

# magruder fertilizer

## check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 211211

Grade 16-28-12

### Statistical Summary

# Analytes: 39

# Labs Reporting: 93

Issue Date : 01/31/2022

Analyte Code	Analyte Sample # 211211	# 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 (%)	33	33	4.842	1.225	4.853		0.8103	0.1763	16.70%		0.0753	3.15%
002	Nitrate N (%)	1		0.0056									
005	Urea N (%)	18	18	10.29	1.276	10.05		0.7340	0.2163	7.31%		0.1110	2.83%
007	Urea (%)	5	5	10.42	0.7860	10.42		0.7860	0.4394	7.55%		0.1100	2.81%
010	Total N (16%)	84	83	14.72	2.175	14.35	0.6370	0.6371	0.0874	4.44%	2.33	0.1289	2.64%
020	Total P2O5 (%)	44	43	19.88	2.345	19.76		1.040	0.1983	5.27%		0.2827	2.25%
030	Citrate Insoluble P2O5 (%)	3	3	6.708	11.49	6.708		11.49	8.292	171.27%		0.6967	3.00%
040	Indirect Available P2O5 (28%)	3	3	22.43	4.859	22.43	0.7222	4.859	3.506	21.66%	15.68	0.2067	2.11%
041	Direct Available P2O5 (28%)	52	50	20.41	3.775	19.79	0.7190	0.7968	0.1409	4.03%	2.58	0.1454	2.25%
048	Water Soluble P2O5 (%)	5	5	17.12	0.8756	17.12		0.8756	0.4895	5.11%		0.2959	2.42%
050	Soluble K2O (12%)	91	90	33.79	116.8	22.07	1.1520	1.970	0.2595	8.93%	3.98	0.3997	2.13%
060	Water (Free) (%)	2	2	1.539	0.8538								
101	Acid Soluble Ca (%)	12	12	0.3702	0.0687	0.3832	0.2192	0.0376	0.0136	9.80%	0.40	0.0117	4.62%
121	Acid Soluble Mg (%)	16	16	0.8190	0.0938	0.8209	0.2410	0.0921	0.0288	11.22%	0.89	0.0298	4.12%
131	Water Soluble Mg (%)	1		0.4490									
143	Elemental S (%)	5	5	1.156	0.3445	1.156		0.3445	0.1926	29.81%		0.0652	3.91%
145	Sulfate S, HCl soluble (%)	4	4	0.9325	0.2630	0.9325		0.2630	0.1644	28.20%		0.0570	4.04%
148	Total S (%)	12	12	1.124	0.2074	1.125	0.2563	0.2322	0.0838	20.63%	2.11	0.0451	3.93%
149	S - HNO3 soluble (%)	5	5	1.178	0.1583	1.178		0.1583	0.0885	13.44%		0.0143	3.90%
151	Acid Soluble As (ppm)	15	13	1.334	1.100	1.248		0.2486	0.0862	19.92%		0.0491	15.47%
165	Acid Soluble B (%)	9	6	0.0042	0.0029	0.0043	0.0037	0.0018	0.0009	40.71%	1.13	0.0007	9.07%
171	Water Soluble B (%)	2	2	0.0029	0.0020								
181	Acid Soluble Cd (ppm)	21	20	20.09	8.407	19.48		3.679	1.028	18.88%		1.059	10.23%
190	Water Soluble Cl (%)	1		17.35									
191	Acid Soluble Cr (ppm)	19	18	96.53	14.10	99.29		10.38	3.058	10.45%		2.646	8.01%
202	Acid Soluble Co (ppm)	17	14	2.978	4.994	1.090	1.3270	0.3279	0.1096	30.09%	0.58	0.0851	15.79%
221	Acid Soluble Cu (%)	16	8	0.0323	0.1248	0.0003	0.0050	0.0002	0.0001	78.08%	0.10	0.0002	13.79%
241	Acid Soluble Fe (%)	16	15	0.4528	0.0387	0.4573	0.0507	0.0334	0.0108	7.30%	1.53	0.0075	4.50%
251	Acid Soluble Pb (ppm)	16	10	0.7425	1.313	0.2350		0.1079	0.0426	45.91%		0.0327	19.89%
261	Acid Soluble Mn (%)	13	11	0.0057	0.0029	0.0057	0.0056	0.0025	0.0009	43.46%	1.04	0.0004	8.70%
271	Water Soluble Mn (%)	1		0.0020									
281	Acid Soluble Hg (ppm)	11	4	0.0619	0.1484	0.0050		0.0067	0.0042	134.53%		0.0026	22.00%
289	Acid Soluble Mo (ppm)	18	16	10.60	22.35	5.219	2.5658	0.8010	0.2503	15.35%	0.73	0.2157	12.47%

Analyte Code	Analyte Sample # 211211	# 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
291	Acid Soluble Ni (ppm)	19	17	17.04	12.60	14.40		2.896	0.8779	20.10%		1.104	10.71%
301	Acid Soluble Se (ppm)	13	6	0.6988	0.5278	0.6022		0.3060	0.1562	50.82%		0.0417	17.27%
311	Sodium (%)	7	7	0.5145	0.0378	0.5198	0.0570	0.0294	0.0139	5.65%	1.20	0.0134	4.41%
321	Acid Soluble Zn (%)	33	32	0.0278	0.0035	0.0285	0.0079	0.0021	0.0005	7.44%	0.63	0.0007	6.83%
325	Water Soluble Zn (%)	1		0.0007									
431	Soluble Si in nonliquids (%)	1		0.0041									

The Analyte IA Ratio =  $2.33 * \text{Robust SD} / \text{IA at the Analyte Assigned Value}$ . IA ratios of 1 and less indicate participant data dispersion is as good or less than the IA. Red indicates the IA ratio is significantly greater than 1, Orange indicates marginally greater than 1, Green indicates IA ratio is not significantly greater than 1 and Grey indicates < 6 labs reporting. The Horwitz %RSD is calculated using the Thompson Modification, Analyst,2000,125,385-386.

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Sample # 211211

Grade 16-28-12

### Lab Values

# Analytes: 39

# Labs Reporting: 93

Issue Date : 01/31/2022

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 (%)	0524	0.6050	0.2360	4.853	0.8103	0.0753	33	-5.24	001.99	0
001	Ammoniacal N (%)	0368	3.491	0.0980	4.853	0.8103	0.0753	33	-1.68	001.99	0
001	Ammoniacal N (%)	0553	3.651	0.0770	4.853	0.8103	0.0753	33	-1.48	001.99	0
001	Ammoniacal N (%)	0231	3.990	0.0200	4.853	0.8103	0.0753	33	-1.06	001.99	0
001	Ammoniacal N (%)	0498	4.050	0.1000	4.853	0.8103	0.0753	33	-0.99	001.10	0
001	Ammoniacal N (%)	0423	4.160	0.0400	4.853	0.8103	0.0753	33	-0.85	001.99	0
001	Ammoniacal N (%)	0563	4.235	0.0300	4.853	0.8103	0.0753	33	-0.76	001.99	0
001	Ammoniacal N (%)	0451	4.290	0.0400	4.853	0.8103	0.0753	33	-0.69	001.10	0
001	Ammoniacal N (%)	0444	4.300	0.2000	4.853	0.8103	0.0753	33	-0.68	001.10	0
001	Ammoniacal N (%)	0027	4.310	0.0400	4.853	0.8103	0.0753	33	-0.67	001.99	0
001	Ammoniacal N (%)	0549	4.365	0.0300	4.853	0.8103	0.0753	33	-0.60	001.99	0
001	Ammoniacal N (%)	0481	4.485	0.1700	4.853	0.8103	0.0753	33	-0.45	001.10	0
001	Ammoniacal N (%)	0510	4.551	0.0218	4.853	0.8103	0.0753	33	-0.37	001.99	0
001	Ammoniacal N (%)	0546	4.620	0.1600	4.853	0.8103	0.0753	33	-0.29	001.99	0
001	Ammoniacal N (%)	0535	4.750	0.1000	4.853	0.8103	0.0753	33	-0.13	001.99	0
001	Ammoniacal N (%)	0539	4.785	0.0700	4.853	0.8103	0.0753	33	-0.08	001.99	0
001	Ammoniacal N (%)	0506	4.855	0.0100	4.853	0.8103	0.0753	33	0.00	001.99	0
001	Ammoniacal N (%)	0405	5.020	0.0000	4.853	0.8103	0.0753	33	0.21	001.99	0
001	Ammoniacal N (%)	0567	5.110	0.0200	4.853	0.8103	0.0753	33	0.32	001.99	0
001	Ammoniacal N (%)	0565	5.120	0.0400	4.853	0.8103	0.0753	33	0.33	001.99	0
001	Ammoniacal N (%)	0533	5.135	0.0700	4.853	0.8103	0.0753	33	0.35	001.99	0
001	Ammoniacal N (%)	0562	5.150	0.1000	4.853	0.8103	0.0753	33	0.37	001.99	0
001	Ammoniacal N (%)	0572	5.247	0.0831	4.853	0.8103	0.0753	33	0.49	001.99	0
001	Ammoniacal N (%)	0255	5.250	0.0400	4.853	0.8103	0.0753	33	0.49	001.99	0
001	Ammoniacal N (%)	0559	5.260	0.0200	4.853	0.8103	0.0753	33	0.50	001.99	0
001	Ammoniacal N (%)	0574	5.290	0.0200	4.853	0.8103	0.0753	33	0.54	001.99	0
001	Ammoniacal N (%)	0220	5.315	0.0100	4.853	0.8103	0.0753	33	0.57	001.99	0
001	Ammoniacal N (%)	0519	5.775	0.0500	4.853	0.8103	0.0753	33	1.14	001.99	0
001	Ammoniacal N (%)	0532	5.810	0.1600	4.853	0.8103	0.0753	33	1.18	001.99	0
001	Ammoniacal N (%)	0540	5.900	0.0200	4.853	0.8103	0.0753	33	1.29	001.99	0
001	Ammoniacal N (%)	0577	6.000	0.3000	4.853	0.8103	0.0753	33	1.42	001.99	0
001	Ammoniacal N (%)	0548	6.020	0.0600	4.853	0.8103	0.0753	33	1.44	001.99	0
001	Ammoniacal N (%)	0117	8.878	0.0476	4.853	0.8103	0.0753	33	4.97	001.10	0
002	Nitrate N (%)	0553	0.0056	0.0008				1		002.99	0
005	Urea N (%)	0451	8.675	0.0900	10.05	0.7340	0.1110	18	-1.87	005.20	0
005	Urea N (%)	0029	9.325	0.0500	10.05	0.7340	0.1110	18	-0.98	005.99	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				
005	Urea N (%)	0524	9.400	0.1600	10.05	0.7340	0.1110	18	-0.88	005.99	0
005	Urea N (%)	0027	9.450	0.2200	10.05	0.7340	0.1110	18	-0.81	005.99	0
005	Urea N (%)	0506	9.680	0.3000	10.05	0.7340	0.1110	18	-0.50	005.99	0
005	Urea N (%)	0574	9.730	0.0200	10.05	0.7340	0.1110	18	-0.43	005.99	0
005	Urea N (%)	0546	9.760	0.1600	10.05	0.7340	0.1110	18	-0.39	005.99	0
005	Urea N (%)	0567	9.850	0.1000	10.05	0.7340	0.1110	18	-0.27	005.99	0
005	Urea N (%)	0559	9.915	0.0100	10.05	0.7340	0.1110	18	-0.18	005.99	0
005	Urea N (%)	0565	10.02	0.0600	10.05	0.7340	0.1110	18	-0.03	005.99	0
005	Urea N (%)	0562	10.08	0.0500	10.05	0.7340	0.1110	18	0.04	005.99	0
005	Urea N (%)	0540	10.10	0.0300	10.05	0.7340	0.1110	18	0.07	005.99	0
005	Urea N (%)	0532	10.11	0.1700	10.05	0.7340	0.1110	18	0.08	005.99	0
005	Urea N (%)	0405	10.22	0.0400	10.05	0.7340	0.1110	18	0.24	005.99	0
005	Urea N (%)	0533	10.81	0.0900	10.05	0.7340	0.1110	18	1.04	005.99	0
005	Urea N (%)	0368	11.24	0.0477	10.05	0.7340	0.1110	18	1.62	005.00	0
005	Urea N (%)	0535	13.45	0.1000	10.05	0.7340	0.1110	18	4.64	005.99	0
005	Urea N (%)	0539	13.45	0.3000	10.05	0.7340	0.1110	18	4.64	005.99	0
007	Urea (%)	0519	9.625	0.0100	10.42	0.7860	0.1100	5	-1.01	007.99	0
007	Urea (%)	0220	10.04	0.0200	10.42	0.7860	0.1100	5	-0.48	007.99	0
007	Urea (%)	0444	10.20	0.4000	10.42	0.7860	0.1100	5	-0.27	007.99	0
007	Urea (%)	0577	10.51	0.0800	10.42	0.7860	0.1100	5	0.12	007.99	0
007	Urea (%)	0549	11.70	0.0400	10.42	0.7860	0.1100	5	1.63	007.99	0
010	Total N (16%)	0476	13.14†	0.0710	14.35	0.6371	0.1289	83	-1.90	010.60	0
010	Total N (16%)	0450	13.20†	0.2000	14.35	0.6371	0.1289	83	-1.81	010.60	0
010	Total N (16%)	0042	13.24†	0.2400	14.35	0.6371	0.1289	83	-1.74	010.60	0
010	Total N (16%)	0476	13.37†	0.0748	14.35	0.6371	0.1289	83	-1.54	010.99	0
010	Total N (16%)	0481	13.60†	0.0200	14.35	0.6371	0.1289	83	-1.18	010.12	0
010	Total N (16%)	0102	13.69†	0.1000	14.35	0.6371	0.1289	83	-1.04	010.60	0
010	Total N (16%)	0498	13.70†	0.0000	14.35	0.6371	0.1289	83	-1.02	010.12	0
010	Total N (16%)	0035	13.70†	0.2000	14.35	0.6371	0.1289	83	-1.02	010.60	0
010	Total N (16%)	0524	13.78	0.1735	14.35	0.6371	0.1289	83	-0.90	010.99	0
010	Total N (16%)	0023	13.82	0.3730	14.35	0.6371	0.1289	83	-0.84	010.60	0
010	Total N (16%)	0390	13.89	0.0370	14.35	0.6371	0.1289	83	-0.73	010.60	0
010	Total N (16%)	0234	13.89	0.0200	14.35	0.6371	0.1289	83	-0.72	010.60	0
010	Total N (16%)	0423	13.89	0.1000	14.35	0.6371	0.1289	83	-0.72	010.60	0
010	Total N (16%)	0136	13.90	0.0000	14.35	0.6371	0.1289	83	-0.71	010.60	0
010	Total N (16%)	0106	13.91	0.2700	14.35	0.6371	0.1289	83	-0.70	010.60	0
010	Total N (16%)	0451	13.92	0.0800	14.35	0.6371	0.1289	83	-0.68	010.60	0
010	Total N (16%)	0073	13.93	0.0000	14.35	0.6371	0.1289	83	-0.66	010.60	0
010	Total N (16%)	0231	13.93	0.0400	14.35	0.6371	0.1289	83	-0.66	010.60	0
010	Total N (16%)	0389	13.94	0.0500	14.35	0.6371	0.1289	83	-0.65	010.60	0
010	Total N (16%)	0421	13.94	0.1000	14.35	0.6371	0.1289	83	-0.64	010.60	0
010	Total N (16%)	0095	13.97	0.1800	14.35	0.6371	0.1289	83	-0.60	010.60	0
010	Total N (16%)	0086	13.98	0.0370	14.35	0.6371	0.1289	83	-0.58	010.60	0
010	Total N (16%)	0324	14.00	0.0000	14.35	0.6371	0.1289	83	-0.55	010.60	0
010	Total N (16%)	0055	14.03	0.0700	14.35	0.6371	0.1289	83	-0.51	010.60	0
010	Total N (16%)	0377	14.03	0.2400	14.35	0.6371	0.1289	83	-0.50	010.60	0
010	Total N (16%)	0572	14.04	0.0154	14.35	0.6371	0.1289	83	-0.48	010.12	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 (16%)	0230	14.05	0.1000	14.35	0.6371	0.1289	83	-0.47	010.60	0
010	Total N (16%)	0493	14.06	0.1700	14.35	0.6371	0.1289	83	-0.46	010.99	0
010	Total N (16%)	0114	14.10	0.0480	14.35	0.6371	0.1289	83	-0.40	010.60	0
010	Total N (16%)	0354	14.10	0.2000	14.35	0.6371	0.1289	83	-0.39	010.60	0
010	Total N (16%)	0356	14.10	0.0740	14.35	0.6371	0.1289	83	-0.39	010.60	0
010	Total N (16%)	0521	14.12	0.0000	14.35	0.6371	0.1289	83	-0.36	010.60	0
010	Total N (16%)	0034	14.14	0.0900	14.35	0.6371	0.1289	83	-0.34	010.60	0
010	Total N (16%)	0131	14.14	0.0690	14.35	0.6371	0.1289	83	-0.33	010.60	0
010	Total N (16%)	0360	14.15	0.1300	14.35	0.6371	0.1289	83	-0.32	010.60	0
010	Total N (16%)	0040	14.15	0.1000	14.35	0.6371	0.1289	83	-0.31	010.60	0
010	Total N (16%)	0260	14.15	0.1000	14.35	0.6371	0.1289	83	-0.31	010.60	0
010	Total N (16%)	0292	14.15	0.0200	14.35	0.6371	0.1289	83	-0.31	010.60	0
010	Total N (16%)	0220	14.16	0.0200	14.35	0.6371	0.1289	83	-0.30	010.60	0
010	Total N (16%)	0405	14.16	0.0000	14.35	0.6371	0.1289	83	-0.30	010.60	0
010	Total N (16%)	0291	14.17	0.0100	14.35	0.6371	0.1289	83	-0.29	010.60	0
010	Total N (16%)	0472	14.17	0.0300	14.35	0.6371	0.1289	83	-0.29	010.60	0
010	Total N (16%)	0513	14.17	0.0300	14.35	0.6371	0.1289	83	-0.29	010.99	0
010	Total N (16%)	0037	14.17	0.0400	14.35	0.6371	0.1289	83	-0.29	010.60	0
010	Total N (16%)	0422	14.18	0.0350	14.35	0.6371	0.1289	83	-0.27	010.60	0
010	Total N (16%)	0527	14.18	0.2380	14.35	0.6371	0.1289	83	-0.27	010.60	0
010	Total N (16%)	0443	14.18	0.0600	14.35	0.6371	0.1289	83	-0.27	010.60	0
010	Total N (16%)	0043	14.20	0.0600	14.35	0.6371	0.1289	83	-0.24	010.60	0
010	Total N (16%)	0561	14.23	0.0900	14.35	0.6371	0.1289	83	-0.20	010.60	0
010	Total N (16%)	0325	14.25	0.5000	14.35	0.6371	0.1289	83	-0.16	010.60	0
010	Total N (16%)	0177	14.28	0.1210	14.35	0.6371	0.1289	83	-0.11	010.60	0
010	Total N (16%)	0029	14.29	0.1400	14.35	0.6371	0.1289	83	-0.09	010.60	0
010	Total N (16%)	0547	14.33	0.2100	14.35	0.6371	0.1289	83	-0.04	010.60	0
010	Total N (16%)	0563	14.33	0.0100	14.35	0.6371	0.1289	83	-0.04	010.99	0
010	Total N (16%)	0546	14.38	0.3200	14.35	0.6371	0.1289	83	0.05	010.11	0
010	Total N (16%)	0523	14.39	0.0800	14.35	0.6371	0.1289	83	0.06	010.60	0
010	Total N (16%)	0485	14.41	0.3000	14.35	0.6371	0.1289	83	0.09	010.60	0
010	Total N (16%)	0169	14.44	0.0900	14.35	0.6371	0.1289	83	0.13	010.60	0
010	Total N (16%)	0444	14.50	0.4000	14.35	0.6371	0.1289	83	0.24	010.60	0
010	Total N (16%)	0506	14.55	0.3000	14.35	0.6371	0.1289	83	0.31	010.99	0
010	Total N (16%)	0255	14.66	0.3420	14.35	0.6371	0.1289	83	0.49	010.60	0
010	Total N (16%)	0510	14.66	0.0159	14.35	0.6371	0.1289	83	0.49	010.11	0
010	Total N (16%)	0368	14.70	0.4060	14.35	0.6371	0.1289	83	0.56	010.60	0
010	Total N (16%)	0501	14.80	0.2000	14.35	0.6371	0.1289	83	0.71	010.60	0
010	Total N (16%)	0574	15.02‡	0.0400	14.35	0.6371	0.1289	83	1.05	010.99	0
010	Total N (16%)	0567	15.05‡	0.1000	14.35	0.6371	0.1289	83	1.10	010.99	0
010	Total N (16%)	0565	15.13‡	0.0600	14.35	0.6371	0.1289	83	1.22	010.99	0
010	Total N (16%)	0559	15.15‡	0.0200	14.35	0.6371	0.1289	83	1.26	010.99	0
010	Total N (16%)	0537	15.19‡	0.0500	14.35	0.6371	0.1289	83	1.31	010.99	0
010	Total N (16%)	0562	15.23‡	0.1500	14.35	0.6371	0.1289	83	1.37	010.99	0
010	Total N (16%)	0568	15.60‡	0.2000	14.35	0.6371	0.1289	83	1.96	010.12	0
010	Total N (16%)	0548	15.79‡	0.2300	14.35	0.6371	0.1289	83	2.25	010.11	0
010	Total N (16%)	0532	15.92‡	0.3300	14.35	0.6371	0.1289	83	2.46	010.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010	Total N (16%)	0533	15.94‡	0.0200	14.35	0.6371	0.1289	83	2.50	010.99	0
010	Total N (16%)	0531	15.95‡	0.1000	14.35	0.6371	0.1289	83	2.51	010.11	0
010	Total N (16%)	0518	15.99‡	0.3200	14.35	0.6371	0.1289	83	2.57	010.99	0
010	Total N (16%)	0540	16.00‡	0.0500	14.35	0.6371	0.1289	83	2.58	010.11	0
010	Total N (16%)	0538	16.13‡	0.0200	14.35	0.6371	0.1289	83	2.79	010.99	0
010	Total N (16%)	0536	16.19‡	0.3900	14.35	0.6371	0.1289	83	2.88	010.11	0
010	Total N (16%)	0577	16.21‡	0.4700	14.35	0.6371	0.1289	83	2.91	010.99	0
010	Total N (16%)	0534	16.23‡	0.1500	14.35	0.6371	0.1289	83	2.94	010.60	0
010	Total N (16%)	0535	18.25‡	0.1000	14.35	0.6371	0.1289	83	6.12	010.11	0
010	Total N (16%)	0539	18.26‡	0.0600	14.35	0.6371	0.1289	83	6.14	010.11	0
010	Total N (16%)	0452	32.47‡	0.0500	14.35	0.6371	0.1289	83	28.43	010.60	2
020	Total P2O5 (%)	0433	10.26	0.1300	19.76	1.040	0.2827	43	-9.13	020.50	0
020	Total P2O5 (%)	0255	17.32	0.4420	19.76	1.040	0.2827	43	-2.34	020.50	0
020	Total P2O5 (%)	0472	17.69	0.1800	19.76	1.040	0.2827	43	-1.99	020.50	0
020	Total P2O5 (%)	0451	18.22	0.6900	19.76	1.040	0.2827	43	-1.48	020.50	0
020	Total P2O5 (%)	0389	18.36	0.0400	19.76	1.040	0.2827	43	-1.34	020.50	0
020	Total P2O5 (%)	0390	18.45	0.7000	19.76	1.040	0.2827	43	-1.26	020.50	0
020	Total P2O5 (%)	0510	18.60	0.1375	19.76	1.040	0.2827	43	-1.11	020.20	0
020	Total P2O5 (%)	0476	18.60	0.2742	19.76	1.040	0.2827	43	-1.11	020.99	0
020	Total P2O5 (%)	0524	19.16	0.9184	19.76	1.040	0.2827	43	-0.57	020.50	0
020	Total P2O5 (%)	0444	19.21	0.3000	19.76	1.040	0.2827	43	-0.53	020.50	0
020	Total P2O5 (%)	0450	19.24	0.5500	19.76	1.040	0.2827	43	-0.50	020.50	0
020	Total P2O5 (%)	0547	19.30	0.4000	19.76	1.040	0.2827	43	-0.44	020.20	0
020	Total P2O5 (%)	0444	19.38	0.0400	19.76	1.040	0.2827	43	-0.36	020.10	0
020	Total P2O5 (%)	0513	19.55	0.0700	19.76	1.040	0.2827	43	-0.20	020.99	0
020	Total P2O5 (%)	0324	19.55	0.1000	19.76	1.040	0.2827	43	-0.20	020.20	0
020	Total P2O5 (%)	0114	19.56	0.1600	19.76	1.040	0.2827	43	-0.19	020.10	0
020	Total P2O5 (%)	0481	19.63	0.0300	19.76	1.040	0.2827	43	-0.13	020.20	0
020	Total P2O5 (%)	0231	19.64	0.1100	19.76	1.040	0.2827	43	-0.12	020.20	0
020	Total P2O5 (%)	0405	19.67	0.0100	19.76	1.040	0.2827	43	-0.09	020.20	0
020	Total P2O5 (%)	0493	19.67	0.1600	19.76	1.040	0.2827	43	-0.08	020.20	0
020	Total P2O5 (%)	0493	19.72	0.0700	19.76	1.040	0.2827	43	-0.04	020.10	0
020	Total P2O5 (%)	0572	19.72	0.7055	19.76	1.040	0.2827	43	-0.03	020.99	0
020	Total P2O5 (%)	0220	19.74	0.2700	19.76	1.040	0.2827	43	-0.02	020.20	0
020	Total P2O5 (%)	0169	19.84	0.0100	19.76	1.040	0.2827	43	0.08	020.50	0
020	Total P2O5 (%)	0356	19.84	0.0830	19.76	1.040	0.2827	43	0.08	020.20	0
020	Total P2O5 (%)	0561	19.85	0.0500	19.76	1.040	0.2827	43	0.09	020.20	0
020	Total P2O5 (%)	0546	19.88	0.1938	19.76	1.040	0.2827	43	0.11	020.50	0
020	Total P2O5 (%)	0260	19.90	1.400	19.76	1.040	0.2827	43	0.14	020.50	0
020	Total P2O5 (%)	0423	19.95	0.1700	19.76	1.040	0.2827	43	0.18	020.50	0
020	Total P2O5 (%)	0292	19.97	0.1900	19.76	1.040	0.2827	43	0.20	020.20	0
020	Total P2O5 (%)	0452	20.19	0.0500	19.76	1.040	0.2827	43	0.41	020.50	0
020	Total P2O5 (%)	0035	20.20	0.8000	19.76	1.040	0.2827	43	0.43	020.40	0
020	Total P2O5 (%)	0422	20.30	0.2470	19.76	1.040	0.2827	43	0.53	020.50	0
020	Total P2O5 (%)	0234	20.38	0.1600	19.76	1.040	0.2827	43	0.60	020.50	0
020	Total P2O5 (%)	0042	20.39	0.4900	19.76	1.040	0.2827	43	0.60	020.50	0
020	Total P2O5 (%)	0443	20.78	0.3500	19.76	1.040	0.2827	43	0.98	020.99	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				
020	Total P2O5 (%)	0368	20.87	0.4075	19.76	1.040	0.2827	43	1.07	020.50	0
020	Total P2O5 (%)	0291	21.11	0.2000	19.76	1.040	0.2827	43	1.30	020.50	0
020	Total P2O5 (%)	0527	21.34	0.1077	19.76	1.040	0.2827	43	1.52	020.50	0
020	Total P2O5 (%)	0521	21.49	0.0000	19.76	1.040	0.2827	43	1.67	020.50	0
020	Total P2O5 (%)	0523	22.35	0.7000	19.76	1.040	0.2827	43	2.49	020.50	0
020	Total P2O5 (%)	0559	22.47	0.0200	19.76	1.040	0.2827	43	2.61	020.99	0
020	Total P2O5 (%)	0548	27.70	0.0400	19.76	1.040	0.2827	43	7.64	020.20	0
020	Total P2O5 (%)	0515	25.93	14.91	19.76	1.040	0.2827	43	5.93	020.99	1
030	Citrate Insoluble P2O5 (%)	0220	0.0700	0.0200	6.708	11.49	0.6967	3	-0.58	030.20	0
030	Citrate Insoluble P2O5 (%)	0405	0.0800	0.0000	6.708	11.49	0.6967	3	-0.58	030.20	0
030	Citrate Insoluble P2O5 (%)	0537	19.98	2.070	6.708	11.49	0.6967	3	1.15	030.99	0
040	Indirect Available P2O5 (28%)	0405	19.59†	0.0100	22.43	4.859	0.2067	3	-0.59	040.99	0
040	Indirect Available P2O5 (28%)	0220	19.67†	0.2500	22.43	4.859	0.2067	3	-0.57	040.20	0
040	Indirect Available P2O5 (28%)	0577	28.04‡	0.3600	22.43	4.859	0.2067	3	1.15	040.99	0
041	Direct Available P2O5 (28%)	0472	4.190†	0.3600	19.79	0.7968	0.1454	50	-19.58	041.21	0
041	Direct Available P2O5 (28%)	0421	14.80†	0.1100	19.79	0.7968	0.1454	50	-6.27	041.51	0
041	Direct Available P2O5 (28%)	0230	18.36†	0.0600	19.79	0.7968	0.1454	50	-1.80	041.21	0
041	Direct Available P2O5 (28%)	0423	18.69†	0.4700	19.79	0.7968	0.1454	50	-1.39	041.51	0
041	Direct Available P2O5 (28%)	0106	18.87†	0.1300	19.79	0.7968	0.1454	50	-1.17	041.21	0
041	Direct Available P2O5 (28%)	0563	19.02†	0.0100	19.79	0.7968	0.1454	50	-0.98	041.21	0
041	Direct Available P2O5 (28%)	0095	19.06†	0.4400	19.79	0.7968	0.1454	50	-0.92	041.11	0
041	Direct Available P2O5 (28%)	0405	19.18	0.0200	19.79	0.7968	0.1454	50	-0.77	041.21	0
041	Direct Available P2O5 (28%)	0405	19.23	0.0600	19.79	0.7968	0.1454	50	-0.71	041.11	0
041	Direct Available P2O5 (28%)	0055	19.25	0.2300	19.79	0.7968	0.1454	50	-0.69	041.21	0
041	Direct Available P2O5 (28%)	0025	19.25	0.1000	19.79	0.7968	0.1454	50	-0.68	041.51	0
041	Direct Available P2O5 (28%)	0040	19.25	0.3000	19.79	0.7968	0.1454	50	-0.68	041.51	0
041	Direct Available P2O5 (28%)	0177	19.27	0.0076	19.79	0.7968	0.1454	50	-0.65	041.21	0
041	Direct Available P2O5 (28%)	0377	19.35	0.1700	19.79	0.7968	0.1454	50	-0.56	041.51	0
041	Direct Available P2O5 (28%)	0513	19.41	0.0800	19.79	0.7968	0.1454	50	-0.48	041.11	0
041	Direct Available P2O5 (28%)	0117	19.45	0.1116	19.79	0.7968	0.1454	50	-0.44	041.51	0
041	Direct Available P2O5 (28%)	0231	19.50	0.0500	19.79	0.7968	0.1454	50	-0.38	041.21	0
041	Direct Available P2O5 (28%)	0360	19.52	0.1700	19.79	0.7968	0.1454	50	-0.35	041.51	0
041	Direct Available P2O5 (28%)	0073	19.55	0.2100	19.79	0.7968	0.1454	50	-0.31	041.11	0
041	Direct Available P2O5 (28%)	0177	19.58	0.0561	19.79	0.7968	0.1454	50	-0.27	041.10	0
041	Direct Available P2O5 (28%)	0049	19.60	0.0200	19.79	0.7968	0.1454	50	-0.24	041.10	0
041	Direct Available P2O5 (28%)	0055	19.61	0.0700	19.79	0.7968	0.1454	50	-0.24	041.11	0
041	Direct Available P2O5 (28%)	0029	19.61	0.0400	19.79	0.7968	0.1454	50	-0.23	041.40	0
041	Direct Available P2O5 (28%)	0027	19.64	0.0900	19.79	0.7968	0.1454	50	-0.20	041.20	0
041	Direct Available P2O5 (28%)	0220	19.67	0.0600	19.79	0.7968	0.1454	50	-0.16	041.11	0
041	Direct Available P2O5 (28%)	0037	19.68	0.0380	19.79	0.7968	0.1454	50	-0.15	041.51	0
041	Direct Available P2O5 (28%)	0553	19.69	0.1800	19.79	0.7968	0.1454	50	-0.13	041.20	0
041	Direct Available P2O5 (28%)	0354	19.70	0.0000	19.79	0.7968	0.1454	50	-0.12	041.21	0
041	Direct Available P2O5 (28%)	0485	19.73	0.0800	19.79	0.7968	0.1454	50	-0.08	041.11	0
041	Direct Available P2O5 (28%)	0567	19.80	0.0000	19.79	0.7968	0.1454	50	0.01	041.99	0
041	Direct Available P2O5 (28%)	0043	19.92	0.0100	19.79	0.7968	0.1454	50	0.15	041.51	0
041	Direct Available P2O5 (28%)	0535	19.95	0.1000	19.79	0.7968	0.1454	50	0.20	041.99	0
041	Direct Available P2O5 (28%)	0562	19.95	0.2000	19.79	0.7968	0.1454	50	0.20	041.99	0

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041	Direct Available P2O5 (28%)	0539	19.97	0.0600	19.79	0.7968	0.1454	50	0.22	041.99	0
041	Direct Available P2O5 (28%)	0009	20.00	0.0000	19.79	0.7968	0.1454	50	0.26	041.10	0
041	Direct Available P2O5 (28%)	0023	20.00	0.8000	19.79	0.7968	0.1454	50	0.26	041.51	0
041	Direct Available P2O5 (28%)	0565	20.10	0.2100	19.79	0.7968	0.1454	50	0.38	041.99	0
041	Direct Available P2O5 (28%)	0574	20.10	0.0400	19.79	0.7968	0.1454	50	0.38	041.99	0
041	Direct Available P2O5 (28%)	0117	20.15	0.2569	19.79	0.7968	0.1454	50	0.45	041.11	0
041	Direct Available P2O5 (28%)	0136	20.40	0.2000	19.79	0.7968	0.1454	50	0.76	041.51	0
041	Direct Available P2O5 (28%)	0549	20.61‡	0.1800	19.79	0.7968	0.1454	50	1.02	041.99	0
041	Direct Available P2O5 (28%)	0519	20.76‡	0.0900	19.79	0.7968	0.1454	50	1.21	041.99	0
041	Direct Available P2O5 (28%)	0506	22.40‡	0.6000	19.79	0.7968	0.1454	50	3.27	041.99	0
041	Direct Available P2O5 (28%)	0536	27.73‡	0.1000	19.79	0.7968	0.1454	50	9.96	041.10	0
041	Direct Available P2O5 (28%)	0532	27.81‡	0.0900	19.79	0.7968	0.1454	50	10.05	041.99	0
041	Direct Available P2O5 (28%)	0533	27.87‡	0.1400	19.79	0.7968	0.1454	50	10.14	041.99	0
041	Direct Available P2O5 (28%)	0538	27.88‡	0.0600	19.79	0.7968	0.1454	50	10.15	041.99	0
041	Direct Available P2O5 (28%)	0518	27.95‡	0.3000	19.79	0.7968	0.1454	50	10.24	041.99	0
041	Direct Available P2O5 (28%)	0531	28.02‡	0.0100	19.79	0.7968	0.1454	50	10.32	041.99	0
041	Direct Available P2O5 (28%)	0540	28.02‡	0.1000	19.79	0.7968	0.1454	50	10.32	041.99	0
041	Direct Available P2O5 (28%)	0568	19.40	2.000	19.79	0.7968	0.1454	50	-0.49	041.21	1
041	Direct Available P2O5 (28%)	0325	20.70‡	1.800	19.79	0.7968	0.1454	50	1.14	041.50	1
048	Water Soluble P2O5 (%)	0472	15.70	0.1400	17.12	0.8756	0.2959	5	-1.62	048.20	0
048	Water Soluble P2O5 (%)	0513	17.16	0.0200	17.12	0.8756	0.2959	5	0.05	048.99	0
048	Water Soluble P2O5 (%)	0572	17.27	0.8996	17.12	0.8756	0.2959	5	0.18	048.99	0
048	Water Soluble P2O5 (%)	0444	17.36	0.2900	17.12	0.8756	0.2959	5	0.27	048.10	0
048	Water Soluble P2O5 (%)	0444	18.11	0.1300	17.12	0.8756	0.2959	5	1.13	048.50	0
050	Soluble K2O (12%)	0472	11.20†	0.0000	22.07	1.970	0.3997	90	-5.52	050.32	0
050	Soluble K2O (12%)	0538	11.79†	0.3100	22.07	1.970	0.3997	90	-5.22	050.99	0
050	Soluble K2O (12%)	0518	12.00†	0.4000	22.07	1.970	0.3997	90	-5.11	050.99	0
050	Soluble K2O (12%)	0531	12.01†	0.0100	22.07	1.970	0.3997	90	-5.11	050.99	0
050	Soluble K2O (12%)	0540	12.01†	0.0700	22.07	1.970	0.3997	90	-5.11	050.99	0
050	Soluble K2O (12%)	0577	12.27†	0.1200	22.07	1.970	0.3997	90	-4.97	050.99	0
050	Soluble K2O (12%)	0548	12.34†	0.0900	22.07	1.970	0.3997	90	-4.94	050.60	0
050	Soluble K2O (12%)	0533	12.41†	0.3000	22.07	1.970	0.3997	90	-4.90	050.99	0
050	Soluble K2O (12%)	0532	12.51†	0.2900	22.07	1.970	0.3997	90	-4.85	050.99	0
050	Soluble K2O (12%)	0443	15.96†	0.2800	22.07	1.970	0.3997	90	-3.10	050.60	0
050	Soluble K2O (12%)	0519	17.40†	0.7600	22.07	1.970	0.3997	90	-2.37	050.99	0
050	Soluble K2O (12%)	0423	18.40†	0.2600	22.07	1.970	0.3997	90	-1.86	050.52	0
050	Soluble K2O (12%)	0515	18.89†	2.583	22.07	1.970	0.3997	90	-1.61	050.99	0
050	Soluble K2O (12%)	0521	18.95†	0.0000	22.07	1.970	0.3997	90	-1.58	050.99	0
050	Soluble K2O (12%)	0536	19.78†	0.0400	22.07	1.970	0.3997	90	-1.16	050.99	0
050	Soluble K2O (12%)	0049	19.79†	0.0600	22.07	1.970	0.3997	90	-1.16	050.00	0
050	Soluble K2O (12%)	0255	19.82†	1.204	22.07	1.970	0.3997	90	-1.14	050.99	0
050	Soluble K2O (12%)	0547	19.93†	0.1200	22.07	1.970	0.3997	90	-1.08	050.52	0
050	Soluble K2O (12%)	0553	20.03†	0.3000	22.07	1.970	0.3997	90	-1.03	050.99	0
050	Soluble K2O (12%)	0561	20.15†	0.0000	22.07	1.970	0.3997	90	-0.97	050.00	0
050	Soluble K2O (12%)	0421	20.38†	0.1400	22.07	1.970	0.3997	90	-0.86	050.52	0
050	Soluble K2O (12%)	0506	20.70†	0.0000	22.07	1.970	0.3997	90	-0.69	050.99	0
050	Soluble K2O (12%)	0510	20.88†	0.0324	22.07	1.970	0.3997	90	-0.60	050.60	0



Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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050	Soluble K2O (12%)	0055	21.17	0.0300	22.07	1.970	0.3997	90	-0.46	050.50	0
050	Soluble K2O (12%)	0043	21.45	0.2700	22.07	1.970	0.3997	90	-0.31	050.52	0
050	Soluble K2O (12%)	0451	21.48	0.5800	22.07	1.970	0.3997	90	-0.30	050.99	0
050	Soluble K2O (12%)	0481	21.49	0.5600	22.07	1.970	0.3997	90	-0.29	050.99	0
050	Soluble K2O (12%)	0535	21.65	0.3000	22.07	1.970	0.3997	90	-0.21	050.99	0
050	Soluble K2O (12%)	0539	21.70	0.0000	22.07	1.970	0.3997	90	-0.19	050.99	0
050	Soluble K2O (12%)	0390	21.80	0.2000	22.07	1.970	0.3997	90	-0.13	050.50	0
050	Soluble K2O (12%)	0574	21.80	0.0400	22.07	1.970	0.3997	90	-0.13	050.99	0
050	Soluble K2O (12%)	0546	21.83	0.1721	22.07	1.970	0.3997	90	-0.12	050.99	0
050	Soluble K2O (12%)	0476	21.87	0.1585	22.07	1.970	0.3997	90	-0.10	050.99	0
050	Soluble K2O (12%)	0450	21.98	0.2000	22.07	1.970	0.3997	90	-0.04	050.99	0
050	Soluble K2O (12%)	0073	21.99	0.6900	22.07	1.970	0.3997	90	-0.04	050.30	0
050	Soluble K2O (12%)	0559	22.11	0.0100	22.07	1.970	0.3997	90	0.02	050.99	0
050	Soluble K2O (12%)	0565	22.12	0.0300	22.07	1.970	0.3997	90	0.03	050.99	0
050	Soluble K2O (12%)	0535	22.15	0.3000	22.07	1.970	0.3997	90	0.04	050.61	0
050	Soluble K2O (12%)	0539	22.15	0.1000	22.07	1.970	0.3997	90	0.04	050.61	0
050	Soluble K2O (12%)	0549	22.18	1.250	22.07	1.970	0.3997	90	0.06	050.99	0
050	Soluble K2O (12%)	0377	22.19	0.3300	22.07	1.970	0.3997	90	0.06	050.52	0
050	Soluble K2O (12%)	0567	22.20	0.0000	22.07	1.970	0.3997	90	0.07	050.99	0
050	Soluble K2O (12%)	0562	22.20	0.2000	22.07	1.970	0.3997	90	0.07	050.99	0
050	Soluble K2O (12%)	0405	22.32	0.1400	22.07	1.970	0.3997	90	0.13	050.00	0
050	Soluble K2O (12%)	0324	22.40	0.6000	22.07	1.970	0.3997	90	0.17	050.50	0
050	Soluble K2O (12%)	0493	22.53	0.6400	22.07	1.970	0.3997	90	0.24	050.99	0
050	Soluble K2O (12%)	0040	22.55	0.9000	22.07	1.970	0.3997	90	0.25	050.30	0
050	Soluble K2O (12%)	0354	22.55	0.1000	22.07	1.970	0.3997	90	0.25	050.52	0
050	Soluble K2O (12%)	0231	22.59	0.0000	22.07	1.970	0.3997	90	0.27	050.50	0
050	Soluble K2O (12%)	0498	22.60	0.4000	22.07	1.970	0.3997	90	0.27	050.99	0
050	Soluble K2O (12%)	0356	22.68	0.0360	22.07	1.970	0.3997	90	0.31	050.30	0
050	Soluble K2O (12%)	0025	22.70	0.8000	22.07	1.970	0.3997	90	0.32	050.52	0
050	Soluble K2O (12%)	0524	22.75	1.583	22.07	1.970	0.3997	90	0.35	050.99	0
050	Soluble K2O (12%)	0360	22.76	0.1400	22.07	1.970	0.3997	90	0.35	050.52	0
050	Soluble K2O (12%)	0260	22.80	0.8000	22.07	1.970	0.3997	90	0.37	050.99	0
050	Soluble K2O (12%)	0231	22.81	0.1600	22.07	1.970	0.3997	90	0.38	050.00	0
050	Soluble K2O (12%)	0095	22.81	0.4400	22.07	1.970	0.3997	90	0.38	050.62	0
050	Soluble K2O (12%)	0106	22.84	1.380	22.07	1.970	0.3997	90	0.39	050.50	0
050	Soluble K2O (12%)	0055	22.85	0.4000	22.07	1.970	0.3997	90	0.40	050.00	0
050	Soluble K2O (12%)	0568	23.00	0.8000	22.07	1.970	0.3997	90	0.47	050.51	0
050	Soluble K2O (12%)	0037	23.02	0.1490	22.07	1.970	0.3997	90	0.49	050.52	0
050	Soluble K2O (12%)	0523	23.05	1.300	22.07	1.970	0.3997	90	0.50	050.99	0
050	Soluble K2O (12%)	0117	23.05	0.0712	22.07	1.970	0.3997	90	0.50	050.50	0
050	Soluble K2O (12%)	0444	23.07	0.0400	22.07	1.970	0.3997	90	0.51	050.00	0
050	Soluble K2O (12%)	0136	23.10	0.0000	22.07	1.970	0.3997	90	0.53	050.52	0
050	Soluble K2O (12%)	0220	23.14	0.0500	22.07	1.970	0.3997	90	0.54	050.00	0
050	Soluble K2O (12%)	0027	23.14	0.7000	22.07	1.970	0.3997	90	0.55	050.99	0
050	Soluble K2O (12%)	0177	23.16	0.1057	22.07	1.970	0.3997	90	0.56	050.99	0
050	Soluble K2O (12%)	0029	23.18	0.2400	22.07	1.970	0.3997	90	0.57	050.62	0
050	Soluble K2O (12%)	0368	23.27‡	1.664	22.07	1.970	0.3997	90	0.61	050.51	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 (12%)	0485	23.31‡	0.7300	22.07	1.970	0.3997	90	0.63	050.52	0
050	Soluble K2O (12%)	0234	23.45‡	0.1000	22.07	1.970	0.3997	90	0.70	050.99	0
050	Soluble K2O (12%)	0452	23.50‡	0.3000	22.07	1.970	0.3997	90	0.73	050.51	0
050	Soluble K2O (12%)	0527	23.51‡	0.0344	22.07	1.970	0.3997	90	0.74	050.99	0
050	Soluble K2O (12%)	0292	23.56‡	0.0700	22.07	1.970	0.3997	90	0.76	050.50	0
050	Soluble K2O (12%)	0389	23.65‡	0.3500	22.07	1.970	0.3997	90	0.80	050.99	0
050	Soluble K2O (12%)	0169	23.69‡	0.1300	22.07	1.970	0.3997	90	0.82	050.60	0
050	Soluble K2O (12%)	0035	23.70‡	0.6000	22.07	1.970	0.3997	90	0.83	050.61	0
050	Soluble K2O (12%)	0325	24.05‡	3.300	22.07	1.970	0.3997	90	1.01	050.99	0
050	Soluble K2O (12%)	0291	24.09‡	0.0200	22.07	1.970	0.3997	90	1.03	050.51	0
050	Soluble K2O (12%)	0422	24.27‡	0.0360	22.07	1.970	0.3997	90	1.12	050.50	0
050	Soluble K2O (12%)	0513	24.28‡	0.0900	22.07	1.970	0.3997	90	1.12	050.62	0
050	Soluble K2O (12%)	0117	24.29‡	0.2105	22.07	1.970	0.3997	90	1.13	050.52	0
050	Soluble K2O (12%)	0023	24.35‡	1.300	22.07	1.970	0.3997	90	1.16	050.52	0
050	Soluble K2O (12%)	0114	24.42‡	0.2600	22.07	1.970	0.3997	90	1.20	050.00	0
050	Soluble K2O (12%)	0042	24.62‡	0.0300	22.07	1.970	0.3997	90	1.29	050.99	0
050	Soluble K2O (12%)	0230	24.90‡	1.000	22.07	1.970	0.3997	90	1.44	050.50	0
050	Soluble K2O (12%)	0563	26.31‡	0.2811	22.07	1.970	0.3997	90	2.16	050.99	0
050	Soluble K2O (12%)	0537	27.91‡	0.3600	22.07	1.970	0.3997	90	2.97	050.99	0
050	Soluble K2O (12%)	0433	44.70‡	0.3400	22.07	1.970	0.3997	90	11.49	050.99	0
050	Soluble K2O (12%)	0444	1,135‡	2,224	22.07	1.970	0.3997	90	564.99	050.50	2
060	Water (Free) (%)	0513	0.9350	0.0100				2		060.00	0
060	Water (Free) (%)	0510	2.142	0.0057				2		060.99	0
101	Acid Soluble Ca (%)	0553	0.1710	0.0000	0.3832	0.0376	0.0117	12	-5.65	101.00	0
101	Acid Soluble Ca (%)	0389	0.3450	0.0100	0.3832	0.0376	0.0117	12	-1.02	101.99	0
101	Acid Soluble Ca (%)	0572	0.3456	0.0124	0.3832	0.0376	0.0117	12	-1.00	101.99	0
101	Acid Soluble Ca (%)	0563	0.3500	0.0015	0.3832	0.0376	0.0117	12	-0.88	101.33	0
101	Acid Soluble Ca (%)	0421	0.3800	0.0000	0.3832	0.0376	0.0117	12	-0.08	101.33	0
101	Acid Soluble Ca (%)	0354	0.3850	0.0100	0.3832	0.0376	0.0117	12	0.05	101.30	0
101	Acid Soluble Ca (%)	0568	0.3985	0.0170	0.3832	0.0376	0.0117	12	0.41	101.30	0
101	Acid Soluble Ca (%)	0423	0.4085	0.0110	0.3832	0.0376	0.0117	12	0.67	101.32	0
101	Acid Soluble Ca (%)	0527	0.4096	0.0181	0.3832	0.0376	0.0117	12	0.70	101.33	0
101	Acid Soluble Ca (%)	0035	0.4130	0.0140	0.3832	0.0376	0.0117	12	0.79	101.30	0
101	Acid Soluble Ca (%)	0472	0.4150	0.0300	0.3832	0.0376	0.0117	12	0.85	101.33	0
101	Acid Soluble Ca (%)	0260	0.4210	0.0160	0.3832	0.0376	0.0117	12	1.01	101.33	0
121	Acid Soluble Mg (%)	0515	0.6176	0.1109	0.8209	0.0921	0.0298	16	-2.21	121.99	0
121	Acid Soluble Mg (%)	0515	0.6900	0.1080	0.8209	0.0921	0.0298	16	-1.42	121.33	0
121	Acid Soluble Mg (%)	0572	0.7139	0.0228	0.8209	0.0921	0.0298	16	-1.16	121.99	0
121	Acid Soluble Mg (%)	0524	0.7357	0.0030	0.8209	0.0921	0.0298	16	-0.93	121.99	0
121	Acid Soluble Mg (%)	0568	0.7785	0.0050	0.8209	0.0921	0.0298	16	-0.46	121.30	0
121	Acid Soluble Mg (%)	0563	0.7960	0.0176	0.8209	0.0921	0.0298	16	-0.27	121.33	0
121	Acid Soluble Mg (%)	0260	0.8280	0.0140	0.8209	0.0921	0.0298	16	0.08	121.33	0
121	Acid Soluble Mg (%)	0423	0.8380	0.0400	0.8209	0.0921	0.0298	16	0.19	121.32	0
121	Acid Soluble Mg (%)	0444	0.8450	0.0100	0.8209	0.0921	0.0298	16	0.26	121.30	0
121	Acid Soluble Mg (%)	0421	0.8550	0.0100	0.8209	0.0921	0.0298	16	0.37	121.33	0
121	Acid Soluble Mg (%)	0035	0.8570	0.0420	0.8209	0.0921	0.0298	16	0.39	121.30	0
121	Acid Soluble Mg (%)	0354	0.8700	0.0000	0.8209	0.0921	0.0298	16	0.53	121.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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121	Acid Soluble Mg (%)	0389	0.8850	0.0100	0.8209	0.0921	0.0298	16	0.70	121.99	0
121	Acid Soluble Mg (%)	0553	0.8950	0.0000	0.8209	0.0921	0.0298	16	0.81	121.00	0
121	Acid Soluble Mg (%)	0472	0.9050	0.0700	0.8209	0.0921	0.0298	16	0.91	121.33	0
121	Acid Soluble Mg (%)	0527	0.9941	0.0139	0.8209	0.0921	0.0298	16	1.88	121.33	0
131	Water Soluble Mg (%)	0572	0.4490	0.0148				1		131.99	0
143	Elemental S (%)	0485	0.5865	0.1670	1.156	0.3445	0.0652	5	-1.65	143.00	0
143	Elemental S (%)	0255	1.151	0.0440	1.156	0.3445	0.0652	5	-0.01	143.99	0
143	Elemental S (%)	0389	1.210	0.1000	1.156	0.3445	0.0652	5	0.16	143.99	0
143	Elemental S (%)	0368	1.336	0.0052	1.156	0.3445	0.0652	5	0.52	143.99	0
143	Elemental S (%)	0325	1.495	0.0100	1.156	0.3445	0.0652	5	0.98	143.99	0
145	Sulfate S, HCl soluble (%)	0553	0.7005	0.0050	0.9325	0.2630	0.0570	4	-0.88	145.99	0
145	Sulfate S, HCl soluble (%)	0485	0.7095	0.0830	0.9325	0.2630	0.0570	4	-0.85	145.00	0
145	Sulfate S, HCl soluble (%)	0539	1.145	0.0900	0.9325	0.2630	0.0570	4	0.81	145.99	0
145	Sulfate S, HCl soluble (%)	0535	1.175	0.0500	0.9325	0.2630	0.0570	4	0.92	145.99	0
148	Total S (%)	0354	0.7600	0.0200	1.125	0.2322	0.0451	12	-1.57	148.99	0
148	Total S (%)	0515	0.8046	0.0125	1.125	0.2322	0.0451	12	-1.38	148.07	0
148	Total S (%)	0572	0.8591	0.0713	1.125	0.2322	0.0451	12	-1.15	148.99	0
148	Total S (%)	0422	1.040	0.0640	1.125	0.2322	0.0451	12	-0.37	148.99	0
148	Total S (%)	0521	1.153	0.0000	1.125	0.2322	0.0451	12	0.12	148.99	0
148	Total S (%)	0472	1.160	0.0200	1.125	0.2322	0.0451	12	0.15	148.07	0
148	Total S (%)	0421	1.240	0.0800	1.125	0.2322	0.0451	12	0.49	148.07	0
148	Total S (%)	0485	1.275	0.1300	1.125	0.2322	0.0451	12	0.64	148.01	0
148	Total S (%)	0527	1.286	0.0150	1.125	0.2322	0.0451	12	0.69	148.07	0
148	Total S (%)	0451	1.289	0.0640	1.125	0.2322	0.0451	12	0.70	148.00	0
148	Total S (%)	0136	1.310	0.0000	1.125	0.2322	0.0451	12	0.80	148.00	0
148	Total S (%)	0563	1.311	0.0643	1.125	0.2322	0.0451	12	0.80	148.07	0
149	S - HNO3 soluble (%)	0524	0.9141	0.0216	1.178	0.1583	0.0143	5	-1.67	149.04	0
149	S - HNO3 soluble (%)	0519	1.155	0.0100	1.178	0.1583	0.0143	5	-0.14	149.04	0
149	S - HNO3 soluble (%)	0423	1.235	0.0300	1.178	0.1583	0.0143	5	0.36	149.04	0
149	S - HNO3 soluble (%)	0260	1.275	0.0100	1.178	0.1583	0.0143	5	0.61	149.04	0
149	S - HNO3 soluble (%)	0231	1.310	0.0000	1.178	0.1583	0.0143	5	0.83	149.04	0
151	Acid Soluble As (ppm)	0481	0.9600	0.0200	1.248	0.2486	0.0491	13	-1.16	151.99	0
151	Acid Soluble As (ppm)	0548	1.014	0.0030	1.248	0.2486	0.0491	13	-0.94	151.33	0
151	Acid Soluble As (ppm)	0519	1.050	0.0800	1.248	0.2486	0.0491	13	-0.80	151.99	0
151	Acid Soluble As (ppm)	0524	1.083	0.0211	1.248	0.2486	0.0491	13	-0.66	151.30	0
151	Acid Soluble As (ppm)	0572	1.119	0.0180	1.248	0.2486	0.0491	13	-0.52	151.99	0
151	Acid Soluble As (ppm)	0220	1.150	0.1000	1.248	0.2486	0.0491	13	-0.39	151.99	0
151	Acid Soluble As (ppm)	0136	1.190	0.0200	1.248	0.2486	0.0491	13	-0.23	151.33	0
151	Acid Soluble As (ppm)	0498	1.250	0.1000	1.248	0.2486	0.0491	13	0.01	151.00	0
151	Acid Soluble As (ppm)	0476	1.349	0.0320	1.248	0.2486	0.0491	13	0.41	151.32	0
151	Acid Soluble As (ppm)	0563	1.366	0.0559	1.248	0.2486	0.0491	13	0.47	151.33	0
151	Acid Soluble As (ppm)	0220	1.450	0.1000	1.248	0.2486	0.0491	13	0.81	151.32	0
151	Acid Soluble As (ppm)	0527	1.723	0.0883	1.248	0.2486	0.0491	13	1.91	151.33	0
151	Acid Soluble As (ppm)	0405	5.000	0.0000	1.248	0.2486	0.0491	13	15.09	151.99	0
151	Acid Soluble As (ppm)	0255	0.0000	0.0000	1.248	0.2486	0.0491	13		151.30	4
151	Acid Soluble As (ppm)	0368	< 0.3		1.248	0.2486	0.0491	13		151.34	5
165	Acid Soluble B (%)	0515	0.0019	0.0015	0.0043	0.0018	0.0007	6	-1.25	165.99	0

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165	Acid Soluble B (%)	0524	0.0037	0.0002	0.0043	0.0018	0.0007	6	-0.32	165.99	0
165	Acid Soluble B (%)	0423	0.0040	0.0000	0.0043	0.0018	0.0007	6	-0.17	165.99	0
165	Acid Soluble B (%)	0444	0.0045	0.0010	0.0043	0.0018	0.0007	6	0.08	165.30	0
165	Acid Soluble B (%)	0572	0.0060	0.0013	0.0043	0.0018	0.0007	6	0.82	165.99	0
165	Acid Soluble B (%)	0553	0.0060	0.0000	0.0043	0.0018	0.0007	6	0.84	165.00	0
165	Acid Soluble B (%)	0421	< 0.001		0.0043	0.0018	0.0007	6		165.99	5
165	Acid Soluble B (%)	0527	< 0.001		0.0043	0.0018	0.0007	6		165.99	5
165	Acid Soluble B (%)	0354	< 0.01		0.0043	0.0018	0.0007	6		165.30	5
171	Water Soluble B (%)	0444	0.0015	0.0010				2		171.99	0
171	Water Soluble B (%)	0572	0.0044	0.0003				2		171.99	0
181	Acid Soluble Cd (ppm)	0515	6.605	10.67	19.48	3.679	1.059	20	-3.50	181.34	0
181	Acid Soluble Cd (ppm)	0476	11.50	0.5410	19.48	3.679	1.059	20	-2.17	181.32	0
181	Acid Soluble Cd (ppm)	0519	14.25	0.7700	19.48	3.679	1.059	20	-1.42	181.99	0
181	Acid Soluble Cd (ppm)	0444	16.01	0.4500	19.48	3.679	1.059	20	-0.94	181.30	0
181	Acid Soluble Cd (ppm)	0524	16.49	0.0389	19.48	3.679	1.059	20	-0.81	181.30	0
181	Acid Soluble Cd (ppm)	0389	16.65	0.0300	19.48	3.679	1.059	20	-0.77	181.30	0
181	Acid Soluble Cd (ppm)	0405	18.40	0.2000	19.48	3.679	1.059	20	-0.29	181.99	0
181	Acid Soluble Cd (ppm)	0481	19.71	2.400	19.48	3.679	1.059	20	0.06	181.99	0
181	Acid Soluble Cd (ppm)	0035	19.90	0.0000	19.48	3.679	1.059	20	0.11	181.30	0
181	Acid Soluble Cd (ppm)	0220	20.35	0.3000	19.48	3.679	1.059	20	0.24	181.32	0
181	Acid Soluble Cd (ppm)	0220	20.45	0.3000	19.48	3.679	1.059	20	0.26	181.99	0
181	Acid Soluble Cd (ppm)	0255	20.61	2.680	19.48	3.679	1.059	20	0.31	181.30	0
181	Acid Soluble Cd (ppm)	0563	20.89	0.0811	19.48	3.679	1.059	20	0.38	181.33	0
181	Acid Soluble Cd (ppm)	0136	21.25	0.7000	19.48	3.679	1.059	20	0.48	181.33	0
181	Acid Soluble Cd (ppm)	0037	21.43	0.2260	19.48	3.679	1.059	20	0.53	181.33	0
181	Acid Soluble Cd (ppm)	0368	22.10	0.4000	19.48	3.679	1.059	20	0.71	181.34	0
181	Acid Soluble Cd (ppm)	0498	22.35	1.100	19.48	3.679	1.059	20	0.78	181.00	0
181	Acid Soluble Cd (ppm)	0527	22.88	0.1372	19.48	3.679	1.059	20	0.93	181.33	0
181	Acid Soluble Cd (ppm)	0572	22.97	0.1280	19.48	3.679	1.059	20	0.95	181.99	0
181	Acid Soluble Cd (ppm)	0548	52.09	0.0300	19.48	3.679	1.059	20	8.86	181.33	0
181	Acid Soluble Cd (ppm)	0515	14.98	12.27	19.48	3.679	1.059	20	-1.22	181.33	1
190	Water Soluble Cl (%)	0553	17.35	0.1000				1		190.00	0
191	Acid Soluble Cr (ppm)	0389	54.68	2.620	99.29	10.38	2.646	18	-4.30	191.30	0
191	Acid Soluble Cr (ppm)	0524	85.79	1.187	99.29	10.38	2.646	18	-1.30	191.30	0
191	Acid Soluble Cr (ppm)	0444	87.72	1.210	99.29	10.38	2.646	18	-1.12	191.30	0
191	Acid Soluble Cr (ppm)	0515	92.11	16.19	99.29	10.38	2.646	18	-0.69	191.34	0
191	Acid Soluble Cr (ppm)	0572	92.26	0.1540	99.29	10.38	2.646	18	-0.68	191.99	0
191	Acid Soluble Cr (ppm)	0563	92.81	2.471	99.29	10.38	2.646	18	-0.62	191.33	0
191	Acid Soluble Cr (ppm)	0519	95.22	0.9300	99.29	10.38	2.646	18	-0.39	191.99	0
191	Acid Soluble Cr (ppm)	0476	97.87	3.239	99.29	10.38	2.646	18	-0.14	191.32	0
191	Acid Soluble Cr (ppm)	0035	98.10	1.600	99.29	10.38	2.646	18	-0.12	191.30	0
191	Acid Soluble Cr (ppm)	0548	99.25	0.0110	99.29	10.38	2.646	18	0.00	191.33	0
191	Acid Soluble Cr (ppm)	0136	101.5	7.100	99.29	10.38	2.646	18	0.21	191.33	0
191	Acid Soluble Cr (ppm)	0481	101.9	0.4000	99.29	10.38	2.646	18	0.25	191.99	0
191	Acid Soluble Cr (ppm)	0220	108.0	2.000	99.29	10.38	2.646	18	0.84	191.32	0
191	Acid Soluble Cr (ppm)	0037	108.7	1.316	99.29	10.38	2.646	18	0.90	191.33	0
191	Acid Soluble Cr (ppm)	0220	109.0	2.000	99.29	10.38	2.646	18	0.94	191.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
191	Acid Soluble Cr (ppm)	0368	109.5	1.000	99.29	10.38	2.646	18	0.98	191.34	0
191	Acid Soluble Cr (ppm)	0405	110.0	4.000	99.29	10.38	2.646	18	1.03	191.99	0
191	Acid Soluble Cr (ppm)	0527	113.9	0.1961	99.29	10.38	2.646	18	1.41	191.33	0
191	Acid Soluble Cr (ppm)	0515	75.74	62.89	99.29	10.38	2.646	18	-2.27	191.33	1
202	Acid Soluble Co (ppm)	0368	0.6500	0.1000	1.090	0.3279	0.0851	14	-1.34	202.34	0
202	Acid Soluble Co (ppm)	0572	0.7880	0.0320	1.090	0.3279	0.0851	14	-0.92	202.99	0
202	Acid Soluble Co (ppm)	0476	0.8075	0.0910	1.090	0.3279	0.0851	14	-0.86	202.32	0
202	Acid Soluble Co (ppm)	0389	0.8700	0.0200	1.090	0.3279	0.0851	14	-0.67	202.30	0
202	Acid Soluble Co (ppm)	0548	0.9045	0.0010	1.090	0.3279	0.0851	14	-0.57	202.33	0
202	Acid Soluble Co (ppm)	0519	0.9400	0.3600	1.090	0.3279	0.0851	14	-0.46	202.99	0
202	Acid Soluble Co (ppm)	0405	1.000	0.0000	1.090	0.3279	0.0851	14	-0.27	202.99	0
202	Acid Soluble Co (ppm)	0527	1.077	0.0274	1.090	0.3279	0.0851	14	-0.04	202.33	0
202	Acid Soluble Co (ppm)	0563	1.099	0.0164	1.090	0.3279	0.0851	14	0.03	202.33	0
202	Acid Soluble Co (ppm)	0423	1.315	0.0100	1.090	0.3279	0.0851	14	0.69	202.32	0
202	Acid Soluble Co (ppm)	0220	1.350	0.1000	1.090	0.3279	0.0851	14	0.79	202.99	0
202	Acid Soluble Co (ppm)	0035	1.380	0.1200	1.090	0.3279	0.0851	14	0.88	202.30	0
202	Acid Soluble Co (ppm)	0524	1.496	0.3132	1.090	0.3279	0.0851	14	1.24	202.30	0
202	Acid Soluble Co (ppm)	0220	1.600	0.0000	1.090	0.3279	0.0851	14	1.56	202.32	0
202	Acid Soluble Co (ppm)	0255	10.34	4.854	1.090	0.3279	0.0851	14	28.22	202.99	1
202	Acid Soluble Co (ppm)	0136	< 5		1.090	0.3279	0.0851	14		202.33	5
202	Acid Soluble Co (ppm)	0481	< 20		1.090	0.3279	0.0851	14		202.99	5
221	Acid Soluble Cu (%)	0405	0.0001	0.0000	0.0003	0.0002	0.0002	8	-0.80	221.99	0
221	Acid Soluble Cu (%)	0519	0.0001	0.0000	0.0003	0.0002	0.0002	8	-0.80	221.99	0
221	Acid Soluble Cu (%)	0535	0.0002	0.0001	0.0003	0.0002	0.0002	8	-0.57	221.00	0
221	Acid Soluble Cu (%)	0539	0.0002	0.0000	0.0003	0.0002	0.0002	8	-0.33	221.00	0
221	Acid Soluble Cu (%)	0035	0.0002	0.0000	0.0003	0.0002	0.0002	8	-0.33	221.30	0
221	Acid Soluble Cu (%)	0368	0.0003	0.0000	0.0003	0.0002	0.0002	8	0.15	221.99	0
221	Acid Soluble Cu (%)	0515	0.0006	0.0009	0.0003	0.0002	0.0002	8	1.34	221.33	0
221	Acid Soluble Cu (%)	0572	0.0006	0.0003	0.0003	0.0002	0.0002	8	1.34	221.99	0
221	Acid Soluble Cu (%)	0255	0.0000	0.0000	0.0003	0.0002	0.0002	8		221.30	4
221	Acid Soluble Cu (%)	0106	0.0000	0.0000	0.0003	0.0002	0.0002	8		221.33	4
221	Acid Soluble Cu (%)	0515	0.0005	0.0009	0.0003	0.0002	0.0002	8		221.99	4
221	Acid Soluble Cu (%)	0527	< 0.0001		0.0003	0.0002	0.0002	8		221.33	5
221	Acid Soluble Cu (%)	0481	< 0.001		0.0003	0.0002	0.0002	8		221.99	5
221	Acid Soluble Cu (%)	0136	< 0.0025		0.0003	0.0002	0.0002	8		221.33	5
221	Acid Soluble Cu (%)	0354	< 0.01		0.0003	0.0002	0.0002	8		221.30	5
221	Acid Soluble Cu (%)	0548	< 0.5		0.0003	0.0002	0.0002	8		221.33	5
241	Acid Soluble Fe (%)	0563	0.3428	0.0026	0.4573	0.0334	0.0075	15	-3.43	241.33	0
241	Acid Soluble Fe (%)	0524	0.4186	0.0152	0.4573	0.0334	0.0075	15	-1.16	241.99	0
241	Acid Soluble Fe (%)	0535	0.4250	0.0300	0.4573	0.0334	0.0075	15	-0.97	241.00	0
241	Acid Soluble Fe (%)	0539	0.4250	0.0100	0.4573	0.0334	0.0075	15	-0.97	241.00	0
241	Acid Soluble Fe (%)	0515	0.4380	0.0032	0.4573	0.0334	0.0075	15	-0.58	241.99	0
241	Acid Soluble Fe (%)	0553	0.4390	0.0000	0.4573	0.0334	0.0075	15	-0.55	241.00	0
241	Acid Soluble Fe (%)	0423	0.4595	0.0010	0.4573	0.0334	0.0075	15	0.07	241.32	0
241	Acid Soluble Fe (%)	0260	0.4690	0.0040	0.4573	0.0334	0.0075	15	0.35	241.33	0
241	Acid Soluble Fe (%)	0472	0.4700	0.0000	0.4573	0.0334	0.0075	15	0.38	241.33	0
241	Acid Soluble Fe (%)	0035	0.4735	0.0130	0.4573	0.0334	0.0075	15	0.49	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 (%)	0444	0.4750	0.0100	0.4573	0.0334	0.0075	15	0.53	241.30	0
241	Acid Soluble Fe (%)	0354	0.4800	0.0000	0.4573	0.0334	0.0075	15	0.68	241.30	0
241	Acid Soluble Fe (%)	0527	0.4879	0.0003	0.4573	0.0334	0.0075	15	0.92	241.33	0
241	Acid Soluble Fe (%)	0389	0.4900	0.0000	0.4573	0.0334	0.0075	15	0.98	241.99	0
241	Acid Soluble Fe (%)	0572	0.5011	0.0232	0.4573	0.0334	0.0075	15	1.31	241.99	0
241	Acid Soluble Fe (%)	0515	0.4498	0.0495	0.4573	0.0334	0.0075	15	-0.22	241.33	1
251	Acid Soluble Pb (ppm)	0389	0.1150	0.0100	0.2350	0.1079	0.0327	10	-1.11	251.30	0
251	Acid Soluble Pb (ppm)	0548	0.1570	0.0020	0.2350	0.1079	0.0327	10	-0.72	251.33	0
251	Acid Soluble Pb (ppm)	0519	0.1800	0.0400	0.2350	0.1079	0.0327	10	-0.51	251.99	0
251	Acid Soluble Pb (ppm)	0476	0.1805	0.0190	0.2350	0.1079	0.0327	10	-0.50	251.32	0
251	Acid Soluble Pb (ppm)	0572	0.1950	0.0040	0.2350	0.1079	0.0327	10	-0.37	251.99	0
251	Acid Soluble Pb (ppm)	0563	0.2198	0.0132	0.2350	0.1079	0.0327	10	-0.14	251.33	0
251	Acid Soluble Pb (ppm)	0405	0.2500	0.1000	0.2350	0.1079	0.0327	10	0.14	251.99	0
251	Acid Soluble Pb (ppm)	0524	0.2588	0.0384	0.2350	0.1079	0.0327	10	0.22	251.30	0
251	Acid Soluble Pb (ppm)	0220	0.4500	0.1000	0.2350	0.1079	0.0327	10	1.99	251.99	0
251	Acid Soluble Pb (ppm)	0220	0.9000	0.0000	0.2350	0.1079	0.0327	10	6.16	251.32	0
251	Acid Soluble Pb (ppm)	0515	4.874	6.281	0.2350	0.1079	0.0327	10	43.00	251.33	1
251	Acid Soluble Pb (ppm)	0255	0.0000	0.0000	0.2350	0.1079	0.0327	10		251.30	4
251	Acid Soluble Pb (ppm)	0527	< 0.0001		0.2350	0.1079	0.0327	10		251.33	5
251	Acid Soluble Pb (ppm)	0481	< 0.5		0.2350	0.1079	0.0327	10		251.99	5
251	Acid Soluble Pb (ppm)	0368	< 0.6		0.2350	0.1079	0.0327	10		251.34	5
251	Acid Soluble Pb (ppm)	0136	< 3		0.2350	0.1079	0.0327	10		251.33	5
261	Acid Soluble Mn (%)	0535	0.0023	0.0005	0.0057	0.0025	0.0004	11	-1.39	261.12	0
261	Acid Soluble Mn (%)	0539	0.0027	0.0004	0.0057	0.0025	0.0004	11	-1.21	261.12	0
261	Acid Soluble Mn (%)	0572	0.0048	0.0000	0.0057	0.0025	0.0004	11	-0.37	261.99	0
261	Acid Soluble Mn (%)	0524	0.0050	0.0001	0.0057	0.0025	0.0004	11	-0.31	261.99	0
261	Acid Soluble Mn (%)	0444	0.0055	0.0010	0.0057	0.0025	0.0004	11	-0.08	261.30	0
261	Acid Soluble Mn (%)	0527	0.0059	0.0001	0.0057	0.0025	0.0004	11	0.06	261.35	0
261	Acid Soluble Mn (%)	0563	0.0059	0.0001	0.0057	0.0025	0.0004	11	0.06	261.35	0
261	Acid Soluble Mn (%)	0035	0.0060	0.0007	0.0057	0.0025	0.0004	11	0.10	261.30	0
261	Acid Soluble Mn (%)	0423	0.0065	0.0010	0.0057	0.0025	0.0004	11	0.32	261.34	0
261	Acid Soluble Mn (%)	0553	0.0090	0.0000	0.0057	0.0025	0.0004	11	1.33	261.00	0
261	Acid Soluble Mn (%)	0389	0.0100	0.0000	0.0057	0.0025	0.0004	11	1.73	261.99	0
261	Acid Soluble Mn (%)	0515	0.0003	0.0006	0.0057	0.0025	0.0004	11		261.99	4
261	Acid Soluble Mn (%)	0354	< 0.01		0.0057	0.0025	0.0004	11		261.30	5
271	Water Soluble Mn (%)	0444	0.0020	0.0020				1		271.30	0
281	Acid Soluble Hg (ppm)	0524	0.0012	0.0001	0.0050	0.0067	0.0026	4	-0.48	281.99	0
281	Acid Soluble Hg (ppm)	0368	0.0018	0.0001	0.0050	0.0067	0.0026	4	-0.41	281.99	0
281	Acid Soluble Hg (ppm)	0035	0.0020	0.0000	0.0050	0.0067	0.0026	4	-0.38	281.99	0
281	Acid Soluble Hg (ppm)	0519	0.0150	0.0100	0.0050	0.0067	0.0026	4	1.27	281.99	0
281	Acid Soluble Hg (ppm)	0515	0.0000	0.0000	0.0050	0.0067	0.0026	4		281.30	4
281	Acid Soluble Hg (ppm)	0527	< 0.0001		0.0050	0.0067	0.0026	4		281.30	5
281	Acid Soluble Hg (ppm)	0572	< 0.007		0.0050	0.0067	0.0026	4		281.99	5
281	Acid Soluble Hg (ppm)	0405	< 0.01		0.0050	0.0067	0.0026	4		281.99	5
281	Acid Soluble Hg (ppm)	0009	< 0.044		0.0050	0.0067	0.0026	4		281.99	5
281	Acid Soluble Hg (ppm)	0476	< 0.1		0.0050	0.0067	0.0026	4		281.30	5
281	Acid Soluble Hg (ppm)	0481	< 0.5		0.0050	0.0067	0.0026	4		281.00	5

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
289	Acid Soluble Mo (ppm)	0519	2.045	0.0700	5.219	0.8010	0.2157	16	-3.96	289.30	0
289	Acid Soluble Mo (ppm)	0035	3.485	0.1500	5.219	0.8010	0.2157	16	-2.16	289.30	0
289	Acid Soluble Mo (ppm)	0524	4.368	0.0282	5.219	0.8010	0.2157	16	-1.06	289.30	0
289	Acid Soluble Mo (ppm)	0476	4.935	0.5400	5.219	0.8010	0.2157	16	-0.35	289.32	0
289	Acid Soluble Mo (ppm)	0220	5.000	0.4000	5.219	0.8010	0.2157	16	-0.27	289.32	0
289	Acid Soluble Mo (ppm)	0037	5.112	0.1260	5.219	0.8010	0.2157	16	-0.13	289.33	0
289	Acid Soluble Mo (ppm)	0136	5.115	0.1900	5.219	0.8010	0.2157	16	-0.13	289.33	0
289	Acid Soluble Mo (ppm)	0423	5.155	0.0900	5.219	0.8010	0.2157	16	-0.08	289.33	0
289	Acid Soluble Mo (ppm)	0563	5.170	0.0942	5.219	0.8010	0.2157	16	-0.06	289.33	0
289	Acid Soluble Mo (ppm)	0220	5.200	0.2000	5.219	0.8010	0.2157	16	-0.02	289.99	0
289	Acid Soluble Mo (ppm)	0572	5.466	0.3070	5.219	0.8010	0.2157	16	0.31	289.99	0
289	Acid Soluble Mo (ppm)	0405	5.500	0.2800	5.219	0.8010	0.2157	16	0.35	289.99	0
289	Acid Soluble Mo (ppm)	0527	5.610	0.2730	5.219	0.8010	0.2157	16	0.49	289.33	0
289	Acid Soluble Mo (ppm)	0106	6.000	0.0000	5.219	0.8010	0.2157	16	0.97	289.33	0
289	Acid Soluble Mo (ppm)	0368	6.850	0.7000	5.219	0.8010	0.2157	16	2.04	289.34	0
289	Acid Soluble Mo (ppm)	0548	8.546	0.0020	5.219	0.8010	0.2157	16	4.15	289.33	0
289	Acid Soluble Mo (ppm)	0255	7.185	2.630	5.219	0.8010	0.2157	16	2.45	289.30	1
289	Acid Soluble Mo (ppm)	0481	< 100		5.219	0.8010	0.2157	16		289.99	5
291	Acid Soluble Ni (ppm)	0476	6.998	0.8560	14.40	2.896	1.104	17	-2.56	291.32	0
291	Acid Soluble Ni (ppm)	0515	8.607	9.895	14.40	2.896	1.104	17	-2.00	291.33	0
291	Acid Soluble Ni (ppm)	0519	11.16	0.0100	14.40	2.896	1.104	17	-1.12	291.99	0
291	Acid Soluble Ni (ppm)	0524	11.95	0.1856	14.40	2.896	1.104	17	-0.85	291.30	0
291	Acid Soluble Ni (ppm)	0481	12.74	0.0300	14.40	2.896	1.104	17	-0.58	291.99	0
291	Acid Soluble Ni (ppm)	0563	13.39	0.0092	14.40	2.896	1.104	17	-0.35	291.33	0
291	Acid Soluble Ni (ppm)	0548	14.13	0.0040	14.40	2.896	1.104	17	-0.10	291.33	0
291	Acid Soluble Ni (ppm)	0572	14.25	0.2660	14.40	2.896	1.104	17	-0.05	291.99	0
291	Acid Soluble Ni (ppm)	0136	14.80	1.200	14.40	2.896	1.104	17	0.14	291.33	0
291	Acid Soluble Ni (ppm)	0035	15.15	0.5000	14.40	2.896	1.104	17	0.26	291.30	0
291	Acid Soluble Ni (ppm)	0220	15.60	0.4000	14.40	2.896	1.104	17	0.41	291.32	0
291	Acid Soluble Ni (ppm)	0220	15.70	0.2000	14.40	2.896	1.104	17	0.45	291.99	0
291	Acid Soluble Ni (ppm)	0037	16.35	0.2820	14.40	2.896	1.104	17	0.67	291.33	0
291	Acid Soluble Ni (ppm)	0368	16.40	0.6000	14.40	2.896	1.104	17	0.69	291.34	0
291	Acid Soluble Ni (ppm)	0405	17.00	0.0000	14.40	2.896	1.104	17	0.90	291.99	0
291	Acid Soluble Ni (ppm)	0527	17.39	0.1103	14.40	2.896	1.104	17	1.03	291.33	0
291	Acid Soluble Ni (ppm)	0255	33.98	4.220	14.40	2.896	1.104	17	6.76	291.99	0
291	Acid Soluble Ni (ppm)	0444	63.20	102.5	14.40	2.896	1.104	17	16.85	291.30	1
291	Acid Soluble Ni (ppm)	0515	4.889	9.777	14.40	2.896	1.104	17		291.34	4
301	Acid Soluble Se (ppm)	0524	0.2710	0.0111	0.6022	0.3060	0.0417	6	-1.08	301.30	0
301	Acid Soluble Se (ppm)	0519	0.4250	0.0300	0.6022	0.3060	0.0417	6	-0.58	301.99	0
301	Acid Soluble Se (ppm)	0220	0.5500	0.1000	0.6022	0.3060	0.0417	6	-0.17	301.99	0
301	Acid Soluble Se (ppm)	0548	0.6060	0.0020	0.6022	0.3060	0.0417	6	0.01	301.33	0
301	Acid Soluble Se (ppm)	0220	0.7000	0.0000	0.6022	0.3060	0.0417	6	0.32	301.32	0
301	Acid Soluble Se (ppm)	0563	1.151	0.1072	0.6022	0.3060	0.0417	6	1.79	301.33	0
301	Acid Soluble Se (ppm)	0255	0.0000	0.0000	0.6022	0.3060	0.0417	6		301.99	4
301	Acid Soluble Se (ppm)	0515	1.950	3.900	0.6022	0.3060	0.0417	6		301.33	4
301	Acid Soluble Se (ppm)	0527	< 0.001		0.6022	0.3060	0.0417	6		301.33	5
301	Acid Soluble Se (ppm)	0481	< 0.5		0.6022	0.3060	0.0417	6		301.99	5

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
301	Acid Soluble Se (ppm)	0572	< 0.83		0.6022	0.3060	0.0417	6		301.99	5
301	Acid Soluble Se (ppm)	0405	< 1		0.6022	0.3060	0.0417	6		301.99	5
301	Acid Soluble Se (ppm)	0368	< 1.1		0.6022	0.3060	0.0417	6		301.34	5
311	Sodium (%)	0553	0.4380	0.0000	0.5198	0.0294	0.0134	7	-2.52	311.00	0
311	Sodium (%)	0035	0.4980	0.0300	0.5198	0.0294	0.0134	7	-0.67	311.33	0
311	Sodium (%)	0260	0.5215	0.0050	0.5198	0.0294	0.0134	7	0.05	311.33	0
311	Sodium (%)	0527	0.5231	0.0129	0.5198	0.0294	0.0134	7	0.10	311.33	0
311	Sodium (%)	0423	0.5270	0.0060	0.5198	0.0294	0.0134	7	0.22	311.33	0
311	Sodium (%)	0354	0.5400	0.0000	0.5198	0.0294	0.0134	7	0.62	311.99	0
311	Sodium (%)	0572	0.5536	0.0396	0.5198	0.0294	0.0134	7	1.04	311.99	0
321	Acid Soluble Zn (%)	0234	0.0197	0.0005	0.0285	0.0021	0.0007	32	-4.18	321.30	0
321	Acid Soluble Zn (%)	0476	0.0230	0.0000	0.0285	0.0021	0.0007	32	-2.60	321.99	0
321	Acid Soluble Zn (%)	0548	0.0235	0.0010	0.0285	0.0021	0.0007	32	-2.37	321.33	0
321	Acid Soluble Zn (%)	0421	0.0260	0.0000	0.0285	0.0021	0.0007	32	-1.19	321.33	0
321	Acid Soluble Zn (%)	0481	0.0260	0.0020	0.0285	0.0021	0.0007	32	-1.19	321.99	0
321	Acid Soluble Zn (%)	0220	0.0270	0.0007	0.0285	0.0021	0.0007	32	-0.74	321.32	0
321	Acid Soluble Zn (%)	0255	0.0270	0.0020	0.0285	0.0021	0.0007	32	-0.72	321.30	0
321	Acid Soluble Zn (%)	0220	0.0270	0.0002	0.0285	0.0021	0.0007	32	-0.72	321.99	0
321	Acid Soluble Zn (%)	0515	0.0272	0.0001	0.0285	0.0021	0.0007	32	-0.65	321.33	0
321	Acid Soluble Zn (%)	0106	0.0272	0.0008	0.0285	0.0021	0.0007	32	-0.62	321.33	0
321	Acid Soluble Zn (%)	0515	0.0277	0.0010	0.0285	0.0021	0.0007	32	-0.39	321.99	0
321	Acid Soluble Zn (%)	0524	0.0277	0.0016	0.0285	0.0021	0.0007	32	-0.39	321.99	0
321	Acid Soluble Zn (%)	0136	0.0280	0.0020	0.0285	0.0021	0.0007	32	-0.25	321.33	0
321	Acid Soluble Zn (%)	0389	0.0280	0.0000	0.0285	0.0021	0.0007	32	-0.25	321.99	0
321	Acid Soluble Zn (%)	0572	0.0282	0.0007	0.0285	0.0021	0.0007	32	-0.17	321.99	0
321	Acid Soluble Zn (%)	0368	0.0284	0.0002	0.0285	0.0021	0.0007	32	-0.06	321.99	0
321	Acid Soluble Zn (%)	0043	0.0285	0.0010	0.0285	0.0021	0.0007	32	-0.01	321.33	0
321	Acid Soluble Zn (%)	0553	0.0290	0.0000	0.0285	0.0021	0.0007	32	0.23	321.00	0
321	Acid Soluble Zn (%)	0527	0.0291	0.0005	0.0285	0.0021	0.0007	32	0.25	321.33	0
321	Acid Soluble Zn (%)	0260	0.0293	0.0006	0.0285	0.0021	0.0007	32	0.37	321.33	0
321	Acid Soluble Zn (%)	0535	0.0295	0.0010	0.0285	0.0021	0.0007	32	0.46	321.00	0
321	Acid Soluble Zn (%)	0037	0.0299	0.0003	0.0285	0.0021	0.0007	32	0.63	321.33	0
321	Acid Soluble Zn (%)	0539	0.0300	0.0010	0.0285	0.0021	0.0007	32	0.70	321.00	0
321	Acid Soluble Zn (%)	0354	0.0300	0.0000	0.0285	0.0021	0.0007	32	0.70	321.30	0
321	Acid Soluble Zn (%)	0444	0.0300	0.0000	0.0285	0.0021	0.0007	32	0.70	321.30	0
321	Acid Soluble Zn (%)	0095	0.0300	0.0000	0.0285	0.0021	0.0007	32	0.70	321.32	0
321	Acid Soluble Zn (%)	0472	0.0300	0.0000	0.0285	0.0021	0.0007	32	0.70	321.33	0
321	Acid Soluble Zn (%)	0498	0.0305	0.0010	0.0285	0.0021	0.0007	32	0.93	321.00	0
321	Acid Soluble Zn (%)	0035	0.0310	0.0018	0.0285	0.0021	0.0007	32	1.17	321.30	0
321	Acid Soluble Zn (%)	0423	0.0315	0.0010	0.0285	0.0021	0.0007	32	1.40	321.32	0
321	Acid Soluble Zn (%)	0563	0.0315	0.0010	0.0285	0.0021	0.0007	32	1.40	321.33	0
321	Acid Soluble Zn (%)	0405	0.0324	0.0007	0.0285	0.0021	0.0007	32	1.80	321.99	0
321	Acid Soluble Zn (%)	0519	0.0150	0.0100	0.0285	0.0021	0.0007	32	-6.37	321.99	1
325	Water Soluble Zn (%)	0572	0.0007	0.0000				1		325.99	0
431	Soluble Si in nonliquids (%)	0572	< 0.0041					0		431.99	5

Interpreting Z Scores: Red indicates a normally distributed Z value >3 or <-3 (requires action), Orange = Z between 2 and 3 or -2 and -3 (warning) and Green = Z < 2 and >-2 (OK at 95%).  
Flags indicate data usage: 0 = Used, 1 = rejected for duplicates too far apart, 2 = rejected as extreme outlier, 3 = removed from stats, 4 = rejected due to 0s submitted and 5 = LOD. A 9 flag



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				

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.