

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Methods: 60

Sample # 161011

Statistical Summary

Labs Reporting: 77

MOP

Issue Date : 11/30/2016

Method Code	Analyte & Method	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Analyte Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	IA %RSD	Average Range (R-bar)	Horwitz %RSD
010.12	Total Nitrogen, Salicylic (%)	1		31.50									
010.60	Total Nitrogen, Combustion (%)	4	3	0.1434	0.1896	0.1434		0.1896	0.1368	132.20%		0.0007	5.36%
010.99	Total Nitrogen, Other (%)	1		0.0878									
020.20	Total Phosphorus as P2O5, Spectrophotometric Molyb... (%)	1		0.0900									
020.50	Total Phosphorus as P2O5, ICP (%)	2	2	0.0031	0.0034								
041.50	Direct Available Phosphorus as P2O5, ICP (%)	1		0.0000									
041.60	Direct Available Phosphorus as P2O5, Citrate-EDTA ... (%)	1		0.3120									
050.00	Soluble Potassium as K2O, STPB Oxalate (61%)	12	12	60.60	0.9241	60.48	1.7862	0.5810	0.2097	0.96%	1.48%	0.3343	2.16%
050.30	Soluble Potassium as K2O, AA (Oxalate) (61%)	6	6	60.45	0.7565	60.45	1.7862	0.8579	0.4378	1.42%	1.48%	0.3795	2.16%
050.31	Soluble Potassium as K2O, AA (Citrate) (61%)	1		62.03									
050.32	Soluble Potassium as K2O, AA (Citrate-EDTA) (61%)	1		59.81									
050.50	Soluble Potassium as K2O, ICP (Oxalate) (61%)	8	8	59.37	1.616	59.68	1.7862	0.9900	0.4375	1.66%	1.50%	0.5550	2.16%
050.51	Soluble Potassium as K2O, ICP (Citrate) (61%)	4	4	60.61	1.110	60.61	1.7862	1.110	0.6939	1.83%	1.47%	0.3525	2.16%
050.52	Soluble Potassium as K2O, ICP (Citrate-EDTA) (61%)	7	7	60.44	1.581	60.37	1.7862	1.630	0.7700	2.70%	1.48%	0.7313	2.16%
050.60	Soluble Potassium as K2O, Flame Photometric (Oxala... (61%)	6	6	54.65	14.90	60.33	1.7862	1.336	0.6820	2.22%	1.48%	1.123	2.16%
050.61	Soluble Potassium as K2O, Flame Photometric (Citra... (61%)	3	3	62.03	0.9362	62.03	1.7862	0.9362	0.6756	1.51%	1.44%	1.213	2.15%
050.62	Soluble Potassium as K2O, Flame Photometric (Citra... (61%)	3	3	61.46	0.8406	61.46	1.7862	0.8406	0.6067	1.37%	1.45%	0.5676	2.15%
050.99	Soluble Potassium as K2O, Other (61%)	30	28	60.83	2.662	60.76	1.7862	1.578	0.3728	2.60%	1.47%	0.5204	2.16%
060.00	Water (Free), Vacuum Oven (%)	3	2	0.1783	0.2075	0.1783		0.2075	0.1834	116.43%		0.0265	5.19%
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours,... (%)	1		0.3500									
060.99	Water (Free), Other (%)	1		0.0056									
101.30	Acid Soluble Calcium, ICP, test portion inorganic ... (%)	2	2	0.0665	0.0233								
101.32	Acid Soluble Calcium, ICP, test portion 2006.03A-C (%)	1		0.0620									
101.33	Acid Soluble Calcium, ICP, test portion 2006.03A-C... (%)	1		0.0518									
121.30	Acid Soluble Magnesium, ICP, test portion inorgani... (%)	2	2	0.0333	0.0117								
121.32	Acid Soluble Magnesium, ICP, test portion 2006.03A... (%)	1		0.0277									
121.33	Acid Soluble Magnesium, ICP, test portion 2006.03A... (%)	1		0.0247									
121.99	Acid Soluble Magnesium, Other (%)	1		0.0207									
148.07	Total Sulfur, ICP, test portion as in 2006.03 modi... (%)	2	2	0.0224	0.0034								
148.99	Total Sulfur, Other (%)	2	2	0.0220	0.0113								
149.04	Sulfur - HNO3 soluble, ICP (%)	2	2	0.0227	0.0005								

Method Code	Analyte & Method	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Analyte Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	IA %RSD	Average Range (R-bar)	Horwitz %RSD
151.30	Acid Soluble Arsenic , ICP (ppm)	1		0.8250									
165.30	Acid Soluble Boron , ICP, test portion in 982.01 (%)	2	2	0.0039	0.0037								
165.99	Acid Soluble Boron , Other (%)	1		0.0001									
181.30	Acid Soluble Cadmium , ICP (ppm)	2	2	0.0106	0.0009								
190.00	Water Soluble Chlorine, Titrimetric (47%)	14	14	47.24	0.8742	47.28	1.0000	0.6160	0.2058	1.30%	1.06%	0.3017	2.24%
190.99	Water Soluble Chlorine, Other (47%)	8	8	46.99	0.7765	46.99	1.0000	0.8805	0.3891	1.87%	1.06%	0.6013	2.24%
191.30	Acid Soluble Chromium , ICP (ppm)	1		0.6300									
221.30	Acid Soluble Copper , ICP, test portion inorganic ... (%)	1		0.0075									
221.32	Acid Soluble Copper , ICP, test portion 2006.03A-C (%)	1		0.0007									
221.99	Acid Soluble Copper , Other (%)	1		0.0001									
241.30	Acid Soluble Iron, ICP, test portion inorganic 965... (%)	2	2	0.0893	0.0011								
241.32	Acid Soluble Iron, ICP, test portion 2006.03A-C (%)	1		0.0756									
241.33	Acid Soluble Iron, ICP, test portion 2006.03A-C, w... (%)	1		0.0822									
241.99	Acid Soluble Iron, Other (%)	1		0.0769									
251.30	Acid Soluble Lead , ICP (ppm)	2	2	0.1327	0.1728								
261.30	Acid Soluble Manganese , ICP, test portion 972.02a (%)	1		0.0010									
261.34	Acid Soluble Manganese , ICP, test portion 2006.03...	1		0.0014									
261.99	Acid Soluble Manganese , Other (%)	1		0.0009									
281.30	Acid Soluble Mercury , ICP (ppm)	1		0.0300									
281.99	Acid Soluble Mercury , Other (ppm)	1		0.0000									
289.30	Acid Soluble Molybdenum , ICP (ppm)	2	2	2.553	3.600								
291.30	Acid Soluble Nickel , ICP (ppm)	3	3	0.2690	0.2782	0.2690		0.2782	0.2008	103.44%		0.0001	19.49%
301.30	Acid Soluble Selenium , ICP (ppm)	1		0.3250									
311.30	Sodium, Flame Photometric (%)	1		1.410									
311.32	Sodium, ICP, 2006.03 test portion (%)	1		1.435									
311.99	Sodium, Other (%)	2	2	1.510	0.2337								
321.30	Acid Soluble Zinc , ICP, test portion inorganic 96... (%)	2	1	0.0055									
321.32	Acid Soluble Zinc , ICP, test portion 2006.03A-C (%)	1		0.0006									
321.99	Acid Soluble Zinc , Other (%)	1		0.0003									

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Method Proficiency For All Labs (Lab Values)

Sample # 161011

Method Precision Report

Issue Date : 11/30/2016

MOP

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 Potassium as K ₂ O, STPB Oxalate (61%)	12	11	60.38	0.5099	0.4419	0.3600	0.5699	0.73%	0.60%	0.94%	1.583
050.99	Soluble Potassium as K ₂ O, Other (61%)	30	26	60.55	2.196	2.169	0.4821	2.222	3.58%	0.80%	3.67%	4.609
190.00	Water Soluble Chlorine, Titrimetric (47%)	14	13	47.41	0.6306	0.5982	0.2821	0.6614	1.26%	0.60%	1.40%	2.344
190.99	Water Soluble Chlorine, Other (47%)	8	8	46.99	0.7765	0.6905	0.5023	0.8538	1.47%	1.07%	1.82%	1.700

Notes: Precision data calculated when 8 or more Tests included.

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Method Proficiency For All Labs (Lab Values)

Methods: 60

Sample # 161011

Lab Values

Labs Reporting: 77

MOP

Issue Date : 11/30/2016

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Threshold %RSD	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010.12	Total Nitrogen, Salicylic (%)	0455	31.50	0.0000				1			0
010.60	Total Nitrogen, Combustion (%)	0354	0.0280	0.0020	0.1434	0.1896	0.0007	3	-0.61	40%	0
010.60	Total Nitrogen, Combustion (%)	0292	0.0400	0.0000	0.1434	0.1896	0.0007	3	-0.55	36%	0
010.60	Total Nitrogen, Combustion (%)	0521	0.3622	0.0000	0.1434	0.1896	0.0007	3	1.15	76%	0
010.60	Total Nitrogen, Combustion (%)	0325	0.0000	0.0000	0.1434	0.1896	0.0007	3			4
010.99	Total Nitrogen, Other (%)	0524	0.0878	0.0062				1			0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0292	0.0900	0.0000				1			0
020.50	Total Phosphorus as P2O5, ICP (%)	0524	0.0007	0.0000				2			0
020.50	Total Phosphorus as P2O5, ICP (%)	0521	0.0055	0.0000				2			0
041.50	Direct Available Phosphorus as P2O5, ICP (%)	0325	0.0000	0.0000				0			4
041.60	Direct Available Phosphorus as P2O5, Citrate-... (%)	0354	0.3120	0.0120				1			0
050.00	Soluble Potassium as K2O, STPB Oxalate (61%)	0522	59.32	1.120	60.48	0.5810	0.3343	12	-2.00	1%	0
050.00	Soluble Potassium as K2O, STPB Oxalate (61%)	0072	59.83	0.6810	60.48	0.5810	0.3343	12	-1.13	1%	0
050.00	Soluble Potassium as K2O, STPB Oxalate (61%)	0090	60.23	0.3000	60.48	0.5810	0.3343	12	-0.44	0%	0
050.00	Soluble Potassium as K2O, STPB Oxalate (61%)	0231	60.25	0.1000	60.48	0.5810	0.3343	12	-0.40	0%	0
050.00	Soluble Potassium as K2O, STPB Oxalate (61%)	0485	60.31	0.1100	60.48	0.5810	0.3343	12	-0.31	0%	0
050.00	Soluble Potassium as K2O, STPB Oxalate (61%)	0489	60.31	0.0200	60.48	0.5810	0.3343	12	-0.30	0%	0
050.00	Soluble Potassium as K2O, STPB Oxalate (61%)	0055	60.49	0.1000	60.48	0.5810	0.3343	12	0.01	0%	0
050.00	Soluble Potassium as K2O, STPB Oxalate (61%)	0049	60.70	0.1900	60.48	0.5810	0.3343	12	0.36	0%	0
050.00	Soluble Potassium as K2O, STPB Oxalate (61%)	0494	60.74	0.8500	60.48	0.5810	0.3343	12	0.43	0%	0
050.00	Soluble Potassium as K2O, STPB Oxalate (61%)	0405	60.74	0.0400	60.48	0.5810	0.3343	12	0.44	0%	0
050.00	Soluble Potassium as K2O, STPB Oxalate (61%)	0102	61.25	0.5000	60.48	0.5810	0.3343	12	1.32	1%	0
050.00	Soluble Potassium as K2O, STPB Oxalate (61%)	0230	63.10	0.0000	60.48	0.5810	0.3343	12	4.50	2%	0
050.30	Soluble Potassium as K2O, AA (Oxalate) (61%)	0136	59.60	0.2000	60.45	0.8579	0.3795	6	-0.89	1%	0
050.30	Soluble Potassium as K2O, AA (Oxalate) (61%)	0516	59.75	0.7272	60.45	0.8579	0.3795	6	-0.73	1%	0
050.30	Soluble Potassium as K2O, AA (Oxalate) (61%)	0309	60.34	0.1700	60.45	0.8579	0.3795	6	-0.12	0%	0
050.30	Soluble Potassium as K2O, AA (Oxalate) (61%)	0073	60.38	0.0800	60.45	0.8579	0.3795	6	-0.08	0%	0
050.30	Soluble Potassium as K2O, AA (Oxalate) (61%)	0040	61.10	1.000	60.45	0.8579	0.3795	6	0.67	1%	0
050.30	Soluble Potassium as K2O, AA (Oxalate) (61%)	0157	61.55	0.1000	60.45	0.8579	0.3795	6	1.14	1%	0
050.31	Soluble Potassium as K2O, AA (Citrate) (61%)	0472	62.03	0.1500				1			0
050.32	Soluble Potassium as K2O, AA (Citrate-EDTA) (61%)	0185	59.81	0.2700				1			0
050.50	Soluble Potassium as K2O, ICP (Oxalate) (61%)	0422	55.69*	0.4400	59.68	0.9900	0.5550	8	-3.69	3%	0
050.50	Soluble Potassium as K2O, ICP (Oxalate) (61%)	0292	59.15	0.4400	59.68	0.9900	0.5550	8	-0.49	0%	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Threshold %RSD	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
050.50	Soluble Potassium as K2O, ICP (Oxalate) (61%)	0390	59.25	0.5000	59.68	0.9900	0.5550	8	-0.40	0%	0
050.50	Soluble Potassium as K2O, ICP (Oxalate) (61%)	0406	59.53	1.090	59.68	0.9900	0.5550	8	-0.15	0%	0
050.50	Soluble Potassium as K2O, ICP (Oxalate) (61%)	0157	59.60	1.200	59.68	0.9900	0.5550	8	-0.08	0%	0
050.50	Soluble Potassium as K2O, ICP (Oxalate) (61%)	0420	60.20	0.1200	59.68	0.9900	0.5550	8	0.48	0%	0
050.50	Soluble Potassium as K2O, ICP (Oxalate) (61%)	0055	60.74	0.2500	59.68	0.9900	0.5550	8	0.97	1%	0
050.50	Soluble Potassium as K2O, ICP (Oxalate) (61%)	0324	60.80	0.4000	59.68	0.9900	0.5550	8	1.03	1%	0
050.51	Soluble Potassium as K2O, ICP (Citrate) (61%)	0072	59.14	0.2000	60.61	1.110	0.3525	4	-1.33	1%	0
050.51	Soluble Potassium as K2O, ICP (Citrate) (61%)	0007	60.55	0.1000	60.61	1.110	0.3525	4	-0.06	0%	0
050.51	Soluble Potassium as K2O, ICP (Citrate) (61%)	0486	60.97	0.1400	60.61	1.110	0.3525	4	0.32	0%	0
050.51	Soluble Potassium as K2O, ICP (Citrate) (61%)	0483	61.80	0.9700	60.61	1.110	0.3525	4	1.06	1%	0
050.52	Soluble Potassium as K2O, ICP (Citrate-EDTA) (61%)	0117	58.23*	1.650	60.37	1.630	0.7313	7	-1.19	2%	0
050.52	Soluble Potassium as K2O, ICP (Citrate-EDTA) (61%)	0025	59.31	1.510	60.37	1.630	0.7313	7	-0.59	1%	0
050.52	Soluble Potassium as K2O, ICP (Citrate-EDTA) (61%)	0485	60.00	0.2700	60.37	1.630	0.7313	7	-0.21	0%	0
050.52	Soluble Potassium as K2O, ICP (Citrate-EDTA) (61%)	0360	60.59	0.6800	60.37	1.630	0.7313	7	0.12	0%	0
050.52	Soluble Potassium as K2O, ICP (Citrate-EDTA) (61%)	0354	60.72	0.1990	60.37	1.630	0.7313	7	0.19	0%	0
050.52	Soluble Potassium as K2O, ICP (Citrate-EDTA) (61%)	0494	60.97	0.1100	60.37	1.630	0.7313	7	0.33	0%	0
050.52	Soluble Potassium as K2O, ICP (Citrate-EDTA) (61%)	0377	63.31	0.7000	60.37	1.630	0.7313	7	1.63	2%	0
050.60	Soluble Potassium as K2O, Flame Photometric ... (61%)	0443	24.26*	4.180	60.33	1.336	1.123	6	-24.04	30%	0
050.60	Soluble Potassium as K2O, Flame Photometric ... (61%)	0200	59.75	0.1900	60.33	1.336	1.123	6	-0.39	0%	0
050.60	Soluble Potassium as K2O, Flame Photometric ... (61%)	0105	60.39	0.1700	60.33	1.336	1.123	6	0.04	0%	0
050.60	Soluble Potassium as K2O, Flame Photometric ... (61%)	0526	60.65	0.1000	60.33	1.336	1.123	6	0.22	0%	0
050.60	Soluble Potassium as K2O, Flame Photometric ... (61%)	0510	61.27	0.1003	60.33	1.336	1.123	6	0.63	1%	0
050.60	Soluble Potassium as K2O, Flame Photometric ... (61%)	0041	61.59	2.000	60.33	1.336	1.123	6	0.84	1%	0
050.61	Soluble Potassium as K2O, Flame Photometric ... (61%)	0131	61.26	0.1800	62.03	0.9362	1.213	3	-0.82	1%	0
050.61	Soluble Potassium as K2O, Flame Photometric ... (61%)	0456	61.75	0.1000	62.03	0.9362	1.213	3	-0.30	0%	0
050.61	Soluble Potassium as K2O, Flame Photometric ... (61%)	0035	63.07	3.360	62.03	0.9362	1.213	3	1.11	1%	0
050.62	Soluble Potassium as K2O, Flame Photometric ... (61%)	0029	60.90	1.090	61.46	0.8406	0.5676	3	-0.67	0%	0
050.62	Soluble Potassium as K2O, Flame Photometric ... (61%)	0034	61.06	0.5228	61.46	0.8406	0.5676	3	-0.48	0%	0
050.62	Soluble Potassium as K2O, Flame Photometric ... (61%)	0513	62.43	0.0900	61.46	0.8406	0.5676	3	1.15	1%	0
050.99	Soluble Potassium as K2O, Other (61%)	0501	54.45*	0.9540	60.76	1.578	0.5204	28	-4.00	5%	0
050.99	Soluble Potassium as K2O, Other (61%)	0523	55.77*	0.6600	60.76	1.578	0.5204	28	-3.16	4%	0
050.99	Soluble Potassium as K2O, Other (61%)	0042	57.85*	0.3000	60.76	1.578	0.5204	28	-1.85	2%	0
050.99	Soluble Potassium as K2O, Other (61%)	0521	59.44	0.0000	60.76	1.578	0.5204	28	-0.84	1%	0
050.99	Soluble Potassium as K2O, Other (61%)	0481	59.48	1.440	60.76	1.578	0.5204	28	-0.81	1%	0
050.99	Soluble Potassium as K2O, Other (61%)	0433	59.59	0.0600	60.76	1.578	0.5204	28	-0.74	1%	0
050.99	Soluble Potassium as K2O, Other (61%)	0177	59.73	0.0412	60.76	1.578	0.5204	28	-0.66	1%	0
050.99	Soluble Potassium as K2O, Other (61%)	0325	59.75	3.500	60.76	1.578	0.5204	28	-0.64	1%	0
050.99	Soluble Potassium as K2O, Other (61%)	0506	60.25	0.1000	60.76	1.578	0.5204	28	-0.33	0%	0
050.99	Soluble Potassium as K2O, Other (61%)	0482	60.30	0.2000	60.76	1.578	0.5204	28	-0.29	0%	0
050.99	Soluble Potassium as K2O, Other (61%)	0524	60.33	0.1100	60.76	1.578	0.5204	28	-0.28	0%	0
050.99	Soluble Potassium as K2O, Other (61%)	0371	60.35	0.9000	60.76	1.578	0.5204	28	-0.26	0%	0
050.99	Soluble Potassium as K2O, Other (61%)	0520	60.35	0.1000	60.76	1.578	0.5204	28	-0.26	0%	0
050.99	Soluble Potassium as K2O, Other (61%)	0508	60.74	0.0300	60.76	1.578	0.5204	28	-0.02	0%	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Threshold %RSD	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
050.99	Soluble Potassium as K2O, Other (61%)	0368	60.92	0.1011	60.76	1.578	0.5204	28	0.10	0%	0
050.99	Soluble Potassium as K2O, Other (61%)	0444	60.98	0.2500	60.76	1.578	0.5204	28	0.13	0%	0
050.99	Soluble Potassium as K2O, Other (61%)	0493	61.00	0.1000	60.76	1.578	0.5204	28	0.15	0%	0
050.99	Soluble Potassium as K2O, Other (61%)	0500	61.01	0.0200	60.76	1.578	0.5204	28	0.16	0%	0
050.99	Soluble Potassium as K2O, Other (61%)	0389	61.05	0.3000	60.76	1.578	0.5204	28	0.18	0%	0
050.99	Soluble Potassium as K2O, Other (61%)	0043	61.14	0.2400	60.76	1.578	0.5204	28	0.24	0%	0
050.99	Soluble Potassium as K2O, Other (61%)	0519	61.22	0.0300	60.76	1.578	0.5204	28	0.29	0%	0
050.99	Soluble Potassium as K2O, Other (61%)	0457	61.71	0.0800	60.76	1.578	0.5204	28	0.60	1%	0
050.99	Soluble Potassium as K2O, Other (61%)	0451	62.11	1.380	60.76	1.578	0.5204	28	0.85	1%	0
050.99	Soluble Potassium as K2O, Other (61%)	0027	62.51	0.4980	60.76	1.578	0.5204	28	1.10	1%	0
050.99	Soluble Potassium as K2O, Other (61%)	0234	62.88	0.1100	60.76	1.578	0.5204	28	1.34	2%	0
050.99	Soluble Potassium as K2O, Other (61%)	0307	63.72	2.116	60.76	1.578	0.5204	28	1.87	2%	0
050.99	Soluble Potassium as K2O, Other (61%)	0487	65.45	0.9000	60.76	1.578	0.5204	28	2.97	4%	0
050.99	Soluble Potassium as K2O, Other (61%)	0096	69.06	0.0500	60.76	1.578	0.5204	28	5.25	7%	0
050.99	Soluble Potassium as K2O, Other (61%)	0515	58.21*	6.050	60.76	1.578	0.5204	28	-1.62	2%	1
050.99	Soluble Potassium as K2O, Other (61%)	0455	9.585*	0.0300	60.76	1.578	0.5204	28	-32.43	42%	2
060.00	Water (Free), Vacuum Oven (%)	0105	0.0315	0.0030				2			0
060.00	Water (Free), Vacuum Oven (%)	0456	0.3250	0.0500				2			0
060.00	Water (Free), Vacuum Oven (%)	0007	0.0100	0.0200				2			4
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 h... (%)	0513	0.3500	0.0200				1			0
060.99	Water (Free), Other (%)	0510	0.0056	0.0001				1			0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0482	0.0500	0.0000				2			0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0354	0.0830	0.0120				2			0
101.32	Acid Soluble Calcium, ICP, test portion 2006.... (%)	0521	0.0620	0.0000				1			0
101.33	Acid Soluble Calcium, ICP, test portion 2006.... (%)	0117	0.0518	0.0002				1			0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0482	0.0250	0.0100				2			0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0354	0.0415	0.0010				2			0
121.32	Acid Soluble Magnesium, ICP, test portion 200... (%)	0521	0.0277	0.0000				1			0
121.33	Acid Soluble Magnesium, ICP, test portion 200... (%)	0117	0.0247	0.0001				1			0
121.99	Acid Soluble Magnesium, Other (%)	0524	0.0207	0.0007				1			0
148.07	Total Sulfur, ICP, test portion as in 2006.03... (%)	0292	0.0200	0.0000				2			0
148.07	Total Sulfur, ICP, test portion as in 2006.03... (%)	0117	0.0248	0.0000				2			0
148.99	Total Sulfur, Other (%)	0354	0.0140	0.0020				2			0
148.99	Total Sulfur, Other (%)	0482	0.0300	0.0000				2			0
149.04	Sulfur - HNO3 soluble, ICP (%)	0524	0.0224	0.0023				2			0
149.04	Sulfur - HNO3 soluble, ICP (%)	0521	0.0230	0.0000				2			0
151.30	Acid Soluble Arsenic , ICP (ppm)	0519	0.8250	0.0500				1			0
165.30	Acid Soluble Boron , ICP, test portion in 982... (%)	0521	0.0013	0.0000				2			0
165.30	Acid Soluble Boron , ICP, test portion in 982... (%)	0354	0.0065	0.0050				2			0
165.99	Acid Soluble Boron , Other (%)	0524	0.0001	0.0000				1			0
181.30	Acid Soluble Cadmium , ICP (ppm)	0519	0.0100	0.0000				2			0
181.30	Acid Soluble Cadmium , ICP (ppm)	0524	0.0113	0.0001				2			0
190.00	Water Soluble Chlorine, Titrimetric (47%)	0506	45.05*	0.1000	47.28	0.6160	0.3017	14	-3.62	2%	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Threshold %RSD	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
190.00	Water Soluble Chlorine, Titrimetric (47%)	0043	46.60	0.8000	47.28	0.6160	0.3017	14	-1.10	1%	0
190.00	Water Soluble Chlorine, Titrimetric (47%)	0523	46.70	0.2000	47.28	0.6160	0.3017	14	-0.94	1%	0
190.00	Water Soluble Chlorine, Titrimetric (47%)	0105	46.74	0.1200	47.28	0.6160	0.3017	14	-0.87	1%	0
190.00	Water Soluble Chlorine, Titrimetric (47%)	0494	46.97	0.6940	47.28	0.6160	0.3017	14	-0.50	0%	0
190.00	Water Soluble Chlorine, Titrimetric (47%)	0029	47.22	0.1300	47.28	0.6160	0.3017	14	-0.10	0%	0
190.00	Water Soluble Chlorine, Titrimetric (47%)	0444	47.31	0.2700	47.28	0.6160	0.3017	14	0.04	0%	0
190.00	Water Soluble Chlorine, Titrimetric (47%)	0481	47.37	0.2500	47.28	0.6160	0.3017	14	0.14	0%	0
190.00	Water Soluble Chlorine, Titrimetric (47%)	0102	47.53	0.1100	47.28	0.6160	0.3017	14	0.40	0%	0
190.00	Water Soluble Chlorine, Titrimetric (47%)	0136	47.60	0.4000	47.28	0.6160	0.3017	14	0.52	0%	0
190.00	Water Soluble Chlorine, Titrimetric (47%)	0405	47.64	0.0800	47.28	0.6160	0.3017	14	0.59	0%	0
190.00	Water Soluble Chlorine, Titrimetric (47%)	0117	47.75	0.7000	47.28	0.6160	0.3017	14	0.77	0%	0
190.00	Water Soluble Chlorine, Titrimetric (47%)	0513	47.93	0.2300	47.28	0.6160	0.3017	14	1.05	1%	0
190.00	Water Soluble Chlorine, Titrimetric (47%)	0055	48.97	0.1400	47.28	0.6160	0.3017	14	2.75	2%	0
190.99	Water Soluble Chlorine, Other (47%)	0029	46.00*	0.8500	46.99	0.8805	0.6013	8	-1.04	1%	0
190.99	Water Soluble Chlorine, Other (47%)	0389	46.05*	0.7000	46.99	0.8805	0.6013	8	-0.98	1%	0
190.99	Water Soluble Chlorine, Other (47%)	0519	46.56	0.0800	46.99	0.8805	0.6013	8	-0.45	0%	0
190.99	Water Soluble Chlorine, Other (47%)	0520	46.65	0.0000	46.99	0.8805	0.6013	8	-0.36	0%	0
190.99	Water Soluble Chlorine, Other (47%)	0368	47.29	1.040	46.99	0.8805	0.6013	8	0.31	0%	0
190.99	Water Soluble Chlorine, Other (47%)	0371	47.75	0.9000	46.99	0.8805	0.6013	8	0.79	1%	0
190.99	Water Soluble Chlorine, Other (47%)	0508	47.80	0.3400	46.99	0.8805	0.6013	8	0.84	1%	0
190.99	Water Soluble Chlorine, Other (47%)	0027	47.84	0.9000	46.99	0.8805	0.6013	8	0.88	1%	0
191.30	Acid Soluble Chromium , ICP (ppm)	0519	0.6300	0.0600				1			0
221.30	Acid Soluble Copper , ICP, test portion inorg... (%)	0354	0.0075	0.0010				1			0
221.32	Acid Soluble Copper , ICP, test portion 2006.... (%)	0521	0.0007	0.0000				1			0
221.99	Acid Soluble Copper , Other (%)	0524	0.0001	0.0000				1			0
241.30	Acid Soluble Iron, ICP, test portion inorgani... (%)	0354	0.0885	0.0010				2			0
241.30	Acid Soluble Iron, ICP, test portion inorgani... (%)	0482	0.0900	0.0000				2			0
241.32	Acid Soluble Iron, ICP, test portion 2006.03A... (%)	0521	0.0756	0.0000				1			0
241.33	Acid Soluble Iron, ICP, test portion 2006.03A... (%)	0117	0.0822	0.0004				1			0
241.99	Acid Soluble Iron, Other (%)	0524	0.0769	0.0000				1			0
251.30	Acid Soluble Lead , ICP (ppm)	0519	0.0105	0.0010				2			0
251.30	Acid Soluble Lead , ICP (ppm)	0524	0.2549	0.0006				2			0
261.30	Acid Soluble Manganese , ICP, test portion 97... (%)	0354	0.0010	0.0000				1			0
261.34	Acid Soluble Manganese , ICP, test portion 20... (%)	0521	0.0014	0.0000				1			0
261.99	Acid Soluble Manganese , Other (%)	0524	0.0009	0.0000				1			0
281.30	Acid Soluble Mercury , ICP (ppm)	0519	0.0300	0.0000				1			0
281.99	Acid Soluble Mercury , Other (ppm)	0009	0.0000	0.0000				0			4
289.30	Acid Soluble Molybdenum , ICP (ppm)	0524	0.0070	0.0000				2			0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0521	5.099	0.0000				2			0
291.30	Acid Soluble Nickel , ICP (ppm)	0519	0.0200	0.0000	0.2690	0.2782	0.0001	3	-0.89	46%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0524	0.2176	0.0002	0.2690	0.2782	0.0001	3	-0.18	10%	0
291.3	Acid Soluble Nickel , ICP (ppm)	521	0.5693	0.0000	0.2690	0.2782	0.0001	3	1.08	0.55830958	0
301.3	Acid Soluble Selenium , ICP (ppm)	519	0.3250	0.0100				1			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Threshold %RSD	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
311.3	Sodium, Flame Photometric (%)	510	1.410	0.0003				1		0	
311.32	Sodium, ICP, 2006.03 test portion (%)	521	1.435	0.0000				1		0	
311.99	Sodium, Other (%)	482	1.345	0.0300				2		0	
311.99	Sodium, Other (%)	354	1.676	0.0010				2		0	
321.3	Acid Soluble Zinc , ICP, test portion inorgan... (%)	354	0.0055	0.0010				1		0	
321.3	Acid Soluble Zinc , ICP, test portion inorgan... (%)	292	0.0000	0.0000				1		4	
321.32	Acid Soluble Zinc , ICP, test portion 2006.03... (%)	521	0.0006	0.0000				1		0	
321.99	Acid Soluble Zinc , Other (%)	524	0.0003	0.0000				1		0	

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 and a 4 flag indicates rejected due to 0 value submitted. Robust statistics not used if < 6 labs used in calculations, in this case the Z Scores are included for information only (Grey). An offset lab value with an astrix indicates that the value is lower than the Analyte value less the IA. Method or Analyte 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.