

Method Proficiency For All Labs

Magruder Fertilizer PT Program

Methods: 101

Sample # 220311

Regular PT Scheme

Labs Reporting: 98

12-0-0 Liquid

Statistical Summary

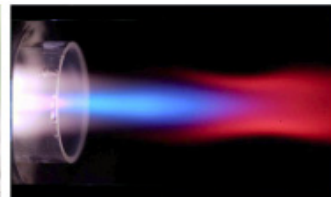
Issue Date : 04/30/2022

Method Code	Analyte & Method Sample # 220311	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
001.10	Ammoniacal N, Magnesium Oxide Method (%)	1		12.04									
001.99	Ammoniacal N, Other (%)	12	12	11.75	1.626	11.84		0.4766	0.1720	4.03%		0.1624	2.76%
002.99	Nitrate N, Other (%)	1		0.1075									
005.99	Urea N, Other (%)	1		0.2205									
009.10	Ammoniacal Plus Nitrate N, Devarda (%)	1		12.30									
010.11	Total N, Modified Comprehensive (12%)	7	7	12.02	0.1760	12.04	0.6104	0.1426	0.0674	1.18%	0.54	0.1062	2.75%
010.12	Total N, Salicylic (12%)	4	4	12.98	1.923	12.98	0.6198	1.923	1.202	14.82%	7.23	0.1425	2.72%
010.17	Total N, Comprehensive (12%)	1		11.90									
010.60	Total N, Combustion (12%)	54	52	12.53	4.640	11.89	0.6083	0.2618	0.0454	2.20%	1.00	0.1344	2.76%
010.99	Total N, Other (12%)	20	19	12.22	0.7975	12.05	0.6105	0.1504	0.0431	1.25%	0.57	0.0587	2.75%
020.50	Total P2O5, ICP (%)	2	2	0.2769	0.3912								
020.99	Total P2O5, Other (%)	1		0.0011									
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	2	1	0.0118	0.0166								
041.50	Direct Available P2O5, ICP (%)	1		0.1000									
050.51	Soluble K2O, ICP (Citrate) (%)	1		0.0045									
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	1		0.0105									
050.99	Soluble K2O, Other (%)	4	1	0.0280	0.0481	0.2769	0.4100	0.3912	0.4890	141.27%	2.22	0.0009	4.85%
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	1		0.0050									
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	1		0.0100									
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	1		0.0029									
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	1		0.0020									
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	1		0.0100									
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	2	1	0.0045	0.0050								
143.99	Elemental S, Other (%)	5	5	33.76	21.06	33.76		21.06	11.77	62.37%		1.290	1.72%
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	2	2	25.84	0.1556								
145.99	Sulfate S, HCl soluble, Other (%)	1		32.40									
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a...	11	10	26.46	0.8529	26.21	1.0000	0.3537	0.1398	1.35%	0.82	0.1005	1.95%
146.99	Total S in Liquid, Other (26%)	3	3	26.21	0.0568	26.21	1.0000	0.0568	0.0410	0.22%	0.13	0.1467	1.95%
148.00	Total S, Combustion (26%)	8	8	25.37	1.726	25.54	1.0000	1.558	0.6886	6.10%	3.63	0.2654	1.98%

Method Code	Analyte & Method Sample # 220311	# 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
148.01	Total S, Gravimetric - sulfate and elemental (26%)	9	9	26.29	0.2288	26.29	1.0000	0.2595	0.1081	0.99%	0.60	0.2599	1.95%
148.07	Total S, ICP, test portion as in 2017.02 (26%)	11	11	25.97	1.553	25.86	1.0000	1.475	0.5561	5.71%	3.44	0.7395	1.97%
148.99	Total S, Other (26%)	16	15	27.35	4.160	26.13	1.0000	1.158	0.3736	4.43%	2.70	0.6263	1.96%
149.04	S - HNO3 soluble, ICP (%)	4	4	22.94	6.020	22.94		6.020	3.762	26.25%		0.3124	2.09%
151.30	Acid Soluble As, ICP (ppm)	3	1	3.334	5.773	22.94		6.020	7.525	26.25%		0.0037	9.98%
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	2	1	1.505	2.114								
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	3	1	1.016	0.9061	22.94		6.020	7.525	26.25%		0.0020	9.98%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	1		0.3000									
151.99	Acid Soluble As, Other (ppm)	3	2	0.3203	0.2301	0.2305		0.2397	0.2119	104.00%		0.0120	19.95%
165.00	Acid Soluble B, Spectrophotometric (%)	1		0.0010									
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	1		0.0100									
165.99	Acid Soluble B, Other (%)	1		0.0000									
181.30	Acid Soluble Cd, ICP (ppm)	4	1	3.880	4.800	0.2305		0.2397	0.2996	104.00%		7.680	19.95%
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	2	0	0.5050	0.7000								
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	4	1	0.3855	0.4821	0.2305		0.2397	0.2996	104.00%		0.0020	19.95%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	2	0	0.0500	0.0707								
181.99	Acid Soluble Cd, Other (ppm)	3	0	0.9987	1.227	0.2305		0.2397		104.00%		0.0000	19.95%
190.00	Water Soluble Cl, Titrimetric (%)	1		18.65									
191.30	Acid Soluble Cr, ICP (ppm)	2	0	5.150	6.859								
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	2	1	1.795	1.124								
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	4	2	3.047	2.741	2.979		3.925	3.469	131.78%		0.2670	13.57%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	1		0.1000									
191.99	Acid Soluble Cr, Other (ppm)	3	1	6.847	11.39	2.979		3.925	4.906	131.78%		0.0000	13.57%
202.30	Acid Soluble Co, ICP (ppm)	2	1	5.071	6.971								
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	2	1	0.5100	0.6930								
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	4	2	1.541	2.326	0.3771	1.1131	0.5220	0.4613	138.42%	1.09	0.1352	18.53%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	1		0.1000									
202.99	Acid Soluble Co, Other (ppm)	3	1	19.97	19.83	0.3771	1.1131	0.5220	0.6524	138.42%	1.09	13.48	18.53%
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	1		0.0050									
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	2	0	0.0050	0.0071								
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	3	2	0.1204	0.2075	0.1805	0.0231	0.2539	0.2244	140.64%	25.66	0.0000	5.18%
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	5	2	0.0003	0.0002	0.0003	0.0050	0.0002	0.0002	90.00%	0.11	0.0001	13.74%
221.99	Acid Soluble Cu, Other (%)	4	2	0.0915	0.1820	0.1825	0.0232	0.2574	0.2275	141.07%	25.80	0.0229	5.17%
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	1		0.0050									
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	1		0.0100									
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	2	1	0.0003	0.0004								
241.99	Acid Soluble Fe, Other (%)	1		0.0000									
251.30	Acid Soluble Pb, ICP (ppm)	4	1	3.052	4.680	0.1825		0.2574	0.3218	141.07%		0.0387	20.66%
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	2	1	2.035	2.779								
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	4	1	1.069	1.420	0.1825		0.2574	0.3218	141.07%		0.0020	20.66%

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251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	1		0.6000									
251.99	Acid Soluble Pb, Other (ppm)	3	1	0.6520	0.5226	0.1825		0.2574	0.3218	141.07%		0.2300	20.66%
261.00	Acid Soluble Mn, AA, Mn2+ only (%)	1		0.0050									
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	1		0.0100									
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	2	0	0.0002	0.0003								
281.00	Acid Soluble Hg, AA (ppm)	1		0.2000									
281.30	Acid Soluble Hg, ICP (ppm)	3	1	0.6733	1.149	0.1825		0.2574	0.3218	141.07%		0.0000	20.66%
281.99	Acid Soluble Hg, Other (ppm)	5	4	0.1368	0.2170	0.0460		0.0883	0.0552	192.03%		0.0012	22.00%
289.30	Acid Soluble Mo, ICP (ppm)	1		8.125									
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	2	1	0.5450	0.6435								
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	4	2	2.351	2.048	0.9518	1.2855	1.275	1.127	133.99%	2.31	0.8575	16.12%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	1		0.2000									
289.99	Acid Soluble Mo, Other (ppm)	2	1	50.88	69.47								
291.30	Acid Soluble Ni, ICP (ppm)	2	1	5.313	6.629								
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	2	1	1.245	0.3465								
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	4	1	1.456	2.378	0.9518		1.275	1.594	133.99%		0.0040	16.12%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	1		0.2000									
291.99	Acid Soluble Ni, Other (ppm)	4	2	15.47	24.52	25.89		36.33	32.11	140.33%		5.875	9.80%
301.30	Acid Soluble Se, ICP (ppm)	2	1	5.015	7.050								
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	2	1	5.005	7.064								
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	4	3	1.282	0.8405	1.393		0.9931	0.7167	71.32%		0.3763	15.22%
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	1		1.100									
301.99	Acid Soluble Se, Other (ppm)	4	1	0.1980	0.2291	1.393		0.9931	1.241	71.32%		0.1000	15.22%
311.00	Sodium, AA (%)	1		0.0060									
311.33	Sodium, ICP, test portion as in 2017.02 (%)	1		0.0132									
311.99	Sodium, Other (%)	1		0.0400									
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	1		0.0020									
321.02	Acid Soluble Zn, AA, 965.09, test portion 2006.03A-C (%)	1		1.280									
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	3	2	0.0047	0.0046	0.0021	0.0052	0.0006	0.0005	28.97%	0.27	0.0008	10.13%
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	2	1	0.0005	0.0003								
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	5	1	0.0003	0.0004	0.0021	0.0052	0.0006	0.0008	28.97%	0.27	0.0000	10.13%
321.99	Acid Soluble Zn, Other (%)	3	1	0.1794	0.3088	0.0021	0.0052	0.0006	0.0008	28.97%	0.27	0.3200	10.13%

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. The Horwitz %RSD is calculated using the Thompson Modification, Analyst,2000,125,385-386.



Method Proficiency For All Labs

Magruder Fertilizer PT Program

Sample # 220311

Regular PT Scheme

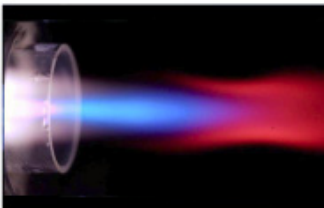
12-0-0 Liquid

Method Precision Report

Issue Date : 04/30/2022

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
001.99	Ammoniacal N, Other (%)	12	10	12.12	1.052	1.048	0.1300	1.056	8.65%	1.07%	8.71%	8.126
010.11	Total N, Modified Comprehensive (12%)	7	6	12.08	0.0911	0.0732	0.0768	0.1061	0.61%	0.64%	0.88%	1.381
010.60	Total N, Combustion (12%)	54	50	11.91	0.3060	0.2938	0.1209	0.3177	2.47%	1.01%	2.67%	2.628
010.99	Total N, Other (12%)	20	19	12.05	0.2116	0.2085	0.0509	0.2146	1.73%	0.42%	1.78%	4.216
143.99	Elemental S, Other (%)	5	5	33.76	21.06	21.04	1.128	21.07	62.32%	3.34%	62.41%	18.67
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, and el	11	10	26.22	0.3297	0.3245	0.0826	0.3349	1.24%	0.32%	1.28%	4.053
148.00	Total S, Combustion (26%)	8	8	25.37	1.726	1.717	0.2584	1.736	6.77%	1.02%	6.84%	6.717
148.01	Total S, Gravimetric - sulfate and elemental (26%)	9	9	26.29	0.2288	0.1592	0.2325	0.2817	0.61%	0.88%	1.07%	1.212
148.07	Total S, ICP, test portion as in 2017.02 (26%)	11	11	25.97	1.553	1.474	0.6931	1.629	5.67%	2.67%	6.27%	2.350
148.99	Total S, Other (26%)	16	14	26.63	3.155	3.133	0.5230	3.176	11.76%	1.96%	11.93%	6.073

Notes: Precision data calculated when 5 or more Tests included.



Method Proficiency For All Labs

Magruder Fertilizer PT Program

Methods: 101

Sample # 220311

Regular PT Scheme

Labs Reporting: 98

12-0-0 Liquid

Lab Values

Issue Date : 04/30/2022

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 (%)	0580	12.04	0.0000				1			0
001.99	Ammoniacal N, Other (%)	0536	7.560	0.0400	11.84	0.4766	0.1624	12	-8.98	NA	0
001.99	Ammoniacal N, Other (%)	0553	11.15	0.3000	11.84	0.4766	0.1624	12	-1.45	NA	0
001.99	Ammoniacal N, Other (%)	0587	11.47	0.0100	11.84	0.4766	0.1624	12	-0.79	NA	0
001.99	Ammoniacal N, Other (%)	0394	11.73	0.0460	11.84	0.4766	0.1624	12	-0.24	NA	0
001.99	Ammoniacal N, Other (%)	0027	11.87	0.0100	11.84	0.4766	0.1624	12	0.05	NA	0
001.99	Ammoniacal N, Other (%)	0549	11.91	0.0400	11.84	0.4766	0.1624	12	0.15	NA	0
001.99	Ammoniacal N, Other (%)	0569	11.95	0.1300	11.84	0.4766	0.1624	12	0.22	NA	0
001.99	Ammoniacal N, Other (%)	0397	11.98	0.0229	11.84	0.4766	0.1624	12	0.28	NA	0
001.99	Ammoniacal N, Other (%)	0513	12.02	0.0400	11.84	0.4766	0.1624	12	0.38	NA	0
001.99	Ammoniacal N, Other (%)	0524	12.18	0.7100	11.84	0.4766	0.1624	12	0.70	NA	0
001.99	Ammoniacal N, Other (%)	0562	12.18	0.1500	11.84	0.4766	0.1624	12	0.70	NA	0
001.99	Ammoniacal N, Other (%)	0577	15.00	0.4500	11.84	0.4766	0.1624	12	6.62	NA	0
002.99	Nitrate N, Other (%)	0553	0.1075	0.0030				1			0
005.99	Urea N, Other (%)	0524	0.2205	0.0470				1			0
009.10	Ammoniacal Plus Nitrate N, Devarda (%)	0587	12.30	0.1600				1			0
010.11	Total N, Modified Comprehensive (12%)	0578	11.67	0.1712	12.04	0.1426	0.1062	7	-2.37	OK	0
010.11	Total N, Modified Comprehensive (12%)	0531	11.95	0.1000	12.04	0.1426	0.1062	7	-0.60	OK	0
010.11	Total N, Modified Comprehensive (12%)	0600	12.03	0.0400	12.04	0.1426	0.1062	7	-0.09	OK	0
010.11	Total N, Modified Comprehensive (12%)	0535	12.05	0.1000	12.04	0.1426	0.1062	7	0.03	OK	0
010.11	Total N, Modified Comprehensive (12%)	0548	12.09	0.0800	12.04	0.1426	0.1062	7	0.29	OK	0
010.11	Total N, Modified Comprehensive (12%)	0510	12.16	0.0525	12.04	0.1426	0.1062	7	0.74	OK	0
010.11	Total N, Modified Comprehensive (12%)	0539	12.20	0.2000	12.04	0.1426	0.1062	7	0.98	OK	0
010.12	Total N, Salicylic (12%)	0481	11.82	0.1700	12.98	1.923	0.1425	4	-0.60		0
010.12	Total N, Salicylic (12%)	0602	12.01	0.1000	12.98	1.923	0.1425	4	-0.50		0
010.12	Total N, Salicylic (12%)	0580	12.23	0.0000	12.98	1.923	0.1425	4	-0.39		0
010.12	Total N, Salicylic (12%)	0568	15.85	0.3000	12.98	1.923	0.1425	4	1.49		0
010.17	Total N, Comprehensive (12%)	0211	11.90	0.1000				1			0
010.60	Total N, Combustion (12%)	0521	11.01	0.0000	11.89	0.2618	0.1344	52	-3.33	Low	0
010.60	Total N, Combustion (12%)	0389	11.23	0.5800	11.89	0.2618	0.1344	52	-2.50	Low	0
010.60	Total N, Combustion (12%)	0042	11.25	0.1000	11.89	0.2618	0.1344	52	-2.43	Low	0
010.60	Total N, Combustion (12%)	0185	11.51	0.0100	11.89	0.2618	0.1344	52	-1.45	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%)	0523	11.51	0.0100	11.89	0.2618	0.1344	52	-1.45	OK	0
010.60	Total N, Combustion (12%)	0255	11.51	0.6580	11.89	0.2618	0.1344	52	-1.42	OK	0
010.60	Total N, Combustion (12%)	0423	11.59	0.0300	11.89	0.2618	0.1344	52	-1.15	OK	0
010.60	Total N, Combustion (12%)	0472	11.62	0.0100	11.89	0.2618	0.1344	52	-1.03	OK	0
010.60	Total N, Combustion (12%)	0325	11.63	0.4200	11.89	0.2618	0.1344	52	-0.98	OK	0
010.60	Total N, Combustion (12%)	0588	11.64	0.0300	11.89	0.2618	0.1344	52	-0.96	OK	0
010.60	Total N, Combustion (12%)	0494	11.64	0.2200	11.89	0.2618	0.1344	52	-0.94	OK	0
010.60	Total N, Combustion (12%)	0177	11.66	0.2270	11.89	0.2618	0.1344	52	-0.84	OK	0
010.60	Total N, Combustion (12%)	0037	11.71	0.0200	11.89	0.2618	0.1344	52	-0.66	OK	0
010.60	Total N, Combustion (12%)	0527	11.74	0.0263	11.89	0.2618	0.1344	52	-0.54	OK	0
010.60	Total N, Combustion (12%)	0452	11.76	0.0400	11.89	0.2618	0.1344	52	-0.48	OK	0
010.60	Total N, Combustion (12%)	0231	11.77	0.0100	11.89	0.2618	0.1344	52	-0.46	OK	0
010.60	Total N, Combustion (12%)	0055	11.79	0.0100	11.89	0.2618	0.1344	52	-0.38	OK	0
010.60	Total N, Combustion (12%)	0106	11.82	0.1500	11.89	0.2618	0.1344	52	-0.27	OK	0
010.60	Total N, Combustion (12%)	0027	11.82	0.0000	11.89	0.2618	0.1344	52	-0.25	OK	0
010.60	Total N, Combustion (12%)	0422	11.82	0.0600	11.89	0.2618	0.1344	52	-0.25	OK	0
010.60	Total N, Combustion (12%)	0043	11.84	0.1200	11.89	0.2618	0.1344	52	-0.17	OK	0
010.60	Total N, Combustion (12%)	0292	11.85	0.0100	11.89	0.2618	0.1344	52	-0.15	OK	0
010.60	Total N, Combustion (12%)	0260	11.85	0.5000	11.89	0.2618	0.1344	52	-0.14	OK	0
010.60	Total N, Combustion (12%)	0095	11.86	0.2300	11.89	0.2618	0.1344	52	-0.12	OK	0
010.60	Total N, Combustion (12%)	0547	11.89	0.1100	11.89	0.2618	0.1344	52	0.00	OK	0
010.60	Total N, Combustion (12%)	0040	11.90	0.0000	11.89	0.2618	0.1344	52	0.06	OK	0
010.60	Total N, Combustion (12%)	0324	11.90	0.0000	11.89	0.2618	0.1344	52	0.06	OK	0
010.60	Total N, Combustion (12%)	0034	11.91	0.0500	11.89	0.2618	0.1344	52	0.07	OK	0
010.60	Total N, Combustion (12%)	0234	11.92	0.1000	11.89	0.2618	0.1344	52	0.13	OK	0
010.60	Total N, Combustion (12%)	0402	11.93	0.1550	11.89	0.2618	0.1344	52	0.17	OK	0
010.60	Total N, Combustion (12%)	0451	11.94	0.2400	11.89	0.2618	0.1344	52	0.21	OK	0
010.60	Total N, Combustion (12%)	0390	11.95	0.0960	11.89	0.2618	0.1344	52	0.24	OK	0
010.60	Total N, Combustion (12%)	0516	11.95	0.1000	11.89	0.2618	0.1344	52	0.25	OK	0
010.60	Total N, Combustion (12%)	0354	12.00	0.0000	11.89	0.2618	0.1344	52	0.44	OK	0
010.60	Total N, Combustion (12%)	0481	12.01	0.4200	11.89	0.2618	0.1344	52	0.48	OK	0
010.60	Total N, Combustion (12%)	0405	12.02	0.0100	11.89	0.2618	0.1344	52	0.49	OK	0
010.60	Total N, Combustion (12%)	0086	12.02	0.1470	11.89	0.2618	0.1344	52	0.50	OK	0
010.60	Total N, Combustion (12%)	0356	12.03	0.0030	11.89	0.2618	0.1344	52	0.57	OK	0
010.60	Total N, Combustion (12%)	0025	12.04	0.0300	11.89	0.2618	0.1344	52	0.57	OK	0
010.60	Total N, Combustion (12%)	0230	12.05	0.1000	11.89	0.2618	0.1344	52	0.63	OK	0
010.60	Total N, Combustion (12%)	0073	12.08	0.1500	11.89	0.2618	0.1344	52	0.72	OK	0
010.60	Total N, Combustion (12%)	0501	12.08	0.1500	11.89	0.2618	0.1344	52	0.72	OK	0
010.60	Total N, Combustion (12%)	0029	12.09	0.1500	11.89	0.2618	0.1344	52	0.76	OK	0
010.60	Total N, Combustion (12%)	0360	12.09	0.3300	11.89	0.2618	0.1344	52	0.76	OK	0
010.60	Total N, Combustion (12%)	0035	12.15	0.1000	11.89	0.2618	0.1344	52	1.01	OK	0
010.60	Total N, Combustion (12%)	0444	12.15	0.1000	11.89	0.2618	0.1344	52	1.01	OK	0
010.60	Total N, Combustion (12%)	0049	12.21	0.4600	11.89	0.2618	0.1344	52	1.24	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%)	0136	12.31	0.2500	11.89	0.2618	0.1344	52	1.60	OK	0
010.60	Total N, Combustion (12%)	0421	12.35	0.0400	11.89	0.2618	0.1344	52	1.77	OK	0
010.60	Total N, Combustion (12%)	0561	12.44	0.1100	11.89	0.2618	0.1344	52	2.10	OK	0
010.60	Total N, Combustion (12%)	0041	12.66	0.0400	11.89	0.2618	0.1344	52	2.96	High	0
010.60	Total N, Combustion (12%)	0368	12.79	0.0770	11.89	0.2618	0.1344	52	3.45	High	0
010.60	Total N, Combustion (12%)	0307	12.30	1.000	11.89	0.2618	0.1344	52	1.58	OK	1
010.60	Total N, Combustion (12%)	0102	45.91	0.1400	11.89	0.2618	0.1344	52	129.95	High	2
010.99	Total N, Other (12%)	0524	11.58	0.0181	12.05	0.1504	0.0587	19	-3.14	OK	0
010.99	Total N, Other (12%)	0394	11.73	0.0460	12.05	0.1504	0.0587	19	-2.16	OK	0
010.99	Total N, Other (12%)	0476	11.86	0.0566	12.05	0.1504	0.0587	19	-1.24	OK	0
010.99	Total N, Other (12%)	0575	11.91	0.1140	12.05	0.1504	0.0587	19	-0.91	OK	0
010.99	Total N, Other (12%)	0600	11.99	0.1400	12.05	0.1504	0.0587	19	-0.40	OK	0
010.99	Total N, Other (12%)	0560	12.00	0.0300	12.05	0.1504	0.0587	19	-0.37	OK	0
010.99	Total N, Other (12%)	0531	12.00	0.0000	12.05	0.1504	0.0587	19	-0.33	OK	0
010.99	Total N, Other (12%)	0602	12.02	0.0900	12.05	0.1504	0.0587	19	-0.23	OK	0
010.99	Total N, Other (12%)	0536	12.03	0.0600	12.05	0.1504	0.0587	19	-0.13	OK	0
010.99	Total N, Other (12%)	0563	12.04	0.0400	12.05	0.1504	0.0587	19	-0.07	OK	0
010.99	Total N, Other (12%)	0534	12.05	0.0900	12.05	0.1504	0.0587	19	-0.03	OK	0
010.99	Total N, Other (12%)	0532	12.12	0.0900	12.05	0.1504	0.0587	19	0.43	OK	0
010.99	Total N, Other (12%)	0559	12.12	0.0200	12.05	0.1504	0.0587	19	0.46	OK	0
010.99	Total N, Other (12%)	0551	12.13	0.0200	12.05	0.1504	0.0587	19	0.53	OK	0
010.99	Total N, Other (12%)	0556	12.15	0.0200	12.05	0.1504	0.0587	19	0.66	OK	0
010.99	Total N, Other (12%)	0564	12.20	0.0300	12.05	0.1504	0.0587	19	0.96	OK	0
010.99	Total N, Other (12%)	0565	12.20	0.0400	12.05	0.1504	0.0587	19	1.00	OK	0
010.99	Total N, Other (12%)	0562	12.23	0.1500	12.05	0.1504	0.0587	19	1.16	OK	0
010.99	Total N, Other (12%)	0545	12.61	0.0600	12.05	0.1504	0.0587	19	3.72	OK	0
010.99	Total N, Other (12%)	0529	15.50	0.0700	12.05	0.1504	0.0587	19	22.90	High	2
020.50	Total P2O5, ICP (%)	0524	0.0003	0.0004				2			0
020.50	Total P2O5, ICP (%)	0516	0.5535	0.2910				2			0
020.99	Total P2O5, Other (%)	0515	0.0011	0.0001				1			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	0354	0.0235	0.0110				1			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	0568	0.0000	0.0000				1			4
041.50	Direct Available P2O5, ICP (%)	0325	< 0.1					0			5
050.51	Soluble K2O, ICP (Citrate) (%)	0568	0.0045	0.0010				1			0
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	0354	0.0105	0.0030				1			0
050.99	Soluble K2O, Other (%)	0524	0.0062	0.0009				1			0
050.99	Soluble K2O, Other (%)	0516	0.0000	0.0000				1			4
050.99	Soluble K2O, Other (%)	0553	< 0.006					1			5
050.99	Soluble K2O, Other (%)	0325	< 0.1					1			5
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	0553	< 0.005					0			5
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0494	< 0.0029					0			5
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	0553	< 0.002					0			5

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121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0515	0.0080	0.0002				1			0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0494	< 0.001					1			5
143.99	Elemental S, Other (%)	0389	13.03	1.470	33.76	21.06	1.290	5	-0.98		0
143.99	Elemental S, Other (%)	0368	23.33	0.2097	33.76	21.06	1.290	5	-0.50		0
143.99	Elemental S, Other (%)	0255	27.15	0.6200	33.76	21.06	1.290	5	-0.31		0
143.99	Elemental S, Other (%)	0325	37.20	2.950	33.76	21.06	1.290	5	0.16		0
143.99	Elemental S, Other (%)	0390	68.10	1.200	33.76	21.06	1.290	5	1.63		0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0027	25.73	0.5800				2			0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0561	25.95	0.3200				2			0
145.99	Sulfate S, HCl soluble, Other (%)	0444	32.40	0.5400				1			0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (	0549	25.83	0.1900	26.21	0.3537	0.1005	10	-1.01	OK	0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (	0211	25.88	0.2000	26.21	0.3537	0.1005	10	-0.87	OK	0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (	0569	25.92	0.1300	26.21	0.3537	0.1005	10	-0.77	OK	0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (	0600	25.98	0.0800	26.21	0.3537	0.1005	10	-0.60	OK	0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (	0548	26.14	0.0900	26.21	0.3537	0.1005	10	-0.20	OK	0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (	0578	26.29	0.1200	26.21	0.3537	0.1005	10	0.21	OK	0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (	0481	26.33	0.0400	26.21	0.3537	0.1005	10	0.32	OK	0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (	0231	26.45	0.1000	26.21	0.3537	0.1005	10	0.63	OK	0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (	0397	26.55	0.0553	26.21	0.3537	0.1005	10	0.89	OK	0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (	0580	26.83	0.0000	26.21	0.3537	0.1005	10	1.63	OK	0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (	0324	28.85	1.100	26.21	0.3537	0.1005	10	6.94	High	1
146.99	Total S in Liquid, Other (26%)	0564	26.17	0.0400	26.21	0.0568	0.1467	3	-0.70		0
146.99	Total S in Liquid, Other (26%)	0565	26.19	0.0700	26.21	0.0568	0.1467	3	-0.44		0
146.99	Total S in Liquid, Other (26%)	0577	26.28	0.3300	26.21	0.0568	0.1467	3	1.14		0
148.00	Total S, Combustion (26%)	0131	21.89	0.3500	25.54	1.558	0.2654	8	-2.14	Low	0
148.00	Total S, Combustion (26%)	0114	23.85	0.1530	25.54	1.558	0.2654	8	-0.99	Low	0
148.00	Total S, Combustion (26%)	0451	25.40	0.8000	25.54	1.558	0.2654	8	-0.08	OK	0
148.00	Total S, Combustion (26%)	0029	25.90	0.1200	25.54	1.558	0.2654	8	0.21	OK	0
148.00	Total S, Combustion (26%)	0049	25.95	0.0900	25.54	1.558	0.2654	8	0.24	OK	0
148.00	Total S, Combustion (26%)	0157	25.95	0.1000	25.54	1.558	0.2654	8	0.24	OK	0
148.00	Total S, Combustion (26%)	0547	26.89	0.0100	25.54	1.558	0.2654	8	0.79	High	0
148.00	Total S, Combustion (26%)	0136	27.15	0.5000	25.54	1.558	0.2654	8	0.95	High	0
148.01	Total S, Gravimetric - sulfate and elemental (26%)	0556	26.00	0.2000	26.29	0.2595	0.2599	9	-1.03	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (26%)	0157	26.05	0.3000	26.29	0.2595	0.2599	9	-0.85	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (26%)	0230	26.10	0.4000	26.29	0.2595	0.2599	9	-0.67	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (26%)	0534	26.12	0.0200	26.29	0.2595	0.2599	9	-0.60	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (26%)	0117	26.34	0.1789	26.29	0.2595	0.2599	9	0.19	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (26%)	0029	26.40	0.1100	26.29	0.2595	0.2599	9	0.38	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (26%)	0485	26.42	0.2800	26.29	0.2595	0.2599	9	0.47	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (26%)	0073	26.54	0.7400	26.29	0.2595	0.2599	9	0.89	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (26%)	0055	26.64	0.1100	26.29	0.2595	0.2599	9	1.23	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (26%)	0472	23.79	0.1100	25.86	1.475	0.7395	11	-1.31	Low	0

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148.07	Total S, ICP, test portion as in 2017.02 (26%)	0494	24.16	1.147	25.86	1.475	0.7395	11	-1.08	Low	0
148.07	Total S, ICP, test portion as in 2017.02 (26%)	0421	24.30	1.000	25.86	1.475	0.7395	11	-0.99	Low	0
148.07	Total S, ICP, test portion as in 2017.02 (26%)	0106	25.84	2.090	25.86	1.475	0.7395	11	-0.01	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (26%)	0037	25.99	0.4300	25.86	1.475	0.7395	11	0.08	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (26%)	0527	26.05	0.0926	25.86	1.475	0.7395	11	0.12	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (26%)	0040	26.10	0.4000	25.86	1.475	0.7395	11	0.15	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (26%)	0102	26.56	0.6800	25.86	1.475	0.7395	11	0.45	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (26%)	0177	26.59	0.5003	25.86	1.475	0.7395	11	0.47	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (26%)	0292	26.99	0.0100	25.86	1.475	0.7395	11	0.72	High	0
148.07	Total S, ICP, test portion as in 2017.02 (26%)	0515	29.36	1.675	25.86	1.475	0.7395	11	2.22	High	0
148.99	Total S, Other (26%)	0307	22.70	2.400	26.13	1.158	0.6263	15	-2.97	Low	0
148.99	Total S, Other (26%)	0433	24.64	0.3800	26.13	1.158	0.6263	15	-1.29	Low	0
148.99	Total S, Other (26%)	0521	25.25	0.0000	26.13	1.158	0.6263	15	-0.77	OK	0
148.99	Total S, Other (26%)	0516	25.26	0.7140	26.13	1.158	0.6263	15	-0.75	OK	0
148.99	Total S, Other (26%)	0523	25.60	0.4900	26.13	1.158	0.6263	15	-0.46	OK	0
148.99	Total S, Other (26%)	0560	26.01	0.0120	26.13	1.158	0.6263	15	-0.10	OK	0
148.99	Total S, Other (26%)	0562	26.08	0.2500	26.13	1.158	0.6263	15	-0.05	OK	0
148.99	Total S, Other (26%)	0452	26.12	0.0700	26.13	1.158	0.6263	15	-0.02	OK	0
148.99	Total S, Other (26%)	0575	26.12	0.6900	26.13	1.158	0.6263	15	-0.02	OK	0
148.99	Total S, Other (26%)	0422	26.35	3.000	26.13	1.158	0.6263	15	0.19	OK	0
148.99	Total S, Other (26%)	0501	26.40	0.1800	26.13	1.158	0.6263	15	0.23	OK	0
148.99	Total S, Other (26%)	0043	26.91	0.3000	26.13	1.158	0.6263	15	0.67	OK	0
148.99	Total S, Other (26%)	0035	27.40	0.2000	26.13	1.158	0.6263	15	1.09	High	0
148.99	Total S, Other (26%)	0354	27.60	0.2000	26.13	1.158	0.6263	15	1.27	High	0
148.99	Total S, Other (26%)	0072	36.74	0.5090	26.13	1.158	0.6263	15	9.16	High	0
148.99	Total S, Other (26%)	0025	38.39	5.048	26.13	1.158	0.6263	15	10.59	High	1
149.04	S - HNO3 soluble, ICP (%)	0588	13.99	0.0500	22.94	6.020	0.3124	4	-1.49		0
149.04	S - HNO3 soluble, ICP (%)	0524	24.97	0.6895	22.94	6.020	0.3124	4	0.34		0
149.04	S - HNO3 soluble, ICP (%)	0423	25.90	0.1100	22.94	6.020	0.3124	4	0.49		0
149.04	S - HNO3 soluble, ICP (%)	0260	26.90	0.4000	22.94	6.020	0.3124	4	0.66		0
151.30	Acid Soluble As, ICP (ppm)	0524	0.0026	0.0037				1			0
151.30	Acid Soluble As, ICP (ppm)	0255	0.0000	0.0000				1			4
151.30	Acid Soluble As, ICP (ppm)	0027	< 10					1			5
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0529	0.0100	0.0000				1			0
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0405	< 3					1			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0548	0.1180	0.0020				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
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0368	< 0.3					0			5
151.99	Acid Soluble As, Other (ppm)	0578	0.0610	0.0240				2			0
151.99	Acid Soluble As, Other (ppm)	0220	0.4000	0.0000				2			0
151.99	Acid Soluble As, Other (ppm)	0481	< 0.5					2			5
165.00	Acid Soluble B, Spectrophotometric (%)	0553	< 0.001					0			5

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165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	< 0.01					0			5
165.99	Acid Soluble B, Other (%)	0515	0.0000	0.0000				0			4
181.30	Acid Soluble Cd, ICP (ppm)	0255	5.414	7.680				1			0
181.30	Acid Soluble Cd, ICP (ppm)	0524	0.0053	0.0106				1			4
181.30	Acid Soluble Cd, ICP (ppm)	0394	< 0.1					1			5
181.30	Acid Soluble Cd, ICP (ppm)	0027	< 10					1			5
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0529	< 0.01					0			5
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0405	< 1					0			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0548	0.0020	0.0020				1			0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0515	0.0000	0.0000				1			4
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
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0515	0.0000	0.0000				0			4
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0368	< 0.1					0			5
181.99	Acid Soluble Cd, Other (ppm)	0220	< 0.1					0			5
181.99	Acid Soluble Cd, Other (ppm)	0481	< 0.5					0			5
181.99	Acid Soluble Cd, Other (ppm)	0578	< 2.396					0			5
190.00	Water Soluble Cl, Titrimetric (%)	0553	18.65	1.300				1			0
191.30	Acid Soluble Cr, ICP (ppm)	0394	< 0.3					0			5
191.30	Acid Soluble Cr, ICP (ppm)	0027	< 10					0			5
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0529	2.590	0.0000				1			0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0405	< 1					1			5
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0548	0.2030	0.0100				2			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0037	5.754	0.5240				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	< 5					2			5
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0368	< 0.1					0			5
191.99	Acid Soluble Cr, Other (ppm)	0220	0.3000	0.0000				1			0
191.99	Acid Soluble Cr, Other (ppm)	0578	< 0.242					1			5
191.99	Acid Soluble Cr, Other (ppm)	0481	< 20					1			5
202.30	Acid Soluble Co, ICP (ppm)	0524	0.1418	0.0177				1			0
202.30	Acid Soluble Co, ICP (ppm)	0027	< 10					1			5
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0529	0.0200	0.0000				1			0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0405	< 1					1			5
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0548	0.0080	0.0020				2			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0515	0.7462	0.2683				2			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0494	< 0.41					2			5
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0136	< 5					2			5
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0368	< 0.1					0			5
202.99	Acid Soluble Co, Other (ppm)	0255	39.79	13.48				1			0
202.99	Acid Soluble Co, Other (ppm)	0578	< 0.124					1			5
202.99	Acid Soluble Co, Other (ppm)	0481	< 20					1			5
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0553	< 0.005					0			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				
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
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0394	0.0010	0.0000				2			0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0529	0.3600	0.0000				2			0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0405	< 0.0002					2			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0548	0.0001	0.0000				2			0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0515	0.0005	0.0001				2			0
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 (%)	0136	< 0.0005					2			5
221.99	Acid Soluble Cu, Other (%)	0515	0.0005	0.0007				2			0
221.99	Acid Soluble Cu, Other (%)	0578	0.3645	0.0450				2			0
221.99	Acid Soluble Cu, Other (%)	0368	0.0000	0.0000				2			4
221.99	Acid Soluble Cu, Other (%)	0481	< 0.001					2			5
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	0553	< 0.005					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	0.0006	0.0005				1			0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0515	0.0000	0.0000				1			4
241.99	Acid Soluble Fe, Other (%)	0515	0.0000	0.0000				0			4
251.30	Acid Soluble Pb, ICP (ppm)	0524	0.1411	0.0387				1			0
251.30	Acid Soluble Pb, ICP (ppm)	0255	1.668	3.336				1			4
251.30	Acid Soluble Pb, ICP (ppm)	0394	< 0.4					1			5
251.30	Acid Soluble Pb, ICP (ppm)	0027	< 10					1			5
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0529	0.0700	0.0000				1			0
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0405	< 4					1			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0548	0.0040	0.0020				1			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0515	0.0000	0.0000				1			4
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0494	< 1.27					1			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0136	< 3					1			5
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0368	< 0.6					0			5
251.99	Acid Soluble Pb, Other (ppm)	0481	0.9050	0.2300				1			0
251.99	Acid Soluble Pb, Other (ppm)	0578	< 0.051					1			5
251.99	Acid Soluble Pb, Other (ppm)	0220	< 1					1			5
261.00	Acid Soluble Mn, AA, Mn2+ only (%)	0553	< 0.005					0			5
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0354	< 0.01					0			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
281.00	Acid Soluble Hg, AA (ppm)	0117	< 0.2					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0529	0.0200	0.0000				1			0
281.30	Acid Soluble Hg, ICP (ppm)	0515	0.0000	0.0000				1			4
281.30	Acid Soluble Hg, ICP (ppm)	0405	< 2					1			5
281.99	Acid Soluble Hg, Other (ppm)	0368	0.0012	0.0003	0.0460	0.0883	0.0012	4	-0.51		0
281.99	Acid Soluble Hg, Other (ppm)	0524	0.0019	0.0005	0.0460	0.0883	0.0012	4	-0.50		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				
281.99	Acid Soluble Hg, Other (ppm)	0035	0.0025	0.0010	0.0460	0.0883	0.0012	4	-0.49		0
281.99	Acid Soluble Hg, Other (ppm)	0578	0.1785	0.0030	0.0460	0.0883	0.0012	4	1.50		0
281.99	Acid Soluble Hg, Other (ppm)	0481	< 0.5		0.0460	0.0883	0.0012	4			5
289.30	Acid Soluble Mo, ICP (ppm)	0255	8.125	8.010				1			0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0529	0.0900	0.0000				1			0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0405	< 1					1			5
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0548	0.0500	0.0020				2			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0494	1.854	1.713				2			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0106	2.500	5.000				2			4
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0136	< 5					2			5
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0368	0.2000	0.4000				0			4
289.99	Acid Soluble Mo, Other (ppm)	0578	1.760	0.0150				1			0
289.99	Acid Soluble Mo, Other (ppm)	0481	< 100					1			5
291.30	Acid Soluble Ni, ICP (ppm)	0394	0.6250	0.0100				1			0
291.30	Acid Soluble Ni, ICP (ppm)	0027	< 10					1			5
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0529	1.490	0.0000				1			0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0405	< 1					1			5
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0548	0.1750	0.0040				1			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0515	0.0000	0.0000				1			4
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0494	< 0.65					1			5
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0136	< 5					1			5
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0368	< 0.2					0			5
291.99	Acid Soluble Ni, Other (ppm)	0220	0.2000	0.0000				2			0
291.99	Acid Soluble Ni, Other (ppm)	0255	51.58	11.75				2			0
291.99	Acid Soluble Ni, Other (ppm)	0578	< 0.091					2			5
291.99	Acid Soluble Ni, Other (ppm)	0481	< 10					2			5
301.30	Acid Soluble Se, ICP (ppm)	0524	0.0298	0.0320				1			0
301.30	Acid Soluble Se, ICP (ppm)	0027	< 10					1			5
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0529	0.0100	0.0000				1			0
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0405	< 10					1			5
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0548	0.3070	0.0060	1.393	0.9931	0.3763	3	-1.09		0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0043	1.615	0.6700	1.393	0.9931	0.3763	3	0.22		0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0515	2.256	0.4530	1.393	0.9931	0.3763	3	0.87		0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0494	< 0.95		1.393	0.9931	0.3763	3			5
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0368	< 1.1					0			5
301.99	Acid Soluble Se, Other (ppm)	0220	0.2500	0.1000				1			0
301.99	Acid Soluble Se, Other (ppm)	0255	0.0000	0.0000				1			4
301.99	Acid Soluble Se, Other (ppm)	0578	< 0.042					1			5
301.99	Acid Soluble Se, Other (ppm)	0481	< 0.5					1			5
311.00	Sodium, AA (%)	0553	0.0060	0.0000				1			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0494	0.0132	0.0012				1			0
311.99	Sodium, Other (%)	0354	0.0400	0.0200				1			0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0553	< 0.002					0			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				
321.02	Acid Soluble Zn, AA, 965.09, test portion 2006.03A-C (%)	0529	1.280	0.0000				1			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0035	0.0017	0.0005				2			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0255	0.0025	0.0010				2			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					2			5
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0394	0.0008	0.0001				1			0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0405	< 0.0003					1			5
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0548	0.0001	0.0000				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 (%)	0515	0.0000	0.0000				1			4
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0136	< 0.0005					1			5
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0494	< 0.0008					1			5
321.99	Acid Soluble Zn, Other (%)	0578	0.5360	0.3200				1			0
321.99	Acid Soluble Zn, Other (%)	0368	0.0002	0.0003				1			4
321.99	Acid Soluble Zn, Other (%)	0481	< 0.002					1			5

Interpreting Z Scores and Flags:

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.

Notes:

Robust statistics not used if < 6 labs used in calculations, in this case Values and Z Scores are grayed out and should be interpreted with extreme caution. IA Status describes where your result is relative to the Assigned Value ± IA. Red indicates Higher or Lower and Green indicates within the IA range about the Robust mean. 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.