

Analyte PT For All Labs
 Sample # 221141
 P rock

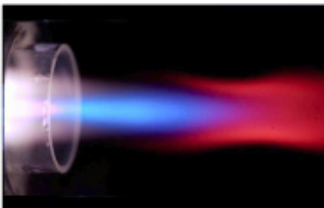
Magruder Fertilizer Proficiency Testing Program
Phosphorous Select PT Scheme
Statistical Summary

Analytes: 29
 # Labs Reporting: 27
 Issue Date : 12/31/2022

Analyte Code	Analyte Sample # 221141	# 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 (%)	1		0.4250									
010	Total N (%)	1		0.0460									
020	Total P2O5 (%)	21	21	26.42	4.444	27.51		1.278	0.3487	4.65%		0.1223	1.91%
030	Citrate Insoluble P2O5 (%)	3	3	15.42	5.866	15.42		5.866	4.233	38.05%		0.2767	2.55%
040	Indirect Available P2O5 (%)	5	5	5.483	6.362	5.483	0.6700	6.362	3.556	116.03%	22.12	0.1540	3.10%
041	Direct Available P2O5 (%)	14	14	14.13	6.358	13.43	0.6972	5.619	1.877	41.83%	18.78	0.3126	2.71%
048	Water Soluble P2O5 (%)	2	2	0.0550	0.0636								
050	Soluble K2O (%)	3	2	0.1272	0.0613	0.1608	0.4100	0.0272	0.0241	16.94%	0.15	0.0008	5.27%
060	Water (Free) (%)	2	2	0.8425	0.3571								
101	Acid Soluble Ca (%)	20	20	30.89	5.447	29.92	1.0000	2.695	0.7533	9.01%	6.28	0.4875	1.83%
121	Acid Soluble Mg (%)	20	20	0.4920	0.1405	0.4642	0.2232	0.0602	0.0168	12.96%	0.63	0.0101	4.49%
131	Water Soluble Mg (%)	1		4.000									
148	Total S (%)	4	3	0.8297	0.4904	1.073	0.2536	0.0756	0.0546	7.05%	0.69	0.0089	3.96%
151	Acid Soluble As (ppm)	12	12	19.98	3.888	20.04		4.272	1.541	21.32%		1.696	10.19%
165	Acid Soluble B (%)	3	2	0.0305	0.0273	0.0408	0.0091	0.0293	0.0259	72.01%	7.50	0.0065	6.47%
181	Acid Soluble Cd (ppm)	12	12	10.80	1.651	11.00		1.387	0.5004	12.60%		0.2190	11.15%
191	Acid Soluble Cr (ppm)	13	12	62.95	10.86	62.37		7.495	2.704	12.02%		1.414	8.59%
202	Acid Soluble Co (ppm)	10	7	5.077	5.707	3.137	1.9411	0.7316	0.3456	23.32%	0.88	0.0842	13.47%
221	Acid Soluble Cu (%)	9	6	0.0042	0.0066	0.0050	0.0055	0.0074	0.0038	148.89%	3.15	0.0000	8.88%
241	Acid Soluble Fe (%)	9	9	0.8253	0.0552	0.8171	0.0867	0.0409	0.0171	5.01%	1.10	0.0201	4.12%
251	Acid Soluble Pb (ppm)	12	11	9.203	3.375	9.985		2.393	0.9019	23.97%		0.6743	11.31%
261	Acid Soluble Mn (%)	5	5	0.0162	0.0023	0.0162	0.0066	0.0023	0.0013	14.20%	0.81	0.0003	7.44%
281	Acid Soluble Hg (ppm)	6	2	0.3590	0.8042	0.0466		0.0126	0.0111	26.92%		0.0022	22.00%
289	Acid Soluble Mo (ppm)	9	7	9.532	3.594	10.68	4.2052	0.4712	0.2226	4.41%	0.26	0.0601	11.20%
291	Acid Soluble Ni (ppm)	10	9	13.43	2.173	13.72		2.362	0.9840	17.22%		0.2507	10.79%
301	Acid Soluble Se (ppm)	7	4	3.264	3.559	2.935		2.229	1.393	75.94%		0.2410	13.60%
311	Sodium (%)	2	2	0.8276	0.2014								
321	Acid Soluble Zn (%)	13	9	0.0074	0.0101	0.0043	0.0054	0.0007	0.0003	16.05%	0.29	0.0004	9.09%
431	Soluble Si in nonliquids (%)	1		5.570									

Analyte Code	Analyte Sample # 221141	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Analyte Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Analyte IA Ratio	Average Range (R-bar)	Horwitz %RSD
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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: 29

Sample # 221141

Phosphorous Select PT Scheme

Labs Reporting: 27

P rock

Lab Values

Issue Date : 12/31/2022

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Range				
001	Ammoniacal N (%)	0498	0.4250	0.0500				1		001.10	0
010	Total N (%)	0472	0.0460	0.0080				1		010.60	0
020	Total P2O5 (%)	0534	12.22	0.0200	27.51	1.278	0.1223	21	-11.96	020.20	0
020	Total P2O5 (%)	0371	14.80	0.0000	27.51	1.278	0.1223	21	-9.94	020.20	0
020	Total P2O5 (%)	0368	25.57	0.5579	27.51	1.278	0.1223	21	-1.52	020.50	0
020	Total P2O5 (%)	0472	26.15	0.1800	27.51	1.278	0.1223	21	-1.06	020.50	0
020	Total P2O5 (%)	0450	26.60	0.6000	27.51	1.278	0.1223	21	-0.71	020.50	0
020	Total P2O5 (%)	0498	27.00	0.0000	27.51	1.278	0.1223	21	-0.40	020.20	0
020	Total P2O5 (%)	0586	27.33	0.1400	27.51	1.278	0.1223	21	-0.14	020.40	0
020	Total P2O5 (%)	0027	27.51	0.4300	27.51	1.278	0.1223	21	0.00	020.20	0
020	Total P2O5 (%)	0405	27.57	0.0100	27.51	1.278	0.1223	21	0.04	020.20	0
020	Total P2O5 (%)	0493	27.61	0.0400	27.51	1.278	0.1223	21	0.08	020.20	0
020	Total P2O5 (%)	0513	27.61	0.0600	27.51	1.278	0.1223	21	0.08	020.99	0
020	Total P2O5 (%)	0493	27.62	0.0400	27.51	1.278	0.1223	21	0.09	020.10	0
020	Total P2O5 (%)	0096	27.79	0.0100	27.51	1.278	0.1223	21	0.21	020.40	0
020	Total P2O5 (%)	0582	27.89	0.0400	27.51	1.278	0.1223	21	0.30	020.20	0
020	Total P2O5 (%)	0593	27.89	0.1400	27.51	1.278	0.1223	21	0.30	020.20	0
020	Total P2O5 (%)	0561	27.93	0.0300	27.51	1.278	0.1223	21	0.32	020.20	0
020	Total P2O5 (%)	0581	28.10	0.0700	27.51	1.278	0.1223	21	0.46	020.20	0
020	Total P2O5 (%)	0570	28.60	0.0000	27.51	1.278	0.1223	21	0.85	020.10	0
020	Total P2O5 (%)	0220	28.91	0.1000	27.51	1.278	0.1223	21	1.09	020.20	0
020	Total P2O5 (%)	0576	30.00	0.0000	27.51	1.278	0.1223	21	1.95	020.99	0
020	Total P2O5 (%)	0527	30.24	0.0995	27.51	1.278	0.1223	21	2.13	020.50	0
030	Citrate Insoluble P2O5 (%)	0096	11.77	0.6000	15.42	5.866	0.2767	3	-0.62	030.40	0
030	Citrate Insoluble P2O5 (%)	0371	12.30	0.0000	15.42	5.866	0.2767	3	-0.53	030.20	0
030	Citrate Insoluble P2O5 (%)	0220	22.19	0.2300	15.42	5.866	0.2767	3	1.15	030.20	0
040	Indirect Available P2O5 (%)	0576	0.1000	0.0000	5.483	6.362	0.1540	5	-0.85	040.20	0
040	Indirect Available P2O5 (%)	0586	2.175	0.0300	5.483	6.362	0.1540	5	-0.52	040.40	0
040	Indirect Available P2O5 (%)	0371	2.400	0.0000	5.483	6.362	0.1540	5	-0.48	040.20	0
040	Indirect Available P2O5 (%)	0220	6.725	0.1300	5.483	6.362	0.1540	5	0.20	040.20	0
040	Indirect Available P2O5 (%)	0096	16.02	0.6100	5.483	6.362	0.1540	5	1.66	040.40	0
041	Direct Available P2O5 (%)	0185	6.120	0.0200	13.43	5.619	0.3126	14	-1.30	041.11	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	Range				
041	Direct Available P2O5 (%)	0220	7.010	0.0800	13.43	5.619	0.3126	14	-1.14	041.11	0
041	Direct Available P2O5 (%)	0025	8.710	1.100	13.43	5.619	0.3126	14	-0.84	041.51	0
041	Direct Available P2O5 (%)	0027	9.915	0.1100	13.43	5.619	0.3126	14	-0.63	041.20	0
041	Direct Available P2O5 (%)	0472	11.64	0.0000	13.43	5.619	0.3126	14	-0.32	041.21	0
041	Direct Available P2O5 (%)	0513	11.93	0.0300	13.43	5.619	0.3126	14	-0.27	041.11	0
041	Direct Available P2O5 (%)	0405	12.46	0.0100	13.43	5.619	0.3126	14	-0.17	041.21	0
041	Direct Available P2O5 (%)	0405	12.47	0.0100	13.43	5.619	0.3126	14	-0.17	041.11	0
041	Direct Available P2O5 (%)	0040	13.25	0.3000	13.43	5.619	0.3126	14	-0.03	041.51	0
041	Direct Available P2O5 (%)	0073	15.53	0.7400	13.43	5.619	0.3126	14	0.37	041.11	0
041	Direct Available P2O5 (%)	0037	17.42	0.1080	13.43	5.619	0.3126	14	0.71	041.51	0
041	Direct Available P2O5 (%)	0494	17.91	0.8100	13.43	5.619	0.3126	14	0.80	041.51	0
041	Direct Available P2O5 (%)	0368	25.57	0.5579	13.43	5.619	0.3126	14	2.16	041.50	0
041	Direct Available P2O5 (%)	0421	27.85	0.5000	13.43	5.619	0.3126	14	2.57	041.50	0
048	Water Soluble P2O5 (%)	0472	0.0100	0.0000				2		048.20	0
048	Water Soluble P2O5 (%)	0371	0.1000	0.0000				2		048.20	0
050	Soluble K2O (%)	0527	0.1415	0.0016				2		050.99	0
050	Soluble K2O (%)	0513	0.1800	0.0000				2		050.99	0
050	Soluble K2O (%)	0494	0.0600	0.1200				2		050.52	4
060	Water (Free) (%)	0513	0.5900	0.0200				2		060.99	0
060	Water (Free) (%)	0096	1.095	0.0100				2		060.00	0
101	Acid Soluble Ca (%)	0494	22.54	1.708	29.92	2.695	0.4875	20	-2.74	101.33	0
101	Acid Soluble Ca (%)	0073	23.51	0.6100	29.92	2.695	0.4875	20	-2.38	101.30	0
101	Acid Soluble Ca (%)	0220	28.00	0.0600	29.92	2.695	0.4875	20	-0.71	101.32	0
101	Acid Soluble Ca (%)	0513	28.05	0.0900	29.92	2.695	0.4875	20	-0.70	101.30	0
101	Acid Soluble Ca (%)	0368	28.22	0.4444	29.92	2.695	0.4875	20	-0.63	101.99	0
101	Acid Soluble Ca (%)	0405	28.34	1.341	29.92	2.695	0.4875	20	-0.59	101.32	0
101	Acid Soluble Ca (%)	0450	28.75	0.1300	29.92	2.695	0.4875	20	-0.44	101.99	0
101	Acid Soluble Ca (%)	0472	29.26	0.1200	29.92	2.695	0.4875	20	-0.25	101.33	0
101	Acid Soluble Ca (%)	0586	29.42	0.1700	29.92	2.695	0.4875	20	-0.19	101.99	0
101	Acid Soluble Ca (%)	0040	29.50	0.4500	29.92	2.695	0.4875	20	-0.16	101.33	0
101	Acid Soluble Ca (%)	0371	29.86	0.1800	29.92	2.695	0.4875	20	-0.02	101.30	0
101	Acid Soluble Ca (%)	0561	30.05	0.1600	29.92	2.695	0.4875	20	0.05	101.99	0
101	Acid Soluble Ca (%)	0025	30.20	0.6000	29.92	2.695	0.4875	20	0.10	101.33	0
101	Acid Soluble Ca (%)	0096	30.28	0.2100	29.92	2.695	0.4875	20	0.13	101.30	0
101	Acid Soluble Ca (%)	0527	31.04	0.0914	29.92	2.695	0.4875	20	0.41	101.33	0
101	Acid Soluble Ca (%)	0027	31.10	1.270	29.92	2.695	0.4875	20	0.44	101.99	0
101	Acid Soluble Ca (%)	0534	32.73	1.180	29.92	2.695	0.4875	20	1.04	101.99	0
101	Acid Soluble Ca (%)	0593	42.24	0.1350	29.92	2.695	0.4875	20	4.57	101.99	0
101	Acid Soluble Ca (%)	0582	42.30	0.1700	29.92	2.695	0.4875	20	4.59	101.33	0
101	Acid Soluble Ca (%)	0581	42.43	0.6300	29.92	2.695	0.4875	20	4.64	101.30	0
121	Acid Soluble Mg (%)	0450	0.2300	0.0200	0.4642	0.0602	0.0101	20	-3.89	121.99	0
121	Acid Soluble Mg (%)	0534	0.3750	0.0300	0.4642	0.0602	0.0101	20	-1.48	121.99	0
121	Acid Soluble Mg (%)	0040	0.4000	0.0200	0.4642	0.0602	0.0101	20	-1.07	121.00	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	Range				
121	Acid Soluble Mg (%)	0073	0.4225	0.0050	0.4642	0.0602	0.0101	20	-0.69	121.30	0
121	Acid Soluble Mg (%)	0368	0.4358	0.0072	0.4642	0.0602	0.0101	20	-0.47	121.99	0
121	Acid Soluble Mg (%)	0371	0.4400	0.0000	0.4642	0.0602	0.0101	20	-0.40	121.30	0
121	Acid Soluble Mg (%)	0220	0.4400	0.0200	0.4642	0.0602	0.0101	20	-0.40	121.32	0
121	Acid Soluble Mg (%)	0025	0.4450	0.0120	0.4642	0.0602	0.0101	20	-0.32	121.33	0
121	Acid Soluble Mg (%)	0513	0.4500	0.0000	0.4642	0.0602	0.0101	20	-0.24	121.30	0
121	Acid Soluble Mg (%)	0561	0.4500	0.0200	0.4642	0.0602	0.0101	20	-0.24	121.33	0
121	Acid Soluble Mg (%)	0096	0.4600	0.0000	0.4642	0.0602	0.0101	20	-0.07	121.30	0
121	Acid Soluble Mg (%)	0494	0.4714	0.0015	0.4642	0.0602	0.0101	20	0.12	121.33	0
121	Acid Soluble Mg (%)	0405	0.4747	0.0008	0.4642	0.0602	0.0101	20	0.17	121.32	0
121	Acid Soluble Mg (%)	0586	0.4850	0.0300	0.4642	0.0602	0.0101	20	0.34	121.99	0
121	Acid Soluble Mg (%)	0027	0.4965	0.0030	0.4642	0.0602	0.0101	20	0.54	121.99	0
121	Acid Soluble Mg (%)	0472	0.5000	0.0000	0.4642	0.0602	0.0101	20	0.59	121.33	0
121	Acid Soluble Mg (%)	0527	0.5015	0.0068	0.4642	0.0602	0.0101	20	0.62	121.33	0
121	Acid Soluble Mg (%)	0582	0.7600	0.0200	0.4642	0.0602	0.0101	20	4.92	121.33	0
121	Acid Soluble Mg (%)	0581	0.7900	0.0000	0.4642	0.0602	0.0101	20	5.41	121.30	0
121	Acid Soluble Mg (%)	0593	0.8125	0.0050	0.4642	0.0602	0.0101	20	5.79	121.99	0
131	Water Soluble Mg (%)	0576	4.000	0.0000				1		131.99	0
148	Total S (%)	0494	0.9989	0.0066	1.073	0.0756	0.0089	3	-0.98	148.07	0
148	Total S (%)	0513	1.070	0.0200	1.073	0.0756	0.0089	3	-0.04	148.07	0
148	Total S (%)	0472	1.150	0.0000	1.073	0.0756	0.0089	3	1.02	148.07	0
148	Total S (%)	0527	< 0.1		1.073	0.0756	0.0089	3		148.07	5
151	Acid Soluble As (ppm)	0582	12.95	5.700	20.04	4.272	1.696	12	-1.66	151.30	0
151	Acid Soluble As (ppm)	0220	13.55	0.1000	20.04	4.272	1.696	12	-1.52	151.32	0
151	Acid Soluble As (ppm)	0527	17.18	0.3978	20.04	4.272	1.696	12	-0.67	151.33	0
151	Acid Soluble As (ppm)	0534	18.62	0.6400	20.04	4.272	1.696	12	-0.33	151.99	0
151	Acid Soluble As (ppm)	0037	18.81	0.6590	20.04	4.272	1.696	12	-0.29	151.33	0
151	Acid Soluble As (ppm)	0096	20.50	1.000	20.04	4.272	1.696	12	0.11	151.30	0
151	Acid Soluble As (ppm)	0498	21.75	0.5000	20.04	4.272	1.696	12	0.40	151.00	0
151	Acid Soluble As (ppm)	0371	21.80	0.6600	20.04	4.272	1.696	12	0.41	151.30	0
151	Acid Soluble As (ppm)	0450	22.00	0.0000	20.04	4.272	1.696	12	0.46	151.30	0
151	Acid Soluble As (ppm)	0586	23.50	7.000	20.04	4.272	1.696	12	0.81	151.99	0
151	Acid Soluble As (ppm)	0405	24.50	1.000	20.04	4.272	1.696	12	1.04	151.32	0
151	Acid Soluble As (ppm)	0368	24.55	2.700	20.04	4.272	1.696	12	1.06	151.34	0
165	Acid Soluble B (%)	0472	0.0200	0.0000				2		165.99	0
165	Acid Soluble B (%)	0073	0.0615	0.0130				2		165.30	0
165	Acid Soluble B (%)	0527	< 0.01					2		165.99	5
181	Acid Soluble Cd (ppm)	0498	7.200	0.2000	11.00	1.387	0.2190	12	-2.74	181.00	0
181	Acid Soluble Cd (ppm)	0534	8.135	0.2900	11.00	1.387	0.2190	12	-2.07	181.99	0
181	Acid Soluble Cd (ppm)	0096	9.500	0.6000	11.00	1.387	0.2190	12	-1.08	181.30	0
181	Acid Soluble Cd (ppm)	0368	10.85	0.3000	11.00	1.387	0.2190	12	-0.11	181.34	0
181	Acid Soluble Cd (ppm)	0586	11.00	0.0000	11.00	1.387	0.2190	12	0.00	181.30	0
181	Acid Soluble Cd (ppm)	0037	11.37	0.0030	11.00	1.387	0.2190	12	0.26	181.33	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	Range				
181	Acid Soluble Cd (ppm)	0494	11.55	0.3000	11.00	1.387	0.2190	12	0.39	181.33	0
181	Acid Soluble Cd (ppm)	0371	11.62	0.2000	11.00	1.387	0.2190	12	0.44	181.30	0
181	Acid Soluble Cd (ppm)	0450	11.90	0.4000	11.00	1.387	0.2190	12	0.65	181.30	0
181	Acid Soluble Cd (ppm)	0405	12.00	0.0000	11.00	1.387	0.2190	12	0.72	181.32	0
181	Acid Soluble Cd (ppm)	0527	12.17	0.2354	11.00	1.387	0.2190	12	0.84	181.33	0
181	Acid Soluble Cd (ppm)	0220	12.25	0.1000	11.00	1.387	0.2190	12	0.90	181.32	0
191	Acid Soluble Cr (ppm)	0498	37.50	2.600	62.37	7.495	1.414	12	-3.32	191.00	0
191	Acid Soluble Cr (ppm)	0534	53.43	0.9000	62.37	7.495	1.414	12	-1.19	191.99	0
191	Acid Soluble Cr (ppm)	0027	55.50	3.000	62.37	7.495	1.414	12	-0.92	191.30	0
191	Acid Soluble Cr (ppm)	0368	60.15	1.700	62.37	7.495	1.414	12	-0.30	191.34	0
191	Acid Soluble Cr (ppm)	0371	60.63	1.040	62.37	7.495	1.414	12	-0.23	191.30	0
191	Acid Soluble Cr (ppm)	0096	61.20	1.400	62.37	7.495	1.414	12	-0.16	191.30	0
191	Acid Soluble Cr (ppm)	0037	65.26	1.454	62.37	7.495	1.414	12	0.39	191.33	0
191	Acid Soluble Cr (ppm)	0494	65.30	1.800	62.37	7.495	1.414	12	0.39	191.33	0
191	Acid Soluble Cr (ppm)	0586	66.50	1.000	62.37	7.495	1.414	12	0.55	191.30	0
191	Acid Soluble Cr (ppm)	0527	67.64	0.3714	62.37	7.495	1.414	12	0.70	191.33	0
191	Acid Soluble Cr (ppm)	0405	68.50	1.000	62.37	7.495	1.414	12	0.82	191.32	0
191	Acid Soluble Cr (ppm)	0220	73.25	0.7000	62.37	7.495	1.414	12	1.45	191.32	0
191	Acid Soluble Cr (ppm)	0450	83.50	9.000	62.37	7.495	1.414	12	2.82	191.30	1
202	Acid Soluble Co (ppm)	0096	1.200	0.2000	3.137	0.7316	0.0842	7	-2.39	202.30	0
202	Acid Soluble Co (ppm)	0494	2.825	0.1100	3.137	0.7316	0.0842	7	-0.39	202.33	0
202	Acid Soluble Co (ppm)	0450	3.000	0.0000	3.137	0.7316	0.0842	7	-0.17	202.30	0
202	Acid Soluble Co (ppm)	0220	3.050	0.1000	3.137	0.7316	0.0842	7	-0.11	202.32	0
202	Acid Soluble Co (ppm)	0527	3.269	0.1693	3.137	0.7316	0.0842	7	0.16	202.33	0
202	Acid Soluble Co (ppm)	0371	3.775	0.0100	3.137	0.7316	0.0842	7	0.79	202.30	0
202	Acid Soluble Co (ppm)	0405	4.000	0.0000	3.137	0.7316	0.0842	7	1.07	202.32	0
202	Acid Soluble Co (ppm)	0368	9.050	0.7000	3.137	0.7316	0.0842	7	7.31	202.34	1
202	Acid Soluble Co (ppm)	0586	< 0.6		3.137	0.7316	0.0842	7		202.30	5
202	Acid Soluble Co (ppm)	0498	< 20		3.137	0.7316	0.0842	7		202.00	5
221	Acid Soluble Cu (%)	0096	0.0009	0.0000	0.0050	0.0074	0.0000	6	-0.49	221.30	0
221	Acid Soluble Cu (%)	0527	0.0009	0.0000	0.0050	0.0074	0.0000	6	-0.49	221.33	0
221	Acid Soluble Cu (%)	0371	0.0010	0.0000	0.0050	0.0074	0.0000	6	-0.48	221.30	0
221	Acid Soluble Cu (%)	0405	0.0010	0.0000	0.0050	0.0074	0.0000	6	-0.48	221.32	0
221	Acid Soluble Cu (%)	0472	0.0100	0.0000	0.0050	0.0074	0.0000	6	0.60	221.33	0
221	Acid Soluble Cu (%)	0576	0.0200	0.0000	0.0050	0.0074	0.0000	6	1.80	221.99	0
221	Acid Soluble Cu (%)	0368	0.0019	0.0021	0.0050	0.0074	0.0000	6	-0.38	221.99	1
221	Acid Soluble Cu (%)	0586	< 0.0002		0.0050	0.0074	0.0000	6		221.99	5
221	Acid Soluble Cu (%)	0498	< 0.002		0.0050	0.0074	0.0000	6		221.02	5
241	Acid Soluble Fe (%)	0096	0.7650	0.0500	0.8171	0.0409	0.0201	9	-1.18	241.30	0
241	Acid Soluble Fe (%)	0472	0.7900	0.0000	0.8171	0.0409	0.0201	9	-0.61	241.33	0
241	Acid Soluble Fe (%)	0025	0.7980	0.0480	0.8171	0.0409	0.0201	9	-0.43	241.33	0
241	Acid Soluble Fe (%)	0220	0.8000	0.0000	0.8171	0.0409	0.0201	9	-0.39	241.32	0
241	Acid Soluble Fe (%)	0513	0.8050	0.0100	0.8171	0.0409	0.0201	9	-0.27	241.30	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	Range				
241	Acid Soluble Fe (%)	0494	0.8173	0.0291	0.8171	0.0409	0.0201	9	0.00	241.33	0
241	Acid Soluble Fe (%)	0073	0.8395	0.0230	0.8171	0.0409	0.0201	9	0.51	241.30	0
241	Acid Soluble Fe (%)	0527	0.8607	0.0061	0.8171	0.0409	0.0201	9	0.98	241.33	0
241	Acid Soluble Fe (%)	0593	0.9525	0.0150	0.8171	0.0409	0.0201	9	3.05	241.99	0
251	Acid Soluble Pb (ppm)	0096	6.800	2.000	9.985	2.393	0.6743	11	-1.33	251.30	0
251	Acid Soluble Pb (ppm)	0534	6.870	0.6200	9.985	2.393	0.6743	11	-1.30	251.99	0
251	Acid Soluble Pb (ppm)	0498	8.200	0.6000	9.985	2.393	0.6743	11	-0.75	251.00	0
251	Acid Soluble Pb (ppm)	0586	8.250	1.500	9.985	2.393	0.6743	11	-0.73	251.30	0
251	Acid Soluble Pb (ppm)	0494	10.41	1.380	9.985	2.393	0.6743	11	0.18	251.33	0
251	Acid Soluble Pb (ppm)	0220	10.55	0.1000	9.985	2.393	0.6743	11	0.24	251.32	0
251	Acid Soluble Pb (ppm)	0371	10.81	0.1000	9.985	2.393	0.6743	11	0.34	251.30	0
251	Acid Soluble Pb (ppm)	0037	11.15	0.7050	9.985	2.393	0.6743	11	0.49	251.33	0
251	Acid Soluble Pb (ppm)	0405	12.00	0.0000	9.985	2.393	0.6743	11	0.84	251.32	0
251	Acid Soluble Pb (ppm)	0450	12.05	0.3000	9.985	2.393	0.6743	11	0.86	251.30	0
251	Acid Soluble Pb (ppm)	0527	12.75	0.1124	9.985	2.393	0.6743	11	1.15	251.33	0
251	Acid Soluble Pb (ppm)	0368	< 0.6		9.985	2.393	0.6743	11		251.34	5
261	Acid Soluble Mn (%)	0371	0.0140	0.0000	0.0162	0.0023	0.0003	5	-0.95	261.32	0
261	Acid Soluble Mn (%)	0527	0.0152	0.0000	0.0162	0.0023	0.0003	5	-0.43	261.35	0
261	Acid Soluble Mn (%)	0025	0.0153	0.0000	0.0162	0.0023	0.0003	5	-0.38	261.35	0
261	Acid Soluble Mn (%)	0494	0.0164	0.0014	0.0162	0.0023	0.0003	5	0.10	261.35	0
261	Acid Soluble Mn (%)	0472	0.0200	0.0000	0.0162	0.0023	0.0003	5	1.66	261.35	0
281	Acid Soluble Hg (ppm)	0368	0.0378	0.0013				2		281.99	0
281	Acid Soluble Hg (ppm)	0371	0.0555	0.0030				2		281.30	0
281	Acid Soluble Hg (ppm)	0527	< 0.001					2		281.30	5
281	Acid Soluble Hg (ppm)	0220	< 0.01					2		281.99	5
281	Acid Soluble Hg (ppm)	0450	< 0.05					2		281.30	5
281	Acid Soluble Hg (ppm)	0405	< 2					2		281.30	5
289	Acid Soluble Mo (ppm)	0037	10.00	0.0000	10.68	0.4712	0.0601	7	-1.31	289.33	0
289	Acid Soluble Mo (ppm)	0096	10.45	0.1000	10.68	0.4712	0.0601	7	-0.45	289.30	0
289	Acid Soluble Mo (ppm)	0450	10.50	0.0000	10.68	0.4712	0.0601	7	-0.35	289.30	0
289	Acid Soluble Mo (ppm)	0220	10.65	0.1000	10.68	0.4712	0.0601	7	-0.07	289.32	0
289	Acid Soluble Mo (ppm)	0494	10.95	0.1000	10.68	0.4712	0.0601	7	0.51	289.33	0
289	Acid Soluble Mo (ppm)	0405	11.00	0.0000	10.68	0.4712	0.0601	7	0.61	289.99	0
289	Acid Soluble Mo (ppm)	0527	11.24	0.1207	10.68	0.4712	0.0601	7	1.06	289.33	0
289	Acid Soluble Mo (ppm)	0586	11.00	2.000	10.68	0.4712	0.0601	7	0.61	289.30	1
289	Acid Soluble Mo (ppm)	0368	0.0000	0.0000	10.68	0.4712	0.0601	7		289.34	4
291	Acid Soluble Ni (ppm)	0037	10.00	0.0000	13.72	2.362	0.2507	9	-1.45	291.33	0
291	Acid Soluble Ni (ppm)	0096	11.30	1.200	13.72	2.362	0.2507	9	-0.94	291.30	0
291	Acid Soluble Ni (ppm)	0534	11.73	0.3100	13.72	2.362	0.2507	9	-0.78	291.99	0
291	Acid Soluble Ni (ppm)	0450	14.00	0.0000	13.72	2.362	0.2507	9	0.11	291.30	0
291	Acid Soluble Ni (ppm)	0220	14.90	0.2000	13.72	2.362	0.2507	9	0.46	291.32	0
291	Acid Soluble Ni (ppm)	0405	15.00	0.0000	13.72	2.362	0.2507	9	0.50	291.99	0
291	Acid Soluble Ni (ppm)	0368	15.25	0.1000	13.72	2.362	0.2507	9	0.60	291.34	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	Range				
291	Acid Soluble Ni (ppm)	0371	15.31	0.1700	13.72	2.362	0.2507	9	0.62	291.30	0
291	Acid Soluble Ni (ppm)	0527	15.80	0.2759	13.72	2.362	0.2507	9	0.81	291.33	0
291	Acid Soluble Ni (ppm)	0586	11.00	3.000	13.72	2.362	0.2507	9	-1.06	291.30	1
301	Acid Soluble Se (ppm)	0586	0.7500	0.0200	2.935	2.229	0.2410	4	-0.83	301.99	0
301	Acid Soluble Se (ppm)	0220	1.350	0.1000	2.935	2.229	0.2410	4	-0.60	301.32	0
301	Acid Soluble Se (ppm)	0037	4.316	0.8140	2.935	2.229	0.2410	4	0.53	301.33	0
301	Acid Soluble Se (ppm)	0371	5.325	0.0300	2.935	2.229	0.2410	4	0.91	301.30	0
301	Acid Soluble Se (ppm)	0527	< 0.01		2.935	2.229	0.2410	4		301.33	5
301	Acid Soluble Se (ppm)	0368	< 1.1		2.935	2.229	0.2410	4		301.34	5
301	Acid Soluble Se (ppm)	0405	< 10		2.935	2.229	0.2410	4		301.99	5
311	Sodium (%)	0527	0.6852	0.0053				2		311.33	0
311	Sodium (%)	0513	0.9700	0.0200				2		311.99	0
321	Acid Soluble Zn (%)	0527	0.0035	0.0000	0.0043	0.0007	0.0004	9	-1.13	321.33	0
321	Acid Soluble Zn (%)	0220	0.0036	0.0000	0.0043	0.0007	0.0004	9	-0.99	321.32	0
321	Acid Soluble Zn (%)	0371	0.0040	0.0000	0.0043	0.0007	0.0004	9	-0.41	321.30	0
321	Acid Soluble Zn (%)	0405	0.0040	0.0004	0.0043	0.0007	0.0004	9	-0.41	321.99	0
321	Acid Soluble Zn (%)	0027	0.0041	0.0002	0.0043	0.0007	0.0004	9	-0.26	321.99	0
321	Acid Soluble Zn (%)	0037	0.0045	0.0010	0.0043	0.0007	0.0004	9	0.32	321.33	0
321	Acid Soluble Zn (%)	0586	0.0045	0.0010	0.0043	0.0007	0.0004	9	0.32	321.99	0
321	Acid Soluble Zn (%)	0040	0.0050	0.0000	0.0043	0.0007	0.0004	9	1.05	321.00	0
321	Acid Soluble Zn (%)	0096	0.0064	0.0013	0.0043	0.0007	0.0004	9	3.02	321.30	0
321	Acid Soluble Zn (%)	0368	0.0071	0.0037	0.0043	0.0007	0.0004	9	4.04	321.99	1
321	Acid Soluble Zn (%)	0582	0.0000	0.0000	0.0043	0.0007	0.0004	9		321.33	4
321	Acid Soluble Zn (%)	0498	< 0.01		0.0043	0.0007	0.0004	9		321.02	5
321	Acid Soluble Zn (%)	0593	< 0.04		0.0043	0.0007	0.0004	9		321.33	5
431	Soluble Si in nonliquids (%)	0513	5.570	0.0600				1		431.99	0

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.