

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 200911

Grade 3-6-4 Organic

Statistical Summary

Analytes: 35

Labs Reporting: 83

Issue Date : 10/31/2020

Analyte Code	Analyte Sample # 200911	# 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 (%)	8	8	0.8183	1.403	0.3618		0.1775	0.0785	49.06%		0.0250	4.66%
002	Nitrate N (%)	2	2	0.2750	0.2687								
003	Water Insoluble N (%)	2	2	3.588	0.1096								
005	Urea N (%)	3	3	1.500	2.146	1.500		2.146	1.549	143.07%		0.0700	3.76%
010	Total N (3%)	71	70	4.383	0.4737	4.450	0.4990	0.2237	0.0334	5.03%	1.04	0.1002	3.19%
020	Total P2O5 (%)	41	40	5.872	0.7088	5.965		0.4186	0.0827	7.02%		0.1417	3.06%
030	Citrate Insoluble P2O5 (%)	3	3	2.557	2.911	2.557		2.911	2.101	113.88%		0.0200	3.47%
040	Indirect Available P2O5 (4%)	3	3	5.582	0.6683	5.582	0.6700	0.6683	0.4823	11.97%	2.32	0.0633	3.09%
041	Direct Available P2O5 (6%)	47	47	5.298	0.6782	5.321	0.6700	0.6881	0.1255	12.93%	2.39	0.1297	3.11%
048	Water Soluble P2O5 (%)	3	3	0.2773	0.1000	0.2773		0.1000	0.0722	36.06%		0.0393	4.85%
050	Soluble K2O (4%)	74	72	3.070	0.6025	2.951	0.4100	0.2804	0.0413	9.50%	1.59	0.0823	3.40%
060	Water (Free) (%)	4	4	8.557	1.869	8.557		1.869	1.168	21.84%		0.0533	2.90%
101	Acid Soluble Ca (8%)	53	53	8.260	0.5421	8.268	0.6134	0.3948	0.0678	4.78%	1.50	0.2059	2.91%
121	Acid Soluble Mg (%)	22	22	1.473	0.1292	1.478	0.2739	0.1207	0.0322	8.16%	1.03	0.0517	3.77%
143	Elemental S (%)	3	3	2.148	0.1281	2.148		0.1281	0.0924	5.96%		0.0118	3.56%
145	Sulfate S, HCl soluble (%)	1		1.665									
148	Total S (%)	12	12	2.105	0.2153	2.096	0.3048	0.2134	0.0770	10.19%	1.63	0.0391	3.58%
149	S - HNO3 soluble (%)	2	2	2.184	0.0697								
151	Acid Soluble As (ppm)	19	15	3.079	2.864	2.488		0.8454	0.2729	33.99%		0.3633	13.95%
165	Acid Soluble B (%)	12	10	0.0039	0.0033	0.0031	0.0035	0.0011	0.0004	35.16%	0.73	0.0004	9.54%
181	Acid Soluble Cd (ppm)	21	16	0.4101	0.0478	0.4141		0.0437	0.0136	10.55%		0.0307	18.27%
190	Water Soluble Cl (%)	1		0.4950									
191	Acid Soluble Cr (ppm)	20	19	46.05	12.55	46.09		14.16	4.059	30.71%		2.153	8.99%
202	Acid Soluble Co (ppm)	21	20	18.86	7.018	18.89	6.6663	7.904	2.209	41.85%	2.76	0.9828	10.28%
221	Acid Soluble Cu (%)	30	28	0.0096	0.0226	0.0035	0.0053	0.0005	0.0001	13.58%	0.21	0.0012	9.37%
241	Acid Soluble Fe (%)	22	21	0.4058	0.0738	0.4070	0.0457	0.0811	0.0221	19.92%	4.13	0.0172	4.58%
251	Acid Soluble Pb (ppm)	20	16	2.249	1.200	2.074		0.9375	0.2930	45.20%		0.1958	14.33%
261	Acid Soluble Mn (%)	21	19	0.0521	0.0065	0.0509	0.0101	0.0028	0.0008	5.45%	0.64	0.0018	6.26%
281	Acid Soluble Hg (ppm)	9	4	0.0571	0.0472	0.0571		0.0472	0.0295	82.68%		0.0011	24.61%
289	Acid Soluble Mo (ppm)	18	17	4.514	1.996	4.213	2.2639	1.324	0.4013	31.42%	1.36	0.2980	12.88%
291	Acid Soluble Ni (ppm)	23	22	21.23	4.494	21.29		4.969	1.324	23.33%		1.174	10.10%
301	Acid Soluble Se (ppm)	13	8	1.926	1.202	1.926		1.363	0.6026	70.80%		0.1880	14.49%
311	Sodium (%)	11	11	0.4957	0.0301	0.4970	0.0547	0.0240	0.0090	4.83%	1.02	0.0219	4.44%

Analyte Code	Analyte Sample # 200911	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Analyte Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Analyte IA Ratio	Average Range (R-bar)	Horwitz %RSD
321	Acid Soluble Zn (%)	33	31	0.0223	0.0128	0.0193	0.0069	0.0019	0.0004	9.79%	0.63	0.0012	7.25%
441	Humic Acids (1%)	13	13	8.275	5.888	8.275		6.677	2.315	80.70%		0.1879	2.91%

The Analyte IA Ratio = $2.33 * \text{Robust SD} / \text{IA at the Analyte Assigned Value}$. IA ratios of 1 and less indicate participant data dispersion is as good or less than the IA. Red indicates the IA ratio is significantly greater than 1, Orange indicates marginally greater than 1, Green indicates IA ratio is not significantly greater than 1 and Grey indicates < 6 labs reporting.

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Sample # 200911

Grade 3-6-4 Organic

Lab Values

Analytes: 35

Labs Reporting: 83

Issue Date : 10/31/2020

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
001	Ammoniacal N (%)	0423	0.1650	0.0100	0.3618	0.1775	0.0250	8	-1.01	001.99	0
001	Ammoniacal N (%)	0524	0.1784	0.0097	0.3618	0.1775	0.0250	8	-0.95	001.99	0
001	Ammoniacal N (%)	0309	0.3050	0.0100	0.3618	0.1775	0.0250	8	-0.29	001.10	0
001	Ammoniacal N (%)	0553	0.3100	0.0200	0.3618	0.1775	0.0250	8	-0.27	001.99	0
001	Ammoniacal N (%)	0444	0.4000	0.0400	0.3618	0.1775	0.0250	8	0.20	001.10	0
001	Ammoniacal N (%)	0096	0.4100	0.0600	0.3618	0.1775	0.0250	8	0.25	001.99	0
001	Ammoniacal N (%)	0255	0.4980	0.0100	0.3618	0.1775	0.0250	8	0.70	001.99	0
001	Ammoniacal N (%)	0513	4.280	0.0400	0.3618	0.1775	0.0250	8	20.19	001.99	0
002	Nitrate N (%)	0423	0.0850	0.0100				2		002.99	0
002	Nitrate N (%)	0553	0.4650	0.0700				2		002.99	0
003	Water Insoluble N (%)	0451	3.510	0.0000				2		003.10	0
003	Water Insoluble N (%)	0220	3.665	0.1700				2		003.10	0
005	Urea N (%)	0524	0.0145	0.0001	1.500	2.146	0.0700	3	-0.69	005.99	0
005	Urea N (%)	0027	0.5250	0.1300	1.500	2.146	0.0700	3	-0.45	005.00	0
005	Urea N (%)	0027	3.960	0.0800	1.500	2.146	0.0700	3	1.15	005.99	0
010	Total N (3%)	0444	2.740†	0.0000	4.450	0.2237	0.1002	70	-7.64	010.60	0
010	Total N (3%)	0309	3.005†	0.2100	4.450	0.2237	0.1002	70	-6.46	010.11	0
010	Total N (3%)	0538	3.030†	0.1000	4.450	0.2237	0.1002	70	-6.35	010.99	0
010	Total N (3%)	0532	3.205†	0.0900	4.450	0.2237	0.1002	70	-5.57	010.99	0
010	Total N (3%)	0456	3.455†	0.1100	4.450	0.2237	0.1002	70	-4.45	010.11	0
010	Total N (3%)	0556	3.500†	0.1000	4.450	0.2237	0.1002	70	-4.25	010.99	0
010	Total N (3%)	0516	3.550†	0.1200	4.450	0.2237	0.1002	70	-4.02	010.60	0
010	Total N (3%)	0493	4.000	0.2000	4.450	0.2237	0.1002	70	-2.01	010.99	0
010	Total N (3%)	0034	4.135	0.1500	4.450	0.2237	0.1002	70	-1.41	010.60	0
010	Total N (3%)	0177	4.180	0.0410	4.450	0.2237	0.1002	70	-1.21	010.60	0
010	Total N (3%)	0356	4.189	0.0220	4.450	0.2237	0.1002	70	-1.17	010.60	0
010	Total N (3%)	0421	4.244	0.0650	4.450	0.2237	0.1002	70	-0.92	010.60	0
010	Total N (3%)	0105	4.250	0.0400	4.450	0.2237	0.1002	70	-0.89	010.11	0
010	Total N (3%)	0234	4.255	0.0700	4.450	0.2237	0.1002	70	-0.87	010.60	0
010	Total N (3%)	0568	4.260	0.0600	4.450	0.2237	0.1002	70	-0.85	010.12	0
010	Total N (3%)	0117	4.300	0.0600	4.450	0.2237	0.1002	70	-0.67	010.12	0
010	Total N (3%)	0451	4.340	0.0240	4.450	0.2237	0.1002	70	-0.49	010.60	0
010	Total N (3%)	0452	4.345	0.0900	4.450	0.2237	0.1002	70	-0.47	010.60	0
010	Total N (3%)	0472	4.349	0.0220	4.450	0.2237	0.1002	70	-0.45	010.60	0
010	Total N (3%)	0095	4.350	0.1600	4.450	0.2237	0.1002	70	-0.45	010.60	0
010	Total N (3%)	0545	4.350	0.1000	4.450	0.2237	0.1002	70	-0.45	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 (3%)	0325	4.365	0.1100	4.450	0.2237	0.1002	70	-0.38	010.60	0
010	Total N (3%)	0423	4.370	0.0400	4.450	0.2237	0.1002	70	-0.36	010.60	0
010	Total N (3%)	0486	4.370	0.0400	4.450	0.2237	0.1002	70	-0.36	010.60	0
010	Total N (3%)	0527	4.388	0.1210	4.450	0.2237	0.1002	70	-0.28	010.60	0
010	Total N (3%)	0043	4.390	0.1600	4.450	0.2237	0.1002	70	-0.27	010.60	0
010	Total N (3%)	0523	4.400	0.0000	4.450	0.2237	0.1002	70	-0.22	010.60	0
010	Total N (3%)	0444	4.400	0.2000	4.450	0.2237	0.1002	70	-0.22	010.99	0
010	Total N (3%)	0390	4.405	0.2300	4.450	0.2237	0.1002	70	-0.20	010.60	0
010	Total N (3%)	0563	4.430	0.0200	4.450	0.2237	0.1002	70	-0.09	010.99	0
010	Total N (3%)	0521	4.444	0.0000	4.450	0.2237	0.1002	70	-0.03	010.60	0
010	Total N (3%)	0537	4.446	0.1135	4.450	0.2237	0.1002	70	-0.02	010.99	0
010	Total N (3%)	0563	4.450	0.0200	4.450	0.2237	0.1002	70	0.00	010.12	0
010	Total N (3%)	0360	4.450	0.1800	4.450	0.2237	0.1002	70	0.00	010.60	0
010	Total N (3%)	0136	4.455	0.1100	4.450	0.2237	0.1002	70	0.02	010.60	0
010	Total N (3%)	0029	4.461	0.0440	4.450	0.2237	0.1002	70	0.05	010.60	0
010	Total N (3%)	0073	4.475	0.0500	4.450	0.2237	0.1002	70	0.11	010.60	0
010	Total N (3%)	0389	4.475	0.0300	4.450	0.2237	0.1002	70	0.11	010.60	0
010	Total N (3%)	0422	4.485	0.0300	4.450	0.2237	0.1002	70	0.16	010.60	0
010	Total N (3%)	0231	4.495	0.0700	4.450	0.2237	0.1002	70	0.20	010.60	0
010	Total N (3%)	0377	4.495	0.0900	4.450	0.2237	0.1002	70	0.20	010.60	0
010	Total N (3%)	0035	4.500	0.0000	4.450	0.2237	0.1002	70	0.22	010.60	0
010	Total N (3%)	0354	4.510	0.0600	4.450	0.2237	0.1002	70	0.27	010.60	0
010	Total N (3%)	0292	4.525	0.0300	4.450	0.2237	0.1002	70	0.34	010.60	0
010	Total N (3%)	0027	4.532	0.4040	4.450	0.2237	0.1002	70	0.37	010.60	0
010	Total N (3%)	0114	4.535	0.2100	4.450	0.2237	0.1002	70	0.38	010.60	0
010	Total N (3%)	0230	4.545	0.1500	4.450	0.2237	0.1002	70	0.42	010.60	0
010	Total N (3%)	0291	4.545	0.0100	4.450	0.2237	0.1002	70	0.42	010.60	0
010	Total N (3%)	0040	4.550	0.3000	4.450	0.2237	0.1002	70	0.45	010.60	0
010	Total N (3%)	0405	4.550	0.1200	4.450	0.2237	0.1002	70	0.45	010.60	0
010	Total N (3%)	0524	4.556	0.0040	4.450	0.2237	0.1002	70	0.47	010.99	0
010	Total N (3%)	0086	4.568	0.1732	4.450	0.2237	0.1002	70	0.53	010.60	0
010	Total N (3%)	0037	4.579	0.2520	4.450	0.2237	0.1002	70	0.58	010.60	0
010	Total N (3%)	0494	4.580	0.0200	4.450	0.2237	0.1002	70	0.58	010.60	0
010	Total N (3%)	0049	4.585	0.0900	4.450	0.2237	0.1002	70	0.60	010.60	0
010	Total N (3%)	0443	4.595	0.1100	4.450	0.2237	0.1002	70	0.65	010.60	0
010	Total N (3%)	0055	4.615	0.2100	4.450	0.2237	0.1002	70	0.74	010.60	0
010	Total N (3%)	0547	4.625	0.0300	4.450	0.2237	0.1002	70	0.78	010.60	0
010	Total N (3%)	0419	4.628	0.0070	4.450	0.2237	0.1002	70	0.79	010.60	0
010	Total N (3%)	0220	4.695	0.1100	4.450	0.2237	0.1002	70	1.09	010.60	0
010	Total N (3%)	0498	4.700	0.0000	4.450	0.2237	0.1002	70	1.12	010.12	0
010	Total N (3%)	0324	4.700	0.1800	4.450	0.2237	0.1002	70	1.12	010.60	0
010	Total N (3%)	0368	4.711	0.0360	4.450	0.2237	0.1002	70	1.17	010.60	0
010	Total N (3%)	0007	4.750	0.1000	4.450	0.2237	0.1002	70	1.34	010.60	0
010	Total N (3%)	0255	4.788	0.3270	4.450	0.2237	0.1002	70	1.51	010.60	0
010	Total N (3%)	0561	4.835	0.0700	4.450	0.2237	0.1002	70	1.72	010.60	0
010	Total N (3%)	0096	4.855	0.0300	4.450	0.2237	0.1002	70	1.81	010.60	0
010	Total N (3%)	0371	5.000‡	0.0800	4.450	0.2237	0.1002	70	2.46	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 (3%)	0529	5.030‡	0.4000	4.450	0.2237	0.1002	70	2.59	010.99	0
010	Total N (3%)	0041	5.915‡	0.0100	4.450	0.2237	0.1002	70	6.55	010.60	0
010	Total N (3%)	0540	3.510†	0.5600	4.450	0.2237	0.1002	70	-4.20	010.11	1
020	Total P2O5 (%)	0450	2.500	0.1600	5.965	0.4186	0.1417	40	-8.28	020.20	0
020	Total P2O5 (%)	0291	4.655	0.0300	5.965	0.4186	0.1417	40	-3.13	020.50	0
020	Total P2O5 (%)	0422	4.980	0.3800	5.965	0.4186	0.1417	40	-2.35	020.50	0
020	Total P2O5 (%)	0419	5.180	0.1200	5.965	0.4186	0.1417	40	-1.88	020.20	0
020	Total P2O5 (%)	0523	5.250	0.1000	5.965	0.4186	0.1417	40	-1.71	020.50	0
020	Total P2O5 (%)	0390	5.290	0.7000	5.965	0.4186	0.1417	40	-1.61	020.50	0
020	Total P2O5 (%)	0552	5.350	0.3000	5.965	0.4186	0.1417	40	-1.47	020.50	0
020	Total P2O5 (%)	0389	5.580	0.1000	5.965	0.4186	0.1417	40	-0.92	020.50	0
020	Total P2O5 (%)	0524	5.617	0.1884	5.965	0.4186	0.1417	40	-0.83	020.50	0
020	Total P2O5 (%)	0472	5.765	0.0100	5.965	0.4186	0.1417	40	-0.48	020.50	0
020	Total P2O5 (%)	0493	5.800	0.2000	5.965	0.4186	0.1417	40	-0.39	020.10	0
020	Total P2O5 (%)	0423	5.808	0.1160	5.965	0.4186	0.1417	40	-0.38	020.50	0
020	Total P2O5 (%)	0516	5.840	0.0400	5.965	0.4186	0.1417	40	-0.30	020.50	0
020	Total P2O5 (%)	0444	5.930	0.0400	5.965	0.4186	0.1417	40	-0.08	020.50	0
020	Total P2O5 (%)	0529	5.940	0.0400	5.965	0.4186	0.1417	40	-0.06	020.99	0
020	Total P2O5 (%)	0114	5.950	0.0800	5.965	0.4186	0.1417	40	-0.04	020.10	0
020	Total P2O5 (%)	0456	5.960	0.1200	5.965	0.4186	0.1417	40	-0.01	020.40	0
020	Total P2O5 (%)	0513	5.995	0.0300	5.965	0.4186	0.1417	40	0.07	020.99	0
020	Total P2O5 (%)	0027	6.020	0.3400	5.965	0.4186	0.1417	40	0.13	020.20	0
020	Total P2O5 (%)	0292	6.020	0.0200	5.965	0.4186	0.1417	40	0.13	020.20	0
020	Total P2O5 (%)	0231	6.030	0.0400	5.965	0.4186	0.1417	40	0.16	020.20	0
020	Total P2O5 (%)	0561	6.030	0.0000	5.965	0.4186	0.1417	40	0.16	020.20	0
020	Total P2O5 (%)	0234	6.055	0.0300	5.965	0.4186	0.1417	40	0.21	020.50	0
020	Total P2O5 (%)	0324	6.065	0.1500	5.965	0.4186	0.1417	40	0.24	020.20	0
020	Total P2O5 (%)	0368	6.113	0.0762	5.965	0.4186	0.1417	40	0.35	020.50	0
020	Total P2O5 (%)	0405	6.145	0.0900	5.965	0.4186	0.1417	40	0.43	020.20	0
020	Total P2O5 (%)	0255	6.145	0.0620	5.965	0.4186	0.1417	40	0.43	020.50	0
020	Total P2O5 (%)	0096	6.160	0.3000	5.965	0.4186	0.1417	40	0.47	020.40	0
020	Total P2O5 (%)	0547	6.215	0.2100	5.965	0.4186	0.1417	40	0.60	020.50	0
020	Total P2O5 (%)	0521	6.229	0.0000	5.965	0.4186	0.1417	40	0.63	020.50	0
020	Total P2O5 (%)	0515	6.234	0.0194	5.965	0.4186	0.1417	40	0.64	020.99	0
020	Total P2O5 (%)	0443	6.235	0.2700	5.965	0.4186	0.1417	40	0.64	020.99	0
020	Total P2O5 (%)	0451	6.240	0.3600	5.965	0.4186	0.1417	40	0.66	020.50	0
020	Total P2O5 (%)	0307	6.301	0.1420	5.965	0.4186	0.1417	40	0.80	020.50	0
020	Total P2O5 (%)	0433	6.360	0.2600	5.965	0.4186	0.1417	40	0.94	020.50	0
020	Total P2O5 (%)	0035	6.400	0.0000	5.965	0.4186	0.1417	40	1.04	020.40	0
020	Total P2O5 (%)	0527	6.410	0.0541	5.965	0.4186	0.1417	40	1.06	020.50	0
020	Total P2O5 (%)	0042	6.450	0.3000	5.965	0.4186	0.1417	40	1.16	020.50	0
020	Total P2O5 (%)	0356	6.624	0.0500	5.965	0.4186	0.1417	40	1.57	020.20	0
020	Total P2O5 (%)	0371	7.000	0.1400	5.965	0.4186	0.1417	40	2.47	020.20	0
020	Total P2O5 (%)	0309	316.5	620.9	5.965	0.4186	0.1417	40	741.98	020.20	2
030	Citrate Insoluble P2O5 (%)	0096	0.7450	0.0300	2.557	2.911	0.0200	3	-0.62	030.40	0
030	Citrate Insoluble P2O5 (%)	0405	1.010	0.0200	2.557	2.911	0.0200	3	-0.53	030.20	0
030	Citrate Insoluble P2O5 (%)	0444	5.915	0.0100	2.557	2.911	0.0200	3	1.15	030.10	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				
040	Indirect Available P2O5 (4%)	0405	5.135	0.0700	5.582	0.6683	0.0633	3	-0.67	040.99	0
040	Indirect Available P2O5 (4%)	0096	5.260	0.0200	5.582	0.6683	0.0633	3	-0.48	040.40	0
040	Indirect Available P2O5 (4%)	0498	6.350‡	0.1000	5.582	0.6683	0.0633	3	1.15	040.20	0
041	Direct Available P2O5 (6%)	0095	3.420†	0.1000	5.321	0.6881	0.1297	47	-2.76	041.40	0
041	Direct Available P2O5 (6%)	0055	4.045†	0.1300	5.321	0.6881	0.1297	47	-1.85	041.11	0
041	Direct Available P2O5 (6%)	0494	4.065†	0.5100	5.321	0.6881	0.1297	47	-1.83	041.10	0
041	Direct Available P2O5 (6%)	0419	4.345†	0.0300	5.321	0.6881	0.1297	47	-1.42	041.20	0
041	Direct Available P2O5 (6%)	0025	4.345†	0.2300	5.321	0.6881	0.1297	47	-1.42	041.51	0
041	Direct Available P2O5 (6%)	0452	4.470†	0.0000	5.321	0.6881	0.1297	47	-1.24	041.50	0
041	Direct Available P2O5 (6%)	0086	4.482†	0.0038	5.321	0.6881	0.1297	47	-1.22	041.10	0
041	Direct Available P2O5 (6%)	0177	4.640†	0.1772	5.321	0.6881	0.1297	47	-0.99	041.10	0
041	Direct Available P2O5 (6%)	0423	4.780	0.0920	5.321	0.6881	0.1297	47	-0.79	041.51	0
041	Direct Available P2O5 (6%)	0360	4.820	0.5600	5.321	0.6881	0.1297	47	-0.73	041.51	0
041	Direct Available P2O5 (6%)	0009	4.850	0.1000	5.321	0.6881	0.1297	47	-0.68	041.10	0
041	Direct Available P2O5 (6%)	0513	4.980	0.0800	5.321	0.6881	0.1297	47	-0.50	041.11	0
041	Direct Available P2O5 (6%)	0177	5.014	0.0260	5.321	0.6881	0.1297	47	-0.45	041.21	0
041	Direct Available P2O5 (6%)	0055	5.015	0.0500	5.321	0.6881	0.1297	47	-0.44	041.21	0
041	Direct Available P2O5 (6%)	0049	5.045	0.0300	5.321	0.6881	0.1297	47	-0.40	041.10	0
041	Direct Available P2O5 (6%)	0220	5.045	0.1100	5.321	0.6881	0.1297	47	-0.40	041.11	0
041	Direct Available P2O5 (6%)	0136	5.100	0.4000	5.321	0.6881	0.1297	47	-0.32	041.51	0
041	Direct Available P2O5 (6%)	0231	5.105	0.1500	5.321	0.6881	0.1297	47	-0.31	041.50	0
041	Direct Available P2O5 (6%)	0043	5.125	0.0300	5.321	0.6881	0.1297	47	-0.28	041.51	0
041	Direct Available P2O5 (6%)	0472	5.155	0.0700	5.321	0.6881	0.1297	47	-0.24	041.21	0
041	Direct Available P2O5 (6%)	0405	5.180	0.1600	5.321	0.6881	0.1297	47	-0.20	041.11	0
041	Direct Available P2O5 (6%)	0073	5.190	0.0400	5.321	0.6881	0.1297	47	-0.19	041.11	0
041	Direct Available P2O5 (6%)	0040	5.200	0.2000	5.321	0.6881	0.1297	47	-0.18	041.51	0
041	Direct Available P2O5 (6%)	0231	5.235	0.0300	5.321	0.6881	0.1297	47	-0.12	041.21	0
041	Direct Available P2O5 (6%)	0007	5.250	0.1000	5.321	0.6881	0.1297	47	-0.10	041.50	0
041	Direct Available P2O5 (6%)	0117	5.290	0.1223	5.321	0.6881	0.1297	47	-0.04	041.51	0
041	Direct Available P2O5 (6%)	0377	5.345	0.3700	5.321	0.6881	0.1297	47	0.04	041.51	0
041	Direct Available P2O5 (6%)	0494	5.410	0.0400	5.321	0.6881	0.1297	47	0.13	041.51	0
041	Direct Available P2O5 (6%)	0102	5.500	0.0000	5.321	0.6881	0.1297	47	0.26	041.10	0
041	Direct Available P2O5 (6%)	0556	5.500	0.0800	5.321	0.6881	0.1297	47	0.26	041.10	0
041	Direct Available P2O5 (6%)	0568	5.565	0.0700	5.321	0.6881	0.1297	47	0.35	041.21	0
041	Direct Available P2O5 (6%)	0230	5.585	0.0300	5.321	0.6881	0.1297	47	0.38	041.21	0
041	Direct Available P2O5 (6%)	0535	5.750	0.1000	5.321	0.6881	0.1297	47	0.62	041.99	0
041	Direct Available P2O5 (6%)	0486	5.820	0.0000	5.321	0.6881	0.1297	47	0.73	041.51	0
041	Direct Available P2O5 (6%)	0354	5.830	0.0200	5.321	0.6881	0.1297	47	0.74	041.21	0
041	Direct Available P2O5 (6%)	0368	5.898	0.0170	5.321	0.6881	0.1297	47	0.84	041.50	0
041	Direct Available P2O5 (6%)	0029	5.905	0.1700	5.321	0.6881	0.1297	47	0.85	041.40	0
041	Direct Available P2O5 (6%)	0538	6.000‡	0.0600	5.321	0.6881	0.1297	47	0.99	041.99	0
041	Direct Available P2O5 (6%)	0553	6.040‡	0.0800	5.321	0.6881	0.1297	47	1.05	041.20	0
041	Direct Available P2O5 (6%)	0532	6.040‡	0.1000	5.321	0.6881	0.1297	47	1.05	041.99	0
041	Direct Available P2O5 (6%)	0540	6.055‡	0.1300	5.321	0.6881	0.1297	47	1.07	041.99	0
041	Direct Available P2O5 (6%)	0545	6.075‡	0.0500	5.321	0.6881	0.1297	47	1.10	041.99	0
041	Direct Available P2O5 (6%)	0405	6.125‡	0.1300	5.321	0.6881	0.1297	47	1.17	041.21	0
041	Direct Available P2O5 (6%)	0421	6.201‡	0.1079	5.321	0.6881	0.1297	47	1.28	041.50	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				
041	Direct Available P2O5 (6%)	0563	6.220‡	0.1185	5.321	0.6881	0.1297	47	1.31	041.21	0
041	Direct Available P2O5 (6%)	0034	6.335‡	0.4700	5.321	0.6881	0.1297	47	1.47	041.40	0
041	Direct Available P2O5 (6%)	0325	6.620‡	0.4200	5.321	0.6881	0.1297	47	1.89	041.50	0
048	Water Soluble P2O5 (%)	0472	0.1620	0.0180	0.2773	0.1000	0.0393	3	-1.15	048.20	0
048	Water Soluble P2O5 (%)	0096	0.3300	0.1000	0.2773	0.1000	0.0393	3	0.53	048.40	0
048	Water Soluble P2O5 (%)	0444	0.3400	0.0000	0.2773	0.1000	0.0393	3	0.63	048.50	0
050	Soluble K2O (4%)	0055	1.720†	0.0800	2.951	0.2804	0.0823	72	-4.39	050.00	0
050	Soluble K2O (4%)	0309	2.200†	0.0800	2.951	0.2804	0.0823	72	-2.68	050.30	0
050	Soluble K2O (4%)	0450	2.315†	0.0500	2.951	0.2804	0.0823	72	-2.27	050.99	0
050	Soluble K2O (4%)	0422	2.520†	0.1000	2.951	0.2804	0.0823	72	-1.54	050.50	0
050	Soluble K2O (4%)	0552	2.580	0.1000	2.951	0.2804	0.0823	72	-1.32	050.99	0
050	Soluble K2O (4%)	0029	2.600	0.0600	2.951	0.2804	0.0823	72	-1.25	050.62	0
050	Soluble K2O (4%)	0325	2.625	0.0500	2.951	0.2804	0.0823	72	-1.16	050.99	0
050	Soluble K2O (4%)	0547	2.645	0.0500	2.951	0.2804	0.0823	72	-1.09	050.99	0
050	Soluble K2O (4%)	0073	2.680	0.0000	2.951	0.2804	0.0823	72	-0.97	050.30	0
050	Soluble K2O (4%)	0136	2.700	0.2000	2.951	0.2804	0.0823	72	-0.90	050.52	0
050	Soluble K2O (4%)	0354	2.730	0.0800	2.951	0.2804	0.0823	72	-0.79	050.52	0
050	Soluble K2O (4%)	0096	2.740	0.0500	2.951	0.2804	0.0823	72	-0.75	050.99	0
050	Soluble K2O (4%)	0545	2.775	0.0500	2.951	0.2804	0.0823	72	-0.63	050.99	0
050	Soluble K2O (4%)	0494	2.780	0.1200	2.951	0.2804	0.0823	72	-0.61	050.00	0
050	Soluble K2O (4%)	0368	2.782	0.0269	2.951	0.2804	0.0823	72	-0.60	050.51	0
050	Soluble K2O (4%)	0421	2.796	0.0277	2.951	0.2804	0.0823	72	-0.55	050.99	0
050	Soluble K2O (4%)	0472	2.800	0.0000	2.951	0.2804	0.0823	72	-0.54	050.31	0
050	Soluble K2O (4%)	0234	2.805	0.0300	2.951	0.2804	0.0823	72	-0.52	050.99	0
050	Soluble K2O (4%)	0419	2.808	0.1037	2.951	0.2804	0.0823	72	-0.51	050.50	0
050	Soluble K2O (4%)	0055	2.810	0.0200	2.951	0.2804	0.0823	72	-0.50	050.50	0
050	Soluble K2O (4%)	0371	2.810	0.0200	2.951	0.2804	0.0823	72	-0.50	050.99	0
050	Soluble K2O (4%)	0043	2.815	0.1500	2.951	0.2804	0.0823	72	-0.49	050.52	0
050	Soluble K2O (4%)	0117	2.818	0.0905	2.951	0.2804	0.0823	72	-0.48	050.52	0
050	Soluble K2O (4%)	0524	2.833	0.0824	2.951	0.2804	0.0823	72	-0.42	050.99	0
050	Soluble K2O (4%)	0231	2.835	0.0700	2.951	0.2804	0.0823	72	-0.41	050.50	0
050	Soluble K2O (4%)	0292	2.840	0.0000	2.951	0.2804	0.0823	72	-0.40	050.50	0
050	Soluble K2O (4%)	0230	2.845	0.0700	2.951	0.2804	0.0823	72	-0.38	050.50	0
050	Soluble K2O (4%)	0433	2.845	0.0700	2.951	0.2804	0.0823	72	-0.38	050.99	0
050	Soluble K2O (4%)	0040	2.850	0.1000	2.951	0.2804	0.0823	72	-0.36	050.30	0
050	Soluble K2O (4%)	0007	2.850	0.1000	2.951	0.2804	0.0823	72	-0.36	050.51	0
050	Soluble K2O (4%)	0114	2.860	0.3800	2.951	0.2804	0.0823	72	-0.32	050.00	0
050	Soluble K2O (4%)	0177	2.864	0.0339	2.951	0.2804	0.0823	72	-0.31	050.99	0
050	Soluble K2O (4%)	0034	2.865	0.1500	2.951	0.2804	0.0823	72	-0.31	050.62	0
050	Soluble K2O (4%)	0390	2.885	0.0900	2.951	0.2804	0.0823	72	-0.24	050.50	0
050	Soluble K2O (4%)	0561	2.885	0.0300	2.951	0.2804	0.0823	72	-0.24	050.99	0
050	Soluble K2O (4%)	0389	2.890	0.0400	2.951	0.2804	0.0823	72	-0.22	050.99	0
050	Soluble K2O (4%)	0356	2.895	0.1020	2.951	0.2804	0.0823	72	-0.20	050.30	0
050	Soluble K2O (4%)	0498	2.900	0.0000	2.951	0.2804	0.0823	72	-0.18	050.31	0
050	Soluble K2O (4%)	0035	2.900	0.0000	2.951	0.2804	0.0823	72	-0.18	050.61	0
050	Soluble K2O (4%)	0523	2.900	0.2000	2.951	0.2804	0.0823	72	-0.18	050.99	0
050	Soluble K2O (4%)	0025	2.915	0.0500	2.951	0.2804	0.0823	72	-0.13	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%)	0377	2.915	0.0300	2.951	0.2804	0.0823	72	-0.13	050.52	0
050	Soluble K2O (4%)	0324	2.925	0.0900	2.951	0.2804	0.0823	72	-0.09	050.50	0
050	Soluble K2O (4%)	0102	2.930	0.1000	2.951	0.2804	0.0823	72	-0.08	050.00	0
050	Soluble K2O (4%)	0486	2.940	0.0200	2.951	0.2804	0.0823	72	-0.04	050.52	0
050	Soluble K2O (4%)	0360	2.950	0.0000	2.951	0.2804	0.0823	72	0.00	050.52	0
050	Soluble K2O (4%)	0527	2.979	0.0702	2.951	0.2804	0.0823	72	0.10	050.99	0
050	Soluble K2O (4%)	0423	2.991	0.0610	2.951	0.2804	0.0823	72	0.14	050.52	0
050	Soluble K2O (4%)	0494	3.025	0.0100	2.951	0.2804	0.0823	72	0.26	050.52	0
050	Soluble K2O (4%)	0553	3.030	0.0400	2.951	0.2804	0.0823	72	0.28	050.99	0
050	Soluble K2O (4%)	0452	3.035	0.0300	2.951	0.2804	0.0823	72	0.30	050.51	0
050	Soluble K2O (4%)	0451	3.090	0.4200	2.951	0.2804	0.0823	72	0.50	050.99	0
050	Soluble K2O (4%)	0444	3.095	0.1500	2.951	0.2804	0.0823	72	0.51	050.50	0
050	Soluble K2O (4%)	0042	3.100	0.2000	2.951	0.2804	0.0823	72	0.53	050.99	0
050	Soluble K2O (4%)	0563	3.101	0.1099	2.951	0.2804	0.0823	72	0.54	050.99	0
050	Soluble K2O (4%)	0516	3.135	0.0300	2.951	0.2804	0.0823	72	0.66	050.99	0
050	Soluble K2O (4%)	0291	3.195	0.0500	2.951	0.2804	0.0823	72	0.87	050.51	0
050	Soluble K2O (4%)	0095	3.210	0.1600	2.951	0.2804	0.0823	72	0.92	050.62	0
050	Soluble K2O (4%)	0255	3.238	0.1750	2.951	0.2804	0.0823	72	1.02	050.99	0
050	Soluble K2O (4%)	0556	3.300	0.2000	2.951	0.2804	0.0823	72	1.24	050.99	0
050	Soluble K2O (4%)	0456	3.325	0.0700	2.951	0.2804	0.0823	72	1.33	050.61	0
050	Soluble K2O (4%)	0521	3.682‡	0.0000	2.951	0.2804	0.0823	72	2.61	050.99	0
050	Soluble K2O (4%)	0513	3.920‡	0.0400	2.951	0.2804	0.0823	72	3.46	050.62	0
050	Soluble K2O (4%)	0537	3.962‡	0.0784	2.951	0.2804	0.0823	72	3.60	050.99	0
050	Soluble K2O (4%)	0443	4.010‡	0.1200	2.951	0.2804	0.0823	72	3.78	050.60	0
050	Soluble K2O (4%)	0540	4.010‡	0.0400	2.951	0.2804	0.0823	72	3.78	050.99	0
050	Soluble K2O (4%)	0538	4.035‡	0.1100	2.951	0.2804	0.0823	72	3.87	050.99	0
050	Soluble K2O (4%)	0532	4.150‡	0.1200	2.951	0.2804	0.0823	72	4.28	050.99	0
050	Soluble K2O (4%)	0515	4.193‡	0.0453	2.951	0.2804	0.0823	72	4.43	050.99	0
050	Soluble K2O (4%)	0405	4.345‡	0.0100	2.951	0.2804	0.0823	72	4.97	050.00	0
050	Soluble K2O (4%)	0220	5.135‡	0.0500	2.951	0.2804	0.0823	72	7.79	050.00	0
050	Soluble K2O (4%)	0049	5.565‡	0.1900	2.951	0.2804	0.0823	72	9.32	050.00	0
050	Soluble K2O (4%)	0307	3.520‡	0.8730	2.951	0.2804	0.0823	72	2.03	050.99	1
050	Soluble K2O (4%)	0568	4.100‡	0.6200	2.951	0.2804	0.0823	72	4.10	050.51	1
060	Water (Free) (%)	0456	6.480	0.0400	8.557	1.869	0.0533	4	-1.11	060.00	0
060	Water (Free) (%)	0419	8.124	0.0180	8.557	1.869	0.0533	4	-0.23	060.10	0
060	Water (Free) (%)	0096	8.623	0.1550	8.557	1.869	0.0533	4	0.04	060.00	0
060	Water (Free) (%)	0009	11.00	0.0000	8.557	1.869	0.0533	4	1.31	060.99	0
101	Acid Soluble Ca (8%)	0421	6.112†	0.2021	8.268	0.3948	0.2059	53	-5.46	101.33	0
101	Acid Soluble Ca (8%)	0552	7.230†	0.0600	8.268	0.3948	0.2059	53	-2.63	101.99	0
101	Acid Soluble Ca (8%)	0035	7.315†	0.8700	8.268	0.3948	0.2059	53	-2.41	101.30	0
101	Acid Soluble Ca (8%)	0292	7.820	0.0000	8.268	0.3948	0.2059	53	-1.14	101.33	0
101	Acid Soluble Ca (8%)	0231	7.865	0.1300	8.268	0.3948	0.2059	53	-1.02	101.31	0
101	Acid Soluble Ca (8%)	0009	7.900	0.6000	8.268	0.3948	0.2059	53	-0.93	101.33	0
101	Acid Soluble Ca (8%)	0157	7.905	0.3300	8.268	0.3948	0.2059	53	-0.92	101.00	0
101	Acid Soluble Ca (8%)	0535	7.950	0.1000	8.268	0.3948	0.2059	53	-0.81	101.00	0
101	Acid Soluble Ca (8%)	0040	7.955	0.2700	8.268	0.3948	0.2059	53	-0.79	101.33	0
101	Acid Soluble Ca (8%)	0405	7.955	0.6700	8.268	0.3948	0.2059	53	-0.79	101.99	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				
101	Acid Soluble Ca (8%)	0177	7.962	0.1109	8.268	0.3948	0.2059	53	-0.78	101.33	0
101	Acid Soluble Ca (8%)	0538	7.965	0.1300	8.268	0.3948	0.2059	53	-0.77	101.70	0
101	Acid Soluble Ca (8%)	0117	7.970	0.1220	8.268	0.3948	0.2059	53	-0.76	101.33	0
101	Acid Soluble Ca (8%)	0498	8.000	0.2000	8.268	0.3948	0.2059	53	-0.68	101.03	0
101	Acid Soluble Ca (8%)	0354	8.000	0.0800	8.268	0.3948	0.2059	53	-0.68	101.30	0
101	Acid Soluble Ca (8%)	0419	8.009	0.0639	8.268	0.3948	0.2059	53	-0.66	101.30	0
101	Acid Soluble Ca (8%)	0561	8.010	0.0800	8.268	0.3948	0.2059	53	-0.65	101.99	0
101	Acid Soluble Ca (8%)	0234	8.015	0.0100	8.268	0.3948	0.2059	53	-0.64	101.30	0
101	Acid Soluble Ca (8%)	0390	8.042	0.0840	8.268	0.3948	0.2059	53	-0.57	101.99	0
101	Acid Soluble Ca (8%)	0136	8.065	0.3300	8.268	0.3948	0.2059	53	-0.51	101.33	0
101	Acid Soluble Ca (8%)	0515	8.108	0.0417	8.268	0.3948	0.2059	53	-0.41	101.32	0
101	Acid Soluble Ca (8%)	0055	8.115	0.1300	8.268	0.3948	0.2059	53	-0.39	101.33	0
101	Acid Soluble Ca (8%)	0563	8.152	0.0368	8.268	0.3948	0.2059	53	-0.29	101.33	0
101	Acid Soluble Ca (8%)	0513	8.160	0.0200	8.268	0.3948	0.2059	53	-0.27	101.00	0
101	Acid Soluble Ca (8%)	0360	8.195	0.0900	8.268	0.3948	0.2059	53	-0.19	101.30	0
101	Acid Soluble Ca (8%)	0556	8.200	0.2000	8.268	0.3948	0.2059	53	-0.17	101.01	0
101	Acid Soluble Ca (8%)	0529	8.205	0.3500	8.268	0.3948	0.2059	53	-0.16	101.99	0
101	Acid Soluble Ca (8%)	0368	8.207	0.1566	8.268	0.3948	0.2059	53	-0.15	101.99	0
101	Acid Soluble Ca (8%)	0324	8.240	0.7200	8.268	0.3948	0.2059	53	-0.07	101.30	0
101	Acid Soluble Ca (8%)	0450	8.265	0.0700	8.268	0.3948	0.2059	53	-0.01	101.30	0
101	Acid Soluble Ca (8%)	0102	8.300	0.4000	8.268	0.3948	0.2059	53	0.08	101.30	0
101	Acid Soluble Ca (8%)	0043	8.300	0.1800	8.268	0.3948	0.2059	53	0.08	101.33	0
101	Acid Soluble Ca (8%)	0220	8.350	0.3000	8.268	0.3948	0.2059	53	0.21	101.32	0
101	Acid Soluble Ca (8%)	0444	8.405	0.2100	8.268	0.3948	0.2059	53	0.35	101.30	0
101	Acid Soluble Ca (8%)	0096	8.439	0.5324	8.268	0.3948	0.2059	53	0.43	101.30	0
101	Acid Soluble Ca (8%)	0255	8.461	0.3850	8.268	0.3948	0.2059	53	0.49	101.30	0
101	Acid Soluble Ca (8%)	0553	8.475	0.1500	8.268	0.3948	0.2059	53	0.52	101.00	0
101	Acid Soluble Ca (8%)	0037	8.483	0.3530	8.268	0.3948	0.2059	53	0.54	101.33	0
101	Acid Soluble Ca (8%)	0423	8.515	0.0490	8.268	0.3948	0.2059	53	0.62	101.32	0
101	Acid Soluble Ca (8%)	0521	8.526	0.0000	8.268	0.3948	0.2059	53	0.65	101.32	0
101	Acid Soluble Ca (8%)	0371	8.535	0.0500	8.268	0.3948	0.2059	53	0.68	101.30	0
101	Acid Soluble Ca (8%)	0389	8.540	0.0400	8.268	0.3948	0.2059	53	0.69	101.99	0
101	Acid Soluble Ca (8%)	0029	8.557	0.1270	8.268	0.3948	0.2059	53	0.73	101.00	0
101	Acid Soluble Ca (8%)	0472	8.600	0.0600	8.268	0.3948	0.2059	53	0.84	101.30	0
101	Acid Soluble Ca (8%)	0527	8.725	0.1385	8.268	0.3948	0.2059	53	1.16	101.33	0
101	Acid Soluble Ca (8%)	0451	8.725	0.6700	8.268	0.3948	0.2059	53	1.16	101.30	0
101	Acid Soluble Ca (8%)	0377	8.900‡	0.0600	8.268	0.3948	0.2059	53	1.60	101.30	0
101	Acid Soluble Ca (8%)	0027	8.911‡	0.1390	8.268	0.3948	0.2059	53	1.63	101.99	0
101	Acid Soluble Ca (8%)	0042	8.970‡	0.1400	8.268	0.3948	0.2059	53	1.78	101.99	0
101	Acid Soluble Ca (8%)	0433	9.035‡	0.0320	8.268	0.3948	0.2059	53	1.94	101.30	0
101	Acid Soluble Ca (8%)	0486	9.085‡	0.0300	8.268	0.3948	0.2059	53	2.07	101.33	0
101	Acid Soluble Ca (8%)	0291	9.245‡	0.0300	8.268	0.3948	0.2059	53	2.47	101.30	0
101	Acid Soluble Ca (8%)	0494	9.798‡	0.5768	8.268	0.3948	0.2059	53	3.87	101.30	0
121	Acid Soluble Mg (%)	0421	1.129	0.0007	1.478	0.1207	0.0517	22	-2.89	121.33	0
121	Acid Soluble Mg (%)	0035	1.295	0.1300	1.478	0.1207	0.0517	22	-1.52	121.30	0
121	Acid Soluble Mg (%)	0515	1.353	0.0143	1.478	0.1207	0.0517	22	-1.04	121.33	0
121	Acid Soluble Mg (%)	0515	1.366	0.1355	1.478	0.1207	0.0517	22	-0.93	121.99	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				
121	Acid Soluble Mg (%)	0552	1.375	0.0300	1.478	0.1207	0.0517	22	-0.86	121.99	0
121	Acid Soluble Mg (%)	0444	1.390	0.0000	1.478	0.1207	0.0517	22	-0.73	121.30	0
121	Acid Soluble Mg (%)	0516	1.410	0.0200	1.478	0.1207	0.0517	22	-0.57	121.99	0
121	Acid Soluble Mg (%)	0009	1.450	0.1000	1.478	0.1207	0.0517	22	-0.23	121.33	0
121	Acid Soluble Mg (%)	0523	1.450	0.1000	1.478	0.1207	0.0517	22	-0.23	121.99	0
121	Acid Soluble Mg (%)	0368	1.467	0.0145	1.478	0.1207	0.0517	22	-0.09	121.99	0
121	Acid Soluble Mg (%)	0389	1.475	0.0300	1.478	0.1207	0.0517	22	-0.03	121.99	0
121	Acid Soluble Mg (%)	0423	1.489	0.0220	1.478	0.1207	0.0517	22	0.09	121.32	0
121	Acid Soluble Mg (%)	0354	1.495	0.0700	1.478	0.1207	0.0517	22	0.14	121.30	0
121	Acid Soluble Mg (%)	0521	1.497	0.0000	1.478	0.1207	0.0517	22	0.16	121.32	0
121	Acid Soluble Mg (%)	0324	1.515	0.0900	1.478	0.1207	0.0517	22	0.30	121.30	0
121	Acid Soluble Mg (%)	0494	1.539	0.0005	1.478	0.1207	0.0517	22	0.50	121.30	0
121	Acid Soluble Mg (%)	0096	1.544	0.0480	1.478	0.1207	0.0517	22	0.55	121.30	0
121	Acid Soluble Mg (%)	0524	1.562	0.1343	1.478	0.1207	0.0517	22	0.69	121.99	0
121	Acid Soluble Mg (%)	0563	1.626	0.0356	1.478	0.1207	0.0517	22	1.22	121.33	0
121	Acid Soluble Mg (%)	0527	1.630	0.0417	1.478	0.1207	0.0517	22	1.26	121.33	0
121	Acid Soluble Mg (%)	0553	1.635	0.1100	1.478	0.1207	0.0517	22	1.30	121.00	0
121	Acid Soluble Mg (%)	0472	1.715	0.0100	1.478	0.1207	0.0517	22	1.96	121.30	0
143	Elemental S (%)	0472	2.060	0.0000	2.148	0.1281	0.0118	3	-0.69	143.99	0
143	Elemental S (%)	0368	2.089	0.0054	2.148	0.1281	0.0118	3	-0.46	143.99	0
143	Elemental S (%)	0389	2.295	0.0300	2.148	0.1281	0.0118	3	1.15	143.99	0
145	Sulfate S, HCl soluble (%)	0553	1.665	0.0500				1		145.99	0
148	Total S (%)	0444	1.750	0.0600	2.096	0.2134	0.0391	12	-1.62	148.07	0
148	Total S (%)	0515	1.815	0.0217	2.096	0.2134	0.0391	12	-1.32	148.07	0
148	Total S (%)	0523	1.960	0.1000	2.096	0.2134	0.0391	12	-0.63	148.99	0
148	Total S (%)	0354	1.980	0.0200	2.096	0.2134	0.0391	12	-0.54	148.99	0
148	Total S (%)	0096	2.045	0.0100	2.096	0.2134	0.0391	12	-0.24	148.99	0
148	Total S (%)	0527	2.136	0.0635	2.096	0.2134	0.0391	12	0.19	148.07	0
148	Total S (%)	0421	2.145	0.0056	2.096	0.2134	0.0391	12	0.23	148.07	0
148	Total S (%)	0419	2.147	0.0780	2.096	0.2134	0.0391	12	0.24	148.00	0
148	Total S (%)	0516	2.225	0.0300	2.096	0.2134	0.0391	12	0.61	148.99	0
148	Total S (%)	0494	2.246	0.0200	2.096	0.2134	0.0391	12	0.71	148.07	0
148	Total S (%)	0521	2.256	0.0000	2.096	0.2134	0.0391	12	0.75	148.07	0
148	Total S (%)	0563	2.550	0.0601	2.096	0.2134	0.0391	12	2.13	148.07	0
149	S - HNO3 soluble (%)	0423	2.135	0.0100				2		149.04	0
149	S - HNO3 soluble (%)	0524	2.234	0.0366				2		149.04	0
151	Acid Soluble As (ppm)	0498	0.8700	0.0200	2.488	0.8454	0.3633	15	-1.91	151.00	0
151	Acid Soluble As (ppm)	0220	1.100	0.2000	2.488	0.8454	0.3633	15	-1.64	151.32	0
151	Acid Soluble As (ppm)	0515	1.683	1.085	2.488	0.8454	0.3633	15	-0.95	151.34	0
151	Acid Soluble As (ppm)	0096	1.950	0.1000	2.488	0.8454	0.3633	15	-0.64	151.30	0
151	Acid Soluble As (ppm)	0255	2.350	0.0750	2.488	0.8454	0.3633	15	-0.16	151.30	0
151	Acid Soluble As (ppm)	0405	2.500	1.000	2.488	0.8454	0.3633	15	0.01	151.99	0
151	Acid Soluble As (ppm)	0527	2.546	0.1488	2.488	0.8454	0.3633	15	0.07	151.33	0
151	Acid Soluble As (ppm)	0450	2.550	0.1000	2.488	0.8454	0.3633	15	0.07	151.30	0
151	Acid Soluble As (ppm)	0524	2.581	0.1960	2.488	0.8454	0.3633	15	0.11	151.30	0
151	Acid Soluble As (ppm)	0220	2.650	0.7000	2.488	0.8454	0.3633	15	0.19	151.99	0
151	Acid Soluble As (ppm)	0136	2.720	0.3200	2.488	0.8454	0.3633	15	0.27	151.33	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				
151	Acid Soluble As (ppm)	0523	2.885	0.0000	2.488	0.8454	0.3633	15	0.47	151.30	0
151	Acid Soluble As (ppm)	0009	3.000	0.4000	2.488	0.8454	0.3633	15	0.61	151.99	0
151	Acid Soluble As (ppm)	0563	3.706	0.3053	2.488	0.8454	0.3633	15	1.44	151.33	0
151	Acid Soluble As (ppm)	0494	13.10	0.8000	2.488	0.8454	0.3633	15	12.55	151.33	0
151	Acid Soluble As (ppm)	0368	2.723	2.795	2.488	0.8454	0.3633	15	0.28	151.34	1
151	Acid Soluble As (ppm)	0515	0.0000	0.0000	2.488	0.8454	0.3633	15		151.33	4
151	Acid Soluble As (ppm)	0009	< 5		2.488	0.8454	0.3633	15		151.33	5
151	Acid Soluble As (ppm)	0117	< 10		2.488	0.8454	0.3633	15		151.33	5
165	Acid Soluble B (%)	0389	0.0017	0.0000	0.0031	0.0011	0.0004	10	-1.28	165.30	0
165	Acid Soluble B (%)	0515	0.0021	0.0004	0.0031	0.0011	0.0004	10	-0.92	165.99	0
165	Acid Soluble B (%)	0009	0.0027	0.0000	0.0031	0.0011	0.0004	10	-0.37	165.99	0
165	Acid Soluble B (%)	0524	0.0027	0.0002	0.0031	0.0011	0.0004	10	-0.37	165.99	0
165	Acid Soluble B (%)	0423	0.0030	0.0002	0.0031	0.0011	0.0004	10	-0.09	165.99	0
165	Acid Soluble B (%)	0516	0.0030	0.0000	0.0031	0.0011	0.0004	10	-0.09	165.99	0
165	Acid Soluble B (%)	0527	0.0031	0.0001	0.0031	0.0011	0.0004	10	-0.04	165.99	0
165	Acid Soluble B (%)	0521	0.0034	0.0000	0.0031	0.0011	0.0004	10	0.28	165.30	0
165	Acid Soluble B (%)	0563	0.0046	0.0008	0.0031	0.0011	0.0004	10	1.38	165.99	0
165	Acid Soluble B (%)	0553	0.0130	0.0020	0.0031	0.0011	0.0004	10	9.09	165.00	0
165	Acid Soluble B (%)	0552	0.0850	0.0500	0.0031	0.0011	0.0004	10	75.18	165.99	1
165	Acid Soluble B (%)	0354	< 0.01		0.0031	0.0011	0.0004	10		165.30	5
181	Acid Soluble Cd (ppm)	0389	0.3050	0.0100	0.4141	0.0437	0.0307	16	-2.50	181.30	0
181	Acid Soluble Cd (ppm)	0255	0.3235	0.0130	0.4141	0.0437	0.0307	16	-2.07	181.30	0
181	Acid Soluble Cd (ppm)	0524	0.3621	0.0035	0.4141	0.0437	0.0307	16	-1.19	181.30	0
181	Acid Soluble Cd (ppm)	0444	0.3950	0.0500	0.4141	0.0437	0.0307	16	-0.44	181.30	0
181	Acid Soluble Cd (ppm)	0009	0.3950	0.0300	0.4141	0.0437	0.0307	16	-0.44	181.99	0
181	Acid Soluble Cd (ppm)	0450	0.4000	0.0000	0.4141	0.0437	0.0307	16	-0.32	181.30	0
181	Acid Soluble Cd (ppm)	0368	0.4095	0.0250	0.4141	0.0437	0.0307	16	-0.10	181.34	0
181	Acid Soluble Cd (ppm)	0523	0.4150	0.0000	0.4141	0.0437	0.0307	16	0.02	181.30	0
181	Acid Soluble Cd (ppm)	0405	0.4150	0.0100	0.4141	0.0437	0.0307	16	0.02	181.99	0
181	Acid Soluble Cd (ppm)	0527	0.4183	0.0125	0.4141	0.0437	0.0307	16	0.10	181.33	0
181	Acid Soluble Cd (ppm)	0563	0.4436	0.0284	0.4141	0.0437	0.0307	16	0.68	181.33	0
181	Acid Soluble Cd (ppm)	0136	0.4450	0.0500	0.4141	0.0437	0.0307	16	0.71	181.33	0
181	Acid Soluble Cd (ppm)	0498	0.4500	0.0200	0.4141	0.0437	0.0307	16	0.82	181.00	0
181	Acid Soluble Cd (ppm)	0220	0.4500	0.1000	0.4141	0.0437	0.0307	16	0.82	181.32	0
181	Acid Soluble Cd (ppm)	0220	0.4500	0.1000	0.4141	0.0437	0.0307	16	0.82	181.99	0
181	Acid Soluble Cd (ppm)	0494	0.4849	0.0383	0.4141	0.0437	0.0307	16	1.62	181.33	0
181	Acid Soluble Cd (ppm)	0515	0.0000	0.0000	0.4141	0.0437	0.0307	16		181.33	4
181	Acid Soluble Cd (ppm)	0515	0.0000	0.0000	0.4141	0.0437	0.0307	16		181.34	4
181	Acid Soluble Cd (ppm)	0419	< 0.001		0.4141	0.0437	0.0307	16		181.30	5
181	Acid Soluble Cd (ppm)	0009	< 2		0.4141	0.0437	0.0307	16		181.33	5
181	Acid Soluble Cd (ppm)	0117	< 5		0.4141	0.0437	0.0307	16		181.33	5
190	Water Soluble Cl (%)	0553	0.4950	0.0300				1		190.00	0
191	Acid Soluble Cr (ppm)	0389	24.18	0.3600	46.09	14.16	2.153	19	-1.55	191.30	0
191	Acid Soluble Cr (ppm)	0136	25.49	6.820	46.09	14.16	2.153	19	-1.46	191.33	0
191	Acid Soluble Cr (ppm)	0368	28.80	3.534	46.09	14.16	2.153	19	-1.22	191.34	0
191	Acid Soluble Cr (ppm)	0527	32.01	0.5025	46.09	14.16	2.153	19	-0.99	191.33	0
191	Acid Soluble Cr (ppm)	0444	37.21	0.5200	46.09	14.16	2.153	19	-0.63	191.30	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				
191	Acid Soluble Cr (ppm)	0524	39.06	1.305	46.09	14.16	2.153	19	-0.50	191.30	0
191	Acid Soluble Cr (ppm)	0419	42.05	0.3900	46.09	14.16	2.153	19	-0.29	191.30	0
191	Acid Soluble Cr (ppm)	0220	42.50	1.400	46.09	14.16	2.153	19	-0.25	191.32	0
191	Acid Soluble Cr (ppm)	0405	42.50	1.000	46.09	14.16	2.153	19	-0.25	191.99	0
191	Acid Soluble Cr (ppm)	0220	44.70	0.4000	46.09	14.16	2.153	19	-0.10	191.99	0
191	Acid Soluble Cr (ppm)	0515	52.35	2.300	46.09	14.16	2.153	19	0.44	191.34	0
191	Acid Soluble Cr (ppm)	0096	53.10	0.8000	46.09	14.16	2.153	19	0.50	191.30	0
191	Acid Soluble Cr (ppm)	0450	54.50	1.000	46.09	14.16	2.153	19	0.59	191.30	0
191	Acid Soluble Cr (ppm)	0563	57.50	1.717	46.09	14.16	2.153	19	0.81	191.33	0
191	Acid Soluble Cr (ppm)	0523	57.84	0.0000	46.09	14.16	2.153	19	0.83	191.30	0
191	Acid Soluble Cr (ppm)	0515	57.89	3.458	46.09	14.16	2.153	19	0.83	191.33	0
191	Acid Soluble Cr (ppm)	0494	59.30	3.400	46.09	14.16	2.153	19	0.93	191.33	0
191	Acid Soluble Cr (ppm)	0009	59.50	3.000	46.09	14.16	2.153	19	0.95	191.33	0
191	Acid Soluble Cr (ppm)	0009	64.50	9.000	46.09	14.16	2.153	19	1.30	191.99	0
191	Acid Soluble Cr (ppm)	0035	35.00	13.80	46.09	14.16	2.153	19	-0.78	191.30	1
202	Acid Soluble Co (ppm)	0136	6.500	0.8000	18.89	7.904	0.9828	20	-1.57	202.33	0
202	Acid Soluble Co (ppm)	0368	7.944	1.180	18.89	7.904	0.9828	20	-1.38	202.34	0
202	Acid Soluble Co (ppm)	0389	10.07	0.0200	18.89	7.904	0.9828	20	-1.12	202.30	0
202	Acid Soluble Co (ppm)	0419	10.67	0.5100	18.89	7.904	0.9828	20	-1.04	202.33	0
202	Acid Soluble Co (ppm)	0035	10.97	2.670	18.89	7.904	0.9828	20	-1.00	202.30	0
202	Acid Soluble Co (ppm)	0220	14.35	0.5000	18.89	7.904	0.9828	20	-0.57	202.99	0
202	Acid Soluble Co (ppm)	0220	15.50	1.000	18.89	7.904	0.9828	20	-0.43	202.32	0
202	Acid Soluble Co (ppm)	0527	15.86	0.3084	18.89	7.904	0.9828	20	-0.38	202.33	0
202	Acid Soluble Co (ppm)	0405	18.20	0.4000	18.89	7.904	0.9828	20	-0.09	202.99	0
202	Acid Soluble Co (ppm)	0524	18.60	0.0131	18.89	7.904	0.9828	20	-0.04	202.30	0
202	Acid Soluble Co (ppm)	0255	19.83	1.118	18.89	7.904	0.9828	20	0.12	202.99	0
202	Acid Soluble Co (ppm)	0423	22.25	0.5100	18.89	7.904	0.9828	20	0.42	202.32	0
202	Acid Soluble Co (ppm)	0563	23.27	1.125	18.89	7.904	0.9828	20	0.55	202.33	0
202	Acid Soluble Co (ppm)	0515	24.20	1.860	18.89	7.904	0.9828	20	0.67	202.33	0
202	Acid Soluble Co (ppm)	0523	25.70	0.0000	18.89	7.904	0.9828	20	0.86	202.30	0
202	Acid Soluble Co (ppm)	0096	25.96	0.0900	18.89	7.904	0.9828	20	0.89	202.30	0
202	Acid Soluble Co (ppm)	0494	26.05	0.9000	18.89	7.904	0.9828	20	0.91	202.33	0
202	Acid Soluble Co (ppm)	0037	26.32	0.6510	18.89	7.904	0.9828	20	0.94	202.33	0
202	Acid Soluble Co (ppm)	0009	26.50	1.000	18.89	7.904	0.9828	20	0.96	202.33	0
202	Acid Soluble Co (ppm)	0009	28.50	5.000	18.89	7.904	0.9828	20	1.22	202.99	0
202	Acid Soluble Co (ppm)	0515	10.87	21.74	18.89	7.904	0.9828	20		202.34	4
221	Acid Soluble Cu (%)	0421	0.0021	0.0004	0.0035	0.0005	0.0012	28	-2.94	221.33	0
221	Acid Soluble Cu (%)	0498	0.0025	0.0010	0.0035	0.0005	0.0012	28	-2.09	221.03	0
221	Acid Soluble Cu (%)	0255	0.0030	0.0000	0.0035	0.0005	0.0012	28	-1.04	221.30	0
221	Acid Soluble Cu (%)	0136	0.0030	0.0000	0.0035	0.0005	0.0012	28	-1.04	221.33	0
221	Acid Soluble Cu (%)	0405	0.0030	0.0000	0.0035	0.0005	0.0012	28	-1.04	221.99	0
221	Acid Soluble Cu (%)	0523	0.0030	0.0000	0.0035	0.0005	0.0012	28	-1.04	221.99	0
221	Acid Soluble Cu (%)	0389	0.0032	0.0001	0.0035	0.0005	0.0012	28	-0.72	221.99	0
221	Acid Soluble Cu (%)	0521	0.0032	0.0000	0.0035	0.0005	0.0012	28	-0.62	221.32	0
221	Acid Soluble Cu (%)	0494	0.0033	0.0002	0.0035	0.0005	0.0012	28	-0.40	221.33	0
221	Acid Soluble Cu (%)	0527	0.0034	0.0000	0.0035	0.0005	0.0012	28	-0.19	221.33	0
221	Acid Soluble Cu (%)	0035	0.0035	0.0001	0.0035	0.0005	0.0012	28	-0.09	221.30	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				
221	Acid Soluble Cu (%)	0009	0.0035	0.0003	0.0035	0.0005	0.0012	28	-0.09	221.33	0
221	Acid Soluble Cu (%)	0515	0.0035	0.0001	0.0035	0.0005	0.0012	28	-0.09	221.99	0
221	Acid Soluble Cu (%)	0220	0.0035	0.0002	0.0035	0.0005	0.0012	28	0.02	221.32	0
221	Acid Soluble Cu (%)	0419	0.0035	0.0000	0.0035	0.0005	0.0012	28	0.02	221.33	0
221	Acid Soluble Cu (%)	0009	0.0035	0.0004	0.0035	0.0005	0.0012	28	0.02	221.99	0
221	Acid Soluble Cu (%)	0095	0.0036	0.0001	0.0035	0.0005	0.0012	28	0.12	221.30	0
221	Acid Soluble Cu (%)	0515	0.0036	0.0003	0.0035	0.0005	0.0012	28	0.12	221.33	0
221	Acid Soluble Cu (%)	0368	0.0036	0.0001	0.0035	0.0005	0.0012	28	0.12	221.99	0
221	Acid Soluble Cu (%)	0524	0.0037	0.0001	0.0035	0.0005	0.0012	28	0.33	221.99	0
221	Acid Soluble Cu (%)	0220	0.0037	0.0000	0.0035	0.0005	0.0012	28	0.44	221.99	0
221	Acid Soluble Cu (%)	0037	0.0038	0.0003	0.0035	0.0005	0.0012	28	0.54	221.33	0
221	Acid Soluble Cu (%)	0563	0.0038	0.0001	0.0035	0.0005	0.0012	28	0.54	221.33	0
221	Acid Soluble Cu (%)	0043	0.0040	0.0000	0.0035	0.0005	0.0012	28	1.07	221.33	0
221	Acid Soluble Cu (%)	0535	0.0058	0.0004	0.0035	0.0005	0.0012	28	4.87	221.00	0
221	Acid Soluble Cu (%)	0516	0.0225	0.0030	0.0035	0.0005	0.0012	28	40.09	221.99	0
221	Acid Soluble Cu (%)	0552	0.0450	0.0100	0.0035	0.0005	0.0012	28	87.54	221.30	0
221	Acid Soluble Cu (%)	0096	0.1167	0.0173	0.0035	0.0005	0.0012	28	238.65	221.30	0
221	Acid Soluble Cu (%)	0423	41.20	0.6000	0.0035	0.0005	0.0012	28	86881.49	221.32	2
221	Acid Soluble Cu (%)	0354	< 0.01		0.0035	0.0005	0.0012	28		221.30	5
241	Acid Soluble Fe (%)	0553	0.2605	0.0030	0.4070	0.0811	0.0172	21	-1.81	241.00	0
241	Acid Soluble Fe (%)	0035	0.2860	0.0120	0.4070	0.0811	0.0172	21	-1.49	241.30	0
241	Acid Soluble Fe (%)	0472	0.2900	0.0000	0.4070	0.0811	0.0172	21	-1.44	241.30	0
241	Acid Soluble Fe (%)	0515	0.3335	0.0145	0.4070	0.0811	0.0172	21	-0.91	241.99	0
241	Acid Soluble Fe (%)	0389	0.3500	0.0200	0.4070	0.0811	0.0172	21	-0.70	241.99	0
241	Acid Soluble Fe (%)	0523	0.3540	0.0040	0.4070	0.0811	0.0172	21	-0.65	241.99	0
241	Acid Soluble Fe (%)	0324	0.3745	0.0870	0.4070	0.0811	0.0172	21	-0.40	241.30	0
241	Acid Soluble Fe (%)	0521	0.3806	0.0000	0.4070	0.0811	0.0172	21	-0.33	241.33	0
241	Acid Soluble Fe (%)	0535	0.3850	0.0300	0.4070	0.0811	0.0172	21	-0.27	241.00	0
241	Acid Soluble Fe (%)	0516	0.4095	0.0110	0.4070	0.0811	0.0172	21	0.03	241.99	0
241	Acid Soluble Fe (%)	0368	0.4290	0.0057	0.4070	0.0811	0.0172	21	0.27	241.99	0
241	Acid Soluble Fe (%)	0444	0.4300	0.0000	0.4070	0.0811	0.0172	21	0.28	241.30	0
241	Acid Soluble Fe (%)	0552	0.4350	0.0300	0.4070	0.0811	0.0172	21	0.35	241.30	0
241	Acid Soluble Fe (%)	0423	0.4350	0.0080	0.4070	0.0811	0.0172	21	0.35	241.32	0
241	Acid Soluble Fe (%)	0009	0.4450	0.0100	0.4070	0.0811	0.0172	21	0.47	241.33	0
241	Acid Soluble Fe (%)	0096	0.4530	0.0460	0.4070	0.0811	0.0172	21	0.57	241.30	0
241	Acid Soluble Fe (%)	0354	0.4800	0.0400	0.4070	0.0811	0.0172	21	0.90	241.30	0
241	Acid Soluble Fe (%)	0563	0.4830	0.0093	0.4070	0.0811	0.0172	21	0.94	241.33	0
241	Acid Soluble Fe (%)	0527	0.4928	0.0091	0.4070	0.0811	0.0172	21	1.06	241.33	0
241	Acid Soluble Fe (%)	0494	0.4929	0.0108	0.4070	0.0811	0.0172	21	1.06	241.33	0
241	Acid Soluble Fe (%)	0524	0.5228	0.0101	0.4070	0.0811	0.0172	21	1.43	241.99	0
241	Acid Soluble Fe (%)	0515	0.4839	0.1400	0.4070	0.0811	0.0172	21	0.95	241.33	1
251	Acid Soluble Pb (ppm)	0389	0.9100	0.0400	2.074	0.9375	0.1958	16	-1.24	251.30	0
251	Acid Soluble Pb (ppm)	0096	1.200	0.4000	2.074	0.9375	0.1958	16	-0.93	251.30	0
251	Acid Soluble Pb (ppm)	0220	1.200	0.2000	2.074	0.9375	0.1958	16	-0.93	251.99	0
251	Acid Soluble Pb (ppm)	0524	1.426	0.0013	2.074	0.9375	0.1958	16	-0.69	251.30	0
251	Acid Soluble Pb (ppm)	0009	1.600	0.2000	2.074	0.9375	0.1958	16	-0.51	251.99	0
251	Acid Soluble Pb (ppm)	0450	1.650	0.1000	2.074	0.9375	0.1958	16	-0.45	251.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
251	Acid Soluble Pb (ppm)	0255	1.757	0.0180	2.074	0.9375	0.1958	16	-0.34	251.30	0
251	Acid Soluble Pb (ppm)	0220	1.800	0.4000	2.074	0.9375	0.1958	16	-0.29	251.32	0
251	Acid Soluble Pb (ppm)	0136	1.830	0.0200	2.074	0.9375	0.1958	16	-0.26	251.33	0
251	Acid Soluble Pb (ppm)	0563	1.933	0.0927	2.074	0.9375	0.1958	16	-0.15	251.33	0
251	Acid Soluble Pb (ppm)	0523	2.222	0.0000	2.074	0.9375	0.1958	16	0.16	251.30	0
251	Acid Soluble Pb (ppm)	0405	2.600	0.2000	2.074	0.9375	0.1958	16	0.56	251.99	0
251	Acid Soluble Pb (ppm)	0527	2.788	0.1403	2.074	0.9375	0.1958	16	0.76	251.33	0
251	Acid Soluble Pb (ppm)	0515	3.309	1.113	2.074	0.9375	0.1958	16	1.32	251.33	0
251	Acid Soluble Pb (ppm)	0494	4.880	0.1200	2.074	0.9375	0.1958	16	2.99	251.33	0
251	Acid Soluble Pb (ppm)	0515	4.886	0.0870	2.074	0.9375	0.1958	16	3.00	251.34	0
251	Acid Soluble Pb (ppm)	0035	3.040	1.760	2.074	0.9375	0.1958	16	1.03	251.30	1
251	Acid Soluble Pb (ppm)	0368	< 0.9		2.074	0.9375	0.1958	16		251.34	5
251	Acid Soluble Pb (ppm)	0117	< 5		2.074	0.9375	0.1958	16		251.33	5
251	Acid Soluble Pb (ppm)	0009	< 6		2.074	0.9375	0.1958	16		251.33	5
261	Acid Soluble Mn (%)	0035	0.0442	0.0017	0.0509	0.0028	0.0018	19	-2.43	261.30	0
261	Acid Soluble Mn (%)	0389	0.0461	0.0012	0.0509	0.0028	0.0018	19	-1.72	261.99	0
261	Acid Soluble Mn (%)	0515	0.0483	0.0020	0.0509	0.0028	0.0018	19	-0.93	261.99	0
261	Acid Soluble Mn (%)	0324	0.0491	0.0026	0.0509	0.0028	0.0018	19	-0.64	261.31	0
261	Acid Soluble Mn (%)	0553	0.0495	0.0010	0.0509	0.0028	0.0018	19	-0.50	261.12	0
261	Acid Soluble Mn (%)	0527	0.0499	0.0001	0.0509	0.0028	0.0018	19	-0.37	261.35	0
261	Acid Soluble Mn (%)	0563	0.0499	0.0006	0.0509	0.0028	0.0018	19	-0.35	261.35	0
261	Acid Soluble Mn (%)	0354	0.0500	0.0000	0.0509	0.0028	0.0018	19	-0.32	261.30	0
261	Acid Soluble Mn (%)	0472	0.0500	0.0000	0.0509	0.0028	0.0018	19	-0.32	261.30	0
261	Acid Soluble Mn (%)	0368	0.0502	0.0011	0.0509	0.0028	0.0018	19	-0.26	261.99	0
261	Acid Soluble Mn (%)	0009	0.0505	0.0010	0.0509	0.0028	0.0018	19	-0.14	261.35	0
261	Acid Soluble Mn (%)	0524	0.0516	0.0003	0.0509	0.0028	0.0018	19	0.24	261.99	0
261	Acid Soluble Mn (%)	0521	0.0517	0.0000	0.0509	0.0028	0.0018	19	0.29	261.35	0
261	Acid Soluble Mn (%)	0444	0.0525	0.0010	0.0509	0.0028	0.0018	19	0.58	261.30	0
261	Acid Soluble Mn (%)	0523	0.0530	0.0020	0.0509	0.0028	0.0018	19	0.76	261.99	0
261	Acid Soluble Mn (%)	0423	0.0535	0.0010	0.0509	0.0028	0.0018	19	0.94	261.34	0
261	Acid Soluble Mn (%)	0494	0.0537	0.0028	0.0509	0.0028	0.0018	19	1.01	261.35	0
261	Acid Soluble Mn (%)	0516	0.0610	0.0060	0.0509	0.0028	0.0018	19	3.65	261.99	0
261	Acid Soluble Mn (%)	0552	0.0750	0.0100	0.0509	0.0028	0.0018	19	8.69	261.32	0
261	Acid Soluble Mn (%)	0096	5.114	0.0930	0.0509	0.0028	0.0018	19	1824.18	261.30	2
261	Acid Soluble Mn (%)	0515	0.0000	0.0000	0.0509	0.0028	0.0018	19		261.35	4
281	Acid Soluble Hg (ppm)	0220	0.0200	0.0000	0.0571	0.0472	0.0011	4	-0.67	281.99	0
281	Acid Soluble Hg (ppm)	0368	0.0286	0.0006	0.0571	0.0472	0.0011	4	-0.51	281.99	0
281	Acid Soluble Hg (ppm)	0563	0.0557	0.0028	0.0571	0.0472	0.0011	4	-0.03	281.30	0
281	Acid Soluble Hg (ppm)	0524	0.1242	0.0008	0.0571	0.0472	0.0011	4	1.20	281.30	0
281	Acid Soluble Hg (ppm)	0515	0.0000	0.0000	0.0571	0.0472	0.0011	4		281.30	4
281	Acid Soluble Hg (ppm)	0527	< 0.001		0.0571	0.0472	0.0011	4		281.30	5
281	Acid Soluble Hg (ppm)	0405	< 0.01		0.0571	0.0472	0.0011	4		281.99	5
281	Acid Soluble Hg (ppm)	0009	< 0.044		0.0571	0.0472	0.0011	4		281.99	5
281	Acid Soluble Hg (ppm)	0450	< 0.05		0.0571	0.0472	0.0011	4		281.30	5
289	Acid Soluble Mo (ppm)	0524	2.387	0.0164	4.213	1.324	0.2980	17	-1.38	289.30	0
289	Acid Soluble Mo (ppm)	0527	2.738	0.0579	4.213	1.324	0.2980	17	-1.11	289.33	0
289	Acid Soluble Mo (ppm)	0515	2.864	1.043	4.213	1.324	0.2980	17	-1.02	289.33	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				
289	Acid Soluble Mo (ppm)	0136	2.930	0.4600	4.213	1.324	0.2980	17	-0.97	289.33	0
289	Acid Soluble Mo (ppm)	0035	3.160	0.5000	4.213	1.324	0.2980	17	-0.80	289.30	0
289	Acid Soluble Mo (ppm)	0423	3.705	0.2100	4.213	1.324	0.2980	17	-0.38	289.33	0
289	Acid Soluble Mo (ppm)	0009	4.100	0.2000	4.213	1.324	0.2980	17	-0.09	289.33	0
289	Acid Soluble Mo (ppm)	0563	4.254	0.0710	4.213	1.324	0.2980	17	0.03	289.33	0
289	Acid Soluble Mo (ppm)	0405	4.325	0.2500	4.213	1.324	0.2980	17	0.08	289.99	0
289	Acid Soluble Mo (ppm)	0220	4.350	0.3000	4.213	1.324	0.2980	17	0.10	289.99	0
289	Acid Soluble Mo (ppm)	0515	4.411	0.7850	4.213	1.324	0.2980	17	0.15	289.34	0
289	Acid Soluble Mo (ppm)	0220	4.550	0.3000	4.213	1.324	0.2980	17	0.25	289.32	0
289	Acid Soluble Mo (ppm)	0009	4.600	0.4000	4.213	1.324	0.2980	17	0.29	289.99	0
289	Acid Soluble Mo (ppm)	0419	5.043	0.0580	4.213	1.324	0.2980	17	0.63	289.30	0
289	Acid Soluble Mo (ppm)	0494	5.806	0.3075	4.213	1.324	0.2980	17	1.20	289.33	0
289	Acid Soluble Mo (ppm)	0255	6.514	0.1070	4.213	1.324	0.2980	17	1.74	289.30	0
289	Acid Soluble Mo (ppm)	0516	11.00	0.0000	4.213	1.324	0.2980	17	5.13	289.30	0
289	Acid Soluble Mo (ppm)	0368	< 0.1		4.213	1.324	0.2980	17		289.34	5
291	Acid Soluble Ni (ppm)	0136	13.01	4.310	21.29	4.969	1.174	22	-1.67	291.33	0
291	Acid Soluble Ni (ppm)	0389	13.34	0.0300	21.29	4.969	1.174	22	-1.60	291.30	0
291	Acid Soluble Ni (ppm)	0527	14.30	0.1660	21.29	4.969	1.174	22	-1.41	291.33	0
291	Acid Soluble Ni (ppm)	0524	15.80	0.3654	21.29	4.969	1.174	22	-1.10	291.30	0
291	Acid Soluble Ni (ppm)	0444	16.25	1.710	21.29	4.969	1.174	22	-1.02	291.30	0
291	Acid Soluble Ni (ppm)	0368	16.28	2.935	21.29	4.969	1.174	22	-1.01	291.34	0
291	Acid Soluble Ni (ppm)	0255	19.40	1.677	21.29	4.969	1.174	22	-0.38	291.99	0
291	Acid Soluble Ni (ppm)	0405	20.50	1.000	21.29	4.969	1.174	22	-0.16	291.99	0
291	Acid Soluble Ni (ppm)	0450	21.50	1.000	21.29	4.969	1.174	22	0.04	291.30	0
291	Acid Soluble Ni (ppm)	0419	21.73	0.2500	21.29	4.969	1.174	22	0.09	291.30	0
291	Acid Soluble Ni (ppm)	0515	22.35	1.361	21.29	4.969	1.174	22	0.21	291.33	0
291	Acid Soluble Ni (ppm)	0220	22.50	0.0000	21.29	4.969	1.174	22	0.24	291.99	0
291	Acid Soluble Ni (ppm)	0515	23.27	0.7490	21.29	4.969	1.174	22	0.40	291.34	0
291	Acid Soluble Ni (ppm)	0220	23.45	1.500	21.29	4.969	1.174	22	0.43	291.32	0
291	Acid Soluble Ni (ppm)	0563	23.55	0.2125	21.29	4.969	1.174	22	0.45	291.33	0
291	Acid Soluble Ni (ppm)	0009	24.50	1.000	21.29	4.969	1.174	22	0.65	291.33	0
291	Acid Soluble Ni (ppm)	0523	24.53	0.0000	21.29	4.969	1.174	22	0.65	291.30	0
291	Acid Soluble Ni (ppm)	0009	25.50	3.000	21.29	4.969	1.174	22	0.85	291.99	0
291	Acid Soluble Ni (ppm)	0117	25.79	0.2940	21.29	4.969	1.174	22	0.91	291.33	0
291	Acid Soluble Ni (ppm)	0494	26.03	1.800	21.29	4.969	1.174	22	0.95	291.33	0
291	Acid Soluble Ni (ppm)	0037	26.43	2.166	21.29	4.969	1.174	22	1.03	291.33	0
291	Acid Soluble Ni (ppm)	0096	27.15	0.3000	21.29	4.969	1.174	22	1.18	291.30	0
291	Acid Soluble Ni (ppm)	0035	15.50	7.000	21.29	4.969	1.174	22	-1.17	291.30	1
301	Acid Soluble Se (ppm)	0220	0.7000	0.0000	1.926	1.363	0.1880	8	-0.90	301.32	0
301	Acid Soluble Se (ppm)	0524	0.7650	0.0500	1.926	1.363	0.1880	8	-0.85	301.30	0
301	Acid Soluble Se (ppm)	0220	0.8000	0.0000	1.926	1.363	0.1880	8	-0.83	301.99	0
301	Acid Soluble Se (ppm)	0009	1.450	0.1000	1.926	1.363	0.1880	8	-0.35	301.99	0
301	Acid Soluble Se (ppm)	0563	1.792	0.0870	1.926	1.363	0.1880	8	-0.10	301.33	0
301	Acid Soluble Se (ppm)	0523	3.070	0.0000	1.926	1.363	0.1880	8	0.84	301.30	0
301	Acid Soluble Se (ppm)	0515	3.330	0.2670	1.926	1.363	0.1880	8	1.03	301.34	0
301	Acid Soluble Se (ppm)	0405	3.500	1.000	1.926	1.363	0.1880	8	1.15	301.99	0
301	Acid Soluble Se (ppm)	0255	4.383	1.661	1.926	1.363	0.1880	8	1.80	301.99	1

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
301	Acid Soluble Se (ppm)	0515	0.0000	0.0000	1.926	1.363	0.1880	8		301.33	4
301	Acid Soluble Se (ppm)	0527	< 0.01		1.926	1.363	0.1880	8		301.33	5
301	Acid Soluble Se (ppm)	0368	< 1.6		1.926	1.363	0.1880	8		301.34	5
301	Acid Soluble Se (ppm)	0009	< 22		1.926	1.363	0.1880	8		301.33	5
311	Sodium (%)	0035	0.4305	0.0550	0.4970	0.0240	0.0219	11	-2.59	311.33	0
311	Sodium (%)	0009	0.4800	0.0400	0.4970	0.0240	0.0219	11	-0.66	311.33	0
311	Sodium (%)	0368	0.4807	0.0120	0.4970	0.0240	0.0219	11	-0.64	311.99	0
311	Sodium (%)	0553	0.4810	0.0340	0.4970	0.0240	0.0219	11	-0.62	311.00	0
311	Sodium (%)	0521	0.4922	0.0000	0.4970	0.0240	0.0219	11	-0.19	311.33	0
311	Sodium (%)	0096	0.4950	0.0100	0.4970	0.0240	0.0219	11	-0.08	311.99	0
311	Sodium (%)	0423	0.4985	0.0150	0.4970	0.0240	0.0219	11	0.06	311.33	0
311	Sodium (%)	0324	0.5095	0.0390	0.4970	0.0240	0.0219	11	0.49	311.32	0
311	Sodium (%)	0527	0.5162	0.0118	0.4970	0.0240	0.0219	11	0.75	311.33	0
311	Sodium (%)	0354	0.5200	0.0000	0.4970	0.0240	0.0219	11	0.90	311.99	0
311	Sodium (%)	0563	0.5494	0.0245	0.4970	0.0240	0.0219	11	2.04	311.33	0
321	Acid Soluble Zn (%)	0421	0.0133	0.0005	0.0193	0.0019	0.0012	31	-3.19	321.33	0
321	Acid Soluble Zn (%)	0389	0.0165	0.0010	0.0193	0.0019	0.0012	31	-1.46	321.99	0
321	Acid Soluble Zn (%)	0523	0.0170	0.0000	0.0193	0.0019	0.0012	31	-1.19	321.99	0
321	Acid Soluble Zn (%)	0035	0.0171	0.0026	0.0193	0.0019	0.0012	31	-1.14	321.30	0
321	Acid Soluble Zn (%)	0368	0.0175	0.0001	0.0193	0.0019	0.0012	31	-0.96	321.99	0
321	Acid Soluble Zn (%)	0405	0.0178	0.0006	0.0193	0.0019	0.0012	31	-0.77	321.99	0
321	Acid Soluble Zn (%)	0515	0.0180	0.0011	0.0193	0.0019	0.0012	31	-0.69	321.99	0
321	Acid Soluble Zn (%)	0136	0.0180	0.0000	0.0193	0.0019	0.0012	31	-0.66	321.33	0
321	Acid Soluble Zn (%)	0494	0.0180	0.0004	0.0193	0.0019	0.0012	31	-0.66	321.33	0
321	Acid Soluble Zn (%)	0220	0.0183	0.0006	0.0193	0.0019	0.0012	31	-0.50	321.32	0
321	Acid Soluble Zn (%)	0220	0.0184	0.0004	0.0193	0.0019	0.0012	31	-0.45	321.99	0
321	Acid Soluble Zn (%)	0009	0.0185	0.0010	0.0193	0.0019	0.0012	31	-0.40	321.33	0
321	Acid Soluble Zn (%)	0043	0.0185	0.0010	0.0193	0.0019	0.0012	31	-0.40	321.33	0
321	Acid Soluble Zn (%)	0498	0.0190	0.0020	0.0193	0.0019	0.0012	31	-0.13	321.03	0
321	Acid Soluble Zn (%)	0255	0.0190	0.0000	0.0193	0.0019	0.0012	31	-0.13	321.30	0
321	Acid Soluble Zn (%)	0515	0.0191	0.0001	0.0193	0.0019	0.0012	31	-0.11	321.33	0
321	Acid Soluble Zn (%)	0324	0.0194	0.0007	0.0193	0.0019	0.0012	31	0.05	321.30	0
321	Acid Soluble Zn (%)	0527	0.0194	0.0000	0.0193	0.0019	0.0012	31	0.08	321.33	0
321	Acid Soluble Zn (%)	0444	0.0195	0.0010	0.0193	0.0019	0.0012	31	0.13	321.30	0
321	Acid Soluble Zn (%)	0524	0.0199	0.0003	0.0193	0.0019	0.0012	31	0.32	321.99	0
321	Acid Soluble Zn (%)	0472	0.0200	0.0000	0.0193	0.0019	0.0012	31	0.40	321.30	0
321	Acid Soluble Zn (%)	0419	0.0200	0.0020	0.0193	0.0019	0.0012	31	0.40	321.33	0
321	Acid Soluble Zn (%)	0037	0.0202	0.0006	0.0193	0.0019	0.0012	31	0.50	321.33	0
321	Acid Soluble Zn (%)	0563	0.0205	0.0003	0.0193	0.0019	0.0012	31	0.64	321.33	0
321	Acid Soluble Zn (%)	0535	0.0205	0.0010	0.0193	0.0019	0.0012	31	0.66	321.00	0
321	Acid Soluble Zn (%)	0423	0.0210	0.0000	0.0193	0.0019	0.0012	31	0.93	321.32	0
321	Acid Soluble Zn (%)	0095	0.0213	0.0007	0.0193	0.0019	0.0012	31	1.06	321.30	0
321	Acid Soluble Zn (%)	0096	0.0249	0.0036	0.0193	0.0019	0.0012	31	3.00	321.30	0
321	Acid Soluble Zn (%)	0516	0.0295	0.0030	0.0193	0.0019	0.0012	31	5.44	321.99	0
321	Acid Soluble Zn (%)	0354	0.0450	0.0100	0.0193	0.0019	0.0012	31	13.67	321.30	0
321	Acid Soluble Zn (%)	0553	0.0850	0.0020	0.0193	0.0019	0.0012	31	34.90	321.00	0
321	Acid Soluble Zn (%)	0027	173.1	0.9980	0.0193	0.0019	0.0012	31	91840.62	321.99	2

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
321	Acid Soluble Zn (%)	0552	0.0000	0.0000	0.0193	0.0019	0.0012	31		321.30	4
441	Humic Acids (1%)	0540	0.9950	0.0100	8.275	6.677	0.1879	13	-1.09	441.00	0
441	Humic Acids (1%)	0538	1.000	0.0400	8.275	6.677	0.1879	13	-1.09	441.00	0
441	Humic Acids (1%)	0532	1.155	0.0700	8.275	6.677	0.1879	13	-1.07	441.10	0
441	Humic Acids (1%)	0537	1.565	0.2900	8.275	6.677	0.1879	13	-1.00	441.00	0
441	Humic Acids (1%)	0535	2.300	0.2000	8.275	6.677	0.1879	13	-0.89	441.00	0
441	Humic Acids (1%)	0518	9.600	0.4000	8.275	6.677	0.1879	13	0.20	441.00	0
441	Humic Acids (1%)	0486	10.64	0.0400	8.275	6.677	0.1879	13	0.35	441.10	0
441	Humic Acids (1%)	0547	11.06	0.1100	8.275	6.677	0.1879	13	0.42	441.10	0
441	Humic Acids (1%)	0556	12.10	0.2000	8.275	6.677	0.1879	13	0.57	441.10	0
441	Humic Acids (1%)	0368	13.16	0.0930	8.275	6.677	0.1879	13	0.73	441.10	0
441	Humic Acids (1%)	0136	13.80	0.6000	8.275	6.677	0.1879	13	0.83	441.00	0
441	Humic Acids (1%)	0037	14.26	0.2300	8.275	6.677	0.1879	13	0.90	441.00	0
441	Humic Acids (1%)	0220	15.95	0.1600	8.275	6.677	0.1879	13	1.15	441.00	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.