

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 200711

Grade 11-52-0 MAP

Statistical Summary

Analytes: 31

Labs Reporting: 67

Issue Date : 08/31/2020

Analyte Code	Analyte Sample # 200711	# 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 (%)	20	20	10.82	0.3023	10.82		0.3411	0.0954	3.15%		0.2173	2.80%
002	Nitrate N (%)	1		0.0095									
010	Total N (11%)	58	57	11.11	0.2896	11.11	0.5966	0.2367	0.0392	2.13%	0.92	0.0776	2.78%
020	Total P2O5 (%)	40	38	53.31	2.527	53.21		1.227	0.2487	2.31%		0.6321	2.20%
030	Citrate Insoluble P2O5 (%)	4	4	0.1300	0.0964	0.1300		0.0964	0.0602	74.12%		0.0150	5.44%
040	Indirect Available P2O5 (%)	4	4	53.36	0.7075	53.36	1.1204	0.7075	0.4422	1.33%	1.47	0.2375	2.20%
041	Direct Available P2O5 (52%)	40	39	52.81	0.7692	52.85	1.1127	0.7396	0.1480	1.40%	1.55	0.4053	2.20%
048	Water Soluble P2O5 (%)	13	13	48.01	1.002	48.14		0.6559	0.2274	1.36%		0.1673	2.23%
050	Soluble K2O (%)	11	10	0.1520	0.1383	0.1141	0.4100	0.0217	0.0086	19.02%	0.12	0.0043	5.55%
060	Water (Free) (%)	2	2	2.118	1.163								
101	Acid Soluble Ca (%)	10	10	0.6462	1.018	0.3595	0.2180	0.0684	0.0270	19.04%	0.73	0.0174	4.67%
121	Acid Soluble Mg (%)	15	15	0.7870	0.0665	0.7789	0.2389	0.0549	0.0177	7.05%	0.54	0.0486	4.15%
143	Elemental S (%)	2	2	0.8950	0.0424								
148	Total S (%)	7	7	0.8882	0.1099	0.8882	0.2444	0.1246	0.0589	14.03%	1.19	0.0714	4.07%
149	S - HNO3 soluble (%)	2	2	0.9453	0.0080								
151	Acid Soluble As (ppm)	14	13	23.97	3.832	23.97		4.346	1.507	18.13%		1.750	9.92%
165	Acid Soluble B (%)	9	7	0.0035	0.0021	0.0035	0.0035	0.0023	0.0011	67.57%	1.55	0.0003	9.38%
181	Acid Soluble Cd (ppm)	17	17	159.3	19.24	159.2		21.13	6.406	13.27%		3.315	7.46%
190	Water Soluble Cl (%)	1		0.0450									
191	Acid Soluble Cr (ppm)	16	16	601.6	63.48	601.4		67.53	21.10	11.23%		23.73	6.11%
202	Acid Soluble Co (ppm)	15	13	4.033	0.7503	4.045	2.2136	0.6267	0.2173	15.49%	0.66	0.1385	12.96%
221	Acid Soluble Cu (%)	25	24	2.618	12.80	0.0061	0.0056	0.0013	0.0003	21.25%	0.54	0.0688	8.62%
241	Acid Soluble Fe (%)	16	16	0.8102	0.0891	0.7918	0.0842	0.0365	0.0114	4.61%	1.01	0.0186	4.14%
251	Acid Soluble Pb (ppm)	15	14	4.122	2.556	3.816		2.176	0.7268	57.01%		0.5339	13.08%
261	Acid Soluble Mn (%)	16	15	0.0202	0.0069	0.0192	0.0069	0.0011	0.0004	5.77%	0.37	0.0058	7.25%
281	Acid Soluble Hg (ppm)	6	2	0.0144	0.0151	0.0144		0.0151	0.0133	104.96%		0.0052	30.30%
289	Acid Soluble Mo (ppm)	18	17	18.59	2.678	18.44	6.5322	2.660	0.8064	14.42%	0.95	1.415	10.32%
291	Acid Soluble Ni (ppm)	18	18	226.5	25.28	226.5		28.66	8.445	12.66%		5.454	7.07%
301	Acid Soluble Se (ppm)	9	7	3.883	3.852	3.756		4.076	1.926	108.52%		0.2985	13.11%
311	Sodium (%)	8	8	0.0591	0.0216	0.0578	0.0108	0.0216	0.0095	37.32%	4.66	0.0042	6.14%
321	Acid Soluble Zn (%)	28	27	71.69	371.5	0.1911	0.0241	0.0153	0.0037	7.98%	1.47	1.746	5.13%

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.

Horwitz %RSD	
Average Range (R-bar)	
Analyte IA Ratio	
Robust % RSD	
Robust Uncertainty (U)	
Robust sd	
IA at Analyte Value	
Assigned Value Robust Mean	
Raw SD	
Raw Mean	
# Tests in Robust Calculations	
# Tests Submitted	
Analyte Sample # 200711	
Analyte Code	

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Sample # 200711

Grade 11-52-0 MAP

Lab Values

Analytes: 31

Labs Reporting: 67

Issue Date : 08/31/2020

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
001	Ammoniacal N (%)	0136	10.35	0.7000	10.82	0.3411	0.2173	20	-1.36	001.10	0
001	Ammoniacal N (%)	0513	10.40	0.0800	10.82	0.3411	0.2173	20	-1.22	001.99	0
001	Ammoniacal N (%)	0524	10.43	0.0230	10.82	0.3411	0.2173	20	-1.14	001.99	0
001	Ammoniacal N (%)	0117	10.50	1.000	10.82	0.3411	0.2173	20	-0.93	001.10	0
001	Ammoniacal N (%)	0553	10.50	0.8000	10.82	0.3411	0.2173	20	-0.93	001.99	0
001	Ammoniacal N (%)	0394	10.52	0.1600	10.82	0.3411	0.2173	20	-0.88	001.99	0
001	Ammoniacal N (%)	0027	10.65	0.1980	10.82	0.3411	0.2173	20	-0.49	001.99	0
001	Ammoniacal N (%)	0451	10.67	0.1600	10.82	0.3411	0.2173	20	-0.43	001.10	0
001	Ammoniacal N (%)	0220	10.77	0.3700	10.82	0.3411	0.2173	20	-0.15	001.99	0
001	Ammoniacal N (%)	0444	10.79	0.0000	10.82	0.3411	0.2173	20	-0.08	001.10	0
001	Ammoniacal N (%)	0255	10.91	0.0900	10.82	0.3411	0.2173	20	0.26	001.99	0
001	Ammoniacal N (%)	0029	10.93	0.3600	10.82	0.3411	0.2173	20	0.34	001.99	0
001	Ammoniacal N (%)	0423	10.96	0.0470	10.82	0.3411	0.2173	20	0.41	001.99	0
001	Ammoniacal N (%)	0529	10.99	0.0000	10.82	0.3411	0.2173	20	0.51	001.99	0
001	Ammoniacal N (%)	0546	11.07	0.0500	10.82	0.3411	0.2173	20	0.73	001.99	0
001	Ammoniacal N (%)	0027	11.08	0.0300	10.82	0.3411	0.2173	20	0.77	001.10	0
001	Ammoniacal N (%)	0405	11.11	0.0900	10.82	0.3411	0.2173	20	0.85	001.99	0
001	Ammoniacal N (%)	0096	11.18	0.0700	10.82	0.3411	0.2173	20	1.05	001.99	0
001	Ammoniacal N (%)	0300	11.22	0.0380	10.82	0.3411	0.2173	20	1.17	001.99	0
001	Ammoniacal N (%)	0563	11.34	0.0790	10.82	0.3411	0.2173	20	1.55	001.10	0
002	Nitrate N (%)	0553	0.0095	0.0010				1		002.99	0
010	Total N (11%)	0394	10.09†	0.0130	11.11	0.2367	0.0776	57	-4.31	010.99	0
010	Total N (11%)	0169	10.62	0.0300	11.11	0.2367	0.0776	57	-2.09	010.60	0
010	Total N (11%)	0527	10.68	0.0210	11.11	0.2367	0.0776	57	-1.81	010.60	0
010	Total N (11%)	0524	10.71	0.0060	11.11	0.2367	0.0776	57	-1.70	010.99	0
010	Total N (11%)	0072	10.75	0.0900	11.11	0.2367	0.0776	57	-1.54	010.60	0
010	Total N (11%)	0073	10.77	0.0500	11.11	0.2367	0.0776	57	-1.46	010.60	0
010	Total N (11%)	0371	10.77	0.0800	11.11	0.2367	0.0776	57	-1.44	010.60	0
010	Total N (11%)	0309	10.79	0.1300	11.11	0.2367	0.0776	57	-1.37	010.11	0
010	Total N (11%)	0035	10.79	0.0700	11.11	0.2367	0.0776	57	-1.37	010.60	0
010	Total N (11%)	0450	10.80	0.2000	11.11	0.2367	0.0776	57	-1.31	010.60	0
010	Total N (11%)	0389	10.86	0.0900	11.11	0.2367	0.0776	57	-1.08	010.60	0
010	Total N (11%)	0255	10.90	0.2260	11.11	0.2367	0.0776	57	-0.89	010.60	0
010	Total N (11%)	0234	10.96	0.0500	11.11	0.2367	0.0776	57	-0.65	010.60	0
010	Total N (11%)	0095	10.97	0.1200	11.11	0.2367	0.0776	57	-0.59	010.60	0
010	Total N (11%)	0422	11.01	0.1300	11.11	0.2367	0.0776	57	-0.44	010.60	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010	Total N (11%)	0360	11.03	0.0200	11.11	0.2367	0.0776	57	-0.34	010.60	0
010	Total N (11%)	0472	11.05	0.0300	11.11	0.2367	0.0776	57	-0.27	010.60	0
010	Total N (11%)	0325	11.05	0.3000	11.11	0.2367	0.0776	57	-0.25	010.60	0
010	Total N (11%)	0529	11.06	0.0900	11.11	0.2367	0.0776	57	-0.23	010.99	0
010	Total N (11%)	0291	11.07	0.0100	11.11	0.2367	0.0776	57	-0.19	010.60	0
010	Total N (11%)	0547	11.07	0.0600	11.11	0.2367	0.0776	57	-0.17	010.60	0
010	Total N (11%)	0231	11.08	0.0000	11.11	0.2367	0.0776	57	-0.13	010.60	0
010	Total N (11%)	0037	11.09	0.0710	11.11	0.2367	0.0776	57	-0.08	010.60	0
010	Total N (11%)	0157	11.10	0.0000	11.11	0.2367	0.0776	57	-0.04	010.60	0
010	Total N (11%)	0451	11.10	0.3400	11.11	0.2367	0.0776	57	-0.04	010.60	0
010	Total N (11%)	0377	11.10	0.2200	11.11	0.2367	0.0776	57	-0.04	010.60	0
010	Total N (11%)	0423	11.12	0.0100	11.11	0.2367	0.0776	57	0.02	010.60	0
010	Total N (11%)	0055	11.14	0.0100	11.11	0.2367	0.0776	57	0.11	010.60	0
010	Total N (11%)	0086	11.14	0.0250	11.11	0.2367	0.0776	57	0.12	010.60	0
010	Total N (11%)	0405	11.14	0.0400	11.11	0.2367	0.0776	57	0.13	010.60	0
010	Total N (11%)	0563	11.16	0.1380	11.11	0.2367	0.0776	57	0.21	010.99	0
010	Total N (11%)	0096	11.17	0.0000	11.11	0.2367	0.0776	57	0.25	010.60	0
010	Total N (11%)	0292	11.17	0.0400	11.11	0.2367	0.0776	57	0.25	010.60	0
010	Total N (11%)	0233	11.19	0.0300	11.11	0.2367	0.0776	57	0.32	010.60	0
010	Total N (11%)	0494	11.19	0.0500	11.11	0.2367	0.0776	57	0.32	010.60	0
010	Total N (11%)	0043	11.19	0.0200	11.11	0.2367	0.0776	57	0.34	010.60	0
010	Total N (11%)	0027	11.20	0.2000	11.11	0.2367	0.0776	57	0.38	010.60	0
010	Total N (11%)	0049	11.20	0.0000	11.11	0.2367	0.0776	57	0.38	010.60	0
010	Total N (11%)	0136	11.20	0.2000	11.11	0.2367	0.0776	57	0.38	010.60	0
010	Total N (11%)	0354	11.20	0.0000	11.11	0.2367	0.0776	57	0.38	010.60	0
010	Total N (11%)	0444	11.22	0.0400	11.11	0.2367	0.0776	57	0.46	010.60	0
010	Total N (11%)	0114	11.22	0.1800	11.11	0.2367	0.0776	57	0.46	010.60	0
010	Total N (11%)	0561	11.23	0.0100	11.11	0.2367	0.0776	57	0.49	010.60	0
010	Total N (11%)	0177	11.25	0.0200	11.11	0.2367	0.0776	57	0.59	010.60	0
010	Total N (11%)	0402	11.26	0.0320	11.11	0.2367	0.0776	57	0.62	010.60	0
010	Total N (11%)	0040	11.30	0.0000	11.11	0.2367	0.0776	57	0.80	010.60	0
010	Total N (11%)	0230	11.30	0.2000	11.11	0.2367	0.0776	57	0.80	010.60	0
010	Total N (11%)	0452	11.30	0.1000	11.11	0.2367	0.0776	57	0.80	010.60	0
010	Total N (11%)	0300	11.30	0.0410	11.11	0.2367	0.0776	57	0.81	010.99	0
010	Total N (11%)	0220	11.31	0.0600	11.11	0.2367	0.0776	57	0.85	010.60	0
010	Total N (11%)	0029	11.33	0.1200	11.11	0.2367	0.0776	57	0.93	010.60	0
010	Total N (11%)	0025	11.40	0.0400	11.11	0.2367	0.0776	57	1.23	010.60	0
010	Total N (11%)	0516	11.46	0.2300	11.11	0.2367	0.0776	57	1.46	010.60	0
010	Total N (11%)	0542	11.47	0.0700	11.11	0.2367	0.0776	57	1.50	010.60	0
010	Total N (11%)	0443	11.59	0.0600	11.11	0.2367	0.0776	57	2.03	010.60	0
010	Total N (11%)	0102	11.69	0.0000	11.11	0.2367	0.0776	57	2.45	010.60	0
010	Total N (11%)	0041	12.08±	0.0100	11.11	0.2367	0.0776	57	4.08	010.60	0
010	Total N (11%)	0356	10.64	0.4840	11.11	0.2367	0.0776	57	-2.01	010.60	1
020	Total P2O5 (%)	0157	48.30	3.000	53.21	1.227	0.6321	38	-4.00	020.50	0
020	Total P2O5 (%)	0389	48.47	0.3600	53.21	1.227	0.6321	38	-3.86	020.50	0
020	Total P2O5 (%)	0472	49.85	0.1000	53.21	1.227	0.6321	38	-2.74	020.50	0
020	Total P2O5 (%)	0443	50.91	0.4000	53.21	1.227	0.6321	38	-1.87	020.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
020	Total P2O5 (%)	0444	51.75	0.0600	53.21	1.227	0.6321	38	-1.19	020.50	0
020	Total P2O5 (%)	0309	51.99	0.0000	53.21	1.227	0.6321	38	-0.99	020.20	0
020	Total P2O5 (%)	0423	52.01	0.2100	53.21	1.227	0.6321	38	-0.98	020.50	0
020	Total P2O5 (%)	0433	52.19	0.2000	53.21	1.227	0.6321	38	-0.83	020.50	0
020	Total P2O5 (%)	0234	52.45	0.3800	53.21	1.227	0.6321	38	-0.62	020.50	0
020	Total P2O5 (%)	0553	52.50	3.200	53.21	1.227	0.6321	38	-0.58	020.20	0
020	Total P2O5 (%)	0394	52.74	0.0990	53.21	1.227	0.6321	38	-0.38	020.20	0
020	Total P2O5 (%)	0169	52.77	0.2000	53.21	1.227	0.6321	38	-0.36	020.50	0
020	Total P2O5 (%)	0291	52.79	0.0500	53.21	1.227	0.6321	38	-0.34	020.50	0
020	Total P2O5 (%)	0027	52.80	0.7080	53.21	1.227	0.6321	38	-0.33	020.20	0
020	Total P2O5 (%)	0524	52.82	0.7100	53.21	1.227	0.6321	38	-0.32	020.50	0
020	Total P2O5 (%)	0255	52.83	0.7790	53.21	1.227	0.6321	38	-0.31	020.50	0
020	Total P2O5 (%)	0527	52.94	0.0686	53.21	1.227	0.6321	38	-0.21	020.50	0
020	Total P2O5 (%)	0450	53.00	1.400	53.21	1.227	0.6321	38	-0.17	020.20	0
020	Total P2O5 (%)	0035	53.25	0.7000	53.21	1.227	0.6321	38	0.03	020.40	0
020	Total P2O5 (%)	0561	53.30	0.0300	53.21	1.227	0.6321	38	0.07	020.20	0
020	Total P2O5 (%)	0292	53.37	0.2400	53.21	1.227	0.6321	38	0.13	020.20	0
020	Total P2O5 (%)	0546	53.47	0.2780	53.21	1.227	0.6321	38	0.21	020.50	0
020	Total P2O5 (%)	0405	53.48	0.0100	53.21	1.227	0.6321	38	0.22	020.20	0
020	Total P2O5 (%)	0157	53.55	0.9000	53.21	1.227	0.6321	38	0.28	020.10	0
020	Total P2O5 (%)	0231	53.56	0.1600	53.21	1.227	0.6321	38	0.29	020.20	0
020	Total P2O5 (%)	0356	53.66	0.2110	53.21	1.227	0.6321	38	0.37	020.20	0
020	Total P2O5 (%)	0529	53.70	0.3900	53.21	1.227	0.6321	38	0.40	020.99	0
020	Total P2O5 (%)	0096	53.82	0.0000	53.21	1.227	0.6321	38	0.50	020.40	0
020	Total P2O5 (%)	0513	53.98	0.1500	53.21	1.227	0.6321	38	0.63	020.99	0
020	Total P2O5 (%)	0114	54.13	0.3200	53.21	1.227	0.6321	38	0.75	020.10	0
020	Total P2O5 (%)	0220	54.13	0.3000	53.21	1.227	0.6321	38	0.75	020.20	0
020	Total P2O5 (%)	0371	54.30	0.2000	53.21	1.227	0.6321	38	0.89	020.20	0
020	Total P2O5 (%)	0444	54.40	0.5300	53.21	1.227	0.6321	38	0.97	020.10	0
020	Total P2O5 (%)	0422	54.70	1.200	53.21	1.227	0.6321	38	1.22	020.50	0
020	Total P2O5 (%)	0307	54.92	2.110	53.21	1.227	0.6321	38	1.39	020.50	0
020	Total P2O5 (%)	0515	55.68	1.802	53.21	1.227	0.6321	38	2.02	020.99	0
020	Total P2O5 (%)	0542	56.39	1.930	53.21	1.227	0.6321	38	2.59	020.50	0
020	Total P2O5 (%)	0402	64.95	0.6323	53.21	1.227	0.6321	38	9.57	020.50	0
020	Total P2O5 (%)	0516	45.57	7.039	53.21	1.227	0.6321	38	-6.22	020.50	1
020	Total P2O5 (%)	0042	51.55	7.300	53.21	1.227	0.6321	38	-1.35	020.50	1
030	Citrate Insoluble P2O5 (%)	0096	0.0300	0.0200	0.1300	0.0964	0.0150	4	-1.04	030.40	0
030	Citrate Insoluble P2O5 (%)	0220	0.0650	0.0100	0.1300	0.0964	0.0150	4	-0.67	030.20	0
030	Citrate Insoluble P2O5 (%)	0561	0.2100	0.0200	0.1300	0.0964	0.0150	4	0.83	030.20	0
030	Citrate Insoluble P2O5 (%)	0405	0.2150	0.0100	0.1300	0.0964	0.0150	4	0.88	030.20	0
040	Indirect Available P2O5 (%)	0547	52.50	0.6000	53.36	0.7075	0.2375	4	-1.22	040.20	0
040	Indirect Available P2O5 (%)	0561	53.09	0.0500	53.36	0.7075	0.2375	4	-0.39	040.20	0
040	Indirect Available P2O5 (%)	0096	53.80	0.0100	53.36	0.7075	0.2375	4	0.61	040.40	0
040	Indirect Available P2O5 (%)	0220	54.07	0.2900	53.36	0.7075	0.2375	4	0.99	040.20	0
041	Direct Available P2O5 (52%)	0095	50.82†	2.160	52.85	0.7396	0.4053	39	-2.74	041.40	0
041	Direct Available P2O5 (52%)	0423	50.87†	0.0900	52.85	0.7396	0.4053	39	-2.68	041.51	0
041	Direct Available P2O5 (52%)	0494	51.66†	0.4700	52.85	0.7396	0.4053	39	-1.61	041.51	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
041	Direct Available P2O5 (52%)	0230	51.75	0.3000	52.85	0.7396	0.4053	39	-1.49	041.21	0
041	Direct Available P2O5 (52%)	0073	51.78	1.100	52.85	0.7396	0.4053	39	-1.44	041.11	0
041	Direct Available P2O5 (52%)	0027	52.01	0.2890	52.85	0.7396	0.4053	39	-1.14	041.20	0
041	Direct Available P2O5 (52%)	0563	52.03	0.1300	52.85	0.7396	0.4053	39	-1.11	041.21	0
041	Direct Available P2O5 (52%)	0177	52.24	0.1585	52.85	0.7396	0.4053	39	-0.82	041.21	0
041	Direct Available P2O5 (52%)	0325	52.35	0.5000	52.85	0.7396	0.4053	39	-0.67	041.50	0
041	Direct Available P2O5 (52%)	0029	52.43	0.0100	52.85	0.7396	0.4053	39	-0.57	041.40	0
041	Direct Available P2O5 (52%)	0360	52.45	0.3200	52.85	0.7396	0.4053	39	-0.54	041.51	0
041	Direct Available P2O5 (52%)	0472	52.48	0.6300	52.85	0.7396	0.4053	39	-0.50	041.21	0
041	Direct Available P2O5 (52%)	0040	52.50	0.4000	52.85	0.7396	0.4053	39	-0.47	041.51	0
041	Direct Available P2O5 (52%)	0072	52.61	0.2750	52.85	0.7396	0.4053	39	-0.32	041.51	0
041	Direct Available P2O5 (52%)	0405	52.63	0.0800	52.85	0.7396	0.4053	39	-0.30	041.21	0
041	Direct Available P2O5 (52%)	0354	52.80	0.2000	52.85	0.7396	0.4053	39	-0.07	041.21	0
041	Direct Available P2O5 (52%)	0041	52.82	0.0700	52.85	0.7396	0.4053	39	-0.05	041.10	0
041	Direct Available P2O5 (52%)	0185	52.83	1.390	52.85	0.7396	0.4053	39	-0.03	041.11	0
041	Direct Available P2O5 (52%)	0102	52.90	0.0000	52.85	0.7396	0.4053	39	0.07	041.10	0
041	Direct Available P2O5 (52%)	0055	52.94	0.4900	52.85	0.7396	0.4053	39	0.12	041.21	0
041	Direct Available P2O5 (52%)	0025	52.95	2.300	52.85	0.7396	0.4053	39	0.14	041.51	0
041	Direct Available P2O5 (52%)	0117	52.96	0.1104	52.85	0.7396	0.4053	39	0.15	041.51	0
041	Direct Available P2O5 (52%)	0220	53.02	0.0400	52.85	0.7396	0.4053	39	0.23	041.11	0
041	Direct Available P2O5 (52%)	0136	53.05	1.500	52.85	0.7396	0.4053	39	0.27	041.51	0
041	Direct Available P2O5 (52%)	0049	53.16	0.3100	52.85	0.7396	0.4053	39	0.41	041.11	0
041	Direct Available P2O5 (52%)	0231	53.19	0.1600	52.85	0.7396	0.4053	39	0.46	041.21	0
041	Direct Available P2O5 (52%)	0405	53.20	0.0700	52.85	0.7396	0.4053	39	0.47	041.11	0
041	Direct Available P2O5 (52%)	0405	53.26	0.0000	52.85	0.7396	0.4053	39	0.56	041.99	0
041	Direct Available P2O5 (52%)	0049	53.33	0.4600	52.85	0.7396	0.4053	39	0.65	041.10	0
041	Direct Available P2O5 (52%)	0086	53.35	0.5300	52.85	0.7396	0.4053	39	0.67	041.10	0
041	Direct Available P2O5 (52%)	0043	53.37	0.2400	52.85	0.7396	0.4053	39	0.71	041.51	0
041	Direct Available P2O5 (52%)	0452	53.39	0.0600	52.85	0.7396	0.4053	39	0.73	041.50	0
041	Direct Available P2O5 (52%)	0377	53.41	0.1800	52.85	0.7396	0.4053	39	0.76	041.51	0
041	Direct Available P2O5 (52%)	0177	53.50	0.0400	52.85	0.7396	0.4053	39	0.88	041.10	0
041	Direct Available P2O5 (52%)	0055	53.69	0.0400	52.85	0.7396	0.4053	39	1.14	041.11	0
041	Direct Available P2O5 (52%)	0513	53.77	0.1000	52.85	0.7396	0.4053	39	1.25	041.11	0
041	Direct Available P2O5 (52%)	0072	53.85	0.0130	52.85	0.7396	0.4053	39	1.36	041.11	0
041	Direct Available P2O5 (52%)	0494	54.08‡	0.3000	52.85	0.7396	0.4053	39	1.67	041.10	0
041	Direct Available P2O5 (52%)	0037	54.09‡	0.2899	52.85	0.7396	0.4053	39	1.68	041.51	0
041	Direct Available P2O5 (52%)	0233	51.16†	3.680	52.85	0.7396	0.4053	39	-2.28	041.51	1
048	Water Soluble P2O5 (%)	0309	45.78	0.0000	48.14	0.6559	0.1673	13	-3.60	048.20	0
048	Water Soluble P2O5 (%)	0513	46.32	0.1700	48.14	0.6559	0.1673	13	-2.79	048.99	0
048	Water Soluble P2O5 (%)	0394	47.67	0.4850	48.14	0.6559	0.1673	13	-0.72	048.20	0
048	Water Soluble P2O5 (%)	0472	47.75	0.0000	48.14	0.6559	0.1673	13	-0.60	048.20	0
048	Water Soluble P2O5 (%)	0529	47.99	0.2700	48.14	0.6559	0.1673	13	-0.24	048.99	0
048	Water Soluble P2O5 (%)	0561	48.27	0.0800	48.14	0.6559	0.1673	13	0.19	048.20	0
048	Water Soluble P2O5 (%)	0405	48.30	0.0700	48.14	0.6559	0.1673	13	0.23	048.20	0
048	Water Soluble P2O5 (%)	0096	48.36	0.0500	48.14	0.6559	0.1673	13	0.32	048.40	0
048	Water Soluble P2O5 (%)	0444	48.38	0.0500	48.14	0.6559	0.1673	13	0.35	048.10	0
048	Water Soluble P2O5 (%)	0444	48.47	0.1600	48.14	0.6559	0.1673	13	0.50	048.50	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
048	Water Soluble P2O5 (%)	0220	48.57	0.5800	48.14	0.6559	0.1673	13	0.65	048.20	0
048	Water Soluble P2O5 (%)	0231	48.67	0.1000	48.14	0.6559	0.1673	13	0.80	048.20	0
048	Water Soluble P2O5 (%)	0546	49.64	0.1600	48.14	0.6559	0.1673	13	2.29	048.50	0
050	Soluble K2O (%)	0563	0.0658	0.0019	0.1141	0.0217	0.0043	10	-2.07	050.99	0
050	Soluble K2O (%)	0354	0.0975	0.0110	0.1141	0.0217	0.0043	10	-0.71	050.52	0
050	Soluble K2O (%)	0325	0.1000	0.0000	0.1141	0.0217	0.0043	10	-0.60	050.99	0
050	Soluble K2O (%)	0553	0.1075	0.0010	0.1141	0.0217	0.0043	10	-0.28	050.99	0
050	Soluble K2O (%)	0527	0.1122	0.0037	0.1141	0.0217	0.0043	10	-0.08	050.99	0
050	Soluble K2O (%)	0096	0.1150	0.0100	0.1141	0.0217	0.0043	10	0.04	050.99	0
050	Soluble K2O (%)	0389	0.1200	0.0000	0.1141	0.0217	0.0043	10	0.25	050.99	0
050	Soluble K2O (%)	0524	0.1225	0.0110	0.1141	0.0217	0.0043	10	0.36	050.99	0
050	Soluble K2O (%)	0423	0.1380	0.0040	0.1141	0.0217	0.0043	10	1.03	050.52	0
050	Soluble K2O (%)	0516	0.5420	0.0000	0.1141	0.0217	0.0043	10	18.34	050.99	0
050	Soluble K2O (%)	0422	0.0950	0.0300	0.1141	0.0217	0.0043	10	-0.82	050.50	1
060	Water (Free) (%)	0513	1.295	0.0100				2		060.00	0
060	Water (Free) (%)	0096	2.940	0.2400				2		060.00	0
101	Acid Soluble Ca (%)	0553	0.0560	0.0100	0.3595	0.0684	0.0174	10	-4.12	101.00	0
101	Acid Soluble Ca (%)	0563	0.2884	0.0056	0.3595	0.0684	0.0174	10	-0.97	101.33	0
101	Acid Soluble Ca (%)	0389	0.3250	0.0100	0.3595	0.0684	0.0174	10	-0.47	101.99	0
101	Acid Soluble Ca (%)	0494	0.3523	0.0145	0.3595	0.0684	0.0174	10	-0.10	101.33	0
101	Acid Soluble Ca (%)	0423	0.3545	0.0050	0.3595	0.0684	0.0174	10	-0.07	101.32	0
101	Acid Soluble Ca (%)	0354	0.3550	0.0100	0.3595	0.0684	0.0174	10	-0.06	101.30	0
101	Acid Soluble Ca (%)	0035	0.3840	0.0340	0.3595	0.0684	0.0174	10	0.33	101.30	0
101	Acid Soluble Ca (%)	0527	0.4018	0.0149	0.3595	0.0684	0.0174	10	0.57	101.33	0
101	Acid Soluble Ca (%)	0472	0.4150	0.0100	0.3595	0.0684	0.0174	10	0.75	101.30	0
101	Acid Soluble Ca (%)	0096	3.530	0.0600	0.3595	0.0684	0.0174	10	43.09	101.30	0
121	Acid Soluble Mg (%)	0516	0.6970	0.0060	0.7789	0.0549	0.0486	15	-1.49	121.99	0
121	Acid Soluble Mg (%)	0563	0.7197	0.0967	0.7789	0.0549	0.0486	15	-1.08	121.33	0
121	Acid Soluble Mg (%)	0494	0.7390	0.0260	0.7789	0.0549	0.0486	15	-0.73	121.33	0
121	Acid Soluble Mg (%)	0096	0.7450	0.0180	0.7789	0.0549	0.0486	15	-0.62	121.30	0
121	Acid Soluble Mg (%)	0515	0.7477	0.1904	0.7789	0.0549	0.0486	15	-0.57	121.99	0
121	Acid Soluble Mg (%)	0524	0.7505	0.0090	0.7789	0.0549	0.0486	15	-0.52	121.99	0
121	Acid Soluble Mg (%)	0354	0.7700	0.0000	0.7789	0.0549	0.0486	15	-0.16	121.30	0
121	Acid Soluble Mg (%)	0444	0.7700	0.0000	0.7789	0.0549	0.0486	15	-0.16	121.30	0
121	Acid Soluble Mg (%)	0423	0.7885	0.0030	0.7789	0.0549	0.0486	15	0.17	121.32	0
121	Acid Soluble Mg (%)	0389	0.7900	0.0000	0.7789	0.0549	0.0486	15	0.20	121.99	0
121	Acid Soluble Mg (%)	0035	0.8060	0.0500	0.7789	0.0549	0.0486	15	0.49	121.30	0
121	Acid Soluble Mg (%)	0515	0.8100	0.1997	0.7789	0.0549	0.0486	15	0.56	121.33	0
121	Acid Soluble Mg (%)	0527	0.8282	0.0182	0.7789	0.0549	0.0486	15	0.90	121.33	0
121	Acid Soluble Mg (%)	0472	0.8850	0.0100	0.7789	0.0549	0.0486	15	1.93	121.30	0
121	Acid Soluble Mg (%)	0553	0.9590	0.1020	0.7789	0.0549	0.0486	15	3.28	121.00	0
143	Elemental S (%)	0472	0.8650	0.0100				2		143.99	0
143	Elemental S (%)	0389	0.9250	0.0100				2		143.99	0
148	Total S (%)	0527	0.7398	0.0181	0.8882	0.1246	0.0714	7	-1.08	148.07	0
148	Total S (%)	0515	0.7696	0.1947	0.8882	0.1246	0.0714	7	-0.86	148.07	0
148	Total S (%)	0516	0.8730	0.0400	0.8882	0.1246	0.0714	7	-0.11	148.99	0
148	Total S (%)	0563	0.9039	0.0742	0.8882	0.1246	0.0714	7	0.11	148.07	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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148	Total S (%)	0096	0.9165	0.0030	0.8882	0.1246	0.0714	7	0.21	148.99	0
148	Total S (%)	0354	0.9500	0.0400	0.8882	0.1246	0.0714	7	0.45	148.99	0
148	Total S (%)	0553	1.065	0.1300	0.8882	0.1246	0.0714	7	1.28	148.99	0
149	S - HNO3 soluble (%)	0524	0.9397	0.0247				2		149.04	0
149	S - HNO3 soluble (%)	0423	0.9510	0.0020				2		149.04	0
151	Acid Soluble As (ppm)	0444	17.51	0.8900	23.97	4.346	1.750	13	-1.49	151.30	0
151	Acid Soluble As (ppm)	0096	19.50	0.8000	23.97	4.346	1.750	13	-1.03	151.30	0
151	Acid Soluble As (ppm)	0255	20.47	0.9360	23.97	4.346	1.750	13	-0.80	151.30	0
151	Acid Soluble As (ppm)	0405	21.00	2.000	23.97	4.346	1.750	13	-0.68	151.99	0
151	Acid Soluble As (ppm)	0450	22.50	1.600	23.97	4.346	1.750	13	-0.34	151.30	0
151	Acid Soluble As (ppm)	0515	23.24	8.134	23.97	4.346	1.750	13	-0.17	151.33	0
151	Acid Soluble As (ppm)	0524	24.49	3.137	23.97	4.346	1.750	13	0.12	151.30	0
151	Acid Soluble As (ppm)	0494	24.62	2.955	23.97	4.346	1.750	13	0.15	151.33	0
151	Acid Soluble As (ppm)	0136	24.63	0.9500	23.97	4.346	1.750	13	0.15	151.33	0
151	Acid Soluble As (ppm)	0529	25.94	0.0200	23.97	4.346	1.750	13	0.45	151.32	0
151	Acid Soluble As (ppm)	0527	28.09	0.2528	23.97	4.346	1.750	13	0.95	151.33	0
151	Acid Soluble As (ppm)	0563	29.50	0.9803	23.97	4.346	1.750	13	1.27	151.33	0
151	Acid Soluble As (ppm)	0220	30.15	0.1000	23.97	4.346	1.750	13	1.42	151.32	0
151	Acid Soluble As (ppm)	0515	20.56	23.21	23.97	4.346	1.750	13	-0.78	151.34	1
165	Acid Soluble B (%)	0516	0.0010	0.0000	0.0035	0.0023	0.0003	7	-0.95	165.99	0
165	Acid Soluble B (%)	0546	0.0012	0.0001	0.0035	0.0023	0.0003	7	-0.89	165.30	0
165	Acid Soluble B (%)	0563	0.0030	0.0001	0.0035	0.0023	0.0003	7	-0.20	165.99	0
165	Acid Soluble B (%)	0524	0.0033	0.0000	0.0035	0.0023	0.0003	7	-0.07	165.99	0
165	Acid Soluble B (%)	0553	0.0045	0.0010	0.0035	0.0023	0.0003	7	0.40	165.00	0
165	Acid Soluble B (%)	0423	0.0045	0.0010	0.0035	0.0023	0.0003	7	0.40	165.99	0
165	Acid Soluble B (%)	0527	0.0069	0.0002	0.0035	0.0023	0.0003	7	1.32	165.99	0
165	Acid Soluble B (%)	0354	0.0150	0.0100	0.0035	0.0023	0.0003	7	4.44	165.30	1
165	Acid Soluble B (%)	0515	0.0000	0.0000	0.0035	0.0023	0.0003	7		165.99	4
181	Acid Soluble Cd (ppm)	0255	125.6	0.5480	159.2	21.13	3.315	17	-1.59	181.30	0
181	Acid Soluble Cd (ppm)	0444	131.5	3.000	159.2	21.13	3.315	17	-1.31	181.30	0
181	Acid Soluble Cd (ppm)	0035	132.0	6.000	159.2	21.13	3.315	17	-1.29	181.30	0
181	Acid Soluble Cd (ppm)	0405	139.0	6.000	159.2	21.13	3.315	17	-0.95	181.99	0
181	Acid Soluble Cd (ppm)	0515	150.2	12.61	159.2	21.13	3.315	17	-0.42	181.34	0
181	Acid Soluble Cd (ppm)	0389	153.5	1.000	159.2	21.13	3.315	17	-0.27	181.30	0
181	Acid Soluble Cd (ppm)	0220	157.0	2.000	159.2	21.13	3.315	17	-0.10	181.99	0
181	Acid Soluble Cd (ppm)	0096	161.4	0.6000	159.2	21.13	3.315	17	0.11	181.30	0
181	Acid Soluble Cd (ppm)	0394	161.5	1.000	159.2	21.13	3.315	17	0.11	181.30	0
181	Acid Soluble Cd (ppm)	0524	162.5	3.587	159.2	21.13	3.315	17	0.16	181.30	0
181	Acid Soluble Cd (ppm)	0494	167.5	1.053	159.2	21.13	3.315	17	0.39	181.33	0
181	Acid Soluble Cd (ppm)	0233	167.7	2.100	159.2	21.13	3.315	17	0.40	181.33	0
181	Acid Soluble Cd (ppm)	0136	169.7	2.100	159.2	21.13	3.315	17	0.50	181.33	0
181	Acid Soluble Cd (ppm)	0515	169.7	3.467	159.2	21.13	3.315	17	0.50	181.33	0
181	Acid Soluble Cd (ppm)	0529	176.3	1.880	159.2	21.13	3.315	17	0.81	181.32	0
181	Acid Soluble Cd (ppm)	0527	188.2	3.694	159.2	21.13	3.315	17	1.37	181.33	0
181	Acid Soluble Cd (ppm)	0563	194.5	5.722	159.2	21.13	3.315	17	1.67	181.33	0
190	Water Soluble Cl (%)	0553	0.0450	0.0100				1		190.99	0
191	Acid Soluble Cr (ppm)	0529	485.1	6.540	601.4	67.53	23.73	16	-1.72	191.32	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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191	Acid Soluble Cr (ppm)	0035	508.5	35.00	601.4	67.53	23.73	16	-1.38	191.30	0
191	Acid Soluble Cr (ppm)	0444	518.5	7.000	601.4	67.53	23.73	16	-1.23	191.30	0
191	Acid Soluble Cr (ppm)	0389	558.5	1.000	601.4	67.53	23.73	16	-0.63	191.30	0
191	Acid Soluble Cr (ppm)	0450	562.5	111.0	601.4	67.53	23.73	16	-0.58	191.30	0
191	Acid Soluble Cr (ppm)	0563	587.7	11.83	601.4	67.53	23.73	16	-0.20	191.33	0
191	Acid Soluble Cr (ppm)	0405	589.5	7.000	601.4	67.53	23.73	16	-0.18	191.99	0
191	Acid Soluble Cr (ppm)	0394	602.5	7.000	601.4	67.53	23.73	16	0.02	191.30	0
191	Acid Soluble Cr (ppm)	0515	612.4	27.64	601.4	67.53	23.73	16	0.16	191.34	0
191	Acid Soluble Cr (ppm)	0220	624.5	1.000	601.4	67.53	23.73	16	0.34	191.99	0
191	Acid Soluble Cr (ppm)	0096	633.3	1.700	601.4	67.53	23.73	16	0.47	191.30	0
191	Acid Soluble Cr (ppm)	0494	644.9	5.749	601.4	67.53	23.73	16	0.64	191.33	0
191	Acid Soluble Cr (ppm)	0524	655.3	7.519	601.4	67.53	23.73	16	0.80	191.30	0
191	Acid Soluble Cr (ppm)	0136	658.5	9.000	601.4	67.53	23.73	16	0.85	191.33	0
191	Acid Soluble Cr (ppm)	0515	662.7	118.2	601.4	67.53	23.73	16	0.91	191.33	0
191	Acid Soluble Cr (ppm)	0527	720.8	22.45	601.4	67.53	23.73	16	1.77	191.33	0
202	Acid Soluble Co (ppm)	0529	2.410	0.2800	4.045	0.6267	0.1385	13	-2.61	202.32	0
202	Acid Soluble Co (ppm)	0255	3.216	0.0330	4.045	0.6267	0.1385	13	-1.32	202.99	0
202	Acid Soluble Co (ppm)	0563	3.601	0.4607	4.045	0.6267	0.1385	13	-0.71	202.33	0
202	Acid Soluble Co (ppm)	0389	3.785	0.0500	4.045	0.6267	0.1385	13	-0.42	202.30	0
202	Acid Soluble Co (ppm)	0405	3.800	0.0000	4.045	0.6267	0.1385	13	-0.39	202.99	0
202	Acid Soluble Co (ppm)	0035	3.915	0.1900	4.045	0.6267	0.1385	13	-0.21	202.30	0
202	Acid Soluble Co (ppm)	0423	3.995	0.1700	4.045	0.6267	0.1385	13	-0.08	202.32	0
202	Acid Soluble Co (ppm)	0136	4.180	0.0400	4.045	0.6267	0.1385	13	0.22	202.33	0
202	Acid Soluble Co (ppm)	0494	4.407	0.3547	4.045	0.6267	0.1385	13	0.58	202.33	0
202	Acid Soluble Co (ppm)	0546	4.500	0.0278	4.045	0.6267	0.1385	13	0.73	202.33	0
202	Acid Soluble Co (ppm)	0527	4.548	0.0511	4.045	0.6267	0.1385	13	0.80	202.33	0
202	Acid Soluble Co (ppm)	0220	4.550	0.1000	4.045	0.6267	0.1385	13	0.81	202.99	0
202	Acid Soluble Co (ppm)	0524	5.524	0.0436	4.045	0.6267	0.1385	13	2.36	202.30	0
202	Acid Soluble Co (ppm)	0515	16.72	10.31	4.045	0.6267	0.1385	13	20.23	202.33	1
202	Acid Soluble Co (ppm)	0515	0.0000	0.0000	4.045	0.6267	0.1385	13		202.34	4
221	Acid Soluble Cu (%)	0516	0.0035	0.0050	0.0061	0.0013	0.0688	24	-2.00	221.99	0
221	Acid Soluble Cu (%)	0255	0.0040	0.0000	0.0061	0.0013	0.0688	24	-1.61	221.30	0
221	Acid Soluble Cu (%)	0553	0.0050	0.0000	0.0061	0.0013	0.0688	24	-0.84	221.00	0
221	Acid Soluble Cu (%)	0423	0.0050	0.0000	0.0061	0.0013	0.0688	24	-0.84	221.32	0
221	Acid Soluble Cu (%)	0389	0.0050	0.0000	0.0061	0.0013	0.0688	24	-0.84	221.99	0
221	Acid Soluble Cu (%)	0096	0.0055	0.0003	0.0061	0.0013	0.0688	24	-0.49	221.30	0
221	Acid Soluble Cu (%)	0524	0.0056	0.0001	0.0061	0.0013	0.0688	24	-0.42	221.99	0
221	Acid Soluble Cu (%)	0394	0.0056	0.0003	0.0061	0.0013	0.0688	24	-0.42	221.32	0
221	Acid Soluble Cu (%)	0494	0.0056	0.0012	0.0061	0.0013	0.0688	24	-0.38	221.33	0
221	Acid Soluble Cu (%)	0095	0.0057	0.0005	0.0061	0.0013	0.0688	24	-0.34	221.30	0
221	Acid Soluble Cu (%)	0563	0.0057	0.0001	0.0061	0.0013	0.0688	24	-0.34	221.33	0
221	Acid Soluble Cu (%)	0405	0.0059	0.0001	0.0061	0.0013	0.0688	24	-0.18	221.99	0
221	Acid Soluble Cu (%)	0529	0.0060	0.0000	0.0061	0.0013	0.0688	24	-0.07	221.32	0
221	Acid Soluble Cu (%)	0043	0.0060	0.0000	0.0061	0.0013	0.0688	24	-0.07	221.33	0
221	Acid Soluble Cu (%)	0546	0.0061	0.0001	0.0061	0.0013	0.0688	24	-0.03	221.33	0
221	Acid Soluble Cu (%)	0233	0.0061	0.0000	0.0061	0.0013	0.0688	24	0.01	221.33	0
221	Acid Soluble Cu (%)	0402	0.0064	0.0005	0.0061	0.0013	0.0688	24	0.20	221.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
221	Acid Soluble Cu (%)	0527	0.0069	0.0001	0.0061	0.0013	0.0688	24	0.59	221.33	0
221	Acid Soluble Cu (%)	0035	0.0069	0.0006	0.0061	0.0013	0.0688	24	0.63	221.30	0
221	Acid Soluble Cu (%)	0515	0.0076	0.0011	0.0061	0.0013	0.0688	24	1.13	221.33	0
221	Acid Soluble Cu (%)	0515	0.0077	0.0023	0.0061	0.0013	0.0688	24	1.21	221.99	0
221	Acid Soluble Cu (%)	0354	0.0100	0.0000	0.0061	0.0013	0.0688	24	3.02	221.30	0
221	Acid Soluble Cu (%)	0472	0.0100	0.0000	0.0061	0.0013	0.0688	24	3.02	221.30	0
221	Acid Soluble Cu (%)	0136	62.70	1.640	0.0061	0.0013	0.0688	24	48455.36	221.33	0
221	Acid Soluble Cu (%)	0450	52.25	2.900	0.0061	0.0013	0.0688	24	40378.68	221.30	1
241	Acid Soluble Fe (%)	0494	0.7419	0.0125	0.7918	0.0365	0.0186	16	-1.37	241.33	0
241	Acid Soluble Fe (%)	0516	0.7500	0.0060	0.7918	0.0365	0.0186	16	-1.15	241.99	0
241	Acid Soluble Fe (%)	0546	0.7647	0.0046	0.7918	0.0365	0.0186	16	-0.74	241.33	0
241	Acid Soluble Fe (%)	0096	0.7655	0.0490	0.7918	0.0365	0.0186	16	-0.72	241.30	0
241	Acid Soluble Fe (%)	0553	0.7675	0.0350	0.7918	0.0365	0.0186	16	-0.67	241.00	0
241	Acid Soluble Fe (%)	0035	0.7745	0.0410	0.7918	0.0365	0.0186	16	-0.47	241.30	0
241	Acid Soluble Fe (%)	0423	0.7775	0.0010	0.7918	0.0365	0.0186	16	-0.39	241.32	0
241	Acid Soluble Fe (%)	0472	0.7900	0.0000	0.7918	0.0365	0.0186	16	-0.05	241.30	0
241	Acid Soluble Fe (%)	0524	0.7959	0.0155	0.7918	0.0365	0.0186	16	0.11	241.99	0
241	Acid Soluble Fe (%)	0354	0.8000	0.0000	0.7918	0.0365	0.0186	16	0.22	241.30	0
241	Acid Soluble Fe (%)	0515	0.8002	0.0768	0.7918	0.0365	0.0186	16	0.23	241.99	0
241	Acid Soluble Fe (%)	0563	0.8031	0.0069	0.7918	0.0365	0.0186	16	0.31	241.33	0
241	Acid Soluble Fe (%)	0389	0.8050	0.0100	0.7918	0.0365	0.0186	16	0.36	241.99	0
241	Acid Soluble Fe (%)	0444	0.8400	0.0000	0.7918	0.0365	0.0186	16	1.32	241.30	0
241	Acid Soluble Fe (%)	0527	0.8639	0.0136	0.7918	0.0365	0.0186	16	1.98	241.33	0
241	Acid Soluble Fe (%)	0515	1.123	0.0254	0.7918	0.0365	0.0186	16	9.07	241.33	0
251	Acid Soluble Pb (ppm)	0529	1.555	0.0100	3.816	2.176	0.5339	14	-1.04	251.32	0
251	Acid Soluble Pb (ppm)	0255	1.667	0.0000	3.816	2.176	0.5339	14	-0.99	251.30	0
251	Acid Soluble Pb (ppm)	0096	2.350	0.9000	3.816	2.176	0.5339	14	-0.67	251.30	0
251	Acid Soluble Pb (ppm)	0035	2.420	0.4600	3.816	2.176	0.5339	14	-0.64	251.30	0
251	Acid Soluble Pb (ppm)	0136	2.435	0.3700	3.816	2.176	0.5339	14	-0.63	251.33	0
251	Acid Soluble Pb (ppm)	0220	2.900	0.0000	3.816	2.176	0.5339	14	-0.42	251.99	0
251	Acid Soluble Pb (ppm)	0389	3.105	0.0500	3.816	2.176	0.5339	14	-0.33	251.30	0
251	Acid Soluble Pb (ppm)	0524	3.385	0.0151	3.816	2.176	0.5339	14	-0.20	251.30	0
251	Acid Soluble Pb (ppm)	0563	3.989	0.2582	3.816	2.176	0.5339	14	0.08	251.33	0
251	Acid Soluble Pb (ppm)	0405	4.150	0.1000	3.816	2.176	0.5339	14	0.15	251.99	0
251	Acid Soluble Pb (ppm)	0527	4.566	0.0268	3.816	2.176	0.5339	14	0.34	251.33	0
251	Acid Soluble Pb (ppm)	0394	6.745	0.1100	3.816	2.176	0.5339	14	1.35	251.30	0
251	Acid Soluble Pb (ppm)	0450	8.400	0.8000	3.816	2.176	0.5339	14	2.11	251.30	0
251	Acid Soluble Pb (ppm)	0515	10.04	4.375	3.816	2.176	0.5339	14	2.86	251.33	0
251	Acid Soluble Pb (ppm)	0515	4.080	5.215	3.816	2.176	0.5339	14	0.12	251.34	1
261	Acid Soluble Mn (%)	0354	0.0100	0.0000	0.0192	0.0011	0.0058	15	-8.29	261.30	0
261	Acid Soluble Mn (%)	0563	0.0179	0.0005	0.0192	0.0011	0.0058	15	-1.20	261.35	0
261	Acid Soluble Mn (%)	0389	0.0180	0.0000	0.0192	0.0011	0.0058	15	-1.06	261.99	0
261	Acid Soluble Mn (%)	0524	0.0183	0.0007	0.0192	0.0011	0.0058	15	-0.84	261.99	0
261	Acid Soluble Mn (%)	0096	0.0186	0.0003	0.0192	0.0011	0.0058	15	-0.57	261.30	0
261	Acid Soluble Mn (%)	0546	0.0189	0.0002	0.0192	0.0011	0.0058	15	-0.25	261.35	0
261	Acid Soluble Mn (%)	0516	0.0190	0.0000	0.0192	0.0011	0.0058	15	-0.16	261.99	0
261	Acid Soluble Mn (%)	0035	0.0195	0.0010	0.0192	0.0011	0.0058	15	0.29	261.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
261	Acid Soluble Mn (%)	0444	0.0195	0.0010	0.0192	0.0011	0.0058	15	0.29	261.30	0
261	Acid Soluble Mn (%)	0515	0.0197	0.0129	0.0192	0.0011	0.0058	15	0.43	261.99	0
261	Acid Soluble Mn (%)	0527	0.0200	0.0003	0.0192	0.0011	0.0058	15	0.70	261.35	0
261	Acid Soluble Mn (%)	0553	0.0200	0.0040	0.0192	0.0011	0.0058	15	0.74	261.12	0
261	Acid Soluble Mn (%)	0472	0.0200	0.0000	0.0192	0.0011	0.0058	15	0.74	261.30	0
261	Acid Soluble Mn (%)	0494	0.0202	0.0005	0.0192	0.0011	0.0058	15	0.88	261.35	0
261	Acid Soluble Mn (%)	0515	0.0434	0.0649	0.0192	0.0011	0.0058	15	21.85	261.35	0
261	Acid Soluble Mn (%)	0423	198.8	8.600	0.0192	0.0011	0.0058	15	179673.57	261.34	2
281	Acid Soluble Hg (ppm)	0563	0.0037	0.0004				2		281.30	0
281	Acid Soluble Hg (ppm)	0529	0.0250	0.0100				2		281.30	0
281	Acid Soluble Hg (ppm)	0515	0.0000	0.0000				2		281.30	4
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	< 0.01					2		281.99	5
289	Acid Soluble Mo (ppm)	0255	15.00	1.226	18.44	2.660	1.415	17	-1.30	289.30	0
289	Acid Soluble Mo (ppm)	0529	15.00	1.190	18.44	2.660	1.415	17	-1.30	289.32	0
289	Acid Soluble Mo (ppm)	0035	15.05	0.3000	18.44	2.660	1.415	17	-1.27	289.30	0
289	Acid Soluble Mo (ppm)	0450	15.95	1.500	18.44	2.660	1.415	17	-0.94	289.30	0
289	Acid Soluble Mo (ppm)	0563	16.17	1.542	18.44	2.660	1.415	17	-0.86	289.33	0
289	Acid Soluble Mo (ppm)	0524	17.74	0.1578	18.44	2.660	1.415	17	-0.26	289.30	0
289	Acid Soluble Mo (ppm)	0405	17.84	0.0100	18.44	2.660	1.415	17	-0.23	289.99	0
289	Acid Soluble Mo (ppm)	0423	18.85	0.0600	18.44	2.660	1.415	17	0.15	289.33	0
289	Acid Soluble Mo (ppm)	0220	19.00	0.4000	18.44	2.660	1.415	17	0.21	289.99	0
289	Acid Soluble Mo (ppm)	0096	19.05	2.100	18.44	2.660	1.415	17	0.23	289.30	0
289	Acid Soluble Mo (ppm)	0494	19.53	1.255	18.44	2.660	1.415	17	0.41	289.33	0
289	Acid Soluble Mo (ppm)	0402	19.85	0.1000	18.44	2.660	1.415	17	0.53	289.30	0
289	Acid Soluble Mo (ppm)	0546	19.85	0.1130	18.44	2.660	1.415	17	0.53	289.33	0
289	Acid Soluble Mo (ppm)	0136	19.87	0.1200	18.44	2.660	1.415	17	0.54	289.33	0
289	Acid Soluble Mo (ppm)	0515	20.23	3.646	18.44	2.660	1.415	17	0.67	289.34	0
289	Acid Soluble Mo (ppm)	0527	22.10	0.3295	18.44	2.660	1.415	17	1.38	289.33	0
289	Acid Soluble Mo (ppm)	0516	25.00	10.00	18.44	2.660	1.415	17	2.47	289.30	0
289	Acid Soluble Mo (ppm)	0515	66.40	71.88	18.44	2.660	1.415	17	18.03	289.33	2
291	Acid Soluble Ni (ppm)	0563	184.8	0.2260	226.5	28.66	5.454	18	-1.45	291.33	0
291	Acid Soluble Ni (ppm)	0444	185.0	0.0000	226.5	28.66	5.454	18	-1.45	291.30	0
291	Acid Soluble Ni (ppm)	0255	186.8	0.0240	226.5	28.66	5.454	18	-1.38	291.99	0
291	Acid Soluble Ni (ppm)	0035	196.0	10.00	226.5	28.66	5.454	18	-1.06	291.30	0
291	Acid Soluble Ni (ppm)	0389	212.5	1.000	226.5	28.66	5.454	18	-0.49	291.30	0
291	Acid Soluble Ni (ppm)	0450	219.0	24.00	226.5	28.66	5.454	18	-0.26	291.30	0
291	Acid Soluble Ni (ppm)	0394	221.5	1.000	226.5	28.66	5.454	18	-0.17	291.30	0
291	Acid Soluble Ni (ppm)	0529	225.7	5.890	226.5	28.66	5.454	18	-0.03	291.32	0
291	Acid Soluble Ni (ppm)	0515	226.0	5.998	226.5	28.66	5.454	18	-0.02	291.34	0
291	Acid Soluble Ni (ppm)	0405	231.0	2.000	226.5	28.66	5.454	18	0.16	291.99	0
291	Acid Soluble Ni (ppm)	0233	236.3	5.200	226.5	28.66	5.454	18	0.34	291.33	0
291	Acid Soluble Ni (ppm)	0524	236.5	3.409	226.5	28.66	5.454	18	0.35	291.30	0
291	Acid Soluble Ni (ppm)	0494	243.2	2.409	226.5	28.66	5.454	18	0.58	291.33	0
291	Acid Soluble Ni (ppm)	0220	244.5	1.000	226.5	28.66	5.454	18	0.63	291.99	0
291	Acid Soluble Ni (ppm)	0096	251.8	7.600	226.5	28.66	5.454	18	0.88	291.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
291	Acid Soluble Ni (ppm)	0515	254.9	23.85	226.5	28.66	5.454	18	0.99	291.33	0
291	Acid Soluble Ni (ppm)	0136	255.5	1.000	226.5	28.66	5.454	18	1.01	291.33	0
291	Acid Soluble Ni (ppm)	0527	265.3	3.566	226.5	28.66	5.454	18	1.36	291.33	0
301	Acid Soluble Se (ppm)	0524	0.2250	0.0100	3.756	4.076	0.2985	7	-0.78	301.30	0
301	Acid Soluble Se (ppm)	0220	0.9000	0.0000	3.756	4.076	0.2985	7	-0.63	301.99	0
301	Acid Soluble Se (ppm)	0405	1.000	0.0000	3.756	4.076	0.2985	7	-0.61	301.99	0
301	Acid Soluble Se (ppm)	0563	2.337	0.3917	3.756	4.076	0.2985	7	-0.31	301.33	0
301	Acid Soluble Se (ppm)	0529	5.905	1.170	3.756	4.076	0.2985	7	0.48	301.32	0
301	Acid Soluble Se (ppm)	0527	6.056	0.4547	3.756	4.076	0.2985	7	0.51	301.33	0
301	Acid Soluble Se (ppm)	0255	10.76	0.0630	3.756	4.076	0.2985	7	1.55	301.99	0
301	Acid Soluble Se (ppm)	0515	6.176	4.522	3.756	4.076	0.2985	7	0.54	301.34	1
301	Acid Soluble Se (ppm)	0515	0.0000	0.0000	3.756	4.076	0.2985	7		301.33	4
311	Sodium (%)	0563	0.0345	0.0046	0.0578	0.0216	0.0042	8	-0.99	311.33	0
311	Sodium (%)	0553	0.0395	0.0050	0.0578	0.0216	0.0042	8	-0.78	311.00	0
311	Sodium (%)	0494	0.0498	0.0004	0.0578	0.0216	0.0042	8	-0.34	311.33	0
311	Sodium (%)	0423	0.0505	0.0030	0.0578	0.0216	0.0042	8	-0.31	311.33	0
311	Sodium (%)	0527	0.0546	0.0016	0.0578	0.0216	0.0042	8	-0.14	311.33	0
311	Sodium (%)	0096	0.0650	0.0100	0.0578	0.0216	0.0042	8	0.30	311.99	0
311	Sodium (%)	0035	0.0785	0.0090	0.0578	0.0216	0.0042	8	0.88	311.33	0
311	Sodium (%)	0354	0.1000	0.0000	0.0578	0.0216	0.0042	8	1.79	311.99	0
321	Acid Soluble Zn (%)	0255	0.1420	0.0000	0.1911	0.0153	1.746	27	-3.22	321.30	0
321	Acid Soluble Zn (%)	0529	0.1700	0.0200	0.1911	0.0153	1.746	27	-1.38	321.32	0
321	Acid Soluble Zn (%)	0516	0.1720	0.0000	0.1911	0.0153	1.746	27	-1.25	321.99	0
321	Acid Soluble Zn (%)	0220	0.1780	0.0020	0.1911	0.0153	1.746	27	-0.86	321.99	0
321	Acid Soluble Zn (%)	0472	0.1800	0.0000	0.1911	0.0153	1.746	27	-0.73	321.30	0
321	Acid Soluble Zn (%)	0043	0.1800	0.0000	0.1911	0.0153	1.746	27	-0.73	321.33	0
321	Acid Soluble Zn (%)	0405	0.1835	0.0030	0.1911	0.0153	1.746	27	-0.50	321.99	0
321	Acid Soluble Zn (%)	0515	0.1846	0.0079	0.1911	0.0153	1.746	27	-0.43	321.33	0
321	Acid Soluble Zn (%)	0095	0.1850	0.0100	0.1911	0.0153	1.746	27	-0.40	321.30	0
321	Acid Soluble Zn (%)	0515	0.1856	0.0021	0.1911	0.0153	1.746	27	-0.36	321.99	0
321	Acid Soluble Zn (%)	0524	0.1867	0.0020	0.1911	0.0153	1.746	27	-0.29	321.99	0
321	Acid Soluble Zn (%)	0394	0.1875	0.0010	0.1911	0.0153	1.746	27	-0.24	321.32	0
321	Acid Soluble Zn (%)	0494	0.1886	0.0101	0.1911	0.0153	1.746	27	-0.17	321.33	0
321	Acid Soluble Zn (%)	0233	0.1887	0.0135	0.1911	0.0153	1.746	27	-0.16	321.33	0
321	Acid Soluble Zn (%)	0553	0.1890	0.0120	0.1911	0.0153	1.746	27	-0.14	321.00	0
321	Acid Soluble Zn (%)	0354	0.1900	0.0000	0.1911	0.0153	1.746	27	-0.07	321.30	0
321	Acid Soluble Zn (%)	0444	0.1900	0.0000	0.1911	0.0153	1.746	27	-0.07	321.30	0
321	Acid Soluble Zn (%)	0546	0.1932	0.0023	0.1911	0.0153	1.746	27	0.13	321.33	0
321	Acid Soluble Zn (%)	0136	0.1950	0.0100	0.1911	0.0153	1.746	27	0.26	321.33	0
321	Acid Soluble Zn (%)	0035	0.1955	0.0150	0.1911	0.0153	1.746	27	0.29	321.30	0
321	Acid Soluble Zn (%)	0423	0.1975	0.0010	0.1911	0.0153	1.746	27	0.42	321.32	0
321	Acid Soluble Zn (%)	0041	0.2050	0.0100	0.1911	0.0153	1.746	27	0.91	321.30	0
321	Acid Soluble Zn (%)	0527	0.2103	0.0009	0.1911	0.0153	1.746	27	1.26	321.33	0
321	Acid Soluble Zn (%)	0402	0.2218	0.0048	0.1911	0.0153	1.746	27	2.01	321.30	0
321	Acid Soluble Zn (%)	0563	0.2247	0.0131	0.1911	0.0153	1.746	27	2.20	321.33	0
321	Acid Soluble Zn (%)	0389	0.3250	0.0100	0.1911	0.0153	1.746	27	8.78	321.99	0
321	Acid Soluble Zn (%)	0096	1,931	47.00	0.1911	0.0153	1.746	27	126538.92	321.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
321	Acid Soluble Zn (%)	0450	1,811	189.0	0.1911	0.0153	1.746	27	118672.47	321.30	1

Interpreting Z Scores: Red indicates a normally distributed Z value >3 or <-3 (requires action), Orange = Z between 2 and 3 or -2 and -3 (warning) and Green = Z < 2 and >-2 (OK at 95%).
Flags indicate data usage: 0 = Used, 1 = rejected for duplicates too far apart, 2 = rejected as extreme outlier, 3 = removed from stats, 4 = rejected due to 0s submitted and 5 = LOD. A 9 flag indicates a data problem - scores not calculated. Robust statistics not used if < 6 labs used in calculations, in this case the Z Scores are grey and included for information only. Your offset values are higher (‡) or lower (†) than the Robust Analyte value ± Investigational Allowance. Analyte codes in light green indicate a guaranteed analyte. Individual lab values may be below detection limits but are reported solely for the purpose of this Proficiency Testing program.