



Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Methods: 99

Sample # 250111

Regular PT Scheme

Labs Reporting: 47

11-55-0 MAP

Statistical Summary

Issue Date : 02/28/2025

Method Code	Analyte & Method Sample # 250111	# 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	11.40	0.0743								
001.99	Ammoniacal N, Other (%)	4	4	11.29	0.3034	11.29		0.3034	0.1896	2.69%		0.2809	2.78%
010.12	Total N, Salicylic (11%)	2	2	11.65	0.0424								
010.60	Total N, Combustion (11%)	36	35	11.44	0.2448	11.43	0.6015	0.2225	0.0470	1.95%	0.86	0.0953	2.77%
010.99	Total N, Other (11%)	2	2	11.18	0.0071								
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	9	9	55.13	1.172	55.24		0.7988	0.3328	1.45%		0.3878	1.35%
020.40	Total P2O5, Automated (%)	2	2	53.89	1.927								
020.50	Total P2O5, ICP (%)	13	13	52.55	9.417	54.38		3.411	1.183	6.27%		0.4640	1.36%
020.99	Total P2O5, Other (%)	4	4	53.82	1.968	53.82		1.968	1.230	3.66%		0.5575	1.36%
030.20	Citrate Insoluble P2O5, Spectrophotometric MolybdovanadoP	1		0.0950									
040.50	Indirect Available P2O5, ICP (55%)	1		55.10									
040.99	Indirect Available P2O5, Other (55%)	2	2	52.99	2.712								
041.10	Direct Available P2O5, Gravimetric Quinolinium (55%)	3	3	55.26	0.0982	55.26	1.1553	0.0982	0.0709	0.18%	0.20	0.1521	1.35%
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA	4	4	54.82	0.7930	54.82	1.1463	0.7930	0.4956	1.45%	1.61	0.3525	1.35%
041.20	Direct Available P2O5, Spectrophotometric (55%)	3	3	54.58	0.9650	54.58	1.1417	0.9650	0.6964	1.77%	1.97	0.5467	1.35%
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	6	6	53.33	1.247	53.33	1.1200	1.414	0.7213	2.65%	2.94	0.3195	1.37%
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (55%)	2	2	55.88	0.0816								
041.50	Direct Available P2O5, ICP (55%)	1		53.68									
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (55%)	3	3	47.63	13.39	47.63	1.0245	13.39	9.661	28.10%	30.45	1.083	1.45%
041.99	Direct Available P2O5, Other (55%)	2	2	54.81	0.0177								
048.20	Water Soluble P2O5, Spectrophotometric (%)	2	2	50.88	0.2121								
048.99	Water Soluble P2O5, Other (%)	1		47.46									
050.32	Soluble K2O, AA (Citrate-EDTA) (%)	1		0.2800									
050.50	Soluble K2O, ICP (Oxalate) (%)	1		0.2757									
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	1		0.2645									
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (%)	1		1.000									
050.99	Soluble K2O, Other (%)	5	4	0.6578	0.9072	0.8218	0.4100	0.9580	0.5988	116.57%	5.44	0.1917	4.12%
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	3	3	0.1588	0.1112	0.1588	0.2079	0.1112	0.0802	70.00%	1.25	0.0049	5.28%
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	2	1	0.0275	0.0248								

Method Code	Analyte & Method Sample # 250111	# 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
101.99	Acid Soluble Ca, Other (%)	3	3	0.4682	0.7593	0.4682	0.2234	0.7593	0.5480	162.18%	7.92	0.0703	4.48%
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	3	3	0.7783	0.0531	0.7783	0.2389	0.0531	0.0383	6.83%	0.52	0.0174	4.15%
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	4	4	0.8019	0.0362	0.8019	0.2401	0.0362	0.0226	4.52%	0.35	0.0323	4.13%
121.99	Acid Soluble Mg, Other (%)	4	4	0.7723	0.2889	0.7723	0.2386	0.2889	0.1806	37.41%	2.82	0.0327	4.16%
148.07	Total S, ICP, test portion as in 2017.02 (%)	3	2	1.186	0.9528	1.729	0.2864	0.2174	0.1922	12.58%	1.77	0.0825	3.68%
148.99	Total S, Other (%)	4	4	1.337	0.2745	1.337	0.2668	0.2745	0.1715	20.53%	2.40	0.0162	3.83%
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid	1		1.100									
151.30	Acid Soluble As, ICP (ppm)	1		0.0000									
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	2	1	1.825	1.662								
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	3	2	2.996	4.313	4.495		4.871	4.306	108.38%		0.2000	12.76%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	1		2.030									
151.99	Acid Soluble As, Other (ppm)	3	3	0.9233	0.2380	0.9233		0.2380	0.1718	25.78%		0.0733	16.19%
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	2	2	0.0097	0.0004								
165.99	Acid Soluble B, Other (%)	5	4	0.0068	0.0041	0.0085	0.0043	0.0019	0.0012	22.12%	1.03	0.0005	8.19%
181.30	Acid Soluble Cd, ICP (ppm)	2	2	10.50	1.969								
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	2	2	9.325	0.9546								
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	5	5	10.10	1.493	10.10		1.493	0.8344	14.79%		0.6349	11.30%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	1		2.602									
181.99	Acid Soluble Cd, Other (ppm)	3	3	8.557	0.6964	8.557		0.6964	0.5026	8.14%		0.3067	11.58%
191.00	Acid Soluble Cr, AA, test portion 2006.03 modified w/dual acid	1		57.75									
191.30	Acid Soluble Cr, ICP (ppm)	2	2	215.8	5.951								
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	2	2	210.3	56.21								
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	4	4	244.8	8.757	244.8		8.757	5.473	3.58%		11.07	6.99%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	1		241.2									
191.99	Acid Soluble Cr, Other (ppm)	3	3	200.9	43.90	200.9		43.90	31.68	21.85%		3.560	7.20%
202.30	Acid Soluble Co, ICP (ppm)	2	2	0.9930	0.0438								
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	2	1	0.8000	0.9899								
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	3	1	1.983	1.781	0.9930	1.2979	0.0438	0.0548	4.41%	0.08	0.0200	16.01%
202.99	Acid Soluble Co, Other (ppm)	3	1	23.59	40.18	0.9930	1.2979	0.0438	0.0548	4.41%	0.08	0.0200	16.01%
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	4	1	0.0675	0.1284	0.9930	0.1043	0.0438	0.0548	4.41%	0.98	0.0200	4.00%
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	2	1	2.350	3.323								
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	3	1	0.0003	0.0003	0.9930	0.1043	0.0438	0.0548	4.41%	0.98	0.0200	4.00%
221.99	Acid Soluble Cu, Other (%)	4	1	0.0066	0.0071	0.9930	0.1043	0.0438	0.0548	4.41%	0.98	0.0200	4.00%
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	4	4	0.6016	0.1642	0.6016	0.0652	0.1642	0.1026	27.29%	5.87	0.0210	4.32%
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	4	4	0.5200	0.0308	0.5200	0.0570	0.0308	0.0193	5.92%	1.26	0.0384	4.41%
241.99	Acid Soluble Fe, Other (%)	3	3	0.4445	0.0804	0.4445	0.0495	0.0804	0.0580	18.09%	3.79	0.0227	4.52%
251.30	Acid Soluble Pb, ICP (ppm)	1		0.0000									
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	2	0	2.350	2.333								
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	3	0	1.070	1.675	0.4445		0.0804		18.09%		0.0040	18.07%
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	1		0.2160									

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251.99	Acid Soluble Pb, Other (ppm)	3	1	0.4300	0.3110	0.4445		0.0804	0.1005	18.09%		0.0040	18.07%
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	3	3	0.0105	0.0005	0.0105	0.0061	0.0005	0.0004	4.78%	0.19	0.0000	7.94%
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)	1		0.2250									
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	4	4	0.0142	0.0088	0.0142	0.0064	0.0088	0.0055	61.64%	3.18	0.0055	7.58%
261.99	Acid Soluble Mn, Other (%)	1		0.0084									
281.00	Acid Soluble Hg, AA (ppm)	1		0.5000									
281.30	Acid Soluble Hg, ICP (ppm)	3	0	0.7003	1.127	0.0142		0.0088		61.64%		0.0001	22.00%
281.99	Acid Soluble Hg, Other (ppm)	2	0	0.0095	0.0007								
289.30	Acid Soluble Mo, ICP (ppm)	3	3	3.324	1.446	3.324	1.9973	1.446	1.044	43.51%	1.69	0.8077	13.35%
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	2	2	3.250	1.061								
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	3	3	5.472	3.059	5.472	2.6417	3.059	2.207	55.89%	2.70	0.4937	12.39%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	1		1.211									
289.99	Acid Soluble Mo, Other (ppm)	1		2.550									
291.30	Acid Soluble Ni, ICP (ppm)	2	2	6.994	1.712								
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	2	2	7.800	3.111								
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	4	4	8.472	0.8706	8.472		0.8706	0.5441	10.28%		0.4478	11.60%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	1		2.584									
291.99	Acid Soluble Ni, Other (ppm)	3	3	51.27	78.26	51.27		78.26	56.48	152.66%		58.90	8.85%
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	2	0	5.150	6.859								
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	2	1	5.136	7.249								
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	1		1.471									
301.99	Acid Soluble Se, Other (ppm)	4	0	0.3750	0.2986	51.27		78.26		152.66%		0.0350	8.85%
311.32	Sodium, ICP, 2006.03 test portion (%)	1		0.2961									
311.33	Sodium, ICP, test portion as in 2017.02 (%)	2	2	0.3457	0.0250								
311.99	Sodium, Other (%)	2	2	0.2992	0.1072								
321.03	Acid Soluble Zn, AA, 965.09, test portion 2006.03A-C w/dual a	1		0.0500									
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	5	5	0.3666	0.7146	0.3666	0.0417	0.7146	0.3995	194.92%	39.97	0.0448	4.65%
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	4	4	150.4	300.7	150.4	1.0000	300.7	188.0	199.93%	700.68	2.348	0.82%
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	5	5	0.0489	0.0037	0.0489	0.0099	0.0037	0.0021	7.62%	0.88	0.0025	6.30%
321.99	Acid Soluble Zn, Other (%)	5	5	0.0415	0.0071	0.0415	0.0091	0.0071	0.0040	17.14%	1.81	0.0017	6.46%

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 PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Sample # 250111

Regular PT Scheme

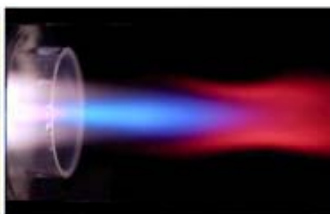
11-55-0 MAP

Method Precision Report

Issue Date : 02/28/2025

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
010.60	Total N, Combustion (11%)	36	34	11.42	0.2054	0.1943	0.0941	0.2159	1.70%	0.82%	1.89%	2.295
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	9	8	55.45	0.7090	0.6757	0.3040	0.7409	1.22%	0.55%	1.34%	2.437
020.50	Total P2O5, ICP (%)	13	11	54.17	2.912	2.904	0.3078	2.921	5.36%	0.57%	5.39%	9.489
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	6	6	53.33	1.247	1.229	0.2926	1.264	2.30%	0.55%	2.37%	4.319
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	5	5	0.0489	0.0037	0.0035	0.0020	0.0040	7.07%	4.05%	8.14%	2.013

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



Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Methods: 99

Sample # 250111

Regular PT Scheme

Labs Reporting: 47

11-55-0 MAP

Lab Values

Issue Date : 02/28/2025

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 (%)	0498	11.35	0.1000				2			0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0231	11.46	0.0300				2			0
001.99	Ammoniacal N, Other (%)	0647	11.07	0.0286	11.29	0.3034	0.2809	4	-0.74		0
001.99	Ammoniacal N, Other (%)	0553	11.18	0.5400	11.29	0.3034	0.2809	4	-0.37		0
001.99	Ammoniacal N, Other (%)	0220	11.19	0.0900	11.29	0.3034	0.2809	4	-0.36		0
001.99	Ammoniacal N, Other (%)	0027	11.74	0.4650	11.29	0.3034	0.2809	4	1.48		0
010.12	Total N, Salicylic (11%)	0481	11.62	0.1200				2			0
010.12	Total N, Salicylic (11%)	0572	11.68	0.3400				2			0
010.60	Total N, Combustion (11%)	0521	10.94	0.0000	11.43	0.2225	0.0953	35	-2.22	OK	0
010.60	Total N, Combustion (11%)	0354	11.05	0.1000	11.43	0.2225	0.0953	35	-1.72	OK	0
010.60	Total N, Combustion (11%)	0102	11.07	0.0300	11.43	0.2225	0.0953	35	-1.66	OK	0
010.60	Total N, Combustion (11%)	0423	11.14	0.1400	11.43	0.2225	0.0953	35	-1.32	OK	0
010.60	Total N, Combustion (11%)	0324	11.15	0.1000	11.43	0.2225	0.0953	35	-1.27	OK	0
010.60	Total N, Combustion (11%)	0234	11.19	0.0900	11.43	0.2225	0.0953	35	-1.12	OK	0
010.60	Total N, Combustion (11%)	0035	11.25	0.1000	11.43	0.2225	0.0953	35	-0.82	OK	0
010.60	Total N, Combustion (11%)	0527	11.26	0.0010	11.43	0.2225	0.0953	35	-0.79	OK	0
010.60	Total N, Combustion (11%)	0422	11.31	0.0000	11.43	0.2225	0.0953	35	-0.55	OK	0
010.60	Total N, Combustion (11%)	0452	11.35	0.0700	11.43	0.2225	0.0953	35	-0.40	OK	0
010.60	Total N, Combustion (11%)	0095	11.35	0.0200	11.43	0.2225	0.0953	35	-0.37	OK	0
010.60	Total N, Combustion (11%)	0494	11.35	0.3000	11.43	0.2225	0.0953	35	-0.37	OK	0
010.60	Total N, Combustion (11%)	0029	11.36	0.2900	11.43	0.2225	0.0953	35	-0.35	OK	0
010.60	Total N, Combustion (11%)	0291	11.38	0.0100	11.43	0.2225	0.0953	35	-0.26	OK	0
010.60	Total N, Combustion (11%)	0360	11.38	0.1100	11.43	0.2225	0.0953	35	-0.26	OK	0
010.60	Total N, Combustion (11%)	0542	11.38	0.1000	11.43	0.2225	0.0953	35	-0.24	OK	0
010.60	Total N, Combustion (11%)	0177	11.42	0.0440	11.43	0.2225	0.0953	35	-0.08	OK	0
010.60	Total N, Combustion (11%)	0481	11.43	0.2600	11.43	0.2225	0.0953	35	-0.01	OK	0
010.60	Total N, Combustion (11%)	0389	11.44	0.0800	11.43	0.2225	0.0953	35	0.03	OK	0
010.60	Total N, Combustion (11%)	0451	11.45	0.2600	11.43	0.2225	0.0953	35	0.07	OK	0
010.60	Total N, Combustion (11%)	0572	11.51	0.0400	11.43	0.2225	0.0953	35	0.34	OK	0
010.60	Total N, Combustion (11%)	0055	11.52	0.1000	11.43	0.2225	0.0953	35	0.39	OK	0
010.60	Total N, Combustion (11%)	0231	11.55	0.0400	11.43	0.2225	0.0953	35	0.52	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			#	Magruder PT	Method IA	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar	Tests	Z Score	Status	
010.60	Total N, Combustion (11%)	0472	11.55	0.2200	11.43	0.2225	0.0953	35	0.52	OK	0
010.60	Total N, Combustion (11%)	0220	11.56	0.0500	11.43	0.2225	0.0953	35	0.55	OK	0
010.60	Total N, Combustion (11%)	0049	11.58	0.0100	11.43	0.2225	0.0953	35	0.64	OK	0
010.60	Total N, Combustion (11%)	0547	11.58	0.1600	11.43	0.2225	0.0953	35	0.66	OK	0
010.60	Total N, Combustion (11%)	0157	11.60	0.0000	11.43	0.2225	0.0953	35	0.75	OK	0
010.60	Total N, Combustion (11%)	0027	11.65	0.0700	11.43	0.2225	0.0953	35	0.95	OK	0
010.60	Total N, Combustion (11%)	0169	11.65	0.0500	11.43	0.2225	0.0953	35	0.95	OK	0
010.60	Total N, Combustion (11%)	0405	11.65	0.0300	11.43	0.2225	0.0953	35	0.95	OK	0
010.60	Total N, Combustion (11%)	0040	11.65	0.1000	11.43	0.2225	0.0953	35	0.97	OK	0
010.60	Total N, Combustion (11%)	0136	11.75	0.3000	11.43	0.2225	0.0953	35	1.42	OK	0
010.60	Total N, Combustion (11%)	0034	11.78	0.0010	11.43	0.2225	0.0953	35	1.58	OK	0
010.60	Total N, Combustion (11%)	0255	12.26	0.1120	11.43	0.2225	0.0953	35	3.70	High	0
010.60	Total N, Combustion (11%)	0307	11.30	0.6000	11.43	0.2225	0.0953	35	-0.60	OK	1
010.99	Total N, Other (11%)	0600	11.18	0.1500				2			0
010.99	Total N, Other (11%)	0653	11.19	0.0100				2			0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0498	52.55	1.100	55.24	0.7988	0.3878	9	-3.11	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0324	54.55	0.1000	55.24	0.7988	0.3878	9	-0.80	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0405	55.01	0.0500	55.24	0.7988	0.3878	9	-0.28	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0481	55.08	0.8600	55.24	0.7988	0.3878	9	-0.19	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0220	55.34	0.4400	55.24	0.7988	0.3878	9	0.11	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0231	55.36	0.0300	55.24	0.7988	0.3878	9	0.13	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0169	55.43	0.0500	55.24	0.7988	0.3878	9	0.21	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0547	55.95	0.7000	55.24	0.7988	0.3878	9	0.82	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0455	56.90	0.2000	55.24	0.7988	0.3878	9	1.91	NA	0
020.40	Total P2O5, Automated (%)	0042	52.53	1.050				2			0
020.40	Total P2O5, Automated (%)	0035	55.25	0.3000				2			0
020.50	Total P2O5, ICP (%)	0552	23.73	1.590	54.38	3.411	0.4640	13	-8.99	NA	0
020.50	Total P2O5, ICP (%)	0389	46.95	0.5000	54.38	3.411	0.4640	13	-2.18	NA	0
020.50	Total P2O5, ICP (%)	0433	51.73	0.3400	54.38	3.411	0.4640	13	-0.78	NA	0
020.50	Total P2O5, ICP (%)	0422	52.60	0.5270	54.38	3.411	0.4640	13	-0.52	NA	0
020.50	Total P2O5, ICP (%)	0423	54.32	0.1900	54.38	3.411	0.4640	13	-0.02	NA	0
020.50	Total P2O5, ICP (%)	0255	54.87	0.5040	54.38	3.411	0.4640	13	0.14	NA	0
020.50	Total P2O5, ICP (%)	0472	55.08	0.2600	54.38	3.411	0.4640	13	0.20	NA	0
020.50	Total P2O5, ICP (%)	0451	55.25	0.1900	54.38	3.411	0.4640	13	0.25	NA	0
020.50	Total P2O5, ICP (%)	0527	55.29	0.2124	54.38	3.411	0.4640	13	0.26	NA	0
020.50	Total P2O5, ICP (%)	0291	55.41	0.0100	54.38	3.411	0.4640	13	0.30	NA	0
020.50	Total P2O5, ICP (%)	0234	56.73	0.0400	54.38	3.411	0.4640	13	0.69	NA	0
020.50	Total P2O5, ICP (%)	0307	57.70	1.000	54.38	3.411	0.4640	13	0.97	NA	0
020.50	Total P2O5, ICP (%)	0542	63.48	2.247	54.38	3.411	0.4640	13	2.67	NA	0
020.99	Total P2O5, Other (%)	0572	51.19	0.9800	53.82	1.968	0.5575	4	-1.34		0
020.99	Total P2O5, Other (%)	0515	53.45	1.030	53.82	1.968	0.5575	4	-0.19		0
020.99	Total P2O5, Other (%)	0600	55.15	0.1000	53.82	1.968	0.5575	4	0.68		0
020.99	Total P2O5, Other (%)	0647	55.49	0.1200	53.82	1.968	0.5575	4	0.85		0

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			Value	Range	Rob Mean	Rob SD	Rob R-bar				
030.20	Citrate Insoluble P2O5, Spectrophotometric MolybdovanadoP (	0405	0.0950	0.0100				1			0
040.50	Indirect Available P2O5, ICP (55%)	0547	55.10	0.2000				1			0
040.99	Indirect Available P2O5, Other (55%)	0572	51.08	0.9500				2			0
040.99	Indirect Available P2O5, Other (55%)	0405	54.91	0.0400				2			0
041.10	Direct Available P2O5, Gravimetric Quinolinium (55%)	0040	55.15	0.3000	55.26	0.0982	0.1521	3	-1.15		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (55%)	0177	55.31	0.0063	55.26	0.0982	0.1521	3	0.52		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (55%)	0102	55.33	0.1500	55.26	0.0982	0.1521	3	0.63		0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0049	53.92	0.3200	54.82	0.7930	0.3525	4	-1.13		0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0055	54.55	1.050	54.82	0.7930	0.3525	4	-0.34		0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0405	55.00	0.0100	54.82	0.7930	0.3525	4	0.23		0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0220	55.81	0.0300	54.82	0.7930	0.3525	4	1.25		0
041.20	Direct Available P2O5, Spectrophotometric (55%)	0027	53.70	0.5700	54.58	0.9650	0.5467	3	-0.92		0
041.20	Direct Available P2O5, Spectrophotometric (55%)	0553	54.45	0.5100	54.58	0.9650	0.5467	3	-0.14		0
041.20	Direct Available P2O5, Spectrophotometric (55%)	0452	55.61	0.5600	54.58	0.9650	0.5467	3	1.06		0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0095	51.73	0.5800	53.33	1.414	0.3195	6	-1.01	Low	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0472	52.63	0.7000	53.33	1.414	0.3195	6	-0.44	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0177	52.87	0.0571	53.33	1.414	0.3195	6	-0.30	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0055	53.14	0.4300	53.33	1.414	0.3195	6	-0.13	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0354	54.75	0.1000	53.33	1.414	0.3195	6	0.89	High	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0231	54.90	0.0500	53.33	1.414	0.3195	6	0.98	High	0
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (55%)	0034	55.82	0.0621				2			0
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (55%)	0029	55.94	0.7800				2			0
041.50	Direct Available P2O5, ICP (55%)	0521	53.68	0.0000				1			0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (55%)	0360	32.18	1.970	47.63	13.39	1.083	3	-1.15		0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (55%)	0117	55.22	0.6800	47.63	13.39	1.083	3	0.57		0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (55%)	0136	55.50	0.6000	47.63	13.39	1.083	3	0.59		0
041.99	Direct Available P2O5, Other (55%)	0600	54.80	0.2000				2			0
041.99	Direct Available P2O5, Other (55%)	0653	54.83	0.0100				2			0
048.20	Water Soluble P2O5, Spectrophotometric (%)	0220	50.73	0.3000				2			0
048.20	Water Soluble P2O5, Spectrophotometric (%)	0472	51.03	0.0600				2			0
048.99	Water Soluble P2O5, Other (%)	0572	47.46	0.0200				1			0
050.32	Soluble K2O, AA (Citrate-EDTA) (%)	0472	0.2800	0.0800				1			0
050.50	Soluble K2O, ICP (Oxalate) (%)	0422	0.2757	0.0063				1			0
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	0354	0.2645	0.0030				1			0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (%)	0034	< 1					0			5
050.99	Soluble K2O, Other (%)	0572	0.2059	0.0012	0.8218	0.9580	0.1917	4	-0.64		0
050.99	Soluble K2O, Other (%)	0527	0.3115	0.0057	0.8218	0.9580	0.1917	4	-0.53		0
050.99	Soluble K2O, Other (%)	0307	0.5250	0.0100	0.8218	0.9580	0.1917	4	-0.31		0
050.99	Soluble K2O, Other (%)	0552	2.245	0.7500	0.8218	0.9580	0.1917	4	1.49		0
050.99	Soluble K2O, Other (%)	0542	< 0.0015		0.8218	0.9580	0.1917	4			5
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0422	0.0320	0.0016	0.1588	0.1112	0.0049	3	-1.14		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0354	0.2050	0.0100	0.1588	0.1112	0.0049	3	0.42		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0035	0.2395	0.0030	0.1588	0.1112	0.0049	3	0.73		0

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			Value	Range	Rob Mean	Rob SD	Rob R-bar				
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0472	0.0450	0.0100				1			0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0527	< 0.01					1			5
101.99	Acid Soluble Ca, Other (%)	0542	0.0286	0.0006	0.4682	0.7593	0.0703	3	-0.58		0
101.99	Acid Soluble Ca, Other (%)	0572	0.0310	0.0002	0.4682	0.7593	0.0703	3	-0.58		0
101.99	Acid Soluble Ca, Other (%)	0552	1.345	0.2100	0.4682	0.7593	0.0703	3	1.15		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0422	0.7174	0.0013	0.7783	0.0531	0.0174	3	-1.15		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0035	0.8025	0.0210	0.7783	0.0531	0.0174	3	0.46		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	0.8150	0.0300	0.7783	0.0531	0.0174	3	0.69		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0472	0.7700	0.0000	0.8019	0.0362	0.0323	4	-0.88		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0515	0.7780	0.0778	0.8019	0.0362	0.0323	4	-0.66		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0494	0.8100	0.0144	0.8019	0.0362	0.0323	4	0.22		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0527	0.8497	0.0046	0.8019	0.0362	0.0323	4	1.32		0
121.99	Acid Soluble Mg, Other (%)	0542	0.5465	0.0128	0.7723	0.2889	0.0327	4	-0.78		0
121.99	Acid Soluble Mg, Other (%)	0572	0.5901	0.0094	0.7723	0.2889	0.0327	4	-0.63		0
121.99	Acid Soluble Mg, Other (%)	0515	0.7727	0.0884	0.7723	0.2889	0.0327	4	0.00		0
121.99	Acid Soluble Mg, Other (%)	0552	1.180	0.0200	0.7723	0.2889	0.0327	4	1.41		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0472	1.575	0.0100				2			0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0515	1.883	0.1550				2			0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0527	< 0.1					2			5
148.99	Total S, Other (%)	0572	1.022	0.0095	1.337	0.2745	0.0162	4	-1.15		0
148.99	Total S, Other (%)	0542	1.256	0.0360	1.337	0.2745	0.0162	4	-0.29		0
148.99	Total S, Other (%)	0422	1.389	0.0030	1.337	0.2745	0.0162	4	0.19		0
148.99	Total S, Other (%)	0354	1.680	0.0000	1.337	0.2745	0.0162	4	1.25		0
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid	0498	1.100	0.0000				1			0
151.30	Acid Soluble As, ICP (ppm)	0255	0.0000	0.0000				0			4
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0220	0.6500	0.1000				1			0
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0405	< 3					1			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0136	1.050	0.1000				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0515	7.939	0.3000				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0527	< 0.0001					2			5
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0515	2.030	0.6170				1			0
151.99	Acid Soluble As, Other (ppm)	0220	0.6500	0.1000	0.9233	0.2380	0.0733	3	-1.15		0
151.99	Acid Soluble As, Other (ppm)	0572	1.035	0.0700	0.9233	0.2380	0.0733	3	0.47		0
151.99	Acid Soluble As, Other (ppm)	0481	1.085	0.0500	0.9233	0.2380	0.0733	3	0.68		0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0422	0.0094	0.0002				2			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	0.0100	0.0000				2			0
165.99	Acid Soluble B, Other (%)	0542	0.0063	0.0001	0.0085	0.0019	0.0005	4	-1.21		0
165.99	Acid Soluble B, Other (%)	0515	0.0077	0.0014	0.0085	0.0019	0.0005	4	-0.44		0
165.99	Acid Soluble B, Other (%)	0472	0.0100	0.0000	0.0085	0.0019	0.0005	4	0.78		0
165.99	Acid Soluble B, Other (%)	0527	0.0102	0.0001	0.0085	0.0019	0.0005	4	0.86		0
165.99	Acid Soluble B, Other (%)	0552	0.0000	0.0000	0.0085	0.0019	0.0005	4			4
181.30	Acid Soluble Cd, ICP (ppm)	0035	9.105	1.030				2			0
181.30	Acid Soluble Cd, ICP (ppm)	0255	11.89	5.120				2			0

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181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0220	8.650	0.7000				2			0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0405	10.00	0.0000				2			0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0136	9.050	0.3000	10.10	1.493	0.6349	5	-0.70		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0494	9.425	0.4700	10.10	1.493	0.6349	5	-0.45		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0102	9.500	0.4000	10.10	1.493	0.6349	5	-0.40		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0527	9.778	0.0945	10.10	1.493	0.6349	5	-0.21		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0515	12.73	1.910	10.10	1.493	0.6349	5	1.76		0
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0515	2.602	1.830				1			0
181.99	Acid Soluble Cd, Other (ppm)	0481	7.790	0.2600	8.557	0.6964	0.3067	3	-1.10		0
181.99	Acid Soluble Cd, Other (ppm)	0572	8.730	0.3600	8.557	0.6964	0.3067	3	0.25		0
181.99	Acid Soluble Cd, Other (ppm)	0220	9.150	0.3000	8.557	0.6964	0.3067	3	0.85		0
191.00	Acid Soluble Cr, AA, test portion 2006.03 modified w/dual acid (ppm)	0498	57.75	2.100				1			0
191.30	Acid Soluble Cr, ICP (ppm)	0027	211.6	6.256				2			0
191.30	Acid Soluble Cr, ICP (ppm)	0035	220.0	6.000				2			0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0220	170.5	1.000				2			0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0405	250.0	2.000				2			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0515	237.6	25.30	244.8	8.757	11.07	4	-0.83		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0494	238.0	14.00	244.8	8.757	11.07	4	-0.78		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0527	248.0	4.175	244.8	8.757	11.07	4	0.36		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0136	255.8	0.8000	244.8	8.757	11.07	4	1.25		0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0515	241.2	4.000				1			0
191.99	Acid Soluble Cr, Other (ppm)	0220	172.0	2.000	200.9	43.90	3.560	3	-0.66		0
191.99	Acid Soluble Cr, Other (ppm)	0572	179.2	0.8800	200.9	43.90	3.560	3	-0.49		0
191.99	Acid Soluble Cr, Other (ppm)	0481	251.4	7.800	200.9	43.90	3.560	3	1.15		0
202.30	Acid Soluble Co, ICP (ppm)	0542	0.9620	0.0200				2			0
202.30	Acid Soluble Co, ICP (ppm)	0035	1.024	0.0720				2			0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0405	1.500	1.000				1			0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0220	< 0.1					1			5
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0515	3.448	0.4680				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)	0136	< 2.5					1			5
202.99	Acid Soluble Co, Other (ppm)	0255	69.98	40.00				1			0
202.99	Acid Soluble Co, Other (ppm)	0220	< 0.1					1			5
202.99	Acid Soluble Co, Other (ppm)	0572	< 0.68					1			5
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0552	0.2600	0.0000				1			0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0255	0.0000	0.0000				1			4
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0422	0.0000	0.0000				1			4
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					1			5
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0423	4.700	0.2000				1			0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0405	< 0.0002					1			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0515	0.0007	0.0004				1			0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0527	< 0.0001					1			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0136	< 0.0002					1			5

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221.99	Acid Soluble Cu, Other (%)	0515	0.0004	0.0001				1			0
221.99	Acid Soluble Cu, Other (%)	0027	< 0.001					1			5
221.99	Acid Soluble Cu, Other (%)	0481	< 0.01					1			5
221.99	Acid Soluble Cu, Other (%)	0542	< 0.015					1			5
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0035	0.4865	0.0270	0.6016	0.1642	0.0210	4	-0.70		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0354	0.5000	0.0000	0.6016	0.1642	0.0210	4	-0.62		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0422	0.5799	0.0159	0.6016	0.1642	0.0210	4	-0.13		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0552	0.8400	0.0200	0.6016	0.1642	0.0210	4	1.45		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0494	0.4798	0.0178	0.5200	0.0308	0.0384	4	-1.30		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0515	0.5132	0.0832	0.5200	0.0308	0.0384	4	-0.22		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0527	0.5369	0.0143	0.5200	0.0308	0.0384	4	0.55		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0472	0.5500	0.0000	0.5200	0.0308	0.0384	4	0.98		0
241.99	Acid Soluble Fe, Other (%)	0542	0.3642	0.0103	0.4445	0.0804	0.0227	3	-1.00		0
241.99	Acid Soluble Fe, Other (%)	0515	0.4445	0.0539	0.4445	0.0804	0.0227	3	0.00		0
241.99	Acid Soluble Fe, Other (%)	0572	0.5250	0.0040	0.4445	0.0804	0.0227	3	1.00		0
251.30	Acid Soluble Pb, ICP (ppm)	0255	0.0000	0.0000				0			4
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0220	< 0.7					0			5
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0405	< 4					0			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0527	< 0.0001					0			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0515	< 0.21					0			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0136	< 3					0			5
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0515	< 0.216					0			5
251.99	Acid Soluble Pb, Other (ppm)	0572	0.0900	0.0200				1			0
251.99	Acid Soluble Pb, Other (ppm)	0481	< 0.5					1			5
251.99	Acid Soluble Pb, Other (ppm)	0220	< 0.7					1			5
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0354	0.0100	0.0000	0.0105	0.0005	0.0000	3	-1.06		0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0422	0.0106	0.0000	0.0105	0.0005	0.0000	3	0.13		0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0035	0.0110	0.0000	0.0105	0.0005	0.0000	3	0.93		0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)	0552	0.2250	0.0100				1			0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0494	0.0080	0.0012	0.0142	0.0088	0.0055	4	-0.71		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0472	0.0100	0.0000	0.0142	0.0088	0.0055	4	-0.48		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0527	0.0118	0.0001	0.0142	0.0088	0.0055	4	-0.28		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0515	0.0272	0.0152	0.0142	0.0088	0.0055	4	1.48		0
261.99	Acid Soluble Mn, Other (%)	0542	0.0084	0.0001				1			0
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)	0405	< 2					0			5
281.99	Acid Soluble Hg, Other (ppm)	0572	< 0.009					0			5
281.99	Acid Soluble Hg, Other (ppm)	0220	< 0.01					0			5
289.30	Acid Soluble Mo, ICP (ppm)	0542	1.903	0.3080	3.324	1.446	0.8077	3	-0.98		0
289.30	Acid Soluble Mo, ICP (ppm)	0035	3.275	0.6100	3.324	1.446	0.8077	3	-0.03		0
289.30	Acid Soluble Mo, ICP (ppm)	0255	4.795	1.505	3.324	1.446	0.8077	3	1.02		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				
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0220	2.500	0.0000				2			0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0405	4.000	0.0000				2			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0136	3.500	0.0000	5.472	3.059	0.4937	3	-0.64		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	3.921	0.1464	5.472	3.059	0.4937	3	-0.51		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0515	8.996	0.8410	5.472	3.059	0.4937	3	1.15		0
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0515	1.211	1.025				1			0
289.99	Acid Soluble Mo, Other (ppm)	0220	2.550	0.1000				1			0
291.30	Acid Soluble Ni, ICP (ppm)	0542	5.784	0.1390				2			0
291.30	Acid Soluble Ni, ICP (ppm)	0035	8.205	0.5700				2			0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0220	5.600	0.0000				2			0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0405	10.00	0.0000				2			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0102	7.250	0.1000	8.472	0.8706	0.4478	4	-1.40		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0527	8.497	0.5853	8.472	0.8706	0.4478	4	0.03		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0515	8.890	1.006	8.472	0.8706	0.4478	4	0.48		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0136	9.250	0.1000	8.472	0.8706	0.4478	4	0.89		0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0515	2.584	2.394				1			0
291.99	Acid Soluble Ni, Other (ppm)	0220	5.700	0.0000	51.27	78.26	58.90	3	-0.58		0
291.99	Acid Soluble Ni, Other (ppm)	0572	6.465	0.0700	51.27	78.26	58.90	3	-0.57		0
291.99	Acid Soluble Ni, Other (ppm)	0255	141.6	117.7	51.27	78.26	58.90	3	1.15		0
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	10.26	1.716				1			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0527	< 0.01					1			5
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0515	1.471	1.132				1			0
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)	0481	< 0.5					0			5
301.99	Acid Soluble Se, Other (ppm)	0572	< 0.7					0			5
311.32	Sodium, ICP, 2006.03 test portion (%)	0422	0.2961	0.0000				1			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0035	0.3280	0.0040				2			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	0.3634	0.0034				2			0
311.99	Sodium, Other (%)	0542	0.2235	0.0055				2			0
311.99	Sodium, Other (%)	0354	0.3750	0.0100				2			0
321.03	Acid Soluble Zn, AA, 965.09, test portion 2006.03A-C w/dual ac	0498	0.0500	0.0000				1			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0422	0.0422	0.0003	0.3666	0.7146	0.0448	5	-0.45		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0255	0.0460	0.0000	0.3666	0.7146	0.0448	5	-0.45		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0035	0.0500	0.0040	0.3666	0.7146	0.0448	5	-0.44		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0354	0.0500	0.0000	0.3666	0.7146	0.0448	5	-0.44		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0552	1.645	0.1300	0.3666	0.7146	0.0448	5	1.79		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0220	0.0455	0.0030	150.4	300.7	2.348	4	-0.50		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0095	0.0500	0.0000	150.4	300.7	2.348	4	-0.50		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0405	0.0715	0.0396	150.4	300.7	2.348	4	-0.50		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0423	601.5	7.000	150.4	300.7	2.348	4	1.50		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 (%)	0494	0.0456	0.0021	0.0489	0.0037	0.0025	5	-0.90		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0515	0.0458	0.0057	0.0489	0.0037	0.0025	5	-0.84		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0136	0.0485	0.0010	0.0489	0.0037	0.0025	5	-0.10		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0472	0.0500	0.0000	0.0489	0.0037	0.0025	5	0.30		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0527	0.0547	0.0011	0.0489	0.0037	0.0025	5	1.55		0
321.99	Acid Soluble Zn, Other (%)	0542	0.0336	0.0004	0.0415	0.0071	0.0017	5	-1.11		0
321.99	Acid Soluble Zn, Other (%)	0572	0.0340	0.0000	0.0415	0.0071	0.0017	5	-1.05		0
321.99	Acid Soluble Zn, Other (%)	0027	0.0455	0.0010	0.0415	0.0071	0.0017	5	0.57		0
321.99	Acid Soluble Zn, Other (%)	0515	0.0458	0.0042	0.0415	0.0071	0.0017	5	0.61		0
321.99	Acid Soluble Zn, Other (%)	0481	0.0485	0.0010	0.0415	0.0071	0.0017	5	0.99		0

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