

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 190411

Grade 0-0-25-17S

Statistical Summary

Analytes: 29

Labs Reporting: 91

Issue Date : 05/31/2019

Analyte Code	Analyte Sample # 190411	# 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	Analyte IA Ratio	Average Range (R-bar)	Horwitz %RSD
001	Ammoniacal Nitrogen (%)	1		0.0023									
010	Total Nitrogen (%)	3	2	0.0728	0.0880	0.0728	0.4900	0.0880	0.0778	121.01%	0.42	0.0055	5.93%
020	Total Phosphorus as P2O5 (%)	8	4	0.0168	0.0259	0.0168		0.0259	0.0162	154.36%		0.0027	7.40%
041	Direct Available Phosphorus as P2O5 (%)	3	2	0.0843	0.0930	0.0843	0.6700	0.0930	0.0822	110.37%	0.32	0.1035	5.80%
050	Soluble Potassium as K2O (25%)	95	90	25.11	0.9364	25.22	1.2465	0.4961	0.0654	1.97%	0.93	0.3660	2.46%
101	Acid Soluble Calcium (%)	10	7	0.0321	0.0499	0.0239	0.2012	0.0357	0.0168	149.41%	0.41	0.0056	7.02%
121	Acid Soluble Magnesium (%)	9	5	0.0026	0.0042	0.0026	0.2001	0.0042	0.0024	162.46%	0.05	0.0001	9.80%
131	Water Soluble Magnesium (%)	1		0.0077									
143	Elemental Sulfur (%)	6	5	16.90	0.8650	16.90		0.8650	0.4836	5.12%		0.1120	2.61%
145	Sulfate Sulfur, HCl soluble (%)	10	10	14.66	7.819	15.89		6.143	2.428	38.67%		0.1717	2.64%
146	Total Sulfur in Liquid (17%)	4	4	17.29	0.5426	17.29	1.0000	0.5426	0.3391	3.14%	1.26	0.5701	2.60%
148	Total Sulfur (17%)	43	40	17.00	0.7982	17.10	1.0000	0.5721	0.1131	3.35%	1.33	0.2246	2.61%
149	Sulfur - HNO3 soluble (%)	6	5	16.78	0.6660	16.78		0.6660	0.3723	3.97%		0.1405	2.62%
151	Acid Soluble Arsenic (ppm)	12	5	1.955	3.746	1.955		3.746	2.094	191.64%		0.0741	14.46%
165	Acid Soluble Boron (%)	4	2	0.9050	1.266	0.9050	0.1388	1.266	1.119	139.86%	21.25	0.2000	4.06%
181	Acid Soluble Cadmium (ppm)	15	5	0.0370	0.0339	0.0370		0.0339	0.0189	91.47%		0.0053	26.27%
191	Acid Soluble Chromium (ppm)	12	6	0.8991	1.333	0.5217		0.5227	0.2667	100.18%		0.0395	17.64%
202	Acid Soluble Cobalt (ppm)	13	3	0.4958	0.7068	0.4958	1.1487	0.7068	0.5101	142.55%	1.43	0.0328	17.78%
221	Acid Soluble Copper (%)	15	5	0.0011	0.0011	0.0011	0.0051	0.0011	0.0006	102.25%	0.50	0.0001	11.20%
241	Acid Soluble Iron (%)	8	4	0.0007	0.0009	0.0007	0.0051	0.0009	0.0005	124.68%	0.40	0.0001	11.94%
251	Acid Soluble Lead (ppm)	15	5	0.1819	0.2077	0.1819		0.2077	0.1161	114.24%		0.0197	20.67%
261	Acid Soluble Manganese (%)	6	1	0.0008		0.1819	0.0232	0.2077	0.2597	114.24%	20.88	0.0000	5.17%
281	Acid Soluble Mercury (ppm)	6	1	0.0200		0.1819		0.2077	0.2597	114.24%		0.0000	20.67%
289	Acid Soluble Molybdenum (ppm)	10	4	1.193	1.865	1.193	1.3579	1.865	1.166	156.35%	3.20	0.1346	15.58%
291	Acid Soluble Nickel (ppm)	13	3	0.8835	1.141	0.8835		1.141	0.8237	129.18%		0.0837	16.30%
301	Acid Soluble Selenium (ppm)	9	2	0.5788	0.2033	0.5788		0.2033	0.1797	35.13%		0.0765	17.37%
311	Sodium (%)	8	8	0.0439	0.0197	0.0439	0.0094	0.0223	0.0099	50.79%	5.53	0.0039	6.40%
321	Acid Soluble Zinc (%)	15	5	0.1330	0.2949	0.1330	0.0183	0.2949	0.1649	221.78%	37.56	0.0002	5.42%
325	Water Soluble Zinc (%)	2	1	0.0012									

The Analyte IA Ratio = 2.33 * Robust SD / IA at the Analyte 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.

Horwitz %RSD	
Average Range (R-bar)	
Analyte IA Ratio	
Robust % RSD	
Robust Uncertainty (U)	
Robust sd	
IA at Analyte Value	
Assigned Value Robust Mean	
Raw SD	
Raw Mean	
# Tests in Robust Calculations	
# Tests Submitted	
Analyte Sample # 190411	
Analyte Code	

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Analyte Proficiency From All Labs

Sample # 190411

Grade 0-0-25-17S

Lab Values

Analytes: 29

Labs Reporting: 91

Issue Date : 05/31/2019

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
001	Ammoniacal Nitrogen (%)	0524	0.0023	0.0002				1		001.99	0
010	Total Nitrogen (%)	0354	0.0105	0.0010				2		010.60	0
010	Total Nitrogen (%)	0325	0.1350	0.0100				2		010.60	0
010	Total Nitrogen (%)	0422	0.0000	0.0000				2		010.60	4
020	Total Phosphorus as P2O5 (%)	0524	0.0004	0.0000	0.0168	0.0259	0.0027	4	-0.54	020.50	0
020	Total Phosphorus as P2O5 (%)	0515	0.0016	0.0006	0.0168	0.0259	0.0027	4	-0.50	020.99	0
020	Total Phosphorus as P2O5 (%)	0483	0.0100	0.0000	0.0168	0.0259	0.0027	4	-0.22	020.50	0
020	Total Phosphorus as P2O5 (%)	0472	0.0550	0.0100	0.0168	0.0259	0.0027	4	1.25	020.50	0
020	Total Phosphorus as P2O5 (%)	0422	0.0000	0.0000	0.0168	0.0259	0.0027	4		020.50	4
020	Total Phosphorus as P2O5 (%)	0542	0.0000	0.0000	0.0168	0.0259	0.0027	4		020.50	4
020	Total Phosphorus as P2O5 (%)	0552	0.0000	0.0000	0.0168	0.0259	0.0027	4		020.50	4
020	Total Phosphorus as P2O5 (%)	0527	< 0.01		0.0168	0.0259	0.0027	4		020.50	5
041	Direct Available Phosphorus as P2O5 (%)	0354	0.0185	0.0070				2		041.60	0
041	Direct Available Phosphorus as P2O5 (%)	0494	0.1500	0.2000				2		041.51	0
041	Direct Available Phosphorus as P2O5 (%)	0325	0.0000	0.0000				2		041.50	4
050	Soluble Potassium as K2O (25%)	0522	20.29†	0.0300	25.22	0.4961	0.3660	90	-9.94	050.00	0
050	Soluble Potassium as K2O (25%)	0553	20.33†	0.9500	25.22	0.4961	0.3660	90	-9.86	050.99	0
050	Soluble Potassium as K2O (25%)	0472	23.32†	1.240	25.22	0.4961	0.3660	90	-3.82	050.31	0
050	Soluble Potassium as K2O (25%)	0255	23.52†	0.0920	25.22	0.4961	0.3660	90	-3.41	050.99	0
050	Soluble Potassium as K2O (25%)	0086	23.70†	1.000	25.22	0.4961	0.3660	90	-3.05	050.50	0
050	Soluble Potassium as K2O (25%)	0390	23.94†	0.4700	25.22	0.4961	0.3660	90	-2.58	050.50	0
050	Soluble Potassium as K2O (25%)	0513	23.99	0.0700	25.22	0.4961	0.3660	90	-2.48	050.62	0
050	Soluble Potassium as K2O (25%)	0506	24.15	0.7000	25.22	0.4961	0.3660	90	-2.15	050.99	0
050	Soluble Potassium as K2O (25%)	0451	24.45	0.0200	25.22	0.4961	0.3660	90	-1.54	050.99	0
050	Soluble Potassium as K2O (25%)	0482	24.60	1.600	25.22	0.4961	0.3660	90	-1.24	050.99	0
050	Soluble Potassium as K2O (25%)	0389	24.61	0.0900	25.22	0.4961	0.3660	90	-1.23	050.99	0
050	Soluble Potassium as K2O (25%)	0035	24.64	0.5800	25.22	0.4961	0.3660	90	-1.16	050.61	0
050	Soluble Potassium as K2O (25%)	0518	24.73	0.2500	25.22	0.4961	0.3660	90	-0.99	050.99	0
050	Soluble Potassium as K2O (25%)	0516	24.74	0.6400	25.22	0.4961	0.3660	90	-0.96	050.99	0
050	Soluble Potassium as K2O (25%)	0523	24.75	0.3000	25.22	0.4961	0.3660	90	-0.94	050.99	0
050	Soluble Potassium as K2O (25%)	0498	24.80	0.0000	25.22	0.4961	0.3660	90	-0.84	050.99	0
050	Soluble Potassium as K2O (25%)	0309	24.83	0.6700	25.22	0.4961	0.3660	90	-0.79	050.30	0
050	Soluble Potassium as K2O (25%)	0456	24.86	0.1400	25.22	0.4961	0.3660	90	-0.72	050.61	0
050	Soluble Potassium as K2O (25%)	0519	24.89	0.0400	25.22	0.4961	0.3660	90	-0.66	050.99	0
050	Soluble Potassium as K2O (25%)	0394	24.91	0.1660	25.22	0.4961	0.3660	90	-0.62	050.99	0
050	Soluble Potassium as K2O (25%)	0485	24.91	0.0930	25.22	0.4961	0.3660	90	-0.61	050.52	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
050	Soluble Potassium as K2O (25%)	0117	24.92	1.021	25.22	0.4961	0.3660	90	-0.60	050.52	0
050	Soluble Potassium as K2O (25%)	0444	24.93	0.1400	25.22	0.4961	0.3660	90	-0.58	050.00	0
050	Soluble Potassium as K2O (25%)	0544	24.96	0.0100	25.22	0.4961	0.3660	90	-0.53	050.00	0
050	Soluble Potassium as K2O (25%)	0555	24.96	1.710	25.22	0.4961	0.3660	90	-0.53	050.51	0
050	Soluble Potassium as K2O (25%)	0034	24.97	0.2230	25.22	0.4961	0.3660	90	-0.49	050.62	0
050	Soluble Potassium as K2O (25%)	0476	24.99	0.2162	25.22	0.4961	0.3660	90	-0.45	050.99	0
050	Soluble Potassium as K2O (25%)	0324	25.00	1.400	25.22	0.4961	0.3660	90	-0.43	050.50	0
050	Soluble Potassium as K2O (25%)	0377	25.00	0.2800	25.22	0.4961	0.3660	90	-0.43	050.52	0
050	Soluble Potassium as K2O (25%)	0185	25.01	1.370	25.22	0.4961	0.3660	90	-0.42	050.32	0
050	Soluble Potassium as K2O (25%)	0481	25.02	0.0100	25.22	0.4961	0.3660	90	-0.40	050.99	0
050	Soluble Potassium as K2O (25%)	0096	25.03	0.1200	25.22	0.4961	0.3660	90	-0.37	050.99	0
050	Soluble Potassium as K2O (25%)	0354	25.05	0.1000	25.22	0.4961	0.3660	90	-0.33	050.52	0
050	Soluble Potassium as K2O (25%)	0018	25.05	0.1000	25.22	0.4961	0.3660	90	-0.33	050.62	0
050	Soluble Potassium as K2O (25%)	0106	25.06	0.1300	25.22	0.4961	0.3660	90	-0.32	050.50	0
050	Soluble Potassium as K2O (25%)	0550	25.06	0.1600	25.22	0.4961	0.3660	90	-0.31	050.00	0
050	Soluble Potassium as K2O (25%)	0531	25.08	0.2300	25.22	0.4961	0.3660	90	-0.28	050.99	0
050	Soluble Potassium as K2O (25%)	0551	25.08	0.0500	25.22	0.4961	0.3660	90	-0.28	050.99	0
050	Soluble Potassium as K2O (25%)	0131	25.11	0.5550	25.22	0.4961	0.3660	90	-0.21	050.61	0
050	Soluble Potassium as K2O (25%)	0537	25.12	0.4300	25.22	0.4961	0.3660	90	-0.20	050.99	0
050	Soluble Potassium as K2O (25%)	0397	25.12	0.1582	25.22	0.4961	0.3660	90	-0.19	050.50	0
050	Soluble Potassium as K2O (25%)	0559	25.14	0.0600	25.22	0.4961	0.3660	90	-0.15	050.99	0
050	Soluble Potassium as K2O (25%)	0040	25.15	0.1000	25.22	0.4961	0.3660	90	-0.13	050.30	0
050	Soluble Potassium as K2O (25%)	0547	25.15	0.3000	25.22	0.4961	0.3660	90	-0.13	050.51	0
050	Soluble Potassium as K2O (25%)	0510	25.16	0.2263	25.22	0.4961	0.3660	90	-0.11	050.60	0
050	Soluble Potassium as K2O (25%)	0483	25.18	0.2400	25.22	0.4961	0.3660	90	-0.07	050.51	0
050	Soluble Potassium as K2O (25%)	0025	25.20	0.4000	25.22	0.4961	0.3660	90	-0.03	050.52	0
050	Soluble Potassium as K2O (25%)	0493	25.20	0.1000	25.22	0.4961	0.3660	90	-0.03	050.99	0
050	Soluble Potassium as K2O (25%)	0055	25.22	0.1600	25.22	0.4961	0.3660	90	0.01	050.00	0
050	Soluble Potassium as K2O (25%)	0526	25.22	2.061	25.22	0.4961	0.3660	90	0.01	050.60	0
050	Soluble Potassium as K2O (25%)	0545	25.28	0.0500	25.22	0.4961	0.3660	90	0.12	050.99	0
050	Soluble Potassium as K2O (25%)	0405	25.30	0.0200	25.22	0.4961	0.3660	90	0.17	050.00	0
050	Soluble Potassium as K2O (25%)	0230	25.30	0.8000	25.22	0.4961	0.3660	90	0.17	050.50	0
050	Soluble Potassium as K2O (25%)	0494	25.30	0.3800	25.22	0.4961	0.3660	90	0.17	050.52	0
050	Soluble Potassium as K2O (25%)	0501	25.34	0.0400	25.22	0.4961	0.3660	90	0.25	050.99	0
050	Soluble Potassium as K2O (25%)	0029	25.35	0.1400	25.22	0.4961	0.3660	90	0.27	050.62	0
050	Soluble Potassium as K2O (25%)	0055	25.36	0.4900	25.22	0.4961	0.3660	90	0.28	050.50	0
050	Soluble Potassium as K2O (25%)	0231	25.39	0.0500	25.22	0.4961	0.3660	90	0.34	050.00	0
050	Soluble Potassium as K2O (25%)	0177	25.42	0.1798	25.22	0.4961	0.3660	90	0.41	050.99	0
050	Soluble Potassium as K2O (25%)	0494	25.43	0.1900	25.22	0.4961	0.3660	90	0.42	050.00	0
050	Soluble Potassium as K2O (25%)	0037	25.43	0.4060	25.22	0.4961	0.3660	90	0.43	050.62	0
050	Soluble Potassium as K2O (25%)	0325	25.45	0.1000	25.22	0.4961	0.3660	90	0.47	050.99	0
050	Soluble Potassium as K2O (25%)	0520	25.45	0.1000	25.22	0.4961	0.3660	90	0.47	050.99	0
050	Soluble Potassium as K2O (25%)	0360	25.48	0.3700	25.22	0.4961	0.3660	90	0.52	050.52	0
050	Soluble Potassium as K2O (25%)	0095	25.48	0.3700	25.22	0.4961	0.3660	90	0.52	050.62	0
050	Soluble Potassium as K2O (25%)	0023	25.49	0.0900	25.22	0.4961	0.3660	90	0.54	050.52	0
050	Soluble Potassium as K2O (25%)	0102	25.50	0.4000	25.22	0.4961	0.3660	90	0.57	050.00	0
050	Soluble Potassium as K2O (25%)	0433	25.52	0.0600	25.22	0.4961	0.3660	90	0.61	050.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
050	Soluble Potassium as K2O (25%)	0105	25.53	0.1200	25.22	0.4961	0.3660	90	0.63	050.62	0
050	Soluble Potassium as K2O (25%)	0552	25.54	0.8800	25.22	0.4961	0.3660	90	0.65	050.99	0
050	Soluble Potassium as K2O (25%)	0486	25.57	0.3200	25.22	0.4961	0.3660	90	0.71	050.52	0
050	Soluble Potassium as K2O (25%)	0049	25.60	0.0000	25.22	0.4961	0.3660	90	0.77	050.00	0
050	Soluble Potassium as K2O (25%)	0234	25.60	0.2000	25.22	0.4961	0.3660	90	0.77	050.99	0
050	Soluble Potassium as K2O (25%)	0105	25.65	0.2700	25.22	0.4961	0.3660	90	0.87	050.60	0
050	Soluble Potassium as K2O (25%)	0422	25.72	1.430	25.22	0.4961	0.3660	90	1.01	050.50	0
050	Soluble Potassium as K2O (25%)	0402	25.73	0.0800	25.22	0.4961	0.3660	90	1.04	050.99	0
050	Soluble Potassium as K2O (25%)	0452	25.75	0.0100	25.22	0.4961	0.3660	90	1.07	050.51	0
050	Soluble Potassium as K2O (25%)	0114	25.79	1.100	25.22	0.4961	0.3660	90	1.16	050.00	0
050	Soluble Potassium as K2O (25%)	0546	25.83	0.1430	25.22	0.4961	0.3660	90	1.23	050.99	0
050	Soluble Potassium as K2O (25%)	0291	25.85	0.0100	25.22	0.4961	0.3660	90	1.27	050.51	0
050	Soluble Potassium as K2O (25%)	0527	25.85	0.1627	25.22	0.4961	0.3660	90	1.28	050.99	0
050	Soluble Potassium as K2O (25%)	0521	25.89	0.0000	25.22	0.4961	0.3660	90	1.36	050.99	0
050	Soluble Potassium as K2O (25%)	0534	26.03	0.1400	25.22	0.4961	0.3660	90	1.64	050.99	0
050	Soluble Potassium as K2O (25%)	0423	26.08	0.2200	25.22	0.4961	0.3660	90	1.74	050.52	0
050	Soluble Potassium as K2O (25%)	0444	26.23	0.1100	25.22	0.4961	0.3660	90	2.03	050.50	0
050	Soluble Potassium as K2O (25%)	0444	26.23	0.1100	25.22	0.4961	0.3660	90	2.03	050.99	0
050	Soluble Potassium as K2O (25%)	0368	26.30	0.1907	25.22	0.4961	0.3660	90	2.18	050.99	0
050	Soluble Potassium as K2O (25%)	0542	26.36	1.300	25.22	0.4961	0.3660	90	2.31	050.99	0
050	Soluble Potassium as K2O (25%)	0524	26.44	0.3992	25.22	0.4961	0.3660	90	2.47	050.99	0
050	Soluble Potassium as K2O (25%)	0027	26.71‡	0.3100	25.22	0.4961	0.3660	90	3.00	050.99	0
050	Soluble Potassium as K2O (25%)	0136	24.10	2.600	25.22	0.4961	0.3660	90	-2.25	050.30	1
050	Soluble Potassium as K2O (25%)	0233	25.40	3.600	25.22	0.4961	0.3660	90	0.37	050.52	1
050	Soluble Potassium as K2O (25%)	0515	29.84‡	2.712	25.22	0.4961	0.3660	90	9.32	050.99	1
050	Soluble Potassium as K2O (25%)	0041	2.575†	0.0300	25.22	0.4961	0.3660	90	-45.64	050.60	2
050	Soluble Potassium as K2O (25%)	0292	3.835†	0.0100	25.22	0.4961	0.3660	90	-43.10	050.50	2
101	Acid Soluble Calcium (%)	0494	0.0012	0.0002	0.0239	0.0357	0.0056	7	-0.57	101.33	0
101	Acid Soluble Calcium (%)	0086	0.0018	0.0007	0.0239	0.0357	0.0056	7	-0.56	101.33	0
101	Acid Soluble Calcium (%)	0389	0.0025	0.0010	0.0239	0.0357	0.0056	7	-0.54	101.99	0
101	Acid Soluble Calcium (%)	0553	0.0082	0.0000	0.0239	0.0357	0.0056	7	-0.40	101.00	0
101	Acid Soluble Calcium (%)	0515	0.0161	0.0075	0.0239	0.0357	0.0056	7	-0.20	101.33	0
101	Acid Soluble Calcium (%)	0552	0.0600	0.0000	0.0239	0.0357	0.0056	7	0.92	101.99	0
101	Acid Soluble Calcium (%)	0354	0.1350	0.0300	0.0239	0.0357	0.0056	7	2.82	101.30	0
101	Acid Soluble Calcium (%)	0483	0.0848	0.1105	0.0239	0.0357	0.0056	7	1.54	101.30	1
101	Acid Soluble Calcium (%)	0136	< 0.0005		0.0239	0.0357	0.0056	7		101.33	5
101	Acid Soluble Calcium (%)	0527	< 0.05		0.0239	0.0357	0.0056	7		101.33	5
121	Acid Soluble Magnesium (%)	0524	0.0002	0.0001	0.0026	0.0042	0.0001	5	-0.51	121.99	0
121	Acid Soluble Magnesium (%)	0389	0.0003	0.0000	0.0026	0.0042	0.0001	5	-0.48	121.99	0
121	Acid Soluble Magnesium (%)	0086	0.0005	0.0004	0.0026	0.0042	0.0001	5	-0.43	121.33	0
121	Acid Soluble Magnesium (%)	0553	0.0020	0.0000	0.0026	0.0042	0.0001	5	-0.12	121.00	0
121	Acid Soluble Magnesium (%)	0354	0.0100	0.0000	0.0026	0.0042	0.0001	5	1.54	121.30	0
121	Acid Soluble Magnesium (%)	0483	0.0267	0.0057	0.0026	0.0042	0.0001	5	4.99	121.30	1
121	Acid Soluble Magnesium (%)	0552	0.0000	0.0000	0.0026	0.0042	0.0001	5		121.99	4
121	Acid Soluble Magnesium (%)	0136	< 0.0005		0.0026	0.0042	0.0001	5		121.33	5
121	Acid Soluble Magnesium (%)	0527	< 0.01		0.0026	0.0042	0.0001	5		121.33	5
131	Water Soluble Magnesium (%)	0553	0.0077	0.0000				1		131.00	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
143	Elemental Sulfur (%)	0472	15.71	0.0200	16.90	0.8650	0.1120	5	-1.20	143.99	0
143	Elemental Sulfur (%)	0481	16.25	0.3700	16.90	0.8650	0.1120	5	-0.66	143.99	0
143	Elemental Sulfur (%)	0255	17.50	0.0000	16.90	0.8650	0.1120	5	0.60	143.99	0
143	Elemental Sulfur (%)	0291	17.52	0.0100	16.90	0.8650	0.1120	5	0.62	143.99	0
143	Elemental Sulfur (%)	0389	17.54	0.1600	16.90	0.8650	0.1120	5	0.64	143.99	0
143	Elemental Sulfur (%)	0390	22.83	1.380	16.90	0.8650	0.1120	5	5.98	143.99	1
145	Sulfate Sulfur, HCl soluble (%)	0550	0.3030	0.0000	15.89	6.143	0.1717	10	-2.36	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0106	0.7850	0.3300	15.89	6.143	0.1717	10	-2.29	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0444	16.56	0.2100	15.89	6.143	0.1717	10	0.10	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0544	16.98	0.0700	15.89	6.143	0.1717	10	0.16	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0397	17.06	0.2072	15.89	6.143	0.1717	10	0.18	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0095	17.25	0.0400	15.89	6.143	0.1717	10	0.21	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0233	17.27	0.0500	15.89	6.143	0.1717	10	0.21	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0444	17.76	0.0400	15.89	6.143	0.1717	10	0.28	145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0027	17.82	0.6700	15.89	6.143	0.1717	10	0.29	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0498	24.85	0.1000	15.89	6.143	0.1717	10	1.36	145.00	0
146	Total Sulfur in Liquid (17%)	0522	16.96	0.1000	17.29	0.5426	0.5701	4	-0.61	146.00	0
146	Total Sulfur in Liquid (17%)	0177	17.04	0.0103	17.29	0.5426	0.5701	4	-0.46	146.00	0
146	Total Sulfur in Liquid (17%)	0555	17.06	1.570	17.29	0.5426	0.5701	4	-0.43	146.99	0
146	Total Sulfur in Liquid (17%)	0324	18.10	0.6000	17.29	0.5426	0.5701	4	1.50	146.00	0
148	Total Sulfur (17%)	0136	13.53†	0.1100	17.10	0.5721	0.2246	40	-6.25	148.00	0
148	Total Sulfur (17%)	0354	15.70†	0.0000	17.10	0.5721	0.2246	40	-2.44	148.99	0
148	Total Sulfur (17%)	0131	15.72†	0.7470	17.10	0.5721	0.2246	40	-2.42	148.00	0
148	Total Sulfur (17%)	0542	16.01†	0.3700	17.10	0.5721	0.2246	40	-1.91	148.07	0
148	Total Sulfur (17%)	0117	16.07†	0.8090	17.10	0.5721	0.2246	40	-1.80	148.07	0
148	Total Sulfur (17%)	0506	16.25	0.7000	17.10	0.5721	0.2246	40	-1.48	148.99	0
148	Total Sulfur (17%)	0023	16.43	0.3000	17.10	0.5721	0.2246	40	-1.17	148.07	0
148	Total Sulfur (17%)	0029	16.66	0.2700	17.10	0.5721	0.2246	40	-0.78	148.00	0
148	Total Sulfur (17%)	0368	16.66	0.0132	17.10	0.5721	0.2246	40	-0.76	148.99	0
148	Total Sulfur (17%)	0096	16.69	0.2200	17.10	0.5721	0.2246	40	-0.71	148.99	0
148	Total Sulfur (17%)	0040	16.80	0.2000	17.10	0.5721	0.2246	40	-0.52	148.07	0
148	Total Sulfur (17%)	0025	16.81	0.2600	17.10	0.5721	0.2246	40	-0.50	148.00	0
148	Total Sulfur (17%)	0086	16.83	0.2400	17.10	0.5721	0.2246	40	-0.47	148.07	0
148	Total Sulfur (17%)	0501	17.03	0.0200	17.10	0.5721	0.2246	40	-0.12	148.99	0
148	Total Sulfur (17%)	0534	17.05	0.3000	17.10	0.5721	0.2246	40	-0.08	148.01	0
148	Total Sulfur (17%)	0230	17.05	0.1000	17.10	0.5721	0.2246	40	-0.08	148.01	0
148	Total Sulfur (17%)	0231	17.05	0.1000	17.10	0.5721	0.2246	40	-0.08	148.01	0
148	Total Sulfur (17%)	0028	17.11	0.1400	17.10	0.5721	0.2246	40	0.02	148.01	0
148	Total Sulfur (17%)	0177	17.16	0.1652	17.10	0.5721	0.2246	40	0.11	148.07	0
148	Total Sulfur (17%)	0029	17.18	0.0300	17.10	0.5721	0.2246	40	0.13	148.01	0
148	Total Sulfur (17%)	0523	17.18	0.0200	17.10	0.5721	0.2246	40	0.14	148.99	0
148	Total Sulfur (17%)	0451	17.20	0.2000	17.10	0.5721	0.2246	40	0.18	148.00	0
148	Total Sulfur (17%)	0402	17.21	0.5600	17.10	0.5721	0.2246	40	0.19	148.07	0
148	Total Sulfur (17%)	0476	17.23	0.2448	17.10	0.5721	0.2246	40	0.24	148.01	0
148	Total Sulfur (17%)	0486	17.24	0.1200	17.10	0.5721	0.2246	40	0.25	148.07	0
148	Total Sulfur (17%)	0516	17.39	0.2700	17.10	0.5721	0.2246	40	0.50	148.99	0
148	Total Sulfur (17%)	0520	17.41	0.0200	17.10	0.5721	0.2246	40	0.54	148.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
148	Total Sulfur (17%)	0114	17.42	0.1500	17.10	0.5721	0.2246	40	0.55	148.00	0
148	Total Sulfur (17%)	0055	17.43	0.3600	17.10	0.5721	0.2246	40	0.58	148.01	0
148	Total Sulfur (17%)	0405	17.45	0.1500	17.10	0.5721	0.2246	40	0.61	148.99	0
148	Total Sulfur (17%)	0527	17.52	0.0699	17.10	0.5721	0.2246	40	0.73	148.07	0
148	Total Sulfur (17%)	0433	17.53	0.0300	17.10	0.5721	0.2246	40	0.75	148.99	0
148	Total Sulfur (17%)	0049	17.53	0.1800	17.10	0.5721	0.2246	40	0.75	148.00	0
148	Total Sulfur (17%)	0482	17.55	0.5000	17.10	0.5721	0.2246	40	0.79	148.99	0
148	Total Sulfur (17%)	0422	17.60	0.1600	17.10	0.5721	0.2246	40	0.88	148.99	0
148	Total Sulfur (17%)	0452	17.67	0.0400	17.10	0.5721	0.2246	40	1.00	148.99	0
148	Total Sulfur (17%)	0292	17.74	0.0100	17.10	0.5721	0.2246	40	1.11	148.07	0
148	Total Sulfur (17%)	0546	17.79	0.2030	17.10	0.5721	0.2246	40	1.21	148.07	0
148	Total Sulfur (17%)	0494	17.97	0.6000	17.10	0.5721	0.2246	40	1.52	148.07	0
148	Total Sulfur (17%)	0102	18.02	0.0000	17.10	0.5721	0.2246	40	1.61	148.07	0
148	Total Sulfur (17%)	0483	14.90†	4.200	17.10	0.5721	0.2246	40	-3.84	148.07	1
148	Total Sulfur (17%)	0515	18.52‡	4.242	17.10	0.5721	0.2246	40	2.49	148.07	1
148	Total Sulfur (17%)	0485	5.759†	0.0888	17.10	0.5721	0.2246	40	-19.82	148.01	2
149	Sulfur - HNO3 soluble (%)	0521	15.83	0.0000	16.78	0.6660	0.1405	5	-1.24	149.04	0
149	Sulfur - HNO3 soluble (%)	0524	16.51	0.1325	16.78	0.6660	0.1405	5	-0.36	149.04	0
149	Sulfur - HNO3 soluble (%)	0519	16.89	0.0200	16.78	0.6660	0.1405	5	0.14	149.04	0
149	Sulfur - HNO3 soluble (%)	0518	17.05	0.3000	16.78	0.6660	0.1405	5	0.35	149.02	0
149	Sulfur - HNO3 soluble (%)	0423	17.63	0.2500	16.78	0.6660	0.1405	5	1.11	149.04	0
149	Sulfur - HNO3 soluble (%)	0325	22.55	2.900	16.78	0.6660	0.1405	5	7.56	149.04	1
151	Acid Soluble Arsenic (ppm)	0255	0.0400	0.0060	1.955	3.746	0.0741	5	-0.51	151.30	0
151	Acid Soluble Arsenic (ppm)	0519	0.2300	0.0000	1.955	3.746	0.0741	5	-0.46	151.99	0
151	Acid Soluble Arsenic (ppm)	0136	0.3105	0.0630	1.955	3.746	0.0741	5	-0.44	151.33	0
151	Acid Soluble Arsenic (ppm)	0527	0.5450	0.0764	1.955	3.746	0.0741	5	-0.38	151.33	0
151	Acid Soluble Arsenic (ppm)	0368	8.648	0.2251	1.955	3.746	0.0741	5	1.79	151.34	0
151	Acid Soluble Arsenic (ppm)	0555	0.0000	0.0000	1.955	3.746	0.0741	5		151.30	4
151	Acid Soluble Arsenic (ppm)	0550	< 0.08		1.955	3.746	0.0741	5		151.00	5
151	Acid Soluble Arsenic (ppm)	0481	< 0.5		1.955	3.746	0.0741	5		151.99	5
151	Acid Soluble Arsenic (ppm)	0027	< 10		1.955	3.746	0.0741	5		151.30	5
151	Acid Soluble Arsenic (ppm)	0117	< 10		1.955	3.746	0.0741	5		151.33	5
151	Acid Soluble Arsenic (ppm)	0095	< 12.5		1.955	3.746	0.0741	5		151.32	5
151	Acid Soluble Arsenic (ppm)	0526	< 50		1.955	3.746	0.0741	5		151.00	5
165	Acid Soluble Boron (%)	0354	0.0100	0.0000				2		165.30	0
165	Acid Soluble Boron (%)	0136	1.800	0.4000				2		165.30	0
165	Acid Soluble Boron (%)	0542	0.0000	0.0000				2		165.30	4
165	Acid Soluble Boron (%)	0552	0.0000	0.0000				2		165.99	4
181	Acid Soluble Cadmium (ppm)	0524	0.0072	0.0031	0.0370	0.0339	0.0053	5	-0.88	181.30	0
181	Acid Soluble Cadmium (ppm)	0255	0.0075	0.0030	0.0370	0.0339	0.0053	5	-0.87	181.30	0
181	Acid Soluble Cadmium (ppm)	0550	0.0400	0.0120	0.0370	0.0339	0.0053	5	0.09	181.00	0
181	Acid Soluble Cadmium (ppm)	0368	0.0406	0.0083	0.0370	0.0339	0.0053	5	0.10	181.34	0
181	Acid Soluble Cadmium (ppm)	0519	0.0900	0.0000	0.0370	0.0339	0.0053	5	1.56	181.99	0
181	Acid Soluble Cadmium (ppm)	0555	0.0000	0.0000	0.0370	0.0339	0.0053	5		181.30	4
181	Acid Soluble Cadmium (ppm)	0527	< 0.0001		0.0370	0.0339	0.0053	5		181.33	5
181	Acid Soluble Cadmium (ppm)	0526	< 0.0028		0.0370	0.0339	0.0053	5		181.00	5
181	Acid Soluble Cadmium (ppm)	0389	< 0.05		0.0370	0.0339	0.0053	5		181.30	5

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
181	Acid Soluble Cadmium (ppm)	0136	< 0.1		0.0370	0.0339	0.0053	5		181.33	5
181	Acid Soluble Cadmium (ppm)	0394	< 0.13		0.0370	0.0339	0.0053	5		181.30	5
181	Acid Soluble Cadmium (ppm)	0481	< 0.5		0.0370	0.0339	0.0053	5		181.99	5
181	Acid Soluble Cadmium (ppm)	0117	< 5		0.0370	0.0339	0.0053	5		181.33	5
181	Acid Soluble Cadmium (ppm)	0027	< 10		0.0370	0.0339	0.0053	5		181.30	5
181	Acid Soluble Cadmium (ppm)	0095	< 12.5		0.0370	0.0339	0.0053	5		181.32	5
191	Acid Soluble Chromium (ppm)	0394	0.0550	0.0100	0.5217	0.5227	0.0395	6	-0.89	191.30	0
191	Acid Soluble Chromium (ppm)	0550	0.1140	0.0200	0.5217	0.5227	0.0395	6	-0.78	191.00	0
191	Acid Soluble Chromium (ppm)	0519	0.3650	0.0100	0.5217	0.5227	0.0395	6	-0.30	191.99	0
191	Acid Soluble Chromium (ppm)	0506	0.5805	0.0370	0.5217	0.5227	0.0395	6	0.11	191.99	0
191	Acid Soluble Chromium (ppm)	0498	0.7100	0.0600	0.5217	0.5227	0.0395	6	0.36	191.00	0
191	Acid Soluble Chromium (ppm)	0444	3.570	0.1000	0.5217	0.5227	0.0395	6	5.83	191.30	0
191	Acid Soluble Chromium (ppm)	0555	1.135	0.4500	0.5217	0.5227	0.0395	6	1.17	191.30	1
191	Acid Soluble Chromium (ppm)	0527	< 0.0001		0.5217	0.5227	0.0395	6		191.33	5
191	Acid Soluble Chromium (ppm)	0526	< 0.0054		0.5217	0.5227	0.0395	6		191.00	5
191	Acid Soluble Chromium (ppm)	0389	< 0.05		0.5217	0.5227	0.0395	6		191.30	5
191	Acid Soluble Chromium (ppm)	0368	< 0.1		0.5217	0.5227	0.0395	6		191.34	5
191	Acid Soluble Chromium (ppm)	0481	< 13		0.5217	0.5227	0.0395	6		191.99	5
202	Acid Soluble Cobalt (ppm)	0255	0.0020	0.0000	0.4958	0.7068	0.0328	3	-0.70	202.99	0
202	Acid Soluble Cobalt (ppm)	0519	0.1800	0.0000	0.4958	0.7068	0.0328	3	-0.45	202.99	0
202	Acid Soluble Cobalt (ppm)	0368	1.305	0.0985	0.4958	0.7068	0.0328	3	1.15	202.34	0
202	Acid Soluble Cobalt (ppm)	0555	0.0000	0.0000	0.4958	0.7068	0.0328	3		202.30	4
202	Acid Soluble Cobalt (ppm)	0527	< 0.0001		0.4958	0.7068	0.0328	3		202.33	5
202	Acid Soluble Cobalt (ppm)	0526	< 0.01		0.4958	0.7068	0.0328	3		202.00	5
202	Acid Soluble Cobalt (ppm)	0546	< 0.01		0.4958	0.7068	0.0328	3		202.33	5
202	Acid Soluble Cobalt (ppm)	0389	< 0.05		0.4958	0.7068	0.0328	3		202.30	5
202	Acid Soluble Cobalt (ppm)	0550	< 0.09		0.4958	0.7068	0.0328	3		202.33	5
202	Acid Soluble Cobalt (ppm)	0136	< 5		0.4958	0.7068	0.0328	3		202.33	5
202	Acid Soluble Cobalt (ppm)	0027	< 10		0.4958	0.7068	0.0328	3		202.30	5
202	Acid Soluble Cobalt (ppm)	0481	< 10		0.4958	0.7068	0.0328	3		202.99	5
202	Acid Soluble Cobalt (ppm)	0095	< 12.5		0.4958	0.7068	0.0328	3		202.32	5
221	Acid Soluble Copper (%)	0550	0.0002	0.0002	0.0011	0.0011	0.0001	5	-0.80	221.00	0
221	Acid Soluble Copper (%)	0515	0.0003	0.0001	0.0011	0.0011	0.0001	5	-0.75	221.33	0
221	Acid Soluble Copper (%)	0553	0.0004	0.0000	0.0011	0.0011	0.0001	5	-0.61	221.00	0
221	Acid Soluble Copper (%)	0255	0.0020	0.0000	0.0011	0.0011	0.0001	5	0.85	221.30	0
221	Acid Soluble Copper (%)	0519	0.0025	0.0000	0.0011	0.0011	0.0001	5	1.31	221.99	0
221	Acid Soluble Copper (%)	0515	0.0009	0.0005	0.0011	0.0011	0.0001	5	-0.20	221.99	1
221	Acid Soluble Copper (%)	0552	0.0000	0.0000	0.0011	0.0011	0.0001	5		221.30	4
221	Acid Soluble Copper (%)	0095	0.0000	0.0000	0.0011	0.0011	0.0001	5		221.32	4
221	Acid Soluble Copper (%)	0555	0.0001	0.0001	0.0011	0.0011	0.0001	5		221.33	4
221	Acid Soluble Copper (%)	0527	< 0.0001		0.0011	0.0011	0.0001	5		221.33	5
221	Acid Soluble Copper (%)	0368	< 0.0001		0.0011	0.0011	0.0001	5		221.99	5
221	Acid Soluble Copper (%)	0136	< 0.0005		0.0011	0.0011	0.0001	5		221.33	5
221	Acid Soluble Copper (%)	0481	< 0.001		0.0011	0.0011	0.0001	5		221.99	5
221	Acid Soluble Copper (%)	0027	< 0.002		0.0011	0.0011	0.0001	5		221.99	5
221	Acid Soluble Copper (%)	0354	< 0.01		0.0011	0.0011	0.0001	5		221.30	5
241	Acid Soluble Iron (%)	0389	0.0002	0.0001	0.0007	0.0009	0.0001	4	-0.53	241.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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241	Acid Soluble Iron (%)	0086	0.0003	0.0001	0.0007	0.0009	0.0001	4	-0.44	241.33	0
241	Acid Soluble Iron (%)	0527	0.0004	0.0002	0.0007	0.0009	0.0001	4	-0.29	241.33	0
241	Acid Soluble Iron (%)	0553	0.0020	0.0000	0.0007	0.0009	0.0001	4	1.26	241.00	0
241	Acid Soluble Iron (%)	0552	0.0050	0.0100	0.0007	0.0009	0.0001	4		241.30	4
241	Acid Soluble Iron (%)	0136	< 0.0005		0.0007	0.0009	0.0001	4		241.33	5
241	Acid Soluble Iron (%)	0027	< 0.005		0.0007	0.0009	0.0001	4		241.99	5
241	Acid Soluble Iron (%)	0354	< 0.01		0.0007	0.0009	0.0001	4		241.30	5
251	Acid Soluble Lead (ppm)	0394	0.0390	0.0200	0.1819	0.2077	0.0197	5	-0.69	251.30	0
251	Acid Soluble Lead (ppm)	0524	0.0728	0.0074	0.1819	0.2077	0.0197	5	-0.52	251.30	0
251	Acid Soluble Lead (ppm)	0255	0.0925	0.0070	0.1819	0.2077	0.0197	5	-0.43	251.30	0
251	Acid Soluble Lead (ppm)	0506	0.1600	0.0540	0.1819	0.2077	0.0197	5	-0.11	251.99	0
251	Acid Soluble Lead (ppm)	0519	0.5450	0.0100	0.1819	0.2077	0.0197	5	1.75	251.99	0
251	Acid Soluble Lead (ppm)	0550	0.2115	0.1910	0.1819	0.2077	0.0197	5	0.14	251.00	1
251	Acid Soluble Lead (ppm)	0555	0.0000	0.0000	0.1819	0.2077	0.0197	5		251.30	4
251	Acid Soluble Lead (ppm)	0527	< 0.0001		0.1819	0.2077	0.0197	5		251.33	5
251	Acid Soluble Lead (ppm)	0526	< 0.013		0.1819	0.2077	0.0197	5		251.00	5
251	Acid Soluble Lead (ppm)	0389	< 0.05		0.1819	0.2077	0.0197	5		251.30	5
251	Acid Soluble Lead (ppm)	0136	< 0.1		0.1819	0.2077	0.0197	5		251.33	5
251	Acid Soluble Lead (ppm)	0481	< 0.5		0.1819	0.2077	0.0197	5		251.99	5
251	Acid Soluble Lead (ppm)	0368	< 0.7		0.1819	0.2077	0.0197	5		251.34	5
251	Acid Soluble Lead (ppm)	0117	< 5		0.1819	0.2077	0.0197	5		251.33	5
251	Acid Soluble Lead (ppm)	0095	< 12.5		0.1819	0.2077	0.0197	5		251.32	5
261	Acid Soluble Manganese (%)	0553	0.0008	0.0000				1		261.00	0
261	Acid Soluble Manganese (%)	0552	0.0000	0.0000				1		261.32	4
261	Acid Soluble Manganese (%)	0542	0.0000	0.0000				1		261.34	4
261	Acid Soluble Manganese (%)	0527	< 0.0001					1		261.35	5
261	Acid Soluble Manganese (%)	0136	< 0.0005					1		261.35	5
261	Acid Soluble Manganese (%)	0354	< 0.01					1		261.30	5
281	Acid Soluble Mercury (ppm)	0519	0.0200	0.0000				1		281.99	0
281	Acid Soluble Mercury (ppm)	0527	< 0.0001					1		281.30	5
281	Acid Soluble Mercury (ppm)	0550	< 0.001					1		281.00	5
281	Acid Soluble Mercury (ppm)	0368	< 0.01					1		281.99	5
281	Acid Soluble Mercury (ppm)	0481	< 0.5					1		281.99	5
281	Acid Soluble Mercury (ppm)	0526	< 60					1		281.00	5
289	Acid Soluble Molybdenum (ppm)	0550	0.1910	0.1820	1.193	1.865	0.1346	4	-0.46	289.00	0
289	Acid Soluble Molybdenum (ppm)	0546	0.2763	0.3064	1.193	1.865	0.1346	4	-0.42	289.33	0
289	Acid Soluble Molybdenum (ppm)	0255	0.3150	0.0300	1.193	1.865	0.1346	4	-0.40	289.30	0
289	Acid Soluble Molybdenum (ppm)	0519	3.990	0.0200	1.193	1.865	0.1346	4	1.27	289.30	0
289	Acid Soluble Molybdenum (ppm)	0555	0.0000	0.0000	1.193	1.865	0.1346	4		289.30	4
289	Acid Soluble Molybdenum (ppm)	0527	< 0.0001		1.193	1.865	0.1346	4		289.33	5
289	Acid Soluble Molybdenum (ppm)	0095	< 0.0013		1.193	1.865	0.1346	4		289.32	5
289	Acid Soluble Molybdenum (ppm)	0526	< 0.021		1.193	1.865	0.1346	4		289.00	5
289	Acid Soluble Molybdenum (ppm)	0368	< 0.1		1.193	1.865	0.1346	4		289.34	5
289	Acid Soluble Molybdenum (ppm)	0481	< 62		1.193	1.865	0.1346	4		289.99	5
291	Acid Soluble Nickel (ppm)	0394	0.1155	0.0410	0.8835	1.141	0.0837	3	-0.67	291.30	0
291	Acid Soluble Nickel (ppm)	0519	0.3400	0.0000	0.8835	1.141	0.0837	3	-0.48	291.99	0
291	Acid Soluble Nickel (ppm)	0444	2.195	0.2100	0.8835	1.141	0.0837	3	1.15	291.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
291	Acid Soluble Nickel (ppm)	0555	0.0000	0.0000	0.8835	1.141	0.0837	3		291.30	4
291	Acid Soluble Nickel (ppm)	0255	0.0000	0.0000	0.8835	1.141	0.0837	3		291.99	4
291	Acid Soluble Nickel (ppm)	0527	< 0.0001		0.8835	1.141	0.0837	3		291.33	5
291	Acid Soluble Nickel (ppm)	0389	< 0.05		0.8835	1.141	0.0837	3		291.30	5
291	Acid Soluble Nickel (ppm)	0368	< 0.2		0.8835	1.141	0.0837	3		291.34	5
291	Acid Soluble Nickel (ppm)	0550	< 0.6		0.8835	1.141	0.0837	3		291.00	5
291	Acid Soluble Nickel (ppm)	0117	< 5		0.8835	1.141	0.0837	3		291.33	5
291	Acid Soluble Nickel (ppm)	0481	< 5		0.8835	1.141	0.0837	3		291.99	5
291	Acid Soluble Nickel (ppm)	0027	< 10		0.8835	1.141	0.0837	3		291.30	5
291	Acid Soluble Nickel (ppm)	0095	< 12.5		0.8835	1.141	0.0837	3		291.32	5
301	Acid Soluble Selenium (ppm)	0519	0.4350	0.0100				2		301.99	0
301	Acid Soluble Selenium (ppm)	0255	0.7225	0.1430				2		301.99	0
301	Acid Soluble Selenium (ppm)	0555	0.0000	0.0000				2		301.30	4
301	Acid Soluble Selenium (ppm)	0527	< 0.001					2		301.33	5
301	Acid Soluble Selenium (ppm)	0550	< 0.08					2		301.00	5
301	Acid Soluble Selenium (ppm)	0481	< 0.15					2		301.99	5
301	Acid Soluble Selenium (ppm)	0526	< 0.23					2		301.00	5
301	Acid Soluble Selenium (ppm)	0368	< 1.3					2		301.34	5
301	Acid Soluble Selenium (ppm)	0095	< 12.5					2		301.32	5
311	Sodium (%)	0136	0.0200	0.0000	0.0439	0.0223	0.0039	8	-0.98	311.33	0
311	Sodium (%)	0482	0.0300	0.0000	0.0439	0.0223	0.0039	8	-0.57	311.99	0
311	Sodium (%)	0527	0.0302	0.0012	0.0439	0.0223	0.0039	8	-0.56	311.33	0
311	Sodium (%)	0423	0.0315	0.0010	0.0439	0.0223	0.0039	8	-0.51	311.33	0
311	Sodium (%)	0086	0.0418	0.0068	0.0439	0.0223	0.0039	8	-0.09	311.33	0
311	Sodium (%)	0515	0.0583	0.0008	0.0439	0.0223	0.0039	8	0.59	311.99	0
311	Sodium (%)	0515	0.0645	0.0115	0.0439	0.0223	0.0039	8	0.84	311.33	0
311	Sodium (%)	0354	0.0750	0.0100	0.0439	0.0223	0.0039	8	1.28	311.99	0
321	Acid Soluble Zinc (%)	0550	0.0002	0.0002	0.1330	0.2949	0.0002	5	-0.45	321.00	0
321	Acid Soluble Zinc (%)	0553	0.0005	0.0001	0.1330	0.2949	0.0002	5	-0.45	321.00	0
321	Acid Soluble Zinc (%)	0519	0.0010	0.0000	0.1330	0.2949	0.0002	5	-0.45	321.99	0
321	Acid Soluble Zinc (%)	0096	0.0027	0.0006	0.1330	0.2949	0.0002	5	-0.44	321.30	0
321	Acid Soluble Zinc (%)	0526	0.6606	0.0000	0.1330	0.2949	0.0002	5	1.79	321.03	0
321	Acid Soluble Zinc (%)	0552	0.0000	0.0000	0.1330	0.2949	0.0002	5		321.30	4
321	Acid Soluble Zinc (%)	0542	0.0000	0.0000	0.1330	0.2949	0.0002	5		321.32	4
321	Acid Soluble Zinc (%)	0255	0.0005	0.0010	0.1330	0.2949	0.0002	5		321.30	4
321	Acid Soluble Zinc (%)	0368	< 0.0001		0.1330	0.2949	0.0002	5		321.99	5
321	Acid Soluble Zinc (%)	0136	< 0.0005		0.1330	0.2949	0.0002	5		321.33	5
321	Acid Soluble Zinc (%)	0527	< 0.001		0.1330	0.2949	0.0002	5		321.33	5
321	Acid Soluble Zinc (%)	0481	< 0.001		0.1330	0.2949	0.0002	5		321.99	5
321	Acid Soluble Zinc (%)	0095	< 0.0013		0.1330	0.2949	0.0002	5		321.32	5
321	Acid Soluble Zinc (%)	0027	< 0.002		0.1330	0.2949	0.0002	5		321.99	5
321	Acid Soluble Zinc (%)	0354	< 0.01		0.1330	0.2949	0.0002	5		321.30	5
325	Water Soluble Zinc (%)	0555	0.0012	0.0001				1		325.30	0
325	Water Soluble Zinc (%)	0027	< 0.005					1		325.00	5

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. Robust statistics not used if < 6 labs used in calculations, in this case the Z Scores are grey and included for information only. Your offset

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				

values are higher (‡) or lower (†) than the Robust Analyte value ± Investigational Allowance. 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.