

# magruder fertilizer

## check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 211011

32-0-0 UAN Solution

### Statistical Summary

# Analytes: 30

# Labs Reporting: 78

Issue Date : 11/30/2021

Analyte Code	Analyte Sample # 211011	# 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	19	7.746	0.6765	7.681		0.4828	0.1385	6.29%		0.0992	2.94%
002	Nitrate N (%)	17	16	8.602	3.679	7.676		0.8524	0.2664	11.11%		0.1289	2.94%
005	Urea N (%)	13	13	16.89	1.050	16.89		1.190	0.4127	7.05%		0.1387	2.43%
006	Biuret N (%)	5	4	0.2563	0.2979	0.3129		0.3115	0.1947	99.56%		0.0313	4.76%
007	Urea (%)	3	3	23.66	12.64	23.66		12.64	9.119	53.40%		0.1900	2.06%
008	Biuret (%)	5	5	0.7690	0.2940	0.7690		0.2940	0.1644	38.23%		0.0100	4.16%
009	Ammoniacal Plus Nitrate N (%)	3	3	24.16	15.70	24.16		15.70	11.33	64.99%		0.1200	2.03%
010	Total N (32%)	77	74	31.40	3.372	32.12	0.8800	0.4427	0.0643	1.38%	1.17	0.2719	1.76%
020	Total P2O5 (%)	5	4	0.6608	1.406	0.8260		1.567	0.9793	189.70%		0.0029	4.12%
041	Direct Available P2O5 (%)	4	3	0.0328	0.0450	0.0105	0.6700	0.0048	0.0035	46.40%	0.02	0.0041	7.95%
048	Water Soluble P2O5 (%)	1		0.0100									
050	Soluble K2O (%)	6	5	0.2313	0.5078	0.2576	0.4100	0.5632	0.3148	218.64%	3.20	0.0045	4.91%
101	Acid Soluble Ca (%)	4	1	0.0088	0.0118	0.2576	0.2129	0.5632	0.7040	218.64%	6.16	0.0100	4.91%
121	Acid Soluble Mg (%)	4	1	0.0026	0.0050	0.2576	0.2129	0.5632	0.7040	218.64%	6.16	0.0001	4.91%
148	Total S (%)	3	2	0.9082	1.474	1.312	0.2656	1.835	1.622	139.80%	16.09	0.9245	3.84%
149	S - HNO3 soluble (%)	1		0.0002									
151	Acid Soluble As (ppm)	2	1	0.6558	0.0377								
165	Acid Soluble B (%)	2	1	0.0051	0.0070								
181	Acid Soluble Cd (ppm)	1		0.0024									
191	Acid Soluble Cr (ppm)	2	2	0.3308	0.0724								
221	Acid Soluble Cu (%)	1		0.0100									
241	Acid Soluble Fe (%)	2	0	0.0050	0.0071								
251	Acid Soluble Pb (ppm)	3	2	8.078	7.417	7.331		10.33	9.130	140.89%		6.544	11.85%
261	Acid Soluble Mn (%)	4	2	25.60	39.75	51.19	1.0000	46.04	40.69	89.93%	107.27	15.42	1.40%
281	Acid Soluble Hg (ppm)	1		0.0000									
289	Acid Soluble Mo (ppm)	3	3	3.176	1.738	3.176	1.9527	1.738	1.254	54.72%	2.07	1.554	13.44%
291	Acid Soluble Ni (ppm)	1		1.898									
301	Acid Soluble Se (ppm)	3	3	2.332	2.087	2.332		2.087	1.506	89.49%		1.235	14.08%
311	Sodium (%)	1		0.0100									
321	Acid Soluble Zn (%)	2	1	0.1149	0.1483								

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.

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 # 211011	
Analyte Code	

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### Lab Values

# Analytes: 30

# Labs Reporting: 78

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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 (%)	0368	6.896	0.1550	7.681	0.4828	0.0992	19	-1.63	001.99	0
001	Ammoniacal N (%)	0563	7.205	0.1100	7.681	0.4828	0.0992	19	-0.99	001.10	0
001	Ammoniacal N (%)	0423	7.225	0.2500	7.681	0.4828	0.0992	19	-0.94	001.99	0
001	Ammoniacal N (%)	0524	7.285	0.0700	7.681	0.4828	0.0992	19	-0.82	001.99	0
001	Ammoniacal N (%)	0513	7.400	0.0000	7.681	0.4828	0.0992	19	-0.58	001.99	0
001	Ammoniacal N (%)	0546	7.420	0.1600	7.681	0.4828	0.0992	19	-0.54	001.99	0
001	Ammoniacal N (%)	0220	7.475	0.0700	7.681	0.4828	0.0992	19	-0.43	001.99	0
001	Ammoniacal N (%)	0405	7.485	0.0100	7.681	0.4828	0.0992	19	-0.41	001.99	0
001	Ammoniacal N (%)	0444	7.600	0.2000	7.681	0.4828	0.0992	19	-0.17	001.10	0
001	Ammoniacal N (%)	0498	7.650	0.1000	7.681	0.4828	0.0992	19	-0.06	001.10	0
001	Ammoniacal N (%)	0027	7.650	0.2400	7.681	0.4828	0.0992	19	-0.06	001.99	0
001	Ammoniacal N (%)	0481	7.680	0.1000	7.681	0.4828	0.0992	19	0.00	001.10	0
001	Ammoniacal N (%)	0451	7.720	0.0600	7.681	0.4828	0.0992	19	0.08	001.10	0
001	Ammoniacal N (%)	0136	7.890	0.2800	7.681	0.4828	0.0992	19	0.43	001.10	0
001	Ammoniacal N (%)	0548	7.920	0.0200	7.681	0.4828	0.0992	19	0.49	001.99	0
001	Ammoniacal N (%)	0506	8.165	0.0100	7.681	0.4828	0.0992	19	1.00	001.99	0
001	Ammoniacal N (%)	0255	8.475	0.0300	7.681	0.4828	0.0992	19	1.64	001.99	0
001	Ammoniacal N (%)	0574	8.560	0.0200	7.681	0.4828	0.0992	19	1.82	001.99	0
001	Ammoniacal N (%)	0576	10.00	0.0000	7.681	0.4828	0.0992	19	4.80	001.99	0
001	Ammoniacal N (%)	0553	7.215	0.6100	7.681	0.4828	0.0992	19	-0.97	001.99	1
002	Nitrate N (%)	0368	6.311	0.0920	7.676	0.8524	0.1289	16	-1.60	002.99	0
002	Nitrate N (%)	0574	6.335	0.0300	7.676	0.8524	0.1289	16	-1.57	002.99	0
002	Nitrate N (%)	0029	7.145	0.0100	7.676	0.8524	0.1289	16	-0.62	002.99	0
002	Nitrate N (%)	0553	7.160	0.0800	7.676	0.8524	0.1289	16	-0.61	002.99	0
002	Nitrate N (%)	0027	7.380	0.0800	7.676	0.8524	0.1289	16	-0.35	002.99	0
002	Nitrate N (%)	0513	7.400	0.0000	7.676	0.8524	0.1289	16	-0.32	002.99	0
002	Nitrate N (%)	0423	7.510	0.1800	7.676	0.8524	0.1289	16	-0.19	002.99	0
002	Nitrate N (%)	0444	7.550	0.5000	7.676	0.8524	0.1289	16	-0.15	002.99	0
002	Nitrate N (%)	0136	7.560	0.2400	7.676	0.8524	0.1289	16	-0.14	002.99	0
002	Nitrate N (%)	0481	7.790	0.0200	7.676	0.8524	0.1289	16	0.13	002.99	0
002	Nitrate N (%)	0548	7.815	0.3700	7.676	0.8524	0.1289	16	0.16	002.99	0
002	Nitrate N (%)	0506	8.010	0.1600	7.676	0.8524	0.1289	16	0.39	002.99	0
002	Nitrate N (%)	0220	8.260	0.1400	7.676	0.8524	0.1289	16	0.69	002.99	0
002	Nitrate N (%)	0564	8.530	0.0600	7.676	0.8524	0.1289	16	1.00	002.99	0
002	Nitrate N (%)	0546	9.030	0.1000	7.676	0.8524	0.1289	16	1.59	002.99	0
002	Nitrate N (%)	0576	10.00	0.0000	7.676	0.8524	0.1289	16	2.73	002.99	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				
002	Nitrate N (%)	0563	22.45	0.1000	7.676	0.8524	0.1289	16	17.33	002.20	2
005	Urea N (%)	0506	15.15	0.3800	16.89	1.190	0.1387	13	-1.47	005.99	0
005	Urea N (%)	0546	15.63	0.2200	16.89	1.190	0.1387	13	-1.06	005.99	0
005	Urea N (%)	0548	15.71	0.0700	16.89	1.190	0.1387	13	-1.00	005.99	0
005	Urea N (%)	0524	16.12	0.2900	16.89	1.190	0.1387	13	-0.66	005.99	0
005	Urea N (%)	0574	16.16	0.0500	16.89	1.190	0.1387	13	-0.62	005.00	0
005	Urea N (%)	0136	16.75	0.3000	16.89	1.190	0.1387	13	-0.12	005.00	0
005	Urea N (%)	0405	17.22	0.0400	16.89	1.190	0.1387	13	0.27	005.99	0
005	Urea N (%)	0547	17.37	0.0400	16.89	1.190	0.1387	13	0.40	005.99	0
005	Urea N (%)	0029	17.59	0.0000	16.89	1.190	0.1387	13	0.58	005.99	0
005	Urea N (%)	0027	17.63	0.1300	16.89	1.190	0.1387	13	0.61	005.99	0
005	Urea N (%)	0513	17.84	0.1300	16.89	1.190	0.1387	13	0.79	005.99	0
005	Urea N (%)	0220	18.01	0.0500	16.89	1.190	0.1387	13	0.93	005.00	0
005	Urea N (%)	0368	18.48	0.1030	16.89	1.190	0.1387	13	1.33	005.00	0
006	Biuret N (%)	0548	0.0180	0.0020	0.3129	0.3115	0.0313	4	-0.95	006.10	0
006	Biuret N (%)	0506	0.2035	0.0030	0.3129	0.3115	0.0313	4	-0.35	006.99	0
006	Biuret N (%)	0220	0.2800	0.0200	0.3129	0.3115	0.0313	4	-0.11	006.99	0
006	Biuret N (%)	0574	0.7500	0.1000	0.3129	0.3115	0.0313	4	1.40	006.99	0
006	Biuret N (%)	0563	< 0.03		0.3129	0.3115	0.0313	4		006.10	5
007	Urea (%)	0498	15.75	0.1000	23.66	12.64	0.1900	3	-0.63	007.00	0
007	Urea (%)	0444	17.00	0.2000	23.66	12.64	0.1900	3	-0.53	007.00	0
007	Urea (%)	0513	38.24	0.2700	23.66	12.64	0.1900	3	1.15	007.99	0
008	Biuret (%)	0498	0.2550	0.0100	0.7690	0.2940	0.0100	5	-1.75	008.00	0
008	Biuret (%)	0450	0.8150	0.0100	0.7690	0.2940	0.0100	5	0.16	008.10	0
008	Biuret (%)	0444	0.8850	0.0100	0.7690	0.2940	0.0100	5	0.39	008.10	0
008	Biuret (%)	0405	0.9000	0.0000	0.7690	0.2940	0.0100	5	0.45	008.10	0
008	Biuret (%)	0481	0.9900	0.0200	0.7690	0.2940	0.0100	5	0.75	008.10	0
009	Ammoniacal Plus Nitrate N (%)	0574	14.90	0.0500	24.16	15.70	0.1200	3	-0.59	009.10	0
009	Ammoniacal Plus Nitrate N (%)	0498	15.30	0.2000	24.16	15.70	0.1200	3	-0.56	009.10	0
009	Ammoniacal Plus Nitrate N (%)	0513	42.30	0.1100	24.16	15.70	0.1200	3	1.15	009.99	0
010	Total N (32%)	0553	17.80†	0.2000	32.12	0.4427	0.2719	74	-32.35	010.99	0
010	Total N (32%)	0476	23.23†	0.2293	32.12	0.4427	0.2719	74	-20.08	010.99	0
010	Total N (32%)	0260	28.40†	0.8000	32.12	0.4427	0.2719	74	-8.41	010.60	0
010	Total N (32%)	0309	29.16†	0.6200	32.12	0.4427	0.2719	74	-6.69	010.11	0
010	Total N (32%)	0531	29.83†	0.0100	32.12	0.4427	0.2719	74	-5.19	010.11	0
010	Total N (32%)	0023	30.48†	0.6430	32.12	0.4427	0.2719	74	-3.71	010.60	0
010	Total N (32%)	0230	31.10†	0.2000	32.12	0.4427	0.2719	74	-2.31	010.60	0
010	Total N (32%)	0524	31.22†	0.0414	32.12	0.4427	0.2719	74	-2.04	010.99	0
010	Total N (32%)	0506	31.34	0.5300	32.12	0.4427	0.2719	74	-1.78	010.99	0
010	Total N (32%)	0548	31.44	0.3200	32.12	0.4427	0.2719	74	-1.54	010.11	0
010	Total N (32%)	0498	31.50	0.2000	32.12	0.4427	0.2719	74	-1.40	010.12	0
010	Total N (32%)	0493	31.50	0.1000	32.12	0.4427	0.2719	74	-1.40	010.99	0
010	Total N (32%)	0029	31.56	0.4800	32.12	0.4427	0.2719	74	-1.27	010.60	0
010	Total N (32%)	0576	31.75	0.1000	32.12	0.4427	0.2719	74	-0.84	010.99	0
010	Total N (32%)	0574	31.80	0.1000	32.12	0.4427	0.2719	74	-0.73	010.99	0
010	Total N (32%)	0549	31.81	0.2200	32.12	0.4427	0.2719	74	-0.70	010.99	0
010	Total N (32%)	0027	31.90	0.6000	32.12	0.4427	0.2719	74	-0.50	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 (32%)	0494	31.92	0.7300	32.12	0.4427	0.2719	74	-0.47	010.60	0
010	Total N (32%)	0481	31.94	0.0700	32.12	0.4427	0.2719	74	-0.42	010.12	0
010	Total N (32%)	0565	31.94	0.0300	32.12	0.4427	0.2719	74	-0.42	010.99	0
010	Total N (32%)	0564	31.94	0.0200	32.12	0.4427	0.2719	74	-0.41	010.99	0
010	Total N (32%)	0117	31.95	0.1000	32.12	0.4427	0.2719	74	-0.39	010.60	0
010	Total N (32%)	0354	31.95	0.1000	32.12	0.4427	0.2719	74	-0.39	010.60	0
010	Total N (32%)	0402	31.96	0.0960	32.12	0.4427	0.2719	74	-0.36	010.60	0
010	Total N (32%)	0422	32.00	0.2000	32.12	0.4427	0.2719	74	-0.27	010.60	0
010	Total N (32%)	0486	32.00	0.0400	32.12	0.4427	0.2719	74	-0.27	010.60	0
010	Total N (32%)	0255	32.02	0.3310	32.12	0.4427	0.2719	74	-0.23	010.60	0
010	Total N (32%)	0537	32.02	1.000	32.12	0.4427	0.2719	74	-0.23	010.99	0
010	Total N (32%)	0234	32.03	0.1900	32.12	0.4427	0.2719	74	-0.22	010.60	0
010	Total N (32%)	0577	32.04	0.1500	32.12	0.4427	0.2719	74	-0.20	010.99	0
010	Total N (32%)	0568	32.05	0.3000	32.12	0.4427	0.2719	74	-0.16	010.12	0
010	Total N (32%)	0472	32.08	0.0300	32.12	0.4427	0.2719	74	-0.10	010.60	0
010	Total N (32%)	0546	32.08	0.0400	32.12	0.4427	0.2719	74	-0.09	010.11	0
010	Total N (32%)	0157	32.10	0.2000	32.12	0.4427	0.2719	74	-0.05	010.60	0
010	Total N (32%)	0169	32.14	0.0400	32.12	0.4427	0.2719	74	0.04	010.60	0
010	Total N (32%)	0444	32.15	0.5000	32.12	0.4427	0.2719	74	0.06	010.60	0
010	Total N (32%)	0131	32.16	1.574	32.12	0.4427	0.2719	74	0.08	010.60	0
010	Total N (32%)	0233	32.17	0.5700	32.12	0.4427	0.2719	74	0.10	010.60	0
010	Total N (32%)	0390	32.19	0.6870	32.12	0.4427	0.2719	74	0.15	010.60	0
010	Total N (32%)	0405	32.19	0.0600	32.12	0.4427	0.2719	74	0.15	010.60	0
010	Total N (32%)	0389	32.20	0.2000	32.12	0.4427	0.2719	74	0.18	010.60	0
010	Total N (32%)	0291	32.23	0.0100	32.12	0.4427	0.2719	74	0.23	010.60	0
010	Total N (32%)	0106	32.26	0.1100	32.12	0.4427	0.2719	74	0.30	010.60	0
010	Total N (32%)	0325	32.27	0.5400	32.12	0.4427	0.2719	74	0.34	010.60	0
010	Total N (32%)	0501	32.28	0.4400	32.12	0.4427	0.2719	74	0.36	010.60	0
010	Total N (32%)	0073	32.30	0.2500	32.12	0.4427	0.2719	74	0.39	010.60	0
010	Total N (32%)	0042	32.30	0.0000	32.12	0.4427	0.2719	74	0.40	010.60	0
010	Total N (32%)	0136	32.30	0.2000	32.12	0.4427	0.2719	74	0.40	010.60	0
010	Total N (32%)	0086	32.32	0.1340	32.12	0.4427	0.2719	74	0.44	010.60	0
010	Total N (32%)	0231	32.33	0.0300	32.12	0.4427	0.2719	74	0.46	010.60	0
010	Total N (32%)	0025	32.34	1.020	32.12	0.4427	0.2719	74	0.49	010.60	0
010	Total N (32%)	0534	32.35	0.1000	32.12	0.4427	0.2719	74	0.52	010.99	0
010	Total N (32%)	0547	32.35	0.0200	32.12	0.4427	0.2719	74	0.52	010.60	0
010	Total N (32%)	0055	32.36	0.3100	32.12	0.4427	0.2719	74	0.53	010.60	0
010	Total N (32%)	0220	32.37	0.1200	32.12	0.4427	0.2719	74	0.56	010.60	0
010	Total N (32%)	0423	32.40	0.3950	32.12	0.4427	0.2719	74	0.63	010.60	0
010	Total N (32%)	0177	32.42	0.8800	32.12	0.4427	0.2719	74	0.67	010.60	0
010	Total N (32%)	0114	32.44	0.2100	32.12	0.4427	0.2719	74	0.71	010.60	0
010	Total N (32%)	0324	32.45	0.3000	32.12	0.4427	0.2719	74	0.74	010.60	0
010	Total N (32%)	0043	32.48	0.2300	32.12	0.4427	0.2719	74	0.80	010.60	0
010	Total N (32%)	0102	32.49	0.0100	32.12	0.4427	0.2719	74	0.82	010.60	0
010	Total N (32%)	0377	32.49	0.0500	32.12	0.4427	0.2719	74	0.82	010.60	0
010	Total N (32%)	0450	32.50	0.0000	32.12	0.4427	0.2719	74	0.86	010.60	0
010	Total N (32%)	0532	32.50	0.2000	32.12	0.4427	0.2719	74	0.86	010.99	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				
010	Total N (32%)	0527	32.51	0.2881	32.12	0.4427	0.2719	74	0.87	010.60	0
010	Total N (32%)	0095	32.59	0.1900	32.12	0.4427	0.2719	74	1.05	010.60	0
010	Total N (32%)	0513	32.65	0.0900	32.12	0.4427	0.2719	74	1.18	010.99	0
010	Total N (32%)	0040	32.65	0.1000	32.12	0.4427	0.2719	74	1.19	010.60	0
010	Total N (32%)	0451	32.67	0.2700	32.12	0.4427	0.2719	74	1.23	010.60	0
010	Total N (32%)	0485	32.73	0.0370	32.12	0.4427	0.2719	74	1.38	010.60	0
010	Total N (32%)	0035	32.80	0.4000	32.12	0.4427	0.2719	74	1.53	010.60	0
010	Total N (32%)	0049	32.95	0.0200	32.12	0.4427	0.2719	74	1.87	010.60	0
010	Total N (32%)	0368	33.09‡	0.3680	32.12	0.4427	0.2719	74	2.19	010.60	0
010	Total N (32%)	0561	33.12‡	0.1500	32.12	0.4427	0.2719	74	2.24	010.60	0
010	Total N (32%)	0572	30.27†	2.000	32.12	0.4427	0.2719	74	-4.18	010.12	1
010	Total N (32%)	0563	32.38	3.850	32.12	0.4427	0.2719	74	0.57	010.12	1
010	Total N (32%)	0452	8.145†	0.0100	32.12	0.4427	0.2719	74	-54.16	010.60	2
020	Total P2O5 (%)	0515	0.0032	0.0007	0.8260	1.567	0.0029	4	-0.53	020.99	0
020	Total P2O5 (%)	0524	0.0059	0.0007	0.8260	1.567	0.0029	4	-0.52	020.50	0
020	Total P2O5 (%)	0472	0.1200	0.0000	0.8260	1.567	0.0029	4	-0.45	020.50	0
020	Total P2O5 (%)	0452	3.175	0.0100	0.8260	1.567	0.0029	4	1.50	020.50	0
020	Total P2O5 (%)	0389	0.0000	0.0000	0.8260	1.567	0.0029	4		020.50	4
041	Direct Available P2O5 (%)	0568	0.0054	0.0003	0.0105	0.0048	0.0041	3	-1.05	041.21	0
041	Direct Available P2O5 (%)	0354	0.0110	0.0020	0.0105	0.0048	0.0041	3	0.11	041.21	0
041	Direct Available P2O5 (%)	0472	0.0150	0.0100	0.0105	0.0048	0.0041	3	0.94	041.21	0
041	Direct Available P2O5 (%)	0325	< 0.1		0.0105	0.0048	0.0041	3		041.50	5
048	Water Soluble P2O5 (%)	0472	0.0100	0.0000				1		048.20	0
050	Soluble K2O (%)	0389	0.0006	0.0001	0.2576	0.5632	0.0045	5	-0.40	050.99	0
050	Soluble K2O (%)	0568	0.0037	0.0009	0.2576	0.5632	0.0045	5	-0.39	050.51	0
050	Soluble K2O (%)	0524	0.0057	0.0096	0.2576	0.5632	0.0045	5	-0.39	050.99	0
050	Soluble K2O (%)	0354	0.0130	0.0020	0.2576	0.5632	0.0045	5	-0.38	050.52	0
050	Soluble K2O (%)	0452	1.265	0.0100	0.2576	0.5632	0.0045	5	1.56	050.51	0
050	Soluble K2O (%)	0325	< 0.1		0.2576	0.5632	0.0045	5		050.99	5
101	Acid Soluble Ca (%)	0472	0.0250	0.0100				1		101.33	0
101	Acid Soluble Ca (%)	0389	0.0000	0.0000				1		101.99	4
101	Acid Soluble Ca (%)	0568	< 0.0001					1		101.30	5
101	Acid Soluble Ca (%)	0354	< 0.01					1		101.30	5
121	Acid Soluble Mg (%)	0524	0.0002	0.0001				1		121.99	0
121	Acid Soluble Mg (%)	0389	0.0000	0.0000				1		121.99	4
121	Acid Soluble Mg (%)	0568	< 0.0001					1		121.30	5
121	Acid Soluble Mg (%)	0354	< 0.01					1		121.30	5
148	Total S (%)	0472	0.0150	0.0100				2		148.07	0
148	Total S (%)	0515	2.610	1.839				2		148.07	0
148	Total S (%)	0354	< 0.1					2		148.99	5
149	S - HNO3 soluble (%)	0524	0.0002	0.0000				1		149.04	0
151	Acid Soluble As (ppm)	0515	0.6292	0.6535				1		151.34	0
151	Acid Soluble As (ppm)	0515	0.6825	1.365				1		151.33	4
165	Acid Soluble B (%)	0515	0.0001	0.0000				1		165.99	0
165	Acid Soluble B (%)	0354	< 0.01					1		165.30	5
181	Acid Soluble Cd (ppm)	0524	0.0024	0.0018				1		181.30	0
191	Acid Soluble Cr (ppm)	0515	0.2797	0.3385				2		191.34	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				
191	Acid Soluble Cr (ppm)	0515	0.3820	0.6412				2	191.33	0	
221	Acid Soluble Cu (%)	0354	< 0.01					0	221.30	5	
241	Acid Soluble Fe (%)	0389	0.0000	0.0000				0	241.99	4	
241	Acid Soluble Fe (%)	0354	< 0.01					0	241.30	5	
251	Acid Soluble Pb (ppm)	0524	0.0278	0.0052				2	251.30	0	
251	Acid Soluble Pb (ppm)	0515	14.64	13.08				2	251.34	0	
251	Acid Soluble Pb (ppm)	0515	9.570	19.14				2	251.33	4	
261	Acid Soluble Mn (%)	0515	18.64	13.14				2	261.35	0	
261	Acid Soluble Mn (%)	0515	83.75	17.70				2	261.99	0	
261	Acid Soluble Mn (%)	0389	0.0000	0.0000				2	261.99	4	
261	Acid Soluble Mn (%)	0354	< 0.01					2	261.30	5	
281	Acid Soluble Hg (ppm)	0515	0.0000	0.0000				0	281.30	4	
289	Acid Soluble Mo (ppm)	0524	1.770	0.0114	3.176	1.738	1.554	3	-0.81	289.30	0
289	Acid Soluble Mo (ppm)	0515	2.639	0.2440	3.176	1.738	1.554	3	-0.31	289.34	0
289	Acid Soluble Mo (ppm)	0515	5.118	4.407	3.176	1.738	1.554	3	1.12	289.33	0
291	Acid Soluble Ni (ppm)	0515	1.898	3.287				1	291.33	0	
301	Acid Soluble Se (ppm)	0524	0.0049	0.0032	2.332	2.087	1.235	3	-1.12	301.30	0
301	Acid Soluble Se (ppm)	0515	2.954	2.622	2.332	2.087	1.235	3	0.30	301.34	0
301	Acid Soluble Se (ppm)	0515	4.038	1.080	2.332	2.087	1.235	3	0.82	301.33	0
311	Sodium (%)	0354	< 0.01					0	311.99	5	
321	Acid Soluble Zn (%)	0515	0.2197	0.1934				1	321.99	0	
321	Acid Soluble Zn (%)	0354	< 0.01					1	321.30	5	

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.