

Analyte PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Analytes: 34

Sample # 230311

Regular PT Scheme

Labs Reporting: 73

Grade 22-0-12

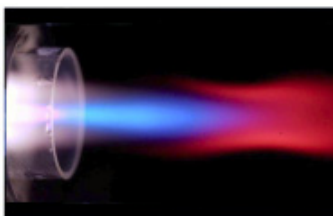
Statistical Summary

Issue Date : 04/30/2023

Analyte Code	Analyte Sample # 230311	# 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 (%)	25	25	11.57	0.8061	11.59		0.8768	0.2192	7.57%		0.1804	2.77%
002	Nitrate N (%)	16	15	10.84	0.7178	10.83		0.8118	0.2620	7.50%		0.1126	2.79%
005	Urea N (%)	1		0.1500									
009	Ammoniacal Plus Nitrate N (%)	4	4	22.52	0.0850	22.52		0.0850	0.0531	0.38%		0.1450	2.11%
010	Total N (22%)	66	63	22.29	0.4194	22.30	0.7545	0.3174	0.0500	1.42%	0.98	0.1713	2.12%
020	Total P2O5 (%)	8	8	0.1925	0.0910	0.1655		0.0221	0.0098	13.34%		0.0229	5.24%
041	Direct Available P2O5 (%)	6	5	0.2386	0.1487	0.1833	0.6700	0.0687	0.0384	37.49%	0.24	0.0223	5.16%
048	Water Soluble P2O5 (%)	2	2	0.1650	0.0424								
050	Soluble K2O (12%)	79	78	12.90	0.6160	12.87	0.8247	0.5556	0.0786	4.32%	1.57	0.2331	2.72%
060	Water (Free) (%)	1		0.5986									
101	Acid Soluble Ca (%)	12	12	1.868	0.1437	1.867	0.2934	0.1609	0.0581	8.62%	1.28	0.0534	3.64%
121	Acid Soluble Mg (%)	15	14	0.5159	0.0947	0.5309	0.2265	0.0864	0.0289	16.27%	0.89	0.0298	4.40%
131	Water Soluble Mg (%)	1		0.5600									
148	Total S (%)	10	9	4.940	0.4799	4.843	0.4421	0.4173	0.1739	8.62%	2.20	0.1375	3.15%
149	S - HNO3 soluble (%)	3	3	4.851	0.0995	4.851		0.0994	0.0718	2.05%		0.1524	3.15%
151	Acid Soluble As (ppm)	15	4	0.8556	0.8518	0.9944		0.4790	0.2994	48.17%		0.0708	16.01%
165	Acid Soluble B (%)	7	2	0.0329	0.0676	0.0018	0.0033	0.0001	0.0001	4.04%	0.05	0.0000	10.40%
171	Water Soluble B (%)	1		0.0106									
181	Acid Soluble Cd (ppm)	15	4	0.5608	1.205	1.199		2.362	1.476	197.08%		1.764	15.57%
190	Water Soluble Cl (9.5%)	25	25	9.411	0.3427	9.386	0.9436	0.2494	0.0624	2.66%	0.62	0.1159	2.86%
191	Acid Soluble Cr (ppm)	15	11	6.147	4.620	6.105		2.026	0.7637	33.19%		0.5063	12.18%
202	Acid Soluble Co (ppm)	13	5	3.159	8.962	7.003	3.1008	14.48	8.097	206.84%	10.88	2.237	11.93%
221	Acid Soluble Cu (%)	17	5	0.0147	0.0473	0.0003	0.0050	0.0004	0.0002	125.14%	0.18	0.0001	13.49%
241	Acid Soluble Fe (%)	9	5	1.841	3.986	0.0086	0.0059	0.0017	0.0009	19.73%	0.67	0.0007	8.19%
251	Acid Soluble Pb (ppm)	16	6	1.498	1.873	0.5350		0.1670	0.0852	31.22%		0.3306	17.58%
261	Acid Soluble Mn (%)	8	3	1.792	3.898	0.0002	0.0050	0.0001	0.0000	24.74%	0.03	0.0000	14.08%
281	Acid Soluble Hg (ppm)	10	4	0.3326	0.6169	0.0415		0.0621	0.0388	149.48%		0.0214	22.00%
289	Acid Soluble Mo (ppm)	14	5	1.383	1.415	2.114	1.6343	1.760	0.9841	83.27%	2.51	0.8599	14.29%
291	Acid Soluble Ni (ppm)	15	10	5.025	9.055	2.972		0.8483	0.3353	28.54%		0.3163	13.58%

Analyte Code	Analyte Sample # 230311	# 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
301	Acid Soluble Se (ppm)	12	4	1.795	2.786	2.109		1.105	0.6908	52.41%		0.1001	14.30%
311	Sodium (%)	6	5	0.1194	0.0462	0.1013	0.0151	0.0143	0.0080	14.16%	2.21	0.0075	5.65%
321	Acid Soluble Zn (%)	20	14	0.0121	0.0323	0.0021	0.0052	0.0004	0.0001	19.57%	0.18	0.0005	10.15%
325	Water Soluble Zn (%)	1		0.0000									
431	Soluble Si in nonliquids (%)	1		0.0070									

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.



Analyte PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Analytes: 34

Sample # 230311

Regular PT Scheme

Labs Reporting: 73

Grade 22-0-12

Lab Values

Issue Date : 04/30/2023

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
001	Ammoniacal N (%)	0230	10.05	0.0600	11.59	0.8768	0.1804	25	-1.75	001.10	0
001	Ammoniacal N (%)	0368	10.05	0.5870	11.59	0.8768	0.1804	25	-1.75	001.99	0
001	Ammoniacal N (%)	0584	10.38	0.1500	11.59	0.8768	0.1804	25	-1.38	001.99	0
001	Ammoniacal N (%)	0600	10.40	0.2000	11.59	0.8768	0.1804	25	-1.35	001.99	0
001	Ammoniacal N (%)	0562	10.42	0.0000	11.59	0.8768	0.1804	25	-1.33	001.99	0
001	Ammoniacal N (%)	0559	10.49	0.0100	11.59	0.8768	0.1804	25	-1.26	001.99	0
001	Ammoniacal N (%)	0563	11.18	0.0900	11.59	0.8768	0.1804	25	-0.47	001.99	0
001	Ammoniacal N (%)	0481	11.26	0.5700	11.59	0.8768	0.1804	25	-0.38	001.10	0
001	Ammoniacal N (%)	0536	11.34	0.6800	11.59	0.8768	0.1804	25	-0.28	001.99	0
001	Ammoniacal N (%)	0389	11.76	0.0000	11.59	0.8768	0.1804	25	0.20	001.10	0
001	Ammoniacal N (%)	0572	11.80	0.2500	11.59	0.8768	0.1804	25	0.24	001.99	0
001	Ammoniacal N (%)	0619	11.80	0.0000	11.59	0.8768	0.1804	25	0.24	001.10	0
001	Ammoniacal N (%)	0619	11.80	0.0000	11.59	0.8768	0.1804	25	0.24	001.99	0
001	Ammoniacal N (%)	0587	11.93	0.0400	11.59	0.8768	0.1804	25	0.39	001.99	0
001	Ammoniacal N (%)	0498	11.95	0.1000	11.59	0.8768	0.1804	25	0.42	001.10	0
001	Ammoniacal N (%)	0451	12.06	0.0200	11.59	0.8768	0.1804	25	0.54	001.10	0
001	Ammoniacal N (%)	0444	12.15	0.1000	11.59	0.8768	0.1804	25	0.64	001.10	0
001	Ammoniacal N (%)	0419	12.17	0.3980	11.59	0.8768	0.1804	25	0.66	001.99	0
001	Ammoniacal N (%)	0255	12.21	0.2500	11.59	0.8768	0.1804	25	0.71	001.99	0
001	Ammoniacal N (%)	0300	12.25	0.0200	11.59	0.8768	0.1804	25	0.76	001.99	0
001	Ammoniacal N (%)	0524	12.29	0.0200	11.59	0.8768	0.1804	25	0.80	001.99	0
001	Ammoniacal N (%)	0027	12.36	0.0400	11.59	0.8768	0.1804	25	0.88	001.99	0
001	Ammoniacal N (%)	0405	12.37	0.1500	11.59	0.8768	0.1804	25	0.89	001.99	0
001	Ammoniacal N (%)	0394	12.38	0.0340	11.59	0.8768	0.1804	25	0.90	001.99	0
001	Ammoniacal N (%)	0510	12.40	0.0203	11.59	0.8768	0.1804	25	0.92	001.99	0
002	Nitrate N (%)	0029	9.445	0.0100	10.83	0.8118	0.1126	15	-1.70	002.99	0
002	Nitrate N (%)	0498	10.00	0.2000	10.83	0.8118	0.1126	15	-1.02	002.99	0
002	Nitrate N (%)	0029	10.15	0.1300	10.83	0.8118	0.1126	15	-0.84	002.20	0
002	Nitrate N (%)	0444	10.25	0.1000	10.83	0.8118	0.1126	15	-0.71	002.99	0
002	Nitrate N (%)	0394	10.28	0.0210	10.83	0.8118	0.1126	15	-0.67	002.99	0
002	Nitrate N (%)	0027	10.30	0.0300	10.83	0.8118	0.1126	15	-0.66	002.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
002	Nitrate N (%)	0423	10.53	0.1600	10.83	0.8118	0.1126	15	-0.37	002.99	0
002	Nitrate N (%)	0587	10.65	0.0900	10.83	0.8118	0.1126	15	-0.23	002.99	0
002	Nitrate N (%)	0368	11.32	0.2680	10.83	0.8118	0.1126	15	0.60	002.99	0
002	Nitrate N (%)	0518	11.37	0.0700	10.83	0.8118	0.1126	15	0.66	002.99	0
002	Nitrate N (%)	0230	11.55	0.1000	10.83	0.8118	0.1126	15	0.89	002.99	0
002	Nitrate N (%)	0559	11.58	0.0100	10.83	0.8118	0.1126	15	0.92	002.99	0
002	Nitrate N (%)	0563	11.62	0.2100	10.83	0.8118	0.1126	15	0.97	002.20	0
002	Nitrate N (%)	0600	11.63	0.1500	10.83	0.8118	0.1126	15	0.98	002.99	0
002	Nitrate N (%)	0481	11.63	0.1400	10.83	0.8118	0.1126	15	0.99	002.99	0
002	Nitrate N (%)	0536	11.18	0.7600	10.83	0.8118	0.1126	15	0.43	002.99	1
005	Urea N (%)	0524	0.1500	0.0800				1		005.99	0
009	Ammoniacal Plus Nitrate N (%)	0444	22.40	0.2000	22.52	0.0850	0.1450	4	-1.38	009.10	0
009	Ammoniacal Plus Nitrate N (%)	0536	22.52	0.0800	22.52	0.0850	0.1450	4	0.03	009.10	0
009	Ammoniacal Plus Nitrate N (%)	0619	22.55	0.1000	22.52	0.0850	0.1450	4	0.38	009.10	0
009	Ammoniacal Plus Nitrate N (%)	0619	22.60	0.2000	22.52	0.0850	0.1450	4	0.97	009.99	0
010	Total N (22%)	0563	20.85†	0.0200	22.30	0.3174	0.1713	63	-4.57	010.99	0
010	Total N (22%)	0419	21.43†	0.1540	22.30	0.3174	0.1713	63	-2.73	010.16	0
010	Total N (22%)	0035	21.50†	0.4000	22.30	0.3174	0.1713	63	-2.52	010.60	0
010	Total N (22%)	0102	21.67	0.2900	22.30	0.3174	0.1713	63	-2.00	010.60	0
010	Total N (22%)	0580	21.85	0.0000	22.30	0.3174	0.1713	63	-1.41	010.12	0
010	Total N (22%)	0524	21.86	0.0079	22.30	0.3174	0.1713	63	-1.39	010.99	0
010	Total N (22%)	0510	21.90	0.0659	22.30	0.3174	0.1713	63	-1.26	010.11	0
010	Total N (22%)	0498	21.95	0.3000	22.30	0.3174	0.1713	63	-1.10	010.12	0
010	Total N (22%)	0423	21.96	0.0100	22.30	0.3174	0.1713	63	-1.08	010.60	0
010	Total N (22%)	0422	21.97	0.0100	22.30	0.3174	0.1713	63	-1.05	010.60	0
010	Total N (22%)	0568	22.00	0.0000	22.30	0.3174	0.1713	63	-0.94	010.12	0
010	Total N (22%)	0073	22.00	0.1000	22.30	0.3174	0.1713	63	-0.94	010.60	0
010	Total N (22%)	0588	22.00	0.2000	22.30	0.3174	0.1713	63	-0.94	010.60	0
010	Total N (22%)	0562	22.00	0.2000	22.30	0.3174	0.1713	63	-0.94	010.99	0
010	Total N (22%)	0572	22.01	0.2700	22.30	0.3174	0.1713	63	-0.93	010.12	0
010	Total N (22%)	0324	22.05	0.1000	22.30	0.3174	0.1713	63	-0.78	010.60	0
010	Total N (22%)	0559	22.07	0.0100	22.30	0.3174	0.1713	63	-0.74	010.99	0
010	Total N (22%)	0234	22.07	0.1800	22.30	0.3174	0.1713	63	-0.72	010.60	0
010	Total N (22%)	0086	22.10	0.2280	22.30	0.3174	0.1713	63	-0.63	010.60	0
010	Total N (22%)	0360	22.11	0.1700	22.30	0.3174	0.1713	63	-0.61	010.60	0
010	Total N (22%)	0536	22.14	0.5200	22.30	0.3174	0.1713	63	-0.50	010.99	0
010	Total N (22%)	0230	22.20	0.0000	22.30	0.3174	0.1713	63	-0.31	010.60	0
010	Total N (22%)	0136	22.23	0.0800	22.30	0.3174	0.1713	63	-0.22	010.60	0
010	Total N (22%)	0025	22.24	0.5100	22.30	0.3174	0.1713	63	-0.20	010.60	0
010	Total N (22%)	0095	22.24	0.0100	22.30	0.3174	0.1713	63	-0.20	010.60	0
010	Total N (22%)	0523	22.26	0.0000	22.30	0.3174	0.1713	63	-0.11	010.60	0
010	Total N (22%)	0389	22.28	0.0300	22.30	0.3174	0.1713	63	-0.08	010.60	0
010	Total N (22%)	0612	22.29	0.2100	22.30	0.3174	0.1713	63	-0.04	010.60	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010	Total N (22%)	0027	22.29	0.2800	22.30	0.3174	0.1713	63	-0.03	010.60	0
010	Total N (22%)	0521	22.32	0.4200	22.30	0.3174	0.1713	63	0.07	010.60	0
010	Total N (22%)	0231	22.33	0.0100	22.30	0.3174	0.1713	63	0.08	010.60	0
010	Total N (22%)	0600	22.33	0.1500	22.30	0.3174	0.1713	63	0.08	010.99	0
010	Total N (22%)	0534	22.35	0.1000	22.30	0.3174	0.1713	63	0.16	010.60	0
010	Total N (22%)	0028	22.37	0.7400	22.30	0.3174	0.1713	63	0.22	010.60	0
010	Total N (22%)	0055	22.39	0.4100	22.30	0.3174	0.1713	63	0.27	010.60	0
010	Total N (22%)	0481	22.39	0.1100	22.30	0.3174	0.1713	63	0.27	010.60	0
010	Total N (22%)	0624	22.40	0.0550	22.30	0.3174	0.1713	63	0.31	010.60	0
010	Total N (22%)	0452	22.40	0.1000	22.30	0.3174	0.1713	63	0.32	010.60	0
010	Total N (22%)	0444	22.40	0.0000	22.30	0.3174	0.1713	63	0.32	010.99	0
010	Total N (22%)	0260	22.41	0.0600	22.30	0.3174	0.1713	63	0.35	010.60	0
010	Total N (22%)	0527	22.41	0.3590	22.30	0.3174	0.1713	63	0.36	010.60	0
010	Total N (22%)	0405	22.42	0.0700	22.30	0.3174	0.1713	63	0.37	010.60	0
010	Total N (22%)	0029	22.42	0.1000	22.30	0.3174	0.1713	63	0.38	010.60	0
010	Total N (22%)	0481	22.44	0.5600	22.30	0.3174	0.1713	63	0.44	010.12	0
010	Total N (22%)	0451	22.47	0.0900	22.30	0.3174	0.1713	63	0.52	010.60	0
010	Total N (22%)	0472	22.48	0.0100	22.30	0.3174	0.1713	63	0.55	010.60	0
010	Total N (22%)	0587	22.48	0.0500	22.30	0.3174	0.1713	63	0.55	010.60	0
010	Total N (22%)	0518	22.50	0.4000	22.30	0.3174	0.1713	63	0.63	010.99	0
010	Total N (22%)	0300	22.52	0.0100	22.30	0.3174	0.1713	63	0.68	010.99	0
010	Total N (22%)	0368	22.54	0.0510	22.30	0.3174	0.1713	63	0.76	010.60	0
010	Total N (22%)	0049	22.54	0.2200	22.30	0.3174	0.1713	63	0.76	010.60	0
010	Total N (22%)	0106	22.59	0.0300	22.30	0.3174	0.1713	63	0.90	010.60	0
010	Total N (22%)	0354	22.60	0.2000	22.30	0.3174	0.1713	63	0.95	010.60	0
010	Total N (22%)	0043	22.63	0.0300	22.30	0.3174	0.1713	63	1.03	010.60	0
010	Total N (22%)	0114	22.64	0.1200	22.30	0.3174	0.1713	63	1.07	010.60	0
010	Total N (22%)	0394	22.66	0.0130	22.30	0.3174	0.1713	63	1.14	010.99	0
010	Total N (22%)	0494	22.66	0.0200	22.30	0.3174	0.1713	63	1.14	010.60	0
010	Total N (22%)	0543	22.70	0.0900	22.30	0.3174	0.1713	63	1.25	010.60	0
010	Total N (22%)	0040	22.70	0.0000	22.30	0.3174	0.1713	63	1.26	010.60	0
010	Total N (22%)	0377	22.81	0.5200	22.30	0.3174	0.1713	63	1.61	010.60	0
010	Total N (22%)	0291	22.84	0.0100	22.30	0.3174	0.1713	63	1.69	010.60	0
010	Total N (22%)	0177	22.89	0.0030	22.30	0.3174	0.1713	63	1.85	010.60	0
010	Total N (22%)	0485	23.45±	0.3000	22.30	0.3174	0.1713	63	3.63	010.60	0
010	Total N (22%)	0421	21.76	1.120	22.30	0.3174	0.1713	63	-1.70	010.60	1
010	Total N (22%)	0023	22.01	1.183	22.30	0.3174	0.1713	63	-0.92	010.60	1
010	Total N (22%)	0255	23.68±	1.106	22.30	0.3174	0.1713	63	4.35	010.60	1
020	Total P2O5 (%)	0588	0.1500	0.0800	0.1655	0.0221	0.0229	8	-0.64	020.50	0
020	Total P2O5 (%)	0300	0.1534	0.0012	0.1655	0.0221	0.0229	8	-0.50	020.50	0
020	Total P2O5 (%)	0612	0.1550	0.0500	0.1655	0.0221	0.0229	8	-0.43	020.50	0
020	Total P2O5 (%)	0422	0.1560	0.0042	0.1655	0.0221	0.0229	8	-0.39	020.50	0
020	Total P2O5 (%)	0524	0.1562	0.0056	0.1655	0.0221	0.0229	8	-0.38	020.50	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
020	Total P2O5 (%)	0572	0.1600	0.0000	0.1655	0.0221	0.0229	8	-0.23	020.99	0
020	Total P2O5 (%)	0527	0.1947	0.0094	0.1655	0.0221	0.0229	8	1.21	020.50	0
020	Total P2O5 (%)	0472	0.4150	0.0100	0.1655	0.0221	0.0229	8	10.34	020.50	0
041	Direct Available P2O5 (%)	0354	0.1205	0.0050	0.1833	0.0687	0.0223	5	-0.80	041.21	0
041	Direct Available P2O5 (%)	0568	0.1500	0.0000	0.1833	0.0687	0.0223	5	-0.42	041.21	0
041	Direct Available P2O5 (%)	0421	0.1715	0.0030	0.1833	0.0687	0.0223	5	-0.15	041.50	0
041	Direct Available P2O5 (%)	0624	0.1745	0.0010	0.1833	0.0687	0.0223	5	-0.11	041.50	0
041	Direct Available P2O5 (%)	0472	0.3000	0.0800	0.1833	0.0687	0.0223	5	1.48	041.21	0
041	Direct Available P2O5 (%)	0494	0.5150	0.6900	0.1833	0.0687	0.0223	5	4.21	041.51	1
048	Water Soluble P2O5 (%)	0572	0.1350	0.0100				2		048.99	0
048	Water Soluble P2O5 (%)	0472	0.1950	0.0900				2		048.20	0
050	Soluble K2O (12%)	0230	11.50†	0.0000	12.87	0.5556	0.2331	78	-2.46	050.50	0
050	Soluble K2O (12%)	0588	11.70†	0.2000	12.87	0.5556	0.2331	78	-2.10	050.99	0
050	Soluble K2O (12%)	0580	11.91†	0.2600	12.87	0.5556	0.2331	78	-1.72	050.30	0
050	Soluble K2O (12%)	0072	12.00†	0.1000	12.87	0.5556	0.2331	78	-1.56	050.52	0
050	Soluble K2O (12%)	0543	12.01†	0.0990	12.87	0.5556	0.2331	78	-1.55	050.52	0
050	Soluble K2O (12%)	0600	12.03†	0.1500	12.87	0.5556	0.2331	78	-1.52	050.99	0
050	Soluble K2O (12%)	0559	12.08	0.0100	12.87	0.5556	0.2331	78	-1.43	050.99	0
050	Soluble K2O (12%)	0562	12.08	0.0200	12.87	0.5556	0.2331	78	-1.42	050.99	0
050	Soluble K2O (12%)	0563	12.10	1.060	12.87	0.5556	0.2331	78	-1.38	050.99	0
050	Soluble K2O (12%)	0472	12.12	0.0300	12.87	0.5556	0.2331	78	-1.36	050.32	0
050	Soluble K2O (12%)	0584	12.23	0.1500	12.87	0.5556	0.2331	78	-1.16	050.61	0
050	Soluble K2O (12%)	0300	12.25	0.0200	12.87	0.5556	0.2331	78	-1.11	050.99	0
050	Soluble K2O (12%)	0255	12.32	0.0240	12.87	0.5556	0.2331	78	-0.99	050.99	0
050	Soluble K2O (12%)	0619	12.40	0.0000	12.87	0.5556	0.2331	78	-0.84	050.50	0
050	Soluble K2O (12%)	0518	12.40	0.9600	12.87	0.5556	0.2331	78	-0.84	050.99	0
050	Soluble K2O (12%)	0536	12.47	0.1200	12.87	0.5556	0.2331	78	-0.72	050.99	0
050	Soluble K2O (12%)	0377	12.48	0.1300	12.87	0.5556	0.2331	78	-0.71	050.52	0
050	Soluble K2O (12%)	0114	12.48	0.2400	12.87	0.5556	0.2331	78	-0.70	050.00	0
050	Soluble K2O (12%)	0389	12.54	0.1000	12.87	0.5556	0.2331	78	-0.59	050.99	0
050	Soluble K2O (12%)	0117	12.55	0.4455	12.87	0.5556	0.2331	78	-0.58	050.52	0
050	Soluble K2O (12%)	0157	12.60	0.4000	12.87	0.5556	0.2331	78	-0.48	050.99	0
050	Soluble K2O (12%)	0451	12.61	0.3800	12.87	0.5556	0.2331	78	-0.46	050.99	0
050	Soluble K2O (12%)	0136	12.64	0.1700	12.87	0.5556	0.2331	78	-0.42	050.52	0
050	Soluble K2O (12%)	0498	12.65	0.1000	12.87	0.5556	0.2331	78	-0.39	050.99	0
050	Soluble K2O (12%)	0394	12.70	0.0100	12.87	0.5556	0.2331	78	-0.31	050.99	0
050	Soluble K2O (12%)	0524	12.70	0.5481	12.87	0.5556	0.2331	78	-0.30	050.99	0
050	Soluble K2O (12%)	0423	12.73	0.1500	12.87	0.5556	0.2331	78	-0.26	050.52	0
050	Soluble K2O (12%)	0043	12.73	0.0000	12.87	0.5556	0.2331	78	-0.25	050.52	0
050	Soluble K2O (12%)	0177	12.75	0.0011	12.87	0.5556	0.2331	78	-0.22	050.99	0
050	Soluble K2O (12%)	0023	12.75	0.1190	12.87	0.5556	0.2331	78	-0.22	050.52	0
050	Soluble K2O (12%)	0485	12.75	0.3000	12.87	0.5556	0.2331	78	-0.21	050.52	0
050	Soluble K2O (12%)	0433	12.76	0.2000	12.87	0.5556	0.2331	78	-0.19	050.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
050	Soluble K2O (12%)	0624	12.76	0.0241	12.87	0.5556	0.2331	78	-0.19	050.99	0
050	Soluble K2O (12%)	0510	12.78	0.0480	12.87	0.5556	0.2331	78	-0.16	050.60	0
050	Soluble K2O (12%)	0117	12.79	0.0400	12.87	0.5556	0.2331	78	-0.14	050.50	0
050	Soluble K2O (12%)	0619	12.80	0.0000	12.87	0.5556	0.2331	78	-0.12	050.00	0
050	Soluble K2O (12%)	0534	12.80	0.6000	12.87	0.5556	0.2331	78	-0.12	050.99	0
050	Soluble K2O (12%)	0619	12.80	0.0000	12.87	0.5556	0.2331	78	-0.12	050.99	0
050	Soluble K2O (12%)	0452	12.85	0.0400	12.87	0.5556	0.2331	78	-0.03	050.51	0
050	Soluble K2O (12%)	0481	12.85	0.0400	12.87	0.5556	0.2331	78	-0.03	050.99	0
050	Soluble K2O (12%)	0354	12.85	0.1000	12.87	0.5556	0.2331	78	-0.03	050.52	0
050	Soluble K2O (12%)	0419	12.88	0.4700	12.87	0.5556	0.2331	78	0.01	050.99	0
050	Soluble K2O (12%)	0527	12.92	0.0531	12.87	0.5556	0.2331	78	0.09	050.99	0
050	Soluble K2O (12%)	0234	12.94	0.0100	12.87	0.5556	0.2331	78	0.12	050.99	0
050	Soluble K2O (12%)	0049	12.96	0.3700	12.87	0.5556	0.2331	78	0.16	050.00	0
050	Soluble K2O (12%)	0231	12.97	0.1400	12.87	0.5556	0.2331	78	0.18	050.00	0
050	Soluble K2O (12%)	0444	12.98	0.0300	12.87	0.5556	0.2331	78	0.19	050.00	0
050	Soluble K2O (12%)	0106	12.99	0.1100	12.87	0.5556	0.2331	78	0.21	050.50	0
050	Soluble K2O (12%)	0040	13.05	0.1000	12.87	0.5556	0.2331	78	0.33	050.30	0
050	Soluble K2O (12%)	0025	13.05	0.1000	12.87	0.5556	0.2331	78	0.33	050.52	0
050	Soluble K2O (12%)	0102	13.08	0.1100	12.87	0.5556	0.2331	78	0.37	050.00	0
050	Soluble K2O (12%)	0521	13.08	0.5500	12.87	0.5556	0.2331	78	0.37	050.99	0
050	Soluble K2O (12%)	0494	13.08	0.6400	12.87	0.5556	0.2331	78	0.38	050.00	0
050	Soluble K2O (12%)	0055	13.10	0.2000	12.87	0.5556	0.2331	78	0.42	050.00	0
050	Soluble K2O (12%)	0157	13.10	0.2000	12.87	0.5556	0.2331	78	0.42	050.30	0
050	Soluble K2O (12%)	0055	13.12	0.0700	12.87	0.5556	0.2331	78	0.44	050.50	0
050	Soluble K2O (12%)	0368	13.12	0.0086	12.87	0.5556	0.2331	78	0.46	050.51	0
050	Soluble K2O (12%)	0587	13.15	0.0100	12.87	0.5556	0.2331	78	0.50	050.99	0
050	Soluble K2O (12%)	0405	13.18	0.1500	12.87	0.5556	0.2331	78	0.55	050.00	0
050	Soluble K2O (12%)	0421	13.20	0.0170	12.87	0.5556	0.2331	78	0.61	050.99	0
050	Soluble K2O (12%)	0444	13.21	0.0600	12.87	0.5556	0.2331	78	0.62	050.50	0
050	Soluble K2O (12%)	0035	13.23	0.2500	12.87	0.5556	0.2331	78	0.64	050.61	0
050	Soluble K2O (12%)	0029	13.25	0.1300	12.87	0.5556	0.2331	78	0.68	050.62	0
050	Soluble K2O (12%)	0360	13.26	0.0200	12.87	0.5556	0.2331	78	0.70	050.52	0
050	Soluble K2O (12%)	0572	13.40	0.2400	12.87	0.5556	0.2331	78	0.96	050.99	0
050	Soluble K2O (12%)	0042	13.41	0.5000	12.87	0.5556	0.2331	78	0.97	050.99	0
050	Soluble K2O (12%)	0494	13.43	0.0500	12.87	0.5556	0.2331	78	1.00	050.52	0
050	Soluble K2O (12%)	0260	13.43	0.4400	12.87	0.5556	0.2331	78	1.01	050.99	0
050	Soluble K2O (12%)	0324	13.60	0.0000	12.87	0.5556	0.2331	78	1.32	050.50	0
050	Soluble K2O (12%)	0612	13.69	0.4100	12.87	0.5556	0.2331	78	1.47	050.99	0
050	Soluble K2O (12%)	0027	13.74‡	0.7400	12.87	0.5556	0.2331	78	1.57	050.99	0
050	Soluble K2O (12%)	0291	13.75‡	0.0100	12.87	0.5556	0.2331	78	1.58	050.51	0
050	Soluble K2O (12%)	0095	13.79‡	0.5500	12.87	0.5556	0.2331	78	1.65	050.62	0
050	Soluble K2O (12%)	0086	13.83‡	0.6328	12.87	0.5556	0.2331	78	1.73	050.50	0
050	Soluble K2O (12%)	0073	14.00‡	0.1900	12.87	0.5556	0.2331	78	2.03	050.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
050	Soluble K2O (12%)	0568	14.00±	0.0000	12.87	0.5556	0.2331	78	2.04	050.51	0
050	Soluble K2O (12%)	0523	14.10±	1.000	12.87	0.5556	0.2331	78	2.22	050.99	0
050	Soluble K2O (12%)	0422	15.52±	0.6023	12.87	0.5556	0.2331	78	4.77	050.50	0
050	Soluble K2O (12%)	0515	13.29	1.226	12.87	0.5556	0.2331	78	0.76	050.99	1
060	Water (Free) (%)	0510	0.5986	0.0149				1		060.99	0
101	Acid Soluble Ca (%)	0300	1.637	0.0727	1.867	0.1609	0.0534	12	-1.43	101.32	0
101	Acid Soluble Ca (%)	0423	1.659	0.0110	1.867	0.1609	0.0534	12	-1.30	101.32	0
101	Acid Soluble Ca (%)	0624	1.740	0.0090	1.867	0.1609	0.0534	12	-0.79	101.33	0
101	Acid Soluble Ca (%)	0527	1.793	0.0106	1.867	0.1609	0.0534	12	-0.46	101.33	0
101	Acid Soluble Ca (%)	0568	1.850	0.0000	1.867	0.1609	0.0534	12	-0.11	101.30	0
101	Acid Soluble Ca (%)	0472	1.860	0.0000	1.867	0.1609	0.0534	12	-0.04	101.33	0
101	Acid Soluble Ca (%)	0035	1.905	0.0900	1.867	0.1609	0.0534	12	0.24	101.30	0
101	Acid Soluble Ca (%)	0095	1.910	0.0000	1.867	0.1609	0.0534	12	0.27	101.32	0
101	Acid Soluble Ca (%)	0494	1.943	0.0274	1.867	0.1609	0.0534	12	0.47	101.33	0
101	Acid Soluble Ca (%)	0260	1.985	0.0900	1.867	0.1609	0.0534	12	0.73	101.33	0
101	Acid Soluble Ca (%)	0572	2.015	0.0700	1.867	0.1609	0.0534	12	0.92	101.99	0
101	Acid Soluble Ca (%)	0354	2.120	0.1000	1.867	0.1609	0.0534	12	1.57	101.30	0
121	Acid Soluble Mg (%)	0515	0.2933	0.0849	0.5309	0.0864	0.0298	14	-2.75	121.99	0
121	Acid Soluble Mg (%)	0568	0.3940	0.0000	0.5309	0.0864	0.0298	14	-1.59	121.30	0
121	Acid Soluble Mg (%)	0423	0.4245	0.0030	0.5309	0.0864	0.0298	14	-1.23	121.32	0
121	Acid Soluble Mg (%)	0524	0.4953	0.0050	0.5309	0.0864	0.0298	14	-0.41	121.99	0
121	Acid Soluble Mg (%)	0300	0.5204	0.0079	0.5309	0.0864	0.0298	14	-0.12	121.32	0
121	Acid Soluble Mg (%)	0095	0.5300	0.0000	0.5309	0.0864	0.0298	14	-0.01	121.32	0
121	Acid Soluble Mg (%)	0624	0.5435	0.0050	0.5309	0.0864	0.0298	14	0.15	121.33	0
121	Acid Soluble Mg (%)	0572	0.5450	0.0100	0.5309	0.0864	0.0298	14	0.16	121.99	0
121	Acid Soluble Mg (%)	0035	0.5590	0.0180	0.5309	0.0864	0.0298	14	0.33	121.30	0
121	Acid Soluble Mg (%)	0527	0.5754	0.0184	0.5309	0.0864	0.0298	14	0.52	121.33	0
121	Acid Soluble Mg (%)	0260	0.5825	0.1050	0.5309	0.0864	0.0298	14	0.60	121.33	0
121	Acid Soluble Mg (%)	0354	0.6000	0.0600	0.5309	0.0864	0.0298	14	0.80	121.30	0
121	Acid Soluble Mg (%)	0472	0.6250	0.0100	0.5309	0.0864	0.0298	14	1.09	121.33	0
121	Acid Soluble Mg (%)	0494	0.6295	0.0304	0.5309	0.0864	0.0298	14	1.14	121.33	0
121	Acid Soluble Mg (%)	0515	0.4218	0.3273	0.5309	0.0864	0.0298	14	-1.26	121.33	1
131	Water Soluble Mg (%)	0572	0.5600	0.0600				1		131.99	0
148	Total S (%)	0624	4.401	0.0310	4.843	0.4173	0.1375	9	-0.98	148.07	0
148	Total S (%)	0472	4.505	0.0100	4.843	0.4173	0.1375	9	-0.75	148.07	0
148	Total S (%)	0300	4.639	0.0375	4.843	0.4173	0.1375	9	-0.45	148.99	0
148	Total S (%)	0260	4.660	0.6400	4.843	0.4173	0.1375	9	-0.40	148.07	0
148	Total S (%)	0572	4.740	0.0200	4.843	0.4173	0.1375	9	-0.23	148.99	0
148	Total S (%)	0494	4.851	0.0185	4.843	0.4173	0.1375	9	0.02	148.07	0
148	Total S (%)	0354	4.945	0.0100	4.843	0.4173	0.1375	9	0.23	148.99	0
148	Total S (%)	0527	5.377	0.2146	4.843	0.4173	0.1375	9	1.18	148.07	0
148	Total S (%)	0422	5.955	0.2560	4.843	0.4173	0.1375	9	2.46	148.99	0
148	Total S (%)	0515	5.332	1.707	4.843	0.4173	0.1375	9	1.08	148.07	1

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
149	S - HNO3 soluble (%)	0423	4.757	0.0780	4.851	0.0994	0.1524	3	-0.94	149.04	0
149	S - HNO3 soluble (%)	0524	4.840	0.0492	4.851	0.0994	0.1524	3	-0.11	149.04	0
149	S - HNO3 soluble (%)	0588	4.955	0.3300	4.851	0.0994	0.1524	3	1.05	149.04	0
151	Acid Soluble As (ppm)	0524	0.6251	0.0381	0.9944	0.4790	0.0708	4	-0.77	151.30	0
151	Acid Soluble As (ppm)	0572	0.7500	0.1600	0.9944	0.4790	0.0708	4	-0.51	151.99	0
151	Acid Soluble As (ppm)	0563	0.9115	0.0470	0.9944	0.4790	0.0708	4	-0.17	151.33	0
151	Acid Soluble As (ppm)	0523	1.691	0.0380	0.9944	0.4790	0.0708	4	1.45	151.30	0
151	Acid Soluble As (ppm)	0255	0.0000	0.0000	0.9944	0.4790	0.0708	4		151.30	4
151	Acid Soluble As (ppm)	0527	< 0.0001		0.9944	0.4790	0.0708	4		151.33	5
151	Acid Soluble As (ppm)	0515	< 0.186		0.9944	0.4790	0.0708	4		151.34	5
151	Acid Soluble As (ppm)	0498	< 0.2		0.9944	0.4790	0.0708	4		151.00	5
151	Acid Soluble As (ppm)	0515	< 0.25		0.9944	0.4790	0.0708	4		151.33	5
151	Acid Soluble As (ppm)	0368	< 0.3		0.9944	0.4790	0.0708	4		151.34	5
151	Acid Soluble As (ppm)	0481	< 0.5		0.9944	0.4790	0.0708	4		151.99	5
151	Acid Soluble As (ppm)	0136	< 1		0.9944	0.4790	0.0708	4		151.33	5
151	Acid Soluble As (ppm)	0494	< 1.42		0.9944	0.4790	0.0708	4		151.33	5
151	Acid Soluble As (ppm)	0300	< 2		0.9944	0.4790	0.0708	4		151.32	5
151	Acid Soluble As (ppm)	0405	< 3		0.9944	0.4790	0.0708	4		151.32	5
165	Acid Soluble B (%)	0524	0.0017	0.0000				2		165.99	0
165	Acid Soluble B (%)	0624	0.0018	0.0000				2		165.99	0
165	Acid Soluble B (%)	0354	< 0.01					2		165.30	5
165	Acid Soluble B (%)	0300	< 0.01					2		165.99	5
165	Acid Soluble B (%)	0527	< 0.01					2		165.99	5
165	Acid Soluble B (%)	0572	< 0.0111					2		165.99	5
165	Acid Soluble B (%)	0515	< 0.186					2		165.99	5
171	Water Soluble B (%)	0572	< 0.0106					0		171.99	5
181	Acid Soluble Cd (ppm)	0524	0.0045	0.0007	1.199	2.362	1.764	4	-0.51	181.30	0
181	Acid Soluble Cd (ppm)	0563	0.0165	0.0050	1.199	2.362	1.764	4	-0.50	181.33	0
181	Acid Soluble Cd (ppm)	0523	0.0315	0.0150	1.199	2.362	1.764	4	-0.49	181.30	0
181	Acid Soluble Cd (ppm)	0255	4.742	7.036	1.199	2.362	1.764	4	1.50	181.30	0
181	Acid Soluble Cd (ppm)	0527	< 0.0001		1.199	2.362	1.764	4		181.33	5
181	Acid Soluble Cd (ppm)	0572	< 0.05		1.199	2.362	1.764	4		181.99	5
181	Acid Soluble Cd (ppm)	0515	< 0.065		1.199	2.362	1.764	4		181.33	5
181	Acid Soluble Cd (ppm)	0498	< 0.1		1.199	2.362	1.764	4		181.00	5
181	Acid Soluble Cd (ppm)	0368	< 0.1		1.199	2.362	1.764	4		181.34	5
181	Acid Soluble Cd (ppm)	0515	< 0.133		1.199	2.362	1.764	4		181.34	5
181	Acid Soluble Cd (ppm)	0494	< 0.17		1.199	2.362	1.764	4		181.33	5
181	Acid Soluble Cd (ppm)	0300	< 0.5		1.199	2.362	1.764	4		181.32	5
181	Acid Soluble Cd (ppm)	0481	< 0.5		1.199	2.362	1.764	4		181.99	5
181	Acid Soluble Cd (ppm)	0405	< 1		1.199	2.362	1.764	4		181.32	5
181	Acid Soluble Cd (ppm)	0136	< 1		1.199	2.362	1.764	4		181.33	5
190	Water Soluble Cl (9.5%)	0029	8.745	0.0100	9.386	0.2494	0.1159	25	-2.57	190.99	0
190	Water Soluble Cl (9.5%)	0422	9.080	0.0068	9.386	0.2494	0.1159	25	-1.23	190.00	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
190	Water Soluble Cl (9.5%)	0029	9.108	0.1150	9.386	0.2494	0.1159	25	-1.12	190.00	0
190	Water Soluble Cl (9.5%)	0394	9.150	0.0200	9.386	0.2494	0.1159	25	-0.95	190.00	0
190	Water Soluble Cl (9.5%)	0572	9.150	0.1400	9.386	0.2494	0.1159	25	-0.95	190.00	0
190	Water Soluble Cl (9.5%)	0523	9.160	0.1600	9.386	0.2494	0.1159	25	-0.91	190.00	0
190	Water Soluble Cl (9.5%)	0023	9.208	0.0680	9.386	0.2494	0.1159	25	-0.71	190.99	0
190	Water Soluble Cl (9.5%)	0619	9.250	0.1000	9.386	0.2494	0.1159	25	-0.55	190.00	0
190	Water Soluble Cl (9.5%)	0389	9.250	0.1800	9.386	0.2494	0.1159	25	-0.55	190.99	0
190	Water Soluble Cl (9.5%)	0619	9.300	0.0000	9.386	0.2494	0.1159	25	-0.35	190.99	0
190	Water Soluble Cl (9.5%)	0580	9.335	0.3300	9.386	0.2494	0.1159	25	-0.21	190.99	0
190	Water Soluble Cl (9.5%)	0027	9.350	0.0600	9.386	0.2494	0.1159	25	-0.15	190.99	0
190	Water Soluble Cl (9.5%)	0444	9.410	0.0000	9.386	0.2494	0.1159	25	0.10	190.00	0
190	Water Soluble Cl (9.5%)	0562	9.415	0.0100	9.386	0.2494	0.1159	25	0.12	190.00	0
190	Water Soluble Cl (9.5%)	0559	9.445	0.0100	9.386	0.2494	0.1159	25	0.24	190.99	0
190	Water Soluble Cl (9.5%)	0600	9.450	0.2000	9.386	0.2494	0.1159	25	0.26	190.00	0
190	Water Soluble Cl (9.5%)	0534	9.460	0.0000	9.386	0.2494	0.1159	25	0.30	190.00	0
190	Water Soluble Cl (9.5%)	0028	9.505	0.0700	9.386	0.2494	0.1159	25	0.48	190.00	0
190	Water Soluble Cl (9.5%)	0055	9.545	0.0300	9.386	0.2494	0.1159	25	0.64	190.00	0
190	Water Soluble Cl (9.5%)	0536	9.560	0.2400	9.386	0.2494	0.1159	25	0.70	190.00	0
190	Water Soluble Cl (9.5%)	0136	9.590	0.1600	9.386	0.2494	0.1159	25	0.82	190.99	0
190	Water Soluble Cl (9.5%)	0117	9.663	0.4170	9.386	0.2494	0.1159	25	1.11	190.00	0
190	Water Soluble Cl (9.5%)	0494	9.739	0.1130	9.386	0.2494	0.1159	25	1.41	190.00	0
190	Water Soluble Cl (9.5%)	0230	9.785	0.0100	9.386	0.2494	0.1159	25	1.60	190.00	0
190	Water Soluble Cl (9.5%)	0481	10.62±	0.1000	9.386	0.2494	0.1159	25	4.95	190.99	0
191	Acid Soluble Cr (ppm)	0136	3.600	0.7600	6.105	2.026	0.5063	11	-1.24	191.33	0
191	Acid Soluble Cr (ppm)	0572	3.860	0.6000	6.105	2.026	0.5063	11	-1.11	191.99	0
191	Acid Soluble Cr (ppm)	0368	4.550	0.7000	6.105	2.026	0.5063	11	-0.77	191.34	0
191	Acid Soluble Cr (ppm)	0524	4.879	0.0806	6.105	2.026	0.5063	11	-0.60	191.30	0
191	Acid Soluble Cr (ppm)	0394	5.134	0.4520	6.105	2.026	0.5063	11	-0.48	191.30	0
191	Acid Soluble Cr (ppm)	0523	6.665	1.134	6.105	2.026	0.5063	11	0.28	191.30	0
191	Acid Soluble Cr (ppm)	0527	6.778	0.3175	6.105	2.026	0.5063	11	0.33	191.33	0
191	Acid Soluble Cr (ppm)	0563	7.175	0.4900	6.105	2.026	0.5063	11	0.53	191.33	0
191	Acid Soluble Cr (ppm)	0300	7.719	0.1790	6.105	2.026	0.5063	11	0.80	191.32	0
191	Acid Soluble Cr (ppm)	0494	7.795	0.3500	6.105	2.026	0.5063	11	0.83	191.33	0
191	Acid Soluble Cr (ppm)	0405	9.000	0.0000	6.105	2.026	0.5063	11	1.43	191.32	0
191	Acid Soluble Cr (ppm)	0035	4.870	3.060	6.105	2.026	0.5063	11	-0.61	191.30	1
191	Acid Soluble Cr (ppm)	0515	< 0.044		6.105	2.026	0.5063	11		191.33	5
191	Acid Soluble Cr (ppm)	0515	< 0.141		6.105	2.026	0.5063	11		191.34	5
191	Acid Soluble Cr (ppm)	0481	< 20		6.105	2.026	0.5063	11		191.99	5
202	Acid Soluble Co (ppm)	0563	0.1985	0.0390	7.003	14.48	2.237	5	-0.47	202.33	0
202	Acid Soluble Co (ppm)	0523	0.2670	0.0080	7.003	14.48	2.237	5	-0.47	202.30	0
202	Acid Soluble Co (ppm)	0524	0.2984	0.0396	7.003	14.48	2.237	5	-0.46	202.30	0
202	Acid Soluble Co (ppm)	0368	1.350	0.5000	7.003	14.48	2.237	5	-0.39	202.34	0
202	Acid Soluble Co (ppm)	0255	32.90	10.60	7.003	14.48	2.237	5	1.79	202.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
202	Acid Soluble Co (ppm)	0527	< 0.0001		7.003	14.48	2.237	5		202.33	5
202	Acid Soluble Co (ppm)	0515	< 0.045		7.003	14.48	2.237	5		202.33	5
202	Acid Soluble Co (ppm)	0515	< 0.139		7.003	14.48	2.237	5		202.34	5
202	Acid Soluble Co (ppm)	0572	< 0.67		7.003	14.48	2.237	5		202.99	5
202	Acid Soluble Co (ppm)	0494	< 0.7		7.003	14.48	2.237	5		202.33	5
202	Acid Soluble Co (ppm)	0300	< 1		7.003	14.48	2.237	5		202.32	5
202	Acid Soluble Co (ppm)	0405	< 1		7.003	14.48	2.237	5		202.32	5
202	Acid Soluble Co (ppm)	0136	< 2.5		7.003	14.48	2.237	5		202.33	5
221	Acid Soluble Cu (%)	0527	0.0001	0.0000	0.0003	0.0004	0.0001	5	-0.54	221.33	0
221	Acid Soluble Cu (%)	0524	0.0001	0.0000	0.0003	0.0004	0.0001	5	-0.54	221.99	0
221	Acid Soluble Cu (%)	0368	0.0002	0.0001	0.0003	0.0004	0.0001	5	-0.41	221.99	0
221	Acid Soluble Cu (%)	0624	0.0002	0.0000	0.0003	0.0004	0.0001	5	-0.28	221.33	0
221	Acid Soluble Cu (%)	0523	0.0010	0.0000	0.0003	0.0004	0.0001	5	1.78	221.99	0
221	Acid Soluble Cu (%)	0106	0.0000	0.0000	0.0003	0.0004	0.0001	5		221.33	4
221	Acid Soluble Cu (%)	0255	0.0005	0.0010	0.0003	0.0004	0.0001	5		221.30	4
221	Acid Soluble Cu (%)	0572	0.0050	0.0100	0.0003	0.0004	0.0001	5		221.99	4
221	Acid Soluble Cu (%)	0394	< 0.0001		0.0003	0.0004	0.0001	5		221.32	5
221	Acid Soluble Cu (%)	0563	< 0.0001		0.0003	0.0004	0.0001	5		221.33	5
221	Acid Soluble Cu (%)	0405	< 0.0002		0.0003	0.0004	0.0001	5		221.32	5
221	Acid Soluble Cu (%)	0136	< 0.0002		0.0003	0.0004	0.0001	5		221.33	5
221	Acid Soluble Cu (%)	0300	< 0.001		0.0003	0.0004	0.0001	5		221.32	5
221	Acid Soluble Cu (%)	0481	< 0.001		0.0003	0.0004	0.0001	5		221.99	5
221	Acid Soluble Cu (%)	0354	< 0.01		0.0003	0.0004	0.0001	5		221.30	5
221	Acid Soluble Cu (%)	0515	< 0.036		0.0003	0.0004	0.0001	5		221.33	5
221	Acid Soluble Cu (%)	0515	< 0.195		0.0003	0.0004	0.0001	5		221.99	5
241	Acid Soluble Fe (%)	0035	0.0065	0.0006	0.0086	0.0017	0.0007	5	-1.07	241.30	0
241	Acid Soluble Fe (%)	0524	0.0074	0.0000	0.0086	0.0017	0.0007	5	-0.60	241.99	0
241	Acid Soluble Fe (%)	0300	0.0085	0.0005	0.0086	0.0017	0.0007	5	-0.06	241.32	0
241	Acid Soluble Fe (%)	0572	0.0100	0.0000	0.0086	0.0017	0.0007	5	0.74	241.99	0
241	Acid Soluble Fe (%)	0624	0.0105	0.0010	0.0086	0.0017	0.0007	5	1.00	241.33	0
241	Acid Soluble Fe (%)	0354	0.0250	0.0100	0.0086	0.0017	0.0007	5	8.48	241.30	1
241	Acid Soluble Fe (%)	0527	< 0.1		0.0086	0.0017	0.0007	5		241.33	5
241	Acid Soluble Fe (%)	0515	< 4.8		0.0086	0.0017	0.0007	5		241.33	5
241	Acid Soluble Fe (%)	0515	< 11.6		0.0086	0.0017	0.0007	5		241.99	5
251	Acid Soluble Pb (ppm)	0394	0.4095	0.0110	0.5350	0.1670	0.3306	6	-0.75	251.30	0
251	Acid Soluble Pb (ppm)	0563	0.4135	0.0310	0.5350	0.1670	0.3306	6	-0.73	251.33	0
251	Acid Soluble Pb (ppm)	0523	0.4515	0.0090	0.5350	0.1670	0.3306	6	-0.50	251.30	0
251	Acid Soluble Pb (ppm)	0572	0.5250	0.0700	0.5350	0.1670	0.3306	6	-0.06	251.99	0
251	Acid Soluble Pb (ppm)	0524	0.6251	0.0627	0.5350	0.1670	0.3306	6	0.54	251.30	0
251	Acid Soluble Pb (ppm)	0368	5.800	1.800	0.5350	0.1670	0.3306	6	31.52	251.34	0
251	Acid Soluble Pb (ppm)	0255	1.519	3.038	0.5350	0.1670	0.3306	6		251.30	4
251	Acid Soluble Pb (ppm)	0527	< 0.0001		0.5350	0.1670	0.3306	6		251.33	5
251	Acid Soluble Pb (ppm)	0515	< 0.101		0.5350	0.1670	0.3306	6		251.33	5

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
251	Acid Soluble Pb (ppm)	0515	< 0.216		0.5350	0.1670	0.3306	6		251.34	5
251	Acid Soluble Pb (ppm)	0498	< 0.5		0.5350	0.1670	0.3306	6		251.00	5
251	Acid Soluble Pb (ppm)	0481	< 0.5		0.5350	0.1670	0.3306	6		251.99	5
251	Acid Soluble Pb (ppm)	0494	< 0.91		0.5350	0.1670	0.3306	6		251.33	5
251	Acid Soluble Pb (ppm)	0136	< 3		0.5350	0.1670	0.3306	6		251.33	5
251	Acid Soluble Pb (ppm)	0405	< 4		0.5350	0.1670	0.3306	6		251.32	5
251	Acid Soluble Pb (ppm)	0300	< 5		0.5350	0.1670	0.3306	6		251.32	5
261	Acid Soluble Mn (%)	0527	0.0002	0.0000	0.0002	0.0001	0.0000	3	-0.47	261.35	0
261	Acid Soluble Mn (%)	0624	0.0002	0.0000	0.0002	0.0001	0.0000	3	-0.47	261.35	0
261	Acid Soluble Mn (%)	0524	0.0003	0.0000	0.0002	0.0001	0.0000	3	0.94	261.99	0
261	Acid Soluble Mn (%)	0300	< 0.0005		0.0002	0.0001	0.0000	3		261.34	5
261	Acid Soluble Mn (%)	0572	< 0.001		0.0002	0.0001	0.0000	3		261.99	5
261	Acid Soluble Mn (%)	0354	< 0.01		0.0002	0.0001	0.0000	3		261.30	5
261	Acid Soluble Mn (%)	0515	< 3.32		0.0002	0.0001	0.0000	3		261.35	5
261	Acid Soluble Mn (%)	0515	< 11		0.0002	0.0001	0.0000	3		261.99	5
281	Acid Soluble Hg (ppm)	0368	0.0076	0.0035	0.0415	0.0621	0.0214	4	-0.46	281.99	0
281	Acid Soluble Hg (ppm)	0524	0.0105	0.0022	0.0415	0.0621	0.0214	4	-0.42	281.99	0
281	Acid Soluble Hg (ppm)	0035	0.0135	0.0050	0.0415	0.0621	0.0214	4	-0.38	281.99	0
281	Acid Soluble Hg (ppm)	0572	0.1346	0.0748	0.0415	0.0621	0.0214	4	1.27	281.99	0
281	Acid Soluble Hg (ppm)	0527	< 0.01		0.0415	0.0621	0.0214	4		281.30	5
281	Acid Soluble Hg (ppm)	0563	< 0.05		0.0415	0.0621	0.0214	4		281.30	5
281	Acid Soluble Hg (ppm)	0515	< 0.1		0.0415	0.0621	0.0214	4		281.30	5
281	Acid Soluble Hg (ppm)	0481	< 0.5		0.0415	0.0621	0.0214	4		281.00	5
281	Acid Soluble Hg (ppm)	0498	< 0.5		0.0415	0.0621	0.0214	4		281.00	5
281	Acid Soluble Hg (ppm)	0405	< 2		0.0415	0.0621	0.0214	4		281.30	5
289	Acid Soluble Mo (ppm)	0563	0.3620	0.0280	2.114	1.760	0.8599	5	-1.00	289.33	0
289	Acid Soluble Mo (ppm)	0524	0.3995	0.0115	2.114	1.760	0.8599	5	-0.97	289.30	0
289	Acid Soluble Mo (ppm)	0049	2.095	0.0700	2.114	1.760	0.8599	5	-0.01	289.30	0
289	Acid Soluble Mo (ppm)	0523	3.465	3.890	2.114	1.760	0.8599	5	0.77	289.30	0
289	Acid Soluble Mo (ppm)	0368	4.250	0.3000	2.114	1.760	0.8599	5	1.21	289.34	0
289	Acid Soluble Mo (ppm)	0255	0.0000	0.0000	2.114	1.760	0.8599	5		289.30	4
289	Acid Soluble Mo (ppm)	0106	0.5000	1.000	2.114	1.760	0.8599	5		289.33	4
289	Acid Soluble Mo (ppm)	0527	< 0.001		2.114	1.760	0.8599	5		289.33	5
289	Acid Soluble Mo (ppm)	0515	< 0.056		2.114	1.760	0.8599	5		289.33	5
289	Acid Soluble Mo (ppm)	0515	< 0.178		2.114	1.760	0.8599	5		289.34	5
289	Acid Soluble Mo (ppm)	0405	< 1		2.114	1.760	0.8599	5		289.32	5
289	Acid Soluble Mo (ppm)	0300	< 2		2.114	1.760	0.8599	5		289.32	5
289	Acid Soluble Mo (ppm)	0136	< 2.5		2.114	1.760	0.8599	5		289.33	5
289	Acid Soluble Mo (ppm)	0572	< 2.56		2.114	1.760	0.8599	5		289.99	5
291	Acid Soluble Ni (ppm)	0035	1.515	0.0700	2.972	0.8483	0.3163	10	-1.72	291.30	0
291	Acid Soluble Ni (ppm)	0394	2.144	0.3460	2.972	0.8483	0.3163	10	-0.98	291.30	0
291	Acid Soluble Ni (ppm)	0524	2.711	0.0559	2.972	0.8483	0.3163	10	-0.31	291.30	0
291	Acid Soluble Ni (ppm)	0572	2.725	0.1700	2.972	0.8483	0.3163	10	-0.29	291.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
291	Acid Soluble Ni (ppm)	0368	2.900	1.600	2.972	0.8483	0.3163	10	-0.08	291.34	0
291	Acid Soluble Ni (ppm)	0523	3.017	0.1780	2.972	0.8483	0.3163	10	0.05	291.30	0
291	Acid Soluble Ni (ppm)	0494	3.065	0.2100	2.972	0.8483	0.3163	10	0.11	291.33	0
291	Acid Soluble Ni (ppm)	0563	3.310	0.0800	2.972	0.8483	0.3163	10	0.40	291.33	0
291	Acid Soluble Ni (ppm)	0527	3.904	0.1366	2.972	0.8483	0.3163	10	1.10	291.33	0
291	Acid Soluble Ni (ppm)	0405	5.000	0.0000	2.972	0.8483	0.3163	10	2.39	291.32	0
291	Acid Soluble Ni (ppm)	0255	37.36	15.00	2.972	0.8483	0.3163	10	40.54	291.99	1
291	Acid Soluble Ni (ppm)	0515	< 0.049		2.972	0.8483	0.3163	10		291.33	5
291	Acid Soluble Ni (ppm)	0515	< 0.18		2.972	0.8483	0.3163	10		291.34	5
291	Acid Soluble Ni (ppm)	0136	< 2.5		2.972	0.8483	0.3163	10		291.33	5
291	Acid Soluble Ni (ppm)	0300	< 5		2.972	0.8483	0.3163	10		291.32	5
301	Acid Soluble Se (ppm)	0524	0.5176	0.0264	2.109	1.105	0.1001	4	-1.44	301.30	0
301	Acid Soluble Se (ppm)	0563	2.205	0.0900	2.109	1.105	0.1001	4	0.09	301.33	0
301	Acid Soluble Se (ppm)	0523	2.803	0.1840	2.109	1.105	0.1001	4	0.63	301.30	0
301	Acid Soluble Se (ppm)	0572	2.910	0.1000	2.109	1.105	0.1001	4	0.72	301.99	0
301	Acid Soluble Se (ppm)	0255	0.0000	0.0000	2.109	1.105	0.1001	4		301.99	4
301	Acid Soluble Se (ppm)	0527	< 0.01		2.109	1.105	0.1001	4		301.33	5
301	Acid Soluble Se (ppm)	0515	< 0.226		2.109	1.105	0.1001	4		301.34	5
301	Acid Soluble Se (ppm)	0515	< 0.27		2.109	1.105	0.1001	4		301.33	5
301	Acid Soluble Se (ppm)	0481	< 0.5		2.109	1.105	0.1001	4		301.99	5
301	Acid Soluble Se (ppm)	0494	< 1		2.109	1.105	0.1001	4		301.33	5
301	Acid Soluble Se (ppm)	0368	< 1.1		2.109	1.105	0.1001	4		301.34	5
301	Acid Soluble Se (ppm)	0405	< 10		2.109	1.105	0.1001	4		301.32	5
311	Sodium (%)	0423	0.0795	0.0030	0.1013	0.0143	0.0075	5	-1.33	311.33	0
311	Sodium (%)	0572	0.1000	0.0000	0.1013	0.0143	0.0075	5	-0.08	311.99	0
311	Sodium (%)	0035	0.1005	0.0150	0.1013	0.0143	0.0075	5	-0.05	311.33	0
311	Sodium (%)	0494	0.1079	0.0095	0.1013	0.0143	0.0075	5	0.40	311.33	0
311	Sodium (%)	0527	0.1187	0.0024	0.1013	0.0143	0.0075	5	1.06	311.33	0
311	Sodium (%)	0354	0.2100	0.0600	0.1013	0.0143	0.0075	5	6.61	311.99	1
321	Acid Soluble Zn (%)	0106	0.0009	0.0003	0.0021	0.0004	0.0005	14	-3.00	321.33	0
321	Acid Soluble Zn (%)	0481	0.0010	0.0000	0.0021	0.0004	0.0005	14	-2.63	321.99	0
321	Acid Soluble Zn (%)	0136	0.0017	0.0000	0.0021	0.0004	0.0005	14	-0.89	321.33	0
321	Acid Soluble Zn (%)	0049	0.0019	0.0000	0.0021	0.0004	0.0005	14	-0.40	321.30	0
321	Acid Soluble Zn (%)	0300	0.0019	0.0000	0.0021	0.0004	0.0005	14	-0.40	321.32	0
321	Acid Soluble Zn (%)	0394	0.0021	0.0001	0.0021	0.0004	0.0005	14	-0.02	321.32	0
321	Acid Soluble Zn (%)	0405	0.0021	0.0001	0.0021	0.0004	0.0005	14	-0.02	321.32	0
321	Acid Soluble Zn (%)	0624	0.0021	0.0000	0.0021	0.0004	0.0005	14	0.10	321.33	0
321	Acid Soluble Zn (%)	0027	0.0021	0.0000	0.0021	0.0004	0.0005	14	0.10	321.99	0
321	Acid Soluble Zn (%)	0043	0.0023	0.0001	0.0021	0.0004	0.0005	14	0.47	321.33	0
321	Acid Soluble Zn (%)	0524	0.0023	0.0001	0.0021	0.0004	0.0005	14	0.47	321.99	0
321	Acid Soluble Zn (%)	0035	0.0023	0.0002	0.0021	0.0004	0.0005	14	0.60	321.30	0
321	Acid Soluble Zn (%)	0255	0.0035	0.0010	0.0021	0.0004	0.0005	14	3.57	321.30	0
321	Acid Soluble Zn (%)	0368	0.0101	0.0017	0.0021	0.0004	0.0005	14	19.82	321.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
321	Acid Soluble Zn (%)	0523	0.0050	0.0020	0.0021	0.0004	0.0005	14	7.29	321.99	1
321	Acid Soluble Zn (%)	0572	0.0000	0.0000	0.0021	0.0004	0.0005	14		321.99	4
321	Acid Soluble Zn (%)	0527	< 0.001		0.0021	0.0004	0.0005	14		321.33	5
321	Acid Soluble Zn (%)	0354	< 0.01		0.0021	0.0004	0.0005	14		321.30	5
321	Acid Soluble Zn (%)	0515	< 0.048		0.0021	0.0004	0.0005	14		321.33	5
321	Acid Soluble Zn (%)	0515	< 0.142		0.0021	0.0004	0.0005	14		321.99	5
325	Water Soluble Zn (%)	0572	0.0000	0.0000				0		325.99	4
431	Soluble Si in nonliquids (%)	0572	< 0.007					0		431.99	5

Interpreting Z Scores and Flags:

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.

Notes:

Robust statistics not used if < 6 labs used in calculations, in this case Values and Z Scores are grayed out and should be interpreted with extreme caution. 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.