

Analyte PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Analytes: 32

Sample # 231141

Phosphorous Select PT Scheme

Labs Reporting: 19

12-40-0 MAP + Zn

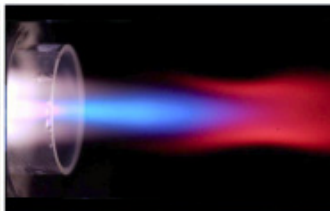
Statistical Summary

Issue Date : 12/31/2023

Analyte Code	Analyte Sample # 231141	# 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 (%)	11	10	11.36	0.9153	11.68		0.1345	0.0532	1.15%		0.0514	2.76%
002	Nitrate N (%)	1		0.0100									
010	Total N (12%)	13	12	11.71	0.2870	11.74	0.6060	0.2827	0.1020	2.41%	1.09	0.0815	2.76%
020	Total P2O5 (%)	15	14	40.02	0.4297	39.95		0.3571	0.1193	0.89%		0.1531	1.58%
030	Citrate Insoluble P2O5 (%)	5	5	0.3090	0.0381	0.3090		0.0381	0.0213	12.33%		0.0560	4.77%
040	Indirect Available P2O5 (40%)	6	6	33.15	16.24	39.59	0.8919	0.6607	0.3371	1.67%	1.73	0.2463	1.59%
041	Direct Available P2O5 (40%)	10	10	39.57	0.3308	39.57	0.8914	0.3712	0.1467	0.94%	0.97	0.0936	1.59%
048	Water Soluble P2O5 (%)	5	5	33.32	2.706	33.32		2.706	1.513	8.12%		0.1230	1.73%
050	Soluble K2O (%)	2	2	0.1452	0.0068								
060	Water (Free) (%)	4	4	1.006	0.5733	1.006		0.5733	0.3583	57.01%		0.0788	4.00%
101	Acid Soluble Ca (%)	4	4	0.3934	0.0282	0.3934	0.2197	0.0282	0.0176	7.18%	0.30	0.0387	4.60%
121	Acid Soluble Mg (%)	3	3	0.6368	0.0458	0.6368	0.2318	0.0458	0.0331	7.20%	0.46	0.0153	4.28%
131	Water Soluble Mg (%)	1		0.1810									
143	Elemental S (%)	1		7.547									
145	Sulfate S, HCl soluble (%)	3	3	6.549	1.798	6.549		1.798	1.298	27.46%		0.0717	3.01%
148	Total S (10%)	14	13	9.580	1.364	9.764	0.6882	0.9295	0.3222	9.52%	3.15	0.1054	2.84%
151	Acid Soluble As (ppm)	11	10	11.11	6.076	9.239		1.921	0.7592	20.79%		0.2914	11.45%
165	Acid Soluble B (%)	2	1	0.0066	0.0048								
181	Acid Soluble Cd (ppm)	9	8	2.731	0.4674	2.831		0.4380	0.1936	15.47%		0.1321	13.68%
191	Acid Soluble Cr (ppm)	12	11	101.1	10.39	98.48		7.457	2.810	7.57%		0.9472	8.02%
202	Acid Soluble Co (ppm)	10	7	3.089	1.122	2.770	1.8309	0.4097	0.1936	14.79%	0.52	0.1112	13.72%
221	Acid Soluble Cu (%)	10	7	0.4008	1.266	0.0003	0.0050	0.0002	0.0001	49.64%	0.07	0.0001	13.46%
241	Acid Soluble Fe (%)	4	4	0.9312	0.0615	0.9312	0.0981	0.0615	0.0384	6.60%	1.46	0.0108	4.04%
251	Acid Soluble Pb (ppm)	11	7	3.884	1.793	3.740		2.436	1.151	65.11%		0.1908	13.12%
261	Acid Soluble Mn (%)	4	4	0.0302	0.0041	0.0302	0.0080	0.0041	0.0026	13.67%	1.20	0.0008	6.77%
281	Acid Soluble Hg (ppm)	6	2	1.193	2.024	0.0735		0.0375	0.0331	50.99%		0.0000	22.00%
289	Acid Soluble Mo (ppm)	9	8	11.66	1.517	11.76	4.5277	1.807	0.7984	15.36%	0.93	0.5846	11.04%
291	Acid Soluble Ni (ppm)	12	12	17.76	4.678	17.19		3.982	1.437	23.17%		0.4333	10.43%
301	Acid Soluble Se (ppm)	10	2	1.581	3.003	1.100		0.6017	0.5319	54.73%		0.0290	15.77%

Analyte Code	Analyte Sample # 231141	# 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
311	Sodium (%)	2	2	0.1950	0.0070								
321	Acid Soluble Zn (1%)	16	15	582.2	2,325	0.9861	0.1036	0.0398	0.0128	4.03%	0.89	0.0255	4.01%
325	Water Soluble Zn (%)	3	3	0.5350	0.0999	0.5350		0.0999	0.0721	18.67%		0.0150	4.39%

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: 32

Sample # 231141

Phosphorous Select PT Scheme

Labs Reporting: 19

12-40-0 MAP + Zn

Lab Values

Issue Date : 12/31/2023

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
001	Ammoniacal N (%)	0626	11.21	0.0000	11.68	0.1345	0.0514	10	-3.22	001.99	0
001	Ammoniacal N (%)	0220	11.22	0.1600	11.68	0.1345	0.0514	10	-3.16	001.99	0
001	Ammoniacal N (%)	0581	11.66	0.0400	11.68	0.1345	0.0514	10	-0.11	001.99	0
001	Ammoniacal N (%)	0586	11.67	0.0400	11.68	0.1345	0.0514	10	-0.04	001.99	0
001	Ammoniacal N (%)	0593	11.68	0.0150	11.68	0.1345	0.0514	10	0.04	001.99	0
001	Ammoniacal N (%)	0582	11.70	0.0950	11.68	0.1345	0.0514	10	0.15	001.99	0
001	Ammoniacal N (%)	0405	11.72	0.0200	11.68	0.1345	0.0514	10	0.30	001.99	0
001	Ammoniacal N (%)	0517	11.78	0.0400	11.68	0.1345	0.0514	10	0.72	001.99	0
001	Ammoniacal N (%)	0513	11.80	0.0600	11.68	0.1345	0.0514	10	0.85	001.99	0
001	Ammoniacal N (%)	0096	11.81	0.0500	11.68	0.1345	0.0514	10	0.89	001.99	0
001	Ammoniacal N (%)	0368	8.671	0.3070	11.68	0.1345	0.0514	10	-20.78	001.99	1
002	Nitrate N (%)	0220	< 0.01					0		002.99	5
010	Total N (12%)	0626	11.37	0.0000	11.74	0.2827	0.0815	12	-1.30	010.60	0
010	Total N (12%)	0042	11.40	0.0300	11.74	0.2827	0.0815	12	-1.21	010.60	0
010	Total N (12%)	0368	11.55	0.0160	11.74	0.2827	0.0815	12	-0.66	010.60	0
010	Total N (12%)	0086	11.65	0.1230	11.74	0.2827	0.0815	12	-0.31	010.60	0
010	Total N (12%)	0527	11.68	0.0300	11.74	0.2827	0.0815	12	-0.21	010.60	0
010	Total N (12%)	0561	11.69	0.0400	11.74	0.2827	0.0815	12	-0.16	010.60	0
010	Total N (12%)	0405	11.72	0.0000	11.74	0.2827	0.0815	12	-0.06	010.60	0
010	Total N (12%)	0220	11.76	0.0100	11.74	0.2827	0.0815	12	0.07	010.60	0
010	Total N (12%)	0517	11.83	0.0500	11.74	0.2827	0.0815	12	0.31	010.99	0
010	Total N (12%)	0593	11.90	0.2700	11.74	0.2827	0.0815	12	0.56	010.60	0
010	Total N (12%)	0040	12.15	0.3000	11.74	0.2827	0.0815	12	1.46	010.60	0
010	Total N (12%)	0627	12.26	0.0900	11.74	0.2827	0.0815	12	1.83	010.99	0
010	Total N (12%)	0494	11.26	0.5600	11.74	0.2827	0.0815	12	-1.68	010.60	1
020	Total P2O5 (%)	0368	39.28	0.0340	39.95	0.3571	0.1531	14	-1.86	020.50	0
020	Total P2O5 (%)	0513	39.50	0.0200	39.95	0.3571	0.1531	14	-1.26	020.99	0
020	Total P2O5 (%)	0405	39.60	0.0000	39.95	0.3571	0.1531	14	-0.98	020.20	0
020	Total P2O5 (%)	0586	39.79	0.1100	39.95	0.3571	0.1531	14	-0.46	020.40	0
020	Total P2O5 (%)	0593	39.88	0.3850	39.95	0.3571	0.1531	14	-0.20	020.20	0
020	Total P2O5 (%)	0096	39.91	0.1500	39.95	0.3571	0.1531	14	-0.12	020.40	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
020	Total P2O5 (%)	0561	39.95	0.0900	39.95	0.3571	0.1531	14	-0.01	020.20	0
020	Total P2O5 (%)	0581	39.96	0.1600	39.95	0.3571	0.1531	14	0.03	020.20	0
020	Total P2O5 (%)	0582	39.99	0.3500	39.95	0.3571	0.1531	14	0.12	020.20	0
020	Total P2O5 (%)	0517	40.06	0.0900	39.95	0.3571	0.1531	14	0.30	020.99	0
020	Total P2O5 (%)	0627	40.10	0.1200	39.95	0.3571	0.1531	14	0.43	020.50	0
020	Total P2O5 (%)	0626	40.21	0.0100	39.95	0.3571	0.1531	14	0.72	020.40	0
020	Total P2O5 (%)	0527	40.46	0.4906	39.95	0.3571	0.1531	14	1.42	020.50	0
020	Total P2O5 (%)	0220	40.88	0.1100	39.95	0.3571	0.1531	14	2.60	020.20	0
020	Total P2O5 (%)	0615	40.75	0.9000	39.95	0.3571	0.1531	14	2.25	020.20	1
030	Citrate Insoluble P2O5 (%)	0582	0.2600	0.0800	0.3090	0.0381	0.0560	5	-1.29	030.50	0
030	Citrate Insoluble P2O5 (%)	0096	0.2825	0.0550	0.3090	0.0381	0.0560	5	-0.70	030.40	0
030	Citrate Insoluble P2O5 (%)	0586	0.3150	0.1100	0.3090	0.0381	0.0560	5	0.16	030.40	0
030	Citrate Insoluble P2O5 (%)	0593	0.3325	0.0050	0.3090	0.0381	0.0560	5	0.62	030.99	0
030	Citrate Insoluble P2O5 (%)	0220	0.3550	0.0300	0.3090	0.0381	0.0560	5	1.21	030.20	0
040	Indirect Available P2O5 (40%)	0405	0.01000†	0.0000	39.59	0.6607	0.2463	6	-53.37	040.20	0
040	Indirect Available P2O5 (40%)	0586	39.47	0.0000	39.59	0.6607	0.2463	6	-0.17	040.20	0
040	Indirect Available P2O5 (40%)	0593	39.55	0.3900	39.59	0.6607	0.2463	6	-0.06	040.99	0
040	Indirect Available P2O5 (40%)	0096	39.63	0.0900	39.59	0.6607	0.2463	6	0.04	040.40	0
040	Indirect Available P2O5 (40%)	0582	39.73	0.4250	39.59	0.6607	0.2463	6	0.19	040.99	0
040	Indirect Available P2O5 (40%)	0220	40.52‡	0.0800	39.59	0.6607	0.2463	6	1.25	040.20	0
041	Direct Available P2O5 (40%)	0626	39.04	0.0200	39.57	0.3712	0.0936	10	-1.33	041.40	0
041	Direct Available P2O5 (40%)	0405	39.27	0.0200	39.57	0.3712	0.0936	10	-0.75	041.11	0
041	Direct Available P2O5 (40%)	0513	39.32	0.0800	39.57	0.3712	0.0936	10	-0.63	041.11	0
041	Direct Available P2O5 (40%)	0220	39.50	0.0200	39.57	0.3712	0.0936	10	-0.17	041.11	0
041	Direct Available P2O5 (40%)	0494	39.52	0.2300	39.57	0.3712	0.0936	10	-0.14	041.51	0
041	Direct Available P2O5 (40%)	0040	39.55	0.3000	39.57	0.3712	0.0936	10	-0.05	041.10	0
041	Direct Available P2O5 (40%)	0405	39.59	0.0100	39.57	0.3712	0.0936	10	0.04	041.99	0
041	Direct Available P2O5 (40%)	0086	39.89	0.0116	39.57	0.3712	0.0936	10	0.81	041.10	0
041	Direct Available P2O5 (40%)	0517	39.90	0.1600	39.57	0.3712	0.0936	10	0.83	041.11	0
041	Direct Available P2O5 (40%)	0494	40.15	0.1300	39.57	0.3712	0.0936	10	1.44	041.10	0
048	Water Soluble P2O5 (%)	0517	30.35	0.1400	33.32	2.706	0.1230	5	-1.10	048.99	0
048	Water Soluble P2O5 (%)	0513	30.36	0.1400	33.32	2.706	0.1230	5	-1.09	048.99	0
048	Water Soluble P2O5 (%)	0593	35.19	0.2950	33.32	2.706	0.1230	5	0.69	048.20	0
048	Water Soluble P2O5 (%)	0096	35.31	0.0200	33.32	2.706	0.1230	5	0.74	048.40	0
048	Water Soluble P2O5 (%)	0626	35.38	0.0200	33.32	2.706	0.1230	5	0.76	048.40	0
050	Soluble K2O (%)	0527	0.1404	0.0025				2		050.99	0
050	Soluble K2O (%)	0096	0.1500	0.0000				2		050.99	0
060	Water (Free) (%)	0513	0.5100	0.0200	1.006	0.5733	0.0788	4	-0.86	060.00	0
060	Water (Free) (%)	0517	0.5100	0.0200	1.006	0.5733	0.0788	4	-0.86	060.00	0
060	Water (Free) (%)	0096	1.460	0.1200	1.006	0.5733	0.0788	4	0.79	060.00	0
060	Water (Free) (%)	0593	1.543	0.1550	1.006	0.5733	0.0788	4	0.94	060.30	0
101	Acid Soluble Ca (%)	0527	0.3724	0.0275	0.3934	0.0282	0.0387	4	-0.75	101.33	0
101	Acid Soluble Ca (%)	0494	0.3813	0.0071	0.3934	0.0282	0.0387	4	-0.43	101.33	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
101	Acid Soluble Ca (%)	0593	0.3850	0.0100	0.3934	0.0282	0.0387	4	-0.30	101.99	0
101	Acid Soluble Ca (%)	0096	0.4350	0.1100	0.3934	0.0282	0.0387	4	1.47	101.30	0
121	Acid Soluble Mg (%)	0096	0.6060	0.0060	0.6368	0.0458	0.0153	3	-0.67	121.30	0
121	Acid Soluble Mg (%)	0593	0.6150	0.0100	0.6368	0.0458	0.0153	3	-0.48	121.99	0
121	Acid Soluble Mg (%)	0527	0.6895	0.0300	0.6368	0.0458	0.0153	3	1.15	121.33	0
131	Water Soluble Mg (%)	0626	0.1810	0.0020				1		131.00	0
143	Elemental S (%)	0368	7.547	0.4354				1		143.99	0
145	Sulfate S, HCl soluble (%)	0593	5.463	0.1850	6.549	1.798	0.0717	3	-0.60	145.99	0
145	Sulfate S, HCl soluble (%)	0561	5.560	0.0200	6.549	1.798	0.0717	3	-0.55	145.00	0
145	Sulfate S, HCl soluble (%)	0220	8.625	0.0100	6.549	1.798	0.0717	3	1.15	145.00	0
148	Total S (10%)	0096	5.595†	0.2700	9.764	0.9295	0.1054	13	-4.49	148.99	0
148	Total S (10%)	0627	8.075†	0.0500	9.764	0.9295	0.1054	13	-1.82	148.07	0
148	Total S (10%)	0527	8.940†	0.1848	9.764	0.9295	0.1054	13	-0.89	148.07	0
148	Total S (10%)	0405	9.035†	0.0300	9.764	0.9295	0.1054	13	-0.78	148.01	0
148	Total S (10%)	0040	9.800	0.0000	9.764	0.9295	0.1054	13	0.04	148.07	0
148	Total S (10%)	0513	9.970	0.2200	9.764	0.9295	0.1054	13	0.22	148.07	0
148	Total S (10%)	0626	10.09	0.0200	9.764	0.9295	0.1054	13	0.35	148.00	0
148	Total S (10%)	0561	10.19	0.0100	9.764	0.9295	0.1054	13	0.45	148.01	0
148	Total S (10%)	0581	10.21	0.0200	9.764	0.9295	0.1054	13	0.48	148.00	0
148	Total S (10%)	0593	10.21	0.0000	9.764	0.9295	0.1054	13	0.48	148.00	0
148	Total S (10%)	0405	10.25	0.1000	9.764	0.9295	0.1054	13	0.52	148.00	0
148	Total S (10%)	0494	10.60‡	0.2065	9.764	0.9295	0.1054	13	0.90	148.01	0
148	Total S (10%)	0220	10.91‡	0.0500	9.764	0.9295	0.1054	13	1.23	148.99	0
148	Total S (10%)	0494	10.25	0.6133	9.764	0.9295	0.1054	13	0.52	148.07	1
151	Acid Soluble As (ppm)	0626	5.865	0.1700	9.239	1.921	0.2914	10	-1.63	151.99	0
151	Acid Soluble As (ppm)	0096	7.900	0.6000	9.239	1.921	0.2914	10	-0.65	151.30	0
151	Acid Soluble As (ppm)	0586	8.000	0.0000	9.239	1.921	0.2914	10	-0.60	151.30	0
151	Acid Soluble As (ppm)	0627	8.665	0.2900	9.239	1.921	0.2914	10	-0.28	151.30	0
151	Acid Soluble As (ppm)	0220	9.050	0.1000	9.239	1.921	0.2914	10	-0.09	151.99	0
151	Acid Soluble As (ppm)	0527	9.197	0.4796	9.239	1.921	0.2914	10	-0.02	151.33	0
151	Acid Soluble As (ppm)	0220	9.300	0.2000	9.239	1.921	0.2914	10	0.03	151.32	0
151	Acid Soluble As (ppm)	0593	10.80	0.2000	9.239	1.921	0.2914	10	0.76	151.30	0
151	Acid Soluble As (ppm)	0405	11.00	0.0000	9.239	1.921	0.2914	10	0.85	151.32	0
151	Acid Soluble As (ppm)	0368	14.10	0.0000	9.239	1.921	0.2914	10	2.35	151.34	0
151	Acid Soluble As (ppm)	0494	28.30	2.800	9.239	1.921	0.2914	10	9.23	151.33	1
165	Acid Soluble B (%)	0593	0.0032	0.0001				1		165.99	0
165	Acid Soluble B (%)	0527	< 0.01					1		165.99	5
181	Acid Soluble Cd (ppm)	0368	2.100	0.0000	2.831	0.4380	0.1321	8	-1.53	181.34	0
181	Acid Soluble Cd (ppm)	0626	2.415	0.2300	2.831	0.4380	0.1321	8	-0.87	181.30	0
181	Acid Soluble Cd (ppm)	0220	2.800	0.0000	2.831	0.4380	0.1321	8	-0.07	181.99	0
181	Acid Soluble Cd (ppm)	0593	2.835	0.0500	2.831	0.4380	0.1321	8	0.01	181.30	0
181	Acid Soluble Cd (ppm)	0220	2.900	0.0000	2.831	0.4380	0.1321	8	0.14	181.32	0
181	Acid Soluble Cd (ppm)	0405	3.000	0.0000	2.831	0.4380	0.1321	8	0.35	181.32	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
181	Acid Soluble Cd (ppm)	0527	3.136	0.2082	2.831	0.4380	0.1321	8	0.64	181.33	0
181	Acid Soluble Cd (ppm)	0627	3.390	0.0400	2.831	0.4380	0.1321	8	1.17	181.30	0
181	Acid Soluble Cd (ppm)	0586	2.000	2.000	2.831	0.4380	0.1321	8	-1.74	181.30	1
191	Acid Soluble Cr (ppm)	0627	90.90	0.4000	98.48	7.457	0.9472	11	-1.02	191.30	0
191	Acid Soluble Cr (ppm)	0368	91.75	0.1000	98.48	7.457	0.9472	11	-0.90	191.34	0
191	Acid Soluble Cr (ppm)	0626	92.86	0.7200	98.48	7.457	0.9472	11	-0.75	191.30	0
191	Acid Soluble Cr (ppm)	0626	93.42	1.460	98.48	7.457	0.9472	11	-0.68	191.99	0
191	Acid Soluble Cr (ppm)	0220	95.60	0.4000	98.48	7.457	0.9472	11	-0.39	191.99	0
191	Acid Soluble Cr (ppm)	0220	98.75	1.900	98.48	7.457	0.9472	11	0.04	191.32	0
191	Acid Soluble Cr (ppm)	0096	99.05	0.5000	98.48	7.457	0.9472	11	0.08	191.30	0
191	Acid Soluble Cr (ppm)	0593	99.60	0.8000	98.48	7.457	0.9472	11	0.15	191.30	0
191	Acid Soluble Cr (ppm)	0405	102.0	0.0000	98.48	7.457	0.9472	11	0.47	191.32	0
191	Acid Soluble Cr (ppm)	0527	117.2	1.097	98.48	7.457	0.9472	11	2.52	191.33	0
191	Acid Soluble Cr (ppm)	0586	124.0	8.000	98.48	7.457	0.9472	11	3.42	191.30	0
191	Acid Soluble Cr (ppm)	0494	107.5	13.00	98.48	7.457	0.9472	11	1.21	191.33	1
202	Acid Soluble Co (ppm)	0593	2.190	0.0000	2.770	0.4097	0.1112	7	-1.28	202.30	0
202	Acid Soluble Co (ppm)	0220	2.550	0.1000	2.770	0.4097	0.1112	7	-0.48	202.99	0
202	Acid Soluble Co (ppm)	0368	2.650	0.1000	2.770	0.4097	0.1112	7	-0.26	202.34	0
202	Acid Soluble Co (ppm)	0220	2.700	0.0000	2.770	0.4097	0.1112	7	-0.15	202.32	0
202	Acid Soluble Co (ppm)	0405	3.000	0.0000	2.770	0.4097	0.1112	7	0.51	202.32	0
202	Acid Soluble Co (ppm)	0494	3.010	0.1000	2.770	0.4097	0.1112	7	0.53	202.33	0
202	Acid Soluble Co (ppm)	0527	3.288	0.1446	2.770	0.4097	0.1112	7	1.14	202.33	0
202	Acid Soluble Co (ppm)	0586	1.500	1.000	2.770	0.4097	0.1112	7	-2.80	202.30	1
202	Acid Soluble Co (ppm)	0626	< 5		2.770	0.4097	0.1112	7		202.30	5
202	Acid Soluble Co (ppm)	0626	< 5		2.770	0.4097	0.1112	7		202.99	5
221	Acid Soluble Cu (%)	0220	0.0001	0.0000	0.0003	0.0002	0.0001	7	-1.24	221.32	0
221	Acid Soluble Cu (%)	0096	0.0002	0.0000	0.0003	0.0002	0.0001	7	-0.66	221.30	0
221	Acid Soluble Cu (%)	0368	0.0003	0.0000	0.0003	0.0002	0.0001	7	-0.08	221.99	0
221	Acid Soluble Cu (%)	0593	0.0003	0.0000	0.0003	0.0002	0.0001	7	-0.08	221.99	0
221	Acid Soluble Cu (%)	0527	0.0004	0.0001	0.0003	0.0002	0.0001	7	0.21	221.33	0
221	Acid Soluble Cu (%)	0626	0.0005	0.0001	0.0003	0.0002	0.0001	7	0.79	221.00	0
221	Acid Soluble Cu (%)	0626	0.0005	0.0000	0.0003	0.0002	0.0001	7	1.08	221.33	0
221	Acid Soluble Cu (%)	0627	4.005	1.070	0.0003	0.0002	0.0001	7	23208.40	221.33	1
221	Acid Soluble Cu (%)	0405	< 0.0002		0.0003	0.0002	0.0001	7		221.32	5
221	Acid Soluble Cu (%)	0586	< 0.001		0.0003	0.0002	0.0001	7		221.99	5
241	Acid Soluble Fe (%)	0096	0.8635	0.0070	0.9312	0.0615	0.0108	4	-1.10	241.30	0
241	Acid Soluble Fe (%)	0593	0.8950	0.0100	0.9312	0.0615	0.0108	4	-0.59	241.99	0
241	Acid Soluble Fe (%)	0527	0.9772	0.0057	0.9312	0.0615	0.0108	4	0.75	241.33	0
241	Acid Soluble Fe (%)	0494	0.9890	0.0203	0.9312	0.0615	0.0108	4	0.94	241.33	0
251	Acid Soluble Pb (ppm)	0586	1.000	0.0000	3.740	2.436	0.1908	7	-1.02	251.30	0
251	Acid Soluble Pb (ppm)	0096	1.800	0.2000	3.740	2.436	0.1908	7	-0.72	251.30	0
251	Acid Soluble Pb (ppm)	0593	2.755	0.0100	3.740	2.436	0.1908	7	-0.37	251.30	0
251	Acid Soluble Pb (ppm)	0527	2.928	0.1348	3.740	2.436	0.1908	7	-0.30	251.33	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
251	Acid Soluble Pb (ppm)	0368	5.200	0.2000	3.740	2.436	0.1908	7	0.54	251.34	0
251	Acid Soluble Pb (ppm)	0220	6.100	0.2000	3.740	2.436	0.1908	7	0.88	251.99	0
251	Acid Soluble Pb (ppm)	0220	6.400	0.4000	3.740	2.436	0.1908	7	0.99	251.32	0
251	Acid Soluble Pb (ppm)	0627	2.540	1.680	3.740	2.436	0.1908	7	-0.45	251.30	1
251	Acid Soluble Pb (ppm)	0405	< 4		3.740	2.436	0.1908	7		251.32	5
251	Acid Soluble Pb (ppm)	0626	< 5		3.740	2.436	0.1908	7		251.30	5
251	Acid Soluble Pb (ppm)	0626	< 5		3.740	2.436	0.1908	7		251.99	5
261	Acid Soluble Mn (%)	0593	0.0262	0.0003	0.0302	0.0041	0.0008	4	-0.97	261.99	0
261	Acid Soluble Mn (%)	0096	0.0277	0.0001	0.0302	0.0041	0.0008	4	-0.61	261.30	0
261	Acid Soluble Mn (%)	0527	0.0315	0.0001	0.0302	0.0041	0.0008	4	0.32	261.35	0
261	Acid Soluble Mn (%)	0494	0.0354	0.0027	0.0302	0.0041	0.0008	4	1.26	261.35	0
281	Acid Soluble Hg (ppm)	0626	0.0470	0.0000				2		281.99	0
281	Acid Soluble Hg (ppm)	0593	0.1000	0.0000				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)	0405	< 2					2		281.30	5
281	Acid Soluble Hg (ppm)	0627	< 5					2		281.30	5
289	Acid Soluble Mo (ppm)	0220	10.10	0.0000	11.76	1.807	0.5846	8	-0.84	289.99	0
289	Acid Soluble Mo (ppm)	0494	10.11	0.3800	11.76	1.807	0.5846	8	-0.83	289.33	0
289	Acid Soluble Mo (ppm)	0220	10.55	0.1000	11.76	1.807	0.5846	8	-0.61	289.32	0
289	Acid Soluble Mo (ppm)	0368	11.25	0.1000	11.76	1.807	0.5846	8	-0.26	289.34	0
289	Acid Soluble Mo (ppm)	0405	11.50	1.000	11.76	1.807	0.5846	8	-0.13	289.32	0
289	Acid Soluble Mo (ppm)	0527	12.71	0.4278	11.76	1.807	0.5846	8	0.48	289.33	0
289	Acid Soluble Mo (ppm)	0593	13.60	0.0000	11.76	1.807	0.5846	8	0.93	289.30	0
289	Acid Soluble Mo (ppm)	0586	14.25	1.500	11.76	1.807	0.5846	8	1.26	289.30	0
289	Acid Soluble Mo (ppm)	0096	10.90	3.400	11.76	1.807	0.5846	8	-0.44	289.30	1
291	Acid Soluble Ni (ppm)	0626	13.03	0.2500	17.19	3.982	0.4333	12	-1.05	291.30	0
291	Acid Soluble Ni (ppm)	0626	13.69	0.2100	17.19	3.982	0.4333	12	-0.88	291.99	0
291	Acid Soluble Ni (ppm)	0593	14.72	0.0400	17.19	3.982	0.4333	12	-0.62	291.30	0
291	Acid Soluble Ni (ppm)	0220	14.80	0.0000	17.19	3.982	0.4333	12	-0.60	291.99	0
291	Acid Soluble Ni (ppm)	0368	15.00	0.2000	17.19	3.982	0.4333	12	-0.55	291.34	0
291	Acid Soluble Ni (ppm)	0220	15.30	0.2000	17.19	3.982	0.4333	12	-0.47	291.32	0
291	Acid Soluble Ni (ppm)	0096	16.50	0.2000	17.19	3.982	0.4333	12	-0.17	291.30	0
291	Acid Soluble Ni (ppm)	0405	17.50	1.000	17.19	3.982	0.4333	12	0.08	291.32	0
291	Acid Soluble Ni (ppm)	0527	18.91	0.1181	17.19	3.982	0.4333	12	0.43	291.33	0
291	Acid Soluble Ni (ppm)	0494	20.50	2.800	17.19	3.982	0.4333	12	0.83	291.33	0
291	Acid Soluble Ni (ppm)	0627	25.16	0.0500	17.19	3.982	0.4333	12	2.00	291.30	0
291	Acid Soluble Ni (ppm)	0586	28.00	2.000	17.19	3.982	0.4333	12	2.71	291.30	0
301	Acid Soluble Se (ppm)	0494	0.6740	0.0080				2		301.33	0
301	Acid Soluble Se (ppm)	0593	1.525	0.0500				2		301.30	0
301	Acid Soluble Se (ppm)	0527	< 0.01					2		301.33	5
301	Acid Soluble Se (ppm)	0586	< 0.1					2		301.99	5
301	Acid Soluble Se (ppm)	0220	< 0.3					2		301.32	5

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
301	Acid Soluble Se (ppm)	0220	< 0.3					2		301.99	5
301	Acid Soluble Se (ppm)	0626	< 0.5					2		301.34	5
301	Acid Soluble Se (ppm)	0627	< 1					2		301.30	5
301	Acid Soluble Se (ppm)	0368	< 1.4					2		301.34	5
301	Acid Soluble Se (ppm)	0405	< 10					2		301.32	5
311	Sodium (%)	0096	0.1900	0.0000				2		311.99	0
311	Sodium (%)	0527	0.1999	0.0008				2		311.33	0
321	Acid Soluble Zn (1%)	0627	0.9250	0.0100	0.9861	0.0398	0.0255	15	-1.54	321.33	0
321	Acid Soluble Zn (1%)	0040	0.9315	0.0110	0.9861	0.0398	0.0255	15	-1.37	321.33	0
321	Acid Soluble Zn (1%)	0626	0.9550	0.0700	0.9861	0.0398	0.0255	15	-0.78	321.33	0
321	Acid Soluble Zn (1%)	0405	0.9660	0.0040	0.9861	0.0398	0.0255	15	-0.51	321.32	0
321	Acid Soluble Zn (1%)	0513	0.9750	0.0100	0.9861	0.0398	0.0255	15	-0.28	321.30	0
321	Acid Soluble Zn (1%)	0561	0.9750	0.0300	0.9861	0.0398	0.0255	15	-0.28	321.33	0
321	Acid Soluble Zn (1%)	0593	0.9825	0.0350	0.9861	0.0398	0.0255	15	-0.09	321.33	0
321	Acid Soluble Zn (1%)	0368	0.9872	0.0021	0.9861	0.0398	0.0255	15	0.03	321.99	0
321	Acid Soluble Zn (1%)	0626	0.9900	0.0400	0.9861	0.0398	0.0255	15	0.10	321.00	0
321	Acid Soluble Zn (1%)	0581	0.9900	0.0200	0.9861	0.0398	0.0255	15	0.10	321.30	0
321	Acid Soluble Zn (1%)	0582	0.9950	0.0300	0.9861	0.0398	0.0255	15	0.22	321.33	0
321	Acid Soluble Zn (1%)	0220	1.000	0.0000	0.9861	0.0398	0.0255	15	0.35	321.32	0
321	Acid Soluble Zn (1%)	0096	1.026	0.1091	0.9861	0.0398	0.0255	15	1.01	321.30	0
321	Acid Soluble Zn (1%)	0494	1.079	0.0418	0.9861	0.0398	0.0255	15	2.33	321.33	0
321	Acid Soluble Zn (1%)	0527	1.082	0.0056	0.9861	0.0398	0.0255	15	2.42	321.33	0
321	Acid Soluble Zn (1%)	0586	9,300‡	200.0	0.9861	0.0398	0.0255	15	233799.94	321.99	1
325	Water Soluble Zn (%)	0626	0.4700	0.0000	0.5350	0.0999	0.0150	3	-0.65	325.30	0
325	Water Soluble Zn (%)	0626	0.4850	0.0100	0.5350	0.0999	0.0150	3	-0.50	325.00	0
325	Water Soluble Zn (%)	0513	0.6500	0.0200	0.5350	0.0999	0.0150	3	1.15	325.30	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. Identical duplicates not included in calculation of Rob R-bar. 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.