

# magruder fertilizer

## check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 200111

6-2-4 w/S & Humic Acids

### Statistical Summary

# Analytes: 32

# Labs Reporting: 97

Issue Date : 02/29/2020

Analyte Code	Analyte Sample # 200111	# 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 (%)	42	41	6.457	0.3007	6.434		0.2453	0.0479	3.81%		0.0891	3.02%
010	Total N (6%)	75	74	6.996	0.3153	7.033	0.5403	0.2587	0.0376	3.68%	1.12	0.1154	2.98%
020	Total P2O5 (%)	51	50	3.931	0.9826	3.903		0.4270	0.0755	10.94%		0.1109	3.26%
030	Citrate Insoluble P2O5 (%)	1		0.0400									
040	Indirect Available P2O5 (4%)	3	3	4.145	0.4952	4.145	0.6700	0.4952	0.3574	11.95%	1.72	0.0767	3.23%
041	Direct Available P2O5 (2%)	43	42	3.750	0.9998	3.677	0.6700	0.7417	0.1431	20.17%	2.58	0.1201	3.29%
048	Water Soluble P2O5 (%)	5	5	2.864	0.3743	2.864		0.3743	0.2092	13.07%		0.1160	3.41%
050	Soluble K2O (4%)	94	93	3.989	0.2673	3.996	0.4100	0.2219	0.0288	5.55%	1.26	0.1023	3.25%
060	Water (Free) (%)	2	2	8.742	0.4713								
101	Acid Soluble Ca (%)	13	12	0.3393	0.0977	0.3194	0.2160	0.0590	0.0213	18.46%	0.64	0.0104	4.75%
121	Acid Soluble Mg (%)	18	17	0.1265	0.0247	0.1239	0.2062	0.0205	0.0062	16.54%	0.23	0.0085	5.48%
143	Elemental S (%)	4	4	7.632	0.9441	7.632		0.9441	0.5901	12.37%		0.6905	2.95%
145	Sulfate S, HCl soluble (%)	6	6	7.860	0.5154	7.923		0.4321	0.2205	5.45%		0.1809	2.93%
148	Total S (5%)	48	47	7.531	1.408	7.596	0.5798	1.453	0.2649	19.13%	5.84	0.1755	2.95%
149	S - HNO3 soluble (%)	5	5	7.939	0.1901	7.939		0.1901	0.1063	2.39%		0.4061	2.93%
151	Acid Soluble As (ppm)	14	11	2.935	1.755	2.712		1.494	0.5630	55.08%		0.6085	13.77%
165	Acid Soluble B (%)	8	5	1.473	3.188	1.473	0.2240	3.188	1.782	216.41%	33.16	0.8703	3.77%
181	Acid Soluble Cd (ppm)	21	20	9.748	2.869	10.04		1.694	0.4735	16.87%		0.8837	11.30%
191	Acid Soluble Cr (ppm)	16	15	40.97	13.27	43.78		8.082	2.608	18.46%		1.422	9.06%
202	Acid Soluble Co (ppm)	13	9	1.942	0.5755	1.965	1.5895	0.5905	0.2460	30.05%	0.87	0.1306	14.45%
221	Acid Soluble Cu (%)	20	16	0.0051	0.0141	0.0014	0.0051	0.0006	0.0002	45.95%	0.28	0.0006	10.79%
241	Acid Soluble Fe (%)	16	15	0.2488	0.0427	0.2512	0.0301	0.0339	0.0109	13.49%	2.62	0.0182	4.92%
251	Acid Soluble Pb (ppm)	17	15	8.441	5.150	7.654		2.641	0.8523	34.50%		0.6990	11.78%
261	Acid Soluble Mn (%)	14	12	0.0057	0.0084	0.0033	0.0053	0.0006	0.0002	17.05%	0.24	0.0006	9.47%
281	Acid Soluble Hg (ppm)	6	3	4.235	5.759	4.235		5.759	4.156	135.98%		1.548	12.87%
289	Acid Soluble Mo (ppm)	14	13	5.266	8.211	3.108	1.9325	0.8937	0.3099	28.75%	1.08	1.208	13.49%
291	Acid Soluble Ni (ppm)	20	18	19.84	8.386	20.98		3.721	1.096	17.73%		0.9251	10.12%
301	Acid Soluble Se (ppm)	8	4	2.794	2.982	2.794		2.982	1.864	106.74%		1.730	13.71%
311	Sodium (%)	7	6	0.0927	0.0067	0.0932	0.0143	0.0064	0.0033	6.92%	1.05	0.0018	5.72%
321	Acid Soluble Zn (%)	28	26	0.0183	0.0173	0.0161	0.0066	0.0030	0.0007	18.38%	1.04	0.0014	7.45%
441	Humic Acids (20%)	26	24	21.98	2.533	21.56		1.854	0.4732	8.60%		0.3125	2.52%
451	Hydrophobic Fulvic Acids (%)	1		2.005									

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 # 200111	# 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
--------------	----------------------------	----------------------	-----------------------------------	----------	--------	-------------------------------	------------------------	-----------	---------------------------	--------------	------------------	--------------------------	--------------

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 # 200111  
6-2-4 w/S & Humic Acids

### Lab Values

# Analytes: 32

# Labs Reporting: 97

Issue Date : 02/29/2020

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 (%)	0538	6.035	0.1300	6.434	0.2453	0.0891	41	-1.63	001.99	0
001	Ammoniacal N (%)	0535	6.050	0.1000	6.434	0.2453	0.0891	41	-1.57	001.99	0
001	Ammoniacal N (%)	0532	6.115	0.0500	6.434	0.2453	0.0891	41	-1.30	001.99	0
001	Ammoniacal N (%)	0423	6.135	0.1500	6.434	0.2453	0.0891	41	-1.22	001.99	0
001	Ammoniacal N (%)	0420	6.150	0.0600	6.434	0.2453	0.0891	41	-1.16	001.99	0
001	Ammoniacal N (%)	0536	6.150	0.1000	6.434	0.2453	0.0891	41	-1.16	001.99	0
001	Ammoniacal N (%)	0556	6.175	0.1500	6.434	0.2453	0.0891	41	-1.06	001.99	0
001	Ammoniacal N (%)	0456	6.175	0.0500	6.434	0.2453	0.0891	41	-1.06	001.10	0
001	Ammoniacal N (%)	0527	6.180	0.0200	6.434	0.2453	0.0891	41	-1.04	001.99	0
001	Ammoniacal N (%)	0559	6.195	0.0100	6.434	0.2453	0.0891	41	-0.98	001.99	0
001	Ammoniacal N (%)	0540	6.265	0.1500	6.434	0.2453	0.0891	41	-0.69	001.99	0
001	Ammoniacal N (%)	0513	6.310	0.0600	6.434	0.2453	0.0891	41	-0.51	001.99	0
001	Ammoniacal N (%)	0481	6.320	0.0400	6.434	0.2453	0.0891	41	-0.47	001.10	0
001	Ammoniacal N (%)	0220	6.325	0.2300	6.434	0.2453	0.0891	41	-0.45	001.99	0
001	Ammoniacal N (%)	0545	6.350	0.0200	6.434	0.2453	0.0891	41	-0.34	001.99	0
001	Ammoniacal N (%)	0546	6.350	0.0000	6.434	0.2453	0.0891	41	-0.34	001.99	0
001	Ammoniacal N (%)	0537	6.400	0.1200	6.434	0.2453	0.0891	41	-0.14	001.99	0
001	Ammoniacal N (%)	0562	6.405	0.1900	6.434	0.2453	0.0891	41	-0.12	001.99	0
001	Ammoniacal N (%)	0136	6.430	0.0200	6.434	0.2453	0.0891	41	-0.02	001.10	0
001	Ammoniacal N (%)	0493	6.450	0.1000	6.434	0.2453	0.0891	41	0.06	001.99	0
001	Ammoniacal N (%)	0486	6.465	0.1700	6.434	0.2453	0.0891	41	0.13	001.10	0
001	Ammoniacal N (%)	0027	6.469	0.2580	6.434	0.2453	0.0891	41	0.14	001.99	0
001	Ammoniacal N (%)	0444	6.485	0.0900	6.434	0.2453	0.0891	41	0.21	001.10	0
001	Ammoniacal N (%)	0524	6.490	0.1400	6.434	0.2453	0.0891	41	0.23	001.99	0
001	Ammoniacal N (%)	0451	6.495	0.0100	6.434	0.2453	0.0891	41	0.25	001.10	0
001	Ammoniacal N (%)	0476	6.517	0.0275	6.434	0.2453	0.0891	41	0.34	001.99	0
001	Ammoniacal N (%)	0371	6.520	0.0800	6.434	0.2453	0.0891	41	0.35	001.99	0
001	Ammoniacal N (%)	0558	6.525	0.0900	6.434	0.2453	0.0891	41	0.37	001.99	0
001	Ammoniacal N (%)	0549	6.550	0.1000	6.434	0.2453	0.0891	41	0.47	001.99	0
001	Ammoniacal N (%)	0520	6.575	0.1500	6.434	0.2453	0.0891	41	0.57	001.99	0
001	Ammoniacal N (%)	0405	6.580	0.0000	6.434	0.2453	0.0891	41	0.59	001.99	0
001	Ammoniacal N (%)	0096	6.585	0.0900	6.434	0.2453	0.0891	41	0.61	001.99	0
001	Ammoniacal N (%)	0522	6.635	0.1100	6.434	0.2453	0.0891	41	0.82	001.99	0
001	Ammoniacal N (%)	0368	6.667	0.0060	6.434	0.2453	0.0891	41	0.95	001.99	0
001	Ammoniacal N (%)	0029	6.680	0.1400	6.434	0.2453	0.0891	41	1.00	001.99	0
001	Ammoniacal N (%)	0544	6.710	0.0400	6.434	0.2453	0.0891	41	1.12	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 (%)	0550	6.720	0.0200	6.434	0.2453	0.0891	41	1.16	001.99	0
001	Ammoniacal N (%)	0255	6.735	0.0700	6.434	0.2453	0.0891	41	1.23	001.99	0
001	Ammoniacal N (%)	0564	6.790	0.0400	6.434	0.2453	0.0891	41	1.45	001.99	0
001	Ammoniacal N (%)	0565	6.795	0.0300	6.434	0.2453	0.0891	41	1.47	001.99	0
001	Ammoniacal N (%)	0553	7.800	0.2400	6.434	0.2453	0.0891	41	5.57	001.99	0
001	Ammoniacal N (%)	0309	2.580	0.4000	6.434	0.2453	0.0891	41	-15.71	001.10	2
010	Total N (6%)	0560	6.050†	0.3000	7.033	0.2587	0.1154	74	-3.80	010.99	0
010	Total N (6%)	0535	6.150†	0.1000	7.033	0.2587	0.1154	74	-3.41	010.11	0
010	Total N (6%)	0456	6.175†	0.0500	7.033	0.2587	0.1154	74	-3.32	010.11	0
010	Total N (6%)	0498	6.200†	0.0000	7.033	0.2587	0.1154	74	-3.22	010.12	0
010	Total N (6%)	0540	6.290†	0.0800	7.033	0.2587	0.1154	74	-2.87	010.11	0
010	Total N (6%)	0534	6.415†	0.0300	7.033	0.2587	0.1154	74	-2.39	010.60	0
010	Total N (6%)	0452	6.515	0.1300	7.033	0.2587	0.1154	74	-2.00	010.60	0
010	Total N (6%)	0558	6.525	0.0900	7.033	0.2587	0.1154	74	-1.96	010.99	0
010	Total N (6%)	0520	6.625	0.2500	7.033	0.2587	0.1154	74	-1.58	010.99	0
010	Total N (6%)	0562	6.645	0.2100	7.033	0.2587	0.1154	74	-1.50	010.99	0
010	Total N (6%)	0230	6.700	0.2000	7.033	0.2587	0.1154	74	-1.29	010.60	0
010	Total N (6%)	0072	6.720	0.2600	7.033	0.2587	0.1154	74	-1.21	010.60	0
010	Total N (6%)	0420	6.775	0.0500	7.033	0.2587	0.1154	74	-1.00	010.60	0
010	Total N (6%)	0034	6.776	0.2150	7.033	0.2587	0.1154	74	-0.99	010.60	0
010	Total N (6%)	0564	6.785	0.0300	7.033	0.2587	0.1154	74	-0.96	010.99	0
010	Total N (6%)	0493	6.800	0.1000	7.033	0.2587	0.1154	74	-0.90	010.60	0
010	Total N (6%)	0565	6.800	0.1000	7.033	0.2587	0.1154	74	-0.90	010.99	0
010	Total N (6%)	0481	6.820	0.0600	7.033	0.2587	0.1154	74	-0.82	010.12	0
010	Total N (6%)	0027	6.835	0.1500	7.033	0.2587	0.1154	74	-0.76	010.60	0
010	Total N (6%)	0486	6.885	0.0900	7.033	0.2587	0.1154	74	-0.57	010.60	0
010	Total N (6%)	0521	6.913	0.0000	7.033	0.2587	0.1154	74	-0.46	010.60	0
010	Total N (6%)	0220	6.915	0.1500	7.033	0.2587	0.1154	74	-0.46	010.60	0
010	Total N (6%)	0095	6.935	0.0500	7.033	0.2587	0.1154	74	-0.38	010.60	0
010	Total N (6%)	0550	6.940	0.0400	7.033	0.2587	0.1154	74	-0.36	010.60	0
010	Total N (6%)	0354	6.940	0.0800	7.033	0.2587	0.1154	74	-0.36	010.60	0
010	Total N (6%)	0493	6.950	0.1000	7.033	0.2587	0.1154	74	-0.32	010.99	0
010	Total N (6%)	0356	6.954	0.0160	7.033	0.2587	0.1154	74	-0.30	010.60	0
010	Total N (6%)	0420	6.975	0.1100	7.033	0.2587	0.1154	74	-0.22	010.99	0
010	Total N (6%)	0025	6.993	0.0490	7.033	0.2587	0.1154	74	-0.16	010.60	0
010	Total N (6%)	0234	6.995	0.0100	7.033	0.2587	0.1154	74	-0.15	010.60	0
010	Total N (6%)	0501	7.005	0.0100	7.033	0.2587	0.1154	74	-0.11	010.60	0
010	Total N (6%)	0524	7.017	0.1135	7.033	0.2587	0.1154	74	-0.06	010.99	0
010	Total N (6%)	0291	7.045	0.0100	7.033	0.2587	0.1154	74	0.05	010.60	0
010	Total N (6%)	0029	7.051	0.0010	7.033	0.2587	0.1154	74	0.07	010.60	0
010	Total N (6%)	0360	7.065	0.2100	7.033	0.2587	0.1154	74	0.12	010.60	0
010	Total N (6%)	0510	7.072	0.4436	7.033	0.2587	0.1154	74	0.15	010.11	0
010	Total N (6%)	0481	7.085	0.0100	7.033	0.2587	0.1154	74	0.20	010.60	0
010	Total N (6%)	0527	7.086	0.0530	7.033	0.2587	0.1154	74	0.20	010.60	0
010	Total N (6%)	0405	7.090	0.0000	7.033	0.2587	0.1154	74	0.22	010.60	0
010	Total N (6%)	0451	7.121	0.1020	7.033	0.2587	0.1154	74	0.34	010.60	0
010	Total N (6%)	0292	7.125	0.0300	7.033	0.2587	0.1154	74	0.36	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 (6%)	0423	7.140	0.1000	7.033	0.2587	0.1154	74	0.41	010.60	0
010	Total N (6%)	0041	7.141	0.0430	7.033	0.2587	0.1154	74	0.42	010.60	0
010	Total N (6%)	0035	7.145	0.3700	7.033	0.2587	0.1154	74	0.43	010.60	0
010	Total N (6%)	0114	7.150	0.2400	7.033	0.2587	0.1154	74	0.45	010.60	0
010	Total N (6%)	0157	7.150	0.0200	7.033	0.2587	0.1154	74	0.45	010.60	0
010	Total N (6%)	0450	7.150	0.3000	7.033	0.2587	0.1154	74	0.45	010.60	0
010	Total N (6%)	0559	7.150	0.0200	7.033	0.2587	0.1154	74	0.45	010.99	0
010	Total N (6%)	0043	7.165	0.1100	7.033	0.2587	0.1154	74	0.51	010.60	0
010	Total N (6%)	0324	7.175	0.0900	7.033	0.2587	0.1154	74	0.55	010.60	0
010	Total N (6%)	0368	7.178	0.0470	7.033	0.2587	0.1154	74	0.56	010.60	0
010	Total N (6%)	0494	7.180	0.1400	7.033	0.2587	0.1154	74	0.57	010.60	0
010	Total N (6%)	0561	7.195	0.0700	7.033	0.2587	0.1154	74	0.63	010.60	0
010	Total N (6%)	0231	7.200	0.0000	7.033	0.2587	0.1154	74	0.65	010.60	0
010	Total N (6%)	0422	7.210	0.0200	7.033	0.2587	0.1154	74	0.69	010.60	0
010	Total N (6%)	0255	7.214	0.2540	7.033	0.2587	0.1154	74	0.70	010.60	0
010	Total N (6%)	0421	7.225	0.0300	7.033	0.2587	0.1154	74	0.74	010.60	0
010	Total N (6%)	0086	7.226	0.1126	7.033	0.2587	0.1154	74	0.75	010.60	0
010	Total N (6%)	0177	7.230	0.0060	7.033	0.2587	0.1154	74	0.76	010.60	0
010	Total N (6%)	0136	7.235	0.2700	7.033	0.2587	0.1154	74	0.78	010.60	0
010	Total N (6%)	0547	7.240	0.1000	7.033	0.2587	0.1154	74	0.80	010.60	0
010	Total N (6%)	0525	7.245	0.2100	7.033	0.2587	0.1154	74	0.82	010.60	0
010	Total N (6%)	0377	7.260	0.0600	7.033	0.2587	0.1154	74	0.88	010.60	0
010	Total N (6%)	0371	7.270	0.0400	7.033	0.2587	0.1154	74	0.92	010.99	0
010	Total N (6%)	0055	7.272	0.2480	7.033	0.2587	0.1154	74	0.92	010.60	0
010	Total N (6%)	0073	7.275	0.0100	7.033	0.2587	0.1154	74	0.94	010.60	0
010	Total N (6%)	0049	7.290	0.0400	7.033	0.2587	0.1154	74	0.99	010.60	0
010	Total N (6%)	0516	7.300	0.4000	7.033	0.2587	0.1154	74	1.03	010.60	0
010	Total N (6%)	0402	7.326	0.0330	7.033	0.2587	0.1154	74	1.13	010.60	0
010	Total N (6%)	0096	7.335	0.0100	7.033	0.2587	0.1154	74	1.17	010.60	0
010	Total N (6%)	0023	7.350	0.1000	7.033	0.2587	0.1154	74	1.23	010.60	0
010	Total N (6%)	0040	7.350	0.5000	7.033	0.2587	0.1154	74	1.23	010.60	0
010	Total N (6%)	0325	7.435	0.1700	7.033	0.2587	0.1154	74	1.55	010.60	0
010	Total N (6%)	0102	7.535	0.2900	7.033	0.2587	0.1154	74	1.94	010.60	0
010	Total N (6%)	0485	6.607	0.5500	7.033	0.2587	0.1154	74	-1.65	010.60	1
020	Total P2O5 (%)	0558	2.050	0.0200	3.903	0.4270	0.1109	50	-4.34	020.20	0
020	Total P2O5 (%)	0565	2.065	0.0300	3.903	0.4270	0.1109	50	-4.30	020.99	0
020	Total P2O5 (%)	0564	2.070	0.0800	3.903	0.4270	0.1109	50	-4.29	020.99	0
020	Total P2O5 (%)	0456	2.255	0.0900	3.903	0.4270	0.1109	50	-3.86	020.40	0
020	Total P2O5 (%)	0476	2.701	0.0401	3.903	0.4270	0.1109	50	-2.81	020.20	0
020	Total P2O5 (%)	0255	3.046	0.4440	3.903	0.4270	0.1109	50	-2.01	020.50	0
020	Total P2O5 (%)	0422	3.369	0.4420	3.903	0.4270	0.1109	50	-1.25	020.50	0
020	Total P2O5 (%)	0501	3.390	0.0400	3.903	0.4270	0.1109	50	-1.20	020.50	0
020	Total P2O5 (%)	0524	3.390	0.2727	3.903	0.4270	0.1109	50	-1.20	020.50	0
020	Total P2O5 (%)	0389	3.465	0.0300	3.903	0.4270	0.1109	50	-1.02	020.50	0
020	Total P2O5 (%)	0309	3.510	0.1600	3.903	0.4270	0.1109	50	-0.92	020.20	0
020	Total P2O5 (%)	0450	3.695	0.2500	3.903	0.4270	0.1109	50	-0.49	020.20	0
020	Total P2O5 (%)	0546	3.724	0.1140	3.903	0.4270	0.1109	50	-0.42	020.50	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				
020	Total P2O5 (%)	0157	3.765	0.0300	3.903	0.4270	0.1109	50	-0.32	020.50	0
020	Total P2O5 (%)	0423	3.790	0.1200	3.903	0.4270	0.1109	50	-0.26	020.50	0
020	Total P2O5 (%)	0525	3.800	0.1600	3.903	0.4270	0.1109	50	-0.24	020.50	0
020	Total P2O5 (%)	0371	3.815	0.1100	3.903	0.4270	0.1109	50	-0.21	020.20	0
020	Total P2O5 (%)	0451	3.830	0.0400	3.903	0.4270	0.1109	50	-0.17	020.50	0
020	Total P2O5 (%)	0516	3.850	0.1000	3.903	0.4270	0.1109	50	-0.12	020.50	0
020	Total P2O5 (%)	0521	3.878	0.0000	3.903	0.4270	0.1109	50	-0.06	020.50	0
020	Total P2O5 (%)	0234	3.890	0.0800	3.903	0.4270	0.1109	50	-0.03	020.50	0
020	Total P2O5 (%)	0520	3.895	0.0300	3.903	0.4270	0.1109	50	-0.02	020.99	0
020	Total P2O5 (%)	0049	3.900	0.0200	3.903	0.4270	0.1109	50	-0.01	020.10	0
020	Total P2O5 (%)	0552	3.905	0.0500	3.903	0.4270	0.1109	50	0.01	020.50	0
020	Total P2O5 (%)	0420	3.915	0.1900	3.903	0.4270	0.1109	50	0.03	020.20	0
020	Total P2O5 (%)	0433	3.925	0.1900	3.903	0.4270	0.1109	50	0.05	020.50	0
020	Total P2O5 (%)	0114	3.970	0.1400	3.903	0.4270	0.1109	50	0.16	020.10	0
020	Total P2O5 (%)	0493	4.000	0.0400	3.903	0.4270	0.1109	50	0.23	020.10	0
020	Total P2O5 (%)	0096	4.000	0.1000	3.903	0.4270	0.1109	50	0.23	020.40	0
020	Total P2O5 (%)	0177	4.002	0.1305	3.903	0.4270	0.1109	50	0.23	020.20	0
020	Total P2O5 (%)	0513	4.010	0.0200	3.903	0.4270	0.1109	50	0.25	020.99	0
020	Total P2O5 (%)	0562	4.015	0.2100	3.903	0.4270	0.1109	50	0.26	020.99	0
020	Total P2O5 (%)	0527	4.028	0.0059	3.903	0.4270	0.1109	50	0.29	020.50	0
020	Total P2O5 (%)	0419	4.040	0.0600	3.903	0.4270	0.1109	50	0.32	020.20	0
020	Total P2O5 (%)	0510	4.058	0.2673	3.903	0.4270	0.1109	50	0.36	020.20	0
020	Total P2O5 (%)	0402	4.065	0.0700	3.903	0.4270	0.1109	50	0.38	020.50	0
020	Total P2O5 (%)	0444	4.075	0.0500	3.903	0.4270	0.1109	50	0.40	020.50	0
020	Total P2O5 (%)	0291	4.095	0.0100	3.903	0.4270	0.1109	50	0.45	020.50	0
020	Total P2O5 (%)	0035	4.150	0.0800	3.903	0.4270	0.1109	50	0.58	020.40	0
020	Total P2O5 (%)	0231	4.150	0.0600	3.903	0.4270	0.1109	50	0.58	020.50	0
020	Total P2O5 (%)	0324	4.200	0.6000	3.903	0.4270	0.1109	50	0.70	020.20	0
020	Total P2O5 (%)	0481	4.210	0.0200	3.903	0.4270	0.1109	50	0.72	020.20	0
020	Total P2O5 (%)	0550	4.290	0.0600	3.903	0.4270	0.1109	50	0.91	020.20	0
020	Total P2O5 (%)	0027	4.385	0.1900	3.903	0.4270	0.1109	50	1.13	020.20	0
020	Total P2O5 (%)	0452	4.400	0.0800	3.903	0.4270	0.1109	50	1.16	020.50	0
020	Total P2O5 (%)	0522	4.713	0.0150	3.903	0.4270	0.1109	50	1.90	020.20	0
020	Total P2O5 (%)	0231	4.775	0.0500	3.903	0.4270	0.1109	50	2.04	020.20	0
020	Total P2O5 (%)	0356	5.081	0.0120	3.903	0.4270	0.1109	50	2.76	020.20	0
020	Total P2O5 (%)	0405	6.575	0.0900	3.903	0.4270	0.1109	50	6.26	020.20	0
020	Total P2O5 (%)	0292	8.365	0.0500	3.903	0.4270	0.1109	50	10.45	020.20	0
020	Total P2O5 (%)	0515	2.821	1.142	3.903	0.4270	0.1109	50	-2.53	020.99	1
030	Citrate Insoluble P2O5 (%)	0096	0.0400	0.0000				1		030.40	0
040	Indirect Available P2O5 (4%)	0547	3.765	0.1300	4.145	0.4952	0.0767	3	-0.77	040.20	0
040	Indirect Available P2O5 (4%)	0096	3.965	0.0900	4.145	0.4952	0.0767	3	-0.36	040.40	0
040	Indirect Available P2O5 (4%)	0561	4.705	0.0100	4.145	0.4952	0.0767	3	1.13	040.20	0
041	Direct Available P2O5 (2%)	0536	2.020†	0.0200	3.677	0.7417	0.1201	42	-2.23	041.99	0
041	Direct Available P2O5 (2%)	0559	2.095†	0.0100	3.677	0.7417	0.1201	42	-2.13	041.99	0
041	Direct Available P2O5 (2%)	0560	2.150†	0.1000	3.677	0.7417	0.1201	42	-2.06	041.99	0
041	Direct Available P2O5 (2%)	0532	2.210†	0.0800	3.677	0.7417	0.1201	42	-1.98	041.99	0
041	Direct Available P2O5 (2%)	0553	2.395†	0.0100	3.677	0.7417	0.1201	42	-1.73	041.20	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				
041	Direct Available P2O5 (2%)	0540	2.495†	0.0900	3.677	0.7417	0.1201	42	-1.59	041.99	0
041	Direct Available P2O5 (2%)	0537	2.795†	0.3100	3.677	0.7417	0.1201	42	-1.19	041.99	0
041	Direct Available P2O5 (2%)	0498	2.900†	0.2000	3.677	0.7417	0.1201	42	-1.05	041.20	0
041	Direct Available P2O5 (2%)	0535	2.950†	0.1000	3.677	0.7417	0.1201	42	-0.98	041.99	0
041	Direct Available P2O5 (2%)	0538	3.010	0.1400	3.677	0.7417	0.1201	42	-0.90	041.99	0
041	Direct Available P2O5 (2%)	0562	3.285	0.1300	3.677	0.7417	0.1201	42	-0.53	041.99	0
041	Direct Available P2O5 (2%)	0423	3.490	0.0800	3.677	0.7417	0.1201	42	-0.25	041.51	0
041	Direct Available P2O5 (2%)	0545	3.500	0.0400	3.677	0.7417	0.1201	42	-0.24	041.99	0
041	Direct Available P2O5 (2%)	0360	3.605	0.0700	3.677	0.7417	0.1201	42	-0.10	041.51	0
041	Direct Available P2O5 (2%)	0040	3.700	0.0000	3.677	0.7417	0.1201	42	0.03	041.51	0
041	Direct Available P2O5 (2%)	0136	3.745	0.0700	3.677	0.7417	0.1201	42	0.09	041.51	0
041	Direct Available P2O5 (2%)	0220	3.760	0.1000	3.677	0.7417	0.1201	42	0.11	041.11	0
041	Direct Available P2O5 (2%)	0231	3.780	0.0600	3.677	0.7417	0.1201	42	0.14	041.21	0
041	Direct Available P2O5 (2%)	0025	3.815	0.0100	3.677	0.7417	0.1201	42	0.19	041.51	0
041	Direct Available P2O5 (2%)	0231	3.815	0.1900	3.677	0.7417	0.1201	42	0.19	041.50	0
041	Direct Available P2O5 (2%)	0117	3.824	0.0274	3.677	0.7417	0.1201	42	0.20	041.51	0
041	Direct Available P2O5 (2%)	0073	3.825	0.2900	3.677	0.7417	0.1201	42	0.20	041.11	0
041	Direct Available P2O5 (2%)	0377	3.825	0.1500	3.677	0.7417	0.1201	42	0.20	041.51	0
041	Direct Available P2O5 (2%)	0102	3.850	0.1000	3.677	0.7417	0.1201	42	0.23	041.10	0
041	Direct Available P2O5 (2%)	0027	3.855	0.4100	3.677	0.7417	0.1201	42	0.24	041.20	0
041	Direct Available P2O5 (2%)	0513	3.910	0.0200	3.677	0.7417	0.1201	42	0.31	041.11	0
041	Direct Available P2O5 (2%)	0494	3.920	0.7600	3.677	0.7417	0.1201	42	0.33	041.10	0
041	Direct Available P2O5 (2%)	0544	3.920	0.0400	3.677	0.7417	0.1201	42	0.33	041.21	0
041	Direct Available P2O5 (2%)	0494	3.945	0.1300	3.677	0.7417	0.1201	42	0.36	041.51	0
041	Direct Available P2O5 (2%)	0023	3.950	0.1000	3.677	0.7417	0.1201	42	0.37	041.51	0
041	Direct Available P2O5 (2%)	0043	3.950	0.0000	3.677	0.7417	0.1201	42	0.37	041.51	0
041	Direct Available P2O5 (2%)	0421	3.960	0.0080	3.677	0.7417	0.1201	42	0.38	041.50	0
041	Direct Available P2O5 (2%)	0086	3.980	0.0515	3.677	0.7417	0.1201	42	0.41	041.10	0
041	Direct Available P2O5 (2%)	0485	4.005	0.0111	3.677	0.7417	0.1201	42	0.44	041.11	0
041	Direct Available P2O5 (2%)	0354	4.065	0.0500	3.677	0.7417	0.1201	42	0.52	041.21	0
041	Direct Available P2O5 (2%)	0055	4.085	0.1300	3.677	0.7417	0.1201	42	0.55	041.11	0
041	Direct Available P2O5 (2%)	0522	4.085	0.0400	3.677	0.7417	0.1201	42	0.55	041.21	0
041	Direct Available P2O5 (2%)	0230	5.010‡	0.5800	3.677	0.7417	0.1201	42	1.80	041.99	0
041	Direct Available P2O5 (2%)	0029	5.272‡	0.0570	3.677	0.7417	0.1201	42	2.15	041.40	0
041	Direct Available P2O5 (2%)	0055	5.985‡	0.1100	3.677	0.7417	0.1201	42	3.11	041.21	0
041	Direct Available P2O5 (2%)	0095	6.095‡	0.1500	3.677	0.7417	0.1201	42	3.26	041.40	0
041	Direct Available P2O5 (2%)	0405	6.680‡	0.0200	3.677	0.7417	0.1201	42	4.05	041.21	0
041	Direct Available P2O5 (2%)	0325	2.850†	1.500	3.677	0.7417	0.1201	42	-1.12	041.50	1
048	Water Soluble P2O5 (%)	0556	2.300	0.2000	2.864	0.3743	0.1160	5	-1.51	048.99	0
048	Water Soluble P2O5 (%)	0096	2.770	0.0800	2.864	0.3743	0.1160	5	-0.25	048.40	0
048	Water Soluble P2O5 (%)	0444	2.915	0.0900	2.864	0.3743	0.1160	5	0.14	048.50	0
048	Water Soluble P2O5 (%)	0562	3.015	0.1900	2.864	0.3743	0.1160	5	0.40	048.99	0
048	Water Soluble P2O5 (%)	0420	3.320	0.0200	2.864	0.3743	0.1160	5	1.22	048.20	0
050	Soluble K2O (4%)	0476	3.079†	0.1079	3.996	0.2219	0.1023	93	-4.14	050.60	0
050	Soluble K2O (4%)	0405	3.210†	0.0600	3.996	0.2219	0.1023	93	-3.54	050.00	0
050	Soluble K2O (4%)	0309	3.420†	0.2200	3.996	0.2219	0.1023	93	-2.60	050.30	0
050	Soluble K2O (4%)	0136	3.445†	0.1900	3.996	0.2219	0.1023	93	-2.48	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 (4%)	0545	3.510†	0.0200	3.996	0.2219	0.1023	93	-2.19	050.99	0
050	Soluble K2O (4%)	0518	3.600	0.0000	3.996	0.2219	0.1023	93	-1.79	050.99	0
050	Soluble K2O (4%)	0522	3.628	0.0250	3.996	0.2219	0.1023	93	-1.66	050.00	0
050	Soluble K2O (4%)	0544	3.650	0.0600	3.996	0.2219	0.1023	93	-1.56	050.00	0
050	Soluble K2O (4%)	0516	3.650	0.1000	3.996	0.2219	0.1023	93	-1.56	050.99	0
050	Soluble K2O (4%)	0422	3.690	0.1600	3.996	0.2219	0.1023	93	-1.38	050.50	0
050	Soluble K2O (4%)	0485	3.708	0.0530	3.996	0.2219	0.1023	93	-1.30	050.52	0
050	Soluble K2O (4%)	0371	3.740	0.0000	3.996	0.2219	0.1023	93	-1.16	050.99	0
050	Soluble K2O (4%)	0556	3.750	0.2000	3.996	0.2219	0.1023	93	-1.11	050.99	0
050	Soluble K2O (4%)	0565	3.770	0.0200	3.996	0.2219	0.1023	93	-1.02	050.99	0
050	Soluble K2O (4%)	0564	3.770	0.0800	3.996	0.2219	0.1023	93	-1.02	050.99	0
050	Soluble K2O (4%)	0510	3.772	0.0089	3.996	0.2219	0.1023	93	-1.01	050.60	0
050	Soluble K2O (4%)	0537	3.775	0.3500	3.996	0.2219	0.1023	93	-1.00	050.99	0
050	Soluble K2O (4%)	0456	3.780	0.2000	3.996	0.2219	0.1023	93	-0.97	050.61	0
050	Soluble K2O (4%)	0562	3.780	0.1400	3.996	0.2219	0.1023	93	-0.97	050.99	0
050	Soluble K2O (4%)	0040	3.800	0.0000	3.996	0.2219	0.1023	93	-0.88	050.30	0
050	Soluble K2O (4%)	0035	3.805	0.0700	3.996	0.2219	0.1023	93	-0.86	050.61	0
050	Soluble K2O (4%)	0055	3.840	0.0200	3.996	0.2219	0.1023	93	-0.70	050.50	0
050	Soluble K2O (4%)	0524	3.844	0.3534	3.996	0.2219	0.1023	93	-0.69	050.99	0
050	Soluble K2O (4%)	0481	3.860	0.0600	3.996	0.2219	0.1023	93	-0.61	050.99	0
050	Soluble K2O (4%)	0220	3.890	0.1000	3.996	0.2219	0.1023	93	-0.48	050.00	0
050	Soluble K2O (4%)	0360	3.895	0.1500	3.996	0.2219	0.1023	93	-0.46	050.52	0
050	Soluble K2O (4%)	0325	3.900	0.2000	3.996	0.2219	0.1023	93	-0.43	050.99	0
050	Soluble K2O (4%)	0049	3.900	0.1800	3.996	0.2219	0.1023	93	-0.43	050.00	0
050	Soluble K2O (4%)	0486	3.905	0.1100	3.996	0.2219	0.1023	93	-0.41	050.52	0
050	Soluble K2O (4%)	0553	3.905	0.0300	3.996	0.2219	0.1023	93	-0.41	050.99	0
050	Soluble K2O (4%)	0255	3.910	0.1090	3.996	0.2219	0.1023	93	-0.39	050.99	0
050	Soluble K2O (4%)	0547	3.910	0.0200	3.996	0.2219	0.1023	93	-0.39	050.99	0
050	Soluble K2O (4%)	0402	3.930	0.0400	3.996	0.2219	0.1023	93	-0.30	050.99	0
050	Soluble K2O (4%)	0356	3.938	0.1080	3.996	0.2219	0.1023	93	-0.26	050.30	0
050	Soluble K2O (4%)	0558	3.940	0.0400	3.996	0.2219	0.1023	93	-0.25	050.99	0
050	Soluble K2O (4%)	0560	3.950	0.3000	3.996	0.2219	0.1023	93	-0.21	050.99	0
050	Soluble K2O (4%)	0535	3.950	0.1000	3.996	0.2219	0.1023	93	-0.21	050.99	0
050	Soluble K2O (4%)	0549	3.950	0.1000	3.996	0.2219	0.1023	93	-0.21	050.99	0
050	Soluble K2O (4%)	0521	3.964	0.0000	3.996	0.2219	0.1023	93	-0.15	050.99	0
050	Soluble K2O (4%)	0546	3.975	0.0730	3.996	0.2219	0.1023	93	-0.10	050.99	0
050	Soluble K2O (4%)	0540	3.975	0.0500	3.996	0.2219	0.1023	93	-0.10	050.99	0
050	Soluble K2O (4%)	0451	3.980	0.0400	3.996	0.2219	0.1023	93	-0.07	050.99	0
050	Soluble K2O (4%)	0536	3.985	0.0700	3.996	0.2219	0.1023	93	-0.05	050.99	0
050	Soluble K2O (4%)	0292	3.995	0.1900	3.996	0.2219	0.1023	93	-0.01	050.50	0
050	Soluble K2O (4%)	0096	3.995	0.2100	3.996	0.2219	0.1023	93	-0.01	050.99	0
050	Soluble K2O (4%)	0538	4.000	0.1000	3.996	0.2219	0.1023	93	0.02	050.99	0
050	Soluble K2O (4%)	0420	4.005	0.1100	3.996	0.2219	0.1023	93	0.04	050.30	0
050	Soluble K2O (4%)	0421	4.013	0.0326	3.996	0.2219	0.1023	93	0.08	050.99	0
050	Soluble K2O (4%)	0527	4.025	0.0132	3.996	0.2219	0.1023	93	0.13	050.99	0
050	Soluble K2O (4%)	0433	4.030	0.0200	3.996	0.2219	0.1023	93	0.15	050.99	0
050	Soluble K2O (4%)	0551	4.030	0.0400	3.996	0.2219	0.1023	93	0.15	050.99	0



Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
050	Soluble K2O (4%)	0531	4.040	0.0400	3.996	0.2219	0.1023	93	0.20	050.99	0
050	Soluble K2O (4%)	0389	4.040	0.0000	3.996	0.2219	0.1023	93	0.20	050.99	0
050	Soluble K2O (4%)	0231	4.050	0.0000	3.996	0.2219	0.1023	93	0.24	050.50	0
050	Soluble K2O (4%)	0025	4.050	0.0600	3.996	0.2219	0.1023	93	0.24	050.52	0
050	Soluble K2O (4%)	0423	4.050	0.1600	3.996	0.2219	0.1023	93	0.24	050.52	0
050	Soluble K2O (4%)	0535	4.050	0.1000	3.996	0.2219	0.1023	93	0.24	050.61	0
050	Soluble K2O (4%)	0535	4.050	0.1000	3.996	0.2219	0.1023	93	0.24	050.62	0
050	Soluble K2O (4%)	0029	4.057	0.2020	3.996	0.2219	0.1023	93	0.27	050.62	0
050	Soluble K2O (4%)	0494	4.060	0.2800	3.996	0.2219	0.1023	93	0.29	050.00	0
050	Soluble K2O (4%)	0525	4.060	0.2200	3.996	0.2219	0.1023	93	0.29	050.99	0
050	Soluble K2O (4%)	0073	4.085	0.0300	3.996	0.2219	0.1023	93	0.40	050.30	0
050	Soluble K2O (4%)	0419	4.090	0.0200	3.996	0.2219	0.1023	93	0.42	050.99	0
050	Soluble K2O (4%)	0559	4.095	0.0100	3.996	0.2219	0.1023	93	0.44	050.99	0
050	Soluble K2O (4%)	0552	4.095	0.0500	3.996	0.2219	0.1023	93	0.44	050.99	0
050	Soluble K2O (4%)	0234	4.100	0.0200	3.996	0.2219	0.1023	93	0.47	050.99	0
050	Soluble K2O (4%)	0157	4.130	0.4200	3.996	0.2219	0.1023	93	0.60	050.30	0
050	Soluble K2O (4%)	0377	4.135	0.0700	3.996	0.2219	0.1023	93	0.62	050.52	0
050	Soluble K2O (4%)	0117	4.136	0.0268	3.996	0.2219	0.1023	93	0.63	050.52	0
050	Soluble K2O (4%)	0444	4.145	0.0500	3.996	0.2219	0.1023	93	0.67	050.50	0
050	Soluble K2O (4%)	0023	4.150	0.1000	3.996	0.2219	0.1023	93	0.69	050.52	0
050	Soluble K2O (4%)	0493	4.150	0.1000	3.996	0.2219	0.1023	93	0.69	050.99	0
050	Soluble K2O (4%)	0532	4.160	0.0400	3.996	0.2219	0.1023	93	0.74	050.99	0
050	Soluble K2O (4%)	0157	4.165	0.1100	3.996	0.2219	0.1023	93	0.76	050.50	0
050	Soluble K2O (4%)	0177	4.165	0.0952	3.996	0.2219	0.1023	93	0.76	050.99	0
050	Soluble K2O (4%)	0515	4.171	0.3314	3.996	0.2219	0.1023	93	0.79	050.99	0
050	Soluble K2O (4%)	0513	4.185	0.0500	3.996	0.2219	0.1023	93	0.85	050.62	0
050	Soluble K2O (4%)	0494	4.195	0.0900	3.996	0.2219	0.1023	93	0.89	050.52	0
050	Soluble K2O (4%)	0501	4.195	0.0500	3.996	0.2219	0.1023	93	0.89	050.99	0
050	Soluble K2O (4%)	0550	4.220	0.0000	3.996	0.2219	0.1023	93	1.01	050.00	0
050	Soluble K2O (4%)	0095	4.230	0.0400	3.996	0.2219	0.1023	93	1.05	050.62	0
050	Soluble K2O (4%)	0520	4.240	0.2600	3.996	0.2219	0.1023	93	1.10	050.99	0
050	Soluble K2O (4%)	0027	4.260	0.0000	3.996	0.2219	0.1023	93	1.19	050.99	0
050	Soluble K2O (4%)	0450	4.270	0.1000	3.996	0.2219	0.1023	93	1.23	050.99	0
050	Soluble K2O (4%)	0354	4.290	0.1800	3.996	0.2219	0.1023	93	1.32	050.52	0
050	Soluble K2O (4%)	0324	4.295	0.1500	3.996	0.2219	0.1023	93	1.35	050.50	0
050	Soluble K2O (4%)	0561	4.340	0.0400	3.996	0.2219	0.1023	93	1.55	050.99	0
050	Soluble K2O (4%)	0291	4.355	0.0100	3.996	0.2219	0.1023	93	1.62	050.51	0
050	Soluble K2O (4%)	0452	4.400	0.1000	3.996	0.2219	0.1023	93	1.82	050.51	0
050	Soluble K2O (4%)	0230	4.420‡	0.1800	3.996	0.2219	0.1023	93	1.91	050.50	0
050	Soluble K2O (4%)	0043	4.430‡	0.1200	3.996	0.2219	0.1023	93	1.95	050.52	0
050	Soluble K2O (4%)	0102	4.450‡	0.3000	3.996	0.2219	0.1023	93	2.04	050.00	0
050	Soluble K2O (4%)	0055	4.985‡	0.1700	3.996	0.2219	0.1023	93	4.45	050.00	0
050	Soluble K2O (4%)	0114	3.870	0.4600	3.996	0.2219	0.1023	93	-0.57	050.00	1
060	Water (Free) (%)	0510	8.409	0.0973				2		060.99	0
060	Water (Free) (%)	0096	9.075	0.3700				2		060.00	0
101	Acid Soluble Ca (%)	0389	0.2500	0.0000	0.3194	0.0590	0.0104	12	-1.18	101.99	0
101	Acid Soluble Ca (%)	0136	0.2655	0.0010	0.3194	0.0590	0.0104	12	-0.91	101.33	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				
101	Acid Soluble Ca (%)	0423	0.2855	0.0110	0.3194	0.0590	0.0104	12	-0.58	101.32	0
101	Acid Soluble Ca (%)	0494	0.2868	0.0002	0.3194	0.0590	0.0104	12	-0.55	101.33	0
101	Acid Soluble Ca (%)	0035	0.2990	0.0100	0.3194	0.0590	0.0104	12	-0.35	101.30	0
101	Acid Soluble Ca (%)	0527	0.3063	0.0058	0.3194	0.0590	0.0104	12	-0.22	101.33	0
101	Acid Soluble Ca (%)	0420	0.3076	0.0080	0.3194	0.0590	0.0104	12	-0.20	101.30	0
101	Acid Soluble Ca (%)	0096	0.3095	0.0010	0.3194	0.0590	0.0104	12	-0.17	101.30	0
101	Acid Soluble Ca (%)	0451	0.3315	0.0210	0.3194	0.0590	0.0104	12	0.20	101.30	0
101	Acid Soluble Ca (%)	0421	0.3758	0.0017	0.3194	0.0590	0.0104	12	0.96	101.33	0
101	Acid Soluble Ca (%)	0553	0.4595	0.0350	0.3194	0.0590	0.0104	12	2.38	101.00	0
101	Acid Soluble Ca (%)	0354	0.5950	0.0300	0.3194	0.0590	0.0104	12	4.67	101.30	0
101	Acid Soluble Ca (%)	0552	0.9700	0.2400	0.3194	0.0590	0.0104	12	11.03	101.99	1
121	Acid Soluble Mg (%)	0136	0.0990	0.0020	0.1239	0.0205	0.0085	17	-1.22	121.33	0
121	Acid Soluble Mg (%)	0524	0.0993	0.0002	0.1239	0.0205	0.0085	17	-1.20	121.99	0
121	Acid Soluble Mg (%)	0389	0.1000	0.0000	0.1239	0.0205	0.0085	17	-1.17	121.99	0
121	Acid Soluble Mg (%)	0096	0.1100	0.0000	0.1239	0.0205	0.0085	17	-0.68	121.30	0
121	Acid Soluble Mg (%)	0420	0.1111	0.0001	0.1239	0.0205	0.0085	17	-0.63	121.30	0
121	Acid Soluble Mg (%)	0354	0.1150	0.0100	0.1239	0.0205	0.0085	17	-0.44	121.30	0
121	Acid Soluble Mg (%)	0423	0.1180	0.0060	0.1239	0.0205	0.0085	17	-0.29	121.32	0
121	Acid Soluble Mg (%)	0444	0.1200	0.0000	0.1239	0.0205	0.0085	17	-0.19	121.30	0
121	Acid Soluble Mg (%)	0035	0.1205	0.0070	0.1239	0.0205	0.0085	17	-0.17	121.30	0
121	Acid Soluble Mg (%)	0494	0.1215	0.0097	0.1239	0.0205	0.0085	17	-0.12	121.33	0
121	Acid Soluble Mg (%)	0516	0.1300	0.0000	0.1239	0.0205	0.0085	17	0.30	121.99	0
121	Acid Soluble Mg (%)	0451	0.1305	0.0150	0.1239	0.0205	0.0085	17	0.32	121.30	0
121	Acid Soluble Mg (%)	0527	0.1360	0.0035	0.1239	0.0205	0.0085	17	0.59	121.33	0
121	Acid Soluble Mg (%)	0515	0.1381	0.0628	0.1239	0.0205	0.0085	17	0.69	121.33	0
121	Acid Soluble Mg (%)	0515	0.1485	0.0096	0.1239	0.0205	0.0085	17	1.20	121.99	0
121	Acid Soluble Mg (%)	0553	0.1555	0.0150	0.1239	0.0205	0.0085	17	1.54	121.00	0
121	Acid Soluble Mg (%)	0421	0.1983	0.0029	0.1239	0.0205	0.0085	17	3.63	121.33	0
121	Acid Soluble Mg (%)	0552	0.2850	0.0700	0.1239	0.0205	0.0085	17	7.86	121.99	1
143	Elemental S (%)	0255	6.286	0.8220	7.632	0.9441	0.6905	4	-1.43	143.99	0
143	Elemental S (%)	0389	7.750	1.900	7.632	0.9441	0.6905	4	0.13	143.99	0
143	Elemental S (%)	0481	8.025	0.0300	7.632	0.9441	0.6905	4	0.42	143.99	0
143	Elemental S (%)	0291	8.465	0.0100	7.632	0.9441	0.6905	4	0.88	143.99	0
145	Sulfate S, HCl soluble (%)	0498	6.900	0.2000	7.923	0.4321	0.1809	6	-2.11	145.00	0
145	Sulfate S, HCl soluble (%)	0561	7.805	0.0300	7.923	0.4321	0.1809	6	-0.24	145.00	0
145	Sulfate S, HCl soluble (%)	0444	7.915	0.1100	7.923	0.4321	0.1809	6	-0.02	145.99	0
145	Sulfate S, HCl soluble (%)	0544	7.970	0.0000	7.923	0.4321	0.1809	6	0.10	145.00	0
145	Sulfate S, HCl soluble (%)	0485	8.171	0.1456	7.923	0.4321	0.1809	6	0.51	145.00	0
145	Sulfate S, HCl soluble (%)	0550	8.400	0.6000	7.923	0.4321	0.1809	6	0.98	145.00	0
148	Total S (5%)	0450	3.980†	0.0800	7.596	1.453	0.1755	47	-2.49	148.99	0
148	Total S (5%)	0560	4.975†	0.2500	7.596	1.453	0.1755	47	-1.80	148.99	0
148	Total S (5%)	0532	5.040†	0.1600	7.596	1.453	0.1755	47	-1.76	148.01	0
148	Total S (5%)	0559	5.090†	0.0200	7.596	1.453	0.1755	47	-1.72	148.99	0
148	Total S (5%)	0553	5.190†	0.4400	7.596	1.453	0.1755	47	-1.66	148.99	0
148	Total S (5%)	0534	5.275†	0.0500	7.596	1.453	0.1755	47	-1.60	148.01	0
148	Total S (5%)	0562	5.305†	0.1900	7.596	1.453	0.1755	47	-1.58	148.99	0
148	Total S (5%)	0558	5.585†	0.0300	7.596	1.453	0.1755	47	-1.38	148.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
148	Total S (5%)	0565	5.615†	0.0300	7.596	1.453	0.1755	47	-1.36	148.99	0
148	Total S (5%)	0520	5.675†	0.1500	7.596	1.453	0.1755	47	-1.32	148.99	0
148	Total S (5%)	0564	5.760†	0.0800	7.596	1.453	0.1755	47	-1.26	148.99	0
148	Total S (5%)	0515	6.131†	1.013	7.596	1.453	0.1755	47	-1.01	148.07	0
148	Total S (5%)	0029	7.405	0.0500	7.596	1.453	0.1755	47	-0.13	148.01	0
148	Total S (5%)	0023	7.450	0.1000	7.596	1.453	0.1755	47	-0.10	148.07	0
148	Total S (5%)	0516	7.450	0.1000	7.596	1.453	0.1755	47	-0.10	148.99	0
148	Total S (5%)	0546	7.837	0.4481	7.596	1.453	0.1755	47	0.17	148.07	0
148	Total S (5%)	0525	7.980	0.2600	7.596	1.453	0.1755	47	0.26	148.07	0
148	Total S (5%)	0444	8.000	0.0200	7.596	1.453	0.1755	47	0.28	148.07	0
148	Total S (5%)	0292	8.040	0.0800	7.596	1.453	0.1755	47	0.31	148.07	0
148	Total S (5%)	0433	8.050	0.2800	7.596	1.453	0.1755	47	0.31	148.99	0
148	Total S (5%)	0117	8.064	0.3481	7.596	1.453	0.1755	47	0.32	148.07	0
148	Total S (5%)	0371	8.100	0.1400	7.596	1.453	0.1755	47	0.35	148.99	0
148	Total S (5%)	0157	8.115	0.1300	7.596	1.453	0.1755	47	0.36	148.01	0
148	Total S (5%)	0029	8.125	0.0000	7.596	1.453	0.1755	47	0.36	148.00	0
148	Total S (5%)	0421	8.127	0.0166	7.596	1.453	0.1755	47	0.37	148.07	0
148	Total S (5%)	0527	8.127	0.1009	7.596	1.453	0.1755	47	0.37	148.07	0
148	Total S (5%)	0177	8.131	0.0286	7.596	1.453	0.1755	47	0.37	148.07	0
148	Total S (5%)	0073	8.170	0.0200	7.596	1.453	0.1755	47	0.40	148.01	0
148	Total S (5%)	0485	8.171	0.1456	7.596	1.453	0.1755	47	0.40	148.01	0
148	Total S (5%)	0402	8.220‡	0.0200	7.596	1.453	0.1755	47	0.43	148.07	0
148	Total S (5%)	0025	8.242‡	0.1290	7.596	1.453	0.1755	47	0.44	148.00	0
148	Total S (5%)	0040	8.250‡	0.1000	7.596	1.453	0.1755	47	0.45	148.07	0
148	Total S (5%)	0096	8.285‡	0.3900	7.596	1.453	0.1755	47	0.47	148.99	0
148	Total S (5%)	0324	8.320‡	0.2200	7.596	1.453	0.1755	47	0.50	148.01	0
148	Total S (5%)	0494	8.329‡	0.7190	7.596	1.453	0.1755	47	0.51	148.07	0
148	Total S (5%)	0354	8.350‡	0.0800	7.596	1.453	0.1755	47	0.52	148.99	0
148	Total S (5%)	0043	8.355‡	0.1300	7.596	1.453	0.1755	47	0.52	148.07	0
148	Total S (5%)	0114	8.370‡	0.2400	7.596	1.453	0.1755	47	0.53	148.00	0
148	Total S (5%)	0230	8.460‡	0.2000	7.596	1.453	0.1755	47	0.59	148.01	0
148	Total S (5%)	0055	8.475‡	0.0700	7.596	1.453	0.1755	47	0.61	148.01	0
148	Total S (5%)	0157	8.525‡	0.5500	7.596	1.453	0.1755	47	0.64	148.00	0
148	Total S (5%)	0136	8.565‡	0.0700	7.596	1.453	0.1755	47	0.67	148.00	0
148	Total S (5%)	0220	8.945‡	0.1500	7.596	1.453	0.1755	47	0.93	148.99	0
148	Total S (5%)	0405	9.130‡	0.1400	7.596	1.453	0.1755	47	1.06	148.01	0
148	Total S (5%)	0451	9.200‡	0.1000	7.596	1.453	0.1755	47	1.10	148.00	0
148	Total S (5%)	0452	9.330‡	0.0000	7.596	1.453	0.1755	47	1.19	148.99	0
148	Total S (5%)	0486	9.620‡	0.1800	7.596	1.453	0.1755	47	1.39	148.07	0
148	Total S (5%)	0102	8.120	1.420	7.596	1.453	0.1755	47	0.36	148.07	1
149	S - HNO3 soluble (%)	0501	7.675	0.2900	7.939	0.1901	0.4061	5	-1.39	149.04	0
149	S - HNO3 soluble (%)	0419	7.860	0.0800	7.939	0.1901	0.4061	5	-0.41	149.04	0
149	S - HNO3 soluble (%)	0423	7.915	0.0900	7.939	0.1901	0.4061	5	-0.13	149.04	0
149	S - HNO3 soluble (%)	0524	8.099	1.571	7.939	0.1901	0.4061	5	0.84	149.04	0
149	S - HNO3 soluble (%)	0521	8.145	0.0000	7.939	0.1901	0.4061	5	1.08	149.04	0
151	Acid Soluble As (ppm)	0550	0.8405	0.0070	2.712	1.494	0.6085	11	-1.25	151.00	0
151	Acid Soluble As (ppm)	0498	1.600	0.0000	2.712	1.494	0.6085	11	-0.74	151.00	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				
151	Acid Soluble As (ppm)	0524	1.608	0.5950	2.712	1.494	0.6085	11	-0.74	151.30	0
151	Acid Soluble As (ppm)	0220	2.250	0.1000	2.712	1.494	0.6085	11	-0.31	151.32	0
151	Acid Soluble As (ppm)	0136	2.330	0.0800	2.712	1.494	0.6085	11	-0.26	151.33	0
151	Acid Soluble As (ppm)	0527	2.339	0.0372	2.712	1.494	0.6085	11	-0.25	151.33	0
151	Acid Soluble As (ppm)	0096	2.350	0.1000	2.712	1.494	0.6085	11	-0.24	151.30	0
151	Acid Soluble As (ppm)	0501	3.226	0.1520	2.712	1.494	0.6085	11	0.34	151.30	0
151	Acid Soluble As (ppm)	0521	3.387	0.0000	2.712	1.494	0.6085	11	0.45	151.32	0
151	Acid Soluble As (ppm)	0494	6.089	1.586	2.712	1.494	0.6085	11	2.26	151.33	0
151	Acid Soluble As (ppm)	0255	6.269	4.036	2.712	1.494	0.6085	11	2.38	151.30	0
151	Acid Soluble As (ppm)	0515	0.8710	1.742	2.712	1.494	0.6085	11		151.34	4
151	Acid Soluble As (ppm)	0515	2.424	4.848	2.712	1.494	0.6085	11		151.33	4
151	Acid Soluble As (ppm)	0117	< 10		2.712	1.494	0.6085	11		151.33	5
165	Acid Soluble B (%)	0516	0.0015	0.0010	1.473	3.188	0.8703	5	-0.40	165.99	0
165	Acid Soluble B (%)	0524	0.0019	0.0001	1.473	3.188	0.8703	5	-0.40	165.99	0
165	Acid Soluble B (%)	0423	0.0032	0.0002	1.473	3.188	0.8703	5	-0.40	165.99	0
165	Acid Soluble B (%)	0552	0.1850	0.0900	1.473	3.188	0.8703	5	-0.35	165.99	0
165	Acid Soluble B (%)	0515	7.175	4.260	1.473	3.188	0.8703	5	1.56	165.99	0
165	Acid Soluble B (%)	0421	< 0.001		1.473	3.188	0.8703	5		165.99	5
165	Acid Soluble B (%)	0354	< 0.01		1.473	3.188	0.8703	5		165.30	5
165	Acid Soluble B (%)	0527	< 0.01		1.473	3.188	0.8703	5		165.99	5
181	Acid Soluble Cd (ppm)	0389	0.2750	0.0100	10.04	1.694	0.8837	20	-5.76	181.30	0
181	Acid Soluble Cd (ppm)	0515	6.179	5.508	10.04	1.694	0.8837	20	-2.28	181.33	0
181	Acid Soluble Cd (ppm)	0535	8.000	2.000	10.04	1.694	0.8837	20	-1.21	181.00	0
181	Acid Soluble Cd (ppm)	0524	8.377	0.0356	10.04	1.694	0.8837	20	-0.98	181.30	0
181	Acid Soluble Cd (ppm)	0444	9.040	0.1800	10.04	1.694	0.8837	20	-0.59	181.30	0
181	Acid Soluble Cd (ppm)	0419	9.140	0.7400	10.04	1.694	0.8837	20	-0.53	181.30	0
181	Acid Soluble Cd (ppm)	0096	9.450	0.1000	10.04	1.694	0.8837	20	-0.35	181.30	0
181	Acid Soluble Cd (ppm)	0550	9.495	0.4500	10.04	1.694	0.8837	20	-0.32	181.00	0
181	Acid Soluble Cd (ppm)	0501	9.652	0.3840	10.04	1.694	0.8837	20	-0.23	181.30	0
181	Acid Soluble Cd (ppm)	0521	10.44	0.0000	10.04	1.694	0.8837	20	0.23	181.32	0
181	Acid Soluble Cd (ppm)	0035	10.45	0.9000	10.04	1.694	0.8837	20	0.24	181.30	0
181	Acid Soluble Cd (ppm)	0220	10.55	0.1000	10.04	1.694	0.8837	20	0.30	181.32	0
181	Acid Soluble Cd (ppm)	0450	10.65	0.9000	10.04	1.694	0.8837	20	0.36	181.30	0
181	Acid Soluble Cd (ppm)	0220	10.70	1.000	10.04	1.694	0.8837	20	0.39	181.99	0
181	Acid Soluble Cd (ppm)	0117	10.85	0.1860	10.04	1.694	0.8837	20	0.47	181.33	0
181	Acid Soluble Cd (ppm)	0136	10.89	1.170	10.04	1.694	0.8837	20	0.50	181.33	0
181	Acid Soluble Cd (ppm)	0527	11.34	0.4449	10.04	1.694	0.8837	20	0.77	181.33	0
181	Acid Soluble Cd (ppm)	0494	11.66	0.1067	10.04	1.694	0.8837	20	0.95	181.33	0
181	Acid Soluble Cd (ppm)	0498	13.20	1.000	10.04	1.694	0.8837	20	1.86	181.00	0
181	Acid Soluble Cd (ppm)	0255	14.64	2.459	10.04	1.694	0.8837	20	2.72	181.30	0
181	Acid Soluble Cd (ppm)	0515	6.879	9.820	10.04	1.694	0.8837	20	-1.87	181.34	1
191	Acid Soluble Cr (ppm)	0389	4.495	0.7700	43.78	8.082	1.422	15	-4.86	191.30	0
191	Acid Soluble Cr (ppm)	0550	23.95	4.230	43.78	8.082	1.422	15	-2.45	191.00	0
191	Acid Soluble Cr (ppm)	0524	24.40	0.1400	43.78	8.082	1.422	15	-2.40	191.30	0
191	Acid Soluble Cr (ppm)	0444	39.09	0.6000	43.78	8.082	1.422	15	-0.58	191.30	0
191	Acid Soluble Cr (ppm)	0450	43.00	4.000	43.78	8.082	1.422	15	-0.10	191.30	0
191	Acid Soluble Cr (ppm)	0136	43.40	0.2000	43.78	8.082	1.422	15	-0.05	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)	0419	44.25	1.900	43.78	8.082	1.422	15	0.06	191.30	0
191	Acid Soluble Cr (ppm)	0096	45.50	0.8000	43.78	8.082	1.422	15	0.21	191.30	0
191	Acid Soluble Cr (ppm)	0527	46.70	1.292	43.78	8.082	1.422	15	0.36	191.33	0
191	Acid Soluble Cr (ppm)	0220	48.50	3.000	43.78	8.082	1.422	15	0.58	191.99	0
191	Acid Soluble Cr (ppm)	0220	49.05	0.1000	43.78	8.082	1.422	15	0.65	191.32	0
191	Acid Soluble Cr (ppm)	0035	49.80	1.800	43.78	8.082	1.422	15	0.74	191.30	0
191	Acid Soluble Cr (ppm)	0515	50.07	0.8421	43.78	8.082	1.422	15	0.78	191.33	0
191	Acid Soluble Cr (ppm)	0494	50.93	1.151	43.78	8.082	1.422	15	0.88	191.33	0
191	Acid Soluble Cr (ppm)	0498	51.45	0.5000	43.78	8.082	1.422	15	0.95	191.00	0
191	Acid Soluble Cr (ppm)	0515	51.26	8.414	43.78	8.082	1.422	15	0.93	191.34	1
202	Acid Soluble Co (ppm)	0389	0.8550	0.0100	1.965	0.5905	0.1306	9	-1.88	202.30	0
202	Acid Soluble Co (ppm)	0524	1.625	0.1518	1.965	0.5905	0.1306	9	-0.58	202.30	0
202	Acid Soluble Co (ppm)	0527	1.658	0.0277	1.965	0.5905	0.1306	9	-0.52	202.33	0
202	Acid Soluble Co (ppm)	0546	1.690	0.3618	1.965	0.5905	0.1306	9	-0.47	202.33	0
202	Acid Soluble Co (ppm)	0501	1.978	0.0240	1.965	0.5905	0.1306	9	0.02	202.34	0
202	Acid Soluble Co (ppm)	0423	2.155	0.0900	1.965	0.5905	0.1306	9	0.32	202.32	0
202	Acid Soluble Co (ppm)	0220	2.200	0.2000	1.965	0.5905	0.1306	9	0.40	202.99	0
202	Acid Soluble Co (ppm)	0220	2.450	0.1000	1.965	0.5905	0.1306	9	0.82	202.32	0
202	Acid Soluble Co (ppm)	0035	2.865	0.2100	1.965	0.5905	0.1306	9	1.52	202.30	0
202	Acid Soluble Co (ppm)	0255	4.197	6.880	1.965	0.5905	0.1306	9	3.78	202.99	1
202	Acid Soluble Co (ppm)	0515	0.3881	0.7762	1.965	0.5905	0.1306	9		202.34	4
202	Acid Soluble Co (ppm)	0515	2.661	5.322	1.965	0.5905	0.1306	9		202.33	4
202	Acid Soluble Co (ppm)	0550	< 0.09		1.965	0.5905	0.1306	9		202.33	5
221	Acid Soluble Cu (%)	0524	0.0007	0.0001	0.0014	0.0006	0.0006	16	-1.14	221.99	0
221	Acid Soluble Cu (%)	0095	0.0009	0.0000	0.0014	0.0006	0.0006	16	-0.74	221.32	0
221	Acid Soluble Cu (%)	0136	0.0009	0.0000	0.0014	0.0006	0.0006	16	-0.74	221.33	0
221	Acid Soluble Cu (%)	0389	0.0009	0.0000	0.0014	0.0006	0.0006	16	-0.74	221.99	0
221	Acid Soluble Cu (%)	0498	0.0010	0.0000	0.0014	0.0006	0.0006	16	-0.58	221.01	0
221	Acid Soluble Cu (%)	0255	0.0010	0.0000	0.0014	0.0006	0.0006	16	-0.58	221.30	0
221	Acid Soluble Cu (%)	0035	0.0011	0.0004	0.0014	0.0006	0.0006	16	-0.42	221.30	0
221	Acid Soluble Cu (%)	0494	0.0011	0.0002	0.0014	0.0006	0.0006	16	-0.42	221.33	0
221	Acid Soluble Cu (%)	0527	0.0012	0.0001	0.0014	0.0006	0.0006	16	-0.35	221.33	0
221	Acid Soluble Cu (%)	0546	0.0012	0.0002	0.0014	0.0006	0.0006	16	-0.27	221.33	0
221	Acid Soluble Cu (%)	0515	0.0014	0.0006	0.0014	0.0006	0.0006	16	0.05	221.33	0
221	Acid Soluble Cu (%)	0515	0.0019	0.0001	0.0014	0.0006	0.0006	16	0.77	221.99	0
221	Acid Soluble Cu (%)	0043	0.0020	0.0000	0.0014	0.0006	0.0006	16	1.01	221.33	0
221	Acid Soluble Cu (%)	0535	0.0021	0.0002	0.0014	0.0006	0.0006	16	1.17	221.00	0
221	Acid Soluble Cu (%)	0550	0.0069	0.0002	0.0014	0.0006	0.0006	16	8.81	221.00	0
221	Acid Soluble Cu (%)	0562	0.0575	0.0070	0.0014	0.0006	0.0006	16	89.39	221.99	0
221	Acid Soluble Cu (%)	0552	0.0700	0.0200	0.0014	0.0006	0.0006	16	109.29	221.30	1
221	Acid Soluble Cu (%)	0450	0.0000	0.0000	0.0014	0.0006	0.0006	16		221.30	4
221	Acid Soluble Cu (%)	0516	0.0000	0.0000	0.0014	0.0006	0.0006	16		221.99	4
221	Acid Soluble Cu (%)	0354	< 0.01		0.0014	0.0006	0.0006	16		221.30	5
241	Acid Soluble Fe (%)	0535	0.1389	0.0037	0.2512	0.0339	0.0182	15	-3.31	241.00	0
241	Acid Soluble Fe (%)	0524	0.2044	0.0268	0.2512	0.0339	0.0182	15	-1.38	241.99	0
241	Acid Soluble Fe (%)	0389	0.2240	0.0000	0.2512	0.0339	0.0182	15	-0.80	241.99	0
241	Acid Soluble Fe (%)	0136	0.2275	0.0050	0.2512	0.0339	0.0182	15	-0.70	241.33	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
241	Acid Soluble Fe (%)	0096	0.2300	0.0200	0.2512	0.0339	0.0182	15	-0.63	241.30	0
241	Acid Soluble Fe (%)	0354	0.2450	0.0100	0.2512	0.0339	0.0182	15	-0.18	241.30	0
241	Acid Soluble Fe (%)	0444	0.2450	0.0100	0.2512	0.0339	0.0182	15	-0.18	241.30	0
241	Acid Soluble Fe (%)	0516	0.2500	0.0000	0.2512	0.0339	0.0182	15	-0.04	241.99	0
241	Acid Soluble Fe (%)	0035	0.2595	0.0370	0.2512	0.0339	0.0182	15	0.24	241.30	0
241	Acid Soluble Fe (%)	0515	0.2694	0.0702	0.2512	0.0339	0.0182	15	0.54	241.99	0
241	Acid Soluble Fe (%)	0423	0.2700	0.0020	0.2512	0.0339	0.0182	15	0.55	241.32	0
241	Acid Soluble Fe (%)	0527	0.2774	0.0017	0.2512	0.0339	0.0182	15	0.77	241.33	0
241	Acid Soluble Fe (%)	0494	0.2808	0.0235	0.2512	0.0339	0.0182	15	0.87	241.33	0
241	Acid Soluble Fe (%)	0451	0.2830	0.0480	0.2512	0.0339	0.0182	15	0.94	241.30	0
241	Acid Soluble Fe (%)	0515	0.3267	0.0152	0.2512	0.0339	0.0182	15	2.23	241.33	0
241	Acid Soluble Fe (%)	0552	0.3300	0.1200	0.2512	0.0339	0.0182	15	2.32	241.30	1
251	Acid Soluble Pb (ppm)	0389	0.2405	0.0650	7.654	2.641	0.6990	15	-2.81	251.30	0
251	Acid Soluble Pb (ppm)	0444	4.705	1.310	7.654	2.641	0.6990	15	-1.12	251.30	0
251	Acid Soluble Pb (ppm)	0524	5.552	0.1596	7.654	2.641	0.6990	15	-0.80	251.30	0
251	Acid Soluble Pb (ppm)	0096	6.350	0.1000	7.654	2.641	0.6990	15	-0.49	251.30	0
251	Acid Soluble Pb (ppm)	0117	6.669	0.6760	7.654	2.641	0.6990	15	-0.37	251.33	0
251	Acid Soluble Pb (ppm)	0035	6.685	1.030	7.654	2.641	0.6990	15	-0.37	251.30	0
251	Acid Soluble Pb (ppm)	0494	6.993	1.355	7.654	2.641	0.6990	15	-0.25	251.33	0
251	Acid Soluble Pb (ppm)	0136	7.375	0.6700	7.654	2.641	0.6990	15	-0.11	251.33	0
251	Acid Soluble Pb (ppm)	0527	7.841	0.1178	7.654	2.641	0.6990	15	0.07	251.33	0
251	Acid Soluble Pb (ppm)	0450	8.000	0.8000	7.654	2.641	0.6990	15	0.13	251.30	0
251	Acid Soluble Pb (ppm)	0501	8.189	0.1380	7.654	2.641	0.6990	15	0.20	251.30	0
251	Acid Soluble Pb (ppm)	0220	8.700	0.4000	7.654	2.641	0.6990	15	0.40	251.32	0
251	Acid Soluble Pb (ppm)	0255	10.83	0.6340	7.654	2.641	0.6990	15	1.20	251.30	0
251	Acid Soluble Pb (ppm)	0535	15.50	3.000	7.654	2.641	0.6990	15	2.97	251.00	0
251	Acid Soluble Pb (ppm)	0515	22.99	0.0305	7.654	2.641	0.6990	15	5.81	251.33	0
251	Acid Soluble Pb (ppm)	0515	5.796	6.911	7.654	2.641	0.6990	15	-0.70	251.34	1
251	Acid Soluble Pb (ppm)	0550	< 1.5		7.654	2.641	0.6990	15		251.00	5
261	Acid Soluble Mn (%)	0516	0.0025	0.0010	0.0033	0.0006	0.0006	12	-1.36	261.99	0
261	Acid Soluble Mn (%)	0389	0.0028	0.0001	0.0033	0.0006	0.0006	12	-0.91	261.99	0
261	Acid Soluble Mn (%)	0535	0.0029	0.0003	0.0033	0.0006	0.0006	12	-0.73	261.12	0
261	Acid Soluble Mn (%)	0136	0.0030	0.0001	0.0033	0.0006	0.0006	12	-0.55	261.35	0
261	Acid Soluble Mn (%)	0524	0.0031	0.0002	0.0033	0.0006	0.0006	12	-0.28	261.99	0
261	Acid Soluble Mn (%)	0423	0.0032	0.0002	0.0033	0.0006	0.0006	12	-0.10	261.34	0
261	Acid Soluble Mn (%)	0096	0.0033	0.0001	0.0033	0.0006	0.0006	12	-0.01	261.30	0
261	Acid Soluble Mn (%)	0494	0.0034	0.0001	0.0033	0.0006	0.0006	12	0.17	261.35	0
261	Acid Soluble Mn (%)	0527	0.0034	0.0001	0.0033	0.0006	0.0006	12	0.17	261.35	0
261	Acid Soluble Mn (%)	0035	0.0036	0.0002	0.0033	0.0006	0.0006	12	0.62	261.30	0
261	Acid Soluble Mn (%)	0515	0.0050	0.0019	0.0033	0.0006	0.0006	12	3.05	261.99	0
261	Acid Soluble Mn (%)	0515	0.0324	0.0032	0.0033	0.0006	0.0006	12	52.48	261.35	0
261	Acid Soluble Mn (%)	0552	0.4100	0.6200	0.0033	0.0006	0.0006	12	732.45	261.32	2
261	Acid Soluble Mn (%)	0354	< 0.01		0.0033	0.0006	0.0006	12		261.30	5
281	Acid Soluble Hg (ppm)	0501	0.0355	0.0030	4.235	5.759	1.548	3	-0.59	281.30	0
281	Acid Soluble Hg (ppm)	0550	1.870	1.640	4.235	5.759	1.548	3	-0.33	281.00	0
281	Acid Soluble Hg (ppm)	0220	10.80	3.000	4.235	5.759	1.548	3	0.92	281.99	0
281	Acid Soluble Hg (ppm)	0515	0.0000	0.0000	4.235	5.759	1.548	3		281.30	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				
281	Acid Soluble Hg (ppm)	0450	0.0150	0.0300	4.235	5.759	1.548	3		281.30	4
281	Acid Soluble Hg (ppm)	0527	< 0.0001		4.235	5.759	1.548	3		281.30	5
289	Acid Soluble Mo (ppm)	0035	1.790	0.3200	3.108	0.8937	1.208	13	-1.48	289.30	0
289	Acid Soluble Mo (ppm)	0255	2.212	1.858	3.108	0.8937	1.208	13	-1.00	289.30	0
289	Acid Soluble Mo (ppm)	0220	2.450	0.7000	3.108	0.8937	1.208	13	-0.74	289.32	0
289	Acid Soluble Mo (ppm)	0524	2.633	0.2844	3.108	0.8937	1.208	13	-0.53	289.30	0
289	Acid Soluble Mo (ppm)	0515	2.815	5.339	3.108	0.8937	1.208	13	-0.33	289.33	0
289	Acid Soluble Mo (ppm)	0546	2.826	0.1241	3.108	0.8937	1.208	13	-0.32	289.33	0
289	Acid Soluble Mo (ppm)	0423	2.975	0.0900	3.108	0.8937	1.208	13	-0.15	289.33	0
289	Acid Soluble Mo (ppm)	0494	3.168	0.1378	3.108	0.8937	1.208	13	0.07	289.33	0
289	Acid Soluble Mo (ppm)	0527	3.286	0.0104	3.108	0.8937	1.208	13	0.20	289.33	0
289	Acid Soluble Mo (ppm)	0501	3.640	0.0530	3.108	0.8937	1.208	13	0.59	289.34	0
289	Acid Soluble Mo (ppm)	0515	3.916	4.203	3.108	0.8937	1.208	13	0.90	289.34	0
289	Acid Soluble Mo (ppm)	0550	4.250	1.580	3.108	0.8937	1.208	13	1.28	289.00	0
289	Acid Soluble Mo (ppm)	0234	32.50	1.000	3.108	0.8937	1.208	13	32.89	289.30	0
289	Acid Soluble Mo (ppm)	0516	15.00	10.00	3.108	0.8937	1.208	13	13.31	289.30	1
291	Acid Soluble Ni (ppm)	0515	0.0023	0.0003	20.98	3.721	0.9251	18	-5.64	291.33	0
291	Acid Soluble Ni (ppm)	0515	0.0027	0.0004	20.98	3.721	0.9251	18	-5.64	291.34	0
291	Acid Soluble Ni (ppm)	0524	16.31	0.3039	20.98	3.721	0.9251	18	-1.25	291.30	0
291	Acid Soluble Ni (ppm)	0444	17.23	0.0900	20.98	3.721	0.9251	18	-1.01	291.30	0
291	Acid Soluble Ni (ppm)	0498	18.05	0.1000	20.98	3.721	0.9251	18	-0.79	291.00	0
291	Acid Soluble Ni (ppm)	0535	21.00	2.000	20.98	3.721	0.9251	18	0.01	291.00	0
291	Acid Soluble Ni (ppm)	0136	21.10	0.2000	20.98	3.721	0.9251	18	0.03	291.33	0
291	Acid Soluble Ni (ppm)	0527	21.18	0.3811	20.98	3.721	0.9251	18	0.05	291.33	0
291	Acid Soluble Ni (ppm)	0419	21.65	2.300	20.98	3.721	0.9251	18	0.18	291.30	0
291	Acid Soluble Ni (ppm)	0035	21.80	1.200	20.98	3.721	0.9251	18	0.22	291.30	0
291	Acid Soluble Ni (ppm)	0450	22.00	6.000	20.98	3.721	0.9251	18	0.27	291.30	0
291	Acid Soluble Ni (ppm)	0220	22.00	2.000	20.98	3.721	0.9251	18	0.27	291.99	0
291	Acid Soluble Ni (ppm)	0117	22.53	0.1430	20.98	3.721	0.9251	18	0.42	291.33	0
291	Acid Soluble Ni (ppm)	0220	22.60	0.2000	20.98	3.721	0.9251	18	0.44	291.32	0
291	Acid Soluble Ni (ppm)	0494	22.62	0.1833	20.98	3.721	0.9251	18	0.44	291.33	0
291	Acid Soluble Ni (ppm)	0096	24.80	1.400	20.98	3.721	0.9251	18	1.03	291.30	0
291	Acid Soluble Ni (ppm)	0501	25.40	0.0090	20.98	3.721	0.9251	18	1.19	291.34	0
291	Acid Soluble Ni (ppm)	0389	36.77	0.1400	20.98	3.721	0.9251	18	4.24	291.30	0
291	Acid Soluble Ni (ppm)	0255	17.71	10.52	20.98	3.721	0.9251	18	-0.88	291.99	1
291	Acid Soluble Ni (ppm)	0550	< 0.6		20.98	3.721	0.9251	18		291.00	5
301	Acid Soluble Se (ppm)	0220	0.6000	0.0000	2.794	2.982	1.730	4	-0.62	301.32	0
301	Acid Soluble Se (ppm)	0524	1.170	0.7600	2.794	2.982	1.730	4	-0.46	301.30	0
301	Acid Soluble Se (ppm)	0501	2.259	0.3550	2.794	2.982	1.730	4	-0.15	301.30	0
301	Acid Soluble Se (ppm)	0255	7.146	5.803	2.794	2.982	1.730	4	1.24	301.99	0
301	Acid Soluble Se (ppm)	0515	0.0000	0.0000	2.794	2.982	1.730	4		301.33	4
301	Acid Soluble Se (ppm)	0515	0.0000	0.0000	2.794	2.982	1.730	4		301.34	4
301	Acid Soluble Se (ppm)	0527	< 0.001		2.794	2.982	1.730	4		301.33	5
301	Acid Soluble Se (ppm)	0550	< 0.08		2.794	2.982	1.730	4		301.00	5
311	Sodium (%)	0423	0.0805	0.0010	0.0932	0.0064	0.0018	6	-1.75	311.33	0
311	Sodium (%)	0494	0.0915	0.0065	0.0932	0.0064	0.0018	6	-0.24	311.33	0
311	Sodium (%)	0521	0.0920	0.0000	0.0932	0.0064	0.0018	6	-0.16	311.32	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				
311	Sodium (%)	0035	0.0955	0.0030	0.0932	0.0064	0.0018	6	0.32	311.33	0
311	Sodium (%)	0527	0.0966	0.0004	0.0932	0.0064	0.0018	6	0.47	311.33	0
311	Sodium (%)	0096	0.1000	0.0000	0.0932	0.0064	0.0018	6	0.94	311.99	0
311	Sodium (%)	0354	0.1300	0.0400	0.0932	0.0064	0.0018	6	5.09	311.99	1
321	Acid Soluble Zn (%)	0494	0.0017	0.0001	0.0161	0.0030	0.0014	26	-4.88	321.33	0
321	Acid Soluble Zn (%)	0096	0.0019	0.0000	0.0161	0.0030	0.0014	26	-4.80	321.30	0
321	Acid Soluble Zn (%)	0354	0.0100	0.0000	0.0161	0.0030	0.0014	26	-2.06	321.30	0
321	Acid Soluble Zn (%)	0423	0.0115	0.0010	0.0161	0.0030	0.0014	26	-1.55	321.32	0
321	Acid Soluble Zn (%)	0255	0.0140	0.0040	0.0161	0.0030	0.0014	26	-0.70	321.30	0
321	Acid Soluble Zn (%)	0389	0.0144	0.0002	0.0161	0.0030	0.0014	26	-0.57	321.99	0
321	Acid Soluble Zn (%)	0498	0.0145	0.0030	0.0161	0.0030	0.0014	26	-0.53	321.01	0
321	Acid Soluble Zn (%)	0546	0.0149	0.0009	0.0161	0.0030	0.0014	26	-0.42	321.33	0
321	Acid Soluble Zn (%)	0234	0.0150	0.0100	0.0161	0.0030	0.0014	26	-0.37	321.30	0
321	Acid Soluble Zn (%)	0450	0.0152	0.0013	0.0161	0.0030	0.0014	26	-0.31	321.30	0
321	Acid Soluble Zn (%)	0419	0.0155	0.0010	0.0161	0.0030	0.0014	26	-0.20	321.99	0
321	Acid Soluble Zn (%)	0421	0.0162	0.0001	0.0161	0.0030	0.0014	26	0.02	321.33	0
321	Acid Soluble Zn (%)	0527	0.0162	0.0000	0.0161	0.0030	0.0014	26	0.04	321.33	0
321	Acid Soluble Zn (%)	0524	0.0162	0.0002	0.0161	0.0030	0.0014	26	0.04	321.99	0
321	Acid Soluble Zn (%)	0515	0.0164	0.0002	0.0161	0.0030	0.0014	26	0.11	321.33	0
321	Acid Soluble Zn (%)	0136	0.0166	0.0001	0.0161	0.0030	0.0014	26	0.16	321.33	0
321	Acid Soluble Zn (%)	0515	0.0174	0.0028	0.0161	0.0030	0.0014	26	0.45	321.99	0
321	Acid Soluble Zn (%)	0095	0.0175	0.0005	0.0161	0.0030	0.0014	26	0.46	321.32	0
321	Acid Soluble Zn (%)	0035	0.0175	0.0014	0.0161	0.0030	0.0014	26	0.48	321.30	0
321	Acid Soluble Zn (%)	0451	0.0180	0.0014	0.0161	0.0030	0.0014	26	0.65	321.30	0
321	Acid Soluble Zn (%)	0535	0.0185	0.0010	0.0161	0.0030	0.0014	26	0.82	321.00	0
321	Acid Soluble Zn (%)	0550	0.0187	0.0006	0.0161	0.0030	0.0014	26	0.89	321.00	0
321	Acid Soluble Zn (%)	0501	0.0190	0.0000	0.0161	0.0030	0.0014	26	0.99	321.99	0
321	Acid Soluble Zn (%)	0444	0.0195	0.0010	0.0161	0.0030	0.0014	26	1.16	321.30	0
321	Acid Soluble Zn (%)	0043	0.0200	0.0000	0.0161	0.0030	0.0014	26	1.33	321.33	0
321	Acid Soluble Zn (%)	0562	0.1000	0.0060	0.0161	0.0030	0.0014	26	28.40	321.99	0
321	Acid Soluble Zn (%)	0552	0.1100	0.0600	0.0161	0.0030	0.0014	26	31.78	321.30	1
321	Acid Soluble Zn (%)	0516	0.0000	0.0000	0.0161	0.0030	0.0014	26		321.99	4
441	Humic Acids (20%)	0560	20.06	0.1800	21.56	1.854	0.3125	24	-0.81	441.99	0
441	Humic Acids (20%)	0533	20.09	0.0800	21.56	1.854	0.3125	24	-0.79	441.00	0
441	Humic Acids (20%)	0531	20.21	0.0100	21.56	1.854	0.3125	24	-0.73	441.00	0
441	Humic Acids (20%)	0535	20.25	0.1000	21.56	1.854	0.3125	24	-0.70	441.00	0
441	Humic Acids (20%)	0551	20.25	0.0400	21.56	1.854	0.3125	24	-0.70	441.00	0
441	Humic Acids (20%)	0562	20.38	0.4500	21.56	1.854	0.3125	24	-0.64	441.99	0
441	Humic Acids (20%)	0536	20.39	0.1100	21.56	1.854	0.3125	24	-0.63	441.00	0
441	Humic Acids (20%)	0537	20.42	0.2800	21.56	1.854	0.3125	24	-0.61	441.00	0
441	Humic Acids (20%)	0518	20.53	0.0500	21.56	1.854	0.3125	24	-0.56	441.00	0
441	Humic Acids (20%)	0538	20.60	0.0000	21.56	1.854	0.3125	24	-0.52	441.00	0
441	Humic Acids (20%)	0549	20.60	0.2000	21.56	1.854	0.3125	24	-0.52	441.00	0
441	Humic Acids (20%)	0540	20.68	0.1500	21.56	1.854	0.3125	24	-0.47	441.00	0
441	Humic Acids (20%)	0565	20.82	0.0700	21.56	1.854	0.3125	24	-0.40	441.99	0
441	Humic Acids (20%)	0564	20.85	0.1000	21.56	1.854	0.3125	24	-0.38	441.99	0
441	Humic Acids (20%)	0532	20.90	0.4000	21.56	1.854	0.3125	24	-0.35	441.00	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				
441	Humic Acids (20%)	0559	20.93	0.0600	21.56	1.854	0.3125	24	-0.34	441.99	0
441	Humic Acids (20%)	0550	21.99	0.0800	21.56	1.854	0.3125	24	0.23	441.00	0
441	Humic Acids (20%)	0527	22.78	0.3300	21.56	1.854	0.3125	24	0.66	441.00	0
441	Humic Acids (20%)	0556	22.95	0.5000	21.56	1.854	0.3125	24	0.75	441.00	0
441	Humic Acids (20%)	0501	24.46	0.1900	21.56	1.854	0.3125	24	1.56	441.00	0
441	Humic Acids (20%)	0220	25.33	0.2200	21.56	1.854	0.3125	24	2.04	441.00	0
441	Humic Acids (20%)	0325	25.90	1.800	21.56	1.854	0.3125	24	2.34	441.99	0
441	Humic Acids (20%)	0498	26.95	1.300	21.56	1.854	0.3125	24	2.91	441.99	0
441	Humic Acids (20%)	0136	29.20	0.8000	21.56	1.854	0.3125	24	4.12	441.00	0
441	Humic Acids (20%)	0444	40.43	5.930	21.56	1.854	0.3125	24	10.18	441.00	1
441	Humic Acids (20%)	0444	40.43	5.930	21.56	1.854	0.3125	24	10.18	441.99	1
451	Hydrophobic Fulvic Acids (%)	0220	2.005	0.1500				1		451.00	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.