.2750	13	0.51	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (10%)	0394	11.00	0.0000	10.71	0.3842	0.2750	13	0.74	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (10%)	0494	11.11	0.0556	10.71	0.3842	0.2750	13	1.02	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (10%)	0527	11.52	0.6691	10.71	0.3842	0.2750	13	2.11	High	0
148.07	Total S, ICP, test portion as in 2017.02 (10%)	0023	15.10	8.800	10.71	0.3842	0.2750	13	11.41	High	1
148.99	Total S, Other (10%)	0450	9.275	0.0300	10.43	0.5001	0.1499	10	-2.15	Low	0
148.99	Total S, Other (10%)	0035	10.03	0.3400	10.43	0.5001	0.1499	10	-0.74	OK	0
148.99	Total S, Other (10%)	0560	10.05	0.1500	10.43	0.5001	0.1499	10	-0.72	OK	0
148.99	Total S, Other (10%)	0516	10.19	0.1990	10.43	0.5001	0.1499	10	-0.45	OK	0
148.99	Total S, Other (10%)	0547	10.39	0.0300	10.43	0.5001	0.1499	10	-0.08	OK	0
148.99	Total S, Other (10%)	0433	10.53	0.0300	10.43	0.5001	0.1499	10	0.18	OK	0
148.99	Total S, Other (10%)	0354	10.75	0.1000	10.43	0.5001	0.1499	10	0.59	OK	0
148.99	Total S, Other (10%)	0371	10.75	0.1000	10.43	0.5001	0.1499	10	0.59	OK	0
148.99	Total S, Other (10%)	0422	10.90	0.2000	10.43	0.5001	0.1499	10	0.87	OK	0
148.99	Total S, Other (10%)	0506	11.05	0.3200	10.43	0.5001	0.1499	10	1.15	OK	0
148.99	Total S, Other (10%)	0136	10.44	0.9300	10.43	0.5001	0.1499	10	0.01	OK	1
149.03	S - HNO3 soluble, Spectrometric (%)	0556	10.30	0.1000				1			0
149.04	S - HNO3 soluble, ICP (%)	0524	8.496	0.1047				2			0
149.04	S - HNO3 soluble, ICP (%)	0423	10.49	0.0300				2			0
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	0.3000	0.0000				1			0
151.30	Acid Soluble As, ICP (ppm)	0255	0.0600	0.0080				2			0
151.30	Acid Soluble As, ICP (ppm)	0524	0.2005	0.0070				2			0
151.30	Acid Soluble As, ICP (ppm)	0450	< 0.5					2			5
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0096	< 1					0			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0515	0.1395	0.2159				1			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0136	< 1					1			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0494	< 1.93					1			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0117	< 10					1			5
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0515	1.162	0.9173				1			0
151.99	Acid Soluble As, Other (ppm)	0481	< 0.5					0			5
151.99	Acid Soluble As, Other (ppm)	0405	< 3					0			5
165.00	Acid Soluble B, Spectrophotometric (%)	0553	0.0013	0.0000				1			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	< 0.01					0			5
165.99	Acid Soluble B, Other (%)	0524	0.0007	0.0000	0.0017	0.0012	0.0002	3	-0.81		0

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165.99	Acid Soluble B, Other (%)	0515	0.0013	0.0006	0.0017	0.0012	0.0002	3	-0.31		0
165.99	Acid Soluble B, Other (%)	0516	0.0030	0.0000	0.0017	0.0012	0.0002	3	1.12		0
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 0.08					0			5
181.30	Acid Soluble Cd, ICP (ppm)	0255	0.0030	0.0000				2			0
181.30	Acid Soluble Cd, ICP (ppm)	0524	0.0089	0.0052				2			0
181.30	Acid Soluble Cd, ICP (ppm)	0394	< 0.111					2			5
181.30	Acid Soluble Cd, ICP (ppm)	0450	< 0.5					2			5
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0096	< 1					0			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0515	0.3036	0.2905				1			0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0494	< 0.54					1			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0136	< 1					1			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0117	< 5					1			5
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0515	0.2764	0.5527				0			4
181.99	Acid Soluble Cd, Other (ppm)	0405	< 0.09					0			5
181.99	Acid Soluble Cd, Other (ppm)	0481	< 0.5					0			5
191.00	Acid Soluble Cr, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 0.25					0			5
191.30	Acid Soluble Cr, ICP (ppm)	0524	0.0515	0.0057				1			0
191.30	Acid Soluble Cr, ICP (ppm)	0394	< 0.071					1			5
191.30	Acid Soluble Cr, ICP (ppm)	0450	< 0.5					1			5
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0096	< 1					0			5
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0515	2.176	3.972				2			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0037	6.129	0.0520				2			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0494	< 1.23					2			5
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0136	< 2.5					2			5
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0515	0.6836	0.9049				1			0
191.99	Acid Soluble Cr, Other (ppm)	0405	< 0.1					0			5
191.99	Acid Soluble Cr, Other (ppm)	0481	< 20					0			5
202.30	Acid Soluble Co, ICP (ppm)	0524	1.978	0.5266				1			0
202.30	Acid Soluble Co, ICP (ppm)	0096	< 1					1			5
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0550	2.160	0.0000				1			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0515	0.0000	0.0000				1			4
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0494	< 0.41					1			5
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0136	< 2.5					1			5
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0515	0.3327	0.4534				1			0
202.99	Acid Soluble Co, Other (ppm)	0255	0.0065	0.0110				1			0
202.99	Acid Soluble Co, Other (ppm)	0405	< 0.3					1			5
202.99	Acid Soluble Co, Other (ppm)	0481	< 10					1			5
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0550	< 0.0001					0			5
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0553	< 0.005					0			5
221.02	Acid Soluble Cu, AA, 965.09, test portion 2006.03A-C (%)	0498	< 0.002					0			5
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0255	0.0000	0.0000				0			4
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0096	< 1					0			5
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0095	0.0001	0.0000				2			0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0394	0.0009	0.0001				2			0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0515	0.0003	0.0001				2			0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0546	0.0004	0.0001				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				
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0106	0.0000	0.0000				2			4
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0494	< 0.0002					2			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0421	< 0.0015					2			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0136	< 5					2			5
221.99	Acid Soluble Cu, Other (%)	0515	0.0008	0.0010				2			0
221.99	Acid Soluble Cu, Other (%)	0516	0.0190	0.0000				2			0
221.99	Acid Soluble Cu, Other (%)	0405	0.0000	0.0000				2			4
221.99	Acid Soluble Cu, Other (%)	0524	0.0001	0.0001				2			4
221.99	Acid Soluble Cu, Other (%)	0481	< 0.001					2			5
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	0553	< 0.005					0			5
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0096	< 0.01					0			5
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0494	< 0.0014					0			5
241.99	Acid Soluble Fe, Other (%)	0524	0.0002	0.0000				2			0
241.99	Acid Soluble Fe, Other (%)	0516	0.0130	0.0020				2			0
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	7.270	0.8800				1			0
251.30	Acid Soluble Pb, ICP (ppm)	0524	0.1547	0.0394				2			0
251.30	Acid Soluble Pb, ICP (ppm)	0255	0.5550	0.2040				2			0
251.30	Acid Soluble Pb, ICP (ppm)	0450	< 0.5					2			5
251.30	Acid Soluble Pb, ICP (ppm)	0394	< 0.556					2			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0494	< 1.27					0			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0136	< 3					0			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0117	< 5					0			5
251.99	Acid Soluble Pb, Other (ppm)	0481	< 0.5					0			5
251.99	Acid Soluble Pb, Other (ppm)	0405	< 2					0			5
261.11	Acid Soluble Mn, AA, total Mn (%)	0553	< 0.005					0			5
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0096	0.0003	0.0000				1			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0354	< 0.01					1			5
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0515	0.0000	0.0000				0			4
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0494	< 0.0004					0			5
261.99	Acid Soluble Mn, Other (%)	0524	0.0003	0.0000	0.0013	0.0015	0.0001	3	-0.68		0
261.99	Acid Soluble Mn, Other (%)	0515	0.0006	0.0002	0.0013	0.0015	0.0001	3	-0.47		0
261.99	Acid Soluble Mn, Other (%)	0516	0.0030	0.0000	0.0013	0.0015	0.0001	3	1.15		0
281.00	Acid Soluble Hg, AA (ppm)	0550	25.25	1.300				1			0
281.00	Acid Soluble Hg, AA (ppm)	0117	< 0.2					1			5
281.00	Acid Soluble Hg, AA (ppm)	0481	< 0.5					1			5
281.30	Acid Soluble Hg, ICP (ppm)	0524	652.5	33.42				1			0
281.30	Acid Soluble Hg, ICP (ppm)	0515	0.0000	0.0000				1			4
281.30	Acid Soluble Hg, ICP (ppm)	0450	< 0.5					1			5
289.00	Acid Soluble Mo, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 1					0			5
289.30	Acid Soluble Mo, ICP (ppm)	0524	0.0961	0.0044	4.174	5.949	0.3501	3	-0.69		0
289.30	Acid Soluble Mo, ICP (ppm)	0255	1.426	1.046	4.174	5.949	0.3501	3	-0.46		0
289.30	Acid Soluble Mo, ICP (ppm)	0516	11.00	0.0000	4.174	5.949	0.3501	3	1.15		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0515	0.2445	0.0986				1			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0106	0.0000	0.0000				1			4
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0494	< 0.34					1			5
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0136	< 5					1			5

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
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289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0515	0.3515	0.7030				0			4
289.99	Acid Soluble Mo, Other (ppm)	0405	< 0.6					0			5
289.99	Acid Soluble Mo, Other (ppm)	0481	< 50					0			5
291.00	Acid Soluble Ni, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 0.6					0			5
291.30	Acid Soluble Ni, ICP (ppm)	0524	0.0379	0.0137				1			0
291.30	Acid Soluble Ni, ICP (ppm)	0394	< 0.318					1			5
291.30	Acid Soluble Ni, ICP (ppm)	0450	< 0.5					1			5
291.30	Acid Soluble Ni, ICP (ppm)	0096	< 1					1			5
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0515	0.0524	0.1048				0			4
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0494	< 0.65					0			5
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0136	< 2.5					0			5
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0117	< 5					0			5
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0515	0.5665	1.133				0			4
291.99	Acid Soluble Ni, Other (ppm)	0255	1.146	0.0290				1			0
291.99	Acid Soluble Ni, Other (ppm)	0405	< 0.6					1			5
291.99	Acid Soluble Ni, Other (ppm)	0481	< 5					1			5
301.00	Acid Soluble Se, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	0.2550	0.0500				1			0
301.30	Acid Soluble Se, ICP (ppm)	0524	0.0150	0.0100				1			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0515	0.2928	0.2318				1			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0494	< 0.95					1			5
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0515	0.6005	1.201				0			4
301.99	Acid Soluble Se, Other (ppm)	0506	138.5	11.00				1			0
301.99	Acid Soluble Se, Other (ppm)	0255	0.0000	0.0000				1			4
301.99	Acid Soluble Se, Other (ppm)	0481	< 0.5					1			5
301.99	Acid Soluble Se, Other (ppm)	0405	< 3					1			5
311.00	Sodium, AA (%)	0553	0.0135	0.0010				1			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0494	0.0103	0.0007				1			0
311.99	Sodium, Other (%)	0096	0.0150	0.0100				2			0
311.99	Sodium, Other (%)	0354	0.0300	0.0000				2			0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0536	0.0950	0.0100				1			0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0553	< 0.002					1			5
321.02	Acid Soluble Zn, AA, 965.09, test portion 2006.03A-C (%)	0498	< 0.01					0			5
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0096	0.0040	0.0000				1			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0255	0.0000	0.0000				1			4
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					1			5
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0394	0.0003	0.0000				1			0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0095	< 0.0013					1			5
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0515	0.2854	0.3071				1			0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0106	0.0000	0.0000				1			4
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0421	< 0.0006					1			5
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0494	< 0.0008					1			5
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0136	< 5					1			5
321.99	Acid Soluble Zn, Other (%)	0516	0.0280	0.0000				2			0
321.99	Acid Soluble Zn, Other (%)	0515	2.235	1.606				2			0
321.99	Acid Soluble Zn, Other (%)	0405	0.0000	0.0000				2			4
321.99	Acid Soluble Zn, Other (%)	0524	0.0002	0.0004				2			4
321.99	Acid Soluble Zn, Other (%)	0481	< 0.001					2			5

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				

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.