

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Methods: 96

Sample # 161012

Statistical Summary

Labs Reporting: 69

ZnSO4

Issue Date : 12/31/2016

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
010.60	Total Nitrogen, Combustion (%)	6	6	2.944	0.2535	2.881		0.1246	0.0636	4.33%		0.0408	3.41%
010.99	Total Nitrogen, Other (%)	1		2.848									
020.20	Total Phosphorus as P2O5, Spectrophotometric Molyb... (%)	1		0.1100									
020.50	Total Phosphorus as P2O5, ICP (%)	2	2	0.0262	0.0145								
041.50	Direct Available Phosphorus as P2O5, ICP (%)	1		0.0000									
041.60	Direct Available Phosphorus as P2O5, Citrate-EDTA ... (%)	1		0.4490									
050.50	Soluble Potassium as K2O, ICP (Oxalate) (%)	1		1.730									
050.52	Soluble Potassium as K2O, ICP (Citrate-EDTA) (%)	1		0.9675									
050.99	Soluble Potassium as K2O, Other (%)	5	4	1.641	0.1514	1.641		0.1514	0.0946	9.22%		0.0575	3.71%
060.00	Water (Free), Vacuum Oven (%)	1		0.7590									
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours,... (%)	1		3.035									
060.99	Water (Free), Other (%)	1		0.4059									
101.00	Acid Soluble Calcium, AA, inorganic 965.09 (%)	1		0.1485									
101.03	Acid Soluble Calcium, AA, 965.09, test portion 200... (%)	1		0.1605									
101.30	Acid Soluble Calcium, ICP, test portion inorganic ... (%)	4	4	0.2035	0.0438	0.2035		0.0438	0.0274	21.53%		0.0515	5.08%
101.32	Acid Soluble Calcium, ICP, test portion 2006.03A-C (%)	1		0.2277									
101.33	Acid Soluble Calcium, ICP, test portion 2006.03A-C... (%)	2	2	0.1738	0.0104								
121.00	Acid Soluble Magnesium, AA, inorganic 965.09 (%)	1		0.0685									
121.03	Acid Soluble Magnesium, AA, 965.09, test portion 2... (%)	1		0.0665									
121.30	Acid Soluble Magnesium, ICP, test portion inorgani... (%)	4	4	0.0785	0.0139	0.0785		0.0139	0.0087	17.73%		0.0155	5.87%
121.32	Acid Soluble Magnesium, ICP, test portion 2006.03A... (%)	1		0.0773									
121.33	Acid Soluble Magnesium, ICP, test portion 2006.03A... (%)	2	2	0.0709	0.0037								
121.99	Acid Soluble Magnesium, Other (%)	1		0.0621									
143.00	Elemental Sulfur, Gravimetric Sulfur - carbon disu... (%)	1		16.76									
143.99	Elemental Sulfur, Other (%)	3	3	16.72	0.1325	16.72		0.1325	0.0956	0.79%		0.2067	2.62%
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulfur - ... (%)	5	5	15.94	0.4840	15.94		0.4840	0.2706	3.04%		0.1240	2.64%
145.99	Sulfate Sulfur, HCl soluble, Other (%)	1		16.42									
147.99	Total Sulfur in Urea/Formulations, Other (Identify) (%)	1		16.16									
148.00	Total Sulfur, Combustion (17%)	7	7	15.94	0.8522	15.73	1.0000	0.3920	0.1852	2.49%	3.18%	0.2436	2.64%
148.01	Total Sulfur, Gravimetric - sulfate and elemental... (17%)	17	17	16.11	0.7571	16.05	1.0000	0.7055	0.2139	4.39%	3.11%	0.1290	2.63%
148.04	Total Sulfur, ICP, w/Br digestion (17%)	1		15.85									

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
148.07	Total Sulfur, ICP, test portion as in 2006.03 modi... (17%)	11	11	18.34	4.427	17.30	1.0000	1.679	0.6329	9.70%	2.89%	0.8074	2.60%
148.99	Total Sulfur, Other (17%)	12	11	16.11	0.7859	16.16	1.0000	0.7669	0.2890	4.75%	3.09%	0.3635	2.63%
149.04	Sulfur - HNO3 soluble, ICP (%)	3	3	16.98	0.8890	16.98		0.8890	0.6416	5.23%		0.2464	2.61%
151.30	Acid Soluble Arsenic , ICP (ppm)	3	3	0.9312	1.185	0.9312		1.185	0.8551	127.24%		0.0297	16.17%
151.33	Acid Soluble Arsenic , ICP, 2006.03 modified w/9:3... (ppm)	1		0.0000									
151.34	Acid Soluble Arsenic , ICP, EPA 3050B/6010C (ppm)	1		0.0000									
165.30	Acid Soluble Boron , ICP, test portion in 982.01 (%)	2	2	0.0126	0.0076								
165.99	Acid Soluble Boron , Other (%)	2	2	0.0089	0.0005								
181.00	Acid Soluble Cadmium , AA, test portion as in 2006... (ppm)	1		4.240									
181.30	Acid Soluble Cadmium , ICP (ppm)	10	10	4.805	0.5251	4.835		0.5257	0.2078	10.87%		0.1807	12.62%
181.33	Acid Soluble Cadmium , ICP, 2006.03 modified w/9:3... (ppm)	2	2	5.688	0.4945								
181.34	Acid Soluble Cadmium , ICP, EPA 3050B/6010C (ppm)	2	2	6.762	2.499								
181.99	Acid Soluble Cadmium , Other (ppm)	1		5.600									
191.30	Acid Soluble Chromium , ICP (ppm)	7	7	9.021	0.6412	9.053		0.6519	0.3080	7.20%		0.5713	11.48%
191.33	Acid Soluble Chromium , ICP, 2006.03 modified w/9:3... (ppm)	2	2	8.564	0.8395								
191.34	Acid Soluble Chromium , ICP, EPA 3050B/6010C (ppm)	2	2	11.10	3.243								
202.30	Acid Soluble Cobalt , ICP (ppm)	7	7	8.144	0.8614	8.144		0.9768	0.4615	11.99%		0.2416	11.67%
202.33	Acid Soluble Cobalt , ICP, 2006.03 modified w/9:3 ... (ppm)	2	2	10.59	2.545								
202.34	Acid Soluble Cobalt , ICP, EPA 3050B/6010C (ppm)	1		12.73									
202.99	Acid Soluble Cobalt , Other (ppm)	1		8.600									
221.30	Acid Soluble Copper , ICP, test portion inorganic ... (%)	3	3	0.1734	0.2958	0.1734		0.2958	0.2135	170.59%		0.0640	5.21%
221.32	Acid Soluble Copper , ICP, test portion 2006.03A-C (%)	2	2	0.6603	0.9330								
221.33	Acid Soluble Copper , ICP, test portion 2006.03A-C... (ppm)	1		0.0005									
221.99	Acid Soluble Copper , Other (%)	1		0.0009									
241.00	Acid Soluble Iron, AA, inorganic 965.09 (%)	1		0.0375									
241.03	Acid Soluble Iron, AA, 965.09, test portion 2006.0... (%)	1		0.0390									
241.30	Acid Soluble Iron, ICP, test portion inorganic 965... (%)	4	4	0.0295	0.0069	0.0295		0.0069	0.0043	23.39%		0.0084	6.80%
241.32	Acid Soluble Iron, ICP, test portion 2006.03A-C (%)	1		0.0317									
241.33	Acid Soluble Iron, ICP, test portion 2006.03A-C, w... (%)	2	2	0.0348	0.0021								
241.99	Acid Soluble Iron, Other (%)	1		0.0323									
251.00	Acid Soluble Lead , AA, test portion as in 2006.03... (ppm)	1		1.570									
251.30	Acid Soluble Lead , ICP (ppm)	6	5	2.532	4.724	2.532		4.724	2.641	186.55%		1.598	13.91%
251.33	Acid Soluble Lead , ICP, 2006.03 modified w/9:3 HN... (ppm)	1		10.13									
251.34	Acid Soluble Lead , ICP, EPA 3050B/6010C (ppm)	1		4.660									
261.12	Acid Soluble Manganese , AA, inorganic 965.09 (%)	1		0.1500									
261.15	Acid Soluble Manganese , AA, 965.09, test portion ... (%)	1		0.1570									
261.30	Acid Soluble Manganese , ICP, test portion 972.02a (%)	3	3	0.1466	0.0024	0.1466		0.0024	0.0017	1.64%		0.0015	5.34%
261.31	Acid Soluble Manganese , ICP, test portion 972.02b (%)	1		0.1600									
261.34	Acid Soluble Manganese , ICP, test portion 2006.03... (ppm)	1		0.1387									
261.35	Acid Soluble Manganese , ICP, test portion 2006.03... (ppm)	2	2	0.1495	0.0064								
261.99	Acid Soluble Manganese , Other (%)	1		0.1413									
281.30	Acid Soluble Mercury , ICP (ppm)	2	1	0.0605									

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
289.30	Acid Soluble Molybdenum , ICP (ppm)	7	5	3.163	5.331	3.163		5.331	2.980	168.55%		0.0477	13.45%
289.33	Acid Soluble Molybdenum , ICP, 2006.03 modified w/..	1		0.0385									
289.34	Acid Soluble Molybdenum , ICP, EPA 3050B/6010C (p	1		3.079									
291.00	Acid Soluble Nickel , AA, test portion as in 2006.... (pp	1		88.31									
291.30	Acid Soluble Nickel , ICP (ppm)	11	10	90.01	11.93	90.01		13.53	5.349	15.03%		1.468	8.13%
291.33	Acid Soluble Nickel , ICP, 2006.03 modified w/9:3 ... (p	2	2	90.73	6.106								
291.34	Acid Soluble Nickel , ICP, EPA 3050B/6010C (ppm)	2	2	96.50	2.409								
291.99	Acid Soluble Nickel , Other (ppm)	1		98.00									
301.30	Acid Soluble Selenium , ICP (ppm)	3	2	5.060	5.629	5.060		5.629	4.975	111.24%		0.0427	12.53%
301.33	Acid Soluble Selenium , ICP, 2006.03 modified w/9:...	1		7.863									
301.34	Acid Soluble Selenium , ICP, EPA 3050B/6010C (ppm)	1		0.9370									
311.32	Sodium, ICP, 2006.03 test portion (%)	2	2	0.5798	0.0957								
311.33	Sodium, ICP, 2006.03 modified w/9:3 HNO3:HCl test .	1		0.6595									
311.99	Sodium, Other (%)	3	3	0.6687	0.0180	0.6687		0.0180	0.0130	2.70%		0.0407	4.25%
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (35%)	12	12	32.93	2.857	32.72	1.0000	2.722	0.9822	8.32%	1.53%	0.4118	2.37%
321.03	Acid Soluble Zinc , AA, 965.09, test portion 2006.... (3	1		31.69									
321.30	Acid Soluble Zinc , ICP, test portion inorganic 96... (35	27	26	32.98	4.304	33.23	1.0000	1.667	0.4086	5.02%	1.50%	0.4398	2.36%
321.32	Acid Soluble Zinc , ICP, test portion 2006.03A-C (35%	2	2	34.54	0.3333								
321.33	Acid Soluble Zinc , ICP, test portion 2006.03A-C, ... (3	8	8	32.75	1.969	32.75	1.0000	2.233	0.9870	6.82%	1.53%	0.3595	2.37%
321.99	Acid Soluble Zinc , Other (35%)	13	12	34.07	2.342	34.20	1.0000	2.364	0.8530	6.91%	1.46%	0.5492	2.35%
325.00	Water Soluble Zinc , AA (%)	3	3	31.19	0.4871	31.19		0.4871	0.3515	1.56%		0.4297	2.38%
325.30	Water Soluble Zinc , ICP (%)	9	9	32.27	2.562	32.25		2.865	1.194	8.88%		0.6100	2.37%
325.99	Water Soluble Zinc, Other (%)	2	2	31.05	1.633								

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STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 161012

Method Precision Report

ZnSO4

Issue Date : 12/31/2016

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
148.01	Total Sulfur, Gravimetric - sulfate and elemental (17%)	17	15	16.05	0.5356	0.5295	0.1143	0.5417	3.30%	0.71%	3.37%	4.739
148.07	Total Sulfur, ICP, test portion as in 2006.03 modified w/9:3 HNO3:HCl (17%)	11	9	16.79	1.039	0.9161	0.6924	1.148	5.46%	4.12%	6.84%	1.659
148.99	Total Sulfur, Other (17%)	12	11	16.11	0.7859	0.7443	0.3567	0.8254	4.62%	2.21%	5.12%	2.314
181.30	Acid Soluble Cadmium , ICP (ppm)	10	9	4.923	0.3943	0.3837	0.1284	0.4046	7.79%	2.61%	8.22%	3.152
291.30	Acid Soluble Nickel , ICP (ppm)	11	10	90.01	11.93	11.88	1.599	11.99	13.20%	1.78%	13.32%	7.496
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (35%)	12	11	33.10	2.933	2.925	0.2971	2.940	8.84%	0.90%	8.88%	9.896
321.30	Acid Soluble Zinc , ICP, test portion inorganic 965.09 (35%)	27	24	33.47	2.269	2.254	0.3689	2.284	6.74%	1.10%	6.83%	6.192
321.33	Acid Soluble Zinc , ICP, test portion 2006.03A-C, w/dual acid (35%)	8	8	32.75	1.969	1.945	0.4367	1.993	5.94%	1.33%	6.09%	4.565
321.99	Acid Soluble Zinc , Other (35%)	13	12	34.07	2.342	2.302	0.6108	2.382	6.76%	1.79%	6.99%	3.900
325.30	Water Soluble Zinc , ICP (%)	9	8	31.71	2.080	2.060	0.4063	2.100	6.50%	1.28%	6.62%	5.168

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

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Methods: 96

Sample # 161012

Lab Values

Labs Reporting: 69

ZnSO4

Issue Date : 12/31/2016

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				
010.60	Total Nitrogen, Combustion (%)	0521	2.785	0.0000	2.881	0.1246	0.0408	6	-0.69	2%	0
010.60	Total Nitrogen, Combustion (%)	0325	2.795	0.0900	2.881	0.1246	0.0408	6	-0.62	1%	0
010.60	Total Nitrogen, Combustion (%)	0354	2.819	0.0050	2.881	0.1246	0.0408	6	-0.45	1%	0
010.60	Total Nitrogen, Combustion (%)	0292	2.870	0.0000	2.881	0.1246	0.0408	6	-0.08	0%	0
010.60	Total Nitrogen, Combustion (%)	0482	2.950	0.1200	2.881	0.1246	0.0408	6	0.49	1%	0
010.60	Total Nitrogen, Combustion (%)	0351	3.447	0.0300	2.881	0.1246	0.0408	6	4.04	10%	0
010.99	Total Nitrogen, Other (%)	0524	2.848	0.0071				1			0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0292	0.1100	0.0000				1			0
020.50	Total Phosphorus as P2O5, ICP (%)	0524	0.0159	0.0002				2			0
020.50	Total Phosphorus as P2O5, ICP (%)	0521	0.0364	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	0.4490	0.0040				1			0
050.50	Soluble Potassium as K2O, ICP (Oxalate) (%)	0292	1.730	0.0000				1			0
050.52	Soluble Potassium as K2O, ICP (Citrate-EDTA) (%)	0354	0.9675	0.1210				1			0
050.99	Soluble Potassium as K2O, Other (%)	0521	1.440	0.0000	1.641	0.1514	0.0575	4	-1.33	6%	0
050.99	Soluble Potassium as K2O, Other (%)	0482	1.615	0.0900	1.641	0.1514	0.0575	4	-0.17	1%	0
050.99	Soluble Potassium as K2O, Other (%)	0524	1.723	0.0101	1.641	0.1514	0.0575	4	0.55	3%	0
050.99	Soluble Potassium as K2O, Other (%)	0096	1.785	0.1300	1.641	0.1514	0.0575	4	0.95	4%	0
050.99	Soluble Potassium as K2O, Other (%)	0325	0.0000	0.0000	1.641	0.1514	0.0575	4			4
060.00	Water (Free), Vacuum Oven (%)	0105	0.7590	0.0840				1			0
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 h... (%)	0513	3.035	0.0300				1			0
060.99	Water (Free), Other (%)	0510	0.4059	0.0020				1			0
101.00	Acid Soluble Calcium, AA, inorganic 965.09 (%)	0105	0.1485	0.0130				1			0
101.03	Acid Soluble Calcium, AA, 965.09, test portio... (%)	0105	0.1605	0.0030				1			0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0482	0.1600	0.0000	0.2035	0.0438	0.0515	4	-0.99	11%	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0096	0.1730	0.0020	0.2035	0.0438	0.0515	4	-0.70	7%	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0035	0.2305	0.1110	0.2035	0.0438	0.0515	4	0.62	7%	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0354	0.2505	0.0930	0.2035	0.0438	0.0515	4	1.07	12%	0
101.32	Acid Soluble Calcium, ICP, test portion 2006.... (%)	0521	0.2277	0.0000				1			0
101.33	Acid Soluble Calcium, ICP, test portion 2006.... (%)	0117	0.1665	0.0021				2			0
101.33	Acid Soluble Calcium, ICP, test portion 2006.... (%)	0025	0.1812	0.0021				2			0
121.00	Acid Soluble Magnesium, AA, inorganic 965.09 (%)	0105	0.0685	0.0010				1			0
121.03	Acid Soluble Magnesium, AA, 965.09, test port... (%)	0105	0.0665	0.0010				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				
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0482	0.0650	0.0100	0.0785	0.0139	0.0155	4	-0.97	9%	0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0096	0.0700	0.0000	0.0785	0.0139	0.0155	4	-0.61	5%	0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0035	0.0830	0.0240	0.0785	0.0139	0.0155	4	0.32	3%	0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0354	0.0960	0.0280	0.0785	0.0139	0.0155	4	1.26	11%	0
121.32	Acid Soluble Magnesium, ICP, test portion 200... (%)	0521	0.0773	0.0000				1			0
121.33	Acid Soluble Magnesium, ICP, test portion 200... (%)	0117	0.0683	0.0019				2			0
121.33	Acid Soluble Magnesium, ICP, test portion 200... (%)	0025	0.0736	0.0009				2			0
121.99	Acid Soluble Magnesium, Other (%)	0524	0.0621	0.0002				1			0
143.00	Elemental Sulfur, Gravimetric Sulfur - carbon... (%)	0055	16.76	0.0100				1			0
143.99	Elemental Sulfur, Other (%)	0390	16.59	0.2300	16.72	0.1325	0.2067	3	-0.99	0%	0
143.99	Elemental Sulfur, Other (%)	0472	16.72	0.2900	16.72	0.1325	0.2067	3	-0.01	0%	0
143.99	Elemental Sulfur, Other (%)	0389	16.85	0.1000	16.72	0.1325	0.2067	3	1.01	0%	0
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulf... (%)	0444	15.36	0.0300	15.94	0.4840	0.1240	5	-1.20	2%	0
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulf... (%)	0027	15.82	0.0900	15.94	0.4840	0.1240	5	-0.25	0%	0
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulf... (%)	0485	15.85	0.3600	15.94	0.4840	0.1240	5	-0.18	0%	0
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulf... (%)	0233	15.98	0.0500	15.94	0.4840	0.1240	5	0.08	0%	0
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulf... (%)	0043	16.70	0.0900	15.94	0.4840	0.1240	5	1.56	2%	0
145.99	Sulfate Sulfur, HCl soluble, Other (%)	0200	16.42	0.3500				1			0
147.99	Total Sulfur in Urea/Formulations, Other (Ide... (%)	0131	16.16	0.0400				1			0
148.00	Total Sulfur, Combustion (17%)	0029	15.46	0.4300	15.73	0.3920	0.2436	7	-0.63	1%	0
148.00	Total Sulfur, Combustion (17%)	0351	15.47	0.0053	15.73	0.3920	0.2436	7	-0.59	1%	0
148.00	Total Sulfur, Combustion (17%)	0405	15.50	0.0000	15.73	0.3920	0.2436	7	-0.52	1%	0
148.00	Total Sulfur, Combustion (17%)	0025	15.53	0.0900	15.73	0.3920	0.2436	7	-0.46	1%	0
148.00	Total Sulfur, Combustion (17%)	0360	15.72	0.1800	15.73	0.3920	0.2436	7	-0.01	0%	0
148.00	Total Sulfur, Combustion (17%)	0157	16.10	0.4000	15.73	0.3920	0.2436	7	0.86	1%	0
148.00	Total Sulfur, Combustion (17%)	0451	17.80	0.6000	15.73	0.3920	0.2436	7	4.78	7%	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (17%)	0230	14.95*	0.5000	16.05	0.7055	0.1290	17	-1.56	3%	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (17%)	0481	15.27	0.0400	16.05	0.7055	0.1290	17	-1.11	2%	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (17%)	0371	15.60	0.2000	16.05	0.7055	0.1290	17	-0.64	1%	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (17%)	0231	15.66	0.0700	16.05	0.7055	0.1290	17	-0.56	1%	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (17%)	0040	15.70	0.0000	16.05	0.7055	0.1290	17	-0.50	1%	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (17%)	0073	15.74	0.1300	16.05	0.7055	0.1290	17	-0.45	1%	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (17%)	0444	15.82	0.0000	16.05	0.7055	0.1290	17	-0.33	1%	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (17%)	0485	15.85	0.3600	16.05	0.7055	0.1290	17	-0.29	1%	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (17%)	0029	15.88	0.0300	16.05	0.7055	0.1290	17	-0.25	1%	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (17%)	0105	16.01	0.0000	16.05	0.7055	0.1290	17	-0.06	0%	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (17%)	0102	16.06	0.1300	16.05	0.7055	0.1290	17	0.00	0%	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (17%)	0157	16.10	0.0000	16.05	0.7055	0.1290	17	0.07	0%	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (17%)	0324	16.20	0.4000	16.05	0.7055	0.1290	17	0.21	0%	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (17%)	0526	16.75	0.1000	16.05	0.7055	0.1290	17	0.99	2%	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (17%)	0500	17.05	0.1000	16.05	0.7055	0.1290	17	1.41	3%	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (17%)	0510	17.14	0.0324	16.05	0.7055	0.1290	17	1.54	3%	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (17%)	0513	18.05	0.1000	16.05	0.7055	0.1290	17	2.83	6%	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				
148.04	Total Sulfur, ICP, w/Br digestion (17%)	0394	15.85	0.3000				1			0
148.07	Total Sulfur, ICP, test portion as in 2006.03... (17%)	0117	15.36	0.0000	17.30	1.679	0.8074	11	-1.08	6%	0
148.07	Total Sulfur, ICP, test portion as in 2006.03... (17%)	0494	15.44	0.0900	17.30	1.679	0.8074	11	-1.04	5%	0
148.07	Total Sulfur, ICP, test portion as in 2006.03... (17%)	0177	15.68	0.0285	17.30	1.679	0.8074	11	-0.91	5%	0
148.07	Total Sulfur, ICP, test portion as in 2006.03... (17%)	0483	16.80	0.6000	17.30	1.679	0.8074	11	-0.28	1%	0
148.07	Total Sulfur, ICP, test portion as in 2006.03... (17%)	0486	17.08	0.1600	17.30	1.679	0.8074	11	-0.13	1%	0
148.07	Total Sulfur, ICP, test portion as in 2006.03... (17%)	0406	17.34	2.420	17.30	1.679	0.8074	11	0.02	0%	0
148.07	Total Sulfur, ICP, test portion as in 2006.03... (17%)	0102	17.59	0.5046	17.30	1.679	0.8074	11	0.16	1%	0
148.07	Total Sulfur, ICP, test portion as in 2006.03... (17%)	0525	17.80	1.060	17.30	1.679	0.8074	11	0.28	1%	0
148.07	Total Sulfur, ICP, test portion as in 2006.03... (17%)	0325	18.00	1.000	17.30	1.679	0.8074	11	0.39	2%	0
148.07	Total Sulfur, ICP, test portion as in 2006.03... (17%)	0515	19.44	3.008	17.30	1.679	0.8074	11	1.19	6%	0
148.07	Total Sulfur, ICP, test portion as in 2006.03... (17%)	0292	31.17	0.0100	17.30	1.679	0.8074	11	7.72	40%	0
148.99	Total Sulfur, Other (17%)	0422	14.44*	0.6600	16.16	0.7669	0.3635	11	-2.24	5%	0
148.99	Total Sulfur, Other (17%)	0040	15.44	0.8100	16.16	0.7669	0.3635	11	-0.94	2%	0
148.99	Total Sulfur, Other (17%)	0096	15.65	0.0400	16.16	0.7669	0.3635	11	-0.66	2%	0
148.99	Total Sulfur, Other (17%)	0520	15.72	0.0100	16.16	0.7669	0.3635	11	-0.58	1%	0
148.99	Total Sulfur, Other (17%)	0377	15.85	0.3600	16.16	0.7669	0.3635	11	-0.40	1%	0
148.99	Total Sulfur, Other (17%)	0354	16.15	0.0030	16.16	0.7669	0.3635	11	-0.02	0%	0
148.99	Total Sulfur, Other (17%)	0482	16.55	0.7000	16.16	0.7669	0.3635	11	0.51	1%	0
148.99	Total Sulfur, Other (17%)	0307	16.59	0.2760	16.16	0.7669	0.3635	11	0.56	1%	0
148.99	Total Sulfur, Other (17%)	0519	16.81	0.0700	16.16	0.7669	0.3635	11	0.84	2%	0
148.99	Total Sulfur, Other (17%)	0506	17.00	1.000	16.16	0.7669	0.3635	11	1.10	3%	0
148.99	Total Sulfur, Other (17%)	0523	17.01	0.0700	16.16	0.7669	0.3635	11	1.10	3%	0
148.99	Total Sulfur, Other (17%)	0501	11.57*	6.013	16.16	0.7669	0.3635	11	-5.99	14%	1
149.04	Sulfur - HNO3 soluble, ICP (%)	0368	16.15	0.5549	16.98	0.8890	0.2464	3	-0.93	2%	0
149.04	Sulfur - HNO3 soluble, ICP (%)	0524	16.87	0.1844	16.98	0.8890	0.2464	3	-0.12	0%	0
149.04	Sulfur - HNO3 soluble, ICP (%)	0521	17.92	0.0000	16.98	0.8890	0.2464	3	1.06	3%	0
151.30	Acid Soluble Arsenic, ICP (ppm)	0523	0.0835	0.0090	0.9312	1.185	0.0297	3	-0.72	46%	0
151.30	Acid Soluble Arsenic, ICP (ppm)	0519	0.4250	0.0100	0.9312	1.185	0.0297	3	-0.43	27%	0
151.30	Acid Soluble Arsenic, ICP (ppm)	0368	2.285	0.0700	0.9312	1.185	0.0297	3	1.14	73%	0
151.33	Acid Soluble Arsenic, ICP, 2006.03 modified ... (ppm)	0515	0.0000	0.0000				0			4
151.34	Acid Soluble Arsenic, ICP, EPA 3050B/6010C (ppm)	0515	0.0000	0.0000				0			4
165.30	Acid Soluble Boron, ICP, test portion in 982... (%)	0521	0.0072	0.0000				2			0
165.30	Acid Soluble Boron, ICP, test portion in 982... (%)	0354	0.0180	0.0080				2			0
165.99	Acid Soluble Boron, Other (%)	0524	0.0086	0.0001				2			0
165.99	Acid Soluble Boron, Other (%)	0117	0.0092	0.0006				2			0
181.00	Acid Soluble Cadmium, AA, test portion as in... (ppm)	0481	4.240	0.2400				1			0
181.30	Acid Soluble Cadmium, ICP (ppm)	0368	3.750	0.6200	4.835	0.5257	0.1807	10	-1.92	11%	0
181.30	Acid Soluble Cadmium, ICP (ppm)	0444	4.395	0.2100	4.835	0.5257	0.1807	10	-0.78	5%	0
181.30	Acid Soluble Cadmium, ICP (ppm)	0523	4.545	0.2300	4.835	0.5257	0.1807	10	-0.51	3%	0
181.30	Acid Soluble Cadmium, ICP (ppm)	0096	4.650	0.1000	4.835	0.5257	0.1807	10	-0.33	2%	0
181.30	Acid Soluble Cadmium, ICP (ppm)	0524	4.672	0.0112	4.835	0.5257	0.1807	10	-0.29	2%	0
181.30	Acid Soluble Cadmium, ICP (ppm)	0394	4.800	0.0000	4.835	0.5257	0.1807	10	-0.06	0%	0

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			Value	Range	Rob Mean	Rob SD	R-bar				
181.30	Acid Soluble Cadmium , ICP (ppm)	0519	5.130	0.0600	4.835	0.5257	0.1807	10	0.52	3%	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0035	5.250	0.1600	4.835	0.5257	0.1807	10	0.73	4%	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0482	5.400	0.4000	4.835	0.5257	0.1807	10	1.00	6%	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0102	5.463	0.0160	4.835	0.5257	0.1807	10	1.11	6%	0
181.33	Acid Soluble Cadmium , ICP, 2006.03 modified ... (ppm)	0117	5.338	0.0560				2			0
181.33	Acid Soluble Cadmium , ICP, 2006.03 modified ... (ppm)	0515	6.037	2.701				2			0
181.34	Acid Soluble Cadmium , ICP, EPA 3050B/6010C (ppm)	0230	4.995	0.0700				2			0
181.34	Acid Soluble Cadmium , ICP, EPA 3050B/6010C (ppm)	0515	8.529	2.190				2			0
181.99	Acid Soluble Cadmium , Other (ppm)	0520	5.600	0.0000				1			0
191.30	Acid Soluble Chromium , ICP (ppm)	0482	7.850	0.7000	9.053	0.6519	0.5713	7	-1.67	7%	0
191.30	Acid Soluble Chromium , ICP (ppm)	0096	8.700	2.000	9.053	0.6519	0.5713	7	-0.49	2%	0
191.30	Acid Soluble Chromium , ICP (ppm)	0368	9.045	0.4700	9.053	0.6519	0.5713	7	-0.01	0%	0
191.30	Acid Soluble Chromium , ICP (ppm)	0519	9.095	0.0900	9.053	0.6519	0.5713	7	0.06	0%	0
191.30	Acid Soluble Chromium , ICP (ppm)	0102	9.223	0.2090	9.053	0.6519	0.5713	7	0.23	1%	0
191.30	Acid Soluble Chromium , ICP (ppm)	0035	9.275	0.0100	9.053	0.6519	0.5713	7	0.31	1%	0
191.30	Acid Soluble Chromium , ICP (ppm)	0523	9.960	0.5200	9.053	0.6519	0.5713	7	1.26	5%	0
191.33	Acid Soluble Chromium , ICP, 2006.03 modified... (ppm)	0117	7.971	0.2130				2			0
191.33	Acid Soluble Chromium , ICP, 2006.03 modified... (ppm)	0515	9.158	2.046				2			0
191.34	Acid Soluble Chromium , ICP, EPA 3050B/6010C (ppm)	0230	8.805	0.1500				2			0
191.34	Acid Soluble Chromium , ICP, EPA 3050B/6010C (ppm)	0515	13.39	4.748				2			0
202.30	Acid Soluble Cobalt , ICP (ppm)	0524	7.360	0.0182	8.144	0.9768	0.2416	7	-0.73	5%	0
202.30	Acid Soluble Cobalt , ICP (ppm)	0523	7.435	0.0500	8.144	0.9768	0.2416	7	-0.66	4%	0
202.30	Acid Soluble Cobalt , ICP (ppm)	0035	7.490	0.2000	8.144	0.9768	0.2416	7	-0.61	4%	0
202.30	Acid Soluble Cobalt , ICP (ppm)	0482	7.700	0.4000	8.144	0.9768	0.2416	7	-0.41	3%	0
202.30	Acid Soluble Cobalt , ICP (ppm)	0096	8.495	0.2900	8.144	0.9768	0.2416	7	0.33	2%	0
202.30	Acid Soluble Cobalt , ICP (ppm)	0102	9.062	0.0630	8.144	0.9768	0.2416	7	0.85	6%	0
202.30	Acid Soluble Cobalt , ICP (ppm)	0368	9.465	0.6700	8.144	0.9768	0.2416	7	1.22	8%	0
202.33	Acid Soluble Cobalt , ICP, 2006.03 modified w... (ppm)	0117	8.789	0.1480				2			0
202.33	Acid Soluble Cobalt , ICP, 2006.03 modified w... (ppm)	0515	12.39	4.862				2			0
202.34	Acid Soluble Cobalt , ICP, EPA 3050B/6010C (ppm)	0515	12.73	2.901				1			0
202.99	Acid Soluble Cobalt , Other (ppm)	0520	8.600	0.0000				1			0
221.30	Acid Soluble Copper , ICP, test portion inorg... (%)	0433	0.0003	0.0001	0.1734	0.2958	0.0640	3	-0.59	50%	0
221.30	Acid Soluble Copper , ICP, test portion inorg... (%)	0354	0.0050	0.0020	0.1734	0.2958	0.0640	3	-0.57	49%	0
221.30	Acid Soluble Copper , ICP, test portion inorg... (%)	0368	0.5150	0.1900	0.1734	0.2958	0.0640	3	1.15	98%	0
221.32	Acid Soluble Copper , ICP, test portion 2006.... (%)	0521	0.0005	0.0000				2			0
221.32	Acid Soluble Copper , ICP, test portion 2006.... (%)	0394	1.320	0.4800				2			0
221.33	Acid Soluble Copper , ICP, test portion 2006.... (%)	0515	0.0005	0.0001				1			0
221.99	Acid Soluble Copper , Other (%)	0515	0.0009	0.0003				1			0
241.00	Acid Soluble Iron, AA, inorganic 965.09 (%)	0105	0.0375	0.0010				1			0
241.03	Acid Soluble Iron, AA, 965.09, test portion 2... (%)	0105	0.0390	0.0040				1			0
241.30	Acid Soluble Iron, ICP, test portion inorgani... (%)	0354	0.0205	0.0330	0.0295	0.0069	0.0084	4	-1.30	15%	0
241.30	Acid Soluble Iron, ICP, test portion inorgani... (%)	0096	0.0300	0.0000	0.0295	0.0069	0.0084	4	0.08	1%	0
241.30	Acid Soluble Iron, ICP, test portion inorgani... (%)	0482	0.0300	0.0000	0.0295	0.0069	0.0084	4	0.08	1%	0

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241.30	Acid Soluble Iron, ICP, test portion inorgani... (%)	0035	0.0373	0.0004	0.0295	0.0069	0.0084	4	1.14	13%	0
241.32	Acid Soluble Iron, ICP, test portion 2006.03A... (%)	0521	0.0317	0.0000				1			0
241.33	Acid Soluble Iron, ICP, test portion 2006.03A... (%)	0117	0.0334	0.0025				2			0
241.33	Acid Soluble Iron, ICP, test portion 2006.03A... (%)	0025	0.0363	0.0021				2			0
241.99	Acid Soluble Iron, Other (%)	0524	0.0323	0.0004				1			0
251.00	Acid Soluble Lead , AA, test portion as in 20... (ppm)	0481	1.570	0.0800				1			0
251.30	Acid Soluble Lead , ICP (ppm)	0519	0.0100	0.0000	2.532	4.724	1.598	5	-0.47	50%	0
251.30	Acid Soluble Lead , ICP (ppm)	0524	0.4707	0.0290	2.532	4.724	1.598	5	-0.38	41%	0
251.30	Acid Soluble Lead , ICP (ppm)	0523	0.5000	0.0400	2.532	4.724	1.598	5	-0.38	40%	0
251.30	Acid Soluble Lead , ICP (ppm)	0394	0.7100	0.2600	2.532	4.724	1.598	5	-0.34	36%	0
251.30	Acid Soluble Lead , ICP (ppm)	0035	10.97	7.660	2.532	4.724	1.598	5	1.56	167%	0
251.30	Acid Soluble Lead , ICP (ppm)	0368	0.0000	0.0000	2.532	4.724	1.598	5			4
251.33	Acid Soluble Lead , ICP, 2006.03 modified w/9... (ppm)	0515	10.13	7.942				1			0
251.34	Acid Soluble Lead , ICP, EPA 3050B/6010C (ppm)	0515	4.660	1.571				1			0
261.12	Acid Soluble Manganese , AA, inorganic 965.09 (%)	0105	0.1500	0.0060				1			0
261.15	Acid Soluble Manganese , AA, 965.09, test por... (%)	0105	0.1570	0.0020				1			0
261.30	Acid Soluble Manganese , ICP, test portion 97... (%)	0096	0.1442	0.0034	0.1466	0.0024	0.0015	3	-0.99	1%	0
261.30	Acid Soluble Manganese , ICP, test portion 97... (%)	0354	0.1465	0.0010	0.1466	0.0024	0.0015	3	-0.03	0%	0
261.30	Acid Soluble Manganese , ICP, test portion 97... (%)	0035	0.1490	0.0000	0.1466	0.0024	0.0015	3	1.01	1%	0
261.31	Acid Soluble Manganese , ICP, test portion 97... (%)	0482	0.1600	0.0000				1			0
261.34	Acid Soluble Manganese , ICP, test portion 20... (%)	0521	0.1387	0.0000				1			0
261.35	Acid Soluble Manganese , ICP, test portion 20... (%)	0117	0.1450	0.0019				2			0
261.35	Acid Soluble Manganese , ICP, test portion 20... (%)	0025	0.1540	0.0028				2			0
261.99	Acid Soluble Manganese , Other (%)	0524	0.1413	0.0006				1			0
281.30	Acid Soluble Mercury , ICP (ppm)	0519	0.0605	0.0010				1			0
281.30	Acid Soluble Mercury , ICP (ppm)	0515	0.0000	0.0000				1			4
289.30	Acid Soluble Molybdenum , ICP (ppm)	0524	0.2880	0.0114	3.163	5.331	0.0477	5	-0.47	45%	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0102	0.3605	0.0230	3.163	5.331	0.0477	5	-0.46	44%	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0096	1.100	0.2000	3.163	5.331	0.0477	5	-0.34	33%	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0433	1.405	0.0040	3.163	5.331	0.0477	5	-0.29	28%	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0521	12.66	0.0000	3.163	5.331	0.0477	5	1.56	150%	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0035	14.05	11.70	3.163	5.331	0.0477	5	1.78	172%	1
289.30	Acid Soluble Molybdenum , ICP (ppm)	0368	0.0000	0.0000	3.163	5.331	0.0477	5			4
289.33	Acid Soluble Molybdenum , ICP, 2006.03 modifi... (ppm)	0515	0.0385	0.0770				0			4
289.34	Acid Soluble Molybdenum , ICP, EPA 3050B/6010... (ppm)	0515	3.079	0.9990				1			0
291.00	Acid Soluble Nickel , AA, test portion as in ... (ppm)	0481	88.31	1.670				1			0
291.30	Acid Soluble Nickel , ICP (ppm)	0394	73.40	5.200	90.01	13.53	1.468	10	-1.14	9%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0444	77.46	0.3200	90.01	13.53	1.468	10	-0.86	7%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0035	79.70	0.6000	90.01	13.53	1.468	10	-0.71	6%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0523	82.35	1.100	90.01	13.53	1.468	10	-0.53	4%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0482	84.10	4.400	90.01	13.53	1.468	10	-0.41	3%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0096	96.60	1.000	90.01	13.53	1.468	10	0.45	4%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0521	97.29	0.0000	90.01	13.53	1.468	10	0.50	4%	0

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291.30	Acid Soluble Nickel , ICP (ppm)	0524	99.22	1.044	90.01	13.53	1.468	10	0.63	5%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0102	102.0	0.9900	90.01	13.53	1.468	10	0.83	7%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0519	108.0	0.0300	90.01	13.53	1.468	10	1.23	10%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0368	95.18	9.980	90.01	13.53	1.468	10	0.36	3%	1
291.33	Acid Soluble Nickel , ICP, 2006.03 modified w...	0515	86.41	10.56				2			0
291.33	Acid Soluble Nickel , ICP, 2006.03 modified w...	0117	95.05	0.7800				2			0
291.34	Acid Soluble Nickel , ICP, EPA 3050B/6010C (ppm)	0230	94.80	0.6000				2			0
291.34	Acid Soluble Nickel , ICP, EPA 3050B/6010C (ppm)	0515	98.21	4.940				2			0
291.99	Acid Soluble Nickel , Other (ppm)	0520	98.00	0.0000				1			0
301.30	Acid Soluble Selenium , ICP (ppm)	0524	1.080	0.0454				2			0
301.30	Acid Soluble Selenium , ICP (ppm)	0519	9.040	0.0400				2			0
301.30	Acid Soluble Selenium , ICP (ppm)	0368	0.0000	0.0000				2			4
301.33	Acid Soluble Selenium , ICP, 2006.03 modified...	0515	7.863	13.17				1			0
301.34	Acid Soluble Selenium , ICP, EPA 3050B/6010C (ppm)	0515	0.9370	1.874				0			4
311.32	Sodium, ICP, 2006.03 test portion (%)	0521	0.5121	0.0000				2			0
311.32	Sodium, ICP, 2006.03 test portion (%)	0025	0.6475	0.0102				2			0
311.33	Sodium, ICP, 2006.03 modified w/9:3 HNO3:HCl ... (%)	0035	0.6595	0.0050				1			0
311.99	Sodium, Other (%)	0482	0.6500	0.0200	0.6687	0.0180	0.0407	3	-1.03	1%	0
311.99	Sodium, Other (%)	0096	0.6700	0.0400	0.6687	0.0180	0.0407	3	0.07	0%	0
311.99	Sodium, Other (%)	0354	0.6860	0.0620	0.6687	0.0180	0.0407	3	0.96	1%	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (35%)	0428	29.30*	0.2000	32.72	2.722	0.4118	12	-1.26	5%	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (35%)	0481	30.42*	0.2300	32.72	2.722	0.4118	12	-0.85	4%	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (35%)	0526	30.65*	0.5000	32.72	2.722	0.4118	12	-0.76	3%	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (35%)	0029	31.06*	1.480	32.72	2.722	0.4118	12	-0.61	3%	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (35%)	0513	32.03*	0.0500	32.72	2.722	0.4118	12	-0.26	1%	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (35%)	0043	32.06*	0.0800	32.72	2.722	0.4118	12	-0.24	1%	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (35%)	0105	32.12*	0.1000	32.72	2.722	0.4118	12	-0.22	1%	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (35%)	0040	32.13*	0.0600	32.72	2.722	0.4118	12	-0.22	1%	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (35%)	0500	35.10	0.2000	32.72	2.722	0.4118	12	0.87	4%	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (35%)	0457	35.29	0.9100	32.72	2.722	0.4118	12	0.94	4%	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (35%)	0485	35.69	0.7500	32.72	2.722	0.4118	12	1.09	5%	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (35%)	0516	39.33	0.3820	32.72	2.722	0.4118	12	2.43	10%	0
321.03	Acid Soluble Zinc , AA, 965.09, test portion ... (35%)	0105	31.69*	0.3100				1			0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0292	15.50*	0.1300	33.23	1.667	0.4398	26	-10.64	27%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0482	30.00*	0.8000	33.23	1.667	0.4398	26	-1.94	5%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0324	31.35*	0.5000	33.23	1.667	0.4398	26	-1.13	3%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0233	31.49*	0.5900	33.23	1.667	0.4398	26	-1.05	3%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0307	31.69*	0.2600	33.23	1.667	0.4398	26	-0.93	2%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0231	31.79*	0.1600	33.23	1.667	0.4398	26	-0.86	2%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0371	32.35	1.100	33.23	1.667	0.4398	26	-0.53	1%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0433	32.39	0.4600	33.23	1.667	0.4398	26	-0.50	1%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0096	32.41	0.8200	33.23	1.667	0.4398	26	-0.49	1%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0157	32.60	1.000	33.23	1.667	0.4398	26	-0.38	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				
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0420	32.61	1.200	33.23	1.667	0.4398	26	-0.37	1%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0073	32.74	0.0500	33.23	1.667	0.4398	26	-0.30	1%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0377	32.91	0.1500	33.23	1.667	0.4398	26	-0.19	0%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0095	33.43	0.0000	33.23	1.667	0.4398	26	0.12	0%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0368	33.44	0.2277	33.23	1.667	0.4398	26	0.13	0%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0444	33.68	0.1300	33.23	1.667	0.4398	26	0.27	1%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0230	34.00	0.0000	33.23	1.667	0.4398	26	0.46	1%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0422	34.01	0.0000	33.23	1.667	0.4398	26	0.47	1%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0354	34.26	0.0260	33.23	1.667	0.4398	26	0.62	2%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0360	34.64	0.5500	33.23	1.667	0.4398	26	0.84	2%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0390	34.72	0.3700	33.23	1.667	0.4398	26	0.89	2%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0472	34.76	0.3100	33.23	1.667	0.4398	26	0.92	2%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0090	34.87	0.0500	33.23	1.667	0.4398	26	0.98	2%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0055	34.95	0.1600	33.23	1.667	0.4398	26	1.03	3%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0035	38.75	2.300	33.23	1.667	0.4398	26	3.31	8%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0234	42.20	0.0900	33.23	1.667	0.4398	26	5.38	13%	0
321.30	Acid Soluble Zinc , ICP, test portion inorgan... (35%)	0483	26.30*	3.200	33.23	1.667	0.4398	26	-4.16	10%	1
321.32	Acid Soluble Zinc , ICP, test portion 2006.03... (35%)	0394	34.30	2.000				2			0
321.32	Acid Soluble Zinc , ICP, test portion 2006.03... (35%)	0521	34.77	0.0000				2			0
321.33	Acid Soluble Zinc , ICP, test portion 2006.03... (35%)	0117	30.47*	0.1100	32.75	2.233	0.3595	8	-0.94	3%	0
321.33	Acid Soluble Zinc , ICP, test portion 2006.03... (35%)	0515	30.54*	1.344	32.75	2.233	0.3595	8	-0.91	3%	0
321.33	Acid Soluble Zinc , ICP, test portion 2006.03... (35%)	0025	31.47*	0.0500	32.75	2.233	0.3595	8	-0.53	2%	0
321.33	Acid Soluble Zinc , ICP, test portion 2006.03... (35%)	0494	32.42	0.0500	32.75	2.233	0.3595	8	-0.14	1%	0
321.33	Acid Soluble Zinc , ICP, test portion 2006.03... (35%)	0177	32.49	0.1127	32.75	2.233	0.3595	8	-0.11	0%	0
321.33	Acid Soluble Zinc , ICP, test portion 2006.03... (35%)	0034	33.86	0.0500	32.75	2.233	0.3595	8	0.45	2%	0
321.33	Acid Soluble Zinc , ICP, test portion 2006.03... (35%)	0486	35.11	0.0600	32.75	2.233	0.3595	8	0.97	4%	0
321.33	Acid Soluble Zinc , ICP, test portion 2006.03... (35%)	0325	35.65	1.100	32.75	2.233	0.3595	8	1.19	4%	0
321.99	Acid Soluble Zinc , Other (35%)	0042	29.17*	2.010	34.20	2.364	0.5492	12	-2.13	7%	0
321.99	Acid Soluble Zinc , Other (35%)	0405	30.80*	0.0000	34.20	2.364	0.5492	12	-1.44	5%	0
321.99	Acid Soluble Zinc , Other (35%)	0200	31.38*	1.110	34.20	2.364	0.5492	12	-1.19	4%	0
321.99	Acid Soluble Zinc , Other (35%)	0523	33.73	0.3800	34.20	2.364	0.5492	12	-0.20	1%	0
321.99	Acid Soluble Zinc , Other (35%)	0524	34.60	0.1020	34.20	2.364	0.5492	12	0.17	1%	0
321.99	Acid Soluble Zinc , Other (35%)	0519	34.90	0.0100	34.20	2.364	0.5492	12	0.30	1%	0
321.99	Acid Soluble Zinc , Other (35%)	0389	35.30	0.6000	34.20	2.364	0.5492	12	0.47	2%	0
321.99	Acid Soluble Zinc , Other (35%)	0508	35.43	0.0100	34.20	2.364	0.5492	12	0.52	2%	0
321.99	Acid Soluble Zinc , Other (35%)	0520	35.50	0.0000	34.20	2.364	0.5492	12	0.55	2%	0
321.99	Acid Soluble Zinc , Other (35%)	0506	35.55	0.1000	34.20	2.364	0.5492	12	0.57	2%	0
321.99	Acid Soluble Zinc , Other (35%)	0027	36.09	0.5950	34.20	2.364	0.5492	12	0.80	3%	0
321.99	Acid Soluble Zinc , Other (35%)	0501	36.43	1.674	34.20	2.364	0.5492	12	0.95	3%	0
321.99	Acid Soluble Zinc , Other (35%)	0515	32.62	4.122	34.20	2.364	0.5492	12	-0.67	2%	1
325.00	Water Soluble Zinc , AA (%)	0105	30.65	0.3800	31.19	0.4871	0.4297	3	-1.12	1%	0
325.00	Water Soluble Zinc , AA (%)	0027	31.34	0.4090	31.19	0.4871	0.4297	3	0.30	0%	0
325.00	Water Soluble Zinc , AA (%)	0485	31.59	0.5000	31.19	0.4871	0.4297	3	0.81	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				
325.30	Water Soluble Zinc , ICP (%)	0231	29.04	0.9700	32.25	2.865	0.6100	9	-1.04	5%	0
325.3	Water Soluble Zinc , ICP (%)	117	30.15	0.2500	32.25	2.865	0.6100	9	-0.68	0.03261958	0
325.3	Water Soluble Zinc , ICP (%)	394	30.15	0.3000	32.25	2.865	0.6100	9	-0.68	0.03254206	0
325.3	Water Soluble Zinc , ICP (%)	368	31.00	0.2448	32.25	2.865	0.6100	9	-0.40	0.01930595	0
325.3	Water Soluble Zinc , ICP (%)	25	31.42	1.160	32.25	2.865	0.6100	9	-0.27	0.01285146	0
325.3	Water Soluble Zinc , ICP (%)	406	32.92	0.2000	32.25	2.865	0.6100	9	0.22	0.01040515	0
325.3	Water Soluble Zinc , ICP (%)	230	34.00	0.0000	32.25	2.865	0.6100	9	0.56	0.02714992	0
325.3	Water Soluble Zinc , ICP (%)	444	35.02	0.3200	32.25	2.865	0.6100	9	0.89	0.04296441	0
325.3	Water Soluble Zinc , ICP (%)	501	36.71	2.045	32.25	2.865	0.6100	9	1.44	0.06919012	0
325.99	Water Soluble Zinc, Other (%)	200	29.89	0.1200				2			0
325.99	Water Soluble Zinc, Other (%)	487	32.20	0.0000				2			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.