STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)
Sample # 211011
32-0-0 UAN Solution

Statistical Summary

 # Methods: 61
 # Labs Reporting: 78
Issue Date : 11/30/2021

Method Code	Analyte & Method Sample # 211011	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
001.10	Ammoniacal N, Magnesium Oxide Method (%)	6	6	7.624	0.2280	7.647		0.2032	0.1037	2.66%		0.1417	2.94%
001.99	Ammoniacal N, Other (%)	14	13	7.798	0.7995	7.744		0.6487	0.2249	8.38%		0.0796	2.94%
002.20	Nitrate N, Jones Modified (%)	1		22.45									
002.99	Nitrate N, Other (%)	16	16	7.737	0.9245	7.676		0.8524	0.2664	11.11%		0.1289	2.94%
005.00	Urea N, Urease (as N) (%)	4	4	17.35	1.080	17.35		1.080	0.6751	6.23%		0.1258	2.40%
005.99	Urea N, Other (%)	9	9	16.69	1.033	16.69		1.171	0.4880	7.02%		0.1444	2.45%
006.10	Biuret N, Spectrophotometric (as N) (%)	2	1	0.0240	0.0085								
006.99	Biuret N, Other (%)	3	3	0.4112	0.2959	0.4112		0.2959	0.2136	71.97%		0.0410	4.57%
007.00	Urea, Urease (as Urea) (%)	2	2	16.38	0.8839								
007.99	Urea, Other (%)	1		38.24									
008.00	Biuret, AA (as Biuret) (%)	1		0.2550									
008.10	Biuret, Spectrophotometric (as Biuret) (%)	4	4	0.8975	0.0719	0.8975		0.0719	0.0450	8.02%		0.0100	4.07%
009.10	Ammoniacal Plus Nitrate N, Devarda (%)	2	2	15.10	0.2864								
009.99	Ammoniacal Plus Nitrate N, Other (%)	1		42.30									
010.11	Total N, Modified Comprehensive (32%)	4	4	30.63	1.362	30.63	0.8663	1.362	0.8514	4.45%	3.66	0.2475	1.81%
010.12	Total N, Salicylic (32%)	5	5	31.63	0.8202	31.63	0.8763	0.8202	0.4585	2.59%	2.18	1.284	1.78%
010.60	Total N, Combustion (32%)	53	51	31.73	3.370	32.27	0.8800	0.3057	0.0535	0.95%	**0.81**	0.2721	1.76%
010.99	Total N, Other (32%)	15	14	30.39	4.157	31.74	0.8774	0.6608	0.2208	2.08%	**1.75**	0.1508	1.78%
020.50	Total P2O5, ICP (%)	4	3	0.8252	1.567	1.100		1.798	1.297	163.38%		0.0036	3.94%
020.99	Total P2O5, Other (%)	1		0.0032									
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	3	3	0.0105	0.0048	0.0105	0.6700	0.0048	0.0035	46.40%	0.02	0.0041	7.95%
041.50	Direct Available P2O5, ICP (%)	1		0.1000									
048.20	Water Soluble P2O5, Spectrophotometric (%)	1		0.0100									
050.51	Soluble K2O, ICP (Citrate) (%)	2	2	0.6343	0.8919								
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	1		0.0130									
050.99	Soluble K2O, Other (%)	3	2	0.0354	0.0560	0.0031	0.4100	0.0036	0.0032	116.53%	0.02	0.0049	9.53%
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	2	0	0.0051	0.0070								
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	1		0.0250									
101.99	Acid Soluble Ca, Other (%)	1		0.0000									
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	2	0	0.0051	0.0070								
121.99	Acid Soluble Mg, Other (%)	2	1	0.0001	0.0001								
148.07	Total S, ICP, test portion as in 2017.02 (%)	2	2	1.312	1.835								
148.99	Total S, Other (%)	1		0.1000									

Method Code	Analyte & Method Sample # 211011	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
149.04	S - HNO3 soluble, ICP (%)	1		0.0002									
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	1		0.6825									
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	1		0.6292									
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	1		0.0100									
165.99	Acid Soluble B, Other (%)	1		0.0001									
181.30	Acid Soluble Cd, ICP (ppm)	1		0.0024									
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	1		0.3820									
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	1		0.2797									
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	1		0.0100									
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	1		0.0100									
241.99	Acid Soluble Fe, Other (%)	1		0.0000									
251.30	Acid Soluble Pb, ICP (ppm)	1		0.0278									
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	1		9.570									
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	1		14.64									
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	1		0.0100									
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	1		18.64									
261.99	Acid Soluble Mn, Other (%)	2	1	41.87	59.22								
281.30	Acid Soluble Hg, ICP (ppm)	1		0.0000									
289.30	Acid Soluble Mo, ICP (ppm)	1		1.770									
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	1		5.118									
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	1		2.639									
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	1		1.898									
301.30	Acid Soluble Se, ICP (ppm)	1		0.0049									
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	1		4.038									
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	1		2.954									
311.99	Sodium, Other (%)	1		0.0100									
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	1		0.0100									
321.99	Acid Soluble Zn, Other (%)	1		0.2197									

The Method IA Ratio = 2.33 * Robust SD / IA at the Method 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 usin the Thompson Modification, Analyst,2000,125,385-386.

Method Proficiency For All Labs (Lab Values)

Sample # 211011

Method Precision Report

32-0-0 UAN Solution

Issue Date : 11/30/2021

Method Code	Analyte & Method	# Tests Submitted	# Tests Used in Precision Calcs	Mean	SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
001.10	Ammoniacal N, Magnesium Oxide Method (%)	6	6	7.624	0.2280	0.2135	0.1133	0.2417	2.80%	1.49%	3.17%	2.133
001.99	Ammoniacal N, Other (%)	14	12	7.663	0.5136	0.5099	0.0869	0.5172	6.65%	1.13%	6.75%	5.949
002.99	Nitrate N, Other (%)	16	14	7.588	0.7521	0.7485	0.1049	0.7558	9.86%	1.38%	9.96%	7.202
005.99	Urea N, Other (%)	9	9	16.69	1.033	1.029	0.1331	1.037	6.16%	0.80%	6.21%	7.793
010.12	Total N, Salicylic (32%)	5	5	31.63	0.8202		1.377			4.35%		
010.60	Total N, Combustion (32%)	53	50	32.18	0.6956	0.6739	0.2437	0.7166	2.09%	0.76%	2.23%	2.941
010.99	Total N, Other (32%)	15	12	31.23	2.550	2.549	0.0946	2.551	8.16%	0.30%	8.17%	26.97

Notes: Precision data calculated when 5 or more Tests included.

Method Proficiency For All Labs (Lab Values) — **# Methods: 61**

Sample # 211011 — **Lab Values** — **# Labs Reporting: 78**

32-0-0 UAN Solution — **Issue Date : 11/30/2021**

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0563	7.205	0.1100	7.647	0.2032	0.1417	6	-1.94	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0444	7.600	0.2000	7.647	0.2032	0.1417	6	-0.21	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0498	7.650	0.1000	7.647	0.2032	0.1417	6	0.01	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0481	7.680	0.1000	7.647	0.2032	0.1417	6	0.14	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0451	7.720	0.0600	7.647	0.2032	0.1417	6	0.32	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0136	7.890	0.2800	7.647	0.2032	0.1417	6	1.06	NA	0
001.99	Ammoniacal N, Other (%)	0368	6.896	0.1550	7.744	0.6487	0.0796	13	-1.31	NA	0
001.99	Ammoniacal N, Other (%)	0423	7.225	0.2500	7.744	0.6487	0.0796	13	-0.80	NA	0
001.99	Ammoniacal N, Other (%)	0524	7.285	0.0700	7.744	0.6487	0.0796	13	-0.71	NA	0
001.99	Ammoniacal N, Other (%)	0513	7.400	0.0000	7.744	0.6487	0.0796	13	-0.53	NA	0
001.99	Ammoniacal N, Other (%)	0546	7.420	0.1600	7.744	0.6487	0.0796	13	-0.50	NA	0
001.99	Ammoniacal N, Other (%)	0220	7.475	0.0700	7.744	0.6487	0.0796	13	-0.41	NA	0
001.99	Ammoniacal N, Other (%)	0405	7.485	0.0100	7.744	0.6487	0.0796	13	-0.40	NA	0
001.99	Ammoniacal N, Other (%)	0027	7.650	0.2400	7.744	0.6487	0.0796	13	-0.14	NA	0
001.99	Ammoniacal N, Other (%)	0548	7.920	0.0200	7.744	0.6487	0.0796	13	0.27	NA	0
001.99	Ammoniacal N, Other (%)	0506	8.165	0.0100	7.744	0.6487	0.0796	13	0.65	NA	0
001.99	Ammoniacal N, Other (%)	0255	8.475	0.0300	7.744	0.6487	0.0796	13	1.13	NA	0
001.99	Ammoniacal N, Other (%)	0574	8.560	0.0200	7.744	0.6487	0.0796	13	1.26	NA	0
001.99	Ammoniacal N, Other (%)	0576	10.00	0.0000	7.744	0.6487	0.0796	13	3.48	NA	0
001.99	Ammoniacal N, Other (%)	0553	7.215	0.6100	7.744	0.6487	0.0796	13	-0.82	NA	1
002.20	Nitrate N, Jones Modified (%)	0563	22.45	0.1000				1			0
002.99	Nitrate N, Other (%)	0368	6.311	0.0920	7.676	0.8524	0.1289	16	-1.60	NA	0
002.99	Nitrate N, Other (%)	0574	6.335	0.0300	7.676	0.8524	0.1289	16	-1.57	NA	0
002.99	Nitrate N, Other (%)	0029	7.145	0.0100	7.676	0.8524	0.1289	16	-0.62	NA	0
002.99	Nitrate N, Other (%)	0553	7.160	0.0800	7.676	0.8524	0.1289	16	-0.61	NA	0
002.99	Nitrate N, Other (%)	0027	7.380	0.0800	7.676	0.8524	0.1289	16	-0.35	NA	0
002.99	Nitrate N, Other (%)	0513	7.400	0.0000	7.676	0.8524	0.1289	16	-0.32	NA	0
002.99	Nitrate N, Other (%)	0423	7.510	0.1800	7.676	0.8524	0.1289	16	-0.19	NA	0
002.99	Nitrate N, Other (%)	0444	7.550	0.5000	7.676	0.8524	0.1289	16	-0.15	NA	0
002.99	Nitrate N, Other (%)	0136	7.560	0.2400	7.676	0.8524	0.1289	16	-0.14	NA	0
002.99	Nitrate N, Other (%)	0481	7.790	0.0200	7.676	0.8524	0.1289	16	0.13	NA	0
002.99	Nitrate N, Other (%)	0548	7.815	0.3700	7.676	0.8524	0.1289	16	0.16	NA	0
002.99	Nitrate N, Other (%)	0506	8.010	0.1600	7.676	0.8524	0.1289	16	0.39	NA	0
002.99	Nitrate N, Other (%)	0220	8.260	0.1400	7.676	0.8524	0.1289	16	0.69	NA	0
002.99	Nitrate N, Other (%)	0564	8.530	0.0600	7.676	0.8524	0.1289	16	1.00	NA	0
002.99	Nitrate N, Other (%)	0546	9.030	0.1000	7.676	0.8524	0.1289	16	1.59	NA	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
002.99	Nitrate N, Other (%)	0576	10.00	0.0000	7.676	0.8524	0.1289	16	2.73	NA	0
005.00	Urea N, Urease (as N) (%)	0574	16.16	0.0500	17.35	1.080	0.1258	4	-1.10		0
005.00	Urea N, Urease (as N) (%)	0136	16.75	0.3000	17.35	1.080	0.1258	4	-0.55		0
005.00	Urea N, Urease (as N) (%)	0220	18.01	0.0500	17.35	1.080	0.1258	4	0.61		0
005.00	Urea N, Urease (as N) (%)	0368	18.48	0.1030	17.35	1.080	0.1258	4	1.05		0
005.99	Urea N, Other (%)	0506	15.15	0.3800	16.69	1.171	0.1444	9	-1.22	NA	0
005.99	Urea N, Other (%)	0546	15.63	0.2200	16.69	1.171	0.1444	9	-0.84	NA	0
005.99	Urea N, Other (%)	0548	15.71	0.0700	16.69	1.171	0.1444	9	-0.78	NA	0
005.99	Urea N, Other (%)	0524	16.12	0.2900	16.69	1.171	0.1444	9	-0.46	NA	0
005.99	Urea N, Other (%)	0405	17.22	0.0400	16.69	1.171	0.1444	9	0.42	NA	0
005.99	Urea N, Other (%)	0547	17.37	0.0400	16.69	1.171	0.1444	9	0.53	NA	0
005.99	Urea N, Other (%)	0029	17.59	0.0000	16.69	1.171	0.1444	9	0.71	NA	0
005.99	Urea N, Other (%)	0027	17.63	0.1300	16.69	1.171	0.1444	9	0.73	NA	0
005.99	Urea N, Other (%)	0513	17.84	0.1300	16.69	1.171	0.1444	9	0.90	NA	0
006.10	Biuret N, Spectrophotometric (as N) (%)	0548	0.0180	0.0020				1			0
006.10	Biuret N, Spectrophotometric (as N) (%)	0563	< 0.03					1			5
006.99	Biuret N, Other (%)	0506	0.2035	0.0030	0.4112	0.2959	0.0410	3	-0.70		0
006.99	Biuret N, Other (%)	0220	0.2800	0.0200	0.4112	0.2959	0.0410	3	-0.44		0
006.99	Biuret N, Other (%)	0574	0.7500	0.1000	0.4112	0.2959	0.0410	3	1.15		0
007.00	Urea, Urease (as Urea) (%)	0498	15.75	0.1000				2			0
007.00	Urea, Urease (as Urea) (%)	0444	17.00	0.2000				2			0
007.99	Urea, Other (%)	0513	38.24	0.2700				1			0
008.00	Biuret, AA (as Biuret) (%)	0498	0.2550	0.0100				1			0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0450	0.8150	0.0100	0.8975	0.0719	0.0100	4	-1.15		0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0444	0.8850	0.0100	0.8975	0.0719	0.0100	4	-0.17		0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0405	0.9000	0.0000	0.8975	0.0719	0.0100	4	0.03		0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0481	0.9900	0.0200	0.8975	0.0719	0.0100	4	1.29		0
009.10	Ammoniacal Plus Nitrate N, Devarda (%)	0574	14.90	0.0500				2			0
009.10	Ammoniacal Plus Nitrate N, Devarda (%)	0498	15.30	0.2000				2			0
009.99	Ammoniacal Plus Nitrate N, Other (%)	0513	42.30	0.1100				1			0
010.11	Total N, Modified Comprehensive (32%)	0309	29.16	0.6200	30.63	1.362	0.2475	4	-1.08		0
010.11	Total N, Modified Comprehensive (32%)	0531	29.83	0.0100	30.63	1.362	0.2475	4	-0.59		0
010.11	Total N, Modified Comprehensive (32%)	0548	31.44	0.3200	30.63	1.362	0.2475	4	0.60		0
010.11	Total N, Modified Comprehensive (32%)	0546	32.08	0.0400	30.63	1.362	0.2475	4	1.07		0
010.12	Total N, Salicylic (32%)	0572	30.27	2.000	31.63	0.8202	1.284	5	-1.65		0
010.12	Total N, Salicylic (32%)	0498	31.50	0.2000	31.63	0.8202	1.284	5	-0.15		0
010.12	Total N, Salicylic (32%)	0481	31.94	0.0700	31.63	0.8202	1.284	5	0.38		0
010.12	Total N, Salicylic (32%)	0568	32.05	0.3000	31.63	0.8202	1.284	5	0.52		0
010.12	Total N, Salicylic (32%)	0563	32.38	3.850	31.63	0.8202	1.284	5	0.91		0
010.60	Total N, Combustion (32%)	0260	28.40	0.8000	32.27	0.3057	0.2721	51	-12.67	Low	0
010.60	Total N, Combustion (32%)	0023	30.48	0.6430	32.27	0.3057	0.2721	51	-5.87	Low	0
010.60	Total N, Combustion (32%)	0230	31.10	0.2000	32.27	0.3057	0.2721	51	-3.83	Low	0
010.60	Total N, Combustion (32%)	0029	31.56	0.4800	32.27	0.3057	0.2721	51	-2.33	OK	0
010.60	Total N, Combustion (32%)	0027	31.90	0.6000	32.27	0.3057	0.2721	51	-1.22	OK	0
010.60	Total N, Combustion (32%)	0494	31.92	0.7300	32.27	0.3057	0.2721	51	-1.17	OK	0
010.60	Total N, Combustion (32%)	0117	31.95	0.1000	32.27	0.3057	0.2721	51	-1.05	OK	0
010.60	Total N, Combustion (32%)	0354	31.95	0.1000	32.27	0.3057	0.2721	51	-1.05	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010.60	Total N, Combustion (32%)	0402	31.96	0.0960	32.27	0.3057	0.2721	51	-1.01	OK	0
010.60	Total N, Combustion (32%)	0422	32.00	0.2000	32.27	0.3057	0.2721	51	-0.89	OK	0
010.60	Total N, Combustion (32%)	0486	32.00	0.0400	32.27	0.3057	0.2721	51	-0.89	OK	0
010.60	Total N, Combustion (32%)	0255	32.02	0.3310	32.27	0.3057	0.2721	51	-0.83	OK	0
010.60	Total N, Combustion (32%)	0234	32.03	0.1900	32.27	0.3057	0.2721	51	-0.81	OK	0
010.60	Total N, Combustion (32%)	0472	32.08	0.0300	32.27	0.3057	0.2721	51	-0.64	OK	0
010.60	Total N, Combustion (32%)	0157	32.10	0.2000	32.27	0.3057	0.2721	51	-0.56	OK	0
010.60	Total N, Combustion (32%)	0169	32.14	0.0400	32.27	0.3057	0.2721	51	-0.43	OK	0
010.60	Total N, Combustion (32%)	0444	32.15	0.5000	32.27	0.3057	0.2721	51	-0.40	OK	0
010.60	Total N, Combustion (32%)	0233	32.17	0.5700	32.27	0.3057	0.2721	51	-0.35	OK	0
010.60	Total N, Combustion (32%)	0390	32.19	0.6870	32.27	0.3057	0.2721	51	-0.28	OK	0
010.60	Total N, Combustion (32%)	0405	32.19	0.0600	32.27	0.3057	0.2721	51	-0.27	OK	0
010.60	Total N, Combustion (32%)	0389	32.20	0.2000	32.27	0.3057	0.2721	51	-0.24	OK	0
010.60	Total N, Combustion (32%)	0291	32.23	0.0100	32.27	0.3057	0.2721	51	-0.15	OK	0
010.60	Total N, Combustion (32%)	0106	32.26	0.1100	32.27	0.3057	0.2721	51	-0.06	OK	0
010.60	Total N, Combustion (32%)	0325	32.27	0.5400	32.27	0.3057	0.2721	51	-0.01	OK	0
010.60	Total N, Combustion (32%)	0501	32.28	0.4400	32.27	0.3057	0.2721	51	0.03	OK	0
010.60	Total N, Combustion (32%)	0073	32.30	0.2500	32.27	0.3057	0.2721	51	0.07	OK	0
010.60	Total N, Combustion (32%)	0042	32.30	0.0000	32.27	0.3057	0.2721	51	0.09	OK	0
010.60	Total N, Combustion (32%)	0136	32.30	0.2000	32.27	0.3057	0.2721	51	0.09	OK	0
010.60	Total N, Combustion (32%)	0086	32.32	0.1340	32.27	0.3057	0.2721	51	0.15	OK	0
010.60	Total N, Combustion (32%)	0231	32.33	0.0300	32.27	0.3057	0.2721	51	0.17	OK	0
010.60	Total N, Combustion (32%)	0025	32.34	1.020	32.27	0.3057	0.2721	51	0.22	OK	0
010.60	Total N, Combustion (32%)	0547	32.35	0.0200	32.27	0.3057	0.2721	51	0.25	OK	0
010.60	Total N, Combustion (32%)	0055	32.36	0.3100	32.27	0.3057	0.2721	51	0.27	OK	0
010.60	Total N, Combustion (32%)	0220	32.37	0.1200	32.27	0.3057	0.2721	51	0.32	OK	0
010.60	Total N, Combustion (32%)	0423	32.40	0.3950	32.27	0.3057	0.2721	51	0.43	OK	0
010.60	Total N, Combustion (32%)	0177	32.42	0.8800	32.27	0.3057	0.2721	51	0.48	OK	0
010.60	Total N, Combustion (32%)	0114	32.44	0.2100	32.27	0.3057	0.2721	51	0.53	OK	0
010.60	Total N, Combustion (32%)	0324	32.45	0.3000	32.27	0.3057	0.2721	51	0.58	OK	0
010.60	Total N, Combustion (32%)	0043	32.48	0.2300	32.27	0.3057	0.2721	51	0.66	OK	0
010.60	Total N, Combustion (32%)	0102	32.49	0.0100	32.27	0.3057	0.2721	51	0.70	OK	0
010.60	Total N, Combustion (32%)	0377	32.49	0.0500	32.27	0.3057	0.2721	51	0.70	OK	0
010.60	Total N, Combustion (32%)	0450	32.50	0.0000	32.27	0.3057	0.2721	51	0.75	OK	0
010.60	Total N, Combustion (32%)	0527	32.51	0.2881	32.27	0.3057	0.2721	51	0.77	OK	0
010.60	Total N, Combustion (32%)	0095	32.59	0.1900	32.27	0.3057	0.2721	51	1.02	OK	0
010.60	Total N, Combustion (32%)	0040	32.65	0.1000	32.27	0.3057	0.2721	51	1.24	OK	0
010.60	Total N, Combustion (32%)	0451	32.67	0.2700	32.27	0.3057	0.2721	51	1.29	OK	0
010.60	Total N, Combustion (32%)	0485	32.73	0.0370	32.27	0.3057	0.2721	51	1.50	OK	0
010.60	Total N, Combustion (32%)	0035	32.80	0.4000	32.27	0.3057	0.2721	51	1.73	OK	0
010.60	Total N, Combustion (32%)	0049	32.95	0.0200	32.27	0.3057	0.2721	51	2.22	OK	0
010.60	Total N, Combustion (32%)	0368	33.09	0.3680	32.27	0.3057	0.2721	51	2.68	OK	0
010.60	Total N, Combustion (32%)	0561	33.12	0.1500	32.27	0.3057	0.2721	51	2.76	OK	0
010.60	Total N, Combustion (32%)	0131	32.16	1.574	32.27	0.3057	0.2721	51	-0.37	OK	1
010.60	Total N, Combustion (32%)	0452	8.145	0.0100	32.27	0.3057	0.2721	51	-78.92	Low	2
010.99	Total N, Other (32%)	0553	17.80	0.2000	31.74	0.6608	0.1508	14	-21.09	Low	0
010.99	Total N, Other (32%)	0476	23.23	0.2293	31.74	0.6608	0.1508	14	-12.87	Low	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010.99	Total N, Other (32%)	0524	31.22	0.0414	31.74	0.6608	0.1508	14	-0.78	OK	0
010.99	Total N, Other (32%)	0506	31.34	0.5300	31.74	0.6608	0.1508	14	-0.61	OK	0
010.99	Total N, Other (32%)	0493	31.50	0.1000	31.74	0.6608	0.1508	14	-0.36	OK	0
010.99	Total N, Other (32%)	0576	31.75	0.1000	31.74	0.6608	0.1508	14	0.02	OK	0
010.99	Total N, Other (32%)	0574	31.80	0.1000	31.74	0.6608	0.1508	14	0.10	OK	0
010.99	Total N, Other (32%)	0549	31.81	0.2200	31.74	0.6608	0.1508	14	0.11	OK	0
010.99	Total N, Other (32%)	0565	31.94	0.0300	31.74	0.6608	0.1508	14	0.30	OK	0
010.99	Total N, Other (32%)	0564	31.94	0.0200	31.74	0.6608	0.1508	14	0.31	OK	0
010.99	Total N, Other (32%)	0577	32.04	0.1500	31.74	0.6608	0.1508	14	0.45	OK	0
010.99	Total N, Other (32%)	0534	32.35	0.1000	31.74	0.6608	0.1508	14	0.93	OK	0
010.99	Total N, Other (32%)	0532	32.50	0.2000	31.74	0.6608	0.1508	14	1.16	OK	0
010.99	Total N, Other (32%)	0513	32.65	0.0900	31.74	0.6608	0.1508	14	1.37	High	0
010.99	Total N, Other (32%)	0537	32.02	1.000	31.74	0.6608	0.1508	14	0.43	OK	1
020.50	Total P2O5, ICP (%)	0524	0.0059	0.0007	1.100	1.798	0.0036	3	-0.61		0
020.50	Total P2O5, ICP (%)	0472	0.1200	0.0000	1.100	1.798	0.0036	3	-0.55		0
020.50	Total P2O5, ICP (%)	0452	3.175	0.0100	1.100	1.798	0.0036	3	1.15		0
020.50	Total P2O5, ICP (%)	0389	0.0000	0.0000	1.100	1.798	0.0036	3			4
020.99	Total P2O5, Other (%)	0515	0.0032	0.0007				1			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	0568	0.0054	0.0003	0.0105	0.0048	0.0041	3	-1.05		0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	0354	0.0110	0.0020	0.0105	0.0048	0.0041	3	0.11		0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	0472	0.0150	0.0100	0.0105	0.0048	0.0041	3	0.94		0
041.50	Direct Available P2O5, ICP (%)	0325	< 0.1					0			5
048.20	Water Soluble P2O5, Spectrophotometric (%)	0472	0.0100	0.0000				1			0
050.51	Soluble K2O, ICP (Citrate) (%)	0568	0.0037	0.0009				2			0
050.51	Soluble K2O, ICP (Citrate) (%)	0452	1.265	0.0100				2			0
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	0354	0.0130	0.0020				1			0
050.99	Soluble K2O, Other (%)	0389	0.0006	0.0001				2			0
050.99	Soluble K2O, Other (%)	0524	0.0057	0.0096				2			0
050.99	Soluble K2O, Other (%)	0325	< 0.1					2			5
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0568	< 0.0001					0			5
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0472	0.0250	0.0100				1			0
101.99	Acid Soluble Ca, Other (%)	0389	0.0000	0.0000				0			4
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0568	< 0.0001					0			5
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
121.99	Acid Soluble Mg, Other (%)	0524	0.0002	0.0001				1			0
121.99	Acid Soluble Mg, Other (%)	0389	0.0000	0.0000				1			4
148.07	Total S, ICP, test portion as in 2017.02 (%)	0472	0.0150	0.0100				2			0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0515	2.610	1.839				2			0
148.99	Total S, Other (%)	0354	< 0.1					0			5
149.04	S - HNO3 soluble, ICP (%)	0524	0.0002	0.0000				1			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0515	0.6825	1.365				0			4
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0515	0.6292	0.6535				1			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	< 0.01					0			5
165.99	Acid Soluble B, Other (%)	0515	0.0001	0.0000				1			0
181.30	Acid Soluble Cd, ICP (ppm)	0524	0.0024	0.0018				1			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0515	0.3820	0.6412				1			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0515	0.2797	0.3385				1			0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
241.99	Acid Soluble Fe, Other (%)	0389	0.0000	0.0000				0			4
251.30	Acid Soluble Pb, ICP (ppm)	0524	0.0278	0.0052				1			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0515	9.570	19.14				0			4
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0515	14.64	13.08				1			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0354	< 0.01					0			5
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0515	18.64	13.14				1			0
261.99	Acid Soluble Mn, Other (%)	0515	83.75	17.70				1			0
261.99	Acid Soluble Mn, Other (%)	0389	0.0000	0.0000				1			4
281.30	Acid Soluble Hg, ICP (ppm)	0515	0.0000	0.0000				0			4
289.30	Acid Soluble Mo, ICP (ppm)	0524	1.770	0.0114				1			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0515	5.118	4.407				1			0
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0515	2.639	0.2440				1			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0515	1.898	3.287				1			0
301.30	Acid Soluble Se, ICP (ppm)	0524	0.0049	0.0032				1			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0515	4.038	1.080				1			0
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0515	2.954	2.622				1			0
311.99	Sodium, Other (%)	0354	< 0.01					0			5
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
321.99	Acid Soluble Zn, Other (%)	0515	0.2197	0.1934				1			0

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. IA Status describes where your result is relative to the Assigned Value ± IA. Red indicates Higher or Lower, Green indicates within the IA range. Method 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.