

Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Methods: 111

Sample # 221215

Regular PT Scheme Sample Doubles with K Scheme

Labs Reporting: 81

KCI

Statistical Summary

Issue Date : 01/31/2023

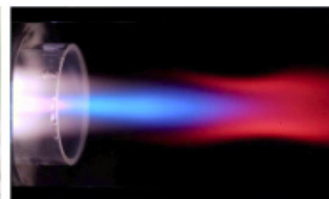
Method Code	Analyte & Method Sample # 221215	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
001.99	Ammoniacal N, Other (%)	2	2	0.0205	0.0262								
002.99	Nitrate N, Other (%)	1		0.0020									
005.99	Urea N, Other (%)	1		0.0400									
010.60	Total N, Combustion (%)	4	4	0.0600	0.0523	0.0600	0.4900	0.0523	0.0327	87.14%	0.25	0.0005	6.11%
010.99	Total N, Other (%)	1		0.1541									
020.50	Total P2O5, ICP (%)	4	2	0.0076	0.0118	0.0146		0.0147	0.0130	100.32%		0.0051	7.55%
020.99	Total P2O5, Other (%)	1		0.0052									
041.20	Direct Available P2O5, Spectrophotometric (%)	1		0.0070									
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	2	1	0.0100	0.0000								
041.50	Direct Available P2O5, ICP (%)	1		0.0300									
048.99	Water Soluble P2O5, Other (%)	1		0.0043									
050.00	Soluble K2O, STPB Oxalate (62%)	9	9	61.10	0.8702	61.09	1.7909	0.9620	0.4008	1.57%	1.25	0.3078	1.28%
050.30	Soluble K2O, AA (Oxalate) (62%)	2	2	60.23	1.015								
050.32	Soluble K2O, AA (Citrate-EDTA) (62%)	1		53.30									
050.50	Soluble K2O, ICP (Oxalate) (62%)	7	7	59.66	3.345	59.66	1.7749	3.793	1.792	6.36%	4.98	0.8704	1.29%
050.51	Soluble K2O, ICP (Citrate) (62%)	4	4	62.06	2.147	62.06	1.8006	2.147	1.342	3.46%	2.78	0.0667	1.27%
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	12	12	61.33	1.287	61.31	1.7931	0.8377	0.3023	1.37%	1.09	0.7728	1.28%
050.60	Soluble K2O, Flame Photometric (Oxalate) (62%)	2	2	63.23	1.916								
050.61	Soluble K2O, Flame Photometric (Citrate) (62%)	1		62.35									
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (62%)	3	3	60.29	1.173	60.29	1.7829	1.173	0.8468	1.95%	1.53	1.053	1.29%
050.99	Soluble K2O, Other (62%)	42	41	61.93	1.911	61.75	1.7975	1.255	0.2449	2.03%	1.63	0.4510	1.27%
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours, 5g samp	3	3	0.0705	0.0593	0.0705		0.0593	0.0428	84.04%		0.0137	5.96%
060.99	Water (Free), Other (%)	6	4	0.0787	0.0467	0.0931		0.0338	0.0211	36.27%		0.0266	5.72%
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	1		0.0870									
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	3	3	0.0802	0.0133	0.0802	0.2040	0.0133	0.0096	16.53%	0.15	0.0033	5.85%
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	1		0.1100									
101.99	Acid Soluble Ca, Other (%)	1		0.0800									
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	1		0.0260									
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	3	3	0.0447	0.0052	0.0447	0.2022	0.0052	0.0038	11.64%	0.06	0.0070	6.38%

Method Code	Analyte & Method Sample # 221215	# 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 (%)	2	2	0.0385	0.0023								
131.99	Water Soluble Mg, Other (%)	1		0.0179									
145.99	Sulfate S, HCl soluble, Other (%)	1		0.0440									
148.07	Total S, ICP, test portion as in 2017.02 (%)	2	2	0.0395	0.0007								
148.99	Total S, Other (%)	3	3	0.0576	0.0207	0.0576	0.2029	0.0207	0.0150	36.00%	0.24	0.0203	6.15%
149.04	S - HNO3 soluble, ICP (%)	1		0.0277									
151.30	Acid Soluble As, ICP (ppm)	5	4	0.2230	0.1410	0.2787		0.0762	0.0476	27.33%		0.0781	19.39%
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	2	0	2.000	1.414								
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	3	2	0.6200	0.3300	0.4300		0.0354	0.0313	8.22%		0.0700	18.16%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	1		0.3000									
151.99	Acid Soluble As, Other (ppm)	3	1	0.6458	0.3083	0.4300		0.0354	0.0442	8.22%		0.4170	18.16%
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 (%)	2	1	0.0055	0.0075								
171.99	Water Soluble B, Other (%)	1		0.0122									
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acic	1		0.5000									
181.30	Acid Soluble Cd, ICP (ppm)	6	4	0.1293	0.2474	0.1687		0.3069	0.1918	182.00%		0.0572	20.91%
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	2	0	0.5500	0.6364								
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	3	2	0.3548	0.5592	0.0322		0.0329	0.0291	102.14%		0.0026	22.00%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	1		0.1000									
181.99	Acid Soluble Cd, Other (ppm)	3	0	0.2167	0.2466	0.0322		0.0329		102.14%		0.0000	22.00%
190.00	Water Soluble Cl, Titrimetric (%)	16	16	47.55	1.068	47.65	1.0000	0.8787	0.2746	1.84%	2.05	0.2625	1.45%
190.99	Water Soluble Cl, Other (%)	5	5	50.77	7.056	50.77	1.0000	7.056	3.944	13.90%	16.44	1.509	1.40%
191.30	Acid Soluble Cr, ICP (ppm)	7	7	0.7402	0.3346	0.7385		0.3755	0.1774	50.85%		0.0771	16.74%
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	2	1	1.125	0.1768								
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	3	2	1.519	0.8650	1.029		0.2319	0.2050	22.54%		0.2260	15.93%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	1		0.6000									
191.99	Acid Soluble Cr, Other (ppm)	3	2	7.320	10.99	0.9800		0.5233	0.4625	53.39%		0.2680	16.05%
202.30	Acid Soluble Co, ICP (ppm)	3	3	0.1860	0.0825	0.1860	1.0558	0.0825	0.0595	44.36%	0.18	0.0225	20.61%
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	2	1	0.6250	0.5303								
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	3	2	0.9885	1.309	0.2328	1.0698	0.0435	0.0384	18.68%	0.09	0.0135	19.92%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	2	2	0.7800	0.5233								
202.99	Acid Soluble Co, Other (ppm)	3	2	4.605	7.235	6.578	2.9733	9.019	7.972	137.12%	7.07	1.295	12.05%
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	2	0	0.0035	0.0021								
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	2	1	0.0055	0.0064								
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	2	0	0.0002	0.0000								
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	2	0	0.0002	0.0001								
221.99	Acid Soluble Cu, Other (%)	6	4	0.0011	0.0015	0.0012	0.0051	0.0019	0.0012	160.82%	0.86	0.0001	11.04%
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	1		0.0050									
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	2	2	0.0565	0.0686								

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241.33	Acid Soluble Fe, ICP, 2017.02 (%)	2	2	0.0945	0.0007								
241.99	Acid Soluble Fe, Other (%)	2	2	0.0827	0.0064								
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid	1		2.000									
251.30	Acid Soluble Pb, ICP (ppm)	7	5	0.2161	0.1231	0.2225		0.0505	0.0282	22.70%		0.0443	20.06%
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	2	1	2.200	2.546								
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	3	2	1.186	1.573	0.2788		0.0972	0.0859	34.88%		0.0395	19.39%
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	1		0.6000									
251.99	Acid Soluble Pb, Other (ppm)	3	2	0.4615	0.1612	0.4423		0.2231	0.1972	50.44%		0.0485	18.09%
261.00	Acid Soluble Mn, AA, Mn2+ only (%)	1		0.0050									
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	2	1	0.0055	0.0064								
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	1		0.0011									
261.99	Acid Soluble Mn, Other (%)	2	2	0.0011	0.0004								
281.00	Acid Soluble Hg, AA (ppm)	1		0.5000									
281.30	Acid Soluble Hg, ICP (ppm)	3	2	0.6762	1.146	0.0144		0.0189	0.0167	131.57%		0.0001	22.00%
281.99	Acid Soluble Hg, Other (ppm)	5	3	0.0052	0.0041	0.0024		0.0014	0.0010	61.04%		0.0010	22.00%
289.30	Acid Soluble Mo, ICP (ppm)	3	3	0.3898	0.4553	0.3898	1.1169	0.4553	0.3286	116.81%	0.95	0.1367	18.43%
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	2	0	0.6500	0.4950								
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	4	2	3.971	6.347	6.692	3.0077	9.386	8.296	140.25%	7.27	0.3463	12.02%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	2	2	5.242	7.295								
289.99	Acid Soluble Mo, Other (ppm)	2	0	1.400	1.556								
291.30	Acid Soluble Ni, ICP (ppm)	5	5	0.6418	0.4151	0.6418		0.4151	0.2320	64.67%		0.0968	17.10%
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	2	1	0.9250	0.1061								
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	3	2	1.104	1.210	0.4055		0.0382	0.0338	9.42%		0.0120	18.32%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	2	2	0.7050	0.1485								
291.99	Acid Soluble Ni, Other (ppm)	3	2	6.392	8.942	8.753		11.25	9.941	128.50%		0.9150	11.54%
301.30	Acid Soluble Se, ICP (ppm)	3	3	0.0415	0.0127	0.0415		0.0127	0.0091	30.50%		0.0094	22.00%
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	2	1	5.100	6.930								
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	1		2.279									
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	1		1.100									
301.99	Acid Soluble Se, Other (ppm)	4	1	0.3325	0.3123	0.0415		0.0127	0.0158	30.50%		0.1000	22.00%
311.00	Sodium, AA (%)	4	4	1.180	0.0981	1.180	0.1230	0.0981	0.0613	8.32%	1.86	0.0525	3.90%
311.30	Sodium, Flame Photometric (%)	1		2.515									
311.32	Sodium, ICP, 2006.03 test portion (%)	2	2	1.248	0.0177								
311.33	Sodium, ICP, test portion as in 2017.02 (%)	8	8	1.394	0.5154	1.237	0.1287	0.1081	0.0478	8.74%	1.96	0.0238	3.87%
311.99	Sodium, Other (%)	6	6	1.213	0.0523	1.213	0.1263	0.0594	0.0303	4.89%	1.09	0.0335	3.89%
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	2	0	0.0060	0.0057								
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	3	2	0.0043	0.0050	0.0015	0.0051	0.0015	0.0013	102.41%	0.67	0.0006	10.70%
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	2	1	0.0005	0.0002								
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	2	0	0.0002	0.0002								
321.99	Acid Soluble Zn, Other (%)	6	3	0.0009	0.0005	0.0011	0.0051	0.0004	0.0003	37.89%	0.18	0.0008	11.20%

Method Code	Analyte & Method Sample # 221215	# 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
325.99	Water Soluble Zn, Other (%)	1		0.0004									
431.99	Soluble Si in nonliquids, Other (%)	1		0.0074									

The Method IA Ratio = $2.33 * \text{Robust SD} / \text{IA at the Method Assigned Value}$. 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

Sample # 221215

KCI

Magruder Fertilizer Proficiency Testing Program

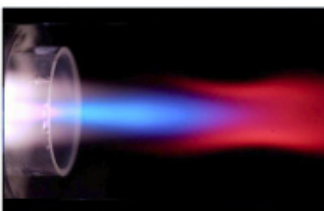
Regular PT Scheme Sample Doubles with K Scheme

Method Precision Report

Issue Date : 01/31/2023

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
050.00	Soluble K ₂ O, STPB Oxalate (62%)	9	9	61.10	0.8702	0.8484	0.2737	0.8914	1.39%	0.45%	1.46%	3.256
050.50	Soluble K ₂ O, ICP (Oxalate) (62%)	7	6	60.60	2.439	2.417	0.4629	2.461	3.99%	0.76%	4.06%	5.317
050.52	Soluble K ₂ O, ICP (Citrate-EDTA) (62%)	12	10	61.03	0.9931	0.9211	0.5249	1.060	1.51%	0.86%	1.74%	2.020
050.99	Soluble K ₂ O, Other (62%)	42	36	61.74	1.205	1.182	0.3281	1.227	1.91%	0.53%	1.99%	3.738
190.00	Water Soluble Cl, Titrimetric (%)	16	15	47.75	0.7467	0.7271	0.2402	0.7658	1.52%	0.50%	1.60%	3.188
191.30	Acid Soluble Cr, ICP (ppm)	7	7	0.7402	0.3346	0.3309	0.0709	0.3384	44.70%	9.58%	45.71%	4.769
251.30	Acid Soluble Pb, ICP (ppm)	7	5	0.2225	0.0505	0.0438	0.0356	0.0564	19.67%	16.02%	25.37%	1.583
291.30	Acid Soluble Ni, ICP (ppm)	5	5	0.6418	0.4151	0.4105	0.0868	0.4196	63.96%	13.52%	65.37%	4.836
311.33	Sodium, ICP, test portion as in 2017.02 (%)	8	7	1.214	0.0748	0.0723	0.0273	0.0773	5.95%	2.25%	6.36%	2.828
311.99	Sodium, Other (%)	6	6	1.213	0.0523	0.0479	0.0298	0.0564	3.95%	2.45%	4.65%	1.895

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



Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Methods: 111

Sample # 221215

Regular PT Scheme Sample Doubles with K Scheme

Labs Reporting: 81

KCI

Lab Values

Issue Date : 01/31/2023

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Range				
001.99	Ammoniacal N, Other (%)	0553	0.0020	0.0000				2			0
001.99	Ammoniacal N, Other (%)	0524	0.0390	0.0220				2			0
002.99	Nitrate N, Other (%)	0553	< 0.002					0			5
005.99	Urea N, Other (%)	0524	0.0400	0.0000				1			0
010.60	Total N, Combustion (%)	0422	0.0100	0.0000	0.0600	0.0523	0.0005	4	-0.96		0
010.60	Total N, Combustion (%)	0472	0.0200	0.0000	0.0600	0.0523	0.0005	4	-0.77		0
010.60	Total N, Combustion (%)	0325	0.1000	0.0000	0.0600	0.0523	0.0005	4	0.77		0
010.60	Total N, Combustion (%)	0354	0.1100	0.0020	0.0600	0.0523	0.0005	4	0.96		0
010.99	Total N, Other (%)	0524	0.1541	0.0758				1			0
020.50	Total P2O5, ICP (%)	0524	0.0043	0.0001				2			0
020.50	Total P2O5, ICP (%)	0472	0.0250	0.0100				2			0
020.50	Total P2O5, ICP (%)	0422	0.0000	0.0000				2			4
020.50	Total P2O5, ICP (%)	0588	< 0.001					2			5
020.99	Total P2O5, Other (%)	0572	0.0052	0.0006				1			0
041.20	Direct Available P2O5, Spectrophotometric (%)	0553	< 0.007					0			5
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	0568	0.0100	0.0000				1			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	0354	< 0.01					1			5
041.50	Direct Available P2O5, ICP (%)	0325	0.0300	0.0200				1			0
048.99	Water Soluble P2O5, Other (%)	0572	0.0043	0.0003				1			0
050.00	Soluble K2O, STPB Oxalate (62%)	0055	59.81	0.7300	61.09	0.9620	0.3078	9	-1.23	OK	0
050.00	Soluble K2O, STPB Oxalate (62%)	0494	60.02	0.4200	61.09	0.9620	0.3078	9	-1.02	OK	0
050.00	Soluble K2O, STPB Oxalate (62%)	0220	60.77	0.0700	61.09	0.9620	0.3078	9	-0.31	OK	0
050.00	Soluble K2O, STPB Oxalate (62%)	0405	60.77	0.1100	61.09	0.9620	0.3078	9	-0.31	OK	0
050.00	Soluble K2O, STPB Oxalate (62%)	0102	61.35	0.0000	61.09	0.9620	0.3078	9	0.25	OK	0
050.00	Soluble K2O, STPB Oxalate (62%)	0444	61.40	0.4000	61.09	0.9620	0.3078	9	0.30	OK	0
050.00	Soluble K2O, STPB Oxalate (62%)	0231	61.41	0.1100	61.09	0.9620	0.3078	9	0.31	OK	0
050.00	Soluble K2O, STPB Oxalate (62%)	0049	61.74	0.3700	61.09	0.9620	0.3078	9	0.62	OK	0
050.00	Soluble K2O, STPB Oxalate (62%)	0114	62.63	0.5600	61.09	0.9620	0.3078	9	1.48	OK	0
050.30	Soluble K2O, AA (Oxalate) (62%)	0073	59.52	0.2700				2			0
050.30	Soluble K2O, AA (Oxalate) (62%)	0040	60.95	0.1000				2			0
050.32	Soluble K2O, AA (Citrate-EDTA) (62%)	0472	53.30	0.0000				1			0
050.50	Soluble K2O, ICP (Oxalate) (62%)	0324	54.00	2.800	59.66	3.793	0.8704	7	-1.35	Low	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Range				
050.50	Soluble K2O, ICP (Oxalate) (62%)	0106	58.08	0.4200	59.66	3.793	0.8704	7	-0.38	OK	0
050.50	Soluble K2O, ICP (Oxalate) (62%)	0055	58.14	0.3700	59.66	3.793	0.8704	7	-0.36	OK	0
050.50	Soluble K2O, ICP (Oxalate) (62%)	0117	60.33	1.129	59.66	3.793	0.8704	7	0.16	OK	0
050.50	Soluble K2O, ICP (Oxalate) (62%)	0444	60.45	0.8900	59.66	3.793	0.8704	7	0.19	OK	0
050.50	Soluble K2O, ICP (Oxalate) (62%)	0169	62.21	0.0500	59.66	3.793	0.8704	7	0.61	High	0
050.50	Soluble K2O, ICP (Oxalate) (62%)	0422	64.43	0.4337	59.66	3.793	0.8704	7	1.14	High	0
050.51	Soluble K2O, ICP (Citrate) (62%)	0397	59.33	0.0177	62.06	2.147	0.0667	4	-1.27		0
050.51	Soluble K2O, ICP (Citrate) (62%)	0291	61.51	0.0300	62.06	2.147	0.0667	4	-0.26		0
050.51	Soluble K2O, ICP (Citrate) (62%)	0368	63.10	0.2189	62.06	2.147	0.0667	4	0.48		0
050.51	Soluble K2O, ICP (Citrate) (62%)	0568	64.30	0.0000	62.06	2.147	0.0667	4	1.04		0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0117	58.69	0.3802	61.31	0.8377	0.7728	12	-3.13	Low	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0360	60.32	0.2400	61.31	0.8377	0.7728	12	-1.18	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0354	60.85	0.1000	61.31	0.8377	0.7728	12	-0.55	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0025	60.95	0.9000	61.31	0.8377	0.7728	12	-0.43	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0023	61.05	0.5000	61.31	0.8377	0.7728	12	-0.31	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0485	61.20	1.200	61.31	0.8377	0.7728	12	-0.13	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0037	61.24	1.339	61.31	0.8377	0.7728	12	-0.08	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0043	61.52	2.940	61.31	0.8377	0.7728	12	0.25	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0543	61.90	0.1740	61.31	0.8377	0.7728	12	0.71	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0423	62.00	0.5500	61.31	0.8377	0.7728	12	0.82	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0136	62.07	0.8200	61.31	0.8377	0.7728	12	0.91	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0377	64.23	0.1300	61.31	0.8377	0.7728	12	3.48	High	0
050.60	Soluble K2O, Flame Photometric (Oxalate) (62%)	0510	61.88	0.2421				2			0
050.60	Soluble K2O, Flame Photometric (Oxalate) (62%)	0041	64.59	0.0500				2			0
050.61	Soluble K2O, Flame Photometric (Citrate) (62%)	0035	62.35	1.900				1			0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (62%)	0029	59.06	0.0500	60.29	1.173	1.053	3	-1.05		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (62%)	0095	60.43	3.090	60.29	1.173	1.053	3	0.12		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (62%)	0513	61.39	0.0200	60.29	1.173	1.053	3	0.94		0
050.99	Soluble K2O, Other (62%)	0255	56.55	0.3980	61.75	1.255	0.4510	41	-4.15	Low	0
050.99	Soluble K2O, Other (62%)	0260	59.20	0.9000	61.75	1.255	0.4510	41	-2.03	Low	0
050.99	Soluble K2O, Other (62%)	0501	59.70	0.5600	61.75	1.255	0.4510	41	-1.64	Low	0
050.99	Soluble K2O, Other (62%)	0177	59.78	0.2721	61.75	1.255	0.4510	41	-1.57	Low	0
050.99	Soluble K2O, Other (62%)	0524	60.27	0.2030	61.75	1.255	0.4510	41	-1.19	OK	0
050.99	Soluble K2O, Other (62%)	0590	60.42	0.0500	61.75	1.255	0.4510	41	-1.07	OK	0
050.99	Soluble K2O, Other (62%)	0575	60.49	0.5100	61.75	1.255	0.4510	41	-1.01	OK	0
050.99	Soluble K2O, Other (62%)	0234	60.70	0.2000	61.75	1.255	0.4510	41	-0.84	OK	0
050.99	Soluble K2O, Other (62%)	0561	60.74	0.3200	61.75	1.255	0.4510	41	-0.81	OK	0
050.99	Soluble K2O, Other (62%)	0157	60.95	1.900	61.75	1.255	0.4510	41	-0.64	OK	0
050.99	Soluble K2O, Other (62%)	0389	61.15	0.1600	61.75	1.255	0.4510	41	-0.48	OK	0
050.99	Soluble K2O, Other (62%)	0307	61.17	1.000	61.75	1.255	0.4510	41	-0.46	OK	0
050.99	Soluble K2O, Other (62%)	0476	61.22	0.1968	61.75	1.255	0.4510	41	-0.42	OK	0
050.99	Soluble K2O, Other (62%)	0394	61.32	0.7740	61.75	1.255	0.4510	41	-0.35	OK	0
050.99	Soluble K2O, Other (62%)	0451	61.48	0.0700	61.75	1.255	0.4510	41	-0.22	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Range				
050.99	Soluble K2O, Other (62%)	0325	61.50	1.000	61.75	1.255	0.4510	41	-0.20	OK	0
050.99	Soluble K2O, Other (62%)	0545	61.58	0.0400	61.75	1.255	0.4510	41	-0.14	OK	0
050.99	Soluble K2O, Other (62%)	0533	61.69	0.2100	61.75	1.255	0.4510	41	-0.05	OK	0
050.99	Soluble K2O, Other (62%)	0553	61.80	0.0000	61.75	1.255	0.4510	41	0.04	OK	0
050.99	Soluble K2O, Other (62%)	0562	61.80	0.1000	61.75	1.255	0.4510	41	0.04	OK	0
050.99	Soluble K2O, Other (62%)	0558	61.81	0.0478	61.75	1.255	0.4510	41	0.04	OK	0
050.99	Soluble K2O, Other (62%)	0564	61.82	0.0700	61.75	1.255	0.4510	41	0.05	OK	0
050.99	Soluble K2O, Other (62%)	0565	61.84	0.0800	61.75	1.255	0.4510	41	0.07	OK	0
050.99	Soluble K2O, Other (62%)	0498	61.85	1.100	61.75	1.255	0.4510	41	0.08	OK	0
050.99	Soluble K2O, Other (62%)	0600	61.88	0.1500	61.75	1.255	0.4510	41	0.10	OK	0
050.99	Soluble K2O, Other (62%)	0481	61.90	0.8500	61.75	1.255	0.4510	41	0.11	OK	0
050.99	Soluble K2O, Other (62%)	0560	61.90	0.0800	61.75	1.255	0.4510	41	0.12	OK	0
050.99	Soluble K2O, Other (62%)	0521	62.14	2.410	61.75	1.255	0.4510	41	0.30	OK	0
050.99	Soluble K2O, Other (62%)	0538	62.15	0.1000	61.75	1.255	0.4510	41	0.32	OK	0
050.99	Soluble K2O, Other (62%)	0556	62.20	0.2000	61.75	1.255	0.4510	41	0.36	OK	0
050.99	Soluble K2O, Other (62%)	0577	62.33	0.3900	61.75	1.255	0.4510	41	0.46	OK	0
050.99	Soluble K2O, Other (62%)	0540	62.40	0.4800	61.75	1.255	0.4510	41	0.52	OK	0
050.99	Soluble K2O, Other (62%)	0534	62.54	0.0000	61.75	1.255	0.4510	41	0.63	OK	0
050.99	Soluble K2O, Other (62%)	0523	62.70	0.6000	61.75	1.255	0.4510	41	0.75	OK	0
050.99	Soluble K2O, Other (62%)	0527	63.17	0.2429	61.75	1.255	0.4510	41	1.13	OK	0
050.99	Soluble K2O, Other (62%)	0027	63.44	0.1900	61.75	1.255	0.4510	41	1.34	OK	0
050.99	Soluble K2O, Other (62%)	0421	63.55	0.3000	61.75	1.255	0.4510	41	1.43	OK	0
050.99	Soluble K2O, Other (62%)	0548	64.30	0.2000	61.75	1.255	0.4510	41	2.03	High	0
050.99	Soluble K2O, Other (62%)	0572	64.88	0.6260	61.75	1.255	0.4510	41	2.49	High	0
050.99	Soluble K2O, Other (62%)	0588	67.55	1.500	61.75	1.255	0.4510	41	4.62	High	0
050.99	Soluble K2O, Other (62%)	0563	67.68	0.0100	61.75	1.255	0.4510	41	4.72	High	0
050.99	Soluble K2O, Other (62%)	0042	63.70	6.400	61.75	1.255	0.4510	41	1.55	High	1
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours, 5g sampl	0394	0.0115	0.0010	0.0705	0.0593	0.0137	3	-1.00		0
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours, 5g sampl	0561	0.0700	0.0000	0.0705	0.0593	0.0137	3	-0.01		0
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours, 5g sampl	0220	0.1300	0.0400	0.0705	0.0593	0.0137	3	1.00		0
060.99	Water (Free), Other (%)	0513	0.0480	0.0020	0.0931	0.0338	0.0266	4	-1.13		0
060.99	Water (Free), Other (%)	0405	0.0955	0.0030	0.0931	0.0338	0.0266	4	0.06		0
060.99	Water (Free), Other (%)	0510	0.0991	0.0006	0.0931	0.0338	0.0266	4	0.15		0
060.99	Water (Free), Other (%)	0572	0.1298	0.1009	0.0931	0.0338	0.0266	4	0.92		0
060.99	Water (Free), Other (%)	0136	0.0000	0.0000	0.0931	0.0338	0.0266	4			4
060.99	Water (Free), Other (%)	0481	< 0.1		0.0931	0.0338	0.0266	4			5
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	0553	0.0870	0.0040				1			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0568	0.0695	0.0000	0.0802	0.0133	0.0033	3	-0.80		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0035	0.0760	0.0000	0.0802	0.0133	0.0033	3	-0.31		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0354	0.0950	0.0100	0.0802	0.0133	0.0033	3	1.12		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0472	0.1100	0.0200				1			0
101.99	Acid Soluble Ca, Other (%)	0572	0.0800	0.0004				1			0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	0553	0.0260	0.0020				1			0

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			Value	Range	Rob Mean	Rob SD	Range				
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0568	0.0396	0.0000	0.0447	0.0052	0.0070	3	-0.98		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0035	0.0445	0.0010	0.0447	0.0052	0.0070	3	-0.04		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	0.0500	0.0200	0.0447	0.0052	0.0070	3	1.02		0
121.99	Acid Soluble Mg, Other (%)	0524	0.0369	0.0003				2			0
121.99	Acid Soluble Mg, Other (%)	0572	0.0402	0.0015				2			0
131.99	Water Soluble Mg, Other (%)	0572	0.0179	0.0039				1			0
145.99	Sulfate S, HCl soluble, Other (%)	0553	0.0440	0.0020				1			0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0035	0.0390	0.0040				2			0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0472	0.0400	0.0000				2			0
148.99	Total S, Other (%)	0422	0.0342	0.0037	0.0576	0.0207	0.0203	3	-1.13		0
148.99	Total S, Other (%)	0354	0.0650	0.0100	0.0576	0.0207	0.0203	3	0.36		0
148.99	Total S, Other (%)	0572	0.0736	0.0471	0.0576	0.0207	0.0203	3	0.77		0
149.04	S - HNO3 soluble, ICP (%)	0524	0.0277	0.0004				1			0
151.30	Acid Soluble As, ICP (ppm)	0524	0.1707	0.0092	0.2787	0.0762	0.0781	4	-1.42		0
151.30	Acid Soluble As, ICP (ppm)	0415	0.2843	0.0253	0.2787	0.0762	0.0781	4	0.07		0
151.30	Acid Soluble As, ICP (ppm)	0523	0.3150	0.1680	0.2787	0.0762	0.0781	4	0.48		0
151.30	Acid Soluble As, ICP (ppm)	0501	0.3450	0.1100	0.2787	0.0762	0.0781	4	0.87		0
151.30	Acid Soluble As, ICP (ppm)	0255	0.0000	0.0000	0.2787	0.0762	0.0781	4			4
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0220	< 1					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	0.4050	0.0100				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0563	0.4550	0.1300				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0136	< 1					2			5
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0368	< 0.3					0			5
151.99	Acid Soluble As, Other (ppm)	0572	0.4375	0.4170				1			0
151.99	Acid Soluble As, Other (ppm)	0481	< 0.5					1			5
151.99	Acid Soluble As, Other (ppm)	0220	< 1					1			5
165.00	Acid Soluble B, Spectrophotometric (%)	0553	< 0.001					0			5
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	< 0.01					0			5
165.99	Acid Soluble B, Other (%)	0524	0.0002	0.0000				1			0
165.99	Acid Soluble B, Other (%)	0572	< 0.0108					1			5
171.99	Water Soluble B, Other (%)	0572	< 0.0122					0			5
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid	0534	< 0.5					0			5
181.30	Acid Soluble Cd, ICP (ppm)	0524	0.0106	0.0002	0.1687	0.3069	0.0572	4	-0.44		0
181.30	Acid Soluble Cd, ICP (ppm)	0415	0.0130	0.0044	0.1687	0.3069	0.0572	4	-0.43		0
181.30	Acid Soluble Cd, ICP (ppm)	0523	0.0220	0.0060	0.1687	0.3069	0.0572	4	-0.41		0
181.30	Acid Soluble Cd, ICP (ppm)	0255	0.6290	0.2180	0.1687	0.3069	0.0572	4	1.27		0
181.30	Acid Soluble Cd, ICP (ppm)	0501	< 0.001		0.1687	0.3069	0.0572	4			5
181.30	Acid Soluble Cd, ICP (ppm)	0394	< 0.1		0.1687	0.3069	0.0572	4			5
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0220	< 0.1					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	0.0090	0.0001				2			0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0563	0.0555	0.0050				2			0

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			Value	Range	Rob Mean	Rob SD	Range				
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0136	< 1					2			5
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0368	< 0.1					0			5
181.99	Acid Soluble Cd, Other (ppm)	0572	< 0.05					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
190.00	Water Soluble Cl, Titrimetric (%)	0553	44.60	0.2000	47.65	0.8787	0.2625	16	-3.47	Low	0
190.00	Water Soluble Cl, Titrimetric (%)	0513	46.48	0.0600	47.65	0.8787	0.2625	16	-1.33	Low	0
190.00	Water Soluble Cl, Titrimetric (%)	0029	46.87	0.4940	47.65	0.8787	0.2625	16	-0.89	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0389	47.28	0.4500	47.65	0.8787	0.2625	16	-0.42	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0220	47.33	0.4400	47.65	0.8787	0.2625	16	-0.36	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0444	47.43	0.0000	47.65	0.8787	0.2625	16	-0.25	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0394	47.48	0.2400	47.65	0.8787	0.2625	16	-0.19	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0405	47.53	0.0300	47.65	0.8787	0.2625	16	-0.14	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0600	47.60	0.3000	47.65	0.8787	0.2625	16	-0.05	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0562	47.63	0.1500	47.65	0.8787	0.2625	16	-0.02	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0565	47.74	0.0200	47.65	0.8787	0.2625	16	0.11	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0564	47.75	0.0700	47.65	0.8787	0.2625	16	0.11	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0481	48.32	0.5100	47.65	0.8787	0.2625	16	0.76	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0561	48.68	0.3600	47.65	0.8787	0.2625	16	1.18	High	0
190.00	Water Soluble Cl, Titrimetric (%)	0498	48.95	0.7000	47.65	0.8787	0.2625	16	1.48	High	0
190.00	Water Soluble Cl, Titrimetric (%)	0397	49.21	0.1762	47.65	0.8787	0.2625	16	1.78	High	0
190.99	Water Soluble Cl, Other (%)	0029	46.97	0.4100	50.77	7.056	1.509	5	-0.54		0
190.99	Water Soluble Cl, Other (%)	0136	47.29	1.060	50.77	7.056	1.509	5	-0.49		0
190.99	Water Soluble Cl, Other (%)	0451	47.81	0.2200	50.77	7.056	1.509	5	-0.42		0
190.99	Water Soluble Cl, Other (%)	0572	48.44	0.0606	50.77	7.056	1.509	5	-0.33		0
190.99	Water Soluble Cl, Other (%)	0494	63.35	5.797	50.77	7.056	1.509	5	1.78		0
191.30	Acid Soluble Cr, ICP (ppm)	0389	0.4665	0.0350	0.7385	0.3755	0.0771	7	-0.65	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0524	0.4748	0.0070	0.7385	0.3755	0.0771	7	-0.63	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0394	0.5500	0.0200	0.7385	0.3755	0.0771	7	-0.45	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0501	0.5800	0.0400	0.7385	0.3755	0.0771	7	-0.38	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0415	0.6914	0.1159	0.7385	0.3755	0.0771	7	-0.11	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0035	1.105	0.1300	0.7385	0.3755	0.0771	7	0.88	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0523	1.314	0.1920	0.7385	0.3755	0.0771	7	1.39	NA	0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0220	1.250	0.3000				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	0.8650	0.0100				2			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0563	1.193	0.4420				2			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0136	< 2.5					2			5
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0368	0.6000	0.0000				1			0
191.99	Acid Soluble Cr, Other (ppm)	0572	0.6100	0.0360				2			0
191.99	Acid Soluble Cr, Other (ppm)	0220	1.350	0.5000				2			0
191.99	Acid Soluble Cr, Other (ppm)	0481	< 20					2			5
202.30	Acid Soluble Co, ICP (ppm)	0389	0.1000	0.0120	0.1860	0.0825	0.0225	3	-1.04		0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Range				
202.30	Acid Soluble Co, ICP (ppm)	0524	0.1934	0.0266	0.1860	0.0825	0.0225	3	0.09		0
202.30	Acid Soluble Co, ICP (ppm)	0523	0.2645	0.0290	0.1860	0.0825	0.0225	3	0.95		0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0220	0.2500	0.1000				1			0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0405	< 1					1			5
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0563	0.2020	0.0260				2			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0548	0.2635	0.0010				2			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0136	< 2.5					2			5
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0501	0.4100	0.0000				2			0
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0368	1.150	1.700				2			0
202.99	Acid Soluble Co, Other (ppm)	0220	0.2000	0.0000				2			0
202.99	Acid Soluble Co, Other (ppm)	0255	12.96	2.590				2			0
202.99	Acid Soluble Co, Other (ppm)	0572	< 0.66					2			5
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0498	< 0.002					0			5
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0553	< 0.005					0			5
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0255	0.0010	0.0000				1			0
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 (%)	0394	< 0.0002					0			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	0.0001	0.0002				0			4
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0136	< 0.0002					0			5
221.99	Acid Soluble Cu, Other (%)	0524	0.0001	0.0000	0.0012	0.0019	0.0001	4	-0.48		0
221.99	Acid Soluble Cu, Other (%)	0572	0.0002	0.0001	0.0012	0.0019	0.0001	4	-0.46		0
221.99	Acid Soluble Cu, Other (%)	0368	0.0005	0.0001	0.0012	0.0019	0.0001	4	-0.33		0
221.99	Acid Soluble Cu, Other (%)	0523	0.0040	0.0000	0.0012	0.0019	0.0001	4	1.27		0
221.99	Acid Soluble Cu, Other (%)	0481	< 0.001		0.0012	0.0019	0.0001	4			5
221.99	Acid Soluble Cu, Other (%)	0501	< 0.001		0.0012	0.0019	0.0001	4			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 (%)	0035	0.0080	0.0000				2			0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0354	0.1050	0.0100				2			0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0527	0.0940	0.0004				2			0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0472	0.0950	0.0100				2			0
241.99	Acid Soluble Fe, Other (%)	0572	0.0781	0.0034				2			0
241.99	Acid Soluble Fe, Other (%)	0524	0.0872	0.0028				2			0
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid	0534	< 2					0			5
251.30	Acid Soluble Pb, ICP (ppm)	0524	0.1488	0.0484	0.2225	0.0505	0.0443	5	-1.27		0
251.30	Acid Soluble Pb, ICP (ppm)	0501	0.2100	0.0800	0.2225	0.0505	0.0443	5	-0.22		0
251.30	Acid Soluble Pb, ICP (ppm)	0389	0.2320	0.0220	0.2225	0.0505	0.0443	5	0.16		0
251.30	Acid Soluble Pb, ICP (ppm)	0415	0.2326	0.0573	0.2225	0.0505	0.0443	5	0.17		0
251.30	Acid Soluble Pb, ICP (ppm)	0523	0.2890	0.0140	0.2225	0.0505	0.0443	5	1.15		0
251.30	Acid Soluble Pb, ICP (ppm)	0255	0.0000	0.0000	0.2225	0.0505	0.0443	5			4
251.30	Acid Soluble Pb, ICP (ppm)	0394	< 0.4		0.2225	0.0505	0.0443	5			5
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0220	0.4000	0.4000				1			0
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0405	< 4					1			5

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Range				
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0563	0.2100	0.0780				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0548	0.3475	0.0010				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0136	< 3					2			5
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0368	< 0.6					0			5
251.99	Acid Soluble Pb, Other (ppm)	0572	0.2845	0.0970				2			0
251.99	Acid Soluble Pb, Other (ppm)	0220	0.6000	0.0000				2			0
251.99	Acid Soluble Pb, Other (ppm)	0481	< 0.5					2			5
261.00	Acid Soluble Mn, AA, Mn2+ only (%)	0553	< 0.005					0			5
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0035	0.0010	0.0000				1			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0354	< 0.01					1			5
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0527	0.0011	0.0000				1			0
261.99	Acid Soluble Mn, Other (%)	0524	0.0008	0.0000				2			0
261.99	Acid Soluble Mn, Other (%)	0572	0.0014	0.0010				2			0
281.00	Acid Soluble Hg, AA (ppm)	0481	< 0.5					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0501	0.0010	0.0000				2			0
281.30	Acid Soluble Hg, ICP (ppm)	0548	0.0277	0.0002				2			0
281.30	Acid Soluble Hg, ICP (ppm)	0405	< 2					2			5
281.99	Acid Soluble Hg, Other (ppm)	0524	0.0014	0.0000	0.0024	0.0014	0.0010	3	-0.66		0
281.99	Acid Soluble Hg, Other (ppm)	0368	0.0017	0.0011	0.0024	0.0014	0.0010	3	-0.49		0
281.99	Acid Soluble Hg, Other (ppm)	0035	0.0040	0.0020	0.0024	0.0014	0.0010	3	1.15		0
281.99	Acid Soluble Hg, Other (ppm)	0572	< 0.009		0.0024	0.0014	0.0010	3			5
281.99	Acid Soluble Hg, Other (ppm)	0220	< 0.01		0.0024	0.0014	0.0010	3			5
289.30	Acid Soluble Mo, ICP (ppm)	0524	0.0344	0.0041	0.3898	0.4553	0.1367	3	-0.78		0
289.30	Acid Soluble Mo, ICP (ppm)	0255	0.2320	0.4040	0.3898	0.4553	0.1367	3	-0.35		0
289.30	Acid Soluble Mo, ICP (ppm)	0523	0.9030	0.0020	0.3898	0.4553	0.1367	3	1.13		0
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)	0548	0.0553	0.0002				2			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	13.33	0.6923				2			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0106	0.0000	0.0000				2			4
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0136	< 2.5					2			5
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0501	0.0830	0.0040				2			0
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0368	10.40	0.8000				2			0
289.99	Acid Soluble Mo, Other (ppm)	0220	< 0.3					0			5
289.99	Acid Soluble Mo, Other (ppm)	0572	< 2.5					0			5
291.30	Acid Soluble Ni, ICP (ppm)	0524	0.3319	0.0165	0.6418	0.4151	0.0968	5	-0.75		0
291.30	Acid Soluble Ni, ICP (ppm)	0389	0.3510	0.0240	0.6418	0.4151	0.0968	5	-0.70		0
291.30	Acid Soluble Ni, ICP (ppm)	0415	0.5638	0.2127	0.6418	0.4151	0.0968	5	-0.19		0
291.30	Acid Soluble Ni, ICP (ppm)	0523	0.6125	0.1510	0.6418	0.4151	0.0968	5	-0.07		0
291.30	Acid Soluble Ni, ICP (ppm)	0394	1.350	0.0800	0.6418	0.4151	0.0968	5	1.71		0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0220	0.8500	0.3000				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	0.3785	0.0010				2			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Range				
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0563	0.4325	0.0230				2			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0136	< 2.5					2			5
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0368	0.6000	0.2000				2			0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0501	0.8100	0.0600				2			0
291.99	Acid Soluble Ni, Other (ppm)	0220	0.8000	0.2000				2			0
291.99	Acid Soluble Ni, Other (ppm)	0255	16.71	1.630				2			0
291.99	Acid Soluble Ni, Other (ppm)	0572	< 1.67					2			5
301.30	Acid Soluble Se, ICP (ppm)	0524	0.0326	0.0243	0.0415	0.0127	0.0094	3	-0.71		0
301.30	Acid Soluble Se, ICP (ppm)	0501	0.0360	0.0020	0.0415	0.0127	0.0094	3	-0.44		0
301.30	Acid Soluble Se, ICP (ppm)	0523	0.0560	0.0020	0.0415	0.0127	0.0094	3	1.14		0
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0220	0.2000	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)	0563	2.279	0.0940				1			0
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0368	< 1.1					0			5
301.99	Acid Soluble Se, Other (ppm)	0220	0.1500	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)	0481	< 0.5					1			5
301.99	Acid Soluble Se, Other (ppm)	0572	< 0.68					1			5
311.00	Sodium, AA (%)	0534	1.051	0.0440	1.180	0.0981	0.0525	4	-1.31		0
311.00	Sodium, AA (%)	0553	1.155	0.0500	1.180	0.0981	0.0525	4	-0.25		0
311.00	Sodium, AA (%)	0498	1.250	0.1000	1.180	0.0981	0.0525	4	0.72		0
311.00	Sodium, AA (%)	0405	1.262	0.0160	1.180	0.0981	0.0525	4	0.84		0
311.30	Sodium, Flame Photometric (%)	0548	2.515	0.0100				1			0
311.32	Sodium, ICP, 2006.03 test portion (%)	0444	1.235	0.0100				2			0
311.32	Sodium, ICP, 2006.03 test portion (%)	0220	1.260	0.0200				2			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0035	1.120	0.0600	1.237	0.1081	0.0238	8	-0.99	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0136	1.160	0.0000	1.237	0.1081	0.0238	8	-0.65	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0561	1.185	0.0700	1.237	0.1081	0.0238	8	-0.44	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0389	1.210	0.0000	1.237	0.1081	0.0238	8	-0.23	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0394	1.213	0.0186	1.237	0.1081	0.0238	8	-0.20	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0037	1.255	0.0400	1.237	0.1081	0.0238	8	0.15	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	1.353	0.0015	1.237	0.1081	0.0238	8	0.98	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0397	2.658	0.0006	1.237	0.1081	0.0238	8	12.02	High	0
311.99	Sodium, Other (%)	0451	1.147	0.0230	1.213	0.0594	0.0335	6	-1.00	OK	0
311.99	Sodium, Other (%)	0255	1.168	0.0540	1.213	0.0594	0.0335	6	-0.68	OK	0
311.99	Sodium, Other (%)	0572	1.206	0.0782	1.213	0.0594	0.0335	6	-0.11	OK	0
311.99	Sodium, Other (%)	0481	1.220	0.0200	1.213	0.0594	0.0335	6	0.10	OK	0
311.99	Sodium, Other (%)	0368	1.248	0.0259	1.213	0.0594	0.0335	6	0.52	OK	0
311.99	Sodium, Other (%)	0354	1.290	0.0000	1.213	0.0594	0.0335	6	1.15	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0553	< 0.002					0			5
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0498	< 0.01					0			5
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0035	0.0004	0.0002				2			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0255	0.0025	0.0010				2			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Range				
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	0.0006	0.0000				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 (%)	0106	0.0000	0.0000				0			4
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0136	< 0.0003					0			5
321.99	Acid Soluble Zn, Other (%)	0368	0.0007	0.0002	0.0011	0.0004	0.0008	3	-0.74		0
321.99	Acid Soluble Zn, Other (%)	0572	0.0010	0.0012	0.0011	0.0004	0.0008	3	-0.13		0
321.99	Acid Soluble Zn, Other (%)	0523	0.0015	0.0010	0.0011	0.0004	0.0008	3	0.87		0
321.99	Acid Soluble Zn, Other (%)	0524	0.0001	0.0001	0.0011	0.0004	0.0008	3			4
321.99	Acid Soluble Zn, Other (%)	0481	< 0.001		0.0011	0.0004	0.0008	3			5
321.99	Acid Soluble Zn, Other (%)	0501	< 0.001		0.0011	0.0004	0.0008	3			5
325.99	Water Soluble Zn, Other (%)	0572	< 0.0004					0			5
431.99	Soluble Si in nonliquids, Other (%)	0572	< 0.0074					0			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 $\pm$ 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 the purpose of this Proficiency Testing program.