

Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Methods: 80

Sample # 241141

Phosphorous Select PT Scheme

Labs Reporting: 20

Phosphate Rock

Statistical Summary

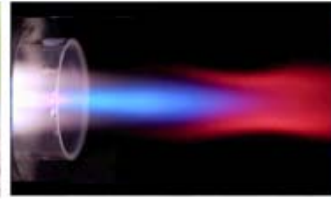
Issue Date : 12/31/2024

Method Code	Analyte & Method Sample # 241141	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
001.99	Ammoniacal N, Other (%)	1		0.0950									
010.60	Total N, Combustion (%)	1		0.0010									
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	5	5	22.74	0.4110	22.74		0.4110	0.2298	1.81%		0.3300	2.10%
020.40	Total P2O5, Automated (%)	2	2	22.53	0.1308								
020.50	Total P2O5, ICP (%)	3	3	23.64	0.9448	23.64		0.9448	0.6819	4.00%		0.1940	2.06%
020.99	Total P2O5, Other (%)	3	3	22.91	0.6737	22.91		0.6737	0.4862	2.94%		0.2033	2.09%
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA	2	2	7.844	0.3907								
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	1		8.440									
041.50	Direct Available P2O5, ICP (%)	1		4.025									
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (%)	2	2	12.85	1.485								
050.50	Soluble K2O, ICP (Oxalate) (%)	1		0.0950									
050.99	Soluble K2O, Other (%)	2	2	0.0945	0.0092								
060.00	Water (Free), Vacuum Oven (%)	1		0.6050									
060.99	Water (Free), Other (%)	1		0.5050									
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	2	2	24.75	0.1803								
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	1		25.25									
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	4	4	26.86	5.907	26.86	1.0000	5.907	3.692	21.99%	13.76	0.4341	1.93%
101.99	Acid Soluble Ca, Other (%)	4	4	23.28	4.101	23.28	1.0000	4.101	2.563	17.62%	9.56	0.4195	2.07%
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	2	2	0.4210	0.0410								
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	2	2	0.4588	0.0124								
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	6	6	0.5140	0.1292	0.4819	0.2241	0.0638	0.0325	13.23%	0.66	0.0137	4.46%
121.99	Acid Soluble Mg, Other (%)	3	3	0.3052	0.2648	0.3052	0.2153	0.2648	0.1911	86.77%	2.87	0.0300	4.78%
148.07	Total S, ICP, test portion as in 2017.02 (%)	3	2	0.4190	0.3544	0.6235	0.2312	0.0191	0.0168	3.06%	0.19	0.0383	4.29%
151.30	Acid Soluble As, ICP (ppm)	3	3	14.68	5.831	14.68		5.831	4.208	39.71%		1.050	10.68%
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	3	3	20.59	4.689	20.59		4.689	3.384	22.78%		0.7550	10.15%
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	2	2	15.99	0.5036								
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	1		16.60									
151.99	Acid Soluble As, Other (ppm)	1		18.15									
165.99	Acid Soluble B, Other (%)	1		0.0100									

Method Code	Analyte & Method Sample # 241141	# 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
181.30	Acid Soluble Cd, ICP (ppm)	3	3	4.450	3.128	4.450		3.128	2.257	70.29%		2.233	12.78%
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	2	2	2.975	0.0354								
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	2	2	3.152	0.0175								
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	1		2.150									
181.99	Acid Soluble Cd, Other (ppm)	1		2.950									
190.99	Water Soluble Cl, Other (%)	1		0.0100									
191.30	Acid Soluble Cr, ICP (ppm)	2	2	45.85	0.4950								
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	2	2	42.18	1.662								
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	2	2	44.00	1.699								
191.99	Acid Soluble Cr, Other (ppm)	2	2	44.12	0.3783								
202.30	Acid Soluble Co, ICP (ppm)	3	3	6.633	2.970	6.633	2.9900	2.970	2.144	44.78%	2.31	2.100	12.03%
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	2	2	5.925	0.1061								
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	2	2	6.383	0.1350								
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	1		4.550									
202.99	Acid Soluble Co, Other (ppm)	2	2	6.980	1.669								
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	2	2	0.0030	0.0001								
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	3	3	0.0030	0.0002	0.0030	0.0053	0.0002	0.0001	5.06%	0.07	0.0001	9.58%
221.99	Acid Soluble Cu, Other (%)	3	3	8.169	14.14	8.169	0.8219	14.14	10.21	173.14%	40.10	5.000	2.92%
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	1		0.8520									
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	3	3	0.9732	0.1431	0.9732	0.1023	0.1431	0.1033	14.71%	3.26	0.0041	4.02%
241.99	Acid Soluble Fe, Other (%)	1		0.5000									
251.30	Acid Soluble Pb, ICP (ppm)	3	3	8.250	3.437	8.250		3.437	2.480	41.66%		3.050	11.64%
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	2	2	10.03	4.207								
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	2	2	6.992	2.095								
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	1		10.75									
251.99	Acid Soluble Pb, Other (ppm)	1		7.000									
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	2	2	0.0157	0.0009								
281.30	Acid Soluble Hg, ICP (ppm)	2	0	1.001	1.414								
281.99	Acid Soluble Hg, Other (ppm)	2	1	0.0975	0.0601								
289.30	Acid Soluble Mo, ICP (ppm)	3	3	13.23	4.300	13.23	4.9700	4.300	3.104	32.50%	2.02	1.867	10.84%
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	2	2	11.58	0.6010								
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	3	3	12.43	0.5602	12.43	4.7286	0.5602	0.4043	4.51%	0.28	0.2575	10.95%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	1		9.600									
289.99	Acid Soluble Mo, Other (ppm)	2	2	9.813	2.528								
291.30	Acid Soluble Ni, ICP (ppm)	3	3	15.93	3.450	15.93		3.450	2.490	21.66%		2.267	10.55%
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	2	2	16.13	1.237								
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	3	3	16.67	0.9832	16.67		0.9832	0.7095	5.90%		0.1703	10.47%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	1		11.40									
291.99	Acid Soluble Ni, Other (ppm)	2	2	16.48	1.174								
301.30	Acid Soluble Se, ICP (ppm)	1		8.300									

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301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	3	3	8.769	3.667	8.769		3.667	2.647	41.82%		0.2670	11.54%
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	1		0.0100									
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	1		6.050									
301.99	Acid Soluble Se, Other (ppm)	2	2	7.903	1.842								
311.32	Sodium, ICP, 2006.03 test portion (%)	1		0.5000									
311.33	Sodium, ICP, test portion as in 2017.02 (%)	1		0.4392									
311.99	Sodium, Other (%)	1		0.4580									
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	1		0.0057									
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	2	2	0.0033	0.0001								
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	3	3	0.0031	0.0008	0.0031	0.0053	0.0008	0.0006	24.82%	0.34	0.0004	9.55%
321.99	Acid Soluble Zn, Other (%)	3	2	0.0053	0.0041	0.0030	0.0053	0.0006	0.0005	18.86%	0.25	0.0008	9.59%

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

Magruder Fertilizer Proficiency Testing Program

Sample # 241141

Phosphorous Select PT Scheme

Phosphate Rock

Method Precision Report

Issue Date : 12/31/2024

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
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	6	5	0.4628	0.0348	0.0338	0.0116	0.0357	7.30%	2.51%	7.72%	3.070

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



Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Methods: 80

Sample # 241141

Phosphorous Select PT Scheme

Labs Reporting: 20

Phosphate Rock

Lab Values

Issue Date : 12/31/2024

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				
001.99	Ammoniacal N, Other (%)	0582	0.0950	0.0900				1			0
010.60	Total N, Combustion (%)	0527	< 0.001					0			5
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0405	22.10	0.0400	22.74	0.4110	0.3300	5	-1.56		0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0561	22.66	0.0000	22.74	0.4110	0.3300	5	-0.20		0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0371	22.80	0.0000	22.74	0.4110	0.3300	5	0.14		0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0582	22.94	0.0800	22.74	0.4110	0.3300	5	0.48		0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0593	23.21	0.8700	22.74	0.4110	0.3300	5	1.13		0
020.40	Total P2O5, Automated (%)	0586	22.44	0.0700				2			0
020.40	Total P2O5, Automated (%)	0096	22.62	0.0400				2			0
020.50	Total P2O5, ICP (%)	0582	22.73	0.1300	23.64	0.9448	0.1940	3	-0.97		0
020.50	Total P2O5, ICP (%)	0368	23.59	0.2130	23.64	0.9448	0.1940	3	-0.05		0
020.50	Total P2O5, ICP (%)	0527	24.61	0.2391	23.64	0.9448	0.1940	3	1.03		0
020.99	Total P2O5, Other (%)	0517	22.40	0.2000	22.91	0.6737	0.2033	3	-0.76		0
020.99	Total P2O5, Other (%)	0513	22.66	0.0600	22.91	0.6737	0.2033	3	-0.37		0
020.99	Total P2O5, Other (%)	0584	23.68	0.3500	22.91	0.6737	0.2033	3	1.13		0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0055	7.568	0.1050				2			0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0405	8.120	0.0000				2			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. I	0055	8.440	0.2400				1			0
041.50	Direct Available P2O5, ICP (%)	0007	4.025	0.0700				1			0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (%)	0040	11.80	0.2000				2			0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (%)	0037	13.90	0.4434				2			0
050.50	Soluble K2O, ICP (Oxalate) (%)	0582	0.0950	0.0100				1			0
050.99	Soluble K2O, Other (%)	0527	0.0881	0.0029				2			0
050.99	Soluble K2O, Other (%)	0513	0.1010	0.0000				2			0
060.00	Water (Free), Vacuum Oven (%)	0096	0.6050	0.0900				1			0
060.99	Water (Free), Other (%)	0513	0.5050	0.0100				1			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0513	24.62	0.1800				2			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0096	24.88	0.0300				2			0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	0405	25.25	0.5000				1			0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0494	21.77	0.9993	26.86	5.907	0.4341	4	-0.86		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0040	24.59	0.4300	26.86	5.907	0.4341	4	-0.39		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				
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0527	25.74	0.1972	26.86	5.907	0.4341	4	-0.19		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0582	35.37	0.1100	26.86	5.907	0.4341	4	1.44		0
101.99	Acid Soluble Ca, Other (%)	0042	17.18	0.5800	23.28	4.101	0.4195	4	-1.49		0
101.99	Acid Soluble Ca, Other (%)	0561	24.58	0.0100	23.28	4.101	0.4195	4	0.32		0
101.99	Acid Soluble Ca, Other (%)	0593	25.56	0.9700	23.28	4.101	0.4195	4	0.55		0
101.99	Acid Soluble Ca, Other (%)	0368	25.81	0.1180	23.28	4.101	0.4195	4	0.62		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0513	0.3920	0.0020				2			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0096	0.4500	0.0200				2			0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0220	0.4500	0.0000				2			0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0405	0.4675	0.0050				2			0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0494	0.4313	0.0166	0.4819	0.0638	0.0137	6	-0.71	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0040	0.4350	0.0300	0.4819	0.0638	0.0137	6	-0.66	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0037	0.4475	0.0075	0.4819	0.0638	0.0137	6	-0.48	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0527	0.4952	0.0046	0.4819	0.0638	0.0137	6	0.19	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0561	0.5050	0.0100	0.4819	0.0638	0.0137	6	0.32	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0582	0.7700	0.0000	0.4819	0.0638	0.0137	6	4.02	High	0
121.99	Acid Soluble Mg, Other (%)	0368	0.0005	0.0000	0.3052	0.2648	0.0300	3	-1.15		0
121.99	Acid Soluble Mg, Other (%)	0042	0.4350	0.0300	0.3052	0.2648	0.0300	3	0.49		0
121.99	Acid Soluble Mg, Other (%)	0593	0.4800	0.0000	0.3052	0.2648	0.0300	3	0.66		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0513	0.6100	0.0000				2			0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0494	0.6370	0.0383				2			0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0527	< 0.01					2			5
151.30	Acid Soluble As, ICP (ppm)	0096	8.050	1.900	14.68	5.831	1.050	3	-1.14		0
151.30	Acid Soluble As, ICP (ppm)	0586	17.00	0.0000	14.68	5.831	1.050	3	0.40		0
151.30	Acid Soluble As, ICP (ppm)	0593	19.00	0.2000	14.68	5.831	1.050	3	0.74		0
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0220	17.85	0.5000	20.59	4.689	0.7550	3	-0.58		0
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0086	17.91	1.010	20.59	4.689	0.7550	3	-0.57		0
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0405	26.00	0.0000	20.59	4.689	0.7550	3	1.15		0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0527	15.64	0.6187				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0494	16.35	1.700				2			0
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0368	16.60	1.000				1			0
151.99	Acid Soluble As, Other (ppm)	0220	18.15	0.1000				1			0
165.99	Acid Soluble B, Other (%)	0527	< 0.01					0			5
181.30	Acid Soluble Cd, ICP (ppm)	0096	2.100	0.6000	4.450	3.128	2.233	3	-0.75		0
181.30	Acid Soluble Cd, ICP (ppm)	0593	3.250	0.1000	4.450	3.128	2.233	3	-0.38		0
181.30	Acid Soluble Cd, ICP (ppm)	0586	8.000	6.000	4.450	3.128	2.233	3	1.14		0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0220	2.950	0.1000				2			0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0405	3.000	0.0000				2			0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0494	3.140	0.1800				2			0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0527	3.165	0.2106				2			0
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0368	2.150	0.1000				1			0
181.99	Acid Soluble Cd, Other (ppm)	0220	2.950	0.1000				1			0
190.99	Water Soluble Cl, Other (%)	0513	0.0100	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				
191.30	Acid Soluble Cr, ICP (ppm)	0586	45.50	5.000				2			0
191.30	Acid Soluble Cr, ICP (ppm)	0593	46.20	0.6000				2			0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0405	41.00	2.000				2			0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0220	43.35	0.7000				2			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0527	42.80	0.7080				2			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0494	45.20	2.000				2			0
191.99	Acid Soluble Cr, Other (ppm)	0220	43.85	0.5000				2			0
191.99	Acid Soluble Cr, Other (ppm)	0042	44.39	0.5300				2			0
202.30	Acid Soluble Co, ICP (ppm)	0096	3.300	0.2000	6.633	2.970	2.100	3	-1.12		0
202.30	Acid Soluble Co, ICP (ppm)	0593	7.600	0.0000	6.633	2.970	2.100	3	0.33		0
202.30	Acid Soluble Co, ICP (ppm)	0586	9.000	4.000	6.633	2.970	2.100	3	0.80		0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0220	5.850	0.5000				2			0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0405	6.000	0.0000				2			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0037	6.288	0.0880				2			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0527	6.479	0.0659				2			0
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0368	4.550	0.5000				1			0
202.99	Acid Soluble Co, Other (ppm)	0220	5.800	0.0000				2			0
202.99	Acid Soluble Co, Other (ppm)	0042	8.160	0.0000				2			0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0220	0.0029	0.0002				2			0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0405	0.0031	0.0000				2			0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0494	0.0029	0.0001	0.0030	0.0002	0.0001	3	-1.09		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0527	0.0031	0.0001	0.0030	0.0002	0.0001	3	0.22		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0040	0.0032	0.0001	0.0030	0.0002	0.0001	3	0.87		0
221.99	Acid Soluble Cu, Other (%)	0368	0.0030	0.0000	8.169	14.14	5.000	3	-0.58		0
221.99	Acid Soluble Cu, Other (%)	0593	0.0030	0.0000	8.169	14.14	5.000	3	-0.58		0
221.99	Acid Soluble Cu, Other (%)	0586	24.50	5.000	8.169	14.14	5.000	3	1.15		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0513	0.8520	0.0000				1			0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0494	0.8407	0.0001	0.9732	0.1431	0.0041	3	-0.93		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0527	0.9541	0.0023	0.9732	0.1431	0.0041	3	-0.13		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0582	1.125	0.0100	0.9732	0.1431	0.0041	3	1.06		0
241.99	Acid Soluble Fe, Other (%)	0593	0.5000	0.0000				1			0
251.30	Acid Soluble Pb, ICP (ppm)	0096	5.250	0.1000	8.250	3.437	3.050	3	-0.87		0
251.30	Acid Soluble Pb, ICP (ppm)	0593	7.500	0.0000	8.250	3.437	3.050	3	-0.22		0
251.30	Acid Soluble Pb, ICP (ppm)	0586	12.00	6.000	8.250	3.437	3.050	3	1.09		0
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0220	7.050	0.1000				2			0
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0405	13.00	2.000				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0494	5.510	0.2000				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0527	8.473	0.3740				2			0
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0368	10.75	1.500				1			0
251.99	Acid Soluble Pb, Other (ppm)	0220	7.000	0.0000				1			0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0494	0.0151	0.0012				2			0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0527	0.0164	0.0001				2			0
281.30	Acid Soluble Hg, ICP (ppm)	0527	< 0.001					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				
281.30	Acid Soluble Hg, ICP (ppm)	0405	< 2					0			5
281.99	Acid Soluble Hg, Other (ppm)	0220	0.0550	0.0100				1			0
281.99	Acid Soluble Hg, Other (ppm)	0086	< 0.14					1			5
289.30	Acid Soluble Mo, ICP (ppm)	0096	8.900	0.2000	13.23	4.300	1.867	3	-1.01		0
289.30	Acid Soluble Mo, ICP (ppm)	0593	13.30	0.4000	13.23	4.300	1.867	3	0.02		0
289.30	Acid Soluble Mo, ICP (ppm)	0586	17.50	5.000	13.23	4.300	1.867	3	0.99		0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0220	11.15	0.3000				2			0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0405	12.00	0.0000				2			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0494	11.85	0.3000	12.43	0.5602	0.2575	3	-1.03		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	12.47	0.0996	12.43	0.5602	0.2575	3	0.07		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0037	12.97	0.3728	12.43	0.5602	0.2575	3	0.96		0
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0368	9.600	1.000				1			0
289.99	Acid Soluble Mo, Other (ppm)	0042	8.025	0.1500				2			0
289.99	Acid Soluble Mo, Other (ppm)	0220	11.60	0.2000				2			0
291.30	Acid Soluble Ni, ICP (ppm)	0096	12.45	2.300	15.93	3.450	2.267	3	-1.01		0
291.30	Acid Soluble Ni, ICP (ppm)	0586	16.00	4.000	15.93	3.450	2.267	3	0.02		0
291.30	Acid Soluble Ni, ICP (ppm)	0593	19.35	0.5000	15.93	3.450	2.267	3	0.99		0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0220	15.25	0.5000				2			0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0405	17.00	0.0000				2			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0494	15.80	0.0000	16.67	0.9832	0.1703	3	-0.89		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0037	16.48	0.2781	16.67	0.9832	0.1703	3	-0.19		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0527	17.74	0.0625	16.67	0.9832	0.1703	3	1.08		0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0368	11.40	0.6000				1			0
291.99	Acid Soluble Ni, Other (ppm)	0220	15.65	0.1000				2			0
291.99	Acid Soluble Ni, Other (ppm)	0042	17.31	0.3200				2			0
301.30	Acid Soluble Se, ICP (ppm)	0593	8.300	0.4000				1			0
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0220	6.500	0.4000	8.769	3.667	0.2670	3	-0.62		0
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0086	6.807	0.1340	8.769	3.667	0.2670	3	-0.53		0
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0405	13.00	0.0000	8.769	3.667	0.2670	3	1.15		0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0527	< 0.01					0			5
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0368	6.050	1.300				1			0
301.99	Acid Soluble Se, Other (ppm)	0220	6.600	0.2000				2			0
301.99	Acid Soluble Se, Other (ppm)	0042	9.205	0.5500				2			0
311.32	Sodium, ICP, 2006.03 test portion (%)	0582	0.5000	0.0000				1			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	0.4392	0.0046				1			0
311.99	Sodium, Other (%)	0513	0.4580	0.0060				1			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0096	0.0057	0.0006				1			0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0220	0.0033	0.0001				2			0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0405	0.0034	0.0001				2			0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0494	0.0025	0.0002	0.0031	0.0008	0.0004	3	-0.76		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0040	0.0028	0.0010	0.0031	0.0008	0.0004	3	-0.37		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0527	0.0040	0.0001	0.0031	0.0008	0.0004	3	1.13		0
321.99	Acid Soluble Zn, Other (%)	0368	0.0026	0.0008				2			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				
321.99	Acid Soluble Zn, Other (%)	0593	0.0034	0.0000				2			0
321.99	Acid Soluble Zn, Other (%)	0586	< 0.01					2			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. Identical duplicates not included in calculation of Rob R-bar. IA Status describes where your result is relative to the Assigned Value ± IA. Red indicates Higher or Lower and Green indicates within the IA range about the Robust mean. Method codes in light green indicate a guaranteed analyte. Individual lab values may be below detection limits but are reported solely for