

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 180111

Secondary & Micronutrients

Statistical Summary

Analytes: 31

Labs Reporting: 87

Issue Date : 02/28/2018

Analyte Code	Analyte Sample # 180111	# 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)	Honwitz %RSD
001	Ammoniacal Nitrogen (%)	3	3	1.397	1.852	1.397		1.852	1.336	132.60%		0.0343	3.80%
002	Nitrate Nitrogen (%)	1		0.0000									
010	Total Nitrogen (%)	11	10	0.5777	0.0582	0.5736	0.4900	0.0457	0.0180	7.96%	0.22	0.0116	4.35%
020	Total Phosphorus as P2O5 (%)	7	5	0.0305	0.0336	0.0305		0.0336	0.0188	110.14%		0.0006	6.76%
041	Direct Available Phosphorus as P2O5 (%)	3	2	0.0963	0.0053	0.0963	0.6700	0.0053	0.0047	5.51%	0.02	0.0015	5.69%
050	Soluble Potassium as K2O (%)	9	9	0.0777	0.0225	0.0777	0.4100	0.0255	0.0106	32.77%	0.14	0.0080	5.87%
060	Water (Free) (%)	5	5	1.218	0.9204	1.218		0.9204	0.5145	75.60%		0.3463	3.88%
101	Acid Soluble Calcium (18%)	64	63	18.69	2.593	18.87	1.0000	1.216	0.1915	6.44%	2.83	0.2841	2.57%
121	Acid Soluble Magnesium (%)	16	15	0.2057	0.3669	0.1104	0.2055	0.0103	0.0033	9.31%	0.12	0.0072	5.57%
143	Elemental Sulfur (%)	4	4	15.97	0.9886	15.97		0.9886	0.6179	6.19%		0.2668	2.64%
145	Sulfate Sulfur, HCl soluble (%)	11	11	15.67	0.9426	15.84		0.5950	0.2242	3.76%		0.1709	2.64%
148	Total Sulfur (16%)	50	49	16.02	2.074	16.34	1.0000	0.8968	0.1601	5.49%	2.09	0.3085	2.63%
149	Sulfur - HNO3 soluble (%)	5	5	15.82	0.2681	15.82		0.2681	0.1499	1.69%		0.1104	2.64%
151	Acid Soluble Arsenic (ppm)	17	15	2.164	1.665	1.802		0.8533	0.2754	47.34%		0.1496	14.64%
165	Acid Soluble Boron (0.5%)	53	52	0.5102	0.0527	0.5058	0.0789	0.0415	0.0072	8.21%	1.23	0.0114	4.43%
171	Water Soluble Boron (%)	12	12	0.4221	0.0853	0.4221		0.0967	0.0349	22.91%		0.0158	4.55%
181	Acid Soluble Cadmium (ppm)	19	16	0.3204	0.1067	0.3151		0.1082	0.0338	34.34%		0.0749	19.03%
190	Water Soluble Chlorine (%)	1		0.1770									
191	Acid Soluble Chromium (ppm)	25	24	15.71	5.864	16.00		5.838	1.490	36.48%		0.6187	10.54%
202	Acid Soluble Cobalt (ppm)	24	23	1.857	0.6284	1.868	1.5604	0.6660	0.1736	35.65%	0.99	0.0873	14.56%
221	Acid Soluble Copper (%)	24	19	0.3056	1.151	0.0011	0.0051	0.0015	0.0004	129.90%	0.68	0.0130	11.08%
241	Acid Soluble Iron (%)	16	15	0.0733	0.0116	0.0727	0.0123	0.0115	0.0037	15.86%	2.19	0.0027	5.93%
251	Acid Soluble Lead (ppm)	19	16	2.070	2.291	1.572		0.6833	0.2135	43.48%		0.2533	14.94%
261	Acid Soluble Manganese (%)	14	11	0.0055	0.0016	0.0052	0.0055	0.0008	0.0003	16.17%	0.36	0.0003	8.81%
281	Acid Soluble Mercury (ppm)	7	5	0.2437	0.1591	0.2437		0.1591	0.0890	65.30%		0.0206	19.78%
289	Acid Soluble Molybdenum (ppm)	21	19	5.127	9.286	2.285	1.6855	1.441	0.4134	63.09%	1.99	0.4804	14.13%
291	Acid Soluble Nickel (ppm)	25	24	4.743	0.8795	4.663		0.6734	0.1718	14.44%		0.6061	12.69%
301	Acid Soluble Selenium (ppm)	13	9	1.619	0.8940	1.596		0.9616	0.4007	60.24%		0.2294	14.91%
311	Sodium (%)	10	9	0.3006	0.1019	0.3252	0.0375	0.0289	0.0121	8.90%	1.80	0.0072	4.74%
321	Acid Soluble Zinc (1.5%)	65	63	1.502	0.2051	1.519	0.1569	0.0861	0.0136	5.67%	1.28	0.0324	3.76%
325	Water Soluble Zinc (%)	13	13	1.404	0.1299	1.422		0.1054	0.0365	7.41%		0.0331	3.79%

Analyte Code	Analyte Sample # 180111	# 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)	Howitz %RSD
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The Analyte IA Ratio = $2.33 * \text{Robust SD} / \text{IA at the Analyte Assigned Value}$. 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.

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Analyte Proficiency From All Labs

Analytes: 31

Sample # 180111

Lab Values

Labs Reporting: 87

Secondary & Micronutrients

Issue Date : 02/28/2018

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 (%)	0096	0.3050	0.0500	1.397	1.852	0.0343	3	-0.59	001.99	0
001	Ammoniacal Nitrogen (%)	0511	0.3500	0.0000	1.397	1.852	0.0343	3	-0.57	001.99	0
001	Ammoniacal Nitrogen (%)	0524	3.535	0.0530	1.397	1.852	0.0343	3	1.15	001.99	0
002	Nitrate Nitrogen (%)	0511	0.0000	0.0000				0		002.99	4
010	Total Nitrogen (%)	0521	0.4835	0.0000	0.5736	0.0457	0.0116	10	-1.83	010.60	0
010	Total Nitrogen (%)	0524	0.5212	0.0030	0.5736	0.0457	0.0116	10	-1.07	010.99	0
010	Total Nitrogen (%)	0325	0.5650	0.0300	0.5736	0.0457	0.0116	10	-0.17	010.60	0
010	Total Nitrogen (%)	0389	0.5700	0.0000	0.5736	0.0457	0.0116	10	-0.07	010.60	0
010	Total Nitrogen (%)	0292	0.5700	0.0200	0.5736	0.0457	0.0116	10	-0.07	010.60	0
010	Total Nitrogen (%)	0354	0.5710	0.0000	0.5736	0.0457	0.0116	10	-0.05	010.60	0
010	Total Nitrogen (%)	0482	0.5850	0.0100	0.5736	0.0457	0.0116	10	0.23	010.60	0
010	Total Nitrogen (%)	0483	0.5865	0.0030	0.5736	0.0457	0.0116	10	0.26	010.60	0
010	Total Nitrogen (%)	0511	0.6200	0.0000	0.5736	0.0457	0.0116	10	0.95	010.60	0
010	Total Nitrogen (%)	0096	0.7050	0.0500	0.5736	0.0457	0.0116	10	2.68	010.60	0
010	Total Nitrogen (%)	0117	13.00	0.2000	0.5736	0.0457	0.0116	10	253.09	010.12	2
020	Total Phosphorus as P2O5 (%)	0389	0.0100	0.0000	0.0305	0.0336	0.0006	5	-0.53	020.50	0
020	Total Phosphorus as P2O5 (%)	0515	0.0141	0.0025	0.0305	0.0336	0.0006	5	-0.43	020.99	0
020	Total Phosphorus as P2O5 (%)	0524	0.0163	0.0006	0.0305	0.0336	0.0006	5	-0.37	020.50	0
020	Total Phosphorus as P2O5 (%)	0521	0.0220	0.0000	0.0305	0.0336	0.0006	5	-0.22	020.50	0
020	Total Phosphorus as P2O5 (%)	0292	0.0900	0.0000	0.0305	0.0336	0.0006	5	1.55	020.20	0
020	Total Phosphorus as P2O5 (%)	0483	0.0750	0.0100	0.0305	0.0336	0.0006	5	1.16	020.50	1
020	Total Phosphorus as P2O5 (%)	0511	0.0000	0.0000	0.0305	0.0336	0.0006	5		020.50	4
041	Direct Available Phosphorus as P2O5 (%)	0354	0.0925	0.0030				2		041.60	0
041	Direct Available Phosphorus as P2O5 (%)	0325	0.1000	0.0000				2		041.50	0
041	Direct Available Phosphorus as P2O5 (%)	0511	0.0000	0.0000				2		041.51	4
050	Soluble Potassium as K2O (%)	0511	0.0400	0.0000	0.0777	0.0255	0.0080	9	-1.37	050.51	0
050	Soluble Potassium as K2O (%)	0483	0.0600	0.0200	0.0777	0.0255	0.0080	9	-0.64	050.51	0
050	Soluble Potassium as K2O (%)	0389	0.0605	0.0010	0.0777	0.0255	0.0080	9	-0.62	050.99	0
050	Soluble Potassium as K2O (%)	0482	0.0700	0.0200	0.0777	0.0255	0.0080	9	-0.28	050.99	0
050	Soluble Potassium as K2O (%)	0524	0.0732	0.0069	0.0777	0.0255	0.0080	9	-0.17	050.99	0
050	Soluble Potassium as K2O (%)	0354	0.0900	0.0180	0.0777	0.0255	0.0080	9	0.44	050.52	0
050	Soluble Potassium as K2O (%)	0325	0.1000	0.0000	0.0777	0.0255	0.0080	9	0.81	050.99	0
050	Soluble Potassium as K2O (%)	0423	0.1020	0.0060	0.0777	0.0255	0.0080	9	0.88	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 (%)	0521	0.1039	0.0000	0.0777	0.0255	0.0080	9	0.95	050.99	0
060	Water (Free) (%)	0055	0.6050	0.0100	1.218	0.9204	0.3463	5	-0.67	060.99	0
060	Water (Free) (%)	0096	0.8450	0.1500	1.218	0.9204	0.3463	5	-0.40	060.00	0
060	Water (Free) (%)	0518	0.8800	0.0600	1.218	0.9204	0.3463	5	-0.37	060.30	0
060	Water (Free) (%)	0510	0.9077	0.0116	1.218	0.9204	0.3463	5	-0.34	060.99	0
060	Water (Free) (%)	0055	2.850	1.500	1.218	0.9204	0.3463	5	1.77	060.30	0
101	Acid Soluble Calcium (18%)	0542	7.373†	1.495	18.87	1.216	0.2841	63	-9.45	101.30	0
101	Acid Soluble Calcium (18%)	0494	10.90†	0.3446	18.87	1.216	0.2841	63	-6.55	101.33	0
101	Acid Soluble Calcium (18%)	0510	13.54†	0.0278	18.87	1.216	0.2841	63	-4.38	101.70	0
101	Acid Soluble Calcium (18%)	0476	14.13†	0.5312	18.87	1.216	0.2841	63	-3.89	101.99	0
101	Acid Soluble Calcium (18%)	0035	15.95†	0.1000	18.87	1.216	0.2841	63	-2.40	101.30	0
101	Acid Soluble Calcium (18%)	0511	16.54†	0.0000	18.87	1.216	0.2841	63	-1.91	101.30	0
101	Acid Soluble Calcium (18%)	0482	17.10†	0.6000	18.87	1.216	0.2841	63	-1.45	101.30	0
101	Acid Soluble Calcium (18%)	0230	17.45†	0.1000	18.87	1.216	0.2841	63	-1.16	101.30	0
101	Acid Soluble Calcium (18%)	0073	17.92	0.8800	18.87	1.216	0.2841	63	-0.78	101.30	0
101	Acid Soluble Calcium (18%)	0501	18.00	0.0000	18.87	1.216	0.2841	63	-0.71	101.99	0
101	Acid Soluble Calcium (18%)	0527	18.03	0.0050	18.87	1.216	0.2841	63	-0.69	101.33	0
101	Acid Soluble Calcium (18%)	0324	18.05	0.1000	18.87	1.216	0.2841	63	-0.67	101.30	0
101	Acid Soluble Calcium (18%)	0508	18.08	0.0600	18.87	1.216	0.2841	63	-0.65	101.99	0
101	Acid Soluble Calcium (18%)	0102	18.13	0.0987	18.87	1.216	0.2841	63	-0.60	101.30	0
101	Acid Soluble Calcium (18%)	0519	18.16	0.0900	18.87	1.216	0.2841	63	-0.59	101.99	0
101	Acid Soluble Calcium (18%)	0544	18.18	0.2600	18.87	1.216	0.2841	63	-0.56	101.70	0
101	Acid Soluble Calcium (18%)	0523	18.20	0.6000	18.87	1.216	0.2841	63	-0.55	101.99	0
101	Acid Soluble Calcium (18%)	0522	18.21	0.0100	18.87	1.216	0.2841	63	-0.54	101.70	0
101	Acid Soluble Calcium (18%)	0136	18.27	0.0600	18.87	1.216	0.2841	63	-0.49	101.33	0
101	Acid Soluble Calcium (18%)	0025	18.29	1.240	18.87	1.216	0.2841	63	-0.47	101.33	0
101	Acid Soluble Calcium (18%)	0493	18.30	0.1000	18.87	1.216	0.2841	63	-0.47	101.70	0
101	Acid Soluble Calcium (18%)	0307	18.34	0.8500	18.87	1.216	0.2841	63	-0.44	101.00	0
101	Acid Soluble Calcium (18%)	0037	18.36	0.3340	18.87	1.216	0.2841	63	-0.42	101.33	0
101	Acid Soluble Calcium (18%)	0177	18.36	0.0520	18.87	1.216	0.2841	63	-0.42	101.33	0
101	Acid Soluble Calcium (18%)	0476	18.40	0.1795	18.87	1.216	0.2841	63	-0.38	101.70	0
101	Acid Soluble Calcium (18%)	0534	18.47	0.5400	18.87	1.216	0.2841	63	-0.33	101.00	0
101	Acid Soluble Calcium (18%)	0023	18.67	1.518	18.87	1.216	0.2841	63	-0.16	101.33	0
101	Acid Soluble Calcium (18%)	0117	18.69	0.5300	18.87	1.216	0.2841	63	-0.15	101.33	0
101	Acid Soluble Calcium (18%)	0354	18.72	0.0620	18.87	1.216	0.2841	63	-0.12	101.30	0
101	Acid Soluble Calcium (18%)	0377	18.74	0.0000	18.87	1.216	0.2841	63	-0.10	101.30	0
101	Acid Soluble Calcium (18%)	0096	18.76	0.0800	18.87	1.216	0.2841	63	-0.09	101.30	0
101	Acid Soluble Calcium (18%)	0368	18.78	0.1094	18.87	1.216	0.2841	63	-0.07	101.99	0
101	Acid Soluble Calcium (18%)	0389	18.82	0.0400	18.87	1.216	0.2841	63	-0.04	101.99	0
101	Acid Soluble Calcium (18%)	0157	18.90	0.0000	18.87	1.216	0.2841	63	0.03	101.30	0
101	Acid Soluble Calcium (18%)	0405	18.90	0.0000	18.87	1.216	0.2841	63	0.03	101.30	0
101	Acid Soluble Calcium (18%)	0500	18.95	0.0200	18.87	1.216	0.2841	63	0.07	101.70	0
101	Acid Soluble Calcium (18%)	0486	19.04	0.0500	18.87	1.216	0.2841	63	0.14	101.30	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				
101	Acid Soluble Calcium (18%)	0042	19.04	0.2800	18.87	1.216	0.2841	63	0.14	101.99	0
101	Acid Soluble Calcium (18%)	0472	19.07	0.1900	18.87	1.216	0.2841	63	0.16	101.30	0
101	Acid Soluble Calcium (18%)	0034	19.08	0.0100	18.87	1.216	0.2841	63	0.17	101.33	0
101	Acid Soluble Calcium (18%)	0231	19.08	0.0500	18.87	1.216	0.2841	63	0.17	101.30	0
101	Acid Soluble Calcium (18%)	0547	19.13	0.7300	18.87	1.216	0.2841	63	0.21	101.32	0
101	Acid Soluble Calcium (18%)	0157	19.15	0.9000	18.87	1.216	0.2841	63	0.23	101.00	0
101	Acid Soluble Calcium (18%)	0255	19.17	1.269	18.87	1.216	0.2841	63	0.25	101.30	0
101	Acid Soluble Calcium (18%)	0055	19.19	0.0200	18.87	1.216	0.2841	63	0.27	101.33	0
101	Acid Soluble Calcium (18%)	0521	19.31	0.0000	18.87	1.216	0.2841	63	0.36	101.32	0
101	Acid Soluble Calcium (18%)	0444	19.69	0.2100	18.87	1.216	0.2841	63	0.67	101.30	0
101	Acid Soluble Calcium (18%)	0029	19.69	0.3000	18.87	1.216	0.2841	63	0.68	101.00	0
101	Acid Soluble Calcium (18%)	0371	19.75	0.0000	18.87	1.216	0.2841	63	0.73	101.99	0
101	Acid Soluble Calcium (18%)	0292	19.84	0.1800	18.87	1.216	0.2841	63	0.80	101.33	0
101	Acid Soluble Calcium (18%)	0040	19.91‡	0.8100	18.87	1.216	0.2841	63	0.85	101.00	0
101	Acid Soluble Calcium (18%)	0402	19.93‡	0.1200	18.87	1.216	0.2841	63	0.87	101.30	0
101	Acid Soluble Calcium (18%)	0423	20.03‡	0.0070	18.87	1.216	0.2841	63	0.95	101.32	0
101	Acid Soluble Calcium (18%)	0291	20.29‡	0.0100	18.87	1.216	0.2841	63	1.17	101.99	0
101	Acid Soluble Calcium (18%)	0421	20.34‡	0.0700	18.87	1.216	0.2841	63	1.21	101.33	0
101	Acid Soluble Calcium (18%)	0234	20.61‡	0.1300	18.87	1.216	0.2841	63	1.43	101.30	0
101	Acid Soluble Calcium (18%)	0452	20.71‡	0.1700	18.87	1.216	0.2841	63	1.51	101.30	0
101	Acid Soluble Calcium (18%)	0325	20.80‡	0.2000	18.87	1.216	0.2841	63	1.59	101.30	0
101	Acid Soluble Calcium (18%)	0433	20.91‡	0.0200	18.87	1.216	0.2841	63	1.68	101.30	0
101	Acid Soluble Calcium (18%)	0546	21.48‡	0.1660	18.87	1.216	0.2841	63	2.15	101.33	0
101	Acid Soluble Calcium (18%)	0451	21.82‡	0.8900	18.87	1.216	0.2841	63	2.43	101.30	0
101	Acid Soluble Calcium (18%)	0489	25.40‡	0.0500	18.87	1.216	0.2841	63	5.37	101.99	0
101	Acid Soluble Calcium (18%)	0541	26.69‡	0.0500	18.87	1.216	0.2841	63	6.43	101.30	0
101	Acid Soluble Calcium (18%)	0483	21.95‡	2.300	18.87	1.216	0.2841	63	2.54	101.30	1
121	Acid Soluble Magnesium (%)	0515	0.0998	0.0034	0.1104	0.0103	0.0072	15	-1.03	121.99	0
121	Acid Soluble Magnesium (%)	0423	0.1005	0.0110	0.1104	0.0103	0.0072	15	-0.97	121.32	0
121	Acid Soluble Magnesium (%)	0389	0.1005	0.0010	0.1104	0.0103	0.0072	15	-0.97	121.99	0
121	Acid Soluble Magnesium (%)	0524	0.1029	0.0066	0.1104	0.0103	0.0072	15	-0.73	121.99	0
121	Acid Soluble Magnesium (%)	0035	0.1030	0.0060	0.1104	0.0103	0.0072	15	-0.72	121.30	0
121	Acid Soluble Magnesium (%)	0521	0.1034	0.0000	0.1104	0.0103	0.0072	15	-0.68	121.32	0
121	Acid Soluble Magnesium (%)	0096	0.1100	0.0000	0.1104	0.0103	0.0072	15	-0.04	121.30	0
121	Acid Soluble Magnesium (%)	0482	0.1100	0.0000	0.1104	0.0103	0.0072	15	-0.04	121.30	0
121	Acid Soluble Magnesium (%)	0511	0.1100	0.0000	0.1104	0.0103	0.0072	15	-0.04	121.30	0
121	Acid Soluble Magnesium (%)	0354	0.1115	0.0050	0.1104	0.0103	0.0072	15	0.10	121.30	0
121	Acid Soluble Magnesium (%)	0117	0.1129	0.0005	0.1104	0.0103	0.0072	15	0.24	121.33	0
121	Acid Soluble Magnesium (%)	0494	0.1183	0.0020	0.1104	0.0103	0.0072	15	0.77	121.33	0
121	Acid Soluble Magnesium (%)	0527	0.1220	0.0020	0.1104	0.0103	0.0072	15	1.13	121.33	0
121	Acid Soluble Magnesium (%)	0483	0.1495	0.0370	0.1104	0.0103	0.0072	15	3.80	121.30	0
121	Acid Soluble Magnesium (%)	0516	1.531	0.0334	0.1104	0.0103	0.0072	15	138.20	121.00	0
121	Acid Soluble Magnesium (%)	0515	2.980	0.3755	0.1104	0.0103	0.0072	15	279.15	121.33	1

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	15.07	0.1400	15.97	0.9886	0.2668	4	-0.91	143.99	0
143	Elemental Sulfur (%)	0255	15.17	0.8970	15.97	0.9886	0.2668	4	-0.81	143.99	0
143	Elemental Sulfur (%)	0291	16.75	0.0100	15.97	0.9886	0.2668	4	0.78	143.99	0
143	Elemental Sulfur (%)	0389	16.91	0.0200	15.97	0.9886	0.2668	4	0.95	143.99	0
145	Sulfate Sulfur, HCl soluble (%)	0544	13.16	0.1700	15.84	0.5950	0.1709	11	-4.22	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0511	14.93	0.0000	15.84	0.5950	0.1709	11	-1.43	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0486	15.56	0.2300	15.84	0.5950	0.1709	11	-0.44	145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0522	15.72	0.0300	15.84	0.5950	0.1709	11	-0.19	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0444	15.83	0.2100	15.84	0.5950	0.1709	11	-0.02	145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0095	16.03	0.0200	15.84	0.5950	0.1709	11	0.30	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0220	16.05	0.0200	15.84	0.5950	0.1709	11	0.33	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0444	16.07	0.2400	15.84	0.5950	0.1709	11	0.37	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0518	16.13	0.4600	15.84	0.5950	0.1709	11	0.46	145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0493	16.35	0.1000	15.84	0.5950	0.1709	11	0.81	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0027	16.60	0.4000	15.84	0.5950	0.1709	11	1.20	145.00	0
148	Total Sulfur (16%)	0542	7.095†	1.251	16.34	0.8968	0.3085	49	-10.31	148.99	0
148	Total Sulfur (16%)	0494	10.44†	0.1104	16.34	0.8968	0.3085	49	-6.58	148.07	0
148	Total Sulfur (16%)	0523	11.10†	0.4000	16.34	0.8968	0.3085	49	-5.85	148.99	0
148	Total Sulfur (16%)	0360	12.47†	0.3700	16.34	0.8968	0.3085	49	-4.33	148.00	0
148	Total Sulfur (16%)	0405	14.08†	0.0000	16.34	0.8968	0.3085	49	-2.52	148.01	0
148	Total Sulfur (16%)	0230	15.30†	1.800	16.34	0.8968	0.3085	49	-1.16	148.01	0
148	Total Sulfur (16%)	0444	15.30†	0.1400	16.34	0.8968	0.3085	49	-1.16	148.07	0
148	Total Sulfur (16%)	0040	15.38	0.4800	16.34	0.8968	0.3085	49	-1.08	148.99	0
148	Total Sulfur (16%)	0368	15.49	0.1977	16.34	0.8968	0.3085	49	-0.96	148.99	0
148	Total Sulfur (16%)	0096	15.65	0.2100	16.34	0.8968	0.3085	49	-0.78	148.99	0
148	Total Sulfur (16%)	0231	15.75	0.1000	16.34	0.8968	0.3085	49	-0.66	148.01	0
148	Total Sulfur (16%)	0114	15.83	0.6300	16.34	0.8968	0.3085	49	-0.58	148.01	0
148	Total Sulfur (16%)	0541	15.92	0.0600	16.34	0.8968	0.3085	49	-0.47	148.99	0
148	Total Sulfur (16%)	0549	15.95	0.1000	16.34	0.8968	0.3085	49	-0.44	148.01	0
148	Total Sulfur (16%)	0117	15.96	0.3500	16.34	0.8968	0.3085	49	-0.43	148.07	0
148	Total Sulfur (16%)	0501	16.00	0.0000	16.34	0.8968	0.3085	49	-0.38	148.99	0
148	Total Sulfur (16%)	0526	16.10	0.0000	16.34	0.8968	0.3085	49	-0.27	148.99	0
148	Total Sulfur (16%)	0025	16.10	0.0200	16.34	0.8968	0.3085	49	-0.27	148.00	0
148	Total Sulfur (16%)	0220	16.15	0.0300	16.34	0.8968	0.3085	49	-0.22	148.99	0
148	Total Sulfur (16%)	0371	16.16	0.0600	16.34	0.8968	0.3085	49	-0.21	148.01	0
148	Total Sulfur (16%)	0482	16.20	0.2000	16.34	0.8968	0.3085	49	-0.16	148.99	0
148	Total Sulfur (16%)	0444	16.21	0.1800	16.34	0.8968	0.3085	49	-0.15	148.01	0
148	Total Sulfur (16%)	0029	16.28	0.4400	16.34	0.8968	0.3085	49	-0.07	148.00	0
148	Total Sulfur (16%)	0354	16.28	0.0620	16.34	0.8968	0.3085	49	-0.07	148.99	0
148	Total Sulfur (16%)	0185	16.30	0.2000	16.34	0.8968	0.3085	49	-0.05	148.00	0
148	Total Sulfur (16%)	0023	16.31	0.7180	16.34	0.8968	0.3085	49	-0.04	148.07	0
148	Total Sulfur (16%)	0177	16.44	0.0585	16.34	0.8968	0.3085	49	0.11	148.07	0
148	Total Sulfur (16%)	0476	16.48	0.2640	16.34	0.8968	0.3085	49	0.15	148.01	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 (16%)	0055	16.49	0.5000	16.34	0.8968	0.3085	49	0.16	148.01	0
148	Total Sulfur (16%)	0421	16.50	0.2000	16.34	0.8968	0.3085	49	0.17	148.07	0
148	Total Sulfur (16%)	0500	16.54	0.0000	16.34	0.8968	0.3085	49	0.22	148.01	0
148	Total Sulfur (16%)	0545	16.56	0.0800	16.34	0.8968	0.3085	49	0.24	148.01	0
148	Total Sulfur (16%)	0451	16.60	0.8000	16.34	0.8968	0.3085	49	0.29	148.00	0
148	Total Sulfur (16%)	0157	16.65	0.1000	16.34	0.8968	0.3085	49	0.34	148.00	0
148	Total Sulfur (16%)	0102	16.68	0.5279	16.34	0.8968	0.3085	49	0.38	148.07	0
148	Total Sulfur (16%)	0324	16.80	0.0000	16.34	0.8968	0.3085	49	0.51	148.01	0
148	Total Sulfur (16%)	0534	16.81	0.0000	16.34	0.8968	0.3085	49	0.52	148.01	0
148	Total Sulfur (16%)	0105	16.82	0.0900	16.34	0.8968	0.3085	49	0.53	148.01	0
148	Total Sulfur (16%)	0527	16.90	0.1280	16.34	0.8968	0.3085	49	0.62	148.07	0
148	Total Sulfur (16%)	0136	17.07	0.3000	16.34	0.8968	0.3085	49	0.81	148.00	0
148	Total Sulfur (16%)	0377	17.22	0.1900	16.34	0.8968	0.3085	49	0.97	148.99	0
148	Total Sulfur (16%)	0433	17.49‡	0.6100	16.34	0.8968	0.3085	49	1.27	148.99	0
148	Total Sulfur (16%)	0452	17.50‡	0.0100	16.34	0.8968	0.3085	49	1.28	148.99	0
148	Total Sulfur (16%)	0402	17.51‡	0.1400	16.34	0.8968	0.3085	49	1.30	148.99	0
148	Total Sulfur (16%)	0037	17.55‡	0.3550	16.34	0.8968	0.3085	49	1.34	148.01	0
148	Total Sulfur (16%)	0292	17.62‡	0.1400	16.34	0.8968	0.3085	49	1.42	148.07	0
148	Total Sulfur (16%)	0157	17.90‡	0.4000	16.34	0.8968	0.3085	49	1.73	148.01	0
148	Total Sulfur (16%)	0483	18.05‡	1.100	16.34	0.8968	0.3085	49	1.90	148.07	0
148	Total Sulfur (16%)	0546	21.11‡	1.012	16.34	0.8968	0.3085	49	5.31	148.07	0
148	Total Sulfur (16%)	0515	17.53‡	4.118	16.34	0.8968	0.3085	49	1.32	148.07	1
149	Sulfur - HNO3 soluble (%)	0524	15.54	0.3020	15.82	0.2681	0.1104	5	-1.04	149.04	0
149	Sulfur - HNO3 soluble (%)	0547	15.55	0.0300	15.82	0.2681	0.1104	5	-1.04	149.04	0
149	Sulfur - HNO3 soluble (%)	0519	15.90	0.0200	15.82	0.2681	0.1104	5	0.28	149.04	0
149	Sulfur - HNO3 soluble (%)	0423	16.00	0.2000	15.82	0.2681	0.1104	5	0.66	149.04	0
149	Sulfur - HNO3 soluble (%)	0521	16.13	0.0000	15.82	0.2681	0.1104	5	1.15	149.04	0
151	Acid Soluble Arsenic (ppm)	0102	0.3610	0.0000	1.802	0.8533	0.1496	15	-1.69	151.30	0
151	Acid Soluble Arsenic (ppm)	0220	0.9000	0.0000	1.802	0.8533	0.1496	15	-1.06	151.99	0
151	Acid Soluble Arsenic (ppm)	0476	1.143	0.0985	1.802	0.8533	0.1496	15	-0.77	151.99	0
151	Acid Soluble Arsenic (ppm)	0136	1.200	0.0000	1.802	0.8533	0.1496	15	-0.71	151.00	0
151	Acid Soluble Arsenic (ppm)	0389	1.385	0.0100	1.802	0.8533	0.1496	15	-0.49	151.30	0
151	Acid Soluble Arsenic (ppm)	0255	1.535	0.1490	1.802	0.8533	0.1496	15	-0.31	151.30	0
151	Acid Soluble Arsenic (ppm)	0523	1.535	0.3100	1.802	0.8533	0.1496	15	-0.31	151.30	0
151	Acid Soluble Arsenic (ppm)	0527	1.707	0.0440	1.802	0.8533	0.1496	15	-0.11	151.33	0
151	Acid Soluble Arsenic (ppm)	0519	1.755	0.0900	1.802	0.8533	0.1496	15	-0.06	151.99	0
151	Acid Soluble Arsenic (ppm)	0541	2.185	0.7100	1.802	0.8533	0.1496	15	0.45	151.30	0
151	Acid Soluble Arsenic (ppm)	0511	2.200	0.0000	1.802	0.8533	0.1496	15	0.47	151.30	0
151	Acid Soluble Arsenic (ppm)	0501	2.250	0.1000	1.802	0.8533	0.1496	15	0.52	151.30	0
151	Acid Soluble Arsenic (ppm)	0494	2.555	0.4330	1.802	0.8533	0.1496	15	0.88	151.33	0
151	Acid Soluble Arsenic (ppm)	0368	4.750	0.3000	1.802	0.8533	0.1496	15	3.45	151.34	0
151	Acid Soluble Arsenic (ppm)	0405	7.000	0.0000	1.802	0.8533	0.1496	15	6.09	151.30	0
151	Acid Soluble Arsenic (ppm)	0515	4.304	4.867	1.802	0.8533	0.1496	15	2.93	151.33	1

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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151	Acid Soluble Arsenic (ppm)	0515	0.6665	1.333	1.802	0.8533	0.1496	15		151.34	4
165	Acid Soluble Boron (0.5%)	0476	0.3852†	0.0006	0.5058	0.0415	0.0114	52	-2.90	165.99	0
165	Acid Soluble Boron (0.5%)	0531	0.4450	0.0100	0.5058	0.0415	0.0114	52	-1.46	165.00	0
165	Acid Soluble Boron (0.5%)	0472	0.4450	0.0100	0.5058	0.0415	0.0114	52	-1.46	165.99	0
165	Acid Soluble Boron (0.5%)	0169	0.4465	0.0130	0.5058	0.0415	0.0114	52	-1.43	165.00	0
165	Acid Soluble Boron (0.5%)	0535	0.4550	0.0100	0.5058	0.0415	0.0114	52	-1.22	165.00	0
165	Acid Soluble Boron (0.5%)	0540	0.4600	0.0200	0.5058	0.0415	0.0114	52	-1.10	165.00	0
165	Acid Soluble Boron (0.5%)	0527	0.4605	0.0270	0.5058	0.0415	0.0114	52	-1.09	165.99	0
165	Acid Soluble Boron (0.5%)	0324	0.4650	0.0500	0.5058	0.0415	0.0114	52	-0.98	165.30	0
165	Acid Soluble Boron (0.5%)	0494	0.4716	0.0082	0.5058	0.0415	0.0114	52	-0.82	165.30	0
165	Acid Soluble Boron (0.5%)	0368	0.4723	0.0095	0.5058	0.0415	0.0114	52	-0.81	165.99	0
165	Acid Soluble Boron (0.5%)	0486	0.4750	0.0100	0.5058	0.0415	0.0114	52	-0.74	165.30	0
165	Acid Soluble Boron (0.5%)	0519	0.4750	0.0100	0.5058	0.0415	0.0114	52	-0.74	165.99	0
165	Acid Soluble Boron (0.5%)	0220	0.4790	0.0020	0.5058	0.0415	0.0114	52	-0.65	165.00	0
165	Acid Soluble Boron (0.5%)	0539	0.4800	0.0200	0.5058	0.0415	0.0114	52	-0.62	165.00	0
165	Acid Soluble Boron (0.5%)	0354	0.4865	0.0050	0.5058	0.0415	0.0114	52	-0.46	165.30	0
165	Acid Soluble Boron (0.5%)	0231	0.4900	0.0200	0.5058	0.0415	0.0114	52	-0.38	165.99	0
165	Acid Soluble Boron (0.5%)	0325	0.4900	0.0400	0.5058	0.0415	0.0114	52	-0.38	165.99	0
165	Acid Soluble Boron (0.5%)	0452	0.4900	0.0000	0.5058	0.0415	0.0114	52	-0.38	165.99	0
165	Acid Soluble Boron (0.5%)	0025	0.4915	0.0043	0.5058	0.0415	0.0114	52	-0.35	165.99	0
165	Acid Soluble Boron (0.5%)	0421	0.4915	0.0010	0.5058	0.0415	0.0114	52	-0.34	165.99	0
165	Acid Soluble Boron (0.5%)	0023	0.4950	0.0000	0.5058	0.0415	0.0114	52	-0.26	165.30	0
165	Acid Soluble Boron (0.5%)	0482	0.4950	0.0100	0.5058	0.0415	0.0114	52	-0.26	165.99	0
165	Acid Soluble Boron (0.5%)	0230	0.4960	0.0100	0.5058	0.0415	0.0114	52	-0.24	165.99	0
165	Acid Soluble Boron (0.5%)	0515	0.4976	0.0007	0.5058	0.0415	0.0114	52	-0.20	165.99	0
165	Acid Soluble Boron (0.5%)	0405	0.4990	0.0000	0.5058	0.0415	0.0114	52	-0.16	165.99	0
165	Acid Soluble Boron (0.5%)	0292	0.5000	0.0000	0.5058	0.0415	0.0114	52	-0.14	165.30	0
165	Acid Soluble Boron (0.5%)	0501	0.5000	0.0000	0.5058	0.0415	0.0114	52	-0.14	165.99	0
165	Acid Soluble Boron (0.5%)	0537	0.5015	0.0210	0.5058	0.0415	0.0114	52	-0.10	165.30	0
165	Acid Soluble Boron (0.5%)	0423	0.5030	0.0040	0.5058	0.0415	0.0114	52	-0.07	165.99	0
165	Acid Soluble Boron (0.5%)	0117	0.5085	0.0015	0.5058	0.0415	0.0114	52	0.06	165.99	0
165	Acid Soluble Boron (0.5%)	0102	0.5086	0.0214	0.5058	0.0415	0.0114	52	0.07	165.30	0
165	Acid Soluble Boron (0.5%)	0508	0.5100	0.0200	0.5058	0.0415	0.0114	52	0.10	165.99	0
165	Acid Soluble Boron (0.5%)	0029	0.5115	0.0170	0.5058	0.0415	0.0114	52	0.14	165.00	0
165	Acid Soluble Boron (0.5%)	0377	0.5130	0.0080	0.5058	0.0415	0.0114	52	0.17	165.30	0
165	Acid Soluble Boron (0.5%)	0055	0.5180	0.0040	0.5058	0.0415	0.0114	52	0.29	165.00	0
165	Acid Soluble Boron (0.5%)	0042	0.5195	0.0090	0.5058	0.0415	0.0114	52	0.33	165.99	0
165	Acid Soluble Boron (0.5%)	0511	0.5200	0.0000	0.5058	0.0415	0.0114	52	0.34	165.99	0
165	Acid Soluble Boron (0.5%)	0234	0.5250	0.0100	0.5058	0.0415	0.0114	52	0.46	165.30	0
165	Acid Soluble Boron (0.5%)	0444	0.5250	0.0100	0.5058	0.0415	0.0114	52	0.46	165.30	0
165	Acid Soluble Boron (0.5%)	0534	0.5300	0.0200	0.5058	0.0415	0.0114	52	0.58	165.00	0
165	Acid Soluble Boron (0.5%)	0389	0.5380	0.0080	0.5058	0.0415	0.0114	52	0.78	165.30	0
165	Acid Soluble Boron (0.5%)	0521	0.5440	0.0000	0.5058	0.0415	0.0114	52	0.92	165.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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165	Acid Soluble Boron (0.5%)	0073	0.5520	0.0460	0.5058	0.0415	0.0114	52	1.11	165.30	0
165	Acid Soluble Boron (0.5%)	0524	0.5539	0.0209	0.5058	0.0415	0.0114	52	1.16	165.99	0
165	Acid Soluble Boron (0.5%)	0483	0.5590	0.0320	0.5058	0.0415	0.0114	52	1.28	165.99	0
165	Acid Soluble Boron (0.5%)	0136	0.5600	0.0000	0.5058	0.0415	0.0114	52	1.31	165.30	0
165	Acid Soluble Boron (0.5%)	0546	0.5645	0.0130	0.5058	0.0415	0.0114	52	1.41	165.99	0
165	Acid Soluble Boron (0.5%)	0291	0.5750	0.0100	0.5058	0.0415	0.0114	52	1.67	165.99	0
165	Acid Soluble Boron (0.5%)	0433	0.5765	0.0050	0.5058	0.0415	0.0114	52	1.70	165.30	0
165	Acid Soluble Boron (0.5%)	0542	0.6200‡	0.0000	0.5058	0.0415	0.0114	52	2.75	165.30	0
165	Acid Soluble Boron (0.5%)	0489	0.6600‡	0.0200	0.5058	0.0415	0.0114	52	3.72	165.00	0
165	Acid Soluble Boron (0.5%)	0255	0.6960‡	0.0000	0.5058	0.0415	0.0114	52	4.58	165.99	0
165	Acid Soluble Boron (0.5%)	0309	0.4000†	0.0800	0.5058	0.0415	0.0114	52	-2.55	165.00	1
171	Water Soluble Boron (%)	0220	0.2900	0.0000	0.4221	0.0967	0.0158	12	-1.37	171.10	0
171	Water Soluble Boron (%)	0444	0.2950	0.0100	0.4221	0.0967	0.0158	12	-1.31	171.99	0
171	Water Soluble Boron (%)	0535	0.3700	0.0200	0.4221	0.0967	0.0158	12	-0.54	171.10	0
171	Water Soluble Boron (%)	0540	0.3700	0.0200	0.4221	0.0967	0.0158	12	-0.54	171.10	0
171	Water Soluble Boron (%)	0531	0.3750	0.0100	0.4221	0.0967	0.0158	12	-0.49	171.10	0
171	Water Soluble Boron (%)	0539	0.3750	0.0100	0.4221	0.0967	0.0158	12	-0.49	171.10	0
171	Water Soluble Boron (%)	0500	0.4700	0.0000	0.4221	0.0967	0.0158	12	0.50	171.00	0
171	Water Soluble Boron (%)	0533	0.4900	0.0400	0.4221	0.0967	0.0158	12	0.70	171.10	0
171	Water Soluble Boron (%)	0538	0.5000	0.0200	0.4221	0.0967	0.0158	12	0.81	171.10	0
171	Water Soluble Boron (%)	0402	0.5000	0.0000	0.4221	0.0967	0.0158	12	0.81	171.99	0
171	Water Soluble Boron (%)	0536	0.5050	0.0500	0.4221	0.0967	0.0158	12	0.86	171.10	0
171	Water Soluble Boron (%)	0532	0.5250	0.0100	0.4221	0.0967	0.0158	12	1.06	171.10	0
181	Acid Soluble Cadmium (ppm)	0476	0.1640	0.0098	0.3151	0.1082	0.0749	16	-1.40	181.99	0
181	Acid Soluble Cadmium (ppm)	0444	0.2300	0.0400	0.3151	0.1082	0.0749	16	-0.79	181.30	0
181	Acid Soluble Cadmium (ppm)	0519	0.2300	0.0200	0.3151	0.1082	0.0749	16	-0.79	181.99	0
181	Acid Soluble Cadmium (ppm)	0515	0.2305	0.0650	0.3151	0.1082	0.0749	16	-0.78	181.34	0
181	Acid Soluble Cadmium (ppm)	0255	0.2380	0.0260	0.3151	0.1082	0.0749	16	-0.71	181.30	0
181	Acid Soluble Cadmium (ppm)	0220	0.2500	0.1000	0.3151	0.1082	0.0749	16	-0.60	181.99	0
181	Acid Soluble Cadmium (ppm)	0389	0.2900	0.0200	0.3151	0.1082	0.0749	16	-0.23	181.30	0
181	Acid Soluble Cadmium (ppm)	0527	0.2955	0.0030	0.3151	0.1082	0.0749	16	-0.18	181.33	0
181	Acid Soluble Cadmium (ppm)	0102	0.3010	0.0000	0.3151	0.1082	0.0749	16	-0.13	181.30	0
181	Acid Soluble Cadmium (ppm)	0494	0.3016	0.1061	0.3151	0.1082	0.0749	16	-0.13	181.33	0
181	Acid Soluble Cadmium (ppm)	0524	0.3137	0.0430	0.3151	0.1082	0.0749	16	-0.01	181.30	0
181	Acid Soluble Cadmium (ppm)	0136	0.4000	0.0000	0.3151	0.1082	0.0749	16	0.78	181.00	0
181	Acid Soluble Cadmium (ppm)	0541	0.4300	0.0000	0.3151	0.1082	0.0749	16	1.06	181.30	0
181	Acid Soluble Cadmium (ppm)	0452	0.4400	0.0200	0.3151	0.1082	0.0749	16	1.15	181.30	0
181	Acid Soluble Cadmium (ppm)	0368	0.4500	0.3000	0.3151	0.1082	0.0749	16	1.25	181.34	0
181	Acid Soluble Cadmium (ppm)	0230	0.5620	0.4460	0.3151	0.1082	0.0749	16	2.28	181.34	0
181	Acid Soluble Cadmium (ppm)	0511	0.0000	0.0000	0.3151	0.1082	0.0749	16		181.30	4
181	Acid Soluble Cadmium (ppm)	0377	0.0500	0.1000	0.3151	0.1082	0.0749	16		181.30	4
181	Acid Soluble Cadmium (ppm)	0515	2.790	5.579	0.3151	0.1082	0.0749	16		181.33	4
190	Water Soluble Chlorine (%)	0511	0.1770	0.0000				1		190.99	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				
191	Acid Soluble Chromium (ppm)	0541	0.1000	0.1200	16.00	5.838	0.6187	24	-2.72	191.30	0
191	Acid Soluble Chromium (ppm)	0501	7.150	0.1000	16.00	5.838	0.6187	24	-1.52	191.30	0
191	Acid Soluble Chromium (ppm)	0519	7.700	0.0200	16.00	5.838	0.6187	24	-1.42	191.99	0
191	Acid Soluble Chromium (ppm)	0377	8.855	3.010	16.00	5.838	0.6187	24	-1.22	191.30	0
191	Acid Soluble Chromium (ppm)	0389	9.400	1.000	16.00	5.838	0.6187	24	-1.13	191.30	0
191	Acid Soluble Chromium (ppm)	0102	13.58	0.5150	16.00	5.838	0.6187	24	-0.42	191.30	0
191	Acid Soluble Chromium (ppm)	0096	14.05	1.100	16.00	5.838	0.6187	24	-0.33	191.30	0
191	Acid Soluble Chromium (ppm)	0444	14.07	0.7800	16.00	5.838	0.6187	24	-0.33	191.30	0
191	Acid Soluble Chromium (ppm)	0230	15.70	0.6000	16.00	5.838	0.6187	24	-0.05	191.34	0
191	Acid Soluble Chromium (ppm)	0035	15.95	3.500	16.00	5.838	0.6187	24	-0.01	191.30	0
191	Acid Soluble Chromium (ppm)	0405	16.00	0.0000	16.00	5.838	0.6187	24	0.00	191.30	0
191	Acid Soluble Chromium (ppm)	0368	16.15	0.3000	16.00	5.838	0.6187	24	0.03	191.34	0
191	Acid Soluble Chromium (ppm)	0452	16.29	0.0200	16.00	5.838	0.6187	24	0.05	191.30	0
191	Acid Soluble Chromium (ppm)	0515	16.83	1.737	16.00	5.838	0.6187	24	0.14	191.34	0
191	Acid Soluble Chromium (ppm)	0476	17.66	0.0071	16.00	5.838	0.6187	24	0.28	191.99	0
191	Acid Soluble Chromium (ppm)	0523	17.96	0.3900	16.00	5.838	0.6187	24	0.33	191.30	0
191	Acid Soluble Chromium (ppm)	0220	18.00	0.0000	16.00	5.838	0.6187	24	0.34	191.99	0
191	Acid Soluble Chromium (ppm)	0482	18.20	0.0000	16.00	5.838	0.6187	24	0.38	191.30	0
191	Acid Soluble Chromium (ppm)	0511	18.20	0.0000	16.00	5.838	0.6187	24	0.38	191.30	0
191	Acid Soluble Chromium (ppm)	0527	20.51	0.0810	16.00	5.838	0.6187	24	0.77	191.33	0
191	Acid Soluble Chromium (ppm)	0037	22.00	0.0990	16.00	5.838	0.6187	24	1.03	191.33	0
191	Acid Soluble Chromium (ppm)	0494	22.97	1.120	16.00	5.838	0.6187	24	1.19	191.33	0
191	Acid Soluble Chromium (ppm)	0542	24.82	0.0800	16.00	5.838	0.6187	24	1.51	191.32	0
191	Acid Soluble Chromium (ppm)	0117	25.01	0.2700	16.00	5.838	0.6187	24	1.54	191.33	0
191	Acid Soluble Chromium (ppm)	0515	27.51	5.722	16.00	5.838	0.6187	24	1.97	191.33	1
202	Acid Soluble Cobalt (ppm)	0519	0.5800	0.0400	1.868	0.6660	0.0873	23	-1.93	202.99	0
202	Acid Soluble Cobalt (ppm)	0377	0.7850	0.4100	1.868	0.6660	0.0873	23	-1.63	202.30	0
202	Acid Soluble Cobalt (ppm)	0405	1.000	0.0000	1.868	0.6660	0.0873	23	-1.30	202.30	0
202	Acid Soluble Cobalt (ppm)	0511	1.140	0.0000	1.868	0.6660	0.0873	23	-1.09	202.30	0
202	Acid Soluble Cobalt (ppm)	0102	1.256	0.0880	1.868	0.6660	0.0873	23	-0.92	202.30	0
202	Acid Soluble Cobalt (ppm)	0524	1.373	0.0532	1.868	0.6660	0.0873	23	-0.74	202.30	0
202	Acid Soluble Cobalt (ppm)	0230	1.395	0.0500	1.868	0.6660	0.0873	23	-0.71	202.34	0
202	Acid Soluble Cobalt (ppm)	0035	1.535	0.0900	1.868	0.6660	0.0873	23	-0.50	202.30	0
202	Acid Soluble Cobalt (ppm)	0368	1.750	0.3000	1.868	0.6660	0.0873	23	-0.18	202.34	0
202	Acid Soluble Cobalt (ppm)	0476	1.774	0.0014	1.868	0.6660	0.0873	23	-0.14	202.99	0
202	Acid Soluble Cobalt (ppm)	0546	1.888	0.0920	1.868	0.6660	0.0873	23	0.03	202.33	0
202	Acid Soluble Cobalt (ppm)	0482	2.075	0.0500	1.868	0.6660	0.0873	23	0.31	202.30	0
202	Acid Soluble Cobalt (ppm)	0515	2.089	0.0710	1.868	0.6660	0.0873	23	0.33	202.34	0
202	Acid Soluble Cobalt (ppm)	0423	2.115	0.0100	1.868	0.6660	0.0873	23	0.37	202.32	0
202	Acid Soluble Cobalt (ppm)	0389	2.120	0.2000	1.868	0.6660	0.0873	23	0.38	202.30	0
202	Acid Soluble Cobalt (ppm)	0527	2.278	0.1020	1.868	0.6660	0.0873	23	0.62	202.33	0
202	Acid Soluble Cobalt (ppm)	0037	2.325	0.0150	1.868	0.6660	0.0873	23	0.69	202.33	0
202	Acid Soluble Cobalt (ppm)	0220	2.350	0.1000	1.868	0.6660	0.0873	23	0.72	202.99	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				
202	Acid Soluble Cobalt (ppm)	0452	2.395	0.0100	1.868	0.6660	0.0873	23	0.79	202.30	0
202	Acid Soluble Cobalt (ppm)	0255	2.420	0.0690	1.868	0.6660	0.0873	23	0.83	202.99	0
202	Acid Soluble Cobalt (ppm)	0096	2.450	0.2000	1.868	0.6660	0.0873	23	0.87	202.30	0
202	Acid Soluble Cobalt (ppm)	0494	2.635	0.0298	1.868	0.6660	0.0873	23	1.15	202.33	0
202	Acid Soluble Cobalt (ppm)	0542	2.992	0.0260	1.868	0.6660	0.0873	23	1.69	202.32	0
202	Acid Soluble Cobalt (ppm)	0515	5.508	7.217	1.868	0.6660	0.0873	23	5.46	202.33	1
221	Acid Soluble Copper (%)	0476	0.0001	0.0000	0.0011	0.0015	0.0130	19	-0.70	221.99	0
221	Acid Soluble Copper (%)	0483	0.0002	0.0002	0.0011	0.0015	0.0130	19	-0.64	221.30	0
221	Acid Soluble Copper (%)	0096	0.0002	0.0000	0.0011	0.0015	0.0130	19	-0.64	221.30	0
221	Acid Soluble Copper (%)	0230	0.0002	0.0000	0.0011	0.0015	0.0130	19	-0.64	221.30	0
221	Acid Soluble Copper (%)	0521	0.0002	0.0000	0.0011	0.0015	0.0130	19	-0.64	221.32	0
221	Acid Soluble Copper (%)	0389	0.0003	0.0001	0.0011	0.0015	0.0130	19	-0.60	221.99	0
221	Acid Soluble Copper (%)	0494	0.0003	0.0000	0.0011	0.0015	0.0130	19	-0.57	221.33	0
221	Acid Soluble Copper (%)	0546	0.0003	0.0000	0.0011	0.0015	0.0130	19	-0.57	221.33	0
221	Acid Soluble Copper (%)	0220	0.0003	0.0000	0.0011	0.0015	0.0130	19	-0.57	221.99	0
221	Acid Soluble Copper (%)	0524	0.0003	0.0000	0.0011	0.0015	0.0130	19	-0.57	221.99	0
221	Acid Soluble Copper (%)	0515	0.0004	0.0001	0.0011	0.0015	0.0130	19	-0.53	221.99	0
221	Acid Soluble Copper (%)	0368	0.0004	0.0000	0.0011	0.0015	0.0130	19	-0.50	221.99	0
221	Acid Soluble Copper (%)	0515	0.0011	0.0010	0.0011	0.0015	0.0130	19	-0.03	221.33	0
221	Acid Soluble Copper (%)	0354	0.0020	0.0000	0.0011	0.0015	0.0130	19	0.58	221.30	0
221	Acid Soluble Copper (%)	0035	0.0021	0.0001	0.0011	0.0015	0.0130	19	0.61	221.30	0
221	Acid Soluble Copper (%)	0423	0.0045	0.0010	0.0011	0.0015	0.0130	19	2.26	221.32	0
221	Acid Soluble Copper (%)	0519	0.0100	0.0000	0.0011	0.0015	0.0130	19	5.96	221.99	0
221	Acid Soluble Copper (%)	0542	0.7830	0.2440	0.0011	0.0015	0.0130	19	525.84	221.32	0
221	Acid Soluble Copper (%)	0541	5.000	0.0000	0.0011	0.0015	0.0130	19	3362.03	221.30	0
221	Acid Soluble Copper (%)	0037	4.610	0.3690	0.0011	0.0015	0.0130	19	3099.39	221.03	1
221	Acid Soluble Copper (%)	0255	0.0000	0.0000	0.0011	0.0015	0.0130	19		221.30	4
221	Acid Soluble Copper (%)	0472	0.0000	0.0000	0.0011	0.0015	0.0130	19		221.30	4
221	Acid Soluble Copper (%)	0511	0.0000	0.0000	0.0011	0.0015	0.0130	19		221.30	4
221	Acid Soluble Copper (%)	0377	0.0002	0.0003	0.0011	0.0015	0.0130	19		221.30	4
241	Acid Soluble Iron (%)	0354	0.0585	0.0010	0.0727	0.0115	0.0027	15	-1.23	241.30	0
241	Acid Soluble Iron (%)	0521	0.0597	0.0000	0.0727	0.0115	0.0027	15	-1.13	241.32	0
241	Acid Soluble Iron (%)	0096	0.0600	0.0000	0.0727	0.0115	0.0027	15	-1.10	241.30	0
241	Acid Soluble Iron (%)	0524	0.0606	0.0049	0.0727	0.0115	0.0027	15	-1.05	241.99	0
241	Acid Soluble Iron (%)	0389	0.0655	0.0010	0.0727	0.0115	0.0027	15	-0.62	241.99	0
241	Acid Soluble Iron (%)	0511	0.0700	0.0000	0.0727	0.0115	0.0027	15	-0.23	241.30	0
241	Acid Soluble Iron (%)	0483	0.0716	0.0002	0.0727	0.0115	0.0027	15	-0.09	241.30	0
241	Acid Soluble Iron (%)	0423	0.0745	0.0030	0.0727	0.0115	0.0027	15	0.16	241.32	0
241	Acid Soluble Iron (%)	0482	0.0750	0.0100	0.0727	0.0115	0.0027	15	0.20	241.30	0
241	Acid Soluble Iron (%)	0117	0.0757	0.0015	0.0727	0.0115	0.0027	15	0.26	241.33	0
241	Acid Soluble Iron (%)	0527	0.0800	0.0000	0.0727	0.0115	0.0027	15	0.64	241.33	0
241	Acid Soluble Iron (%)	0494	0.0803	0.0002	0.0727	0.0115	0.0027	15	0.66	241.33	0
241	Acid Soluble Iron (%)	0515	0.0825	0.0088	0.0727	0.0115	0.0027	15	0.85	241.33	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				
241	Acid Soluble Iron (%)	0515	0.0863	0.0093	0.0727	0.0115	0.0027	15	1.18	241.99	0
241	Acid Soluble Iron (%)	0501	0.1000	0.0000	0.0727	0.0115	0.0027	15	2.37	241.99	0
241	Acid Soluble Iron (%)	0035	0.0890	0.0460	0.0727	0.0115	0.0027	15	1.42	241.30	1
251	Acid Soluble Lead (ppm)	0255	0.8230	0.1340	1.572	0.6833	0.2533	16	-1.10	251.30	0
251	Acid Soluble Lead (ppm)	0519	1.005	0.0300	1.572	0.6833	0.2533	16	-0.83	251.99	0
251	Acid Soluble Lead (ppm)	0494	1.101	0.0372	1.572	0.6833	0.2533	16	-0.69	251.33	0
251	Acid Soluble Lead (ppm)	0527	1.148	0.0380	1.572	0.6833	0.2533	16	-0.62	251.33	0
251	Acid Soluble Lead (ppm)	0501	1.150	0.1000	1.572	0.6833	0.2533	16	-0.62	251.30	0
251	Acid Soluble Lead (ppm)	0524	1.304	0.2829	1.572	0.6833	0.2533	16	-0.39	251.30	0
251	Acid Soluble Lead (ppm)	0230	1.340	0.2800	1.572	0.6833	0.2533	16	-0.34	251.34	0
251	Acid Soluble Lead (ppm)	0096	1.350	0.1000	1.572	0.6833	0.2533	16	-0.32	251.30	0
251	Acid Soluble Lead (ppm)	0476	1.392	0.0011	1.572	0.6833	0.2533	16	-0.26	251.99	0
251	Acid Soluble Lead (ppm)	0368	1.400	0.6000	1.572	0.6833	0.2533	16	-0.25	251.34	0
251	Acid Soluble Lead (ppm)	0220	1.450	0.7000	1.572	0.6833	0.2533	16	-0.18	251.99	0
251	Acid Soluble Lead (ppm)	0511	1.540	0.0000	1.572	0.6833	0.2533	16	-0.05	251.30	0
251	Acid Soluble Lead (ppm)	0389	2.450	0.5000	1.572	0.6833	0.2533	16	1.29	251.30	0
251	Acid Soluble Lead (ppm)	0136	2.500	1.000	1.572	0.6833	0.2533	16	1.36	251.00	0
251	Acid Soluble Lead (ppm)	0542	2.775	0.0500	1.572	0.6833	0.2533	16	1.76	251.32	0
251	Acid Soluble Lead (ppm)	0035	10.40	0.2000	1.572	0.6833	0.2533	16	12.92	251.30	0
251	Acid Soluble Lead (ppm)	0541	77.05	10.99	1.572	0.6833	0.2533	16	110.45	251.30	2
251	Acid Soluble Lead (ppm)	0515	0.6445	1.289	1.572	0.6833	0.2533	16		251.34	4
251	Acid Soluble Lead (ppm)	0515	3.506	7.011	1.572	0.6833	0.2533	16		251.33	4
261	Acid Soluble Manganese (%)	0515	0.0038	0.0006	0.0052	0.0008	0.0003	11	-1.70	261.99	0
261	Acid Soluble Manganese (%)	0521	0.0043	0.0000	0.0052	0.0008	0.0003	11	-1.11	261.34	0
261	Acid Soluble Manganese (%)	0389	0.0048	0.0001	0.0052	0.0008	0.0003	11	-0.58	261.99	0
261	Acid Soluble Manganese (%)	0527	0.0050	0.0000	0.0052	0.0008	0.0003	11	-0.29	261.35	0
261	Acid Soluble Manganese (%)	0035	0.0052	0.0003	0.0052	0.0008	0.0003	11	-0.11	261.30	0
261	Acid Soluble Manganese (%)	0117	0.0052	0.0000	0.0052	0.0008	0.0003	11	-0.05	261.35	0
261	Acid Soluble Manganese (%)	0494	0.0053	0.0002	0.0052	0.0008	0.0003	11	0.07	261.35	0
261	Acid Soluble Manganese (%)	0354	0.0055	0.0010	0.0052	0.0008	0.0003	11	0.30	261.30	0
261	Acid Soluble Manganese (%)	0423	0.0060	0.0000	0.0052	0.0008	0.0003	11	0.89	261.34	0
261	Acid Soluble Manganese (%)	0524	0.0060	0.0006	0.0052	0.0008	0.0003	11	0.89	261.99	0
261	Acid Soluble Manganese (%)	0482	0.0100	0.0000	0.0052	0.0008	0.0003	11	5.61	261.31	0
261	Acid Soluble Manganese (%)	0096	53.15	2.100	0.0052	0.0008	0.0003	11	62681.35	261.30	2
261	Acid Soluble Manganese (%)	0511	0.0000	0.0000	0.0052	0.0008	0.0003	11		261.31	4
261	Acid Soluble Manganese (%)	0515	0.0298	0.0595	0.0052	0.0008	0.0003	11		261.35	4
281	Acid Soluble Mercury (ppm)	0519	0.0400	0.0000	0.2437	0.1591	0.0206	5	-1.12	281.99	0
281	Acid Soluble Mercury (ppm)	0511	0.1630	0.0000	0.2437	0.1591	0.0206	5	-0.44	281.00	0
281	Acid Soluble Mercury (ppm)	0117	0.2377	0.0739	0.2437	0.1591	0.0206	5	-0.03	281.00	0
281	Acid Soluble Mercury (ppm)	0527	0.3145	0.0050	0.2437	0.1591	0.0206	5	0.39	281.30	0
281	Acid Soluble Mercury (ppm)	0476	0.4633	0.0240	0.2437	0.1591	0.0206	5	1.20	281.99	0
281	Acid Soluble Mercury (ppm)	0515	0.7395	0.1930	0.2437	0.1591	0.0206	5	2.72	281.30	1
281	Acid Soluble Mercury (ppm)	0541	0.0000	0.0000	0.2437	0.1591	0.0206	5		281.30	4

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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289	Acid Soluble Molybdenum (ppm)	0524	1.035	0.1324	2.285	1.441	0.4804	19	-0.87	289.30	0
289	Acid Soluble Molybdenum (ppm)	0389	1.050	0.1000	2.285	1.441	0.4804	19	-0.86	289.30	0
289	Acid Soluble Molybdenum (ppm)	0220	1.100	1.000	2.285	1.441	0.4804	19	-0.82	289.99	0
289	Acid Soluble Molybdenum (ppm)	0515	1.142	0.3860	2.285	1.441	0.4804	19	-0.79	289.34	0
289	Acid Soluble Molybdenum (ppm)	0230	1.300	0.0200	2.285	1.441	0.4804	19	-0.68	289.34	0
289	Acid Soluble Molybdenum (ppm)	0546	1.376	0.0250	2.285	1.441	0.4804	19	-0.63	289.33	0
289	Acid Soluble Molybdenum (ppm)	0542	1.377	0.0610	2.285	1.441	0.4804	19	-0.63	289.32	0
289	Acid Soluble Molybdenum (ppm)	0527	1.591	0.0310	2.285	1.441	0.4804	19	-0.48	289.33	0
289	Acid Soluble Molybdenum (ppm)	0037	1.621	0.0100	2.285	1.441	0.4804	19	-0.46	289.33	0
289	Acid Soluble Molybdenum (ppm)	0255	1.944	0.6810	2.285	1.441	0.4804	19	-0.24	289.30	0
289	Acid Soluble Molybdenum (ppm)	0405	2.000	0.0000	2.285	1.441	0.4804	19	-0.20	289.30	0
289	Acid Soluble Molybdenum (ppm)	0541	2.044	0.0690	2.285	1.441	0.4804	19	-0.17	289.30	0
289	Acid Soluble Molybdenum (ppm)	0521	2.228	0.0000	2.285	1.441	0.4804	19	-0.04	289.30	0
289	Acid Soluble Molybdenum (ppm)	0096	2.900	1.000	2.285	1.441	0.4804	19	0.43	289.30	0
289	Acid Soluble Molybdenum (ppm)	0511	2.920	0.0000	2.285	1.441	0.4804	19	0.44	289.30	0
289	Acid Soluble Molybdenum (ppm)	0035	5.295	2.010	2.285	1.441	0.4804	19	2.09	289.30	0
289	Acid Soluble Molybdenum (ppm)	0476	5.550	1.511	2.285	1.441	0.4804	19	2.26	289.99	0
289	Acid Soluble Molybdenum (ppm)	0368	23.90	2.000	2.285	1.441	0.4804	19	14.99	289.34	0
289	Acid Soluble Molybdenum (ppm)	0519	37.05	0.0900	2.285	1.441	0.4804	19	24.11	289.30	0
289	Acid Soluble Molybdenum (ppm)	0377	0.0000	0.0000	2.285	1.441	0.4804	19		289.30	4
289	Acid Soluble Molybdenum (ppm)	0515	3.598	7.195	2.285	1.441	0.4804	19		289.33	4
291	Acid Soluble Nickel (ppm)	0521	3.274	0.0000	4.663	0.6734	0.6061	24	-2.06	291.30	0
291	Acid Soluble Nickel (ppm)	0230	3.695	0.0100	4.663	0.6734	0.6061	24	-1.44	291.34	0
291	Acid Soluble Nickel (ppm)	0476	3.910	0.7552	4.663	0.6734	0.6061	24	-1.12	291.99	0
291	Acid Soluble Nickel (ppm)	0405	4.000	0.0000	4.663	0.6734	0.6061	24	-0.99	291.30	0
291	Acid Soluble Nickel (ppm)	0368	4.050	1.100	4.663	0.6734	0.6061	24	-0.91	291.34	0
291	Acid Soluble Nickel (ppm)	0444	4.050	0.3600	4.663	0.6734	0.6061	24	-0.91	291.30	0
291	Acid Soluble Nickel (ppm)	0511	4.210	0.0000	4.663	0.6734	0.6061	24	-0.67	291.30	0
291	Acid Soluble Nickel (ppm)	0102	4.349	0.1820	4.663	0.6734	0.6061	24	-0.47	291.30	0
291	Acid Soluble Nickel (ppm)	0220	4.400	0.4000	4.663	0.6734	0.6061	24	-0.39	291.99	0
291	Acid Soluble Nickel (ppm)	0377	4.500	1.260	4.663	0.6734	0.6061	24	-0.24	291.30	0
291	Acid Soluble Nickel (ppm)	0524	4.606	0.3490	4.663	0.6734	0.6061	24	-0.08	291.30	0
291	Acid Soluble Nickel (ppm)	0096	4.650	0.5000	4.663	0.6734	0.6061	24	-0.02	291.30	0
291	Acid Soluble Nickel (ppm)	0389	4.650	0.3000	4.663	0.6734	0.6061	24	-0.02	291.30	0
291	Acid Soluble Nickel (ppm)	0494	4.796	0.0595	4.663	0.6734	0.6061	24	0.20	291.33	0
291	Acid Soluble Nickel (ppm)	0037	4.943	0.0260	4.663	0.6734	0.6061	24	0.42	291.33	0
291	Acid Soluble Nickel (ppm)	0452	4.955	0.0100	4.663	0.6734	0.6061	24	0.43	291.30	0
291	Acid Soluble Nickel (ppm)	0515	5.031	0.1250	4.663	0.6734	0.6061	24	0.55	291.33	0
291	Acid Soluble Nickel (ppm)	0117	5.078	0.1830	4.663	0.6734	0.6061	24	0.62	291.33	0
291	Acid Soluble Nickel (ppm)	0527	5.169	0.0680	4.663	0.6734	0.6061	24	0.75	291.33	0
291	Acid Soluble Nickel (ppm)	0136	5.200	0.4000	4.663	0.6734	0.6061	24	0.80	291.00	0
291	Acid Soluble Nickel (ppm)	0255	5.299	0.6390	4.663	0.6734	0.6061	24	0.94	291.99	0
291	Acid Soluble Nickel (ppm)	0519	5.380	0.3400	4.663	0.6734	0.6061	24	1.06	291.99	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				
291	Acid Soluble Nickel (ppm)	0541	5.925	3.950	4.663	0.6734	0.6061	24	1.87	291.30	0
291	Acid Soluble Nickel (ppm)	0035	7.725	3.530	4.663	0.6734	0.6061	24	4.55	291.30	0
291	Acid Soluble Nickel (ppm)	0515	6.154	9.328	4.663	0.6734	0.6061	24	2.21	291.34	1
301	Acid Soluble Selenium (ppm)	0524	0.5300	0.0400	1.596	0.9616	0.2294	9	-1.11	301.30	0
301	Acid Soluble Selenium (ppm)	0220	1.000	0.2000	1.596	0.9616	0.2294	9	-0.62	301.99	0
301	Acid Soluble Selenium (ppm)	0476	1.143	0.2992	1.596	0.9616	0.2294	9	-0.47	301.99	0
301	Acid Soluble Selenium (ppm)	0389	1.150	0.0800	1.596	0.9616	0.2294	9	-0.46	301.30	0
301	Acid Soluble Selenium (ppm)	0527	1.296	0.1460	1.596	0.9616	0.2294	9	-0.31	301.33	0
301	Acid Soluble Selenium (ppm)	0519	1.525	0.0500	1.596	0.9616	0.2294	9	-0.07	301.99	0
301	Acid Soluble Selenium (ppm)	0255	1.808	0.3800	1.596	0.9616	0.2294	9	0.22	301.99	0
301	Acid Soluble Selenium (ppm)	0542	2.875	0.0500	1.596	0.9616	0.2294	9	1.33	301.32	0
301	Acid Soluble Selenium (ppm)	0515	3.248	0.8190	1.596	0.9616	0.2294	9	1.72	301.34	0
301	Acid Soluble Selenium (ppm)	0511	0.0000	0.0000	1.596	0.9616	0.2294	9		301.30	4
301	Acid Soluble Selenium (ppm)	0368	0.0000	0.0000	1.596	0.9616	0.2294	9		301.34	4
301	Acid Soluble Selenium (ppm)	0541	0.2150	0.4300	1.596	0.9616	0.2294	9		301.30	4
301	Acid Soluble Selenium (ppm)	0515	4.495	8.989	1.596	0.9616	0.2294	9		301.33	4
311	Sodium (%)	0423	0.0375	0.0010	0.3252	0.0289	0.0072	9	-9.18	311.33	0
311	Sodium (%)	0521	0.3007	0.0000	0.3252	0.0289	0.0072	9	-0.78	311.32	0
311	Sodium (%)	0527	0.3075	0.0050	0.3252	0.0289	0.0072	9	-0.57	311.33	0
311	Sodium (%)	0389	0.3215	0.0010	0.3252	0.0289	0.0072	9	-0.12	311.32	0
311	Sodium (%)	0354	0.3320	0.0340	0.3252	0.0289	0.0072	9	0.22	311.99	0
311	Sodium (%)	0096	0.3350	0.0100	0.3252	0.0289	0.0072	9	0.31	311.99	0
311	Sodium (%)	0482	0.3400	0.0000	0.3252	0.0289	0.0072	9	0.47	311.99	0
311	Sodium (%)	0511	0.3400	0.0000	0.3252	0.0289	0.0072	9	0.47	311.99	0
311	Sodium (%)	0494	0.3909	0.0140	0.3252	0.0289	0.0072	9	2.09	311.33	0
311	Sodium (%)	0035	0.3295	0.0730	0.3252	0.0289	0.0072	9	0.14	311.33	1
321	Acid Soluble Zinc (1.5%)	0542	0.5457†	0.0001	1.519	0.0861	0.0324	63	-11.31	321.32	0
321	Acid Soluble Zinc (1.5%)	0523	0.7315†	0.0750	1.519	0.0861	0.0324	63	-9.15	321.99	0
321	Acid Soluble Zinc (1.5%)	0541	1.185†	0.0300	1.519	0.0861	0.0324	63	-3.88	321.99	0
321	Acid Soluble Zinc (1.5%)	0291	1.275†	0.0100	1.519	0.0861	0.0324	63	-2.83	321.30	0
321	Acid Soluble Zinc (1.5%)	0476	1.278†	0.0007	1.519	0.0861	0.0324	63	-2.80	321.99	0
321	Acid Soluble Zinc (1.5%)	0500	1.325†	0.0100	1.519	0.0861	0.0324	63	-2.25	321.99	0
321	Acid Soluble Zinc (1.5%)	0433	1.385	0.0090	1.519	0.0861	0.0324	63	-1.56	321.30	0
321	Acid Soluble Zinc (1.5%)	0035	1.395	0.0300	1.519	0.0861	0.0324	63	-1.44	321.30	0
321	Acid Soluble Zinc (1.5%)	0029	1.455	0.0560	1.519	0.0861	0.0324	63	-0.74	321.00	0
321	Acid Soluble Zinc (1.5%)	0539	1.455	0.0100	1.519	0.0861	0.0324	63	-0.74	321.00	0
321	Acid Soluble Zinc (1.5%)	0540	1.460	0.0200	1.519	0.0861	0.0324	63	-0.69	321.00	0
321	Acid Soluble Zinc (1.5%)	0527	1.464	0.0470	1.519	0.0861	0.0324	63	-0.64	321.33	0
321	Acid Soluble Zinc (1.5%)	0102	1.469	0.0332	1.519	0.0861	0.0324	63	-0.58	321.30	0
321	Acid Soluble Zinc (1.5%)	0521	1.473	0.0000	1.519	0.0861	0.0324	63	-0.54	321.32	0
321	Acid Soluble Zinc (1.5%)	0535	1.475	0.0100	1.519	0.0861	0.0324	63	-0.51	321.00	0
321	Acid Soluble Zinc (1.5%)	0255	1.477	0.0560	1.519	0.0861	0.0324	63	-0.49	321.30	0
321	Acid Soluble Zinc (1.5%)	0531	1.485	0.0100	1.519	0.0861	0.0324	63	-0.39	321.00	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				
321	Acid Soluble Zinc (1.5%)	0444	1.485	0.0300	1.519	0.0861	0.0324	63	-0.39	321.30	0
321	Acid Soluble Zinc (1.5%)	0136	1.485	0.0100	1.519	0.0861	0.0324	63	-0.39	321.33	0
321	Acid Soluble Zinc (1.5%)	0519	1.485	0.0300	1.519	0.0861	0.0324	63	-0.39	321.99	0
321	Acid Soluble Zinc (1.5%)	0025	1.488	0.0350	1.519	0.0861	0.0324	63	-0.37	321.33	0
321	Acid Soluble Zinc (1.5%)	0096	1.490	0.0390	1.519	0.0861	0.0324	63	-0.34	321.30	0
321	Acid Soluble Zinc (1.5%)	0508	1.490	0.0400	1.519	0.0861	0.0324	63	-0.34	321.99	0
321	Acid Soluble Zinc (1.5%)	0157	1.495	0.0700	1.519	0.0861	0.0324	63	-0.28	321.30	0
321	Acid Soluble Zinc (1.5%)	0230	1.495	0.0100	1.519	0.0861	0.0324	63	-0.28	321.30	0
321	Acid Soluble Zinc (1.5%)	0234	1.495	0.0300	1.519	0.0861	0.0324	63	-0.28	321.30	0
321	Acid Soluble Zinc (1.5%)	0325	1.495	0.0300	1.519	0.0861	0.0324	63	-0.28	321.30	0
321	Acid Soluble Zinc (1.5%)	0220	1.495	0.0300	1.519	0.0861	0.0324	63	-0.28	321.32	0
321	Acid Soluble Zinc (1.5%)	0547	1.497	0.0260	1.519	0.0861	0.0324	63	-0.26	321.32	0
321	Acid Soluble Zinc (1.5%)	0117	1.500	0.0070	1.519	0.0861	0.0324	63	-0.23	321.33	0
321	Acid Soluble Zinc (1.5%)	0501	1.500	0.0000	1.519	0.0861	0.0324	63	-0.22	321.99	0
321	Acid Soluble Zinc (1.5%)	0472	1.505	0.0100	1.519	0.0861	0.0324	63	-0.16	321.30	0
321	Acid Soluble Zinc (1.5%)	0533	1.510	0.0400	1.519	0.0861	0.0324	63	-0.10	321.00	0
321	Acid Soluble Zinc (1.5%)	0354	1.513	0.0380	1.519	0.0861	0.0324	63	-0.07	321.30	0
321	Acid Soluble Zinc (1.5%)	0073	1.515	0.0100	1.519	0.0861	0.0324	63	-0.05	321.30	0
321	Acid Soluble Zinc (1.5%)	0040	1.516	0.0010	1.519	0.0861	0.0324	63	-0.04	321.00	0
321	Acid Soluble Zinc (1.5%)	0494	1.516	0.0217	1.519	0.0861	0.0324	63	-0.03	321.33	0
321	Acid Soluble Zinc (1.5%)	0292	1.530	0.0000	1.519	0.0861	0.0324	63	0.13	321.30	0
321	Acid Soluble Zinc (1.5%)	0377	1.532	0.0100	1.519	0.0861	0.0324	63	0.15	321.30	0
321	Acid Soluble Zinc (1.5%)	0482	1.535	0.0100	1.519	0.0861	0.0324	63	0.19	321.30	0
321	Acid Soluble Zinc (1.5%)	0037	1.540	0.0160	1.519	0.0861	0.0324	63	0.24	321.33	0
321	Acid Soluble Zinc (1.5%)	0389	1.540	0.0200	1.519	0.0861	0.0324	63	0.24	321.99	0
321	Acid Soluble Zinc (1.5%)	0169	1.541	0.0030	1.519	0.0861	0.0324	63	0.25	321.00	0
321	Acid Soluble Zinc (1.5%)	0177	1.549	0.0232	1.519	0.0861	0.0324	63	0.35	321.33	0
321	Acid Soluble Zinc (1.5%)	0486	1.550	0.0600	1.519	0.0861	0.0324	63	0.36	321.33	0
321	Acid Soluble Zinc (1.5%)	0324	1.555	0.1700	1.519	0.0861	0.0324	63	0.42	321.30	0
321	Acid Soluble Zinc (1.5%)	0023	1.562	0.0040	1.519	0.0861	0.0324	63	0.50	321.33	0
321	Acid Soluble Zinc (1.5%)	0042	1.569	0.0970	1.519	0.0861	0.0324	63	0.58	321.99	0
321	Acid Soluble Zinc (1.5%)	0034	1.573	0.0140	1.519	0.0861	0.0324	63	0.63	321.33	0
321	Acid Soluble Zinc (1.5%)	0231	1.595	0.0100	1.519	0.0861	0.0324	63	0.88	321.30	0
321	Acid Soluble Zinc (1.5%)	0483	1.600	0.2000	1.519	0.0861	0.0324	63	0.94	321.30	0
321	Acid Soluble Zinc (1.5%)	0055	1.600	0.0200	1.519	0.0861	0.0324	63	0.94	321.33	0
321	Acid Soluble Zinc (1.5%)	0402	1.610	0.0400	1.519	0.0861	0.0324	63	1.06	321.30	0
321	Acid Soluble Zinc (1.5%)	0534	1.610	0.0200	1.519	0.0861	0.0324	63	1.06	321.00	0
321	Acid Soluble Zinc (1.5%)	0027	1.615	0.0300	1.519	0.0861	0.0324	63	1.12	321.99	0
321	Acid Soluble Zinc (1.5%)	0421	1.650	0.1000	1.519	0.0861	0.0324	63	1.52	321.33	0
321	Acid Soluble Zinc (1.5%)	0546	1.659	0.0600	1.519	0.0861	0.0324	63	1.63	321.33	0
321	Acid Soluble Zinc (1.5%)	0368	1.666	0.0631	1.519	0.0861	0.0324	63	1.71	321.99	0
321	Acid Soluble Zinc (1.5%)	0371	1.715‡	0.0500	1.519	0.0861	0.0324	63	2.28	321.30	0
321	Acid Soluble Zinc (1.5%)	0452	1.735‡	0.0100	1.519	0.0861	0.0324	63	2.51	321.30	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				
321	Acid Soluble Zinc (1.5%)	0423	1.755‡	0.0100	1.519	0.0861	0.0324	63	2.74	321.32	0
321	Acid Soluble Zinc (1.5%)	0524	1.834‡	0.0566	1.519	0.0861	0.0324	63	3.66	321.99	0
321	Acid Soluble Zinc (1.5%)	0489	2.125‡	0.0300	1.519	0.0861	0.0324	63	7.04	321.00	0
321	Acid Soluble Zinc (1.5%)	0515	1.318†	0.3523	1.519	0.0861	0.0324	63	-2.34	321.99	1
321	Acid Soluble Zinc (1.5%)	0515	1.871‡	0.5316	1.519	0.0861	0.0324	63	4.09	321.33	1
325	Water Soluble Zinc (%)	0405	1.100	0.0000	1.422	0.1054	0.0331	13	-3.06	325.30	0
325	Water Soluble Zinc (%)	0230	1.200	0.0000	1.422	0.1054	0.0331	13	-2.11	325.30	0
325	Water Soluble Zinc (%)	0444	1.345	0.0700	1.422	0.1054	0.0331	13	-0.73	325.30	0
325	Water Soluble Zinc (%)	0371	1.375	0.0300	1.422	0.1054	0.0331	13	-0.45	325.99	0
325	Water Soluble Zinc (%)	0546	1.393	0.0400	1.422	0.1054	0.0331	13	-0.28	325.30	0
325	Water Soluble Zinc (%)	0539	1.395	0.0100	1.422	0.1054	0.0331	13	-0.26	325.00	0
325	Water Soluble Zinc (%)	0540	1.435	0.0300	1.422	0.1054	0.0331	13	0.12	325.00	0
325	Water Soluble Zinc (%)	0535	1.460	0.0200	1.422	0.1054	0.0331	13	0.36	325.00	0
325	Water Soluble Zinc (%)	0537	1.480	0.0200	1.422	0.1054	0.0331	13	0.55	325.00	0
325	Water Soluble Zinc (%)	0536	1.500	0.0200	1.422	0.1054	0.0331	13	0.74	325.00	0
325	Water Soluble Zinc (%)	0027	1.505	0.0700	1.422	0.1054	0.0331	13	0.79	325.00	0
325	Water Soluble Zinc (%)	0532	1.520	0.0200	1.422	0.1054	0.0331	13	0.93	325.00	0
325	Water Soluble Zinc (%)	0549	1.550	0.1000	1.422	0.1054	0.0331	13	1.21	325.10	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. 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 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.