

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 200211

Grade 8-0-0 Liquid

Statistical Summary

Analytes: 32

Labs Reporting: 90

Issue Date : 03/31/2020

Analyte Code	Analyte Sample # 200211	# 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 (%)	41	39	7.813	0.7525	7.816		0.2828	0.0566	3.62%		0.0743	2.94%
002	Nitrate N (%)	1		8.030									
010	Total N (8%)	72	70	7.803	0.6353	7.894	0.5489	0.4147	0.0620	5.25%	1.76	0.1039	2.93%
020	Total P2O5 (%)	8	5	0.0162	0.0143	0.0162		0.0143	0.0080	88.27%		0.0035	7.44%
041	Direct Available P2O5 (%)	2	2	0.0493	0.0364								
050	Soluble K2O (%)	10	9	0.1675	0.2516	0.0769	0.4100	0.0809	0.0337	105.24%	0.46	0.0043	5.88%
101	Acid Soluble Ca (%)	12	11	0.0470	0.0630	0.0305	0.2015	0.0096	0.0036	31.60%	0.11	0.0038	6.76%
121	Acid Soluble Mg (%)	17	14	0.0208	0.0083	0.0203	0.2010	0.0080	0.0027	39.60%	0.09	0.0006	7.19%
131	Water Soluble Mg (%)	1		0.0225									
143	Elemental S (%)	6	6	3.249	0.2333	3.253		0.2551	0.1302	7.84%		0.0518	3.35%
145	Sulfate S, HCl soluble (%)	8	7	3.512	0.3156	3.446		0.1846	0.0872	5.36%		0.0385	3.32%
146	Total S in Liquid (3%)	4	4	3.299	0.1959	3.299	0.3649	0.1959	0.1224	5.94%	1.25	0.1875	3.34%
148	Total S (3%)	49	47	3.420	0.2727	3.406	0.3703	0.2002	0.0365	5.88%	1.26	0.0644	3.33%
149	S - HNO3 soluble (%)	3	3	3.150	0.5703	3.150		0.5703	0.4116	18.10%		0.2056	3.37%
151	Acid Soluble As (ppm)	15	4	0.4355	0.4881	0.4355		0.4881	0.3050	112.08%		0.0705	18.13%
165	Acid Soluble B (%)	11	8	0.0020	0.0022	0.0017	0.0033	0.0019	0.0009	111.52%	1.38	0.0005	10.42%
181	Acid Soluble Cd (ppm)	20	15	0.4198	0.3702	0.3437		0.2038	0.0658	59.28%		0.0293	18.79%
191	Acid Soluble Cr (ppm)	18	16	3.388	3.769	2.749		2.842	0.8881	103.37%		0.3530	13.74%
202	Acid Soluble Co (ppm)	21	19	22.23	5.433	21.55	7.4647	4.033	1.156	18.71%	1.26	0.8762	10.08%
221	Acid Soluble Cu (%)	14	3	0.0008	0.0002	0.0008	0.0051	0.0002	0.0001	25.00%	0.09	0.0003	11.70%
241	Acid Soluble Fe (1%)	72	69	1.060	0.1115	1.050	0.1100	0.0695	0.0105	6.62%	1.47	0.0307	3.97%
251	Acid Soluble Pb (ppm)	15	9	2.708	1.976	2.708		2.241	0.9336	82.75%		0.5408	13.77%
261	Acid Soluble Mn (2%)	65	63	2.165	0.2401	2.141	0.2191	0.1690	0.0266	7.90%	1.80	0.0705	3.57%
271	Water Soluble Mn (%)	4	4	2.210	0.1361	2.210		0.1361	0.0851	6.16%		0.0897	3.55%
281	Acid Soluble Hg (ppm)	7	3	0.4084	0.6857	0.4084		0.6857	0.4949	167.91%		0.0033	18.30%
289	Acid Soluble Mo (ppm)	14	7	0.3497	0.1685	0.3573	1.1072	0.1732	0.0819	48.49%	0.36	0.0465	18.68%
291	Acid Soluble Ni (ppm)	24	22	11.53	3.931	11.03		2.881	0.7677	26.12%		0.9705	11.15%
301	Acid Soluble Se (ppm)	12	7	4.098	4.830	4.098		5.477	2.588	133.65%		0.2223	12.94%
311	Sodium (%)	8	8	0.5161	0.0455	0.5091	0.0559	0.0334	0.0148	6.56%	1.39	0.0060	4.43%
321	Acid Soluble Zn (3%)	65	63	3.214	0.5509	3.205	0.3255	0.2578	0.0406	8.04%	1.85	0.0662	3.36%
325	Water Soluble Zn (%)	8	7	3.343	0.2890	3.343		0.3278	0.1549	9.80%		0.0781	3.34%
431	Soluble Si in nonliquids (%)	1		0.0350									

The Analyte IA Ratio = 2.33 * Robust SD / IA at the Analyte Assigned Value. IA ratios of 1 and less indicate participant data dispersion is as good or less than the IA. Red indicates the IA ratio is

Analyte Code	Analyte Sample # 200211	# 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
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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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STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 200211

Grade 8-0-0 Liquid

Lab Values

Analytes: 32

Labs Reporting: 90

Issue Date : 03/31/2020

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 (%)	0027	5.555	0.0100	7.816	0.2828	0.0743	39	-7.99	001.99	0
001	Ammoniacal N (%)	0255	6.680	0.2400	7.816	0.2828	0.0743	39	-4.02	001.99	0
001	Ammoniacal N (%)	0553	6.945	0.0700	7.816	0.2828	0.0743	39	-3.08	001.99	0
001	Ammoniacal N (%)	0420	7.115	0.1100	7.816	0.2828	0.0743	39	-2.48	001.99	0
001	Ammoniacal N (%)	0309	7.315	0.2700	7.816	0.2828	0.0743	39	-1.77	001.10	0
001	Ammoniacal N (%)	0456	7.460	0.0200	7.816	0.2828	0.0743	39	-1.26	001.10	0
001	Ammoniacal N (%)	0444	7.485	0.0500	7.816	0.2828	0.0743	39	-1.17	001.10	0
001	Ammoniacal N (%)	0565	7.560	0.0800	7.816	0.2828	0.0743	39	-0.90	001.99	0
001	Ammoniacal N (%)	0564	7.610	0.0200	7.816	0.2828	0.0743	39	-0.73	001.99	0
001	Ammoniacal N (%)	0563	7.653	0.3290	7.816	0.2828	0.0743	39	-0.58	001.10	0
001	Ammoniacal N (%)	0096	7.665	0.0700	7.816	0.2828	0.0743	39	-0.53	001.99	0
001	Ammoniacal N (%)	0559	7.690	0.0200	7.816	0.2828	0.0743	39	-0.44	001.99	0
001	Ammoniacal N (%)	0562	7.700	0.1000	7.816	0.2828	0.0743	39	-0.41	001.99	0
001	Ammoniacal N (%)	0544	7.705	0.0500	7.816	0.2828	0.0743	39	-0.39	001.99	0
001	Ammoniacal N (%)	0560	7.750	0.1000	7.816	0.2828	0.0743	39	-0.23	001.99	0
001	Ammoniacal N (%)	0136	7.810	0.1000	7.816	0.2828	0.0743	39	-0.02	001.10	0
001	Ammoniacal N (%)	0220	7.825	0.0500	7.816	0.2828	0.0743	39	0.03	001.99	0
001	Ammoniacal N (%)	0423	7.825	0.1300	7.816	0.2828	0.0743	39	0.03	001.99	0
001	Ammoniacal N (%)	0486	7.835	0.0100	7.816	0.2828	0.0743	39	0.07	001.10	0
001	Ammoniacal N (%)	0394	7.863	0.0790	7.816	0.2828	0.0743	39	0.17	001.99	0
001	Ammoniacal N (%)	0481	7.885	0.1100	7.816	0.2828	0.0743	39	0.25	001.10	0
001	Ammoniacal N (%)	0405	7.895	0.0300	7.816	0.2828	0.0743	39	0.28	001.99	0
001	Ammoniacal N (%)	0550	7.905	0.0100	7.816	0.2828	0.0743	39	0.32	001.99	0
001	Ammoniacal N (%)	0231	7.910	0.0200	7.816	0.2828	0.0743	39	0.33	001.10	0
001	Ammoniacal N (%)	0371	7.925	0.0500	7.816	0.2828	0.0743	39	0.39	001.99	0
001	Ammoniacal N (%)	0451	7.935	0.0100	7.816	0.2828	0.0743	39	0.42	001.10	0
001	Ammoniacal N (%)	0493	7.950	0.1000	7.816	0.2828	0.0743	39	0.47	001.99	0
001	Ammoniacal N (%)	0538	7.990	0.0600	7.816	0.2828	0.0743	39	0.62	001.99	0
001	Ammoniacal N (%)	0549	7.990	0.0200	7.816	0.2828	0.0743	39	0.62	001.99	0
001	Ammoniacal N (%)	0498	8.000	0.0000	7.816	0.2828	0.0743	39	0.65	001.10	0
001	Ammoniacal N (%)	0513	8.045	0.0300	7.816	0.2828	0.0743	39	0.81	001.99	0
001	Ammoniacal N (%)	0200	8.050	0.2000	7.816	0.2828	0.0743	39	0.83	001.99	0
001	Ammoniacal N (%)	0536	8.050	0.1000	7.816	0.2828	0.0743	39	0.83	001.99	0
001	Ammoniacal N (%)	0546	8.060	0.0200	7.816	0.2828	0.0743	39	0.86	001.99	0
001	Ammoniacal N (%)	0522	8.085	0.0900	7.816	0.2828	0.0743	39	0.95	001.99	0
001	Ammoniacal N (%)	0532	8.125	0.0900	7.816	0.2828	0.0743	39	1.09	001.99	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				
001	Ammoniacal N (%)	0558	8.140	0.0000	7.816	0.2828	0.0743	39	1.15	001.99	0
001	Ammoniacal N (%)	0545	8.425	0.0500	7.816	0.2828	0.0743	39	2.15	001.99	0
001	Ammoniacal N (%)	0527	11.30	0.0000	7.816	0.2828	0.0743	39	12.32	001.99	0
001	Ammoniacal N (%)	0117	7.150	0.5000	7.816	0.2828	0.0743	39	-2.35	001.10	1
001	Ammoniacal N (%)	0524	0.0008	0.0000	7.816	0.2828	0.0743	39	-27.63	001.99	2
002	Nitrate N (%)	0371	8.030	0.2400				1		002.99	0
010	Total N (8%)	0450	5.350†	0.3000	7.894	0.4147	0.1039	70	-6.13	010.60	0
010	Total N (8%)	0419	6.031†	0.1490	7.894	0.4147	0.1039	70	-4.49	010.60	0
010	Total N (8%)	0472	6.215†	0.1700	7.894	0.4147	0.1039	70	-4.05	010.60	0
010	Total N (8%)	0117	6.305†	0.0700	7.894	0.4147	0.1039	70	-3.83	010.60	0
010	Total N (8%)	0523	6.750†	0.1000	7.894	0.4147	0.1039	70	-2.76	010.60	0
010	Total N (8%)	0136	6.775†	0.1100	7.894	0.4147	0.1039	70	-2.70	010.60	0
010	Total N (8%)	0389	6.945†	0.0100	7.894	0.4147	0.1039	70	-2.29	010.60	0
010	Total N (8%)	0553	6.945†	0.0700	7.894	0.4147	0.1039	70	-2.29	010.99	0
010	Total N (8%)	0527	6.952†	0.1900	7.894	0.4147	0.1039	70	-2.27	010.60	0
010	Total N (8%)	0231	7.105†	0.4500	7.894	0.4147	0.1039	70	-1.90	010.60	0
010	Total N (8%)	0485	7.181†	0.1750	7.894	0.4147	0.1039	70	-1.72	010.60	0
010	Total N (8%)	0521	7.400	0.0000	7.894	0.4147	0.1039	70	-1.19	010.60	0
010	Total N (8%)	0035	7.425	0.0300	7.894	0.4147	0.1039	70	-1.13	010.60	0
010	Total N (8%)	0444	7.435	0.0500	7.894	0.4147	0.1039	70	-1.11	010.60	0
010	Total N (8%)	0157	7.460	0.0800	7.894	0.4147	0.1039	70	-1.05	010.60	0
010	Total N (8%)	0309	7.480	0.4200	7.894	0.4147	0.1039	70	-1.00	010.11	0
010	Total N (8%)	0095	7.600	0.0200	7.894	0.4147	0.1039	70	-0.71	010.60	0
010	Total N (8%)	0524	7.637	0.0640	7.894	0.4147	0.1039	70	-0.62	010.99	0
010	Total N (8%)	0169	7.675	0.1100	7.894	0.4147	0.1039	70	-0.53	010.60	0
010	Total N (8%)	0451	7.739	0.4260	7.894	0.4147	0.1039	70	-0.37	010.60	0
010	Total N (8%)	0494	7.750	0.0200	7.894	0.4147	0.1039	70	-0.35	010.60	0
010	Total N (8%)	0563	7.810	0.0400	7.894	0.4147	0.1039	70	-0.20	010.99	0
010	Total N (8%)	0177	7.811	0.1410	7.894	0.4147	0.1039	70	-0.20	010.60	0
010	Total N (8%)	0055	7.830	0.0200	7.894	0.4147	0.1039	70	-0.15	010.60	0
010	Total N (8%)	0563	7.833	0.0640	7.894	0.4147	0.1039	70	-0.15	010.12	0
010	Total N (8%)	0025	7.857	0.0250	7.894	0.4147	0.1039	70	-0.09	010.60	0
010	Total N (8%)	0049	7.870	0.1000	7.894	0.4147	0.1039	70	-0.06	010.60	0
010	Total N (8%)	0481	7.915	0.0900	7.894	0.4147	0.1039	70	0.05	010.12	0
010	Total N (8%)	0481	7.920	0.1800	7.894	0.4147	0.1039	70	0.06	010.60	0
010	Total N (8%)	0043	7.935	0.0500	7.894	0.4147	0.1039	70	0.10	010.60	0
010	Total N (8%)	0550	7.935	0.0100	7.894	0.4147	0.1039	70	0.10	010.60	0
010	Total N (8%)	0456	7.945	0.0300	7.894	0.4147	0.1039	70	0.12	010.11	0
010	Total N (8%)	0486	7.970	0.0600	7.894	0.4147	0.1039	70	0.18	010.60	0
010	Total N (8%)	0390	7.975	0.0100	7.894	0.4147	0.1039	70	0.20	010.60	0
010	Total N (8%)	0041	7.981	0.0910	7.894	0.4147	0.1039	70	0.21	010.60	0
010	Total N (8%)	0498	8.000	0.0000	7.894	0.4147	0.1039	70	0.26	010.12	0
010	Total N (8%)	0040	8.000	0.2000	7.894	0.4147	0.1039	70	0.26	010.60	0
010	Total N (8%)	0423	8.005	0.1300	7.894	0.4147	0.1039	70	0.27	010.60	0
010	Total N (8%)	0234	8.010	0.1000	7.894	0.4147	0.1039	70	0.28	010.60	0
010	Total N (8%)	0220	8.015	0.1500	7.894	0.4147	0.1039	70	0.29	010.60	0
010	Total N (8%)	0534	8.040	0.0600	7.894	0.4147	0.1039	70	0.35	010.60	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 (8%)	0516	8.050	0.1000	7.894	0.4147	0.1039	70	0.38	010.60	0
010	Total N (8%)	0291	8.065	0.0100	7.894	0.4147	0.1039	70	0.41	010.60	0
010	Total N (8%)	0501	8.082	0.0509	7.894	0.4147	0.1039	70	0.46	010.60	0
010	Total N (8%)	0551	8.085	0.0700	7.894	0.4147	0.1039	70	0.46	010.99	0
010	Total N (8%)	0562	8.085	0.1300	7.894	0.4147	0.1039	70	0.46	010.99	0
010	Total N (8%)	0452	8.090	0.0400	7.894	0.4147	0.1039	70	0.47	010.60	0
010	Total N (8%)	0493	8.100	0.1000	7.894	0.4147	0.1039	70	0.50	010.99	0
010	Total N (8%)	0531	8.120	0.0200	7.894	0.4147	0.1039	70	0.55	010.99	0
010	Total N (8%)	0531	8.125	0.0500	7.894	0.4147	0.1039	70	0.56	010.11	0
010	Total N (8%)	0029	8.127	0.1930	7.894	0.4147	0.1039	70	0.56	010.60	0
010	Total N (8%)	0558	8.140	0.0000	7.894	0.4147	0.1039	70	0.59	010.99	0
010	Total N (8%)	0354	8.145	0.0300	7.894	0.4147	0.1039	70	0.61	010.60	0
010	Total N (8%)	0551	8.150	0.1000	7.894	0.4147	0.1039	70	0.62	010.11	0
010	Total N (8%)	0292	8.190	0.0000	7.894	0.4147	0.1039	70	0.71	010.60	0
010	Total N (8%)	0230	8.200	0.0000	7.894	0.4147	0.1039	70	0.74	010.60	0
010	Total N (8%)	0405	8.200	0.1800	7.894	0.4147	0.1039	70	0.74	010.60	0
010	Total N (8%)	0377	8.205	0.2700	7.894	0.4147	0.1039	70	0.75	010.60	0
010	Total N (8%)	0547	8.230	0.0000	7.894	0.4147	0.1039	70	0.81	010.60	0
010	Total N (8%)	0565	8.240	0.0800	7.894	0.4147	0.1039	70	0.84	010.99	0
010	Total N (8%)	0420	8.255	0.1700	7.894	0.4147	0.1039	70	0.87	010.99	0
010	Total N (8%)	0564	8.275	0.0500	7.894	0.4147	0.1039	70	0.92	010.99	0
010	Total N (8%)	0086	8.289	0.1135	7.894	0.4147	0.1039	70	0.95	010.60	0
010	Total N (8%)	0559	8.295	0.0300	7.894	0.4147	0.1039	70	0.97	010.99	0
010	Total N (8%)	0560	8.300	0.2000	7.894	0.4147	0.1039	70	0.98	010.99	0
010	Total N (8%)	0073	8.335	0.1100	7.894	0.4147	0.1039	70	1.06	010.60	0
010	Total N (8%)	0114	8.390	0.0800	7.894	0.4147	0.1039	70	1.20	010.60	0
010	Total N (8%)	0360	8.725‡	0.2100	7.894	0.4147	0.1039	70	2.00	010.60	0
010	Total N (8%)	0556	8.900‡	0.2000	7.894	0.4147	0.1039	70	2.43	010.99	0
010	Total N (8%)	0561	9.010‡	0.1200	7.894	0.4147	0.1039	70	2.69	010.60	0
010	Total N (8%)	0255	7.191†	0.7800	7.894	0.4147	0.1039	70	-1.69	010.60	1
010	Total N (8%)	0422	7.350	0.9000	7.894	0.4147	0.1039	70	-1.31	010.60	1
020	Total P2O5 (%)	0515	0.0017	0.0005	0.0162	0.0143	0.0035	5	-0.89	020.99	0
020	Total P2O5 (%)	0523	0.0100	0.0000	0.0162	0.0143	0.0035	5	-0.38	020.50	0
020	Total P2O5 (%)	0422	0.0145	0.0070	0.0162	0.0143	0.0035	5	-0.11	020.50	0
020	Total P2O5 (%)	0516	0.0150	0.0100	0.0162	0.0143	0.0035	5	-0.07	020.50	0
020	Total P2O5 (%)	0389	0.0400	0.0000	0.0162	0.0143	0.0035	5	1.45	020.50	0
020	Total P2O5 (%)	0450	0.0000	0.0000	0.0162	0.0143	0.0035	5		020.20	4
020	Total P2O5 (%)	0524	0.0001	0.0001	0.0162	0.0143	0.0035	5		020.50	4
020	Total P2O5 (%)	0527	< 0.001		0.0162	0.0143	0.0035	5		020.50	5
041	Direct Available P2O5 (%)	0354	0.0235	0.0090				2		041.21	0
041	Direct Available P2O5 (%)	0485	0.0750	0.0100				2		041.11	0
050	Soluble K2O (%)	0523	0.0100	0.0000	0.0769	0.0809	0.0043	9	-0.76	050.99	0
050	Soluble K2O (%)	0515	0.0126	0.0067	0.0769	0.0809	0.0043	9	-0.73	050.99	0
050	Soluble K2O (%)	0389	0.0477	0.0003	0.0769	0.0809	0.0043	9	-0.33	050.99	0
050	Soluble K2O (%)	0096	0.0500	0.0000	0.0769	0.0809	0.0043	9	-0.31	050.99	0
050	Soluble K2O (%)	0524	0.0529	0.0143	0.0769	0.0809	0.0043	9	-0.27	050.99	0
050	Soluble K2O (%)	0354	0.0590	0.0040	0.0769	0.0809	0.0043	9	-0.20	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 K2O (%)	0563	0.0634	0.0035	0.0769	0.0809	0.0043	9	-0.15	050.99	0
050	Soluble K2O (%)	0516	0.5400	0.0000	0.0769	0.0809	0.0043	9	5.28	050.99	0
050	Soluble K2O (%)	0527	0.6723	0.0096	0.0769	0.0809	0.0043	9	6.79	050.99	0
050	Soluble K2O (%)	0422	0.0450	0.0300	0.0769	0.0809	0.0043	9	-0.36	050.50	1
101	Acid Soluble Ca (%)	0553	0.0075	0.0010	0.0305	0.0096	0.0038	11	-2.39	101.00	0
101	Acid Soluble Ca (%)	0136	0.0230	0.0020	0.0305	0.0096	0.0038	11	-0.78	101.33	0
101	Acid Soluble Ca (%)	0389	0.0250	0.0100	0.0305	0.0096	0.0038	11	-0.57	101.99	0
101	Acid Soluble Ca (%)	0563	0.0256	0.0012	0.0305	0.0096	0.0038	11	-0.51	101.33	0
101	Acid Soluble Ca (%)	0423	0.0280	0.0000	0.0305	0.0096	0.0038	11	-0.26	101.32	0
101	Acid Soluble Ca (%)	0419	0.0295	0.0010	0.0305	0.0096	0.0038	11	-0.10	101.33	0
101	Acid Soluble Ca (%)	0494	0.0307	0.0024	0.0305	0.0096	0.0038	11	0.02	101.33	0
101	Acid Soluble Ca (%)	0521	0.0321	0.0000	0.0305	0.0096	0.0038	11	0.17	101.32	0
101	Acid Soluble Ca (%)	0527	0.0399	0.0009	0.0305	0.0096	0.0038	11	0.97	101.33	0
101	Acid Soluble Ca (%)	0096	0.0405	0.0130	0.0305	0.0096	0.0038	11	1.04	101.30	0
101	Acid Soluble Ca (%)	0354	0.2350	0.0100	0.0305	0.0096	0.0038	11	21.24	101.30	0
101	Acid Soluble Ca (%)	0041	< 0.1		0.0305	0.0096	0.0038	11		101.30	5
121	Acid Soluble Mg (%)	0354	0.0100	0.0000	0.0203	0.0080	0.0006	14	-1.28	121.30	0
121	Acid Soluble Mg (%)	0523	0.0100	0.0000	0.0203	0.0080	0.0006	14	-1.28	121.99	0
121	Acid Soluble Mg (%)	0524	0.0120	0.0005	0.0203	0.0080	0.0006	14	-1.04	121.99	0
121	Acid Soluble Mg (%)	0423	0.0155	0.0010	0.0203	0.0080	0.0006	14	-0.60	121.32	0
121	Acid Soluble Mg (%)	0136	0.0180	0.0000	0.0203	0.0080	0.0006	14	-0.28	121.33	0
121	Acid Soluble Mg (%)	0389	0.0180	0.0000	0.0203	0.0080	0.0006	14	-0.28	121.99	0
121	Acid Soluble Mg (%)	0096	0.0200	0.0000	0.0203	0.0080	0.0006	14	-0.04	121.30	0
121	Acid Soluble Mg (%)	0419	0.0205	0.0010	0.0203	0.0080	0.0006	14	0.03	121.33	0
121	Acid Soluble Mg (%)	0494	0.0211	0.0008	0.0203	0.0080	0.0006	14	0.10	121.33	0
121	Acid Soluble Mg (%)	0527	0.0220	0.0003	0.0203	0.0080	0.0006	14	0.21	121.33	0
121	Acid Soluble Mg (%)	0563	0.0278	0.0019	0.0203	0.0080	0.0006	14	0.93	121.33	0
121	Acid Soluble Mg (%)	0515	0.0283	0.0022	0.0203	0.0080	0.0006	14	1.00	121.99	0
121	Acid Soluble Mg (%)	0521	0.0286	0.0000	0.0203	0.0080	0.0006	14	1.04	121.32	0
121	Acid Soluble Mg (%)	0516	0.0400	0.0000	0.0203	0.0080	0.0006	14	2.45	121.99	0
121	Acid Soluble Mg (%)	0515	0.0413	0.0279	0.0203	0.0080	0.0006	14	2.61	121.33	1
121	Acid Soluble Mg (%)	0421	< 0.012		0.0203	0.0080	0.0006	14		121.33	5
121	Acid Soluble Mg (%)	0041	< 0.1		0.0203	0.0080	0.0006	14		121.30	5
131	Water Soluble Mg (%)	0553	0.0225	0.0070				1		131.00	0
143	Elemental S (%)	0255	2.847	0.1310	3.253	0.2551	0.0518	6	-1.42	143.99	0
143	Elemental S (%)	0481	3.165	0.0300	3.253	0.2551	0.0518	6	-0.31	143.99	0
143	Elemental S (%)	0472	3.290	0.0200	3.253	0.2551	0.0518	6	0.13	143.99	0
143	Elemental S (%)	0390	3.320	0.0600	3.253	0.2551	0.0518	6	0.23	143.99	0
143	Elemental S (%)	0291	3.325	0.0100	3.253	0.2551	0.0518	6	0.25	143.99	0
143	Elemental S (%)	0389	3.550	0.0600	3.253	0.2551	0.0518	6	1.04	143.99	0
145	Sulfate S, HCl soluble (%)	0444	3.220	0.0800	3.446	0.1846	0.0385	7	-1.11	145.99	0
145	Sulfate S, HCl soluble (%)	0544	3.355	0.0100	3.446	0.1846	0.0385	7	-0.45	145.00	0
145	Sulfate S, HCl soluble (%)	0561	3.355	0.0100	3.446	0.1846	0.0385	7	-0.45	145.00	0
145	Sulfate S, HCl soluble (%)	0550	3.420	0.0000	3.446	0.1846	0.0385	7	-0.13	145.00	0
145	Sulfate S, HCl soluble (%)	0485	3.501	0.0395	3.446	0.1846	0.0385	7	0.27	145.00	0
145	Sulfate S, HCl soluble (%)	0498	3.550	0.1000	3.446	0.1846	0.0385	7	0.51	145.00	0
145	Sulfate S, HCl soluble (%)	0200	4.185	0.0300	3.446	0.1846	0.0385	7	3.62	145.99	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				
145	Sulfate S, HCl soluble (%)	0518	2.995	0.2700	3.446	0.1846	0.0385	7	-2.21	145.00	1
146	Total S in Liquid (3%)	0538	3.005	0.0300	3.299	0.1959	0.1875	4	-1.50	146.00	0
146	Total S in Liquid (3%)	0117	3.390	0.0000	3.299	0.1959	0.1875	4	0.47	146.00	0
146	Total S in Liquid (3%)	0220	3.400	0.3200	3.299	0.1959	0.1875	4	0.52	146.00	0
146	Total S in Liquid (3%)	0560	3.400	0.4000	3.299	0.1959	0.1875	4	0.52	146.99	0
148	Total S (3%)	0114	2.810†	0.1000	3.406	0.2002	0.0644	47	-2.98	148.00	0
148	Total S (3%)	0553	2.890†	0.1000	3.406	0.2002	0.0644	47	-2.58	148.99	0
148	Total S (3%)	0558	2.955†	0.0700	3.406	0.2002	0.0644	47	-2.25	148.99	0
148	Total S (3%)	0534	3.000†	0.0200	3.406	0.2002	0.0644	47	-2.03	148.01	0
148	Total S (3%)	0422	3.081	0.0990	3.406	0.2002	0.0644	47	-1.63	148.99	0
148	Total S (3%)	0523	3.115	0.0300	3.406	0.2002	0.0644	47	-1.46	148.99	0
148	Total S (3%)	0073	3.195	0.2100	3.406	0.2002	0.0644	47	-1.06	148.01	0
148	Total S (3%)	0419	3.204	0.0430	3.406	0.2002	0.0644	47	-1.01	148.00	0
148	Total S (3%)	0444	3.285	0.0500	3.406	0.2002	0.0644	47	-0.61	148.07	0
148	Total S (3%)	0444	3.285	0.0500	3.406	0.2002	0.0644	47	-0.61	148.99	0
148	Total S (3%)	0565	3.325	0.0500	3.406	0.2002	0.0644	47	-0.41	148.01	0
148	Total S (3%)	0527	3.336	0.0520	3.406	0.2002	0.0644	47	-0.35	148.07	0
148	Total S (3%)	0559	3.340	0.0200	3.406	0.2002	0.0644	47	-0.33	148.99	0
148	Total S (3%)	0433	3.347	0.0230	3.406	0.2002	0.0644	47	-0.30	148.99	0
148	Total S (3%)	0501	3.349	0.0115	3.406	0.2002	0.0644	47	-0.29	148.99	0
148	Total S (3%)	0040	3.350	0.1000	3.406	0.2002	0.0644	47	-0.28	148.07	0
148	Total S (3%)	0043	3.350	0.1000	3.406	0.2002	0.0644	47	-0.28	148.07	0
148	Total S (3%)	0371	3.350	0.0600	3.406	0.2002	0.0644	47	-0.28	148.99	0
148	Total S (3%)	0562	3.350	0.1000	3.406	0.2002	0.0644	47	-0.28	148.99	0
148	Total S (3%)	0117	3.351	0.2182	3.406	0.2002	0.0644	47	-0.28	148.07	0
148	Total S (3%)	0177	3.367	0.0459	3.406	0.2002	0.0644	47	-0.19	148.07	0
148	Total S (3%)	0564	3.385	0.0700	3.406	0.2002	0.0644	47	-0.11	148.01	0
148	Total S (3%)	0025	3.386	0.0020	3.406	0.2002	0.0644	47	-0.10	148.00	0
148	Total S (3%)	0096	3.395	0.0100	3.406	0.2002	0.0644	47	-0.06	148.99	0
148	Total S (3%)	0450	3.400	0.0000	3.406	0.2002	0.0644	47	-0.03	148.99	0
148	Total S (3%)	0516	3.410	0.2400	3.406	0.2002	0.0644	47	0.02	148.99	0
148	Total S (3%)	0546	3.414	0.0163	3.406	0.2002	0.0644	47	0.04	148.07	0
148	Total S (3%)	0157	3.415	0.0300	3.406	0.2002	0.0644	47	0.04	148.00	0
148	Total S (3%)	0292	3.415	0.0300	3.406	0.2002	0.0644	47	0.04	148.07	0
148	Total S (3%)	0136	3.435	0.0100	3.406	0.2002	0.0644	47	0.14	148.00	0
148	Total S (3%)	0029	3.435	0.0300	3.406	0.2002	0.0644	47	0.14	148.01	0
148	Total S (3%)	0494	3.442	0.0309	3.406	0.2002	0.0644	47	0.18	148.07	0
148	Total S (3%)	0029	3.466	0.2460	3.406	0.2002	0.0644	47	0.30	148.00	0
148	Total S (3%)	0486	3.490	0.0800	3.406	0.2002	0.0644	47	0.42	148.07	0
148	Total S (3%)	0354	3.490	0.0400	3.406	0.2002	0.0644	47	0.42	148.99	0
148	Total S (3%)	0230	3.535	0.0700	3.406	0.2002	0.0644	47	0.64	148.01	0
148	Total S (3%)	0028	3.545	0.0300	3.406	0.2002	0.0644	47	0.69	148.01	0
148	Total S (3%)	0055	3.550	0.0600	3.406	0.2002	0.0644	47	0.72	148.01	0
148	Total S (3%)	0169	3.585	0.0500	3.406	0.2002	0.0644	47	0.89	148.04	0
148	Total S (3%)	0169	3.585	0.0500	3.406	0.2002	0.0644	47	0.89	148.07	0
148	Total S (3%)	0563	3.650	0.0319	3.406	0.2002	0.0644	47	1.22	148.07	0
148	Total S (3%)	0405	3.720	0.0000	3.406	0.2002	0.0644	47	1.57	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 S (3%)	0452	3.755	0.0900	3.406	0.2002	0.0644	47	1.74	148.99	0
148	Total S (3%)	0451	3.945‡	0.2100	3.406	0.2002	0.0644	47	2.69	148.00	0
148	Total S (3%)	0421	3.998‡	0.0334	3.406	0.2002	0.0644	47	2.95	148.07	0
148	Total S (3%)	0542	4.118‡	0.0150	3.406	0.2002	0.0644	47	3.55	148.07	0
148	Total S (3%)	0521	4.131‡	0.0000	3.406	0.2002	0.0644	47	3.62	148.07	0
148	Total S (3%)	0515	4.264‡	0.4321	3.406	0.2002	0.0644	47	4.29	148.07	1
148	Total S (3%)	0394	7.057‡	0.0676	3.406	0.2002	0.0644	47	18.24	148.07	2
149	S - HNO3 soluble (%)	0524	2.495	0.4868	3.150	0.5703	0.2056	3	-1.15	149.04	0
149	S - HNO3 soluble (%)	0423	3.420	0.0200	3.150	0.5703	0.2056	3	0.47	149.04	0
149	S - HNO3 soluble (%)	0231	3.535	0.1100	3.150	0.5703	0.2056	3	0.68	149.04	0
151	Acid Soluble As (ppm)	0523	0.0052	0.0002	0.4355	0.4881	0.0705	4	-0.88	151.30	0
151	Acid Soluble As (ppm)	0501	0.0463	0.0029	0.4355	0.4881	0.0705	4	-0.80	151.30	0
151	Acid Soluble As (ppm)	0220	0.7000	0.2000	0.4355	0.4881	0.0705	4	0.54	151.99	0
151	Acid Soluble As (ppm)	0524	0.9905	0.0790	0.4355	0.4881	0.0705	4	1.14	151.30	0
151	Acid Soluble As (ppm)	0450	0.0000	0.0000	0.4355	0.4881	0.0705	4		151.30	4
151	Acid Soluble As (ppm)	0515	0.0000	0.0000	0.4355	0.4881	0.0705	4		151.33	4
151	Acid Soluble As (ppm)	0515	0.0000	0.0000	0.4355	0.4881	0.0705	4		151.34	4
151	Acid Soluble As (ppm)	0255	0.0035	0.0070	0.4355	0.4881	0.0705	4		151.30	4
151	Acid Soluble As (ppm)	0527	< 0.0001		0.4355	0.4881	0.0705	4		151.33	5
151	Acid Soluble As (ppm)	0563	< 0.01		0.4355	0.4881	0.0705	4		151.33	5
151	Acid Soluble As (ppm)	0550	< 0.08		0.4355	0.4881	0.0705	4		151.00	5
151	Acid Soluble As (ppm)	0136	< 0.1		0.4355	0.4881	0.0705	4		151.33	5
151	Acid Soluble As (ppm)	0481	< 0.5		0.4355	0.4881	0.0705	4		151.99	5
151	Acid Soluble As (ppm)	0405	< 3		0.4355	0.4881	0.0705	4		151.99	5
151	Acid Soluble As (ppm)	0117	< 10		0.4355	0.4881	0.0705	4		151.33	5
165	Acid Soluble B (%)	0521	0.0004	0.0000	0.0017	0.0019	0.0005	8	-0.63	165.30	0
165	Acid Soluble B (%)	0563	0.0005	0.0001	0.0017	0.0019	0.0005	8	-0.61	165.99	0
165	Acid Soluble B (%)	0523	0.0005	0.0000	0.0017	0.0019	0.0005	8	-0.58	165.99	0
165	Acid Soluble B (%)	0524	0.0009	0.0000	0.0017	0.0019	0.0005	8	-0.39	165.99	0
165	Acid Soluble B (%)	0389	0.0011	0.0000	0.0017	0.0019	0.0005	8	-0.30	165.30	0
165	Acid Soluble B (%)	0527	0.0017	0.0002	0.0017	0.0019	0.0005	8	-0.01	165.99	0
165	Acid Soluble B (%)	0515	0.0042	0.0035	0.0017	0.0019	0.0005	8	1.15	165.99	0
165	Acid Soluble B (%)	0542	0.0066	0.0004	0.0017	0.0019	0.0005	8	2.31	165.30	0
165	Acid Soluble B (%)	0516	0.0050	0.0100	0.0017	0.0019	0.0005	8		165.99	4
165	Acid Soluble B (%)	0421	< 0.0018		0.0017	0.0019	0.0005	8		165.99	5
165	Acid Soluble B (%)	0354	< 0.01		0.0017	0.0019	0.0005	8		165.30	5
181	Acid Soluble Cd (ppm)	0523	0.1274	0.0373	0.3437	0.2038	0.0293	15	-1.06	181.30	0
181	Acid Soluble Cd (ppm)	0255	0.1365	0.0210	0.3437	0.2038	0.0293	15	-1.02	181.30	0
181	Acid Soluble Cd (ppm)	0136	0.1600	0.0000	0.3437	0.2038	0.0293	15	-0.90	181.33	0
181	Acid Soluble Cd (ppm)	0498	0.2000	0.0000	0.3437	0.2038	0.0293	15	-0.71	181.00	0
181	Acid Soluble Cd (ppm)	0450	0.2000	0.0000	0.3437	0.2038	0.0293	15	-0.71	181.30	0
181	Acid Soluble Cd (ppm)	0394	0.2280	0.0211	0.3437	0.2038	0.0293	15	-0.57	181.30	0
181	Acid Soluble Cd (ppm)	0501	0.2351	0.0367	0.3437	0.2038	0.0293	15	-0.53	181.30	0
181	Acid Soluble Cd (ppm)	0405	0.3400	0.0000	0.3437	0.2038	0.0293	15	-0.02	181.99	0
181	Acid Soluble Cd (ppm)	0494	0.3848	0.0928	0.3437	0.2038	0.0293	15	0.20	181.33	0
181	Acid Soluble Cd (ppm)	0563	0.4095	0.0730	0.3437	0.2038	0.0293	15	0.32	181.33	0
181	Acid Soluble Cd (ppm)	0550	0.4250	0.0500	0.3437	0.2038	0.0293	15	0.40	181.00	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				
181	Acid Soluble Cd (ppm)	0524	0.4348	0.0232	0.3437	0.2038	0.0293	15	0.45	181.30	0
181	Acid Soluble Cd (ppm)	0389	0.5765	0.0050	0.3437	0.2038	0.0293	15	1.14	181.30	0
181	Acid Soluble Cd (ppm)	0220	0.9000	0.0000	0.3437	0.2038	0.0293	15	2.73	181.99	0
181	Acid Soluble Cd (ppm)	0419	1.540	0.0800	0.3437	0.2038	0.0293	15	5.87	181.33	0
181	Acid Soluble Cd (ppm)	0515	0.0000	0.0000	0.3437	0.2038	0.0293	15		181.34	4
181	Acid Soluble Cd (ppm)	0515	0.5095	1.019	0.3437	0.2038	0.0293	15		181.33	4
181	Acid Soluble Cd (ppm)	0527	< 0.0001		0.3437	0.2038	0.0293	15		181.33	5
181	Acid Soluble Cd (ppm)	0481	< 0.5		0.3437	0.2038	0.0293	15		181.99	5
181	Acid Soluble Cd (ppm)	0117	< 5		0.3437	0.2038	0.0293	15		181.33	5
191	Acid Soluble Cr (ppm)	0405	0.2000	0.0000	2.749	2.842	0.3530	16	-0.90	191.99	0
191	Acid Soluble Cr (ppm)	0523	0.6044	0.0744	2.749	2.842	0.3530	16	-0.75	191.30	0
191	Acid Soluble Cr (ppm)	0524	0.7490	0.0578	2.749	2.842	0.3530	16	-0.70	191.30	0
191	Acid Soluble Cr (ppm)	0563	0.9650	0.0360	2.749	2.842	0.3530	16	-0.63	191.33	0
191	Acid Soluble Cr (ppm)	0527	0.9828	0.0547	2.749	2.842	0.3530	16	-0.62	191.33	0
191	Acid Soluble Cr (ppm)	0450	1.000	0.0000	2.749	2.842	0.3530	16	-0.62	191.30	0
191	Acid Soluble Cr (ppm)	0096	1.100	0.0000	2.749	2.842	0.3530	16	-0.58	191.30	0
191	Acid Soluble Cr (ppm)	0394	1.474	0.0503	2.749	2.842	0.3530	16	-0.45	191.30	0
191	Acid Soluble Cr (ppm)	0494	1.572	0.1978	2.749	2.842	0.3530	16	-0.41	191.33	0
191	Acid Soluble Cr (ppm)	0501	1.579	0.0615	2.749	2.842	0.3530	16	-0.41	191.30	0
191	Acid Soluble Cr (ppm)	0220	3.650	0.1000	2.749	2.842	0.3530	16	0.32	191.99	0
191	Acid Soluble Cr (ppm)	0515	3.860	2.516	2.749	2.842	0.3530	16	0.39	191.33	0
191	Acid Soluble Cr (ppm)	0035	5.215	0.2900	2.749	2.842	0.3530	16	0.87	191.30	0
191	Acid Soluble Cr (ppm)	0389	8.975	0.8100	2.749	2.842	0.3530	16	2.19	191.30	0
191	Acid Soluble Cr (ppm)	0136	10.70	1.400	2.749	2.842	0.3530	16	2.80	191.33	0
191	Acid Soluble Cr (ppm)	0550	11.58	0.0000	2.749	2.842	0.3530	16	3.11	191.00	0
191	Acid Soluble Cr (ppm)	0515	4.622	4.831	2.749	2.842	0.3530	16	0.66	191.34	1
191	Acid Soluble Cr (ppm)	0481	< 10		2.749	2.842	0.3530	16		191.99	5
202	Acid Soluble Co (ppm)	0255	15.24	2.248	21.55	4.033	0.8762	19	-1.57	202.99	0
202	Acid Soluble Co (ppm)	0523	17.88	0.1368	21.55	4.033	0.8762	19	-0.91	202.30	0
202	Acid Soluble Co (ppm)	0524	18.09	0.0885	21.55	4.033	0.8762	19	-0.86	202.30	0
202	Acid Soluble Co (ppm)	0096	18.50	0.4300	21.55	4.033	0.8762	19	-0.76	202.30	0
202	Acid Soluble Co (ppm)	0563	19.12	0.5010	21.55	4.033	0.8762	19	-0.60	202.33	0
202	Acid Soluble Co (ppm)	0136	19.50	1.000	21.55	4.033	0.8762	19	-0.51	202.33	0
202	Acid Soluble Co (ppm)	0423	20.01	0.0300	21.55	4.033	0.8762	19	-0.38	202.32	0
202	Acid Soluble Co (ppm)	0035	20.30	2.800	21.55	4.033	0.8762	19	-0.31	202.30	0
202	Acid Soluble Co (ppm)	0481	20.60	0.6000	21.55	4.033	0.8762	19	-0.24	202.99	0
202	Acid Soluble Co (ppm)	0220	20.85	0.1000	21.55	4.033	0.8762	19	-0.17	202.99	0
202	Acid Soluble Co (ppm)	0546	21.01	0.3925	21.55	4.033	0.8762	19	-0.13	202.33	0
202	Acid Soluble Co (ppm)	0527	21.28	0.3230	21.55	4.033	0.8762	19	-0.07	202.33	0
202	Acid Soluble Co (ppm)	0419	22.12	1.320	21.55	4.033	0.8762	19	0.14	202.33	0
202	Acid Soluble Co (ppm)	0521	22.33	0.0000	21.55	4.033	0.8762	19	0.19	202.32	0
202	Acid Soluble Co (ppm)	0494	22.67	0.0275	21.55	4.033	0.8762	19	0.28	202.33	0
202	Acid Soluble Co (ppm)	0515	26.99	5.146	21.55	4.033	0.8762	19	1.35	202.34	0
202	Acid Soluble Co (ppm)	0405	27.50	0.0000	21.55	4.033	0.8762	19	1.48	202.99	0
202	Acid Soluble Co (ppm)	0501	28.65	1.264	21.55	4.033	0.8762	19	1.76	202.34	0
202	Acid Soluble Co (ppm)	0389	39.77	0.2400	21.55	4.033	0.8762	19	4.52	202.30	0
202	Acid Soluble Co (ppm)	0515	41.75	24.36	21.55	4.033	0.8762	19	5.01	202.33	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				
202	Acid Soluble Co (ppm)	0550	< 0.09		21.55	4.033	0.8762	19		202.33	5
221	Acid Soluble Cu (%)	0515	0.0006	0.0006	0.0008	0.0002	0.0003	3	-1.00	221.33	0
221	Acid Soluble Cu (%)	0515	0.0008	0.0004	0.0008	0.0002	0.0003	3	0.00	221.99	0
221	Acid Soluble Cu (%)	0523	0.0010	0.0000	0.0008	0.0002	0.0003	3	1.00	221.99	0
221	Acid Soluble Cu (%)	0255	0.0000	0.0000	0.0008	0.0002	0.0003	3		221.30	4
221	Acid Soluble Cu (%)	0516	0.0000	0.0000	0.0008	0.0002	0.0003	3		221.99	4
221	Acid Soluble Cu (%)	0524	0.0000	0.0000	0.0008	0.0002	0.0003	3		221.99	4
221	Acid Soluble Cu (%)	0394	< 0.0001		0.0008	0.0002	0.0003	3		221.32	5
221	Acid Soluble Cu (%)	0527	< 0.0001		0.0008	0.0002	0.0003	3		221.33	5
221	Acid Soluble Cu (%)	0563	< 0.0001		0.0008	0.0002	0.0003	3		221.33	5
221	Acid Soluble Cu (%)	0041	< 0.001		0.0008	0.0002	0.0003	3		221.30	5
221	Acid Soluble Cu (%)	0481	< 0.001		0.0008	0.0002	0.0003	3		221.99	5
221	Acid Soluble Cu (%)	0421	< 0.0015		0.0008	0.0002	0.0003	3		221.33	5
221	Acid Soluble Cu (%)	0354	< 0.01		0.0008	0.0002	0.0003	3		221.30	5
221	Acid Soluble Cu (%)	0550	< 5		0.0008	0.0002	0.0003	3		221.00	5
241	Acid Soluble Fe (1%)	0498	0.8000†	0.0000	1.050	0.0695	0.0307	69	-3.60	241.00	0
241	Acid Soluble Fe (1%)	0255	0.8820†	0.0240	1.050	0.0695	0.0307	69	-2.42	241.30	0
241	Acid Soluble Fe (1%)	0560	0.9000†	0.0200	1.050	0.0695	0.0307	69	-2.16	241.99	0
241	Acid Soluble Fe (1%)	0564	0.9100†	0.0200	1.050	0.0695	0.0307	69	-2.02	241.99	0
241	Acid Soluble Fe (1%)	0518	0.9350†	0.0100	1.050	0.0695	0.0307	69	-1.66	241.20	0
241	Acid Soluble Fe (1%)	0559	0.9350†	0.0100	1.050	0.0695	0.0307	69	-1.66	241.99	0
241	Acid Soluble Fe (1%)	0481	0.9650	0.0100	1.050	0.0695	0.0307	69	-1.23	241.99	0
241	Acid Soluble Fe (1%)	0292	0.9750	0.0100	1.050	0.0695	0.0307	69	-1.08	241.02	0
241	Acid Soluble Fe (1%)	0095	0.9850	0.0300	1.050	0.0695	0.0307	69	-0.94	241.30	0
241	Acid Soluble Fe (1%)	0200	0.9900	0.0800	1.050	0.0695	0.0307	69	-0.87	241.00	0
241	Acid Soluble Fe (1%)	0535	0.9900	0.0200	1.050	0.0695	0.0307	69	-0.87	241.00	0
241	Acid Soluble Fe (1%)	0563	0.9907	0.0031	1.050	0.0695	0.0307	69	-0.86	241.33	0
241	Acid Soluble Fe (1%)	0390	0.9995	0.0010	1.050	0.0695	0.0307	69	-0.73	241.30	0
241	Acid Soluble Fe (1%)	0043	1.000	0.0400	1.050	0.0695	0.0307	69	-0.72	241.33	0
241	Acid Soluble Fe (1%)	0565	1.000	0.2000	1.050	0.0695	0.0307	69	-0.72	241.99	0
241	Acid Soluble Fe (1%)	0485	1.001	0.0634	1.050	0.0695	0.0307	69	-0.70	241.00	0
241	Acid Soluble Fe (1%)	0220	1.005	0.0100	1.050	0.0695	0.0307	69	-0.65	241.32	0
241	Acid Soluble Fe (1%)	0486	1.005	0.0100	1.050	0.0695	0.0307	69	-0.65	241.33	0
241	Acid Soluble Fe (1%)	0534	1.010	0.0200	1.050	0.0695	0.0307	69	-0.58	241.00	0
241	Acid Soluble Fe (1%)	0551	1.010	0.0200	1.050	0.0695	0.0307	69	-0.58	241.00	0
241	Acid Soluble Fe (1%)	0096	1.010	0.0000	1.050	0.0695	0.0307	69	-0.58	241.30	0
241	Acid Soluble Fe (1%)	0117	1.011	0.0622	1.050	0.0695	0.0307	69	-0.57	241.33	0
241	Acid Soluble Fe (1%)	0423	1.011	0.0020	1.050	0.0695	0.0307	69	-0.56	241.32	0
241	Acid Soluble Fe (1%)	0035	1.013	0.0340	1.050	0.0695	0.0307	69	-0.54	241.30	0
241	Acid Soluble Fe (1%)	0025	1.022	0.0570	1.050	0.0695	0.0307	69	-0.41	241.33	0
241	Acid Soluble Fe (1%)	0177	1.026	0.0119	1.050	0.0695	0.0307	69	-0.34	241.33	0
241	Acid Soluble Fe (1%)	0501	1.029	0.0100	1.050	0.0695	0.0307	69	-0.30	241.99	0
241	Acid Soluble Fe (1%)	0419	1.031	0.0080	1.050	0.0695	0.0307	69	-0.28	241.33	0
241	Acid Soluble Fe (1%)	0523	1.032	0.0090	1.050	0.0695	0.0307	69	-0.27	241.99	0
241	Acid Soluble Fe (1%)	0531	1.035	0.0300	1.050	0.0695	0.0307	69	-0.22	241.00	0
241	Acid Soluble Fe (1%)	0234	1.040	0.0200	1.050	0.0695	0.0307	69	-0.15	241.30	0
241	Acid Soluble Fe (1%)	0371	1.040	0.0000	1.050	0.0695	0.0307	69	-0.15	241.30	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				
241	Acid Soluble Fe (1%)	0055	1.040	0.0000	1.050	0.0695	0.0307	69	-0.15	241.33	0
241	Acid Soluble Fe (1%)	0546	1.047	0.0033	1.050	0.0695	0.0307	69	-0.04	241.03	0
241	Acid Soluble Fe (1%)	0527	1.050	0.0190	1.050	0.0695	0.0307	69	-0.01	241.33	0
241	Acid Soluble Fe (1%)	0538	1.050	0.1000	1.050	0.0695	0.0307	69	0.00	241.00	0
241	Acid Soluble Fe (1%)	0550	1.050	0.0000	1.050	0.0695	0.0307	69	0.00	241.00	0
241	Acid Soluble Fe (1%)	0513	1.055	0.0100	1.050	0.0695	0.0307	69	0.07	241.00	0
241	Acid Soluble Fe (1%)	0291	1.055	0.0100	1.050	0.0695	0.0307	69	0.07	241.30	0
241	Acid Soluble Fe (1%)	0360	1.055	0.0100	1.050	0.0695	0.0307	69	0.07	241.30	0
241	Acid Soluble Fe (1%)	0136	1.055	0.0500	1.050	0.0695	0.0307	69	0.07	241.33	0
241	Acid Soluble Fe (1%)	0027	1.064	0.0170	1.050	0.0695	0.0307	69	0.19	241.99	0
241	Acid Soluble Fe (1%)	0040	1.065	0.0300	1.050	0.0695	0.0307	69	0.21	241.00	0
241	Acid Soluble Fe (1%)	0041	1.065	0.0700	1.050	0.0695	0.0307	69	0.21	241.30	0
241	Acid Soluble Fe (1%)	0354	1.065	0.0100	1.050	0.0695	0.0307	69	0.21	241.30	0
241	Acid Soluble Fe (1%)	0472	1.065	0.0100	1.050	0.0695	0.0307	69	0.21	241.30	0
241	Acid Soluble Fe (1%)	0433	1.070	0.0010	1.050	0.0695	0.0307	69	0.28	241.30	0
241	Acid Soluble Fe (1%)	0029	1.078	0.0170	1.050	0.0695	0.0307	69	0.39	241.00	0
241	Acid Soluble Fe (1%)	0494	1.079	0.0111	1.050	0.0695	0.0307	69	0.42	241.33	0
241	Acid Soluble Fe (1%)	0049	1.080	0.1600	1.050	0.0695	0.0307	69	0.43	241.30	0
241	Acid Soluble Fe (1%)	0450	1.090	0.1000	1.050	0.0695	0.0307	69	0.57	241.99	0
241	Acid Soluble Fe (1%)	0562	1.090	0.1200	1.050	0.0695	0.0307	69	0.57	241.99	0
241	Acid Soluble Fe (1%)	0556	1.100	0.1000	1.050	0.0695	0.0307	69	0.72	241.00	0
241	Acid Soluble Fe (1%)	0394	1.103	0.0033	1.050	0.0695	0.0307	69	0.77	241.32	0
241	Acid Soluble Fe (1%)	0444	1.110	0.0200	1.050	0.0695	0.0307	69	0.86	241.30	0
241	Acid Soluble Fe (1%)	0532	1.110	0.0200	1.050	0.0695	0.0307	69	0.86	241.99	0
241	Acid Soluble Fe (1%)	0231	1.115	0.0100	1.050	0.0695	0.0307	69	0.93	241.30	0
241	Acid Soluble Fe (1%)	0389	1.125	0.0100	1.050	0.0695	0.0307	69	1.08	241.99	0
241	Acid Soluble Fe (1%)	0042	1.135	0.0100	1.050	0.0695	0.0307	69	1.22	241.99	0
241	Acid Soluble Fe (1%)	0558	1.140	0.0000	1.050	0.0695	0.0307	69	1.29	241.99	0
241	Acid Soluble Fe (1%)	0451	1.140	0.0600	1.050	0.0695	0.0307	69	1.29	241.30	0
241	Acid Soluble Fe (1%)	0553	1.145	0.0900	1.050	0.0695	0.0307	69	1.36	241.00	0
241	Acid Soluble Fe (1%)	0561	1.145	0.1100	1.050	0.0695	0.0307	69	1.36	241.33	0
241	Acid Soluble Fe (1%)	0516	1.170‡	0.0200	1.050	0.0695	0.0307	69	1.72	241.99	0
241	Acid Soluble Fe (1%)	0521	1.218‡	0.0000	1.050	0.0695	0.0307	69	2.42	241.32	0
241	Acid Soluble Fe (1%)	0452	1.240‡	0.0600	1.050	0.0695	0.0307	69	2.73	241.30	0
241	Acid Soluble Fe (1%)	0405	1.270‡	0.0000	1.050	0.0695	0.0307	69	3.16	241.99	0
241	Acid Soluble Fe (1%)	0421	1.429‡	0.0024	1.050	0.0695	0.0307	69	5.44	241.33	0
241	Acid Soluble Fe (1%)	0536	1.595‡	0.0100	1.050	0.0695	0.0307	69	7.84	241.00	0
241	Acid Soluble Fe (1%)	0515	1.269‡	0.3340	1.050	0.0695	0.0307	69	3.15	241.33	1
241	Acid Soluble Fe (1%)	0515	1.292‡	0.2876	1.050	0.0695	0.0307	69	3.48	241.99	1
241	Acid Soluble Fe (1%)	0524	0.1004†	0.0012	1.050	0.0695	0.0307	69	-13.67	241.99	2
251	Acid Soluble Pb (ppm)	0563	0.0535	0.0090	2.708	2.241	0.5408	9	-1.18	251.33	0
251	Acid Soluble Pb (ppm)	0255	0.0900	0.0740	2.708	2.241	0.5408	9	-1.17	251.30	0
251	Acid Soluble Pb (ppm)	0523	1.898	0.2661	2.708	2.241	0.5408	9	-0.36	251.30	0
251	Acid Soluble Pb (ppm)	0220	2.100	0.0000	2.708	2.241	0.5408	9	-0.27	251.99	0
251	Acid Soluble Pb (ppm)	0524	2.310	0.0921	2.708	2.241	0.5408	9	-0.18	251.30	0
251	Acid Soluble Pb (ppm)	0405	3.000	0.0000	2.708	2.241	0.5408	9	0.13	251.99	0
251	Acid Soluble Pb (ppm)	0389	4.305	0.0500	2.708	2.241	0.5408	9	0.71	251.30	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				
251	Acid Soluble Pb (ppm)	0035	5.235	1.150	2.708	2.241	0.5408	9	1.13	251.30	0
251	Acid Soluble Pb (ppm)	0515	5.377	3.226	2.708	2.241	0.5408	9	1.19	251.33	0
251	Acid Soluble Pb (ppm)	0515	6.159	4.789	2.708	2.241	0.5408	9	1.54	251.34	1
251	Acid Soluble Pb (ppm)	0450	0.0000	0.0000	2.708	2.241	0.5408	9		251.30	4
251	Acid Soluble Pb (ppm)	0527	< 0.0001		2.708	2.241	0.5408	9		251.33	5
251	Acid Soluble Pb (ppm)	0136	< 0.1		2.708	2.241	0.5408	9		251.33	5
251	Acid Soluble Pb (ppm)	0550	< 1.5		2.708	2.241	0.5408	9		251.00	5
251	Acid Soluble Pb (ppm)	0117	< 5		2.708	2.241	0.5408	9		251.33	5
261	Acid Soluble Mn (2%)	0561	1.555†	0.2500	2.141	0.1690	0.0705	63	-3.46	261.35	0
261	Acid Soluble Mn (2%)	0255	1.770†	0.0350	2.141	0.1690	0.0705	63	-2.20	261.99	0
261	Acid Soluble Mn (2%)	0498	1.850†	0.1000	2.141	0.1690	0.0705	63	-1.72	261.11	0
261	Acid Soluble Mn (2%)	0542	1.905†	0.0320	2.141	0.1690	0.0705	63	-1.39	261.31	0
261	Acid Soluble Mn (2%)	0371	1.910†	0.0200	2.141	0.1690	0.0705	63	-1.36	261.32	0
261	Acid Soluble Mn (2%)	0558	1.915†	0.0100	2.141	0.1690	0.0705	63	-1.33	261.99	0
261	Acid Soluble Mn (2%)	0513	1.965	0.0300	2.141	0.1690	0.0705	63	-1.04	261.12	0
261	Acid Soluble Mn (2%)	0095	1.965	0.0300	2.141	0.1690	0.0705	63	-1.04	261.99	0
261	Acid Soluble Mn (2%)	0546	1.973	0.3973	2.141	0.1690	0.0705	63	-0.99	261.35	0
261	Acid Soluble Mn (2%)	0481	1.975	0.0100	2.141	0.1690	0.0705	63	-0.98	261.99	0
261	Acid Soluble Mn (2%)	0534	1.995	0.0300	2.141	0.1690	0.0705	63	-0.86	261.12	0
261	Acid Soluble Mn (2%)	0538	1.995	0.0100	2.141	0.1690	0.0705	63	-0.86	261.12	0
261	Acid Soluble Mn (2%)	0551	2.015	0.0700	2.141	0.1690	0.0705	63	-0.74	261.12	0
261	Acid Soluble Mn (2%)	0292	2.025	0.0100	2.141	0.1690	0.0705	63	-0.68	261.14	0
261	Acid Soluble Mn (2%)	0563	2.029	0.3175	2.141	0.1690	0.0705	63	-0.66	261.35	0
261	Acid Soluble Mn (2%)	0531	2.035	0.0300	2.141	0.1690	0.0705	63	-0.62	261.12	0
261	Acid Soluble Mn (2%)	0523	2.049	0.0370	2.141	0.1690	0.0705	63	-0.54	261.99	0
261	Acid Soluble Mn (2%)	0220	2.050	0.0200	2.141	0.1690	0.0705	63	-0.54	261.34	0
261	Acid Soluble Mn (2%)	0419	2.055	0.0030	2.141	0.1690	0.0705	63	-0.51	261.35	0
261	Acid Soluble Mn (2%)	0157	2.055	0.0100	2.141	0.1690	0.0705	63	-0.51	261.30	0
261	Acid Soluble Mn (2%)	0055	2.055	0.0500	2.141	0.1690	0.0705	63	-0.51	261.35	0
261	Acid Soluble Mn (2%)	0527	2.071	0.0389	2.141	0.1690	0.0705	63	-0.41	261.35	0
261	Acid Soluble Mn (2%)	0535	2.075	0.0500	2.141	0.1690	0.0705	63	-0.39	261.12	0
261	Acid Soluble Mn (2%)	0029	2.082	0.1700	2.141	0.1690	0.0705	63	-0.35	261.12	0
261	Acid Soluble Mn (2%)	0291	2.085	0.0100	2.141	0.1690	0.0705	63	-0.33	261.30	0
261	Acid Soluble Mn (2%)	0486	2.085	0.0100	2.141	0.1690	0.0705	63	-0.33	261.35	0
261	Acid Soluble Mn (2%)	0177	2.085	0.0340	2.141	0.1690	0.0705	63	-0.33	261.35	0
261	Acid Soluble Mn (2%)	0553	2.090	0.1800	2.141	0.1690	0.0705	63	-0.30	261.00	0
261	Acid Soluble Mn (2%)	0390	2.095	0.0500	2.141	0.1690	0.0705	63	-0.27	261.30	0
261	Acid Soluble Mn (2%)	0532	2.095	0.0500	2.141	0.1690	0.0705	63	-0.27	261.99	0
261	Acid Soluble Mn (2%)	0234	2.100	0.1200	2.141	0.1690	0.0705	63	-0.24	261.31	0
261	Acid Soluble Mn (2%)	0040	2.112	0.0290	2.141	0.1690	0.0705	63	-0.17	261.12	0
261	Acid Soluble Mn (2%)	0025	2.130	0.0000	2.141	0.1690	0.0705	63	-0.06	261.35	0
261	Acid Soluble Mn (2%)	0096	2.135	0.0020	2.141	0.1690	0.0705	63	-0.03	261.30	0
261	Acid Soluble Mn (2%)	0043	2.135	0.0300	2.141	0.1690	0.0705	63	-0.03	261.35	0
261	Acid Soluble Mn (2%)	0117	2.136	0.1321	2.141	0.1690	0.0705	63	-0.03	261.35	0
261	Acid Soluble Mn (2%)	0444	2.145	0.0100	2.141	0.1690	0.0705	63	0.03	261.30	0
261	Acid Soluble Mn (2%)	0550	2.155	0.0100	2.141	0.1690	0.0705	63	0.09	261.11	0
261	Acid Soluble Mn (2%)	0360	2.155	0.0100	2.141	0.1690	0.0705	63	0.09	261.31	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 (2%)	0433	2.197	0.0030	2.141	0.1690	0.0705	63	0.33	261.30	0
261	Acid Soluble Mn (2%)	0562	2.200	0.1000	2.141	0.1690	0.0705	63	0.35	261.99	0
261	Acid Soluble Mn (2%)	0042	2.215	0.0300	2.141	0.1690	0.0705	63	0.44	261.99	0
261	Acid Soluble Mn (2%)	0494	2.222	0.0946	2.141	0.1690	0.0705	63	0.48	261.35	0
261	Acid Soluble Mn (2%)	0565	2.225	0.0500	2.141	0.1690	0.0705	63	0.50	261.50	0
261	Acid Soluble Mn (2%)	0559	2.225	0.0100	2.141	0.1690	0.0705	63	0.50	261.99	0
261	Acid Soluble Mn (2%)	0354	2.255	0.0100	2.141	0.1690	0.0705	63	0.68	261.30	0
261	Acid Soluble Mn (2%)	0521	2.260	0.0000	2.141	0.1690	0.0705	63	0.70	261.34	0
261	Acid Soluble Mn (2%)	0472	2.270	0.0200	2.141	0.1690	0.0705	63	0.77	261.30	0
261	Acid Soluble Mn (2%)	0564	2.275	0.0500	2.141	0.1690	0.0705	63	0.80	261.50	0
261	Acid Soluble Mn (2%)	0389	2.285	0.0900	2.141	0.1690	0.0705	63	0.85	261.99	0
261	Acid Soluble Mn (2%)	0423	2.287	0.0070	2.141	0.1690	0.0705	63	0.86	261.34	0
261	Acid Soluble Mn (2%)	0231	2.295	0.0100	2.141	0.1690	0.0705	63	0.91	261.32	0
261	Acid Soluble Mn (2%)	0049	2.320	0.4200	2.141	0.1690	0.0705	63	1.06	261.32	0
261	Acid Soluble Mn (2%)	0422	2.325	0.0100	2.141	0.1690	0.0705	63	1.09	261.30	0
261	Acid Soluble Mn (2%)	0035	2.340	0.0400	2.141	0.1690	0.0705	63	1.18	261.30	0
261	Acid Soluble Mn (2%)	0041	2.345	0.0700	2.141	0.1690	0.0705	63	1.21	261.30	0
261	Acid Soluble Mn (2%)	0516	2.360‡	0.1600	2.141	0.1690	0.0705	63	1.30	261.99	0
261	Acid Soluble Mn (2%)	0452	2.475‡	0.1100	2.141	0.1690	0.0705	63	1.98	261.30	0
261	Acid Soluble Mn (2%)	0536	2.655‡	0.0100	2.141	0.1690	0.0705	63	3.04	261.00	0
261	Acid Soluble Mn (2%)	0405	2.680‡	0.0000	2.141	0.1690	0.0705	63	3.19	261.99	0
261	Acid Soluble Mn (2%)	0515	2.786‡	0.4783	2.141	0.1690	0.0705	63	3.82	261.35	0
261	Acid Soluble Mn (2%)	0485	2.823‡	0.2201	2.141	0.1690	0.0705	63	4.04	261.12	0
261	Acid Soluble Mn (2%)	0421	2.977‡	0.0093	2.141	0.1690	0.0705	63	4.95	261.35	0
261	Acid Soluble Mn (2%)	0515	2.620‡	0.8112	2.141	0.1690	0.0705	63	2.84	261.99	1
261	Acid Soluble Mn (2%)	0524	0.2044†	0.0024	2.141	0.1690	0.0705	63	-11.45	261.99	2
271	Water Soluble Mn (%)	0027	2.092	0.1070	2.210	0.1361	0.0897	4	-0.87	271.00	0
271	Water Soluble Mn (%)	0501	2.136	0.0501	2.210	0.1361	0.0897	4	-0.54	271.99	0
271	Water Soluble Mn (%)	0394	2.212	0.0018	2.210	0.1361	0.0897	4	0.01	271.30	0
271	Water Soluble Mn (%)	0560	2.400	0.2000	2.210	0.1361	0.0897	4	1.40	271.99	0
281	Acid Soluble Hg (ppm)	0563	0.0001	0.0000	0.4084	0.6857	0.0033	3	-0.48	281.30	0
281	Acid Soluble Hg (ppm)	0220	0.0250	0.0100	0.4084	0.6857	0.0033	3	-0.45	281.99	0
281	Acid Soluble Hg (ppm)	0550	1.200	0.0000	0.4084	0.6857	0.0033	3	0.94	281.00	0
281	Acid Soluble Hg (ppm)	0450	0.0000	0.0000	0.4084	0.6857	0.0033	3		281.30	4
281	Acid Soluble Hg (ppm)	0515	0.0000	0.0000	0.4084	0.6857	0.0033	3		281.30	4
281	Acid Soluble Hg (ppm)	0527	< 0.0001		0.4084	0.6857	0.0033	3		281.30	5
281	Acid Soluble Hg (ppm)	0481	< 0.5		0.4084	0.6857	0.0033	3		281.99	5
289	Acid Soluble Mo (ppm)	0546	0.0440	0.0432	0.3573	0.1732	0.0465	7	-1.81	289.33	0
289	Acid Soluble Mo (ppm)	0527	0.3129	0.0146	0.3573	0.1732	0.0465	7	-0.26	289.33	0
289	Acid Soluble Mo (ppm)	0550	0.3260	0.1200	0.3573	0.1732	0.0465	7	-0.18	289.00	0
289	Acid Soluble Mo (ppm)	0563	0.3460	0.0220	0.3573	0.1732	0.0465	7	-0.07	289.33	0
289	Acid Soluble Mo (ppm)	0524	0.3586	0.0570	0.3573	0.1732	0.0465	7	0.01	289.30	0
289	Acid Soluble Mo (ppm)	0523	0.4604	0.0105	0.3573	0.1732	0.0465	7	0.59	289.30	0
289	Acid Soluble Mo (ppm)	0501	0.5998	0.0582	0.3573	0.1732	0.0465	7	1.40	289.34	0
289	Acid Soluble Mo (ppm)	0516	15.00	10.00	0.3573	0.1732	0.0465	7	84.52	289.30	1
289	Acid Soluble Mo (ppm)	0255	0.0000	0.0000	0.3573	0.1732	0.0465	7		289.30	4
289	Acid Soluble Mo (ppm)	0515	0.0000	0.0000	0.3573	0.1732	0.0465	7		289.33	4

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				
289	Acid Soluble Mo (ppm)	0515	0.0000	0.0000	0.3573	0.1732	0.0465	7		289.34	4
289	Acid Soluble Mo (ppm)	0220	< 0.3		0.3573	0.1732	0.0465	7		289.99	5
289	Acid Soluble Mo (ppm)	0405	< 0.6		0.3573	0.1732	0.0465	7		289.99	5
289	Acid Soluble Mo (ppm)	0481	< 50		0.3573	0.1732	0.0465	7		289.99	5
291	Acid Soluble Ni (ppm)	0550	5.515	0.4500	11.03	2.881	0.9705	22	-1.91	291.00	0
291	Acid Soluble Ni (ppm)	0498	7.500	0.0000	11.03	2.881	0.9705	22	-1.22	291.00	0
291	Acid Soluble Ni (ppm)	0444	7.855	0.0900	11.03	2.881	0.9705	22	-1.10	291.30	0
291	Acid Soluble Ni (ppm)	0035	7.980	6.640	11.03	2.881	0.9705	22	-1.06	291.30	0
291	Acid Soluble Ni (ppm)	0524	9.066	0.4467	11.03	2.881	0.9705	22	-0.68	291.30	0
291	Acid Soluble Ni (ppm)	0523	9.357	0.3456	11.03	2.881	0.9705	22	-0.58	291.30	0
291	Acid Soluble Ni (ppm)	0481	9.465	0.1100	11.03	2.881	0.9705	22	-0.54	291.99	0
291	Acid Soluble Ni (ppm)	0136	9.850	0.9000	11.03	2.881	0.9705	22	-0.41	291.33	0
291	Acid Soluble Ni (ppm)	0394	10.21	0.2420	11.03	2.881	0.9705	22	-0.29	291.30	0
291	Acid Soluble Ni (ppm)	0521	10.32	0.0000	11.03	2.881	0.9705	22	-0.24	291.30	0
291	Acid Soluble Ni (ppm)	0450	10.50	1.000	11.03	2.881	0.9705	22	-0.18	291.30	0
291	Acid Soluble Ni (ppm)	0117	10.89	1.040	11.03	2.881	0.9705	22	-0.05	291.33	0
291	Acid Soluble Ni (ppm)	0527	11.12	0.2003	11.03	2.881	0.9705	22	0.03	291.33	0
291	Acid Soluble Ni (ppm)	0096	11.50	0.4000	11.03	2.881	0.9705	22	0.16	291.30	0
291	Acid Soluble Ni (ppm)	0220	12.35	0.3000	11.03	2.881	0.9705	22	0.46	291.99	0
291	Acid Soluble Ni (ppm)	0515	12.53	3.638	11.03	2.881	0.9705	22	0.52	291.34	0
291	Acid Soluble Ni (ppm)	0405	12.70	0.0000	11.03	2.881	0.9705	22	0.58	291.99	0
291	Acid Soluble Ni (ppm)	0563	13.19	1.251	11.03	2.881	0.9705	22	0.75	291.33	0
291	Acid Soluble Ni (ppm)	0494	13.65	0.6293	11.03	2.881	0.9705	22	0.91	291.33	0
291	Acid Soluble Ni (ppm)	0501	15.17	0.3290	11.03	2.881	0.9705	22	1.44	291.34	0
291	Acid Soluble Ni (ppm)	0419	21.00	3.200	11.03	2.881	0.9705	22	3.46	291.33	0
291	Acid Soluble Ni (ppm)	0389	22.02	0.1400	11.03	2.881	0.9705	22	3.82	291.30	0
291	Acid Soluble Ni (ppm)	0255	15.80	11.78	11.03	2.881	0.9705	22	1.66	291.99	1
291	Acid Soluble Ni (ppm)	0515	20.74	12.78	11.03	2.881	0.9705	22	3.37	291.33	1
301	Acid Soluble Se (ppm)	0501	0.0574	0.0154	4.098	5.477	0.2223	7	-0.74	301.30	0
301	Acid Soluble Se (ppm)	0563	0.1910	0.0360	4.098	5.477	0.2223	7	-0.71	301.33	0
301	Acid Soluble Se (ppm)	0255	0.5025	0.1450	4.098	5.477	0.2223	7	-0.66	301.99	0
301	Acid Soluble Se (ppm)	0220	0.5500	0.1000	4.098	5.477	0.2223	7	-0.65	301.99	0
301	Acid Soluble Se (ppm)	0405	7.000	0.0000	4.098	5.477	0.2223	7	0.53	301.99	0
301	Acid Soluble Se (ppm)	0523	9.914	0.1399	4.098	5.477	0.2223	7	1.06	301.30	0
301	Acid Soluble Se (ppm)	0524	10.47	1.120	4.098	5.477	0.2223	7	1.16	301.30	0
301	Acid Soluble Se (ppm)	0515	3.639	7.278	4.098	5.477	0.2223	7		301.33	4
301	Acid Soluble Se (ppm)	0515	3.848	7.696	4.098	5.477	0.2223	7		301.34	4
301	Acid Soluble Se (ppm)	0527	< 0.001		4.098	5.477	0.2223	7		301.33	5
301	Acid Soluble Se (ppm)	0550	< 0.08		4.098	5.477	0.2223	7		301.00	5
301	Acid Soluble Se (ppm)	0481	< 0.5		4.098	5.477	0.2223	7		301.99	5
311	Sodium (%)	0035	0.4610	0.0020	0.5091	0.0334	0.0060	8	-1.32	311.33	0
311	Sodium (%)	0423	0.4950	0.0020	0.5091	0.0334	0.0060	8	-0.39	311.33	0
311	Sodium (%)	0096	0.4950	0.0100	0.5091	0.0334	0.0060	8	-0.39	311.99	0
311	Sodium (%)	0419	0.4993	0.0042	0.5091	0.0334	0.0060	8	-0.27	311.33	0
311	Sodium (%)	0527	0.5070	0.0064	0.5091	0.0334	0.0060	8	-0.06	311.33	0
311	Sodium (%)	0354	0.5250	0.0100	0.5091	0.0334	0.0060	8	0.43	311.99	0
311	Sodium (%)	0494	0.5315	0.0103	0.5091	0.0334	0.0060	8	0.61	311.33	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				
311	Sodium (%)	0563	0.6154	0.0030	0.5091	0.0334	0.0060	8	2.91	311.33	0
321	Acid Soluble Zn (3%)	0524	0.3215†	0.0020	3.205	0.2578	0.0662	63	-11.18	321.99	0
321	Acid Soluble Zn (3%)	0200	2.400†	0.0400	3.205	0.2578	0.0662	63	-3.12	321.00	0
321	Acid Soluble Zn (3%)	0542	2.616†	0.0290	3.205	0.2578	0.0662	63	-2.29	321.32	0
321	Acid Soluble Zn (3%)	0255	2.679†	0.0890	3.205	0.2578	0.0662	63	-2.04	321.30	0
321	Acid Soluble Zn (3%)	0553	2.750†	0.2000	3.205	0.2578	0.0662	63	-1.77	321.00	0
321	Acid Soluble Zn (3%)	0292	2.790†	0.0200	3.205	0.2578	0.0662	63	-1.61	321.30	0
321	Acid Soluble Zn (3%)	0291	2.815†	0.0100	3.205	0.2578	0.0662	63	-1.51	321.30	0
321	Acid Soluble Zn (3%)	0558	2.925	0.0100	3.205	0.2578	0.0662	63	-1.09	321.99	0
321	Acid Soluble Zn (3%)	0485	2.940	0.1274	3.205	0.2578	0.0662	63	-1.03	321.00	0
321	Acid Soluble Zn (3%)	0523	2.958	0.0451	3.205	0.2578	0.0662	63	-0.96	321.99	0
321	Acid Soluble Zn (3%)	0043	2.985	0.0700	3.205	0.2578	0.0662	63	-0.85	321.33	0
321	Acid Soluble Zn (3%)	0535	3.025	0.0500	3.205	0.2578	0.0662	63	-0.70	321.00	0
321	Acid Soluble Zn (3%)	0532	3.030	0.0200	3.205	0.2578	0.0662	63	-0.68	321.99	0
321	Acid Soluble Zn (3%)	0538	3.045	0.1100	3.205	0.2578	0.0662	63	-0.62	321.00	0
321	Acid Soluble Zn (3%)	0531	3.055	0.0500	3.205	0.2578	0.0662	63	-0.58	321.00	0
321	Acid Soluble Zn (3%)	0371	3.055	0.0300	3.205	0.2578	0.0662	63	-0.58	321.30	0
321	Acid Soluble Zn (3%)	0551	3.060	0.0800	3.205	0.2578	0.0662	63	-0.56	321.00	0
321	Acid Soluble Zn (3%)	0220	3.080	0.0400	3.205	0.2578	0.0662	63	-0.49	321.32	0
321	Acid Soluble Zn (3%)	0390	3.085	0.0500	3.205	0.2578	0.0662	63	-0.47	321.30	0
321	Acid Soluble Zn (3%)	0481	3.095	0.0300	3.205	0.2578	0.0662	63	-0.43	321.99	0
321	Acid Soluble Zn (3%)	0513	3.110	0.0200	3.205	0.2578	0.0662	63	-0.37	321.00	0
321	Acid Soluble Zn (3%)	0025	3.115	0.0300	3.205	0.2578	0.0662	63	-0.35	321.33	0
321	Acid Soluble Zn (3%)	0040	3.117	0.0110	3.205	0.2578	0.0662	63	-0.34	321.00	0
321	Acid Soluble Zn (3%)	0042	3.125	0.0700	3.205	0.2578	0.0662	63	-0.31	321.99	0
321	Acid Soluble Zn (3%)	0444	3.150	0.0000	3.205	0.2578	0.0662	63	-0.21	321.30	0
321	Acid Soluble Zn (3%)	0433	3.157	0.0010	3.205	0.2578	0.0662	63	-0.19	321.30	0
321	Acid Soluble Zn (3%)	0450	3.165	0.2300	3.205	0.2578	0.0662	63	-0.16	321.30	0
321	Acid Soluble Zn (3%)	0055	3.165	0.1300	3.205	0.2578	0.0662	63	-0.16	321.33	0
321	Acid Soluble Zn (3%)	0472	3.175	0.0100	3.205	0.2578	0.0662	63	-0.12	321.30	0
321	Acid Soluble Zn (3%)	0169	3.180	0.0200	3.205	0.2578	0.0662	63	-0.10	321.30	0
321	Acid Soluble Zn (3%)	0559	3.185	0.0300	3.205	0.2578	0.0662	63	-0.08	321.99	0
321	Acid Soluble Zn (3%)	0562	3.185	0.0700	3.205	0.2578	0.0662	63	-0.08	321.99	0
321	Acid Soluble Zn (3%)	0527	3.192	0.0376	3.205	0.2578	0.0662	63	-0.05	321.33	0
321	Acid Soluble Zn (3%)	0096	3.197	0.0110	3.205	0.2578	0.0662	63	-0.03	321.30	0
321	Acid Soluble Zn (3%)	0095	3.200	0.1200	3.205	0.2578	0.0662	63	-0.02	321.30	0
321	Acid Soluble Zn (3%)	0177	3.206	0.0381	3.205	0.2578	0.0662	63	0.00	321.33	0
321	Acid Soluble Zn (3%)	0234	3.240	0.0800	3.205	0.2578	0.0662	63	0.14	321.30	0
321	Acid Soluble Zn (3%)	0494	3.263	0.0833	3.205	0.2578	0.0662	63	0.22	321.33	0
321	Acid Soluble Zn (3%)	0029	3.266	0.1090	3.205	0.2578	0.0662	63	0.23	321.00	0
321	Acid Soluble Zn (3%)	0117	3.270	0.1898	3.205	0.2578	0.0662	63	0.25	321.33	0
321	Acid Soluble Zn (3%)	0136	3.275	0.3500	3.205	0.2578	0.0662	63	0.27	321.33	0
321	Acid Soluble Zn (3%)	0534	3.295	0.0100	3.205	0.2578	0.0662	63	0.35	321.00	0
321	Acid Soluble Zn (3%)	0498	3.300	0.0000	3.205	0.2578	0.0662	63	0.37	321.00	0
321	Acid Soluble Zn (3%)	0546	3.303	0.0010	3.205	0.2578	0.0662	63	0.38	321.33	0
321	Acid Soluble Zn (3%)	0561	3.305	0.0700	3.205	0.2578	0.0662	63	0.39	321.33	0
321	Acid Soluble Zn (3%)	0035	3.320	0.0800	3.205	0.2578	0.0662	63	0.45	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 Zn (3%)	0389	3.320	0.0000	3.205	0.2578	0.0662	63	0.45	321.99	0
321	Acid Soluble Zn (3%)	0405	3.360	0.0000	3.205	0.2578	0.0662	63	0.60	321.99	0
321	Acid Soluble Zn (3%)	0550	3.375	0.1700	3.205	0.2578	0.0662	63	0.66	321.00	0
321	Acid Soluble Zn (3%)	0422	3.390	0.0400	3.205	0.2578	0.0662	63	0.72	321.30	0
321	Acid Soluble Zn (3%)	0354	3.395	0.0700	3.205	0.2578	0.0662	63	0.74	321.30	0
321	Acid Soluble Zn (3%)	0516	3.395	0.2500	3.205	0.2578	0.0662	63	0.74	321.99	0
321	Acid Soluble Zn (3%)	0360	3.415	0.1100	3.205	0.2578	0.0662	63	0.81	321.30	0
321	Acid Soluble Zn (3%)	0486	3.475	0.0900	3.205	0.2578	0.0662	63	1.05	321.33	0
321	Acid Soluble Zn (3%)	0563	3.551‡	0.0527	3.205	0.2578	0.0662	63	1.34	321.33	0
321	Acid Soluble Zn (3%)	0452	3.580‡	0.0200	3.205	0.2578	0.0662	63	1.45	321.30	0
321	Acid Soluble Zn (3%)	0041	3.650‡	0.0400	3.205	0.2578	0.0662	63	1.73	321.30	0
321	Acid Soluble Zn (3%)	0231	3.725‡	0.0100	3.205	0.2578	0.0662	63	2.02	321.30	0
321	Acid Soluble Zn (3%)	0423	3.775‡	0.0100	3.205	0.2578	0.0662	63	2.21	321.32	0
321	Acid Soluble Zn (3%)	0521	4.054‡	0.0000	3.205	0.2578	0.0662	63	3.29	321.32	0
321	Acid Soluble Zn (3%)	0515	4.443‡	0.3832	3.205	0.2578	0.0662	63	4.80	321.99	0
321	Acid Soluble Zn (3%)	0536	4.525‡	0.0100	3.205	0.2578	0.0662	63	5.12	321.00	0
321	Acid Soluble Zn (3%)	0421	4.878‡	0.0094	3.205	0.2578	0.0662	63	6.49	321.33	0
321	Acid Soluble Zn (3%)	0049	3.485	0.7100	3.205	0.2578	0.0662	63	1.09	321.30	1
321	Acid Soluble Zn (3%)	0515	4.336‡	0.5983	3.205	0.2578	0.0662	63	4.39	321.33	1
325	Water Soluble Zn (%)	0562	2.965	0.1300	3.343	0.3278	0.0781	7	-1.04	325.99	0
325	Water Soluble Zn (%)	0027	3.069	0.0270	3.343	0.3278	0.0781	7	-0.76	325.00	0
325	Water Soluble Zn (%)	0556	3.200	0.1000	3.343	0.3278	0.0781	7	-0.40	325.00	0
325	Water Soluble Zn (%)	0501	3.275	0.0000	3.343	0.3278	0.0781	7	-0.19	325.30	0
325	Water Soluble Zn (%)	0564	3.575	0.0500	3.343	0.3278	0.0781	7	0.64	325.99	0
325	Water Soluble Zn (%)	0565	3.620	0.0400	3.343	0.3278	0.0781	7	0.76	325.99	0
325	Water Soluble Zn (%)	0560	3.700	0.2000	3.343	0.3278	0.0781	7	0.98	325.99	0
325	Water Soluble Zn (%)	0394	3.647	0.5410	3.343	0.3278	0.0781	7	0.84	325.30	1
431	Soluble Si in nonliquids (%)	0136	0.0350	0.0100				1		431.10	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, 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.