



Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Methods: 86

Sample # 250341

Phosphorous Select PT Scheme

Labs Reporting: 16

MAP & DAP 11-48-0

Statistical Summary

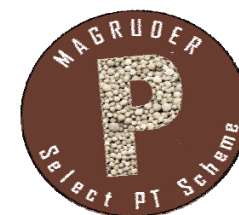
Issue Date : 06/30/2025

Method Code	Analyte & Method Sample # 250341	# 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 (%)	5	5	10.75	0.0553	10.75		0.0553	0.0309	0.51%		0.0240	2.80%
010.11	Total N, Modified Comprehensive (11%)	1		10.93									
010.60	Total N, Combustion (11%)	11	10	10.72	0.3156	10.78	0.5916	0.1026	0.0405	0.95%	0.40	0.1064	2.80%
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	6	6	44.85	0.1580	44.85		0.1651	0.0842	0.37%		0.0851	1.49%
020.40	Total P2O5, Automated (%)	3	3	43.82	2.228	43.82		2.228	1.608	5.08%		0.4900	1.51%
020.50	Total P2O5, ICP (%)	1		44.02									
030.20	Citrate Insoluble P2O5, Spectrophotometric MolybdovanadoP	1		0.9800									
030.40	Citrate Insoluble P2O5, Automated, test portion 963.03 A-B (%)	2	2	0.8525	0.0601								
030.50	Citrate Insoluble P2O5, ICP, test portion 963.03 A-B (%)	2	2	0.7800	0.0566								
030.99	Citrate Insoluble P2O5, Other (%)	1		0.8575									
040.40	Indirect Available P2O5, Automated (48%)	2	2	44.25	0.1344								
040.99	Indirect Available P2O5, Other (48%)	3	3	43.96	0.0903	43.96	0.9594	0.0903	0.0652	0.21%	0.22	0.0417	1.51%
041.10	Direct Available P2O5, Gravimetric Quinolinium (48%)	2	2	44.95	0.4278								
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA	3	3	42.16	2.456	42.16	0.9324	2.456	1.772	5.83%	6.14	0.1533	1.54%
041.50	Direct Available P2O5, ICP (48%)	2	2	48.90	9.267								
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (48%)	1		45.50									
048.20	Water Soluble P2O5, Spectrophotometric (%)	3	3	37.64	0.0376	37.64		0.0376	0.0271	0.10%		0.1650	1.63%
048.40	Water Soluble P2O5, Automated (%)	1		37.76									
050.50	Soluble K2O, ICP (Oxalate) (%)	1		0.2100									
050.99	Soluble K2O, Other (%)	2	2	0.2228	0.0181								
060.00	Water (Free), Vacuum Oven (%)	2	2	0.7950	0.0283								
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours, 5g samp	1		1.133									
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	1		0.7080									
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	1		1.070									
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	1		1.035									
101.99	Acid Soluble Ca, Other (%)	1		0.7000									
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	2	2	1.144	0.4327								
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	2	2	1.163	0.3490								
121.99	Acid Soluble Mg, Other (%)	1		0.8810									

Method Code	Analyte & Method Sample # 250341	# 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
145.99	Sulfate S, HCl soluble, Other (%)	1		2.868									
148.00	Total S, Combustion (%)	3	3	7.373	0.2540	7.373	0.5686	0.2540	0.1833	3.45%	1.04	0.0583	2.96%
148.07	Total S, ICP, test portion as in 2017.02 (%)	1		7.060									
148.99	Total S, Other (%)	1		2.825									
151.30	Acid Soluble As, ICP (ppm)	3	3	21.47	14.76	21.47		14.76	10.65	68.76%		0.8000	10.08%
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	2	2	14.25	3.889								
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	1		21.04									
151.99	Acid Soluble As, Other (ppm)	1		11.10									
165.99	Acid Soluble B, Other (%)	2	1	0.0091	0.0013								
181.30	Acid Soluble Cd, ICP (ppm)	2	2	6.900	1.980								
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	2	2	3.600	0.5657								
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	1		3.581									
181.99	Acid Soluble Cd, Other (ppm)	1		3.200									
191.30	Acid Soluble Cr, ICP (ppm)	3	3	112.8	11.02	112.8		11.02	7.949	9.76%		4.333	7.85%
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	2	2	97.75	15.20								
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	1		100.7									
191.99	Acid Soluble Cr, Other (ppm)	1		87.30									
202.30	Acid Soluble Co, ICP (ppm)	3	3	5.213	1.781	5.213	2.5640	1.781	1.285	34.15%	1.62	1.753	12.48%
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	2	2	5.700	1.838								
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	1		3.978									
202.99	Acid Soluble Co, Other (ppm)	1		5.000									
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	1		0.0009									
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	1		0.0009									
221.99	Acid Soluble Cu, Other (%)	2	1	0.0006	0.0008								
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	1		1.165									
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	1		1.790									
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	2	2	1.445	0.4095								
241.99	Acid Soluble Fe, Other (%)	1		1.210									
251.30	Acid Soluble Pb, ICP (ppm)	3	3	3.383	1.512	3.383		1.512	1.091	44.69%		1.633	13.32%
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	2	2	5.125	1.237								
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	1		3.060									
251.99	Acid Soluble Pb, Other (ppm)	1		2.650									
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	1		0.0328									
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	1		0.0328									
261.99	Acid Soluble Mn, Other (%)	1		0.0350									
281.30	Acid Soluble Hg, ICP (ppm)	2	0	1.001	1.414								
281.99	Acid Soluble Hg, Other (ppm)	1		0.0100									
289.30	Acid Soluble Mo, ICP (ppm)	3	3	24.25	12.74	24.25	8.2750	12.74	9.198	52.56%	3.59	2.700	9.90%
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	2	2	15.15	1.909								
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	1		16.37									

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289.99	Acid Soluble Mo, Other (ppm)	1		13.05									
291.30	Acid Soluble Ni, ICP (ppm)	3	3	14.73	3.308	14.73		3.308	2.387	22.45%		1.133	10.67%
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	2	2	14.00	3.536								
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	1		12.56									
291.99	Acid Soluble Ni, Other (ppm)	1		11.65									
301.30	Acid Soluble Se, ICP (ppm)	1		1.000									
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	2	0	5.150	6.859								
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	1		0.0100									
301.99	Acid Soluble Se, Other (ppm)	1		0.3000									
311.32	Sodium, ICP, 2006.03 test portion (%)	1		0.2300									
311.33	Sodium, ICP, test portion as in 2017.02 (%)	1		0.1611									
311.99	Sodium, Other (%)	1		0.1750									
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	1		0.3228									
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	1		0.2900									
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	3	3	0.2977	0.0335	0.2977	0.0348	0.0335	0.0242	11.26%	2.25	0.0269	4.80%
321.99	Acid Soluble Zn, Other (%)	1		0.2950									
325.30	Water Soluble Zn, ICP (%)	2	2	0.1883	0.1863								

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 # 250341

Phosphorous Select PT Scheme

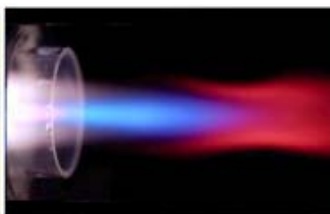
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Method Precision Report

Issue Date : 06/30/2025

Method Code	Analyte & Method	# Tests Submitted	# Tests Used in Precision Calcs	Mean	SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
001.99	Ammoniacal N, Other (%)	5	5	10.75	0.0553	0.0537	0.0184	0.0568	0.50%	0.17%	0.53%	3.081
010.60	Total N, Combustion (11%)	11	10	10.80	0.1575	0.1343	0.1164	0.1777	1.24%	1.08%	1.64%	1.527
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	6	6	44.85	0.1580	0.1465	0.0837	0.1687	0.33%	0.19%	0.38%	2.015

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



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Magruder Fertilizer Proficiency Testing Program

Methods: 86

Sample # 250341

Phosphorous Select PT Scheme

Labs Reporting: 16

MAP & DAP 11-48-0

Lab Values

Issue Date : 06/30/2025

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
001.99	Ammoniacal N, Other (%)	0581	10.70	0.0200	10.75	0.0553	0.0240	5	-0.85		0
001.99	Ammoniacal N, Other (%)	0582	10.70	0.0400	10.75	0.0553	0.0240	5	-0.85		0
001.99	Ammoniacal N, Other (%)	0593	10.75	0.0200	10.75	0.0553	0.0240	5	-0.04		0
001.99	Ammoniacal N, Other (%)	0220	10.76	0.0100	10.75	0.0553	0.0240	5	0.14		0
001.99	Ammoniacal N, Other (%)	0096	10.84	0.0300	10.75	0.0553	0.0240	5	1.59		0
010.11	Total N, Modified Comprehensive (11%)	0309	10.93	0.0400				1			0
010.60	Total N, Combustion (11%)	0042	10.65	0.3000	10.78	0.1026	0.1064	10	-1.13	OK	0
010.60	Total N, Combustion (11%)	0582	10.69	0.0400	10.78	0.1026	0.1064	10	-0.77	OK	0
010.60	Total N, Combustion (11%)	0527	10.72	0.0010	10.78	0.1026	0.1064	10	-0.53	OK	0
010.60	Total N, Combustion (11%)	0561	10.73	0.0800	10.78	0.1026	0.1064	10	-0.41	OK	0
010.60	Total N, Combustion (11%)	0007	10.75	0.1000	10.78	0.1026	0.1064	10	-0.23	OK	0
010.60	Total N, Combustion (11%)	0185	10.76	0.0100	10.78	0.1026	0.1064	10	-0.18	OK	0
010.60	Total N, Combustion (11%)	0220	10.79	0.0100	10.78	0.1026	0.1064	10	0.09	OK	0
010.60	Total N, Combustion (11%)	0405	10.85	0.0100	10.78	0.1026	0.1064	10	0.63	OK	0
010.60	Total N, Combustion (11%)	0040	10.90	0.2000	10.78	0.1026	0.1064	10	1.13	OK	0
010.60	Total N, Combustion (11%)	0593	11.20	0.3500	10.78	0.1026	0.1064	10	3.85	OK	0
010.60	Total N, Combustion (11%)	0494	9.880	0.8600	10.78	0.1026	0.1064	10	-8.12	Low	1
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0309	44.57	0.0400	44.85	0.1651	0.0851	6	-1.53	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0593	44.81	0.2400	44.85	0.1651	0.0851	6	-0.23	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0405	44.85	0.0400	44.85	0.1651	0.0851	6	-0.02	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0582	44.88	0.0100	44.85	0.1651	0.0851	6	0.12	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0581	44.94	0.1400	44.85	0.1651	0.0851	6	0.47	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0561	45.04	0.0600	44.85	0.1651	0.0851	6	1.01	NA	0
020.40	Total P2O5, Automated (%)	0042	41.25	1.100	43.82	2.228	0.4900	3	-1.15		0
020.40	Total P2O5, Automated (%)	0586	45.05	0.2300	43.82	2.228	0.4900	3	0.55		0
020.40	Total P2O5, Automated (%)	0096	45.17	0.1400	43.82	2.228	0.4900	3	0.61		0
020.50	Total P2O5, ICP (%)	0527	44.02	0.0016				1			0
030.20	Citrate Insoluble P2O5, Spectrophotometric MolybdovanadoP (	0405	0.9800	0.0000				1			0
030.40	Citrate Insoluble P2O5, Automated, test portion 963.03 A-B (%)	0096	0.8100	0.1000				2			0
030.40	Citrate Insoluble P2O5, Automated, test portion 963.03 A-B (%)	0586	0.8950	0.0100				2			0
030.50	Citrate Insoluble P2O5, ICP, test portion 963.03 A-B (%)	0581	0.7400	0.2200				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				
030.50	Citrate Insoluble P2O5, ICP, test portion 963.03 A-B (%)	0582	0.8200	0.0200				2			0
030.99	Citrate Insoluble P2O5, Other (%)	0593	0.8575	0.1750				1			0
040.40	Indirect Available P2O5, Automated (48%)	0586	44.15	0.2200				2			0
040.40	Indirect Available P2O5, Automated (48%)	0096	44.34	0.0200				2			0
040.99	Indirect Available P2O5, Other (48%)	0405	43.88	0.0300	43.96	0.0903	0.0417	3	-0.95		0
040.99	Indirect Available P2O5, Other (48%)	0593	43.95	0.0650	43.96	0.0903	0.0417	3	-0.09		0
040.99	Indirect Available P2O5, Other (48%)	0582	44.06	0.0300	43.96	0.0903	0.0417	3	1.04		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (48%)	0040	44.65	0.3000				2			0
041.10	Direct Available P2O5, Gravimetric Quinolinium (48%)	0494	45.26	0.2500				2			0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0185	39.38	0.3700	42.16	2.456	0.1533	3	-1.13		0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0405	43.07	0.0200	42.16	2.456	0.1533	3	0.37		0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0220	44.03	0.0700	42.16	2.456	0.1533	3	0.76		0
041.50	Direct Available P2O5, ICP (48%)	0007	42.35	0.7000				2			0
041.50	Direct Available P2O5, ICP (48%)	0131	55.46	1.070				2			0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (48%)	0494	45.50	0.1800				1			0
048.20	Water Soluble P2O5, Spectrophotometric (%)	0581	37.62	0.2400	37.64	0.0376	0.1650	3	-0.64		0
048.20	Water Soluble P2O5, Spectrophotometric (%)	0582	37.63	0.0100	37.64	0.0376	0.1650	3	-0.51		0
048.20	Water Soluble P2O5, Spectrophotometric (%)	0593	37.69	0.2450	37.64	0.0376	0.1650	3	1.15		0
048.40	Water Soluble P2O5, Automated (%)	0096	37.76	0.1200				1			0
050.50	Soluble K2O, ICP (Oxalate) (%)	0582	0.2100	0.0000				1			0
050.99	Soluble K2O, Other (%)	0096	0.2100	0.0200				2			0
050.99	Soluble K2O, Other (%)	0527	0.2356	0.0061				2			0
060.00	Water (Free), Vacuum Oven (%)	0582	0.7750	0.0500				2			0
060.00	Water (Free), Vacuum Oven (%)	0096	0.8150	0.1100				2			0
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours, 5g sample)	0593	1.133	0.0950				1			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0096	0.7080	0.0140				1			0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	0581	1.070	0.0400				1			0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0582	1.035	0.0100				1			0
101.99	Acid Soluble Ca, Other (%)	0593	0.7000	0.0500				1			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0096	0.8380	0.0120				2			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0581	1.450	0.0200				2			0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0527	0.9165	0.0106				2			0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0582	1.410	0.0000				2			0
121.99	Acid Soluble Mg, Other (%)	0593	0.8810	0.0280				1			0
145.99	Sulfate S, HCl soluble, Other (%)	0593	2.868	0.0650				1			0
148.00	Total S, Combustion (%)	0581	7.080	0.0400	7.373	0.2540	0.0583	3	-1.15		0
148.00	Total S, Combustion (%)	0582	7.500	0.0400	7.373	0.2540	0.0583	3	0.50		0
148.00	Total S, Combustion (%)	0593	7.538	0.0950	7.373	0.2540	0.0583	3	0.65		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0527	7.060	0.0070				1			0
148.99	Total S, Other (%)	0096	2.825	0.3100				1			0
151.30	Acid Soluble As, ICP (ppm)	0096	12.40	0.4000	21.47	14.76	0.8000	3	-0.61		0
151.30	Acid Soluble As, ICP (ppm)	0586	13.50	1.000	21.47	14.76	0.8000	3	-0.54		0
151.30	Acid Soluble As, ICP (ppm)	0593	38.50	1.000	21.47	14.76	0.8000	3	1.15		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				
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0220	11.50	0.0000				2			0
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0405	17.00	2.000				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0527	21.04	0.8973				1			0
151.99	Acid Soluble As, Other (ppm)	0220	11.10	0.2000				1			0
165.99	Acid Soluble B, Other (%)	0593	0.0082	0.0006				1			0
165.99	Acid Soluble B, Other (%)	0527	< 0.01					1			5
181.30	Acid Soluble Cd, ICP (ppm)	0586	5.500	1.000				2			0
181.30	Acid Soluble Cd, ICP (ppm)	0593	8.300	0.6000				2			0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0220	3.200	0.2000				2			0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0405	4.000	0.0000				2			0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0527	3.581	0.2715				1			0
181.99	Acid Soluble Cd, Other (ppm)	0220	3.200	0.0000				1			0
191.30	Acid Soluble Cr, ICP (ppm)	0586	105.5	5.000	112.8	11.02	4.333	3	-0.67		0
191.30	Acid Soluble Cr, ICP (ppm)	0096	107.5	1.000	112.8	11.02	4.333	3	-0.48		0
191.30	Acid Soluble Cr, ICP (ppm)	0593	125.5	7.000	112.8	11.02	4.333	3	1.15		0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0220	87.00	1.000				2			0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0405	108.5	1.000				2			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0527	100.7	1.296				1			0
191.99	Acid Soluble Cr, Other (ppm)	0220	87.30	0.8000				1			0
202.30	Acid Soluble Co, ICP (ppm)	0593	3.900	0.4000	5.213	1.781	1.753	3	-0.74		0
202.30	Acid Soluble Co, ICP (ppm)	0586	4.500	3.000	5.213	1.781	1.753	3	-0.40		0
202.30	Acid Soluble Co, ICP (ppm)	0096	7.240	1.860	5.213	1.781	1.753	3	1.14		0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0220	4.400	0.2000				2			0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0405	7.000	0.0000				2			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0527	3.978	0.0465				1			0
202.99	Acid Soluble Co, Other (ppm)	0220	5.000	1.800				1			0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0405	0.0009	0.0000				1			0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0527	0.0009	0.0000				1			0
221.99	Acid Soluble Cu, Other (%)	0593	0.0012	0.0003				1			0
221.99	Acid Soluble Cu, Other (%)	0586	0.0000	0.0000				1			4
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0096	1.165	0.0300				1			0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	0581	1.790	0.0200				1			0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0527	1.156	0.0009				2			0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0582	1.735	0.0100				2			0
241.99	Acid Soluble Fe, Other (%)	0593	1.210	0.0000				1			0
251.30	Acid Soluble Pb, ICP (ppm)	0096	2.100	0.4000	3.383	1.512	1.633	3	-0.85		0
251.30	Acid Soluble Pb, ICP (ppm)	0586	3.000	4.000	3.383	1.512	1.633	3	-0.25		0
251.30	Acid Soluble Pb, ICP (ppm)	0593	5.050	0.5000	3.383	1.512	1.633	3	1.10		0
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0220	4.250	1.900				2			0
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0405	6.000	0.0000				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0527	3.060	0.1102				1			0
251.99	Acid Soluble Pb, Other (ppm)	0220	2.650	0.1000				1			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0096	0.0328	0.0002				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				
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0527	0.0328	0.0001				1			0
261.99	Acid Soluble Mn, Other (%)	0593	0.0350	0.0020				1			0
281.30	Acid Soluble Hg, ICP (ppm)	0527	< 0.001					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0405	< 2					0			5
281.99	Acid Soluble Hg, Other (ppm)	0220	< 0.01					0			5
289.30	Acid Soluble Mo, ICP (ppm)	0096	16.30	1.200	24.25	12.74	2.700	3	-0.62		0
289.30	Acid Soluble Mo, ICP (ppm)	0586	17.50	3.000	24.25	12.74	2.700	3	-0.53		0
289.30	Acid Soluble Mo, ICP (ppm)	0593	38.95	3.900	24.25	12.74	2.700	3	1.15		0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0220	13.80	1.000				2			0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0405	16.50	1.000				2			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	16.37	0.2153				1			0
289.99	Acid Soluble Mo, Other (ppm)	0220	13.05	0.3000				1			0
291.30	Acid Soluble Ni, ICP (ppm)	0586	11.00	2.000	14.73	3.308	1.133	3	-1.13		0
291.30	Acid Soluble Ni, ICP (ppm)	0096	15.90	0.6000	14.73	3.308	1.133	3	0.35		0
291.30	Acid Soluble Ni, ICP (ppm)	0593	17.30	0.8000	14.73	3.308	1.133	3	0.78		0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0220	11.50	0.2000				2			0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0405	16.50	1.000				2			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0527	12.56	0.0792				1			0
291.99	Acid Soluble Ni, Other (ppm)	0220	11.65	0.1000				1			0
301.30	Acid Soluble Se, ICP (ppm)	0593	1.000	0.0800				1			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)	0527	< 0.01					0			5
301.99	Acid Soluble Se, Other (ppm)	0220	< 0.3					0			5
311.32	Sodium, ICP, 2006.03 test portion (%)	0582	0.2300	0.0000				1			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	0.1611	0.0027				1			0
311.99	Sodium, Other (%)	0096	0.1750	0.0300				1			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0096	0.3228	0.0421				1			0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0405	0.2900	0.0100				1			0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0527	0.2656	0.0058	0.2977	0.0335	0.0269	3	-0.96		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0582	0.2950	0.0100	0.2977	0.0335	0.0269	3	-0.08		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0593	0.3325	0.0650	0.2977	0.0335	0.0269	3	1.04		0
321.99	Acid Soluble Zn, Other (%)	0586	0.2950	0.0100				1			0
325.30	Water Soluble Zn, ICP (%)	0582	0.0565	0.0030				2			0
325.30	Water Soluble Zn, ICP (%)	0581	0.3200	0.0200				2			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