

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 201111

Ca-Mg-S-B

Statistical Summary

Analytes: 34

Labs Reporting: 92

Issue Date : 12/31/2020

Analyte Code	Analyte Sample # 201111	# 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 N (%)	4	4	0.1612	0.0423	0.1612		0.0423	0.0264	26.24%		0.0184	5.26%
002	Nitrate N (%)	1		0.0071									
005	Urea N (%)	2	2	1.253	0.1662								
009	Ammoniacal Plus Nitrate N (%)	1		0.7650									
010	Total N (1%)	77	74	1.750	0.3006	1.793	0.4900	0.1038	0.0151	5.79%	0.49	0.0467	3.66%
020	Total P2O5 (%)	7	6	0.2427	0.0720	0.2434		0.0800	0.0408	32.88%		0.0069	4.95%
041	Direct Available P2O5 (%)	6	6	0.2351	0.1171	0.2351	0.6700	0.1328	0.0678	56.51%	0.46	0.0077	4.97%
050	Soluble K2O (%)	13	11	0.4587	0.1111	0.4528	0.4100	0.0789	0.0298	17.43%	0.45	0.0122	4.51%
060	Water (Free) (%)	3	3	2.483	1.067	2.483		1.067	0.7699	42.97%		0.0468	3.49%
101	Acid Soluble Ca (10%)	76	74	9.888	1.115	9.839	0.6920	0.6527	0.0948	6.63%	2.20	0.1716	2.84%
121	Acid Soluble Mg (5%)	73	72	4.399	0.5885	4.378	0.4189	0.4848	0.0714	11.07%	2.70	0.1892	3.20%
131	Water Soluble Mg (%)	5	5	1.678	1.896	1.678		1.896	1.060	113.00%		0.0266	3.70%
143	Elemental S (%)	6	6	3.539	0.3405	3.539		0.3861	0.1970	10.91%		0.0983	3.31%
145	Sulfate S, HCl soluble (%)	9	9	2.733	0.8416	2.733		0.9544	0.3977	34.92%		0.0578	3.44%
146	Total S in Liquid (1.5%)	1		1.500									
148	Total S (1.5%)	50	49	3.250	0.5134	3.355	0.3678	0.2768	0.0494	8.25%	1.75	0.0935	3.33%
149	S - HNO3 soluble (%)	4	4	3.864	0.5957	3.864		0.5957	0.3723	15.41%		0.0422	3.26%
151	Acid Soluble As (ppm)	15	13	24.21	4.715	23.86		4.351	1.509	18.23%		0.5747	9.92%
165	Acid Soluble B (10%)	59	57	9.743	0.9593	9.791	1.0000	0.6111	0.1012	6.24%	1.42	0.1948	2.84%
171	Water Soluble B (%)	15	15	8.542	2.213	8.565		2.461	0.7944	28.74%		0.1232	2.90%
181	Acid Soluble Cd (ppm)	17	12	1.171	1.591	0.6776		0.2464	0.0889	36.37%		0.1680	16.96%
190	Water Soluble Cl (%)	1		2.505									
191	Acid Soluble Cr (ppm)	16	16	18.73	6.156	19.08		5.779	1.806	30.29%		1.403	10.26%
202	Acid Soluble Co (ppm)	15	14	6.810	2.804	6.810	3.0429	3.179	1.062	46.69%	2.43	0.6878	11.99%
221	Acid Soluble Cu (%)	29	27	0.0444	0.0113	0.0426	0.0093	0.0052	0.0013	12.24%	1.31	0.0052	6.43%
241	Acid Soluble Fe (%)	19	18	0.5020	0.1387	0.5368	0.0587	0.0520	0.0153	9.68%	2.06	0.0196	4.39%
251	Acid Soluble Pb (ppm)	18	14	4.242	1.118	4.230		1.226	0.4095	28.98%		0.6920	12.88%
261	Acid Soluble Mn (%)	18	17	0.2779	0.0270	0.2783	0.0328	0.0288	0.0087	10.36%	2.05	0.0158	4.85%
281	Acid Soluble Hg (ppm)	8	4	0.0440	0.0115	0.0440		0.0115	0.0072	26.24%		0.0001	25.60%
289	Acid Soluble Mo (ppm)	16	12	4.797	1.226	4.710	2.4130	1.177	0.4249	25.00%	1.14	0.6398	12.67%
291	Acid Soluble Ni (ppm)	17	17	14.44	4.303	14.39		4.573	1.387	31.78%		0.8498	10.71%
301	Acid Soluble Se (ppm)	9	4	27.56	49.14	27.56		49.14	30.71	178.28%		1.479	9.71%
311	Sodium (%)	9	8	5.090	0.8689	5.061	0.5111	0.3887	0.1718	7.68%	1.77	0.0469	3.13%

Analyte Code	Analyte Sample # 201111	# 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
321	Acid Soluble Zn (%)	29	28	0.5135	0.0573	0.5140	0.0564	0.0417	0.0099	8.12%	1.72	0.0284	4.42%

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.

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 201111

Ca-Mg-S-B

Lab Values

Analytes: 34

Labs Reporting: 92

Issue Date : 12/31/2020

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 N (%)	0423	0.1250	0.0300	0.1612	0.0423	0.0184	4	-0.86	001.99	0
001	Ammoniacal N (%)	0524	0.1333	0.0004	0.1612	0.0423	0.0184	4	-0.66	001.99	0
001	Ammoniacal N (%)	0506	0.1685	0.0410	0.1612	0.0423	0.0184	4	0.17	001.99	0
001	Ammoniacal N (%)	0553	0.2180	0.0020	0.1612	0.0423	0.0184	4	1.34	001.99	0
002	Nitrate N (%)	0553	0.0071	0.0002				1		002.99	0
005	Urea N (%)	0524	1.135	0.0140				2		005.99	0
005	Urea N (%)	0506	1.370	0.0200				2		005.99	0
009	Ammoniacal Plus Nitrate N (%)	0518	0.7650	0.0900				1		009.99	0
010	Total N (1%)	0498	0.9250†	0.0300	1.793	0.1038	0.0467	74	-8.36	010.12	0
010	Total N (1%)	0540	0.9850†	0.0700	1.793	0.1038	0.0467	74	-7.78	010.11	0
010	Total N (1%)	0532	1.010†	0.0600	1.793	0.1038	0.0467	74	-7.54	010.99	0
010	Total N (1%)	0538	1.075†	0.0500	1.793	0.1038	0.0467	74	-6.91	010.99	0
010	Total N (1%)	0534	1.090†	0.0000	1.793	0.1038	0.0467	74	-6.77	010.60	0
010	Total N (1%)	0309	1.115†	0.3500	1.793	0.1038	0.0467	74	-6.53	010.11	0
010	Total N (1%)	0549	1.265†	0.1300	1.793	0.1038	0.0467	74	-5.08	010.99	0
010	Total N (1%)	0234	1.404	0.0240	1.793	0.1038	0.0467	74	-3.74	010.60	0
010	Total N (1%)	0560	1.430	0.0600	1.793	0.1038	0.0467	74	-3.49	010.99	0
010	Total N (1%)	0506	1.535	0.0700	1.793	0.1038	0.0467	74	-2.48	010.99	0
010	Total N (1%)	0522	1.558	0.0750	1.793	0.1038	0.0467	74	-2.27	010.11	0
010	Total N (1%)	0117	1.600	0.0200	1.793	0.1038	0.0467	74	-1.86	010.12	0
010	Total N (1%)	0394	1.616	0.0010	1.793	0.1038	0.0467	74	-1.71	010.99	0
010	Total N (1%)	0556	1.700	0.0200	1.793	0.1038	0.0467	74	-0.89	010.99	0
010	Total N (1%)	0230	1.710	0.0400	1.793	0.1038	0.0467	74	-0.80	010.60	0
010	Total N (1%)	0423	1.715	0.0300	1.793	0.1038	0.0467	74	-0.75	010.60	0
010	Total N (1%)	0533	1.735	0.0900	1.793	0.1038	0.0467	74	-0.56	010.11	0
010	Total N (1%)	0568	1.740	0.0400	1.793	0.1038	0.0467	74	-0.51	010.12	0
010	Total N (1%)	0055	1.745	0.0500	1.793	0.1038	0.0467	74	-0.46	010.60	0
010	Total N (1%)	0535	1.750	0.1000	1.793	0.1038	0.0467	74	-0.41	010.11	0
010	Total N (1%)	0106	1.750	0.0400	1.793	0.1038	0.0467	74	-0.41	010.60	0
010	Total N (1%)	0422	1.750	0.1000	1.793	0.1038	0.0467	74	-0.41	010.60	0
010	Total N (1%)	0562	1.750	0.2000	1.793	0.1038	0.0467	74	-0.41	010.99	0
010	Total N (1%)	0043	1.765	0.0100	1.793	0.1038	0.0467	74	-0.27	010.60	0
010	Total N (1%)	0527	1.766	0.0140	1.793	0.1038	0.0467	74	-0.26	010.60	0
010	Total N (1%)	0377	1.770	0.0800	1.793	0.1038	0.0467	74	-0.22	010.60	0
010	Total N (1%)	0476	1.772	0.0161	1.793	0.1038	0.0467	74	-0.20	010.99	0
010	Total N (1%)	0493	1.775	0.0500	1.793	0.1038	0.0467	74	-0.17	010.99	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				
010	Total N (1%)	0472	1.790	0.0000	1.793	0.1038	0.0467	74	-0.03	010.60	0
010	Total N (1%)	0493	1.790	0.0200	1.793	0.1038	0.0467	74	-0.03	010.60	0
010	Total N (1%)	0451	1.793	0.0510	1.793	0.1038	0.0467	74	0.00	010.60	0
010	Total N (1%)	0292	1.795	0.0100	1.793	0.1038	0.0467	74	0.02	010.60	0
010	Total N (1%)	0136	1.800	0.0000	1.793	0.1038	0.0467	74	0.07	010.60	0
010	Total N (1%)	0325	1.800	0.0000	1.793	0.1038	0.0467	74	0.07	010.60	0
010	Total N (1%)	0450	1.800	0.0000	1.793	0.1038	0.0467	74	0.07	010.60	0
010	Total N (1%)	0543	1.805	0.0300	1.793	0.1038	0.0467	74	0.12	010.60	0
010	Total N (1%)	0494	1.810	0.0000	1.793	0.1038	0.0467	74	0.17	010.60	0
010	Total N (1%)	0561	1.810	0.0000	1.793	0.1038	0.0467	74	0.17	010.60	0
010	Total N (1%)	0513	1.810	0.0200	1.793	0.1038	0.0467	74	0.17	010.99	0
010	Total N (1%)	0114	1.815	0.0100	1.793	0.1038	0.0467	74	0.21	010.60	0
010	Total N (1%)	0360	1.820	0.0200	1.793	0.1038	0.0467	74	0.26	010.60	0
010	Total N (1%)	0564	1.820	0.0600	1.793	0.1038	0.0467	74	0.26	010.99	0
010	Total N (1%)	0035	1.825	0.1900	1.793	0.1038	0.0467	74	0.31	010.60	0
010	Total N (1%)	0231	1.825	0.0100	1.793	0.1038	0.0467	74	0.31	010.60	0
010	Total N (1%)	0086	1.825	0.0019	1.793	0.1038	0.0467	74	0.31	010.60	0
010	Total N (1%)	0073	1.830	0.0200	1.793	0.1038	0.0467	74	0.36	010.60	0
010	Total N (1%)	0558	1.830	0.0200	1.793	0.1038	0.0467	74	0.36	010.99	0
010	Total N (1%)	0177	1.834	0.0070	1.793	0.1038	0.0467	74	0.39	010.60	0
010	Total N (1%)	0405	1.835	0.0100	1.793	0.1038	0.0467	74	0.41	010.60	0
010	Total N (1%)	0419	1.838	0.0110	1.793	0.1038	0.0467	74	0.43	010.60	0
010	Total N (1%)	0524	1.839	0.0403	1.793	0.1038	0.0467	74	0.44	010.99	0
010	Total N (1%)	0029	1.846	0.0590	1.793	0.1038	0.0467	74	0.51	010.60	0
010	Total N (1%)	0545	1.850	0.1000	1.793	0.1038	0.0467	74	0.55	010.99	0
010	Total N (1%)	0521	1.851	0.0000	1.793	0.1038	0.0467	74	0.56	010.60	0
010	Total N (1%)	0371	1.855	0.0700	1.793	0.1038	0.0467	74	0.60	010.60	0
010	Total N (1%)	0547	1.855	0.0100	1.793	0.1038	0.0467	74	0.60	010.60	0
010	Total N (1%)	0324	1.860	0.0000	1.793	0.1038	0.0467	74	0.65	010.60	0
010	Total N (1%)	0354	1.860	0.0000	1.793	0.1038	0.0467	74	0.65	010.60	0
010	Total N (1%)	0486	1.860	0.0200	1.793	0.1038	0.0467	74	0.65	010.60	0
010	Total N (1%)	0421	1.867	0.0010	1.793	0.1038	0.0467	74	0.71	010.60	0
010	Total N (1%)	0037	1.873	0.0020	1.793	0.1038	0.0467	74	0.77	010.60	0
010	Total N (1%)	0025	1.882	0.0800	1.793	0.1038	0.0467	74	0.86	010.60	0
010	Total N (1%)	0550	1.885	0.0300	1.793	0.1038	0.0467	74	0.89	010.60	0
010	Total N (1%)	0546	1.895	0.1300	1.793	0.1038	0.0467	74	0.98	010.11	0
010	Total N (1%)	0040	1.900	0.0000	1.793	0.1038	0.0467	74	1.03	010.60	0
010	Total N (1%)	0368	1.904	0.0030	1.793	0.1038	0.0467	74	1.07	010.60	0
010	Total N (1%)	0510	1.905	0.0033	1.793	0.1038	0.0467	74	1.08	010.11	0
010	Total N (1%)	0291	1.905	0.0100	1.793	0.1038	0.0467	74	1.08	010.60	0
010	Total N (1%)	0516	1.905	0.0900	1.793	0.1038	0.0467	74	1.08	010.60	0
010	Total N (1%)	0402	1.920	0.1400	1.793	0.1038	0.0467	74	1.22	010.60	0
010	Total N (1%)	0539	1.935	0.0900	1.793	0.1038	0.0467	74	1.37	010.99	0
010	Total N (1%)	0027	2.040	0.1400	1.793	0.1038	0.0467	74	2.38	010.60	0
010	Total N (1%)	0456	2.050	0.1000	1.793	0.1038	0.0467	74	2.48	010.11	0
010	Total N (1%)	0041	3.257‡	0.0280	1.793	0.1038	0.0467	74	14.10	010.60	0
010	Total N (1%)	0042	1.700	0.4000	1.793	0.1038	0.0467	74	-0.89	010.60	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				
010	Total N (1%)	0255	2.385‡	0.7470	1.793	0.1038	0.0467	74	5.70	010.60	1
010	Total N (1%)	0529	< 2		1.793	0.1038	0.0467	74		010.12	5
020	Total P2O5 (%)	0515	0.1192	0.0039	0.2434	0.0800	0.0069	6	-1.38	020.99	0
020	Total P2O5 (%)	0524	0.2116	0.0022	0.2434	0.0800	0.0069	6	-0.35	020.50	0
020	Total P2O5 (%)	0521	0.2431	0.0000	0.2434	0.0800	0.0069	6	0.00	020.50	0
020	Total P2O5 (%)	0389	0.2600	0.0200	0.2434	0.0800	0.0069	6	0.19	020.50	0
020	Total P2O5 (%)	0527	0.3072	0.0050	0.2434	0.0800	0.0069	6	0.71	020.50	0
020	Total P2O5 (%)	0472	0.3150	0.0100	0.2434	0.0800	0.0069	6	0.80	020.50	0
020	Total P2O5 (%)	0552	0.0000	0.0000	0.2434	0.0800	0.0069	6		020.50	4
041	Direct Available P2O5 (%)	0553	0.0515	0.0010	0.2351	0.1328	0.0077	6	-1.23	041.20	0
041	Direct Available P2O5 (%)	0472	0.1650	0.0100	0.2351	0.1328	0.0077	6	-0.47	041.21	0
041	Direct Available P2O5 (%)	0568	0.2550	0.0100	0.2351	0.1328	0.0077	6	0.13	041.21	0
041	Direct Available P2O5 (%)	0354	0.2655	0.0230	0.2351	0.1328	0.0077	6	0.20	041.21	0
041	Direct Available P2O5 (%)	0421	0.2733	0.0020	0.2351	0.1328	0.0077	6	0.26	041.50	0
041	Direct Available P2O5 (%)	0325	0.4000	0.0000	0.2351	0.1328	0.0077	6	1.11	041.50	0
050	Soluble K2O (%)	0472	0.2600	0.0200	0.4528	0.0789	0.0122	11	-2.44	050.31	0
050	Soluble K2O (%)	0515	0.3980	0.0572	0.4528	0.0789	0.0122	11	-0.69	050.99	0
050	Soluble K2O (%)	0421	0.4013	0.0025	0.4528	0.0789	0.0122	11	-0.65	050.99	0
050	Soluble K2O (%)	0354	0.4065	0.0030	0.4528	0.0789	0.0122	11	-0.59	050.52	0
050	Soluble K2O (%)	0553	0.4285	0.0010	0.4528	0.0789	0.0122	11	-0.31	050.99	0
050	Soluble K2O (%)	0524	0.4475	0.0016	0.4528	0.0789	0.0122	11	-0.07	050.99	0
050	Soluble K2O (%)	0568	0.4600	0.0000	0.4528	0.0789	0.0122	11	0.09	050.51	0
050	Soluble K2O (%)	0527	0.4780	0.0141	0.4528	0.0789	0.0122	11	0.32	050.99	0
050	Soluble K2O (%)	0423	0.5205	0.0150	0.4528	0.0789	0.0122	11	0.86	050.52	0
050	Soluble K2O (%)	0521	0.5352	0.0000	0.4528	0.0789	0.0122	11	1.04	050.99	0
050	Soluble K2O (%)	0389	0.7100	0.0200	0.4528	0.0789	0.0122	11	3.26	050.99	0
050	Soluble K2O (%)	0325	0.6500	0.5000	0.4528	0.0789	0.0122	11	2.50	050.99	1
050	Soluble K2O (%)	0552	0.0000	0.0000	0.4528	0.0789	0.0122	11		050.99	4
060	Water (Free) (%)	0419	1.760	0.0600	2.483	1.067	0.0468	3	-0.68	060.10	0
060	Water (Free) (%)	0456	1.980	0.0800	2.483	1.067	0.0468	3	-0.47	060.00	0
060	Water (Free) (%)	0510	3.708	0.0004	2.483	1.067	0.0468	3	1.15	060.99	0
101	Acid Soluble Ca (10%)	0516	6.650†	0.1000	9.839	0.6527	0.1716	74	-4.89	101.31	0
101	Acid Soluble Ca (10%)	0200	7.075†	0.0700	9.839	0.6527	0.1716	74	-4.24	101.00	0
101	Acid Soluble Ca (10%)	0536	7.500†	0.2000	9.839	0.6527	0.1716	74	-3.58	101.70	0
101	Acid Soluble Ca (10%)	0095	8.445†	0.4700	9.839	0.6527	0.1716	74	-2.14	101.32	0
101	Acid Soluble Ca (10%)	0476	8.872†	0.1110	9.839	0.6527	0.1716	74	-1.48	101.99	0
101	Acid Soluble Ca (10%)	0055	8.955†	0.1900	9.839	0.6527	0.1716	74	-1.35	101.33	0
101	Acid Soluble Ca (10%)	0040	9.020†	0.0800	9.839	0.6527	0.1716	74	-1.26	101.33	0
101	Acid Soluble Ca (10%)	0543	9.058†	0.1240	9.839	0.6527	0.1716	74	-1.20	101.33	0
101	Acid Soluble Ca (10%)	0552	9.165	0.1700	9.839	0.6527	0.1716	74	-1.03	101.99	0
101	Acid Soluble Ca (10%)	0389	9.170	0.1000	9.839	0.6527	0.1716	74	-1.03	101.99	0
101	Acid Soluble Ca (10%)	0073	9.205	0.2100	9.839	0.6527	0.1716	74	-0.97	101.30	0
101	Acid Soluble Ca (10%)	0553	9.225	0.0500	9.839	0.6527	0.1716	74	-0.94	101.00	0
101	Acid Soluble Ca (10%)	0405	9.245	0.1700	9.839	0.6527	0.1716	74	-0.91	101.99	0
101	Acid Soluble Ca (10%)	0421	9.262	0.0199	9.839	0.6527	0.1716	74	-0.88	101.33	0
101	Acid Soluble Ca (10%)	0534	9.280	0.0000	9.839	0.6527	0.1716	74	-0.86	101.00	0
101	Acid Soluble Ca (10%)	0231	9.290	0.0600	9.839	0.6527	0.1716	74	-0.84	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 Ca (10%)	0451	9.333	0.7530	9.839	0.6527	0.1716	74	-0.78	101.30	0
101	Acid Soluble Ca (10%)	0106	9.391	0.5129	9.839	0.6527	0.1716	74	-0.69	101.33	0
101	Acid Soluble Ca (10%)	0546	9.486	0.0865	9.839	0.6527	0.1716	74	-0.54	101.03	0
101	Acid Soluble Ca (10%)	0419	9.490	0.1200	9.839	0.6527	0.1716	74	-0.54	101.33	0
101	Acid Soluble Ca (10%)	0472	9.505	0.0300	9.839	0.6527	0.1716	74	-0.51	101.30	0
101	Acid Soluble Ca (10%)	0025	9.525	0.1500	9.839	0.6527	0.1716	74	-0.48	101.33	0
101	Acid Soluble Ca (10%)	0568	9.550	0.1000	9.839	0.6527	0.1716	74	-0.44	101.30	0
101	Acid Soluble Ca (10%)	0368	9.579	0.0229	9.839	0.6527	0.1716	74	-0.40	101.33	0
101	Acid Soluble Ca (10%)	0177	9.586	0.1530	9.839	0.6527	0.1716	74	-0.39	101.33	0
101	Acid Soluble Ca (10%)	0117	9.591	0.1080	9.839	0.6527	0.1716	74	-0.38	101.33	0
101	Acid Soluble Ca (10%)	0506	9.605	0.0700	9.839	0.6527	0.1716	74	-0.36	101.99	0
101	Acid Soluble Ca (10%)	0028	9.660	0.1800	9.839	0.6527	0.1716	74	-0.27	101.32	0
101	Acid Soluble Ca (10%)	0494	9.664	0.2397	9.839	0.6527	0.1716	74	-0.27	101.33	0
101	Acid Soluble Ca (10%)	0292	9.675	0.0700	9.839	0.6527	0.1716	74	-0.25	101.33	0
101	Acid Soluble Ca (10%)	0422	9.695	0.1700	9.839	0.6527	0.1716	74	-0.22	101.99	0
101	Acid Soluble Ca (10%)	0360	9.705	0.0500	9.839	0.6527	0.1716	74	-0.21	101.30	0
101	Acid Soluble Ca (10%)	0444	9.705	0.2500	9.839	0.6527	0.1716	74	-0.21	101.30	0
101	Acid Soluble Ca (10%)	0529	9.780	0.0800	9.839	0.6527	0.1716	74	-0.09	101.70	0
101	Acid Soluble Ca (10%)	0513	9.785	0.1100	9.839	0.6527	0.1716	74	-0.08	101.00	0
101	Acid Soluble Ca (10%)	0538	9.795	0.1900	9.839	0.6527	0.1716	74	-0.07	101.70	0
101	Acid Soluble Ca (10%)	0023	9.820	0.3600	9.839	0.6527	0.1716	74	-0.03	101.33	0
101	Acid Soluble Ca (10%)	0136	9.835	0.2500	9.839	0.6527	0.1716	74	-0.01	101.33	0
101	Acid Soluble Ca (10%)	0558	9.840	0.1200	9.839	0.6527	0.1716	74	0.00	101.99	0
101	Acid Soluble Ca (10%)	0547	9.860	0.1200	9.839	0.6527	0.1716	74	0.03	101.99	0
101	Acid Soluble Ca (10%)	0536	9.875	0.1500	9.839	0.6527	0.1716	74	0.05	101.99	0
101	Acid Soluble Ca (10%)	0377	9.880	0.3200	9.839	0.6527	0.1716	74	0.06	101.30	0
101	Acid Soluble Ca (10%)	0540	9.885	0.2700	9.839	0.6527	0.1716	74	0.07	101.99	0
101	Acid Soluble Ca (10%)	0433	9.890	0.1600	9.839	0.6527	0.1716	74	0.08	101.30	0
101	Acid Soluble Ca (10%)	0324	9.965	0.2700	9.839	0.6527	0.1716	74	0.19	101.30	0
101	Acid Soluble Ca (10%)	0551	9.975	0.0500	9.839	0.6527	0.1716	74	0.21	101.00	0
101	Acid Soluble Ca (10%)	0531	9.995	0.0100	9.839	0.6527	0.1716	74	0.24	101.00	0
101	Acid Soluble Ca (10%)	0539	10.01	0.0700	9.839	0.6527	0.1716	74	0.25	101.00	0
101	Acid Soluble Ca (10%)	0535	10.05	0.1000	9.839	0.6527	0.1716	74	0.32	101.00	0
101	Acid Soluble Ca (10%)	0234	10.06	0.0739	9.839	0.6527	0.1716	74	0.33	101.30	0
101	Acid Soluble Ca (10%)	0510	10.06	0.0263	9.839	0.6527	0.1716	74	0.33	101.70	0
101	Acid Soluble Ca (10%)	0169	10.06	0.1600	9.839	0.6527	0.1716	74	0.34	101.03	0
101	Acid Soluble Ca (10%)	0522	10.07	0.0050	9.839	0.6527	0.1716	74	0.35	101.70	0
101	Acid Soluble Ca (10%)	0394	10.08	0.2770	9.839	0.6527	0.1716	74	0.36	101.32	0
101	Acid Soluble Ca (10%)	0521	10.08	0.0000	9.839	0.6527	0.1716	74	0.38	101.32	0
101	Acid Soluble Ca (10%)	0371	10.13	0.0390	9.839	0.6527	0.1716	74	0.44	101.30	0
101	Acid Soluble Ca (10%)	0532	10.14	0.1200	9.839	0.6527	0.1716	74	0.46	101.99	0
101	Acid Soluble Ca (10%)	0564	10.23	0.0500	9.839	0.6527	0.1716	74	0.59	101.70	0
101	Acid Soluble Ca (10%)	0354	10.25	0.3000	9.839	0.6527	0.1716	74	0.63	101.30	0
101	Acid Soluble Ca (10%)	0560	10.31	0.0300	9.839	0.6527	0.1716	74	0.71	101.70	0
101	Acid Soluble Ca (10%)	0043	10.47	0.7900	9.839	0.6527	0.1716	74	0.96	101.33	0
101	Acid Soluble Ca (10%)	0027	10.54‡	0.1630	9.839	0.6527	0.1716	74	1.08	101.99	0
101	Acid Soluble Ca (10%)	0029	10.61‡	0.2000	9.839	0.6527	0.1716	74	1.18	101.00	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				
101	Acid Soluble Ca (10%)	0498	10.70‡	1.000	9.839	0.6527	0.1716	74	1.32	101.00	0
101	Acid Soluble Ca (10%)	0450	10.83‡	0.2300	9.839	0.6527	0.1716	74	1.51	101.30	0
101	Acid Soluble Ca (10%)	0325	10.85‡	0.1000	9.839	0.6527	0.1716	74	1.55	101.30	0
101	Acid Soluble Ca (10%)	0527	11.14‡	0.0728	9.839	0.6527	0.1716	74	2.00	101.33	0
101	Acid Soluble Ca (10%)	0402	11.17‡	0.0100	9.839	0.6527	0.1716	74	2.03	101.30	0
101	Acid Soluble Ca (10%)	0255	11.18‡	0.0240	9.839	0.6527	0.1716	74	2.06	101.30	0
101	Acid Soluble Ca (10%)	0515	11.51‡	0.3770	9.839	0.6527	0.1716	74	2.56	101.32	0
101	Acid Soluble Ca (10%)	0486	11.53‡	0.5600	9.839	0.6527	0.1716	74	2.59	101.33	0
101	Acid Soluble Ca (10%)	0291	11.77‡	0.0100	9.839	0.6527	0.1716	74	2.95	101.30	0
101	Acid Soluble Ca (10%)	0544	11.90‡	0.0100	9.839	0.6527	0.1716	74	3.15	101.70	0
101	Acid Soluble Ca (10%)	0550	15.68‡	0.2500	9.839	0.6527	0.1716	74	8.94	101.00	0
101	Acid Soluble Ca (10%)	0035	8.825†	1.650	9.839	0.6527	0.1716	74	-1.55	101.30	1
101	Acid Soluble Ca (10%)	0042	10.65‡	1.100	9.839	0.6527	0.1716	74	1.24	101.99	1
121	Acid Soluble Mg (5%)	0422	2.760†	3.240	4.378	0.4848	0.1892	72	-3.34	121.99	0
121	Acid Soluble Mg (5%)	0516	3.300†	0.0000	4.378	0.4848	0.1892	72	-2.22	121.99	0
121	Acid Soluble Mg (5%)	0043	3.700†	0.0400	4.378	0.4848	0.1892	72	-1.40	121.33	0
121	Acid Soluble Mg (5%)	0095	3.770†	0.2200	4.378	0.4848	0.1892	72	-1.26	121.32	0
121	Acid Soluble Mg (5%)	0035	3.835†	0.8500	4.378	0.4848	0.1892	72	-1.12	121.30	0
121	Acid Soluble Mg (5%)	0231	3.905†	0.0700	4.378	0.4848	0.1892	72	-0.98	121.30	0
121	Acid Soluble Mg (5%)	0552	3.915†	0.0700	4.378	0.4848	0.1892	72	-0.96	121.99	0
121	Acid Soluble Mg (5%)	0136	3.920†	0.1600	4.378	0.4848	0.1892	72	-0.95	121.33	0
121	Acid Soluble Mg (5%)	0524	3.924†	0.0170	4.378	0.4848	0.1892	72	-0.94	121.99	0
121	Acid Soluble Mg (5%)	0444	3.940†	0.2200	4.378	0.4848	0.1892	72	-0.90	121.30	0
121	Acid Soluble Mg (5%)	0055	3.955†	0.3100	4.378	0.4848	0.1892	72	-0.87	121.33	0
121	Acid Soluble Mg (5%)	0521	3.976	0.0000	4.378	0.4848	0.1892	72	-0.83	121.32	0
121	Acid Soluble Mg (5%)	0553	4.003	0.0250	4.378	0.4848	0.1892	72	-0.78	121.00	0
121	Acid Soluble Mg (5%)	0402	4.025	0.0060	4.378	0.4848	0.1892	72	-0.73	121.30	0
121	Acid Soluble Mg (5%)	0451	4.048	0.7190	4.378	0.4848	0.1892	72	-0.68	121.30	0
121	Acid Soluble Mg (5%)	0419	4.050	0.1800	4.378	0.4848	0.1892	72	-0.68	121.33	0
121	Acid Soluble Mg (5%)	0543	4.062	0.3760	4.378	0.4848	0.1892	72	-0.65	121.33	0
121	Acid Soluble Mg (5%)	0073	4.075	0.1500	4.378	0.4848	0.1892	72	-0.63	121.30	0
121	Acid Soluble Mg (5%)	0546	4.078	0.0183	4.378	0.4848	0.1892	72	-0.62	121.03	0
121	Acid Soluble Mg (5%)	0023	4.085	0.3300	4.378	0.4848	0.1892	72	-0.61	121.33	0
121	Acid Soluble Mg (5%)	0169	4.090	0.1000	4.378	0.4848	0.1892	72	-0.59	121.03	0
121	Acid Soluble Mg (5%)	0371	4.092	0.0260	4.378	0.4848	0.1892	72	-0.59	121.30	0
121	Acid Soluble Mg (5%)	0106	4.095	0.3952	4.378	0.4848	0.1892	72	-0.59	121.33	0
121	Acid Soluble Mg (5%)	0498	4.100	0.4000	4.378	0.4848	0.1892	72	-0.57	121.00	0
121	Acid Soluble Mg (5%)	0394	4.125	0.0576	4.378	0.4848	0.1892	72	-0.52	121.32	0
121	Acid Soluble Mg (5%)	0547	4.145	0.0500	4.378	0.4848	0.1892	72	-0.48	121.99	0
121	Acid Soluble Mg (5%)	0200	4.150	0.1000	4.378	0.4848	0.1892	72	-0.47	121.00	0
121	Acid Soluble Mg (5%)	0494	4.152	0.1152	4.378	0.4848	0.1892	72	-0.47	121.33	0
121	Acid Soluble Mg (5%)	0423	4.170	0.0600	4.378	0.4848	0.1892	72	-0.43	121.32	0
121	Acid Soluble Mg (5%)	0389	4.215	0.1100	4.378	0.4848	0.1892	72	-0.34	121.99	0
121	Acid Soluble Mg (5%)	0421	4.231	0.0007	4.378	0.4848	0.1892	72	-0.30	121.33	0
121	Acid Soluble Mg (5%)	0117	4.232	0.0422	4.378	0.4848	0.1892	72	-0.30	121.33	0
121	Acid Soluble Mg (5%)	0368	4.233	0.0383	4.378	0.4848	0.1892	72	-0.30	121.33	0
121	Acid Soluble Mg (5%)	0040	4.235	0.1500	4.378	0.4848	0.1892	72	-0.30	121.00	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				
121	Acid Soluble Mg (5%)	0360	4.245	0.0300	4.378	0.4848	0.1892	72	-0.28	121.30	0
121	Acid Soluble Mg (5%)	0025	4.250	0.0600	4.378	0.4848	0.1892	72	-0.26	121.33	0
121	Acid Soluble Mg (5%)	0177	4.262	0.0892	4.378	0.4848	0.1892	72	-0.24	121.33	0
121	Acid Soluble Mg (5%)	0377	4.265	0.0100	4.378	0.4848	0.1892	72	-0.23	121.30	0
121	Acid Soluble Mg (5%)	0433	4.280	0.2200	4.378	0.4848	0.1892	72	-0.20	121.30	0
121	Acid Soluble Mg (5%)	0568	4.300	0.0000	4.378	0.4848	0.1892	72	-0.16	121.30	0
121	Acid Soluble Mg (5%)	0292	4.310	0.0600	4.378	0.4848	0.1892	72	-0.14	121.32	0
121	Acid Soluble Mg (5%)	0291	4.320	0.0600	4.378	0.4848	0.1892	72	-0.12	121.30	0
121	Acid Soluble Mg (5%)	0506	4.370	0.0600	4.378	0.4848	0.1892	72	-0.02	121.99	0
121	Acid Soluble Mg (5%)	0476	4.412	0.2447	4.378	0.4848	0.1892	72	0.07	121.70	0
121	Acid Soluble Mg (5%)	0405	4.420	0.2200	4.378	0.4848	0.1892	72	0.09	121.99	0
121	Acid Soluble Mg (5%)	0324	4.425	0.1500	4.378	0.4848	0.1892	72	0.10	121.30	0
121	Acid Soluble Mg (5%)	0028	4.435	0.2500	4.378	0.4848	0.1892	72	0.12	121.32	0
121	Acid Soluble Mg (5%)	0029	4.498	0.1930	4.378	0.4848	0.1892	72	0.25	121.00	0
121	Acid Soluble Mg (5%)	0234	4.505	0.0407	4.378	0.4848	0.1892	72	0.26	121.30	0
121	Acid Soluble Mg (5%)	0255	4.518	0.1340	4.378	0.4848	0.1892	72	0.29	121.30	0
121	Acid Soluble Mg (5%)	0027	4.519	0.0600	4.378	0.4848	0.1892	72	0.29	121.99	0
121	Acid Soluble Mg (5%)	0513	4.520	0.0200	4.378	0.4848	0.1892	72	0.29	121.00	0
121	Acid Soluble Mg (5%)	0325	4.550	0.1000	4.378	0.4848	0.1892	72	0.35	121.30	0
121	Acid Soluble Mg (5%)	0354	4.645	0.2700	4.378	0.4848	0.1892	72	0.55	121.30	0
121	Acid Soluble Mg (5%)	0529	4.785	0.1300	4.378	0.4848	0.1892	72	0.84	121.70	0
121	Acid Soluble Mg (5%)	0527	4.863‡	0.0102	4.378	0.4848	0.1892	72	1.00	121.33	0
121	Acid Soluble Mg (5%)	0540	4.875‡	0.2500	4.378	0.4848	0.1892	72	1.02	121.99	0
121	Acid Soluble Mg (5%)	0472	4.930‡	0.0200	4.378	0.4848	0.1892	72	1.14	121.30	0
121	Acid Soluble Mg (5%)	0539	5.005‡	0.0500	4.378	0.4848	0.1892	72	1.29	121.00	0
121	Acid Soluble Mg (5%)	0536	5.025‡	0.1500	4.378	0.4848	0.1892	72	1.33	121.00	0
121	Acid Soluble Mg (5%)	0042	5.035‡	0.0100	4.378	0.4848	0.1892	72	1.35	121.99	0
121	Acid Soluble Mg (5%)	0558	5.045‡	0.0500	4.378	0.4848	0.1892	72	1.38	121.99	0
121	Acid Soluble Mg (5%)	0535	5.050‡	0.1000	4.378	0.4848	0.1892	72	1.39	121.00	0
121	Acid Soluble Mg (5%)	0551	5.050‡	0.1000	4.378	0.4848	0.1892	72	1.39	121.00	0
121	Acid Soluble Mg (5%)	0560	5.055‡	0.3300	4.378	0.4848	0.1892	72	1.40	121.70	0
121	Acid Soluble Mg (5%)	0532	5.070‡	0.0400	4.378	0.4848	0.1892	72	1.43	121.99	0
121	Acid Soluble Mg (5%)	0531	5.075‡	0.0500	4.378	0.4848	0.1892	72	1.44	121.00	0
121	Acid Soluble Mg (5%)	0450	5.080‡	0.2000	4.378	0.4848	0.1892	72	1.45	121.99	0
121	Acid Soluble Mg (5%)	0486	5.130‡	0.2400	4.378	0.4848	0.1892	72	1.55	121.33	0
121	Acid Soluble Mg (5%)	0564	5.190‡	0.0200	4.378	0.4848	0.1892	72	1.67	121.70	0
121	Acid Soluble Mg (5%)	0515	5.508‡	0.8966	4.378	0.4848	0.1892	72	2.33	121.33	0
121	Acid Soluble Mg (5%)	0550	7.300‡	0.0600	4.378	0.4848	0.1892	72	6.03	121.00	0
121	Acid Soluble Mg (5%)	0309	235.4‡	461.3	4.378	0.4848	0.1892	72	476.50	121.00	2
131	Water Soluble Mg (%)	0536	0.8050	0.0700	1.678	1.896	0.0266	5	-0.46	131.00	0
131	Water Soluble Mg (%)	0535	0.8100	0.0200	1.678	1.896	0.0266	5	-0.46	131.70	0
131	Water Soluble Mg (%)	0535	0.8450	0.0100	1.678	1.896	0.0266	5	-0.44	131.00	0
131	Water Soluble Mg (%)	0539	0.8600	0.0200	1.678	1.896	0.0266	5	-0.43	131.00	0
131	Water Soluble Mg (%)	0510	5.069	0.0130	1.678	1.896	0.0266	5	1.79	131.70	0
143	Elemental S (%)	0255	3.120	0.2060	3.539	0.3861	0.0983	6	-0.97	143.99	0
143	Elemental S (%)	0472	3.335	0.0100	3.539	0.3861	0.0983	6	-0.47	143.99	0
143	Elemental S (%)	0368	3.402	0.0938	3.539	0.3861	0.0983	6	-0.32	143.99	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				
143	Elemental S (%)	0291	3.575	0.0500	3.539	0.3861	0.0983	6	0.08	143.99	0
143	Elemental S (%)	0389	3.705	0.0300	3.539	0.3861	0.0983	6	0.38	143.99	0
143	Elemental S (%)	0325	4.100	0.2000	3.539	0.3861	0.0983	6	1.29	143.99	0
145	Sulfate S, HCl soluble (%)	0518	1.540	0.1600	2.733	0.9544	0.0578	9	-1.15	145.99	0
145	Sulfate S, HCl soluble (%)	0549	1.560	0.0400	2.733	0.9544	0.0578	9	-1.13	145.00	0
145	Sulfate S, HCl soluble (%)	0522	2.100	0.0100	2.733	0.9544	0.0578	9	-0.61	145.00	0
145	Sulfate S, HCl soluble (%)	0550	2.410	0.0400	2.733	0.9544	0.0578	9	-0.31	145.00	0
145	Sulfate S, HCl soluble (%)	0498	3.100	0.2000	2.733	0.9544	0.0578	9	0.36	145.00	0
145	Sulfate S, HCl soluble (%)	0200	3.375	0.0100	2.733	0.9544	0.0578	9	0.62	145.99	0
145	Sulfate S, HCl soluble (%)	0106	3.410	0.0200	2.733	0.9544	0.0578	9	0.66	145.00	0
145	Sulfate S, HCl soluble (%)	0544	3.445	0.0100	2.733	0.9544	0.0578	9	0.69	145.00	0
145	Sulfate S, HCl soluble (%)	0553	3.655	0.0300	2.733	0.9544	0.0578	9	0.89	145.99	0
146	Total S in Liquid (1.5%)	0538	1.500±	0.1000				1		146.00	0
148	Total S (1.5%)	0532	1.480†	0.0800	3.355	0.2768	0.0935	49	-6.77	148.99	0
148	Total S (1.5%)	0534	1.500†	0.0000	3.355	0.2768	0.0935	49	-6.70	148.01	0
148	Total S (1.5%)	0560	1.750†	0.0600	3.355	0.2768	0.0935	49	-5.80	148.01	0
148	Total S (1.5%)	0562	2.550†	0.2000	3.355	0.2768	0.0935	49	-2.91	148.99	0
148	Total S (1.5%)	0073	2.555†	0.0900	3.355	0.2768	0.0935	49	-2.89	148.01	0
148	Total S (1.5%)	0564	2.635†	0.0300	3.355	0.2768	0.0935	49	-2.60	148.01	0
148	Total S (1.5%)	0419	2.938†	0.0980	3.355	0.2768	0.0935	49	-1.51	148.00	0
148	Total S (1.5%)	0551	2.975†	0.1500	3.355	0.2768	0.0935	49	-1.37	148.99	0
148	Total S (1.5%)	0558	2.990	0.0600	3.355	0.2768	0.0935	49	-1.32	148.99	0
148	Total S (1.5%)	0422	3.040	0.3400	3.355	0.2768	0.0935	49	-1.14	148.99	0
148	Total S (1.5%)	0533	3.150	0.1000	3.355	0.2768	0.0935	49	-0.74	148.99	0
148	Total S (1.5%)	0114	3.225	0.0100	3.355	0.2768	0.0935	49	-0.47	148.00	0
148	Total S (1.5%)	0516	3.250	0.1000	3.355	0.2768	0.0935	49	-0.38	148.99	0
148	Total S (1.5%)	0546	3.251	0.0408	3.355	0.2768	0.0935	49	-0.38	148.07	0
148	Total S (1.5%)	0486	3.255	0.0900	3.355	0.2768	0.0935	49	-0.36	148.07	0
148	Total S (1.5%)	0539	3.300	0.1000	3.355	0.2768	0.0935	49	-0.20	148.99	0
148	Total S (1.5%)	0421	3.312	0.0177	3.355	0.2768	0.0935	49	-0.16	148.07	0
148	Total S (1.5%)	0451	3.327	0.0140	3.355	0.2768	0.0935	49	-0.10	148.00	0
148	Total S (1.5%)	0535	3.350	0.1000	3.355	0.2768	0.0935	49	-0.02	148.99	0
148	Total S (1.5%)	0354	3.355	0.0500	3.355	0.2768	0.0935	49	0.00	148.99	0
148	Total S (1.5%)	0450	3.365	0.0300	3.355	0.2768	0.0935	49	0.04	148.99	0
148	Total S (1.5%)	0117	3.374	0.0065	3.355	0.2768	0.0935	49	0.07	148.07	0
148	Total S (1.5%)	0444	3.380	0.0000	3.355	0.2768	0.0935	49	0.09	148.07	0
148	Total S (1.5%)	0136	3.385	0.1500	3.355	0.2768	0.0935	49	0.11	148.00	0
148	Total S (1.5%)	0055	3.385	0.1500	3.355	0.2768	0.0935	49	0.11	148.01	0
148	Total S (1.5%)	0547	3.385	0.1300	3.355	0.2768	0.0935	49	0.11	148.99	0
148	Total S (1.5%)	0029	3.408	0.2270	3.355	0.2768	0.0935	49	0.19	148.00	0
148	Total S (1.5%)	0433	3.410	0.0200	3.355	0.2768	0.0935	49	0.20	148.99	0
148	Total S (1.5%)	0025	3.421	0.0570	3.355	0.2768	0.0935	49	0.24	148.00	0
148	Total S (1.5%)	0029	3.430	0.0200	3.355	0.2768	0.0935	49	0.27	148.01	0
148	Total S (1.5%)	0324	3.435	0.2900	3.355	0.2768	0.0935	49	0.29	148.01	0
148	Total S (1.5%)	0513	3.445	0.0500	3.355	0.2768	0.0935	49	0.32	148.01	0
148	Total S (1.5%)	0040	3.450	0.1000	3.355	0.2768	0.0935	49	0.34	148.07	0
148	Total S (1.5%)	0023	3.460	0.0600	3.355	0.2768	0.0935	49	0.38	148.07	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 S (1.5%)	0377	3.520	0.1000	3.355	0.2768	0.0935	49	0.60	148.99	0
148	Total S (1.5%)	0476	3.544	0.2676	3.355	0.2768	0.0935	49	0.68	148.99	0
148	Total S (1.5%)	0394	3.546	0.0774	3.355	0.2768	0.0935	49	0.69	148.07	0
148	Total S (1.5%)	0169	3.565	0.1300	3.355	0.2768	0.0935	49	0.76	148.07	0
148	Total S (1.5%)	0402	3.590	0.0600	3.355	0.2768	0.0935	49	0.85	148.07	0
148	Total S (1.5%)	0527	3.597	0.0912	3.355	0.2768	0.0935	49	0.87	148.07	0
148	Total S (1.5%)	0493	3.600	0.0600	3.355	0.2768	0.0935	49	0.88	148.00	0
148	Total S (1.5%)	0494	3.605	0.1865	3.355	0.2768	0.0935	49	0.90	148.07	0
148	Total S (1.5%)	0506	3.620	0.0400	3.355	0.2768	0.0935	49	0.96	148.99	0
148	Total S (1.5%)	0536	3.625	0.1500	3.355	0.2768	0.0935	49	0.97	148.99	0
148	Total S (1.5%)	0371	3.659	0.0430	3.355	0.2768	0.0935	49	1.10	148.99	0
148	Total S (1.5%)	0043	3.660	0.0000	3.355	0.2768	0.0935	49	1.10	148.07	0
148	Total S (1.5%)	0515	3.697	0.2345	3.355	0.2768	0.0935	49	1.24	148.07	0
148	Total S (1.5%)	0292	3.715	0.0100	3.355	0.2768	0.0935	49	1.30	148.07	0
148	Total S (1.5%)	0177	3.797‡	0.1119	3.355	0.2768	0.0935	49	1.59	148.07	0
148	Total S (1.5%)	0543	1.999†	0.9580	3.355	0.2768	0.0935	49	-4.90	148.07	1
149	S - HNO3 soluble (%)	0423	3.470	0.0600	3.864	0.5957	0.0422	4	-0.66	149.04	0
149	S - HNO3 soluble (%)	0521	3.577	0.0000	3.864	0.5957	0.0422	4	-0.48	149.04	0
149	S - HNO3 soluble (%)	0524	3.660	0.0487	3.864	0.5957	0.0422	4	-0.34	149.04	0
149	S - HNO3 soluble (%)	0231	4.750	0.0600	3.864	0.5957	0.0422	4	1.49	149.04	0
151	Acid Soluble As (ppm)	0444	16.95	0.5000	23.86	4.351	0.5747	13	-1.59	151.30	0
151	Acid Soluble As (ppm)	0524	17.59	0.6660	23.86	4.351	0.5747	13	-1.44	151.30	0
151	Acid Soluble As (ppm)	0255	21.07	1.162	23.86	4.351	0.5747	13	-0.64	151.30	0
151	Acid Soluble As (ppm)	0506	21.65	0.3000	23.86	4.351	0.5747	13	-0.51	151.99	0
151	Acid Soluble As (ppm)	0515	22.42	0.3210	23.86	4.351	0.5747	13	-0.33	151.34	0
151	Acid Soluble As (ppm)	0136	23.76	1.130	23.86	4.351	0.5747	13	-0.03	151.33	0
151	Acid Soluble As (ppm)	0450	24.15	0.1000	23.86	4.351	0.5747	13	0.07	151.30	0
151	Acid Soluble As (ppm)	0117	25.14	0.9120	23.86	4.351	0.5747	13	0.29	151.33	0
151	Acid Soluble As (ppm)	0405	25.50	1.000	23.86	4.351	0.5747	13	0.38	151.99	0
151	Acid Soluble As (ppm)	0527	26.03	0.0714	23.86	4.351	0.5747	13	0.50	151.33	0
151	Acid Soluble As (ppm)	0498	27.15	0.5000	23.86	4.351	0.5747	13	0.76	151.00	0
151	Acid Soluble As (ppm)	0494	28.05	0.3000	23.86	4.351	0.5747	13	0.96	151.33	0
151	Acid Soluble As (ppm)	0368	35.22	0.5083	23.86	4.351	0.5747	13	2.61	151.34	0
151	Acid Soluble As (ppm)	0515	21.55	2.898	23.86	4.351	0.5747	13	-0.53	151.33	1
151	Acid Soluble As (ppm)	0550	< 0.08		23.86	4.351	0.5747	13		151.00	5
165	Acid Soluble B (10%)	0533	6.200†	0.2000	9.791	0.6111	0.1948	57	-5.88	165.00	0
165	Acid Soluble B (10%)	0389	7.536†	0.0000	9.791	0.6111	0.1948	57	-3.69	165.30	0
165	Acid Soluble B (10%)	0516	7.700†	0.0000	9.791	0.6111	0.1948	57	-3.42	165.99	0
165	Acid Soluble B (10%)	0055	8.145†	0.2270	9.791	0.6111	0.1948	57	-2.69	165.00	0
165	Acid Soluble B (10%)	0550	8.685†	0.8900	9.791	0.6111	0.1948	57	-1.81	165.00	0
165	Acid Soluble B (10%)	0472	8.810	0.0200	9.791	0.6111	0.1948	57	-1.60	165.99	0
165	Acid Soluble B (10%)	0552	8.835	0.2900	9.791	0.6111	0.1948	57	-1.56	165.99	0
165	Acid Soluble B (10%)	0543	8.960	0.5850	9.791	0.6111	0.1948	57	-1.36	165.30	0
165	Acid Soluble B (10%)	0231	9.175	0.1500	9.791	0.6111	0.1948	57	-1.01	165.99	0
165	Acid Soluble B (10%)	0423	9.235	0.0500	9.791	0.6111	0.1948	57	-0.91	165.99	0
165	Acid Soluble B (10%)	0029	9.256	0.2450	9.791	0.6111	0.1948	57	-0.88	165.00	0
165	Acid Soluble B (10%)	0292	9.340	0.1000	9.791	0.6111	0.1948	57	-0.74	165.30	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				
165	Acid Soluble B (10%)	0169	9.360	0.1200	9.791	0.6111	0.1948	57	-0.70	165.30	0
165	Acid Soluble B (10%)	0117	9.368	0.0535	9.791	0.6111	0.1948	57	-0.69	165.99	0
165	Acid Soluble B (10%)	0377	9.370	0.3000	9.791	0.6111	0.1948	57	-0.69	165.30	0
165	Acid Soluble B (10%)	0513	9.420	0.2000	9.791	0.6111	0.1948	57	-0.61	165.99	0
165	Acid Soluble B (10%)	0402	9.475	0.0700	9.791	0.6111	0.1948	57	-0.52	165.30	0
165	Acid Soluble B (10%)	0422	9.515	0.0100	9.791	0.6111	0.1948	57	-0.45	165.99	0
165	Acid Soluble B (10%)	0421	9.516	0.0172	9.791	0.6111	0.1948	57	-0.45	165.99	0
165	Acid Soluble B (10%)	0444	9.650	0.0200	9.791	0.6111	0.1948	57	-0.23	165.30	0
165	Acid Soluble B (10%)	0506	9.665	0.0900	9.791	0.6111	0.1948	57	-0.21	165.00	0
165	Acid Soluble B (10%)	0558	9.745	0.2100	9.791	0.6111	0.1948	57	-0.07	165.00	0
165	Acid Soluble B (10%)	0106	9.745	1.814	9.791	0.6111	0.1948	57	-0.07	165.30	0
165	Acid Soluble B (10%)	0524	9.752	0.1773	9.791	0.6111	0.1948	57	-0.06	165.99	0
165	Acid Soluble B (10%)	0360	9.760	0.1200	9.791	0.6111	0.1948	57	-0.05	165.99	0
165	Acid Soluble B (10%)	0536	9.800	0.1000	9.791	0.6111	0.1948	57	0.02	165.00	0
165	Acid Soluble B (10%)	0539	9.800	0.2000	9.791	0.6111	0.1948	57	0.02	165.00	0
165	Acid Soluble B (10%)	0535	9.850	0.1000	9.791	0.6111	0.1948	57	0.10	165.00	0
165	Acid Soluble B (10%)	0028	9.863	0.0050	9.791	0.6111	0.1948	57	0.12	165.00	0
165	Acid Soluble B (10%)	0309	9.875	0.0900	9.791	0.6111	0.1948	57	0.14	165.00	0
165	Acid Soluble B (10%)	0527	9.894	0.1080	9.791	0.6111	0.1948	57	0.17	165.99	0
165	Acid Soluble B (10%)	0534	9.900	0.0000	9.791	0.6111	0.1948	57	0.18	165.00	0
165	Acid Soluble B (10%)	0371	9.935	0.0420	9.791	0.6111	0.1948	57	0.24	165.30	0
165	Acid Soluble B (10%)	0291	9.955	0.1300	9.791	0.6111	0.1948	57	0.27	165.99	0
165	Acid Soluble B (10%)	0368	9.956	0.0621	9.791	0.6111	0.1948	57	0.27	165.99	0
165	Acid Soluble B (10%)	0255	9.991	0.1380	9.791	0.6111	0.1948	57	0.33	165.99	0
165	Acid Soluble B (10%)	0546	10.03	0.0624	9.791	0.6111	0.1948	57	0.39	165.30	0
165	Acid Soluble B (10%)	0037	10.06	0.0570	9.791	0.6111	0.1948	57	0.44	165.30	0
165	Acid Soluble B (10%)	0405	10.08	0.0100	9.791	0.6111	0.1948	57	0.47	165.00	0
165	Acid Soluble B (10%)	0136	10.10	0.3100	9.791	0.6111	0.1948	57	0.50	165.99	0
165	Acid Soluble B (10%)	0547	10.10	0.0100	9.791	0.6111	0.1948	57	0.50	165.99	0
165	Acid Soluble B (10%)	0023	10.10	0.0000	9.791	0.6111	0.1948	57	0.51	165.30	0
165	Acid Soluble B (10%)	0043	10.10	0.6000	9.791	0.6111	0.1948	57	0.51	165.30	0
165	Acid Soluble B (10%)	0562	10.10	0.1000	9.791	0.6111	0.1948	57	0.51	165.99	0
165	Acid Soluble B (10%)	0451	10.11	0.2100	9.791	0.6111	0.1948	57	0.51	165.30	0
165	Acid Soluble B (10%)	0521	10.17	0.0000	9.791	0.6111	0.1948	57	0.61	165.30	0
165	Acid Soluble B (10%)	0553	10.25	0.3000	9.791	0.6111	0.1948	57	0.75	165.00	0
165	Acid Soluble B (10%)	0354	10.25	0.3000	9.791	0.6111	0.1948	57	0.75	165.30	0
165	Acid Soluble B (10%)	0518	10.28	0.1400	9.791	0.6111	0.1948	57	0.80	165.00	0
165	Acid Soluble B (10%)	0073	10.53	0.2100	9.791	0.6111	0.1948	57	1.20	165.30	0
165	Acid Soluble B (10%)	0394	10.58	0.5312	9.791	0.6111	0.1948	57	1.29	165.30	0
165	Acid Soluble B (10%)	0498	10.60	0.2000	9.791	0.6111	0.1948	57	1.32	165.00	0
165	Acid Soluble B (10%)	0234	10.62	0.1985	9.791	0.6111	0.1948	57	1.36	165.30	0
165	Acid Soluble B (10%)	0486	10.67	0.1200	9.791	0.6111	0.1948	57	1.44	165.99	0
165	Acid Soluble B (10%)	0433	11.06‡	0.1200	9.791	0.6111	0.1948	57	2.08	165.30	0
165	Acid Soluble B (10%)	0042	11.35‡	0.0900	9.791	0.6111	0.1948	57	2.54	165.99	0
165	Acid Soluble B (10%)	0325	13.20‡	0.6000	9.791	0.6111	0.1948	57	5.58	165.30	0
165	Acid Soluble B (10%)	0324	13.05‡	5.900	9.791	0.6111	0.1948	57	5.33	165.30	1
165	Acid Soluble B (10%)	0515	15.46‡	3.173	9.791	0.6111	0.1948	57	9.28	165.99	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				
171	Water Soluble B (%)	0518	4.535	0.0300	8.565	2.461	0.1232	15	-1.64	171.10	0
171	Water Soluble B (%)	0536	5.600	0.1000	8.565	2.461	0.1232	15	-1.20	171.10	0
171	Water Soluble B (%)	0539	5.600	0.2000	8.565	2.461	0.1232	15	-1.20	171.10	0
171	Water Soluble B (%)	0535	5.650	0.1000	8.565	2.461	0.1232	15	-1.18	171.10	0
171	Water Soluble B (%)	0027	6.519	0.1980	8.565	2.461	0.1232	15	-0.83	171.99	0
171	Water Soluble B (%)	0556	9.500	0.0400	8.565	2.461	0.1232	15	0.38	171.10	0
171	Water Soluble B (%)	0562	9.700	0.2000	8.565	2.461	0.1232	15	0.46	171.99	0
171	Water Soluble B (%)	0538	9.800	0.1000	8.565	2.461	0.1232	15	0.50	171.10	0
171	Water Soluble B (%)	0549	10.00	0.4000	8.565	2.461	0.1232	15	0.58	171.10	0
171	Water Soluble B (%)	0531	10.01	0.0200	8.565	2.461	0.1232	15	0.59	171.00	0
171	Water Soluble B (%)	0551	10.01	0.0200	8.565	2.461	0.1232	15	0.59	171.10	0
171	Water Soluble B (%)	0564	10.09	0.0400	8.565	2.461	0.1232	15	0.62	171.10	0
171	Water Soluble B (%)	0532	10.36	0.1100	8.565	2.461	0.1232	15	0.73	171.10	0
171	Water Soluble B (%)	0560	10.37	0.1500	8.565	2.461	0.1232	15	0.73	171.10	0
171	Water Soluble B (%)	0200	10.40	0.1400	8.565	2.461	0.1232	15	0.75	171.10	0
181	Acid Soluble Cd (ppm)	0444	0.3750	0.0100	0.6776	0.2464	0.1680	12	-1.23	181.30	0
181	Acid Soluble Cd (ppm)	0524	0.4593	0.0198	0.6776	0.2464	0.1680	12	-0.89	181.30	0
181	Acid Soluble Cd (ppm)	0255	0.4990	0.0920	0.6776	0.2464	0.1680	12	-0.72	181.30	0
181	Acid Soluble Cd (ppm)	0405	0.5100	0.0200	0.6776	0.2464	0.1680	12	-0.68	181.99	0
181	Acid Soluble Cd (ppm)	0368	0.5996	0.0398	0.6776	0.2464	0.1680	12	-0.32	181.34	0
181	Acid Soluble Cd (ppm)	0527	0.6040	0.0038	0.6776	0.2464	0.1680	12	-0.30	181.33	0
181	Acid Soluble Cd (ppm)	0506	0.6780	0.0100	0.6776	0.2464	0.1680	12	0.00	181.99	0
181	Acid Soluble Cd (ppm)	0419	0.6920	0.0020	0.6776	0.2464	0.1680	12	0.06	181.30	0
181	Acid Soluble Cd (ppm)	0498	0.8000	0.0000	0.6776	0.2464	0.1680	12	0.50	181.00	0
181	Acid Soluble Cd (ppm)	0389	0.8200	0.0000	0.6776	0.2464	0.1680	12	0.58	181.30	0
181	Acid Soluble Cd (ppm)	0550	1.970	1.440	0.6776	0.2464	0.1680	12	5.24	181.00	0
181	Acid Soluble Cd (ppm)	0515	6.048	0.3780	0.6776	0.2464	0.1680	12	21.79	181.34	0
181	Acid Soluble Cd (ppm)	0515	5.859	1.948	0.6776	0.2464	0.1680	12	21.02	181.33	1
181	Acid Soluble Cd (ppm)	0450	< 0.5		0.6776	0.2464	0.1680	12		181.30	5
181	Acid Soluble Cd (ppm)	0494	< 0.54		0.6776	0.2464	0.1680	12		181.33	5
181	Acid Soluble Cd (ppm)	0136	< 1		0.6776	0.2464	0.1680	12		181.33	5
181	Acid Soluble Cd (ppm)	0117	< 5		0.6776	0.2464	0.1680	12		181.33	5
190	Water Soluble Cl (%)	0553	2.505	0.0300				1		190.99	0
191	Acid Soluble Cr (ppm)	0550	3.715	0.0500	19.08	5.779	1.403	16	-2.66	191.00	0
191	Acid Soluble Cr (ppm)	0444	12.21	0.7600	19.08	5.779	1.403	16	-1.19	191.30	0
191	Acid Soluble Cr (ppm)	0389	13.48	0.0900	19.08	5.779	1.403	16	-0.97	191.30	0
191	Acid Soluble Cr (ppm)	0035	14.55	2.900	19.08	5.779	1.403	16	-0.78	191.30	0
191	Acid Soluble Cr (ppm)	0527	15.02	0.2387	19.08	5.779	1.403	16	-0.70	191.33	0
191	Acid Soluble Cr (ppm)	0498	17.05	2.100	19.08	5.779	1.403	16	-0.35	191.00	0
191	Acid Soluble Cr (ppm)	0394	18.25	1.500	19.08	5.779	1.403	16	-0.14	191.30	0
191	Acid Soluble Cr (ppm)	0136	18.47	1.830	19.08	5.779	1.403	16	-0.11	191.33	0
191	Acid Soluble Cr (ppm)	0524	18.84	0.0571	19.08	5.779	1.403	16	-0.04	191.30	0
191	Acid Soluble Cr (ppm)	0368	20.68	0.4898	19.08	5.779	1.403	16	0.28	191.34	0
191	Acid Soluble Cr (ppm)	0419	21.56	0.7300	19.08	5.779	1.403	16	0.43	191.30	0
191	Acid Soluble Cr (ppm)	0405	23.00	0.0000	19.08	5.779	1.403	16	0.68	191.99	0
191	Acid Soluble Cr (ppm)	0515	24.11	4.814	19.08	5.779	1.403	16	0.87	191.34	0
191	Acid Soluble Cr (ppm)	0494	24.92	3.900	19.08	5.779	1.403	16	1.01	191.33	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				
191	Acid Soluble Cr (ppm)	0450	25.00	2.000	19.08	5.779	1.403	16	1.02	191.30	0
191	Acid Soluble Cr (ppm)	0515	28.83	0.9900	19.08	5.779	1.403	16	1.69	191.33	0
202	Acid Soluble Co (ppm)	0368	2.930	0.8494	6.810	3.179	0.6878	14	-1.22	202.34	0
202	Acid Soluble Co (ppm)	0389	3.010	0.0000	6.810	3.179	0.6878	14	-1.20	202.30	0
202	Acid Soluble Co (ppm)	0035	3.615	0.2300	6.810	3.179	0.6878	14	-1.00	202.30	0
202	Acid Soluble Co (ppm)	0550	4.090	0.1000	6.810	3.179	0.6878	14	-0.86	202.33	0
202	Acid Soluble Co (ppm)	0423	5.575	0.0900	6.810	3.179	0.6878	14	-0.39	202.32	0
202	Acid Soluble Co (ppm)	0255	6.056	0.9690	6.810	3.179	0.6878	14	-0.24	202.99	0
202	Acid Soluble Co (ppm)	0527	6.062	0.0776	6.810	3.179	0.6878	14	-0.24	202.33	0
202	Acid Soluble Co (ppm)	0524	7.034	0.6157	6.810	3.179	0.6878	14	0.07	202.30	0
202	Acid Soluble Co (ppm)	0494	8.080	0.4200	6.810	3.179	0.6878	14	0.40	202.33	0
202	Acid Soluble Co (ppm)	0546	8.251	0.5936	6.810	3.179	0.6878	14	0.45	202.33	0
202	Acid Soluble Co (ppm)	0405	9.150	2.500	6.810	3.179	0.6878	14	0.74	202.99	0
202	Acid Soluble Co (ppm)	0419	9.295	0.3700	6.810	3.179	0.6878	14	0.78	202.30	0
202	Acid Soluble Co (ppm)	0515	10.69	0.6750	6.810	3.179	0.6878	14	1.22	202.34	0
202	Acid Soluble Co (ppm)	0515	11.50	2.139	6.810	3.179	0.6878	14	1.48	202.33	0
202	Acid Soluble Co (ppm)	0136	< 5		6.810	3.179	0.6878	14		202.33	5
221	Acid Soluble Cu (%)	0550	0.0324	0.0028	0.0426	0.0052	0.0052	27	-1.96	221.00	0
221	Acid Soluble Cu (%)	0521	0.0366	0.0000	0.0426	0.0052	0.0052	27	-1.15	221.32	0
221	Acid Soluble Cu (%)	0389	0.0375	0.0010	0.0426	0.0052	0.0052	27	-0.98	221.99	0
221	Acid Soluble Cu (%)	0402	0.0381	0.0008	0.0426	0.0052	0.0052	27	-0.87	221.30	0
221	Acid Soluble Cu (%)	0524	0.0384	0.0003	0.0426	0.0052	0.0052	27	-0.82	221.99	0
221	Acid Soluble Cu (%)	0498	0.0390	0.0040	0.0426	0.0052	0.0052	27	-0.69	221.00	0
221	Acid Soluble Cu (%)	0354	0.0400	0.0000	0.0426	0.0052	0.0052	27	-0.50	221.30	0
221	Acid Soluble Cu (%)	0472	0.0400	0.0000	0.0426	0.0052	0.0052	27	-0.50	221.30	0
221	Acid Soluble Cu (%)	0043	0.0400	0.0000	0.0426	0.0052	0.0052	27	-0.50	221.33	0
221	Acid Soluble Cu (%)	0136	0.0400	0.0000	0.0426	0.0052	0.0052	27	-0.50	221.33	0
221	Acid Soluble Cu (%)	0421	0.0404	0.0002	0.0426	0.0052	0.0052	27	-0.43	221.33	0
221	Acid Soluble Cu (%)	0546	0.0406	0.0050	0.0426	0.0052	0.0052	27	-0.39	221.33	0
221	Acid Soluble Cu (%)	0394	0.0409	0.0018	0.0426	0.0052	0.0052	27	-0.33	221.32	0
221	Acid Soluble Cu (%)	0035	0.0410	0.0100	0.0426	0.0052	0.0052	27	-0.31	221.30	0
221	Acid Soluble Cu (%)	0106	0.0424	0.0014	0.0426	0.0052	0.0052	27	-0.04	221.33	0
221	Acid Soluble Cu (%)	0515	0.0425	0.0030	0.0426	0.0052	0.0052	27	-0.02	221.33	0
221	Acid Soluble Cu (%)	0494	0.0427	0.0018	0.0426	0.0052	0.0052	27	0.01	221.33	0
221	Acid Soluble Cu (%)	0234	0.0428	0.0021	0.0426	0.0052	0.0052	27	0.02	221.30	0
221	Acid Soluble Cu (%)	0515	0.0431	0.0004	0.0426	0.0052	0.0052	27	0.09	221.99	0
221	Acid Soluble Cu (%)	0423	0.0455	0.0010	0.0426	0.0052	0.0052	27	0.55	221.32	0
221	Acid Soluble Cu (%)	0506	0.0455	0.0050	0.0426	0.0052	0.0052	27	0.55	221.99	0
221	Acid Soluble Cu (%)	0553	0.0490	0.0000	0.0426	0.0052	0.0052	27	1.22	221.00	0
221	Acid Soluble Cu (%)	0527	0.0492	0.0002	0.0426	0.0052	0.0052	27	1.26	221.33	0
221	Acid Soluble Cu (%)	0405	0.0497	0.0119	0.0426	0.0052	0.0052	27	1.35	221.99	0
221	Acid Soluble Cu (%)	0368	0.0504	0.0111	0.0426	0.0052	0.0052	27	1.48	221.33	0
221	Acid Soluble Cu (%)	0444	0.0555	0.0070	0.0426	0.0052	0.0052	27	2.47	221.30	0
221	Acid Soluble Cu (%)	0552	0.0950	0.0700	0.0426	0.0052	0.0052	27	10.04	221.30	0
221	Acid Soluble Cu (%)	0419	47.16	7.390	0.0426	0.0052	0.0052	27	9033.07	221.33	2
221	Acid Soluble Cu (%)	0255	0.0000	0.0000	0.0426	0.0052	0.0052	27		221.30	4
241	Acid Soluble Fe (%)	0389	0.0515	0.0010	0.5368	0.0520	0.0196	18	-9.34	241.99	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				
241	Acid Soluble Fe (%)	0546	0.2376	0.0059	0.5368	0.0520	0.0196	18	-5.76	241.33	0
241	Acid Soluble Fe (%)	0035	0.4740	0.1240	0.5368	0.0520	0.0196	18	-1.21	241.30	0
241	Acid Soluble Fe (%)	0472	0.4900	0.0000	0.5368	0.0520	0.0196	18	-0.90	241.30	0
241	Acid Soluble Fe (%)	0419	0.5130	0.0020	0.5368	0.0520	0.0196	18	-0.46	241.33	0
241	Acid Soluble Fe (%)	0515	0.5178	0.0092	0.5368	0.0520	0.0196	18	-0.37	241.99	0
241	Acid Soluble Fe (%)	0524	0.5212	0.0252	0.5368	0.0520	0.0196	18	-0.30	241.99	0
241	Acid Soluble Fe (%)	0515	0.5325	0.0710	0.5368	0.0520	0.0196	18	-0.08	241.33	0
241	Acid Soluble Fe (%)	0553	0.5375	0.0050	0.5368	0.0520	0.0196	18	0.01	241.00	0
241	Acid Soluble Fe (%)	0521	0.5416	0.0000	0.5368	0.0520	0.0196	18	0.09	241.32	0
241	Acid Soluble Fe (%)	0368	0.5505	0.0030	0.5368	0.0520	0.0196	18	0.26	241.33	0
241	Acid Soluble Fe (%)	0423	0.5610	0.0040	0.5368	0.0520	0.0196	18	0.47	241.32	0
241	Acid Soluble Fe (%)	0354	0.5650	0.0100	0.5368	0.0520	0.0196	18	0.54	241.30	0
241	Acid Soluble Fe (%)	0421	0.5680	0.0038	0.5368	0.0520	0.0196	18	0.60	241.33	0
241	Acid Soluble Fe (%)	0494	0.5723	0.0458	0.5368	0.0520	0.0196	18	0.68	241.33	0
241	Acid Soluble Fe (%)	0106	0.5910	0.0284	0.5368	0.0520	0.0196	18	1.04	241.33	0
241	Acid Soluble Fe (%)	0444	0.5950	0.0100	0.5368	0.0520	0.0196	18	1.12	241.30	0
241	Acid Soluble Fe (%)	0527	0.6169	0.0037	0.5368	0.0520	0.0196	18	1.54	241.33	0
241	Acid Soluble Fe (%)	0552	0.6050	0.1700	0.5368	0.0520	0.0196	18	1.31	241.30	1
251	Acid Soluble Pb (ppm)	0444	2.335	0.1700	4.230	1.226	0.6920	14	-1.55	251.30	0
251	Acid Soluble Pb (ppm)	0389	2.670	0.0400	4.230	1.226	0.6920	14	-1.27	251.30	0
251	Acid Soluble Pb (ppm)	0494	3.255	3.470	4.230	1.226	0.6920	14	-0.80	251.33	0
251	Acid Soluble Pb (ppm)	0524	3.413	0.1294	4.230	1.226	0.6920	14	-0.67	251.30	0
251	Acid Soluble Pb (ppm)	0550	3.690	0.1000	4.230	1.226	0.6920	14	-0.44	251.00	0
251	Acid Soluble Pb (ppm)	0255	3.956	0.3390	4.230	1.226	0.6920	14	-0.22	251.30	0
251	Acid Soluble Pb (ppm)	0394	4.150	0.0000	4.230	1.226	0.6920	14	-0.07	251.30	0
251	Acid Soluble Pb (ppm)	0450	4.200	0.0000	4.230	1.226	0.6920	14	-0.02	251.30	0
251	Acid Soluble Pb (ppm)	0136	4.605	0.0700	4.230	1.226	0.6920	14	0.31	251.33	0
251	Acid Soluble Pb (ppm)	0527	5.041	0.0802	4.230	1.226	0.6920	14	0.66	251.33	0
251	Acid Soluble Pb (ppm)	0405	5.200	0.2000	4.230	1.226	0.6920	14	0.79	251.99	0
251	Acid Soluble Pb (ppm)	0419	5.220	0.9600	4.230	1.226	0.6920	14	0.81	251.30	0
251	Acid Soluble Pb (ppm)	0117	5.362	0.2590	4.230	1.226	0.6920	14	0.92	251.33	0
251	Acid Soluble Pb (ppm)	0035	6.285	3.870	4.230	1.226	0.6920	14	1.68	251.30	0
251	Acid Soluble Pb (ppm)	0515	0.0000	0.0000	4.230	1.226	0.6920	14		251.34	4
251	Acid Soluble Pb (ppm)	0515	4.337	8.673	4.230	1.226	0.6920	14		251.33	4
251	Acid Soluble Pb (ppm)	0498	< 0.5		4.230	1.226	0.6920	14		251.00	5
251	Acid Soluble Pb (ppm)	0368	< 0.8		4.230	1.226	0.6920	14		251.34	5
261	Acid Soluble Mn (%)	0524	0.2251	0.0095	0.2783	0.0288	0.0158	17	-1.85	261.99	0
261	Acid Soluble Mn (%)	0521	0.2432	0.0000	0.2783	0.0288	0.0158	17	-1.22	261.34	0
261	Acid Soluble Mn (%)	0035	0.2455	0.0570	0.2783	0.0288	0.0158	17	-1.14	261.30	0
261	Acid Soluble Mn (%)	0546	0.2593	0.0162	0.2783	0.0288	0.0158	17	-0.66	261.35	0
261	Acid Soluble Mn (%)	0553	0.2645	0.0030	0.2783	0.0288	0.0158	17	-0.48	261.11	0
261	Acid Soluble Mn (%)	0515	0.2649	0.0075	0.2783	0.0288	0.0158	17	-0.47	261.99	0
261	Acid Soluble Mn (%)	0106	0.2691	0.0400	0.2783	0.0288	0.0158	17	-0.32	261.35	0
261	Acid Soluble Mn (%)	0472	0.2700	0.0000	0.2783	0.0288	0.0158	17	-0.29	261.30	0
261	Acid Soluble Mn (%)	0389	0.2800	0.0000	0.2783	0.0288	0.0158	17	0.06	261.99	0
261	Acid Soluble Mn (%)	0444	0.2850	0.0100	0.2783	0.0288	0.0158	17	0.23	261.30	0
261	Acid Soluble Mn (%)	0515	0.2871	0.0506	0.2783	0.0288	0.0158	17	0.30	261.35	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				
261	Acid Soluble Mn (%)	0494	0.2904	0.0026	0.2783	0.0288	0.0158	17	0.42	261.35	0
261	Acid Soluble Mn (%)	0368	0.2915	0.0020	0.2783	0.0288	0.0158	17	0.46	261.35	0
261	Acid Soluble Mn (%)	0354	0.2950	0.0100	0.2783	0.0288	0.0158	17	0.58	261.30	0
261	Acid Soluble Mn (%)	0423	0.3110	0.0040	0.2783	0.0288	0.0158	17	1.13	261.34	0
261	Acid Soluble Mn (%)	0527	0.3186	0.0057	0.2783	0.0288	0.0158	17	1.40	261.35	0
261	Acid Soluble Mn (%)	0552	0.3250	0.0500	0.2783	0.0288	0.0158	17	1.62	261.32	0
261	Acid Soluble Mn (%)	0419	290.5	19.50	0.2783	0.0288	0.0158	17	10067.15	261.35	2
281	Acid Soluble Hg (ppm)	0550	0.0299	0.0002	0.0440	0.0115	0.0001	4	-1.03	281.00	0
281	Acid Soluble Hg (ppm)	0405	0.0400	0.0000	0.0440	0.0115	0.0001	4	-0.29	281.99	0
281	Acid Soluble Hg (ppm)	0524	0.0497	0.0000	0.0440	0.0115	0.0001	4	0.42	281.99	0
281	Acid Soluble Hg (ppm)	0368	0.0564	0.0003	0.0440	0.0115	0.0001	4	0.91	281.99	0
281	Acid Soluble Hg (ppm)	0515	0.0000	0.0000	0.0440	0.0115	0.0001	4		281.30	4
281	Acid Soluble Hg (ppm)	0527	< 0.001		0.0440	0.0115	0.0001	4		281.30	5
281	Acid Soluble Hg (ppm)	0498	< 0.5		0.0440	0.0115	0.0001	4		281.00	5
281	Acid Soluble Hg (ppm)	0450	< 0.5		0.0440	0.0115	0.0001	4		281.30	5
289	Acid Soluble Mo (ppm)	0402	3.000	2.000	4.710	1.177	0.6398	12	-1.45	289.30	0
289	Acid Soluble Mo (ppm)	0524	3.648	0.1953	4.710	1.177	0.6398	12	-0.90	289.30	0
289	Acid Soluble Mo (ppm)	0035	3.860	0.3800	4.710	1.177	0.6398	12	-0.72	289.30	0
289	Acid Soluble Mo (ppm)	0515	4.018	1.331	4.710	1.177	0.6398	12	-0.59	289.33	0
289	Acid Soluble Mo (ppm)	0494	4.064	0.3925	4.710	1.177	0.6398	12	-0.55	289.33	0
289	Acid Soluble Mo (ppm)	0423	4.305	0.0500	4.710	1.177	0.6398	12	-0.34	289.33	0
289	Acid Soluble Mo (ppm)	0527	5.058	0.1568	4.710	1.177	0.6398	12	0.30	289.33	0
289	Acid Soluble Mo (ppm)	0546	5.253	0.1051	4.710	1.177	0.6398	12	0.46	289.33	0
289	Acid Soluble Mo (ppm)	0106	5.500	1.000	4.710	1.177	0.6398	12	0.67	289.33	0
289	Acid Soluble Mo (ppm)	0368	5.558	1.615	4.710	1.177	0.6398	12	0.72	289.34	0
289	Acid Soluble Mo (ppm)	0405	5.780	0.0600	4.710	1.177	0.6398	12	0.91	289.99	0
289	Acid Soluble Mo (ppm)	0255	7.516	0.3920	4.710	1.177	0.6398	12	2.38	289.30	0
289	Acid Soluble Mo (ppm)	0419	33.95	0.7000	4.710	1.177	0.6398	12	24.83	289.30	2
289	Acid Soluble Mo (ppm)	0515	0.0000	0.0000	4.710	1.177	0.6398	12		289.34	4
289	Acid Soluble Mo (ppm)	0550	< 1		4.710	1.177	0.6398	12		289.00	5
289	Acid Soluble Mo (ppm)	0136	< 5		4.710	1.177	0.6398	12		289.33	5
291	Acid Soluble Ni (ppm)	0444	6.765	0.3500	14.39	4.573	0.8498	17	-1.67	291.30	0
291	Acid Soluble Ni (ppm)	0498	8.850	1.700	14.39	4.573	0.8498	17	-1.21	291.00	0
291	Acid Soluble Ni (ppm)	0550	9.220	1.000	14.39	4.573	0.8498	17	-1.13	291.00	0
291	Acid Soluble Ni (ppm)	0394	10.90	0.0000	14.39	4.573	0.8498	17	-0.76	291.30	0
291	Acid Soluble Ni (ppm)	0524	11.20	0.3570	14.39	4.573	0.8498	17	-0.70	291.30	0
291	Acid Soluble Ni (ppm)	0035	12.30	3.000	14.39	4.573	0.8498	17	-0.46	291.30	0
291	Acid Soluble Ni (ppm)	0255	12.74	0.4820	14.39	4.573	0.8498	17	-0.36	291.99	0
291	Acid Soluble Ni (ppm)	0450	15.00	2.000	14.39	4.573	0.8498	17	0.13	291.30	0
291	Acid Soluble Ni (ppm)	0527	15.19	0.1625	14.39	4.573	0.8498	17	0.18	291.33	0
291	Acid Soluble Ni (ppm)	0136	15.20	0.8000	14.39	4.573	0.8498	17	0.18	291.33	0
291	Acid Soluble Ni (ppm)	0419	15.73	0.3500	14.39	4.573	0.8498	17	0.29	291.30	0
291	Acid Soluble Ni (ppm)	0405	16.00	0.0000	14.39	4.573	0.8498	17	0.35	291.99	0
291	Acid Soluble Ni (ppm)	0368	16.38	0.0705	14.39	4.573	0.8498	17	0.44	291.34	0
291	Acid Soluble Ni (ppm)	0117	17.36	0.8910	14.39	4.573	0.8498	17	0.65	291.33	0
291	Acid Soluble Ni (ppm)	0494	19.83	0.1333	14.39	4.573	0.8498	17	1.19	291.33	0
291	Acid Soluble Ni (ppm)	0515	19.94	0.6260	14.39	4.573	0.8498	17	1.21	291.34	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 Ni (ppm)	0515	22.88	2.525	14.39	4.573	0.8498	17	1.86	291.33	0
301	Acid Soluble Se (ppm)	0494	1.760	0.2400	27.56	49.14	1.479	4	-0.45	301.33	0
301	Acid Soluble Se (ppm)	0255	3.232	2.175	27.56	49.14	1.479	4	-0.42	301.99	0
301	Acid Soluble Se (ppm)	0405	4.000	0.0000	27.56	49.14	1.479	4	-0.41	301.99	0
301	Acid Soluble Se (ppm)	0506	101.3	3.500	27.56	49.14	1.479	4	1.27	301.99	0
301	Acid Soluble Se (ppm)	0515	0.0000	0.0000	27.56	49.14	1.479	4		301.34	4
301	Acid Soluble Se (ppm)	0515	9.641	19.28	27.56	49.14	1.479	4		301.33	4
301	Acid Soluble Se (ppm)	0527	< 0.001		27.56	49.14	1.479	4		301.33	5
301	Acid Soluble Se (ppm)	0550	< 0.08		27.56	49.14	1.479	4		301.00	5
301	Acid Soluble Se (ppm)	0368	< 1.3		27.56	49.14	1.479	4		301.34	5
311	Sodium (%)	0521	3.577	0.0000	5.061	0.3887	0.0469	8	-3.49	311.32	0
311	Sodium (%)	0354	4.890	0.0000	5.061	0.3887	0.0469	8	-0.40	311.99	0
311	Sodium (%)	0494	4.960	0.0066	5.061	0.3887	0.0469	8	-0.24	311.33	0
311	Sodium (%)	0368	4.974	0.0330	5.061	0.3887	0.0469	8	-0.21	311.33	0
311	Sodium (%)	0423	4.980	0.0400	5.061	0.3887	0.0469	8	-0.19	311.33	0
311	Sodium (%)	0527	5.277	0.1448	5.061	0.3887	0.0469	8	0.51	311.33	0
311	Sodium (%)	0546	5.287	0.1004	5.061	0.3887	0.0469	8	0.53	311.33	0
311	Sodium (%)	0553	6.775	0.0500	5.061	0.3887	0.0469	8	4.03	311.00	0
311	Sodium (%)	0035	4.775	0.4900	5.061	0.3887	0.0469	8	-0.67	311.33	1
321	Acid Soluble Zn (%)	0106	0.3530	0.3256	0.5140	0.0417	0.0284	28	-3.86	321.33	0
321	Acid Soluble Zn (%)	0524	0.4118	0.0002	0.5140	0.0417	0.0284	28	-2.45	321.99	0
321	Acid Soluble Zn (%)	0035	0.4505	0.1330	0.5140	0.0417	0.0284	28	-1.52	321.30	0
321	Acid Soluble Zn (%)	0521	0.4540	0.0000	0.5140	0.0417	0.0284	28	-1.44	321.32	0
321	Acid Soluble Zn (%)	0368	0.4793	0.0025	0.5140	0.0417	0.0284	28	-0.83	321.33	0
321	Acid Soluble Zn (%)	0405	0.4793	0.0012	0.5140	0.0417	0.0284	28	-0.83	321.99	0
321	Acid Soluble Zn (%)	0472	0.4900	0.0000	0.5140	0.0417	0.0284	28	-0.57	321.30	0
321	Acid Soluble Zn (%)	0043	0.4950	0.0100	0.5140	0.0417	0.0284	28	-0.45	321.33	0
321	Acid Soluble Zn (%)	0136	0.4950	0.0100	0.5140	0.0417	0.0284	28	-0.45	321.33	0
321	Acid Soluble Zn (%)	0515	0.5029	0.0467	0.5140	0.0417	0.0284	28	-0.27	321.33	0
321	Acid Soluble Zn (%)	0494	0.5045	0.0163	0.5140	0.0417	0.0284	28	-0.23	321.33	0
321	Acid Soluble Zn (%)	0234	0.5048	0.0087	0.5140	0.0417	0.0284	28	-0.22	321.30	0
321	Acid Soluble Zn (%)	0515	0.5098	0.0519	0.5140	0.0417	0.0284	28	-0.10	321.99	0
321	Acid Soluble Zn (%)	0394	0.5129	0.0198	0.5140	0.0417	0.0284	28	-0.03	321.32	0
321	Acid Soluble Zn (%)	0389	0.5200	0.0000	0.5140	0.0417	0.0284	28	0.14	321.99	0
321	Acid Soluble Zn (%)	0552	0.5250	0.0300	0.5140	0.0417	0.0284	28	0.26	321.30	0
321	Acid Soluble Zn (%)	0433	0.5280	0.0120	0.5140	0.0417	0.0284	28	0.34	321.30	0
321	Acid Soluble Zn (%)	0354	0.5300	0.0400	0.5140	0.0417	0.0284	28	0.38	321.30	0
321	Acid Soluble Zn (%)	0527	0.5312	0.0002	0.5140	0.0417	0.0284	28	0.41	321.33	0
321	Acid Soluble Zn (%)	0255	0.5340	0.0220	0.5140	0.0417	0.0284	28	0.48	321.30	0
321	Acid Soluble Zn (%)	0550	0.5350	0.0080	0.5140	0.0417	0.0284	28	0.50	321.00	0
321	Acid Soluble Zn (%)	0421	0.5386	0.0073	0.5140	0.0417	0.0284	28	0.59	321.33	0
321	Acid Soluble Zn (%)	0506	0.5420	0.0140	0.5140	0.0417	0.0284	28	0.67	321.99	0
321	Acid Soluble Zn (%)	0444	0.5450	0.0100	0.5140	0.0417	0.0284	28	0.74	321.30	0
321	Acid Soluble Zn (%)	0402	0.5515	0.0030	0.5140	0.0417	0.0284	28	0.90	321.30	0
321	Acid Soluble Zn (%)	0546	0.5949	0.0146	0.5140	0.0417	0.0284	28	1.94	321.33	0
321	Acid Soluble Zn (%)	0553	0.6050	0.0000	0.5140	0.0417	0.0284	28	2.18	321.00	0
321	Acid Soluble Zn (%)	0423	0.6565	0.0090	0.5140	0.0417	0.0284	28	3.41	321.32	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 Zn (%)	0419	527.1	10.70	0.5140	0.0417	0.0284	28	12613.52	321.33	2

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 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.