

Analyte PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Analytes: 31

Sample # 240341

Phosphorous Select PT Scheme

Labs Reporting: 22

12-40-0 MAP + Zn

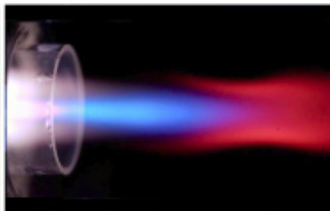
Statistical Summary

Issue Date : 04/30/2024

Analyte Code	Analyte Sample # 240341	# 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 (%)	10	9	11.70	0.6786	11.92		0.1275	0.0531	1.07%		0.0236	2.75%
010	Total N (12%)	15	14	11.94	0.1353	11.95	0.6092	0.1034	0.0346	0.87%	0.40	0.0641	2.75%
020	Total P2O5 (%)	15	15	40.34	0.7749	40.48		0.3790	0.1223	0.94%		0.2075	1.57%
030	Citrate Insoluble P2O5 (%)	7	6	0.1436	0.0764	0.1300		0.0837	0.0427	64.40%		0.0250	5.44%
040	Indirect Available P2O5 (40%)	6	6	40.51	0.2229	40.51	0.9077	0.2527	0.1290	0.62%	0.65	0.1145	1.57%
041	Direct Available P2O5 (40%)	13	12	39.02	5.352	40.27	0.9041	0.8811	0.3180	2.19%	2.27	0.1983	1.58%
048	Water Soluble P2O5 (%)	6	5	35.87	0.6202	36.05		0.4640	0.2594	1.29%		0.1480	1.67%
050	Soluble K2O (%)	2	2	0.1259	0.0013								
060	Water (Free) (%)	4	4	0.6225	0.4046	0.6225		0.4046	0.2529	64.99%		0.0700	4.30%
101	Acid Soluble Ca (%)	6	5	0.2289	0.1270	0.2727	0.2136	0.0761	0.0425	27.89%	0.83	0.0314	4.86%
121	Acid Soluble Mg (%)	5	5	0.6777	0.0160	0.6777	0.2339	0.0160	0.0089	2.36%	0.16	0.0311	4.24%
143	Elemental S (%)	4	4	4.691	1.812	4.691		1.812	1.133	38.64%		0.1031	3.17%
145	Sulfate S, HCl soluble (%)	5	5	5.592	0.1719	5.592		0.1719	0.0961	3.07%		0.0425	3.09%
148	Total S (10%)	14	13	9.694	1.253	9.909	0.6954	0.6850	0.2375	6.91%	2.29	0.1166	2.83%
151	Acid Soluble As (ppm)	9	8	12.42	2.561	11.59		1.510	0.6674	13.02%		0.7091	11.06%
165	Acid Soluble B (%)	2	2	0.0076	0.0042								
171	Water Soluble B (%)	1		0.0380									
181	Acid Soluble Cd (ppm)	8	7	5.581	0.3350	5.592		0.4083	0.1929	7.30%		0.1311	12.35%
191	Acid Soluble Cr (ppm)	9	9	125.0	3.613	125.1		3.676	1.532	2.94%		3.771	7.73%
202	Acid Soluble Co (ppm)	8	8	2.181	0.2313	2.181	1.6544	0.2623	0.1159	12.03%	0.37	0.4075	14.23%
221	Acid Soluble Cu (%)	6	5	0.0020	0.0039	0.0004	0.0050	0.0002	0.0001	47.08%	0.08	0.0004	13.08%
241	Acid Soluble Fe (%)	7	7	0.8371	0.1393	0.7991	0.0849	0.0532	0.0252	6.66%	1.46	0.0260	4.14%
251	Acid Soluble Pb (ppm)	9	9	9.763	2.502	9.763		2.837	1.182	29.06%		2.071	11.35%
261	Acid Soluble Mn (%)	4	4	0.0241	0.0004	0.0241	0.0074	0.0004	0.0003	1.80%	0.14	0.0005	7.01%
281	Acid Soluble Hg (ppm)	3	0	0.6703	1.152	0.0241		0.0004		1.80%		0.0001	22.00%
289	Acid Soluble Mo (ppm)	9	7	9.002	3.205	10.20	4.0606	1.301	0.6147	12.75%	0.75	0.2146	11.28%
291	Acid Soluble Ni (ppm)	9	8	17.63	2.567	16.77		1.307	0.5776	7.79%		1.404	10.46%
301	Acid Soluble Se (ppm)	6	1	2.067	3.911	16.77		1.307	1.634	7.79%		0.0000	10.46%
311	Sodium (%)	3	3	0.1520	0.0164	0.1520	0.0202	0.0164	0.0118	10.79%	1.89	0.0017	5.31%

Analyte Code	Analyte Sample # 240341	# 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 (1%)	17	17	0.9538	0.0483	0.9559	0.1006	0.0498	0.0151	5.21%	1.15	0.0336	4.03%
325	Water Soluble Zn (%)	1		0.5500									

The Analyte IA Ratio = 2.33 * Robust SD / 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: 31

Sample # 240341

Phosphorous Select PT Scheme

Labs Reporting: 22

12-40-0 MAP + Zn

Lab Values

Issue Date : 04/30/2024

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 (%)	0368	9.798	0.0900	11.92	0.1275	0.0236	9	-15.34	001.99	0
001	Ammoniacal N (%)	0517	11.78	0.0300	11.92	0.1275	0.0236	9	-1.03	001.99	0
001	Ammoniacal N (%)	0582	11.87	0.0200	11.92	0.1275	0.0236	9	-0.34	001.99	0
001	Ammoniacal N (%)	0581	11.90	0.0000	11.92	0.1275	0.0236	9	-0.13	001.99	0
001	Ammoniacal N (%)	0593	11.94	0.0100	11.92	0.1275	0.0236	9	0.13	001.99	0
001	Ammoniacal N (%)	0586	11.98	0.0150	11.92	0.1275	0.0236	9	0.43	001.99	0
001	Ammoniacal N (%)	0096	11.99	0.0100	11.92	0.1275	0.0236	9	0.49	001.99	0
001	Ammoniacal N (%)	0405	12.03	0.0300	11.92	0.1275	0.0236	9	0.78	001.99	0
001	Ammoniacal N (%)	0513	12.07	0.0300	11.92	0.1275	0.0236	9	1.07	001.99	0
001	Ammoniacal N (%)	0220	11.71	0.1700	11.92	0.1275	0.0236	9	-1.54	001.99	1
010	Total N (12%)	0494	11.59	0.0300	11.95	0.1034	0.0641	14	-3.49	010.60	0
010	Total N (12%)	0517	11.82	0.0400	11.95	0.1034	0.0641	14	-1.22	010.99	0
010	Total N (12%)	0593	11.88	0.1300	11.95	0.1034	0.0641	14	-0.69	010.60	0
010	Total N (12%)	0602	11.90	0.1000	11.95	0.1034	0.0641	14	-0.45	010.12	0
010	Total N (12%)	0602	11.90	0.1000	11.95	0.1034	0.0641	14	-0.45	010.99	0
010	Total N (12%)	0055	11.90	0.0900	11.95	0.1034	0.0641	14	-0.45	010.60	0
010	Total N (12%)	0561	11.91	0.0200	11.95	0.1034	0.0641	14	-0.35	010.60	0
010	Total N (12%)	0086	11.97	0.0830	11.95	0.1034	0.0641	14	0.23	010.60	0
010	Total N (12%)	0368	11.97	0.0760	11.95	0.1034	0.0641	14	0.24	010.60	0
010	Total N (12%)	0220	11.98	0.0300	11.95	0.1034	0.0641	14	0.28	010.60	0
010	Total N (12%)	0405	12.03	0.0200	11.95	0.1034	0.0641	14	0.81	010.60	0
010	Total N (12%)	0007	12.05	0.1000	11.95	0.1034	0.0641	14	1.00	010.60	0
010	Total N (12%)	0131	12.05	0.0140	11.95	0.1034	0.0641	14	1.04	010.60	0
010	Total N (12%)	0040	12.20	0.0000	11.95	0.1034	0.0641	14	2.45	010.60	0
010	Total N (12%)	0527	11.89	0.3600	11.95	0.1034	0.0641	14	-0.54	010.60	1
020	Total P2O5 (%)	0615	37.75	0.5000	40.48	0.3790	0.2075	15	-7.21	020.20	0
020	Total P2O5 (%)	0513	40.05	0.0200	40.48	0.3790	0.2075	15	-1.14	020.99	0
020	Total P2O5 (%)	0368	40.10	0.9369	40.48	0.3790	0.2075	15	-1.02	020.50	0
020	Total P2O5 (%)	0527	40.21	0.0216	40.48	0.3790	0.2075	15	-0.72	020.50	0
020	Total P2O5 (%)	0517	40.31	0.0300	40.48	0.3790	0.2075	15	-0.47	020.99	0
020	Total P2O5 (%)	0637	40.35	0.7330	40.48	0.3790	0.2075	15	-0.34	020.50	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 (%)	0405	40.43	0.0100	40.48	0.3790	0.2075	15	-0.15	020.20	0
020	Total P2O5 (%)	0586	40.43	0.1000	40.48	0.3790	0.2075	15	-0.14	020.40	0
020	Total P2O5 (%)	0593	40.59	0.0000	40.48	0.3790	0.2075	15	0.28	020.20	0
020	Total P2O5 (%)	0561	40.63	0.1300	40.48	0.3790	0.2075	15	0.38	020.20	0
020	Total P2O5 (%)	0582	40.69	0.0500	40.48	0.3790	0.2075	15	0.54	020.20	0
020	Total P2O5 (%)	0096	40.77	0.0600	40.48	0.3790	0.2075	15	0.76	020.40	0
020	Total P2O5 (%)	0581	40.80	0.2100	40.48	0.3790	0.2075	15	0.83	020.20	0
020	Total P2O5 (%)	0602	40.93	0.1400	40.48	0.3790	0.2075	15	1.18	020.20	0
020	Total P2O5 (%)	0220	41.06	0.4600	40.48	0.3790	0.2075	15	1.53	020.20	0
030	Citrate Insoluble P2O5 (%)	0405	0.0500	0.0000	0.1300	0.0837	0.0250	6	-0.85	030.20	0
030	Citrate Insoluble P2O5 (%)	0096	0.0750	0.0100	0.1300	0.0837	0.0250	6	-0.59	030.40	0
030	Citrate Insoluble P2O5 (%)	0586	0.1000	0.0200	0.1300	0.0837	0.0250	6	-0.32	030.40	0
030	Citrate Insoluble P2O5 (%)	0602	0.1250	0.0500	0.1300	0.0837	0.0250	6	-0.05	030.20	0
030	Citrate Insoluble P2O5 (%)	0220	0.1800	0.0000	0.1300	0.0837	0.0250	6	0.53	030.20	0
030	Citrate Insoluble P2O5 (%)	0582	0.2500	0.0200	0.1300	0.0837	0.0250	6	1.28	030.50	0
030	Citrate Insoluble P2O5 (%)	0593	0.2250	0.1900	0.1300	0.0837	0.0250	6	1.01	030.99	1
040	Indirect Available P2O5 (40%)	0586	40.33	0.0800	40.51	0.2527	0.1145	6	-0.65	040.20	0
040	Indirect Available P2O5 (40%)	0593	40.37	0.1900	40.51	0.2527	0.1145	6	-0.52	040.99	0
040	Indirect Available P2O5 (40%)	0405	40.38	0.0100	40.51	0.2527	0.1145	6	-0.49	040.99	0
040	Indirect Available P2O5 (40%)	0582	40.44	0.0300	40.51	0.2527	0.1145	6	-0.28	040.99	0
040	Indirect Available P2O5 (40%)	0096	40.70	0.0700	40.51	0.2527	0.1145	6	0.64	040.40	0
040	Indirect Available P2O5 (40%)	0220	40.88	0.4600	40.51	0.2527	0.1145	6	1.29	040.20	0
041	Direct Available P2O5 (40%)	0007	38.05†	0.5000	40.27	0.8811	0.1983	12	-2.52	041.50	0
041	Direct Available P2O5 (40%)	0055	38.73†	0.2000	40.27	0.8811	0.1983	12	-1.75	041.21	0
041	Direct Available P2O5 (40%)	0513	39.92	0.0600	40.27	0.8811	0.1983	12	-0.40	041.11	0
041	Direct Available P2O5 (40%)	0405	39.99	0.0100	40.27	0.8811	0.1983	12	-0.33	041.11	0
041	Direct Available P2O5 (40%)	0494	40.13	0.1400	40.27	0.8811	0.1983	12	-0.16	041.51	0
041	Direct Available P2O5 (40%)	0220	40.28	0.2600	40.27	0.8811	0.1983	12	0.01	041.11	0
041	Direct Available P2O5 (40%)	0055	40.30	0.2350	40.27	0.8811	0.1983	12	0.03	041.11	0
041	Direct Available P2O5 (40%)	0040	40.55	0.3000	40.27	0.8811	0.1983	12	0.31	041.10	0
041	Direct Available P2O5 (40%)	0602	40.81	0.0900	40.27	0.8811	0.1983	12	0.60	041.20	0
041	Direct Available P2O5 (40%)	0602	40.81	0.0900	40.27	0.8811	0.1983	12	0.60	041.99	0
041	Direct Available P2O5 (40%)	0494	41.00	0.1200	40.27	0.8811	0.1983	12	0.83	041.10	0
041	Direct Available P2O5 (40%)	0131	44.76‡	0.5800	40.27	0.8811	0.1983	12	5.09	041.50	0
041	Direct Available P2O5 (40%)	0517	21.97†	35.91	40.27	0.8811	0.1983	12	-20.78	041.11	1
048	Water Soluble P2O5 (%)	0513	35.57	0.1100	36.05	0.4640	0.1480	5	-0.92	048.99	0
048	Water Soluble P2O5 (%)	0517	35.59	0.1100	36.05	0.4640	0.1480	5	-0.88	048.99	0
048	Water Soluble P2O5 (%)	0096	36.12	0.1200	36.05	0.4640	0.1480	5	0.12	048.40	0
048	Water Soluble P2O5 (%)	0602	36.50	0.2000	36.05	0.4640	0.1480	5	0.84	048.20	0
048	Water Soluble P2O5 (%)	0602	36.50	0.2000	36.05	0.4640	0.1480	5	0.84	048.99	0
048	Water Soluble P2O5 (%)	0593	34.93	1.110	36.05	0.4640	0.1480	5	-2.12	048.20	1
050	Soluble K2O (%)	0096	0.1250	0.0300				2		050.99	0
050	Soluble K2O (%)	0527	0.1269	0.0023				2		050.99	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				
060	Water (Free) (%)	0513	0.2700	0.0200	0.6225	0.4046	0.0700	4	-0.87	060.00	0
060	Water (Free) (%)	0517	0.2750	0.0300	0.6225	0.4046	0.0700	4	-0.86	060.00	0
060	Water (Free) (%)	0096	0.9500	0.0200	0.6225	0.4046	0.0700	4	0.81	060.00	0
060	Water (Free) (%)	0593	0.9950	0.2100	0.6225	0.4046	0.0700	4	0.92	060.30	0
101	Acid Soluble Ca (%)	0637	0.1995	0.0550	0.2727	0.0761	0.0314	5	-0.84	101.99	0
101	Acid Soluble Ca (%)	0494	0.2290	0.0080	0.2727	0.0761	0.0314	5	-0.50	101.33	0
101	Acid Soluble Ca (%)	0096	0.2400	0.0040	0.2727	0.0761	0.0314	5	-0.38	101.30	0
101	Acid Soluble Ca (%)	0593	0.3050	0.0500	0.2727	0.0761	0.0314	5	0.37	101.99	0
101	Acid Soluble Ca (%)	0581	0.3900	0.0400	0.2727	0.0761	0.0314	5	1.35	101.32	0
101	Acid Soluble Ca (%)	0527	< 0.01		0.2727	0.0761	0.0314	5		101.33	5
121	Acid Soluble Mg (%)	0637	0.6585	0.0430	0.6777	0.0160	0.0311	5	-1.20	121.99	0
121	Acid Soluble Mg (%)	0494	0.6620	0.0000	0.6777	0.0160	0.0311	5	-0.98	121.33	0
121	Acid Soluble Mg (%)	0527	0.6878	0.0302	0.6777	0.0160	0.0311	5	0.64	121.33	0
121	Acid Soluble Mg (%)	0096	0.6900	0.0200	0.6777	0.0160	0.0311	5	0.77	121.30	0
121	Acid Soluble Mg (%)	0593	0.6900	0.0000	0.6777	0.0160	0.0311	5	0.77	121.99	0
143	Elemental S (%)	0405	3.065	0.0100	4.691	1.812	0.1031	4	-0.90	143.00	0
143	Elemental S (%)	0494	3.946	0.2660	4.691	1.812	0.1031	4	-0.41	143.00	0
143	Elemental S (%)	0220	4.490	0.0200	4.691	1.812	0.1031	4	-0.11	143.00	0
143	Elemental S (%)	0368	7.263	0.1164	4.691	1.812	0.1031	4	1.42	143.99	0
145	Sulfate S, HCl soluble (%)	0593	5.375	0.0900	5.592	0.1719	0.0425	5	-1.26	145.99	0
145	Sulfate S, HCl soluble (%)	0405	5.550	0.0000	5.592	0.1719	0.0425	5	-0.24	145.00	0
145	Sulfate S, HCl soluble (%)	0561	5.580	0.0200	5.592	0.1719	0.0425	5	-0.07	145.00	0
145	Sulfate S, HCl soluble (%)	0494	5.598	0.0500	5.592	0.1719	0.0425	5	0.04	145.00	0
145	Sulfate S, HCl soluble (%)	0220	5.855	0.0100	5.592	0.1719	0.0425	5	1.53	145.00	0
148	Total S (10%)	0096	5.845†	0.1100	9.909	0.6850	0.1166	13	-5.93	148.99	0
148	Total S (10%)	0405	8.615†	0.0100	9.909	0.6850	0.1166	13	-1.89	148.99	0
148	Total S (10%)	0637	9.506	0.0820	9.909	0.6850	0.1166	13	-0.59	148.99	0
148	Total S (10%)	0055	9.533	0.4250	9.909	0.6850	0.1166	13	-0.55	148.01	0
148	Total S (10%)	0494	9.544	0.2160	9.909	0.6850	0.1166	13	-0.53	148.01	0
148	Total S (10%)	0040	10.05	0.3000	9.909	0.6850	0.1166	13	0.21	148.07	0
148	Total S (10%)	0513	10.11	0.1700	9.909	0.6850	0.1166	13	0.29	148.07	0
148	Total S (10%)	0582	10.18	0.1000	9.909	0.6850	0.1166	13	0.40	148.00	0
148	Total S (10%)	0593	10.22	0.0200	9.909	0.6850	0.1166	13	0.45	148.00	0
148	Total S (10%)	0527	10.25	0.0663	9.909	0.6850	0.1166	13	0.50	148.07	0
148	Total S (10%)	0581	10.28	0.0900	9.909	0.6850	0.1166	13	0.53	148.00	0
148	Total S (10%)	0405	10.45	0.1000	9.909	0.6850	0.1166	13	0.79	148.00	0
148	Total S (10%)	0220	11.20‡	0.0200	9.909	0.6850	0.1166	13	1.88	148.99	0
148	Total S (10%)	0494	9.944	0.7330	9.909	0.6850	0.1166	13	0.05	148.07	1
151	Acid Soluble As (ppm)	0593	9.800	0.0000	11.59	1.510	0.7091	8	-1.09	151.30	0
151	Acid Soluble As (ppm)	0096	10.25	0.7000	11.59	1.510	0.7091	8	-0.81	151.30	0
151	Acid Soluble As (ppm)	0368	10.55	0.5000	11.59	1.510	0.7091	8	-0.63	151.34	0
151	Acid Soluble As (ppm)	0220	11.90	0.0000	11.59	1.510	0.7091	8	0.19	151.32	0
151	Acid Soluble As (ppm)	0220	11.90	0.0000	11.59	1.510	0.7091	8	0.19	151.99	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				
151	Acid Soluble As (ppm)	0527	11.99	0.6362	11.59	1.510	0.7091	8	0.24	151.33	0
151	Acid Soluble As (ppm)	0586	12.50	1.000	11.59	1.510	0.7091	8	0.55	151.30	0
151	Acid Soluble As (ppm)	0405	15.00	0.0000	11.59	1.510	0.7091	8	2.06	151.32	0
151	Acid Soluble As (ppm)	0494	17.90	15.80	11.59	1.510	0.7091	8	3.82	151.33	1
165	Acid Soluble B (%)	0593	0.0046	0.0000				2		165.99	0
165	Acid Soluble B (%)	0527	0.0106	0.0004				2		165.99	0
171	Water Soluble B (%)	0637	0.0380	0.0020				1		171.99	0
181	Acid Soluble Cd (ppm)	0494	5.225	0.0500	5.592	0.4083	0.1311	7	-0.81	181.33	0
181	Acid Soluble Cd (ppm)	0220	5.300	0.0000	5.592	0.4083	0.1311	7	-0.65	181.99	0
181	Acid Soluble Cd (ppm)	0220	5.350	0.1000	5.592	0.4083	0.1311	7	-0.54	181.32	0
181	Acid Soluble Cd (ppm)	0368	5.350	0.3000	5.592	0.4083	0.1311	7	-0.54	181.34	0
181	Acid Soluble Cd (ppm)	0527	5.921	0.0744	5.592	0.4083	0.1311	7	0.73	181.33	0
181	Acid Soluble Cd (ppm)	0593	6.000	0.0000	5.592	0.4083	0.1311	7	0.90	181.30	0
181	Acid Soluble Cd (ppm)	0405	6.000	0.0000	5.592	0.4083	0.1311	7	0.90	181.32	0
181	Acid Soluble Cd (ppm)	0586	5.500	3.000	5.592	0.4083	0.1311	7	-0.20	181.30	1
191	Acid Soluble Cr (ppm)	0096	118.0	2.000	125.1	3.676	3.771	9	-1.79	191.30	0
191	Acid Soluble Cr (ppm)	0220	123.2	1.300	125.1	3.676	3.771	9	-0.50	191.99	0
191	Acid Soluble Cr (ppm)	0494	123.5	11.00	125.1	3.676	3.771	9	-0.41	191.33	0
191	Acid Soluble Cr (ppm)	0220	124.0	0.7000	125.1	3.676	3.771	9	-0.30	191.32	0
191	Acid Soluble Cr (ppm)	0405	124.0	0.0000	125.1	3.676	3.771	9	-0.29	191.32	0
191	Acid Soluble Cr (ppm)	0527	126.1	0.3474	125.1	3.676	3.771	9	0.24	191.33	0
191	Acid Soluble Cr (ppm)	0593	127.0	0.0000	125.1	3.676	3.771	9	0.47	191.30	0
191	Acid Soluble Cr (ppm)	0368	128.5	7.000	125.1	3.676	3.771	9	0.84	191.34	0
191	Acid Soluble Cr (ppm)	0586	130.5	5.000	125.1	3.676	3.771	9	1.34	191.30	0
202	Acid Soluble Co (ppm)	0368	1.950	0.1000	2.181	0.2623	0.4075	8	-0.81	202.34	0
202	Acid Soluble Co (ppm)	0593	2.000	0.0000	2.181	0.2623	0.4075	8	-0.63	202.30	0
202	Acid Soluble Co (ppm)	0220	2.000	0.0000	2.181	0.2623	0.4075	8	-0.63	202.99	0
202	Acid Soluble Co (ppm)	0494	2.015	0.1300	2.181	0.2623	0.4075	8	-0.58	202.33	0
202	Acid Soluble Co (ppm)	0220	2.150	0.1000	2.181	0.2623	0.4075	8	-0.11	202.32	0
202	Acid Soluble Co (ppm)	0527	2.335	0.1152	2.181	0.2623	0.4075	8	0.54	202.33	0
202	Acid Soluble Co (ppm)	0586	2.500	1.000	2.181	0.2623	0.4075	8	1.11	202.30	0
202	Acid Soluble Co (ppm)	0405	2.500	1.000	2.181	0.2623	0.4075	8	1.11	202.32	0
221	Acid Soluble Cu (%)	0405	0.0003	0.0000	0.0004	0.0002	0.0004	5	-0.39	221.32	0
221	Acid Soluble Cu (%)	0494	0.0003	0.0000	0.0004	0.0002	0.0004	5	-0.39	221.33	0
221	Acid Soluble Cu (%)	0527	0.0003	0.0000	0.0004	0.0002	0.0004	5	-0.39	221.33	0
221	Acid Soluble Cu (%)	0593	0.0003	0.0000	0.0004	0.0002	0.0004	5	-0.39	221.99	0
221	Acid Soluble Cu (%)	0368	0.0007	0.0004	0.0004	0.0002	0.0004	5	1.56	221.99	0
221	Acid Soluble Cu (%)	0586	< 0.01		0.0004	0.0002	0.0004	5		221.99	5
241	Acid Soluble Fe (%)	0096	0.7365	0.0730	0.7991	0.0532	0.0260	7	-1.06	241.30	0
241	Acid Soluble Fe (%)	0637	0.7535	0.0490	0.7991	0.0532	0.0260	7	-0.77	241.99	0
241	Acid Soluble Fe (%)	0513	0.7865	0.0030	0.7991	0.0532	0.0260	7	-0.21	241.30	0
241	Acid Soluble Fe (%)	0494	0.8035	0.0130	0.7991	0.0532	0.0260	7	0.07	241.33	0
241	Acid Soluble Fe (%)	0593	0.8150	0.0100	0.7991	0.0532	0.0260	7	0.27	241.99	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				
241	Acid Soluble Fe (%)	0527	0.8197	0.0107	0.7991	0.0532	0.0260	7	0.35	241.33	0
241	Acid Soluble Fe (%)	0581	1.145	0.0300	0.7991	0.0532	0.0260	7	5.87	241.32	0
251	Acid Soluble Pb (ppm)	0096	7.050	1.100	9.763	2.837	2.071	9	-0.88	251.30	0
251	Acid Soluble Pb (ppm)	0586	7.250	4.500	9.763	2.837	2.071	9	-0.82	251.30	0
251	Acid Soluble Pb (ppm)	0527	7.413	0.1272	9.763	2.837	2.071	9	-0.76	251.33	0
251	Acid Soluble Pb (ppm)	0593	8.000	0.0000	9.763	2.837	2.071	9	-0.57	251.30	0
251	Acid Soluble Pb (ppm)	0405	10.00	0.0000	9.763	2.837	2.071	9	0.08	251.32	0
251	Acid Soluble Pb (ppm)	0220	10.65	0.7000	9.763	2.837	2.071	9	0.29	251.99	0
251	Acid Soluble Pb (ppm)	0220	10.80	1.000	9.763	2.837	2.071	9	0.34	251.32	0
251	Acid Soluble Pb (ppm)	0368	13.10	0.0000	9.763	2.837	2.071	9	1.09	251.34	0
251	Acid Soluble Pb (ppm)	0494	13.60	5.000	9.763	2.837	2.071	9	1.25	251.33	0
261	Acid Soluble Mn (%)	0494	0.0236	0.0010	0.0241	0.0004	0.0005	4	-1.15	261.35	0
261	Acid Soluble Mn (%)	0593	0.0240	0.0000	0.0241	0.0004	0.0005	4	-0.23	261.99	0
261	Acid Soluble Mn (%)	0096	0.0242	0.0001	0.0241	0.0004	0.0005	4	0.12	261.30	0
261	Acid Soluble Mn (%)	0527	0.0247	0.0003	0.0241	0.0004	0.0005	4	1.27	261.35	0
281	Acid Soluble Hg (ppm)	0527	< 0.001					0		281.30	5
281	Acid Soluble Hg (ppm)	0220	< 0.01					0		281.99	5
281	Acid Soluble Hg (ppm)	0405	< 2					0		281.30	5
289	Acid Soluble Mo (ppm)	0220	9.100	0.0000	10.20	1.301	0.2146	7	-0.77	289.99	0
289	Acid Soluble Mo (ppm)	0220	9.200	0.0000	10.20	1.301	0.2146	7	-0.70	289.32	0
289	Acid Soluble Mo (ppm)	0494	9.590	0.4200	10.20	1.301	0.2146	7	-0.43	289.33	0
289	Acid Soluble Mo (ppm)	0527	9.925	0.0091	10.20	1.301	0.2146	7	-0.19	289.33	0
289	Acid Soluble Mo (ppm)	0405	10.00	0.0000	10.20	1.301	0.2146	7	-0.14	289.32	0
289	Acid Soluble Mo (ppm)	0368	11.60	0.0000	10.20	1.301	0.2146	7	0.97	289.34	0
289	Acid Soluble Mo (ppm)	0593	12.00	0.0000	10.20	1.301	0.2146	7	1.25	289.30	0
289	Acid Soluble Mo (ppm)	0096	8.600	2.800	10.20	1.301	0.2146	7	-1.11	289.30	1
289	Acid Soluble Mo (ppm)	0586	< 1		10.20	1.301	0.2146	7		289.30	5
291	Acid Soluble Ni (ppm)	0096	14.90	0.0000	16.77	1.307	1.404	8	-1.31	291.30	0
291	Acid Soluble Ni (ppm)	0220	15.55	1.300	16.77	1.307	1.404	8	-0.86	291.32	0
291	Acid Soluble Ni (ppm)	0368	16.75	0.1000	16.77	1.307	1.404	8	-0.02	291.34	0
291	Acid Soluble Ni (ppm)	0220	16.90	3.800	16.77	1.307	1.404	8	0.09	291.99	0
291	Acid Soluble Ni (ppm)	0593	17.00	0.0000	16.77	1.307	1.404	8	0.16	291.30	0
291	Acid Soluble Ni (ppm)	0405	17.00	0.0000	16.77	1.307	1.404	8	0.16	291.32	0
291	Acid Soluble Ni (ppm)	0527	17.35	0.8183	16.77	1.307	1.404	8	0.40	291.33	0
291	Acid Soluble Ni (ppm)	0586	23.50	1.000	16.77	1.307	1.404	8	4.71	291.30	0
291	Acid Soluble Ni (ppm)	0494	19.70	7.600	16.77	1.307	1.404	8	2.05	291.33	1
301	Acid Soluble Se (ppm)	0593	0.5000	0.0000				1		301.30	0
301	Acid Soluble Se (ppm)	0527	< 0.001					1		301.33	5
301	Acid Soluble Se (ppm)	0220	< 0.3					1		301.32	5
301	Acid Soluble Se (ppm)	0220	< 0.3					1		301.99	5
301	Acid Soluble Se (ppm)	0368	< 1.3					1		301.34	5
301	Acid Soluble Se (ppm)	0405	< 10					1		301.32	5
311	Sodium (%)	0494	0.1379	0.0022	0.1520	0.0164	0.0017	3	-0.86	311.33	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				
311	Sodium (%)	0527	0.1481	0.0012	0.1520	0.0164	0.0017	3	-0.24	311.33	0
311	Sodium (%)	0096	0.1700	0.0000	0.1520	0.0164	0.0017	3	1.10	311.99	0
321	Acid Soluble Zn (1%)	0042	0.8455†	0.1070	0.9559	0.0498	0.0336	17	-2.22	321.99	0
321	Acid Soluble Zn (1%)	0517	0.9025	0.0350	0.9559	0.0498	0.0336	17	-1.07	321.99	0
321	Acid Soluble Zn (1%)	0637	0.9115	0.0290	0.9559	0.0498	0.0336	17	-0.89	321.99	0
321	Acid Soluble Zn (1%)	0040	0.9135	0.0430	0.9559	0.0498	0.0336	17	-0.85	321.33	0
321	Acid Soluble Zn (1%)	0561	0.9150	0.0300	0.9559	0.0498	0.0336	17	-0.82	321.33	0
321	Acid Soluble Zn (1%)	0586	0.9175	0.0450	0.9559	0.0498	0.0336	17	-0.77	321.99	0
321	Acid Soluble Zn (1%)	0055	0.9308	0.0545	0.9559	0.0498	0.0336	17	-0.51	321.33	0
321	Acid Soluble Zn (1%)	0368	0.9446	0.0279	0.9559	0.0498	0.0336	17	-0.23	321.99	0
321	Acid Soluble Zn (1%)	0096	0.9577	0.0768	0.9559	0.0498	0.0336	17	0.04	321.30	0
321	Acid Soluble Zn (1%)	0513	0.9785	0.0230	0.9559	0.0498	0.0336	17	0.45	321.30	0
321	Acid Soluble Zn (1%)	0405	0.9815	0.0070	0.9559	0.0498	0.0336	17	0.51	321.32	0
321	Acid Soluble Zn (1%)	0494	0.9890	0.0219	0.9559	0.0498	0.0336	17	0.66	321.33	0
321	Acid Soluble Zn (1%)	0581	1.000	0.0400	0.9559	0.0498	0.0336	17	0.89	321.32	0
321	Acid Soluble Zn (1%)	0582	1.000	0.0000	0.9559	0.0498	0.0336	17	0.89	321.33	0
321	Acid Soluble Zn (1%)	0527	1.002	0.0057	0.9559	0.0498	0.0336	17	0.93	321.33	0
321	Acid Soluble Zn (1%)	0593	1.010	0.0200	0.9559	0.0498	0.0336	17	1.09	321.33	0
321	Acid Soluble Zn (1%)	0220	1.015	0.0300	0.9559	0.0498	0.0336	17	1.19	321.32	0
325	Water Soluble Zn (%)	0513	0.5500	0.0000				1		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.