



Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Methods: 104

Sample # 250511

Regular PT Scheme

Labs Reporting: 69

Grade 5-0-20

Statistical Summary

Issue Date : 06/30/2025

Method Code	Analyte & Method Sample # 250511	# 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 (%)	2	2	0.0655	0.0276								
001.99	Ammoniacal N, Other (%)	1		0.0566									
002.99	Nitrate N, Other (%)	1		0.1100									
005.00	Urea N, Urease (as N) (%)	3	3	3.629	0.5432	3.629		0.5432	0.3920	14.97%		0.1344	3.29%
005.10	Urea N, HPLC(asN),H2Omobilephase (%)	1		3.605									
005.99	Urea N, Other (%)	9	9	3.509	0.5590	3.399		0.3268	0.1362	9.61%		0.0366	3.33%
007.20	Urea, HPLC,85%acetonitrilemobilephase (%)	1		3.250									
010.11	Total N, Modified Comprehensive (5%)	2	2	5.190	0.5798								
010.12	Total N, Salicylic (5%)	5	5	5.428	0.2813	5.428	0.5143	0.2813	0.1573	5.18%	1.27	0.0800	3.10%
010.60	Total N, Combustion (5%)	46	44	5.667	1.262	5.473	0.5147	0.1049	0.0198	1.92%	0.47	0.0730	3.10%
010.99	Total N, Other (5%)	10	10	5.361	0.1761	5.371	0.5137	0.1756	0.0694	3.27%	0.80	0.0492	3.11%
020.50	Total P2O5, ICP (%)	4	2	0.0052	0.0055	0.0054		0.0064	0.0057	119.06%		0.0001	8.78%
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	1		0.0100									
050.00	Soluble K2O, STPB Oxalate (20%)	10	10	20.04	0.2431	20.03	1.0812	0.2646	0.1046	1.32%	0.57	0.2061	2.23%
050.30	Soluble K2O, AA (Oxalate) (20%)	1		20.18									
050.32	Soluble K2O, AA (Citrate-EDTA) (20%)	1		19.03									
050.50	Soluble K2O, ICP (Oxalate) (20%)	6	6	19.60	0.4580	19.60	1.0660	0.5125	0.2615	2.62%	1.12	0.1839	2.26%
050.51	Soluble K2O, ICP (Citrate) (20%)	3	3	19.95	0.1659	19.95	1.0784	0.1659	0.1197	0.83%	0.36	0.2396	2.24%
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	11	11	19.59	0.8215	19.68	1.0688	0.7230	0.2725	3.67%	1.58	0.1962	2.25%
050.60	Soluble K2O, Flame Photometric (Oxalate) (20%)	4	4	19.82	0.2122	19.82	1.0739	0.2122	0.1326	1.07%	0.46	0.1551	2.25%
050.61	Soluble K2O, Flame Photometric (Citrate) (20%)	1		20.40									
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (20%)	3	3	20.11	0.1411	20.11	1.0839	0.1411	0.1018	0.70%	0.30	0.4438	2.23%
050.99	Soluble K2O, Other (20%)	28	27	20.31	1.046	20.14	1.0848	0.7220	0.1737	3.59%	1.55	0.2336	2.23%
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	1		0.1800									
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	1		0.0050									
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	1		0.0100									
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	2	2	0.0190	0.0014								
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	1		0.0050									
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	1		0.0100									

Method Code	Analyte & Method Sample # 250511	# 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
121.99	Acid Soluble Mg, Other (%)	1		0.0001									
143.99	Elemental S, Other (%)	3	3	13.65	0.2552	13.65		0.2552	0.1842	1.87%		0.7275	2.70%
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	1		13.48									
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a...	5	5	13.57	0.2754	13.57	0.8787	0.2754	0.1540	2.03%	0.73	0.2950	2.70%
146.99	Total S in Liquid, Other (13%)	2	2	12.76	0.0000								
148.00	Total S, Combustion (13%)	3	3	13.00	0.2250	13.00	0.8501	0.2250	0.1624	1.73%	0.62	0.3713	2.72%
148.01	Total S, Gravimetric - sulfate and elemental (13%)	6	6	13.31	0.2476	13.31	0.8654	0.2807	0.1433	2.11%	0.76	0.2075	2.71%
148.02	Total S, Turbidimetric, w/Br digestion, modification of JAOAC	1		13.05									
148.03	Total S, Spectrometric, w/Br digestion (13%)	1		13.05									
148.07	Total S, ICP, test portion as in 2017.02 (13%)	14	13	13.73	1.802	13.28	0.8639	0.3001	0.1040	2.26%	0.81	0.1935	2.71%
148.99	Total S, Other (13%)	10	9	13.20	0.3241	13.23	0.8613	0.3760	0.1567	2.84%	1.02	0.0981	2.71%
149.04	S - HNO3 soluble, ICP (%)	4	4	12.41	1.016	12.41		1.016	0.6348	8.18%		0.0891	2.74%
151.30	Acid Soluble As, ICP (ppm)	4	1	4.063	4.934	12.41		1.016	1.270	8.18%		0.0290	10.95%
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	2	0	1.750	1.768								
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	4	2	0.6018	0.6849	0.7035		0.9306	0.8225	132.27%		0.4830	16.87%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	2	2	1.381	0.5226								
151.99	Acid Soluble As, Other (ppm)	3	0	0.3500	0.2598	1.381		0.5226		37.85%		0.9000	15.24%
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	1		0.0100									
165.99	Acid Soluble B, Other (%)	2	1	0.0010	0.0000								
181.30	Acid Soluble Cd, ICP (ppm)	5	2	2.104	4.415	0.0847		0.1072	0.0948	126.64%		0.0285	22.00%
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	2	1	0.6775	0.4561								
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	4	0	0.3100	0.4670	0.0847		0.1072		126.64%		0.0039	22.00%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	2	0	0.1150	0.0212								
181.99	Acid Soluble Cd, Other (ppm)	3	1	0.2933	0.2401	0.0847		0.1072	0.1340	126.64%		0.0039	22.00%
191.30	Acid Soluble Cr, ICP (ppm)	5	2	2.664	4.186	0.0347		0.0356	0.0315	102.70%		0.0010	22.00%
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	2	1	0.6650	0.4738								
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	4	2	0.7928	1.169	0.3355		0.3684	0.3256	109.81%		0.2990	18.85%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	2	1	0.2295	0.1831								
191.99	Acid Soluble Cr, Other (ppm)	3	1	6.838	11.40	0.3355		0.3684	0.4605	109.81%		0.0100	18.85%
202.30	Acid Soluble Co, ICP (ppm)	3	1	3.788	5.410	0.3355	1.1007	0.3684	0.4605	109.81%	0.78	0.0100	18.85%
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	3	1	0.8300	0.6616	0.3355	1.1007	0.3684	0.4605	109.81%	0.78	0.0100	18.85%
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	4	1	0.6903	1.210	0.3355	1.1007	0.3684	0.4605	109.81%	0.78	0.0100	18.85%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	2	1	0.2445	0.1492								
202.99	Acid Soluble Co, Other (ppm)	3	1	2.743	4.347	0.3355	1.1007	0.3684	0.4605	109.81%	0.78	0.0100	18.85%
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	3	2	0.0038	0.0053	0.0008	0.0051	0.0004	0.0003	47.14%	0.16	0.0000	11.81%
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	1		0.0002									
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	6	0	0.0435	0.1061	0.0008	0.0051	0.0004		47.14%	0.16	0.0000	11.81%
221.99	Acid Soluble Cu, Other (%)	4	1	0.0520	0.0954	0.0008	0.0051	0.0004	0.0004	47.14%	0.16	0.0000	11.81%
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	1		0.0100									
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	1		0.0010									

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241.33	Acid Soluble Fe, ICP, 2017.02 (%)	1		0.0010									
241.99	Acid Soluble Fe, Other (%)	1		0.0001									
251.30	Acid Soluble Pb, ICP (ppm)	5	1	3.478	4.461	0.0008		0.0004	0.0004	47.14%		0.0000	22.00%
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	2	0	2.150	2.616								
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	4	1	1.096	1.412	0.0008		0.0004	0.0004	47.14%		0.0000	22.00%
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	2	1	1.280	0.9617								
251.99	Acid Soluble Pb, Other (ppm)	3	1	0.2883	0.2450	0.0008		0.0004	0.0004	47.14%		0.0000	22.00%
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	1		0.0100									
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	1		0.0205									
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	1		0.0001									
281.00	Acid Soluble Hg, AA (ppm)	1		0.5000									
281.30	Acid Soluble Hg, ICP (ppm)	4	0	0.8378	0.9601	0.0008		0.0004		47.14%		0.0000	22.00%
281.99	Acid Soluble Hg, Other (ppm)	3	1	0.0052	0.0047	0.0008		0.0004	0.0004	47.14%		0.0000	22.00%
289.30	Acid Soluble Mo, ICP (ppm)	3	2	0.3492	0.5641	0.5238	1.1571	0.6734	0.5953	128.57%	1.36	0.0082	17.63%
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	2	0	0.6500	0.4950								
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	6	0	1.463	1.546	0.5238	1.1571	0.6734		128.57%	1.36	0.0041	17.63%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	2	0	0.3890	0.2984								
289.99	Acid Soluble Mo, Other (ppm)	1		0.3000									
291.30	Acid Soluble Ni, ICP (ppm)	4	1	3.335	4.513	0.5238		0.6734	0.8418	128.57%		0.0041	17.63%
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	2	1	0.5650	0.6152								
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	4	1	0.8403	1.167	0.5238		0.6734	0.8418	128.57%		0.0041	17.63%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	2	2	1.350	1.273								
291.99	Acid Soluble Ni, Other (ppm)	3	2	4.762	7.223	6.653		9.104	8.047	136.85%		3.375	12.03%
301.30	Acid Soluble Se, ICP (ppm)	4	2	4.072	4.924	0.0195		0.0183	0.0162	94.16%		0.0025	22.00%
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	2	0	5.150	6.859								
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	3	1	0.7237	1.210	0.0195		0.0183	0.0229	94.16%		0.0010	22.00%
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	2	1	1.368	0.3783								
301.99	Acid Soluble Se, Other (ppm)	4	0	0.3000	0.2160	0.0195		0.0183		94.16%		0.0010	22.00%
311.33	Sodium, ICP, test portion as in 2017.02 (%)	3	2	0.0317	0.0231	0.0450	0.0095	0.0007	0.0006	1.57%	0.17	0.0048	6.38%
311.99	Sodium, Other (%)	1		0.0600									
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	2	0	0.0050	0.0071								
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	2	0	2.500	3.535								
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	6	1	0.0318	0.0775	0.0450	0.0095	0.0007	0.0009	1.57%	0.17	0.0006	6.38%
321.99	Acid Soluble Zn, Other (%)	5	1	0.0315	0.0619	0.0450	0.0095	0.0007	0.0009	1.57%	0.17	0.0006	6.38%
325.30	Water Soluble Zn, ICP (%)	1		0.0000									

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.

Horwitz %RSD
Average Range (R-bar)
Method IA Ratio
Robust % RSD
Robust Uncertainty (U)
Robust sd
IA at Method Value
Assigned Value Robust Mean
Raw SD
Raw Mean
Tests in Robust Calculations
Tests Submitted
Analyte & Method Sample # 250511
Method Code



Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Sample # 250511

Regular PT Scheme

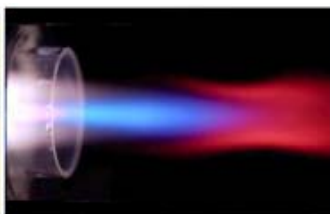
Grade 5-0-20

Method Precision Report

Issue Date : 06/30/2025

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
005.99	Urea N, Other (%)	9	8	3.338	0.2373	0.2361	0.0337	0.2385	7.07%	1.01%	7.14%	7.071
010.60	Total N, Combustion (5%)	46	43	5.474	0.1681	0.1620	0.0636	0.1740	2.96%	1.16%	3.18%	2.737
010.99	Total N, Other (5%)	10	9	5.346	0.1804	0.1764	0.0531	0.1843	3.30%	0.99%	3.45%	3.472
050.00	Soluble K ₂ O, STPB Oxalate (20%)	10	10	20.04	0.2431	0.2079	0.1782	0.2738	1.04%	0.89%	1.37%	1.537
050.50	Soluble K ₂ O, ICP (Oxalate) (20%)	6	6	19.60	0.4580	0.4460	0.1467	0.4696	2.28%	0.75%	2.40%	3.200
050.52	Soluble K ₂ O, ICP (Citrate-EDTA) (20%)	11	11	19.59	0.8215	0.8100	0.1937	0.8329	4.14%	0.99%	4.25%	4.299
050.99	Soluble K ₂ O, Other (20%)	28	25	20.08	0.6721	0.6566	0.2035	0.6874	3.27%	1.01%	3.42%	3.378
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, and el	5	5	13.57	0.2754	0.2332	0.2072	0.3120	1.72%	1.53%	2.30%	1.505
148.01	Total S, Gravimetric - sulfate and elemental (13%)	6	6	13.31	0.2476	0.2080	0.1899	0.2816	1.56%	1.43%	2.12%	1.483
148.07	Total S, ICP, test portion as in 2017.02 (13%)	14	12	13.22	0.3117	0.2924	0.1527	0.3299	2.21%	1.16%	2.49%	2.160
148.99	Total S, Other (13%)	10	9	13.23	0.3316	0.3277	0.0719	0.3355	2.48%	0.54%	2.54%	4.664

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



Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Methods: 104

Sample # 250511

Regular PT Scheme

Labs Reporting: 69

Grade 5-0-20

Lab Values

Issue Date : 06/30/2025

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0547	0.0460	0.0100				2			0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0452	0.0850	0.0100				2			0
001.99	Ammoniacal N, Other (%)	0524	0.0566	0.0004				1			0
002.99	Nitrate N, Other (%)	0452	0.1100	0.0000				1			0
005.00	Urea N, Urease (as N) (%)	0136	3.250	0.1000	3.629	0.5432	0.1344	3	-0.70		0
005.00	Urea N, Urease (as N) (%)	0389	3.385	0.0100	3.629	0.5432	0.1344	3	-0.45		0
005.00	Urea N, Urease (as N) (%)	0368	4.251	0.2932	3.629	0.5432	0.1344	3	1.15		0
005.10	Urea N, HPLC(asN),H2Omobilephase (%)	0394	3.605	0.0010				1			0
005.99	Urea N, Other (%)	0545	3.110	0.0600	3.399	0.3268	0.0366	9	-0.82	NA	0
005.99	Urea N, Other (%)	0559	3.185	0.0100	3.399	0.3268	0.0366	9	-0.61	NA	0
005.99	Urea N, Other (%)	0653	3.185	0.0100	3.399	0.3268	0.0366	9	-0.61	NA	0
005.99	Urea N, Other (%)	0029	3.285	0.0100	3.399	0.3268	0.0366	9	-0.32	NA	0
005.99	Urea N, Other (%)	0538	3.305	0.0300	3.399	0.3268	0.0366	9	-0.27	NA	0
005.99	Urea N, Other (%)	0547	3.335	0.0300	3.399	0.3268	0.0366	9	-0.18	NA	0
005.99	Urea N, Other (%)	0027	3.430	0.1000	3.399	0.3268	0.0366	9	0.09	NA	0
005.99	Urea N, Other (%)	0524	3.870	0.0500	3.399	0.3268	0.0366	9	1.33	NA	0
005.99	Urea N, Other (%)	0476	4.877	0.0506	3.399	0.3268	0.0366	9	4.17	NA	0
007.20	Urea, HPLC,85%acetonitrilemobilephase (%)	0220	3.250	0.0200				1			0
010.11	Total N, Modified Comprehensive (5%)	0548	4.780	0.0400				2			0
010.11	Total N, Modified Comprehensive (5%)	0309	5.600	0.0600				2			0
010.12	Total N, Salicylic (5%)	0498	5.150	0.3000	5.428	0.2813	0.0800	5	-0.99		0
010.12	Total N, Salicylic (5%)	0602	5.165	0.0300	5.428	0.2813	0.0800	5	-0.93		0
010.12	Total N, Salicylic (5%)	0117	5.440	0.0200	5.428	0.2813	0.0800	5	0.04		0
010.12	Total N, Salicylic (5%)	0563	5.570	0.0400	5.428	0.2813	0.0800	5	0.50		0
010.12	Total N, Salicylic (5%)	0481	5.815	0.0100	5.428	0.2813	0.0800	5	1.38		0
010.60	Total N, Combustion (5%)	0389	4.885	0.2300	5.473	0.1049	0.0730	44	-5.61	Low	0
010.60	Total N, Combustion (5%)	0423	5.125	0.0100	5.473	0.1049	0.0730	44	-3.32	OK	0
010.60	Total N, Combustion (5%)	0234	5.280	0.0400	5.473	0.1049	0.0730	44	-1.84	OK	0
010.60	Total N, Combustion (5%)	0136	5.300	0.6000	5.473	0.1049	0.0730	44	-1.65	OK	0
010.60	Total N, Combustion (5%)	0521	5.340	0.0000	5.473	0.1049	0.0730	44	-1.27	OK	0
010.60	Total N, Combustion (5%)	0042	5.345	0.0900	5.473	0.1049	0.0730	44	-1.22	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
010.60	Total N, Combustion (5%)	0034	5.359	0.1971	5.473	0.1049	0.0730	44	-1.09	OK	0
010.60	Total N, Combustion (5%)	0055	5.360	0.2100	5.473	0.1049	0.0730	44	-1.08	OK	0
010.60	Total N, Combustion (5%)	0527	5.375	0.0300	5.473	0.1049	0.0730	44	-0.93	OK	0
010.60	Total N, Combustion (5%)	0543	5.387	0.0010	5.473	0.1049	0.0730	44	-0.82	OK	0
010.60	Total N, Combustion (5%)	0572	5.395	0.1100	5.473	0.1049	0.0730	44	-0.74	OK	0
010.60	Total N, Combustion (5%)	0542	5.415	0.1100	5.473	0.1049	0.0730	44	-0.55	OK	0
010.60	Total N, Combustion (5%)	0169	5.430	0.0200	5.473	0.1049	0.0730	44	-0.41	OK	0
010.60	Total N, Combustion (5%)	0451	5.438	0.1000	5.473	0.1049	0.0730	44	-0.33	OK	0
010.60	Total N, Combustion (5%)	0023	5.440	0.2570	5.473	0.1049	0.0730	44	-0.32	OK	0
010.60	Total N, Combustion (5%)	0025	5.440	0.1200	5.473	0.1049	0.0730	44	-0.31	OK	0
010.60	Total N, Combustion (5%)	0360	5.450	0.0800	5.473	0.1049	0.0730	44	-0.22	OK	0
010.60	Total N, Combustion (5%)	0472	5.465	0.0100	5.473	0.1049	0.0730	44	-0.08	OK	0
010.60	Total N, Combustion (5%)	0049	5.470	0.0000	5.473	0.1049	0.0730	44	-0.03	OK	0
010.60	Total N, Combustion (5%)	0220	5.470	0.0000	5.473	0.1049	0.0730	44	-0.03	OK	0
010.60	Total N, Combustion (5%)	0452	5.470	0.0000	5.473	0.1049	0.0730	44	-0.03	OK	0
010.60	Total N, Combustion (5%)	0307	5.480	0.0000	5.473	0.1049	0.0730	44	0.07	OK	0
010.60	Total N, Combustion (5%)	0233	5.485	0.0900	5.473	0.1049	0.0730	44	0.12	OK	0
010.60	Total N, Combustion (5%)	0177	5.490	0.1160	5.473	0.1049	0.0730	44	0.16	OK	0
010.60	Total N, Combustion (5%)	0368	5.497	0.0430	5.473	0.1049	0.0730	44	0.23	OK	0
010.60	Total N, Combustion (5%)	0040	5.500	0.0000	5.473	0.1049	0.0730	44	0.26	OK	0
010.60	Total N, Combustion (5%)	0422	5.500	0.0000	5.473	0.1049	0.0730	44	0.26	OK	0
010.60	Total N, Combustion (5%)	0324	5.505	0.0900	5.473	0.1049	0.0730	44	0.31	OK	0
010.60	Total N, Combustion (5%)	0043	5.505	0.0500	5.473	0.1049	0.0730	44	0.31	OK	0
010.60	Total N, Combustion (5%)	0095	5.520	0.0600	5.473	0.1049	0.0730	44	0.45	OK	0
010.60	Total N, Combustion (5%)	0231	5.520	0.0400	5.473	0.1049	0.0730	44	0.45	OK	0
010.60	Total N, Combustion (5%)	0377	5.520	0.0800	5.473	0.1049	0.0730	44	0.45	OK	0
010.60	Total N, Combustion (5%)	0405	5.520	0.0000	5.473	0.1049	0.0730	44	0.45	OK	0
010.60	Total N, Combustion (5%)	0007	5.525	0.0500	5.473	0.1049	0.0730	44	0.50	OK	0
010.60	Total N, Combustion (5%)	0027	5.530	0.0200	5.473	0.1049	0.0730	44	0.54	OK	0
010.60	Total N, Combustion (5%)	0102	5.530	0.0600	5.473	0.1049	0.0730	44	0.54	OK	0
010.60	Total N, Combustion (5%)	0029	5.553	0.1320	5.473	0.1049	0.0730	44	0.76	OK	0
010.60	Total N, Combustion (5%)	0106	5.575	0.0500	5.473	0.1049	0.0730	44	0.97	OK	0
010.60	Total N, Combustion (5%)	0481	5.605	0.0300	5.473	0.1049	0.0730	44	1.26	OK	0
010.60	Total N, Combustion (5%)	0354	5.620	0.0000	5.473	0.1049	0.0730	44	1.40	OK	0
010.60	Total N, Combustion (5%)	0255	5.628	0.0450	5.473	0.1049	0.0730	44	1.47	OK	0
010.60	Total N, Combustion (5%)	0086	5.630	0.0298	5.473	0.1049	0.0730	44	1.50	OK	0
010.60	Total N, Combustion (5%)	0523	5.685	0.0080	5.473	0.1049	0.0730	44	2.02	OK	0
010.60	Total N, Combustion (5%)	0561	6.120	0.0600	5.473	0.1049	0.0730	44	6.17	High	0
010.60	Total N, Combustion (5%)	0260	6.050	1.700	5.473	0.1049	0.0730	44	5.50	High	1
010.60	Total N, Combustion (5%)	0035	13.95	0.1000	5.473	0.1049	0.0730	44	80.84	High	2
010.99	Total N, Other (5%)	0538	5.005	0.0300	5.371	0.1756	0.0492	10	-1.94	OK	0
010.99	Total N, Other (5%)	0602	5.165	0.0300	5.371	0.1756	0.0492	10	-1.09	OK	0
010.99	Total N, Other (5%)	0605	5.265	0.0700	5.371	0.1756	0.0492	10	-0.56	OK	0

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010.99	Total N, Other (5%)	0577	5.270	0.0600	5.371	0.1756	0.0492	10	-0.53	OK	0
010.99	Total N, Other (5%)	0513	5.425	0.0100	5.371	0.1756	0.0492	10	0.29	OK	0
010.99	Total N, Other (5%)	0394	5.455	0.0100	5.371	0.1756	0.0492	10	0.45	OK	0
010.99	Total N, Other (5%)	0524	5.491	0.3215	5.371	0.1756	0.0492	10	0.64	OK	0
010.99	Total N, Other (5%)	0615	5.500	0.2000	5.371	0.1756	0.0492	10	0.68	OK	0
010.99	Total N, Other (5%)	0559	5.515	0.0100	5.371	0.1756	0.0492	10	0.76	OK	0
010.99	Total N, Other (5%)	0653	5.515	0.0100	5.371	0.1756	0.0492	10	0.76	OK	0
020.50	Total P2O5, ICP (%)	0524	0.0009	0.0001				2			0
020.50	Total P2O5, ICP (%)	0422	0.0099	0.0000				2			0
020.50	Total P2O5, ICP (%)	0542	0.0000	0.0000				2			4
020.50	Total P2O5, ICP (%)	0527	< 0.01					2			5
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0354	< 0.01					0			5
050.00	Soluble K2O, STPB Oxalate (20%)	0233	19.78	0.0500	20.03	0.2646	0.2061	10	-0.91	OK	0
050.00	Soluble K2O, STPB Oxalate (20%)	0049	19.78	0.2200	20.03	0.2646	0.2061	10	-0.89	OK	0
050.00	Soluble K2O, STPB Oxalate (20%)	0494	19.79	0.4400	20.03	0.2646	0.2061	10	-0.86	OK	0
050.00	Soluble K2O, STPB Oxalate (20%)	0602	19.90	0.0900	20.03	0.2646	0.2061	10	-0.49	OK	0
050.00	Soluble K2O, STPB Oxalate (20%)	0231	19.94	0.0600	20.03	0.2646	0.2061	10	-0.33	OK	0
050.00	Soluble K2O, STPB Oxalate (20%)	0055	20.06	0.3750	20.03	0.2646	0.2061	10	0.10	OK	0
050.00	Soluble K2O, STPB Oxalate (20%)	0220	20.15	0.0200	20.03	0.2646	0.2061	10	0.41	OK	0
050.00	Soluble K2O, STPB Oxalate (20%)	0102	20.23	0.4700	20.03	0.2646	0.2061	10	0.67	OK	0
050.00	Soluble K2O, STPB Oxalate (20%)	0405	20.29	0.1300	20.03	0.2646	0.2061	10	0.88	OK	0
050.00	Soluble K2O, STPB Oxalate (20%)	0561	20.48	0.0000	20.03	0.2646	0.2061	10	1.57	OK	0
050.30	Soluble K2O, AA (Oxalate) (20%)	0040	20.18	0.2400				1			0
050.32	Soluble K2O, AA (Citrate-EDTA) (20%)	0472	19.03	0.0500				1			0
050.50	Soluble K2O, ICP (Oxalate) (20%)	0422	19.20	0.1084	19.60	0.5125	0.1839	6	-0.70	OK	0
050.50	Soluble K2O, ICP (Oxalate) (20%)	0055	19.20	0.1150	19.60	0.5125	0.1839	6	-0.69	OK	0
050.50	Soluble K2O, ICP (Oxalate) (20%)	0324	19.45	0.3000	19.60	0.5125	0.1839	6	-0.26	OK	0
050.50	Soluble K2O, ICP (Oxalate) (20%)	0106	19.50	0.1900	19.60	0.5125	0.1839	6	-0.18	OK	0
050.50	Soluble K2O, ICP (Oxalate) (20%)	0231	19.88	0.3200	19.60	0.5125	0.1839	6	0.49	OK	0
050.50	Soluble K2O, ICP (Oxalate) (20%)	0452	20.39	0.0700	19.60	0.5125	0.1839	6	1.37	OK	0
050.51	Soluble K2O, ICP (Citrate) (20%)	0007	19.80	0.0000	19.95	0.1659	0.2396	3	-0.92		0
050.51	Soluble K2O, ICP (Citrate) (20%)	0521	19.93	0.0000	19.95	0.1659	0.2396	3	-0.14		0
050.51	Soluble K2O, ICP (Citrate) (20%)	0368	20.13	0.2396	19.95	0.1659	0.2396	3	1.06		0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0025	17.90	0.2000	19.68	0.7230	0.1962	11	-2.30	Low	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0543	18.28	0.2240	19.68	0.7230	0.1962	11	-1.81	Low	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0043	19.37	0.1700	19.68	0.7230	0.1962	11	-0.41	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0377	19.41	0.0600	19.68	0.7230	0.1962	11	-0.35	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0360	19.82	0.5900	19.68	0.7230	0.1962	11	0.17	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0354	19.85	0.1000	19.68	0.7230	0.1962	11	0.22	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0023	19.96	0.0520	19.68	0.7230	0.1962	11	0.36	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0136	20.00	0.0000	19.68	0.7230	0.1962	11	0.41	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0177	20.13	0.0014	19.68	0.7230	0.1962	11	0.58	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0423	20.13	0.1990	19.68	0.7230	0.1962	11	0.58	OK	0

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050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0494	20.64	0.5500	19.68	0.7230	0.1962	11	1.24	OK	0
050.60	Soluble K2O, Flame Photometric (Oxalate) (20%)	0476	19.51	0.2002	19.82	0.2122	0.1551	4	-1.49		0
050.60	Soluble K2O, Flame Photometric (Oxalate) (20%)	0602	19.90	0.0900	19.82	0.2122	0.1551	4	0.33		0
050.60	Soluble K2O, Flame Photometric (Oxalate) (20%)	0169	19.94	0.0300	19.82	0.2122	0.1551	4	0.52		0
050.60	Soluble K2O, Flame Photometric (Oxalate) (20%)	0309	19.96	0.3000	19.82	0.2122	0.1551	4	0.64		0
050.61	Soluble K2O, Flame Photometric (Citrate) (20%)	0035	20.40	0.2000				1			0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (20%)	0095	19.96	1.110	20.11	0.1411	0.4438	3	-1.11		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (20%)	0029	20.15	0.2000	20.11	0.1411	0.4438	3	0.27		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (20%)	0034	20.23	0.0215	20.11	0.1411	0.4438	3	0.83		0
050.99	Soluble K2O, Other (20%)	0389	18.95	0.3000	20.14	0.7220	0.2336	27	-1.64	Low	0
050.99	Soluble K2O, Other (20%)	0027	19.38	0.1300	20.14	0.7220	0.2336	27	-1.05	OK	0
050.99	Soluble K2O, Other (20%)	0481	19.47	0.2200	20.14	0.7220	0.2336	27	-0.92	OK	0
050.99	Soluble K2O, Other (20%)	0559	19.48	0.0100	20.14	0.7220	0.2336	27	-0.92	OK	0
050.99	Soluble K2O, Other (20%)	0653	19.48	0.0100	20.14	0.7220	0.2336	27	-0.92	OK	0
050.99	Soluble K2O, Other (20%)	0615	19.55	0.7000	20.14	0.7220	0.2336	27	-0.81	OK	0
050.99	Soluble K2O, Other (20%)	0523	19.60	0.0000	20.14	0.7220	0.2336	27	-0.74	OK	0
050.99	Soluble K2O, Other (20%)	0260	19.64	0.5100	20.14	0.7220	0.2336	27	-0.68	OK	0
050.99	Soluble K2O, Other (20%)	0577	19.80	0.2400	20.14	0.7220	0.2336	27	-0.47	OK	0
050.99	Soluble K2O, Other (20%)	0602	19.90	0.0900	20.14	0.7220	0.2336	27	-0.33	OK	0
050.99	Soluble K2O, Other (20%)	0234	19.91	0.0200	20.14	0.7220	0.2336	27	-0.31	OK	0
050.99	Soluble K2O, Other (20%)	0605	19.96	0.1400	20.14	0.7220	0.2336	27	-0.24	OK	0
050.99	Soluble K2O, Other (20%)	0538	20.00	0.0400	20.14	0.7220	0.2336	27	-0.19	OK	0
050.99	Soluble K2O, Other (20%)	0394	20.02	0.0000	20.14	0.7220	0.2336	27	-0.17	OK	0
050.99	Soluble K2O, Other (20%)	0513	20.06	0.1000	20.14	0.7220	0.2336	27	-0.11	OK	0
050.99	Soluble K2O, Other (20%)	0451	20.07	0.5600	20.14	0.7220	0.2336	27	-0.09	OK	0
050.99	Soluble K2O, Other (20%)	0545	20.12	0.0400	20.14	0.7220	0.2336	27	-0.02	OK	0
050.99	Soluble K2O, Other (20%)	0548	20.14	0.1400	20.14	0.7220	0.2336	27	0.01	OK	0
050.99	Soluble K2O, Other (20%)	0255	20.33	0.4390	20.14	0.7220	0.2336	27	0.27	OK	0
050.99	Soluble K2O, Other (20%)	0563	20.35	0.1000	20.14	0.7220	0.2336	27	0.30	OK	0
050.99	Soluble K2O, Other (20%)	0498	20.70	0.2000	20.14	0.7220	0.2336	27	0.78	OK	0
050.99	Soluble K2O, Other (20%)	0524	20.81	0.3533	20.14	0.7220	0.2336	27	0.93	OK	0
050.99	Soluble K2O, Other (20%)	0527	21.00	0.1308	20.14	0.7220	0.2336	27	1.20	OK	0
050.99	Soluble K2O, Other (20%)	0572	21.27	0.0100	20.14	0.7220	0.2336	27	1.56	High	0
050.99	Soluble K2O, Other (20%)	0042	22.03	0.5900	20.14	0.7220	0.2336	27	2.62	High	0
050.99	Soluble K2O, Other (20%)	0542	22.21	1.036	20.14	0.7220	0.2336	27	2.87	High	0
050.99	Soluble K2O, Other (20%)	0515	24.03	0.3300	20.14	0.7220	0.2336	27	5.39	High	0
050.99	Soluble K2O, Other (20%)	0553	20.40	2.210	20.14	0.7220	0.2336	27	0.36	OK	1
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0354	0.1800	0.0400				1			0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	0423	< 0.005					0			5
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0527	< 0.01					0			5
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0035	0.0180	0.0000				2			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	0.0200	0.0000				2			0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0423	< 0.005					0			5

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121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0527	< 0.01					0			5
121.99	Acid Soluble Mg, Other (%)	0524	0.0001	0.0000				1			0
143.99	Elemental S, Other (%)	0255	13.43	0.6700	13.65	0.2552	0.7275	3	-0.89		0
143.99	Elemental S, Other (%)	0389	13.61	0.0300	13.65	0.2552	0.7275	3	-0.19		0
143.99	Elemental S, Other (%)	0368	13.93	1.482	13.65	0.2552	0.7275	3	1.08		0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0561	13.48	0.0300				1			0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a...	0027	13.20	0.4700	13.57	0.2754	0.2950	5	-1.38		0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a...	0177	13.39	0.0000	13.57	0.2754	0.2950	5	-0.66		0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a...	0231	13.65	0.1700	13.57	0.2754	0.2950	5	0.26		0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a...	0324	13.80	0.4000	13.57	0.2754	0.2950	5	0.82		0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a...	0220	13.84	0.1400	13.57	0.2754	0.2950	5	0.96		0
146.99	Total S in Liquid, Other (13%)	0559	12.76	0.0100				2			0
146.99	Total S in Liquid, Other (13%)	0653	12.76	0.0100				2			0
148.00	Total S, Combustion (13%)	0451	12.75	0.2100	13.00	0.2250	0.3713	3	-1.14		0
148.00	Total S, Combustion (13%)	0025	13.10	0.4540	13.00	0.2250	0.3713	3	0.41		0
148.00	Total S, Combustion (13%)	0029	13.17	0.4500	13.00	0.2250	0.3713	3	0.73		0
148.01	Total S, Gravimetric - sulfate and elemental (13%)	0538	13.01	0.0300	13.31	0.2807	0.2075	6	-0.96	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (13%)	0534	13.10	0.0300	13.31	0.2807	0.2075	6	-0.68	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (13%)	0028	13.27	0.3500	13.31	0.2807	0.2075	6	-0.14	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (13%)	0498	13.30	0.2000	13.31	0.2807	0.2075	6	-0.03	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (13%)	0055	13.53	0.1350	13.31	0.2807	0.2075	6	0.71	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (13%)	0102	13.65	0.5000	13.31	0.2807	0.2075	6	1.09	OK	0
148.02	Total S, Turbidimetric, w/Br digestion, modification of JAOAC 6:	0602	13.05	0.1400				1			0
148.03	Total S, Spectrometric, w/Br digestion (13%)	0602	13.05	0.1400				1			0
148.07	Total S, ICP, test portion as in 2017.02 (13%)	0543	12.51	0.1800	13.28	0.3001	0.1935	13	-2.56	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (13%)	0472	12.85	0.1000	13.28	0.3001	0.1935	13	-1.43	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (13%)	0035	13.00	0.0000	13.28	0.3001	0.1935	13	-0.93	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (13%)	0043	13.26	0.0500	13.28	0.3001	0.1935	13	-0.08	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (13%)	0106	13.26	0.3600	13.28	0.3001	0.1935	13	-0.06	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (13%)	0260	13.26	0.5690	13.28	0.3001	0.1935	13	-0.06	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (13%)	0177	13.27	0.0020	13.28	0.3001	0.1935	13	-0.04	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (13%)	0563	13.30	0.2000	13.28	0.3001	0.1935	13	0.07	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (13%)	0136	13.35	0.1000	13.28	0.3001	0.1935	13	0.24	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (13%)	0527	13.38	0.0951	13.28	0.3001	0.1935	13	0.33	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (13%)	0040	13.60	0.0000	13.28	0.3001	0.1935	13	1.07	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (13%)	0494	13.63	1.169	13.28	0.3001	0.1935	13	1.17	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (13%)	0452	13.65	0.0500	13.28	0.3001	0.1935	13	1.22	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (13%)	0515	19.90	1.260	13.28	0.3001	0.1935	13	22.07	High	2
148.99	Total S, Other (13%)	0523	12.68	0.0600	13.23	0.3760	0.0981	9	-1.34	OK	0
148.99	Total S, Other (13%)	0354	13.00	0.0000	13.23	0.3760	0.0981	9	-0.55	OK	0
148.99	Total S, Other (13%)	0602	13.05	0.1400	13.23	0.3760	0.0981	9	-0.43	OK	0
148.99	Total S, Other (13%)	0605	13.16	0.1000	13.23	0.3760	0.0981	9	-0.16	OK	0
148.99	Total S, Other (13%)	0577	13.19	0.0500	13.23	0.3760	0.0981	9	-0.10	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
148.99	Total S, Other (13%)	0220	13.22	0.0800	13.23	0.3760	0.0981	9	-0.01	OK	0
148.99	Total S, Other (13%)	0023	13.30	0.1270	13.23	0.3760	0.0981	9	0.19	OK	0
148.99	Total S, Other (13%)	0422	13.67	0.1800	13.23	0.3760	0.0981	9	1.09	OK	0
148.99	Total S, Other (13%)	0572	13.77	0.0500	13.23	0.3760	0.0981	9	1.32	OK	0
148.99	Total S, Other (13%)	0377	12.96	1.450	13.23	0.3760	0.0981	9	-0.66	OK	1
149.04	S - HNO3 soluble, ICP (%)	0524	10.90	0.1294	12.41	1.016	0.0891	4	-1.49		0
149.04	S - HNO3 soluble, ICP (%)	0521	12.78	0.0000	12.41	1.016	0.0891	4	0.37		0
149.04	S - HNO3 soluble, ICP (%)	0231	12.90	0.0800	12.41	1.016	0.0891	4	0.48		0
149.04	S - HNO3 soluble, ICP (%)	0423	13.06	0.0580	12.41	1.016	0.0891	4	0.64		0
151.30	Acid Soluble As, ICP (ppm)	0524	0.0010	0.0001				1			0
151.30	Acid Soluble As, ICP (ppm)	0255	0.0000	0.0000				1			4
151.30	Acid Soluble As, ICP (ppm)	0605	< 6.25					1			5
151.30	Acid Soluble As, ICP (ppm)	0027	< 10					1			5
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0220	< 0.5					0			5
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0405	< 3					0			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0548	0.0455	0.0690				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0515	1.362	0.8970				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0527	< 0.0001					2			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0136	< 1					2			5
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0515	1.011	1.598				2			0
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0368	1.750	0.9000				2			0
151.99	Acid Soluble As, Other (ppm)	0572	< 0.05					0			5
151.99	Acid Soluble As, Other (ppm)	0220	< 0.5					0			5
151.99	Acid Soluble As, Other (ppm)	0481	< 0.5					0			5
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	< 0.01					0			5
165.99	Acid Soluble B, Other (%)	0423	0.0010	0.0000				1			0
165.99	Acid Soluble B, Other (%)	0527	< 0.001					1			5
181.30	Acid Soluble Cd, ICP (ppm)	0524	0.0089	0.0039				2			0
181.30	Acid Soluble Cd, ICP (ppm)	0255	0.1605	0.0530				2			0
181.30	Acid Soluble Cd, ICP (ppm)	0394	< 0.1					2			5
181.30	Acid Soluble Cd, ICP (ppm)	0605	< 0.25					2			5
181.30	Acid Soluble Cd, ICP (ppm)	0027	< 10					2			5
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0220	0.3550	0.0100				1			0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0405	< 1					1			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0527	< 0.0001					0			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0548	< 0.05					0			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0515	< 0.19					0			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0136	< 1					0			5
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0368	< 0.1					0			5
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0515	< 0.13					0			5
181.99	Acid Soluble Cd, Other (ppm)	0220	0.3500	0.0200				1			0
181.99	Acid Soluble Cd, Other (ppm)	0572	< 0.03					1			5
181.99	Acid Soluble Cd, Other (ppm)	0481	< 0.5					1			5

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
191.30	Acid Soluble Cr, ICP (ppm)	0523	0.0095	0.0010				2			0
191.30	Acid Soluble Cr, ICP (ppm)	0524	0.0599	0.0010				2			0
191.30	Acid Soluble Cr, ICP (ppm)	0605	< 1.25					2			5
191.30	Acid Soluble Cr, ICP (ppm)	0394	< 2					2			5
191.30	Acid Soluble Cr, ICP (ppm)	0027	< 10					2			5
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0220	0.3300	0.2000				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	0.0750	0.0100				2			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0515	0.5960	0.5880				2			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0527	< 0.0001					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	0.3590	0.4160				1			0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0368	< 0.1					1			5
191.99	Acid Soluble Cr, Other (ppm)	0220	0.3650	0.1700				1			0
191.99	Acid Soluble Cr, Other (ppm)	0572	< 0.15					1			5
191.99	Acid Soluble Cr, Other (ppm)	0481	< 20					1			5
202.30	Acid Soluble Co, ICP (ppm)	0524	0.1128	0.0053				1			0
202.30	Acid Soluble Co, ICP (ppm)	0605	< 1.25					1			5
202.30	Acid Soluble Co, ICP (ppm)	0027	< 10					1			5
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0423	1.390	0.0200				1			0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0220	< 0.1					1			5
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0405	< 1					1			5
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0515	0.2110	0.0600				1			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0527	< 0.0001					1			5
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0548	< 0.05					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)	0368	0.3500	0.1000				1			0
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0515	< 0.139					1			5
202.99	Acid Soluble Co, Other (ppm)	0255	7.760	3.788				1			0
202.99	Acid Soluble Co, Other (ppm)	0220	< 0.1					1			5
202.99	Acid Soluble Co, Other (ppm)	0572	< 0.37					1			5
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0234	0.0005	0.0000				2			0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0255	0.0010	0.0000				2			0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					2			5
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0405	< 0.0002					0			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0106	0.0000	0.0000				0			4
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0527	< 0.0001					0			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0136	< 0.0002					0			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0394	< 0.0002					0			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0548	< 0.0005					0			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0515	< 0.26					0			5
221.99	Acid Soluble Cu, Other (%)	0523	0.0020	0.0000				1			0
221.99	Acid Soluble Cu, Other (%)	0027	< 0.001					1			5

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
221.99	Acid Soluble Cu, Other (%)	0481	< 0.01					1			5
221.99	Acid Soluble Cu, Other (%)	0515	< 0.195					1			5
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	0423	< 0.001					0			5
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0527	< 0.001					0			5
241.99	Acid Soluble Fe, Other (%)	0524	0.0001	0.0000				1			0
251.30	Acid Soluble Pb, ICP (ppm)	0524	0.1379	0.0514				1			0
251.30	Acid Soluble Pb, ICP (ppm)	0255	0.0000	0.0000				1			4
251.30	Acid Soluble Pb, ICP (ppm)	0394	< 1					1			5
251.30	Acid Soluble Pb, ICP (ppm)	0605	< 6.25					1			5
251.30	Acid Soluble Pb, ICP (ppm)	0027	< 10					1			5
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0220	< 0.3					0			5
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0405	< 4					0			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0515	1.335	0.8910				1			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0527	< 0.0001					1			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0548	< 0.05					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)	0515	1.960	0.7600				1			0
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0368	< 0.6					1			5
251.99	Acid Soluble Pb, Other (ppm)	0220	0.3450	0.0100				1			0
251.99	Acid Soluble Pb, Other (ppm)	0572	< 0.02					1			5
251.99	Acid Soluble Pb, Other (ppm)	0481	< 0.5					1			5
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0354	< 0.01					0			5
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	0423	0.0205	0.0010				1			0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0527	< 0.0001					0			5
281.00	Acid Soluble Hg, AA (ppm)	0481	< 0.5					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0527	< 0.001					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0515	< 0.1					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0605	< 1.25					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0405	< 2					0			5
281.99	Acid Soluble Hg, Other (ppm)	0524	0.0007	0.0001				1			0
281.99	Acid Soluble Hg, Other (ppm)	0572	< 0.005					1			5
281.99	Acid Soluble Hg, Other (ppm)	0220	< 0.01					1			5
289.30	Acid Soluble Mo, ICP (ppm)	0524	0.0476	0.0082				2			0
289.30	Acid Soluble Mo, ICP (ppm)	0234	1.000	0.0000				2			0
289.30	Acid Soluble Mo, ICP (ppm)	0255	0.0000	0.0000				2			4
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0220	< 0.3					0			5
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0405	< 1					0			5
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0106	3.500	7.000				0			4
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	< 0.0001					0			5
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0548	< 0.05					0			5
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0515	< 0.23					0			5
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0136	< 2.5					0			5

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0423	< 2.5					0			5
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0515	< 0.178					0			5
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0368	< 0.6					0			5
289.99	Acid Soluble Mo, Other (ppm)	0220	< 0.3					0			5
291.30	Acid Soluble Ni, ICP (ppm)	0524	0.0881	0.0137				1			0
291.30	Acid Soluble Ni, ICP (ppm)	0605	< 1.25					1			5
291.30	Acid Soluble Ni, ICP (ppm)	0394	< 2					1			5
291.30	Acid Soluble Ni, ICP (ppm)	0027	< 10					1			5
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0220	0.1300	0.0200				1			0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0405	< 1					1			5
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0515	0.8110	0.6780				1			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0527	< 0.0001					1			5
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0548	< 0.05					1			5
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0136	< 2.5					1			5
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0368	0.4500	0.1000				2			0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0515	2.250	0.6600				2			0
291.99	Acid Soluble Ni, Other (ppm)	0220	0.2150	0.1500				2			0
291.99	Acid Soluble Ni, Other (ppm)	0255	13.09	6.599				2			0
291.99	Acid Soluble Ni, Other (ppm)	0572	< 0.98					2			5
301.30	Acid Soluble Se, ICP (ppm)	0523	0.0065	0.0010				2			0
301.30	Acid Soluble Se, ICP (ppm)	0524	0.0324	0.0040				2			0
301.30	Acid Soluble Se, ICP (ppm)	0605	< 6.25					2			5
301.30	Acid Soluble Se, ICP (ppm)	0027	< 10					2			5
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0220	< 0.3					0			5
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0405	< 10					0			5
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0515	2.120	0.9400				1			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0527	< 0.001					1			5
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0548	< 0.05					1			5
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0515	1.635	0.8500				1			0
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0368	< 1.1					1			5
301.99	Acid Soluble Se, Other (ppm)	0255	0.0000	0.0000				0			4
301.99	Acid Soluble Se, Other (ppm)	0220	< 0.3					0			5
301.99	Acid Soluble Se, Other (ppm)	0572	< 0.4					0			5
301.99	Acid Soluble Se, Other (ppm)	0481	< 0.5					0			5
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0035	0.0445	0.0090				2			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	0.0455	0.0006				2			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0423	< 0.005					2			5
311.99	Sodium, Other (%)	0354	0.0600	0.0200				1			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0255	0.0000	0.0000				0			4
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0405	< 0.0003					0			5
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0423	< 5					0			5
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0548	0.0001	0.0000				1			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0106	0.0000	0.0000				1			4
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0527	< 0.0001					1			5
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0394	< 0.0002					1			5
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0136	< 0.0003					1			5
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0515	< 0.19					1			5
321.99	Acid Soluble Zn, Other (%)	0523	0.0045	0.0010				1			0
321.99	Acid Soluble Zn, Other (%)	0368	0.0000	0.0000				1			4
321.99	Acid Soluble Zn, Other (%)	0027	< 0.001					1			5
321.99	Acid Soluble Zn, Other (%)	0481	< 0.01					1			5
321.99	Acid Soluble Zn, Other (%)	0515	< 0.142					1			5
325.30	Water Soluble Zn, ICP (%)	0368	0.0000	0.0000				0			4

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. Identical duplicates not included in calculation of Rob R-bar. IA Status describes where your result is relative to the Assigned Value $\pm$ 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