

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 161111

Grade 32-0-10

Statistical Summary

Analytes: 35

Labs Reporting: 82

Issue Date : 12/31/2016

Analyte Code	Analyte	# 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	IA %RSD	Average Range (R-bar)	Horwitz %RSD
001	Ammoniacal Nitrogen (%)	6	6	3.292	0.4680	3.274		0.4879	0.2490	14.90%		0.0747	3.35%
002	Nitrate Nitrogen (%)	2	2	16.48	23.29								
003	Water Insoluble Nitrogen (%)	4	4	0.1721	0.1203	0.1721		0.1203	0.0752	69.93%		0.0180	5.21%
005	Urea Nitrogen (%)	7	6	22.68	4.913	22.48		5.111	2.608	22.73%		0.1617	2.50%
007	Urea (%)	2	2	20.22	1.358								
009	Ammoniacal Plus Nitrate Nitrogen (%)	2	2	17.34	19.43								
010	Total Nitrogen (32%)	78	75	32.31	0.5834	32.34	0.8800	0.3510	0.0507	1.09%	1.36%	0.1578	2.37%
020	Total Phosphorus as P2O5 (%)	11	9	0.1493	0.2567	0.0849		0.0976	0.0406	114.95%		0.0231	5.80%
030	Citrate Insoluble Phosphorus as P2O5 (%)	1		0.0200									
040	Indirect Available Phosphorus as P2O5 (%)	1		0.0750									
041	Direct Available Phosphorus as P2O5 (%)	12	9	0.0597	0.0605	0.0597		0.0687	0.0286	114.98%		0.0139	6.11%
048	Water Soluble Phosphorus as P2O5 (%)	1		0.0250									
050	Soluble Potassium as K2O (10%)	85	82	10.13	0.5067	10.13	0.7057	0.3286	0.0454	3.25%	3.48%	0.1517	2.82%
060	Water (Free) (%)	6	6	0.6308	0.1545	0.6308		0.1752	0.0894	27.77%		0.0452	4.29%
101	Acid Soluble Calcium (%)	14	12	0.0957	0.0101	0.0944		0.0080	0.0029	8.50%		0.0027	5.71%
121	Acid Soluble Magnesium (%)	15	14	0.1260	0.0268	0.1203		0.0101	0.0034	8.43%		0.0029	5.50%
143	Elemental Sulfur (%)	2	2	6.638	0.0601								
148	Total Sulfur (%)	10	9	7.116	0.3365	7.116		0.3816	0.1590	5.36%		0.1474	2.98%
149	Sulfur - HNO3 soluble (%)	2	2	7.960	0.3460								
151	Acid Soluble Arsenic (ppm)	5	4	0.3896	0.6562	0.3896		0.6562	0.4101	168.42%		0.4228	18.43%
165	Acid Soluble Boron (%)	4	4	0.0023	0.0032	0.0023		0.0032	0.0020	140.48%		0.0001	10.00%
181	Acid Soluble Cadmium (ppm)	8	7	0.1762	0.4005	0.0328		0.0316	0.0149	96.18%		0.0429	26.75%
190	Water Soluble Chlorine (%)	1		0.2600									
191	Acid Soluble Chromium (ppm)	9	9	1.210	1.264	0.9515		0.7015	0.2923	73.73%		0.2430	16.12%
202	Acid Soluble Cobalt (ppm)	7	6	0.5235	1.175	0.0621		0.0599	0.0305	96.41%		0.0153	24.30%
221.00	Acid Soluble Copper (%)	11	10	0.0238	0.0716	0.0011		0.0012	0.0005	107.55%		0.0029	11.18%
241.00	Acid Soluble Iron (2%)	36	34	0.0181	0.0492	0.0084	0.0058	0.0042	0.0009	50.11%	34.62%	0.0022	8.21%
251.00	Acid Soluble Lead (ppm)	8	8	1.406	1.961	1.146		1.567	0.6926	136.74%		0.0825	15.67%
261.00	Acid Soluble Manganese (%)	6	5	0.0003	0.0004	0.0003		0.0004	0.0002	121.83%		0.0000	13.43%
281.00	Acid Soluble Mercury (ppm)	4	3	0.0580	0.0902	0.0580		0.0902	0.0651	155.44%		0.0260	24.55%
289.00	Acid Soluble Molybdenum (ppm)	8	7	1.808	3.207	1.350		2.491	1.177	184.49%		0.2152	15.29%

Analyte Code	Analyte	# 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	IA %RSD	Average Range (R-bar)	Horwitz %RSD
291.00	Acid Soluble Nickel (ppm)	8	7	3.762	7.323	1.812		2.961	1.399	163.35%		0.2086	14.63%
301.00	Acid Soluble Selenium (ppm)	5	5	1.819	2.269	1.819		2.269	1.269	124.77%		1.837	14.62%
311.00	Sodium (%)	9	8	0.0341	0.0237	0.0265		0.0035	0.0016	13.30%		0.0019	6.91%
321.00	Acid Soluble Zinc (%)	17	16	0.1068	0.4209	0.0016		0.0016	0.0005	94.73%		0.0320	10.49%

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Analytes: 35

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Lab Values

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Grade 32-0-10

Issue Date : 12/31/2016

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 Nitrogen (%)	0423	2.750	0.0800	3.274	0.4879	0.0747	6	-0.96	001.99	0
001	Ammoniacal Nitrogen (%)	0394	3.058	0.0180	3.274	0.4879	0.0747	6	-0.39	001.99	0
001	Ammoniacal Nitrogen (%)	0444	3.085	0.0100	3.274	0.4879	0.0747	6	-0.34	001.10	0
001	Ammoniacal Nitrogen (%)	0096	3.290	0.0800	3.274	0.4879	0.0747	6	0.03	001.99	0
001	Ammoniacal Nitrogen (%)	0389	3.455	0.1500	3.274	0.4879	0.0747	6	0.33	001.10	0
001	Ammoniacal Nitrogen (%)	0506	4.115	0.1100	3.274	0.4879	0.0747	6	1.54	001.99	0
002	Nitrate Nitrogen (%)	0394	0.0100	0.0120				2		002.99	0
002	Nitrate Nitrogen (%)	0230	32.95	0.1000				2		002.10	0
003	Water Insoluble Nitrogen (%)	0486	0.0350	0.0100	0.1721	0.1203	0.0180	4	-1.14	003.99	0
003	Water Insoluble Nitrogen (%)	0494	0.1233	0.0218	0.1721	0.1203	0.0180	4	-0.41	003.10	0
003	Water Insoluble Nitrogen (%)	0230	0.2150	0.0300	0.1721	0.1203	0.0180	4	0.36	003.10	0
003	Water Insoluble Nitrogen (%)	0090	0.3150	0.0100	0.1721	0.1203	0.0180	4	1.19	003.10	0
005	Urea Nitrogen (%)	0230	16.65	0.1000	22.48	5.111	0.1617	6	-1.02	005.00	0
005	Urea Nitrogen (%)	0394	20.85	0.1600	22.48	5.111	0.1617	6	-0.28	005.99	0
005	Urea Nitrogen (%)	0519	21.13	0.1000	22.48	5.111	0.1617	6	-0.24	005.99	0
005	Urea Nitrogen (%)	0389	21.70	0.2000	22.48	5.111	0.1617	6	-0.14	005.00	0
005	Urea Nitrogen (%)	0524	24.41	0.0300	22.48	5.111	0.1617	6	0.34	005.00	0
005	Urea Nitrogen (%)	0027	31.32	0.3800	22.48	5.111	0.1617	6	1.54	005.99	0
005	Urea Nitrogen (%)	0506	29.60	1.000	22.48	5.111	0.1617	6	1.24	005.99	1
007	Urea (%)	0486	19.26	0.5500				2		007.00	0
007	Urea (%)	0220	21.18	0.0100				2		007.99	0
009	Ammoniacal Plus Nitrate Nitrogen (%)	0444	3.600	0.2200				2		009.10	0
009	Ammoniacal Plus Nitrate Nitrogen (%)	0518	31.08	0.0500				2		009.99	0
010	Total Nitrogen (32%)	0521	30.06*	0.0000	32.34	0.3510	0.1578	75	-6.50	010.60	0
010	Total Nitrogen (32%)	0520	30.09*	0.0100	32.34	0.3510	0.1578	75	-6.44	010.99	0
010	Total Nitrogen (32%)	0394	30.51*	0.4000	32.34	0.3510	0.1578	75	-5.23	010.99	0
010	Total Nitrogen (32%)	0498	31.55	0.1000	32.34	0.3510	0.1578	75	-2.26	010.12	0
010	Total Nitrogen (32%)	0037	31.76	0.0400	32.34	0.3510	0.1578	75	-1.67	010.60	0
010	Total Nitrogen (32%)	0444	31.80	0.2600	32.34	0.3510	0.1578	75	-1.55	010.60	0
010	Total Nitrogen (32%)	0211	31.85	0.1000	32.34	0.3510	0.1578	75	-1.41	010.11	0
010	Total Nitrogen (32%)	0481	31.89	0.2900	32.34	0.3510	0.1578	75	-1.31	010.99	0
010	Total Nitrogen (32%)	0423	31.93	0.1500	32.34	0.3510	0.1578	75	-1.20	010.60	0
010	Total Nitrogen (32%)	0487	31.95	0.1000	32.34	0.3510	0.1578	75	-1.13	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 Nitrogen (32%)	0513	31.97	0.1900	32.34	0.3510	0.1578	75	-1.08	010.99	0
010	Total Nitrogen (32%)	0041	31.99	0.5600	32.34	0.3510	0.1578	75	-1.01	010.60	0
010	Total Nitrogen (32%)	0519	32.00	0.0300	32.34	0.3510	0.1578	75	-1.00	010.99	0
010	Total Nitrogen (32%)	0456	32.01	0.1800	32.34	0.3510	0.1578	75	-0.95	010.11	0
010	Total Nitrogen (32%)	0483	32.03	0.0300	32.34	0.3510	0.1578	75	-0.91	010.60	0
010	Total Nitrogen (32%)	0371	32.05	0.1000	32.34	0.3510	0.1578	75	-0.84	010.11	0
010	Total Nitrogen (32%)	0234	32.07	0.0400	32.34	0.3510	0.1578	75	-0.78	010.60	0
010	Total Nitrogen (32%)	0354	32.08	0.2460	32.34	0.3510	0.1578	75	-0.77	010.60	0
010	Total Nitrogen (32%)	0522	32.09	0.3800	32.34	0.3510	0.1578	75	-0.73	010.99	0
010	Total Nitrogen (32%)	0420	32.12	0.1300	32.34	0.3510	0.1578	75	-0.66	010.99	0
010	Total Nitrogen (32%)	0510	32.14	0.0800	32.34	0.3510	0.1578	75	-0.58	010.11	0
010	Total Nitrogen (32%)	0493	32.15	0.1000	32.34	0.3510	0.1578	75	-0.56	010.99	0
010	Total Nitrogen (32%)	0090	32.17	0.1800	32.34	0.3510	0.1578	75	-0.50	010.11	0
010	Total Nitrogen (32%)	0220	32.19	0.0400	32.34	0.3510	0.1578	75	-0.44	010.11	0
010	Total Nitrogen (32%)	0292	32.20	0.0000	32.34	0.3510	0.1578	75	-0.41	010.60	0
010	Total Nitrogen (32%)	0389	32.20	0.2000	32.34	0.3510	0.1578	75	-0.41	010.60	0
010	Total Nitrogen (32%)	0405	32.24	0.0400	32.34	0.3510	0.1578	75	-0.30	010.60	0
010	Total Nitrogen (32%)	0472	32.24	0.1600	32.34	0.3510	0.1578	75	-0.30	010.60	0
010	Total Nitrogen (32%)	0023	32.24	0.1090	32.34	0.3510	0.1578	75	-0.29	010.60	0
010	Total Nitrogen (32%)	0157	32.25	0.1000	32.34	0.3510	0.1578	75	-0.27	010.60	0
010	Total Nitrogen (32%)	0443	32.28	0.0100	32.34	0.3510	0.1578	75	-0.20	010.60	0
010	Total Nitrogen (32%)	0501	32.29	0.0840	32.34	0.3510	0.1578	75	-0.16	010.60	0
010	Total Nitrogen (32%)	0420	32.30	0.0200	32.34	0.3510	0.1578	75	-0.13	010.60	0
010	Total Nitrogen (32%)	0451	32.30	0.4000	32.34	0.3510	0.1578	75	-0.13	010.60	0
010	Total Nitrogen (32%)	0482	32.30	0.2000	32.34	0.3510	0.1578	75	-0.13	010.60	0
010	Total Nitrogen (32%)	0043	32.32	0.0300	32.34	0.3510	0.1578	75	-0.09	010.60	0
010	Total Nitrogen (32%)	0231	32.36	0.0100	32.34	0.3510	0.1578	75	0.03	010.60	0
010	Total Nitrogen (32%)	0105	32.37	0.1500	32.34	0.3510	0.1578	75	0.06	010.11	0
010	Total Nitrogen (32%)	0035	32.38	0.1600	32.34	0.3510	0.1578	75	0.10	010.60	0
010	Total Nitrogen (32%)	0027	32.40	0.2000	32.34	0.3510	0.1578	75	0.16	010.60	0
010	Total Nitrogen (32%)	0452	32.41	0.1100	32.34	0.3510	0.1578	75	0.17	010.60	0
010	Total Nitrogen (32%)	0486	32.41	0.5600	32.34	0.3510	0.1578	75	0.19	010.60	0
010	Total Nitrogen (32%)	0177	32.43	0.3000	32.34	0.3510	0.1578	75	0.24	010.60	0
010	Total Nitrogen (32%)	0086	32.43	0.1890	32.34	0.3510	0.1578	75	0.25	010.60	0
010	Total Nitrogen (32%)	0072	32.45	0.0500	32.34	0.3510	0.1578	75	0.29	010.60	0
010	Total Nitrogen (32%)	0324	32.45	0.1000	32.34	0.3510	0.1578	75	0.30	010.60	0
010	Total Nitrogen (32%)	0007	32.50	0.4000	32.34	0.3510	0.1578	75	0.44	010.60	0
010	Total Nitrogen (32%)	0523	32.50	0.0000	32.34	0.3510	0.1578	75	0.44	010.60	0
010	Total Nitrogen (32%)	0096	32.51	0.0500	32.34	0.3510	0.1578	75	0.46	010.60	0
010	Total Nitrogen (32%)	0042	32.51	0.7200	32.34	0.3510	0.1578	75	0.47	010.60	0
010	Total Nitrogen (32%)	0485	32.51	0.1460	32.34	0.3510	0.1578	75	0.48	010.60	0
010	Total Nitrogen (32%)	0233	32.53	0.1800	32.34	0.3510	0.1578	75	0.53	010.60	0
010	Total Nitrogen (32%)	0102	32.54	0.1500	32.34	0.3510	0.1578	75	0.54	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 Nitrogen (32%)	0457	32.54	0.0100	32.34	0.3510	0.1578	75	0.56	010.60	0
010	Total Nitrogen (32%)	0397	32.55	0.0500	32.34	0.3510	0.1578	75	0.57	010.12	0
010	Total Nitrogen (32%)	0095	32.55	0.0000	32.34	0.3510	0.1578	75	0.58	010.60	0
010	Total Nitrogen (32%)	0307	32.55	0.0600	32.34	0.3510	0.1578	75	0.58	010.60	0
010	Total Nitrogen (32%)	0516	32.55	0.1000	32.34	0.3510	0.1578	75	0.58	010.60	0
010	Total Nitrogen (32%)	0055	32.58	0.1100	32.34	0.3510	0.1578	75	0.66	010.60	0
010	Total Nitrogen (32%)	0029	32.60	0.6200	32.34	0.3510	0.1578	75	0.73	010.60	0
010	Total Nitrogen (32%)	0105	32.64	0.0300	32.34	0.3510	0.1578	75	0.83	010.60	0
010	Total Nitrogen (32%)	0360	32.64	0.1500	32.34	0.3510	0.1578	75	0.83	010.60	0
010	Total Nitrogen (32%)	0136	32.64	0.1400	32.34	0.3510	0.1578	75	0.84	010.60	0
010	Total Nitrogen (32%)	0260	32.68	0.0800	32.34	0.3510	0.1578	75	0.95	010.60	0
010	Total Nitrogen (32%)	0034	32.71	0.0700	32.34	0.3510	0.1578	75	1.03	010.60	0
010	Total Nitrogen (32%)	0524	32.73	0.4688	32.34	0.3510	0.1578	75	1.09	010.99	0
010	Total Nitrogen (32%)	0040	32.75	0.3000	32.34	0.3510	0.1578	75	1.15	010.60	0
010	Total Nitrogen (32%)	0073	32.75	0.2200	32.34	0.3510	0.1578	75	1.15	010.60	0
010	Total Nitrogen (32%)	0390	32.85	0.1000	32.34	0.3510	0.1578	75	1.44	010.60	0
010	Total Nitrogen (32%)	0494	32.86	0.4100	32.34	0.3510	0.1578	75	1.45	010.60	0
010	Total Nitrogen (32%)	0025	33.03	0.1600	32.34	0.3510	0.1578	75	1.95	010.60	0
010	Total Nitrogen (32%)	0402	33.09	0.0600	32.34	0.3510	0.1578	75	2.12	010.60	0
010	Total Nitrogen (32%)	0230	33.15	0.1000	32.34	0.3510	0.1578	75	2.29	010.60	0
010	Total Nitrogen (32%)	0508	33.24	0.0300	32.34	0.3510	0.1578	75	2.54	010.99	0
010	Total Nitrogen (32%)	0117	34.30	0.0000	32.34	0.3510	0.1578	75	5.57	010.60	0
010	Total Nitrogen (32%)	0406	31.10*	1.030	32.34	0.3510	0.1578	75	-3.56	010.60	1
010	Total Nitrogen (32%)	0325	31.40*	1.000	32.34	0.3510	0.1578	75	-2.69	010.60	1
010	Total Nitrogen (32%)	0506	33.75	1.100	32.34	0.3510	0.1578	75	4.00	010.99	1
020	Total Phosphorus as P2O5 (%)	0524	0.0026	0.0000	0.0849	0.0976	0.0231	9	-0.78	020.50	0
020	Total Phosphorus as P2O5 (%)	0521	0.0027	0.0000	0.0849	0.0976	0.0231	9	-0.78	020.50	0
020	Total Phosphorus as P2O5 (%)	0520	0.0066	0.0001	0.0849	0.0976	0.0231	9	-0.74	020.99	0
020	Total Phosphorus as P2O5 (%)	0231	0.0150	0.0100	0.0849	0.0976	0.0231	9	-0.66	020.50	0
020	Total Phosphorus as P2O5 (%)	0292	0.0800	0.0000	0.0849	0.0976	0.0231	9	-0.05	020.20	0
020	Total Phosphorus as P2O5 (%)	0096	0.0950	0.0300	0.0849	0.0976	0.0231	9	0.10	020.40	0
020	Total Phosphorus as P2O5 (%)	0157	0.1563	0.0657	0.0849	0.0976	0.0231	9	0.68	020.50	0
020	Total Phosphorus as P2O5 (%)	0451	0.1745	0.0750	0.0849	0.0976	0.0231	9	0.85	020.50	0
020	Total Phosphorus as P2O5 (%)	0428	0.8107	0.0272	0.0849	0.0976	0.0231	9	6.87	020.20	0
020	Total Phosphorus as P2O5 (%)	0390	1.250	0.2600	0.0849	0.0976	0.0231	9	11.02	020.50	1
020	Total Phosphorus as P2O5 (%)	0389	0.0000	0.0000	0.0849	0.0976	0.0231	9		020.50	4
030	Citrate Insoluble Phosphorus as P2O5 (%)	0096	0.0200	0.0000				1		030.40	0
040	Indirect Available Phosphorus as P2O5 (%)	0096	0.0750	0.0300				1		040.40	0
041	Direct Available Phosphorus as P2O5 (%)	0486	0.0010	0.0000	0.0597	0.0687	0.0139	9	-0.86	041.60	0
041	Direct Available Phosphorus as P2O5 (%)	0117	0.0104	0.0112	0.0597	0.0687	0.0139	9	-0.72	041.51	0
041	Direct Available Phosphorus as P2O5 (%)	0519	0.0110	0.0001	0.0597	0.0687	0.0139	9	-0.71	041.99	0
041	Direct Available Phosphorus as P2O5 (%)	0354	0.0165	0.0010	0.0597	0.0687	0.0139	9	-0.63	041.60	0
041	Direct Available Phosphorus as P2O5 (%)	0185	0.0450	0.0100	0.0597	0.0687	0.0139	9	-0.21	041.11	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 Phosphorus as P2O5 (%)	0485	0.0485	0.0130	0.0597	0.0687	0.0139	9	-0.16	041.11	0
041	Direct Available Phosphorus as P2O5 (%)	0325	0.1000	0.0000	0.0597	0.0687	0.0139	9	0.59	041.50	0
041	Direct Available Phosphorus as P2O5 (%)	0494	0.1500	0.0800	0.0597	0.0687	0.0139	9	1.32	041.10	0
041	Direct Available Phosphorus as P2O5 (%)	0043	0.1550	0.0100	0.0597	0.0687	0.0139	9	1.39	041.60	0
041	Direct Available Phosphorus as P2O5 (%)	0072	0.0000	0.0000	0.0597	0.0687	0.0139	9		041.50	4
041	Direct Available Phosphorus as P2O5 (%)	0494	0.0100	0.0200	0.0597	0.0687	0.0139	9		041.51	4
041	Direct Available Phosphorus as P2O5 (%)	0037	0.0500	0.1000	0.0597	0.0687	0.0139	9		041.60	4
048	Water Soluble Phosphorus as P2O5 (%)	0096	0.0250	0.0100				1		048.40	0
050	Soluble Potassium as K2O (10%)	0443	7.875*	0.8500	10.13	0.3286	0.1517	82	-6.85	050.60	0
050	Soluble Potassium as K2O (10%)	0521	9.004*	0.0000	10.13	0.3286	0.1517	82	-3.42	050.99	0
050	Soluble Potassium as K2O (10%)	0428	9.050*	0.4498	10.13	0.3286	0.1517	82	-3.28	050.30	0
050	Soluble Potassium as K2O (10%)	0516	9.389*	0.3350	10.13	0.3286	0.1517	82	-2.25	050.30	0
050	Soluble Potassium as K2O (10%)	0117	9.539	0.1640	10.13	0.3286	0.1517	82	-1.79	050.52	0
050	Soluble Potassium as K2O (10%)	0456	9.555	0.1100	10.13	0.3286	0.1517	82	-1.74	050.61	0
050	Soluble Potassium as K2O (10%)	0482	9.650	0.1600	10.13	0.3286	0.1517	82	-1.45	050.99	0
050	Soluble Potassium as K2O (10%)	0481	9.656	0.0910	10.13	0.3286	0.1517	82	-1.44	050.99	0
050	Soluble Potassium as K2O (10%)	0096	9.705	0.1700	10.13	0.3286	0.1517	82	-1.28	050.99	0
050	Soluble Potassium as K2O (10%)	0523	9.750	0.5000	10.13	0.3286	0.1517	82	-1.15	050.99	0
050	Soluble Potassium as K2O (10%)	0034	9.773	0.1250	10.13	0.3286	0.1517	82	-1.08	050.62	0
050	Soluble Potassium as K2O (10%)	0433	9.830	0.0200	10.13	0.3286	0.1517	82	-0.90	050.99	0
050	Soluble Potassium as K2O (10%)	0025	9.836	0.3150	10.13	0.3286	0.1517	82	-0.89	050.52	0
050	Soluble Potassium as K2O (10%)	0402	9.840	0.3200	10.13	0.3286	0.1517	82	-0.87	050.99	0
050	Soluble Potassium as K2O (10%)	0169	9.860	0.0200	10.13	0.3286	0.1517	82	-0.81	050.60	0
050	Soluble Potassium as K2O (10%)	0519	9.895	0.0100	10.13	0.3286	0.1517	82	-0.71	050.99	0
050	Soluble Potassium as K2O (10%)	0040	9.900	0.4000	10.13	0.3286	0.1517	82	-0.69	050.30	0
050	Soluble Potassium as K2O (10%)	0136	9.900	0.0200	10.13	0.3286	0.1517	82	-0.69	050.30	0
050	Soluble Potassium as K2O (10%)	0518	9.920	0.0400	10.13	0.3286	0.1517	82	-0.63	050.99	0
050	Soluble Potassium as K2O (10%)	0043	9.930	0.0600	10.13	0.3286	0.1517	82	-0.60	050.99	0
050	Soluble Potassium as K2O (10%)	0506	9.935	0.1300	10.13	0.3286	0.1517	82	-0.59	050.99	0
050	Soluble Potassium as K2O (10%)	0485	9.935	0.1100	10.13	0.3286	0.1517	82	-0.59	050.52	0
050	Soluble Potassium as K2O (10%)	0072	9.949	0.0820	10.13	0.3286	0.1517	82	-0.54	050.00	0
050	Soluble Potassium as K2O (10%)	0042	9.965	0.2900	10.13	0.3286	0.1517	82	-0.49	050.99	0
050	Soluble Potassium as K2O (10%)	0292	9.995	0.0100	10.13	0.3286	0.1517	82	-0.40	050.50	0
050	Soluble Potassium as K2O (10%)	0037	9.995	0.0700	10.13	0.3286	0.1517	82	-0.40	050.62	0
050	Soluble Potassium as K2O (10%)	0494	10.01	0.2100	10.13	0.3286	0.1517	82	-0.37	050.00	0
050	Soluble Potassium as K2O (10%)	0035	10.01	0.0300	10.13	0.3286	0.1517	82	-0.37	050.61	0
050	Soluble Potassium as K2O (10%)	0105	10.02	0.0100	10.13	0.3286	0.1517	82	-0.34	050.60	0
050	Soluble Potassium as K2O (10%)	0522	10.02	0.1000	10.13	0.3286	0.1517	82	-0.33	050.00	0
050	Soluble Potassium as K2O (10%)	0510	10.03	0.0700	10.13	0.3286	0.1517	82	-0.31	050.60	0
050	Soluble Potassium as K2O (10%)	0055	10.04	0.0000	10.13	0.3286	0.1517	82	-0.27	050.50	0
050	Soluble Potassium as K2O (10%)	0185	10.05	0.0300	10.13	0.3286	0.1517	82	-0.25	050.32	0
050	Soluble Potassium as K2O (10%)	0105	10.05	0.0100	10.13	0.3286	0.1517	82	-0.25	050.62	0
050	Soluble Potassium as K2O (10%)	0371	10.05	0.1200	10.13	0.3286	0.1517	82	-0.24	050.99	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				
050	Soluble Potassium as K2O (10%)	0211	10.06	0.0400	10.13	0.3286	0.1517	82	-0.20	050.00	0
050	Soluble Potassium as K2O (10%)	0423	10.06	0.2200	10.13	0.3286	0.1517	82	-0.20	050.52	0
050	Soluble Potassium as K2O (10%)	0389	10.07	0.1400	10.13	0.3286	0.1517	82	-0.17	050.99	0
050	Soluble Potassium as K2O (10%)	0405	10.08	0.0100	10.13	0.3286	0.1517	82	-0.16	050.00	0
050	Soluble Potassium as K2O (10%)	0457	10.08	0.0360	10.13	0.3286	0.1517	82	-0.13	050.99	0
050	Soluble Potassium as K2O (10%)	0406	10.09	0.3900	10.13	0.3286	0.1517	82	-0.13	050.50	0
050	Soluble Potassium as K2O (10%)	0513	10.11	0.0100	10.13	0.3286	0.1517	82	-0.07	050.62	0
050	Soluble Potassium as K2O (10%)	0231	10.12	0.0500	10.13	0.3286	0.1517	82	-0.04	050.00	0
050	Soluble Potassium as K2O (10%)	0105	10.12	0.0300	10.13	0.3286	0.1517	82	-0.04	050.99	0
050	Soluble Potassium as K2O (10%)	0041	10.13	0.2800	10.13	0.3286	0.1517	82	0.01	050.60	0
050	Soluble Potassium as K2O (10%)	0520	10.14	0.0200	10.13	0.3286	0.1517	82	0.04	050.99	0
050	Soluble Potassium as K2O (10%)	0023	10.15	0.2500	10.13	0.3286	0.1517	82	0.05	050.52	0
050	Soluble Potassium as K2O (10%)	0360	10.15	0.0600	10.13	0.3286	0.1517	82	0.07	050.52	0
050	Soluble Potassium as K2O (10%)	0501	10.17	0.0458	10.13	0.3286	0.1517	82	0.14	050.99	0
050	Soluble Potassium as K2O (10%)	0157	10.20	0.2000	10.13	0.3286	0.1517	82	0.22	050.30	0
050	Soluble Potassium as K2O (10%)	0007	10.20	0.4000	10.13	0.3286	0.1517	82	0.22	050.51	0
050	Soluble Potassium as K2O (10%)	0354	10.20	0.0130	10.13	0.3286	0.1517	82	0.23	050.52	0
050	Soluble Potassium as K2O (10%)	0472	10.21	0.1600	10.13	0.3286	0.1517	82	0.25	050.31	0
050	Soluble Potassium as K2O (10%)	0090	10.22	0.1700	10.13	0.3286	0.1517	82	0.27	050.00	0
050	Soluble Potassium as K2O (10%)	0494	10.25	0.0100	10.13	0.3286	0.1517	82	0.36	050.52	0
050	Soluble Potassium as K2O (10%)	0029	10.25	0.2700	10.13	0.3286	0.1517	82	0.36	050.62	0
050	Soluble Potassium as K2O (10%)	0324	10.25	0.1000	10.13	0.3286	0.1517	82	0.37	050.50	0
050	Soluble Potassium as K2O (10%)	0493	10.25	0.1000	10.13	0.3286	0.1517	82	0.37	050.99	0
050	Soluble Potassium as K2O (10%)	0397	10.26	0.0300	10.13	0.3286	0.1517	82	0.39	050.50	0
050	Soluble Potassium as K2O (10%)	0397	10.26	0.0300	10.13	0.3286	0.1517	82	0.39	050.99	0
050	Soluble Potassium as K2O (10%)	0177	10.30	0.1726	10.13	0.3286	0.1517	82	0.53	050.99	0
050	Soluble Potassium as K2O (10%)	0157	10.30	0.2000	10.13	0.3286	0.1517	82	0.53	050.50	0
050	Soluble Potassium as K2O (10%)	0394	10.32	0.0040	10.13	0.3286	0.1517	82	0.57	050.99	0
050	Soluble Potassium as K2O (10%)	0220	10.33	0.0800	10.13	0.3286	0.1517	82	0.62	050.00	0
050	Soluble Potassium as K2O (10%)	0444	10.34	0.2400	10.13	0.3286	0.1517	82	0.65	050.50	0
050	Soluble Potassium as K2O (10%)	0451	10.40	0.0000	10.13	0.3286	0.1517	82	0.83	050.99	0
050	Soluble Potassium as K2O (10%)	0027	10.41	0.5040	10.13	0.3286	0.1517	82	0.87	050.99	0
050	Soluble Potassium as K2O (10%)	0524	10.48	0.0009	10.13	0.3286	0.1517	82	1.08	050.99	0
050	Soluble Potassium as K2O (10%)	0487	10.50	0.0000	10.13	0.3286	0.1517	82	1.13	050.99	0
050	Soluble Potassium as K2O (10%)	0498	10.50	0.2000	10.13	0.3286	0.1517	82	1.13	050.99	0
050	Soluble Potassium as K2O (10%)	0055	10.53	0.6300	10.13	0.3286	0.1517	82	1.21	050.00	0
050	Soluble Potassium as K2O (10%)	0102	10.55	0.5000	10.13	0.3286	0.1517	82	1.29	050.00	0
050	Soluble Potassium as K2O (10%)	0073	10.59	0.2200	10.13	0.3286	0.1517	82	1.41	050.30	0
050	Soluble Potassium as K2O (10%)	0420	10.72	0.1141	10.13	0.3286	0.1517	82	1.80	050.50	0
050	Soluble Potassium as K2O (10%)	0486	10.75	0.2300	10.13	0.3286	0.1517	82	1.88	050.52	0
050	Soluble Potassium as K2O (10%)	0452	10.78	0.0300	10.13	0.3286	0.1517	82	1.97	050.51	0
050	Soluble Potassium as K2O (10%)	0234	10.78	0.0400	10.13	0.3286	0.1517	82	1.99	050.99	0
050	Soluble Potassium as K2O (10%)	0483	11.04	0.1700	10.13	0.3286	0.1517	82	2.76	050.51	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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050	Soluble Potassium as K2O (10%)	0072	11.06	0.1300	10.13	0.3286	0.1517	82	2.82	050.51	0
050	Soluble Potassium as K2O (10%)	0508	11.07	0.1700	10.13	0.3286	0.1517	82	2.85	050.99	0
050	Soluble Potassium as K2O (10%)	0444	11.60	0.0100	10.13	0.3286	0.1517	82	4.47	050.99	0
050	Soluble Potassium as K2O (10%)	0230	11.75	0.3000	10.13	0.3286	0.1517	82	4.94	050.50	0
050	Soluble Potassium as K2O (10%)	0325	10.05	0.9000	10.13	0.3286	0.1517	82	-0.24	050.99	1
050	Soluble Potassium as K2O (10%)	0307	10.49	0.9650	10.13	0.3286	0.1517	82	1.11	050.99	1
050	Soluble Potassium as K2O (10%)	0390	11.14	1.280	10.13	0.3286	0.1517	82	3.08	050.50	1
060	Water (Free) (%)	0456	0.4100	0.0600	0.6308	0.1752	0.0452	6	-1.12	060.00	0
060	Water (Free) (%)	0510	0.5500	0.0200	0.6308	0.1752	0.0452	6	-0.41	060.99	0
060	Water (Free) (%)	0007	0.5550	0.0100	0.6308	0.1752	0.0452	6	-0.39	060.00	0
060	Water (Free) (%)	0105	0.7000	0.0400	0.6308	0.1752	0.0452	6	0.35	060.00	0
060	Water (Free) (%)	0513	0.7295	0.0010	0.6308	0.1752	0.0452	6	0.50	060.99	0
060	Water (Free) (%)	0096	0.8400	0.1400	0.6308	0.1752	0.0452	6	1.06	060.00	0
101	Acid Soluble Calcium (%)	0482	0.0850	0.0100	0.0944	0.0080	0.0027	12	-1.17	101.30	0
101	Acid Soluble Calcium (%)	0423	0.0880	0.0040	0.0944	0.0080	0.0027	12	-0.79	101.32	0
101	Acid Soluble Calcium (%)	0105	0.0899	0.0004	0.0944	0.0080	0.0027	12	-0.56	101.00	0
101	Acid Soluble Calcium (%)	0389	0.0900	0.0000	0.0944	0.0080	0.0027	12	-0.54	101.99	0
101	Acid Soluble Calcium (%)	0105	0.0901	0.0052	0.0944	0.0080	0.0027	12	-0.53	101.03	0
101	Acid Soluble Calcium (%)	0117	0.0905	0.0038	0.0944	0.0080	0.0027	12	-0.48	101.33	0
101	Acid Soluble Calcium (%)	0494	0.0935	0.0004	0.0944	0.0080	0.0027	12	-0.11	101.33	0
101	Acid Soluble Calcium (%)	0096	0.0950	0.0020	0.0944	0.0080	0.0027	12	0.08	101.30	0
101	Acid Soluble Calcium (%)	0102	0.0957	0.0011	0.0944	0.0080	0.0027	12	0.16	101.30	0
101	Acid Soluble Calcium (%)	0025	0.1020	0.0017	0.0944	0.0080	0.0027	12	0.95	101.33	0
101	Acid Soluble Calcium (%)	0354	0.1070	0.0040	0.0944	0.0080	0.0027	12	1.58	101.30	0
101	Acid Soluble Calcium (%)	0521	0.1213	0.0000	0.0944	0.0080	0.0027	12	3.36	101.32	0
101	Acid Soluble Calcium (%)	0035	0.1310	0.0960	0.0944	0.0080	0.0027	12	4.57	101.30	1
101	Acid Soluble Calcium (%)	0483	0.4445	0.0190	0.0944	0.0080	0.0027	12	43.66	101.30	2
121	Acid Soluble Magnesium (%)	0524	0.1056	0.0000	0.1203	0.0101	0.0029	14	-1.45	121.99	0
121	Acid Soluble Magnesium (%)	0389	0.1115	0.0010	0.1203	0.0101	0.0029	14	-0.87	121.99	0
121	Acid Soluble Magnesium (%)	0105	0.1134	0.0027	0.1203	0.0101	0.0029	14	-0.69	121.03	0
121	Acid Soluble Magnesium (%)	0096	0.1150	0.0100	0.1203	0.0101	0.0029	14	-0.53	121.30	0
121	Acid Soluble Magnesium (%)	0482	0.1150	0.0100	0.1203	0.0101	0.0029	14	-0.53	121.30	0
121	Acid Soluble Magnesium (%)	0423	0.1155	0.0030	0.1203	0.0101	0.0029	14	-0.48	121.32	0
121	Acid Soluble Magnesium (%)	0105	0.1181	0.0024	0.1203	0.0101	0.0029	14	-0.22	121.00	0
121	Acid Soluble Magnesium (%)	0117	0.1183	0.0043	0.1203	0.0101	0.0029	14	-0.21	121.33	0
121	Acid Soluble Magnesium (%)	0494	0.1218	0.0021	0.1203	0.0101	0.0029	14	0.14	121.33	0
121	Acid Soluble Magnesium (%)	0102	0.1225	0.0003	0.1203	0.0101	0.0029	14	0.21	121.30	0
121	Acid Soluble Magnesium (%)	0025	0.1265	0.0005	0.1203	0.0101	0.0029	14	0.60	121.33	0
121	Acid Soluble Magnesium (%)	0354	0.1320	0.0000	0.1203	0.0101	0.0029	14	1.15	121.30	0
121	Acid Soluble Magnesium (%)	0521	0.1343	0.0000	0.1203	0.0101	0.0029	14	1.38	121.32	0
121	Acid Soluble Magnesium (%)	0483	0.2150	0.0040	0.1203	0.0101	0.0029	14	9.33	121.30	0
121	Acid Soluble Magnesium (%)	0035	0.1275	0.0270	0.1203	0.0101	0.0029	14	0.71	121.30	1
143	Elemental Sulfur (%)	0472	6.595	0.0900				2		143.99	0

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143	Elemental Sulfur (%)	0389	6.680	0.0200				2		143.99	0
148	Total Sulfur (%)	0096	6.645	0.3700	7.116	0.3816	0.1474	9	-1.14	148.99	0
148	Total Sulfur (%)	0117	6.777	0.1980	7.116	0.3816	0.1474	9	-0.82	148.07	0
148	Total Sulfur (%)	0494	6.839	0.0476	7.116	0.3816	0.1474	9	-0.67	148.07	0
148	Total Sulfur (%)	0354	6.952	0.0030	7.116	0.3816	0.1474	9	-0.40	148.99	0
148	Total Sulfur (%)	0307	7.183	0.2130	7.116	0.3816	0.1474	9	0.16	148.99	0
148	Total Sulfur (%)	0482	7.250	0.1800	7.116	0.3816	0.1474	9	0.32	148.99	0
148	Total Sulfur (%)	0292	7.255	0.0100	7.116	0.3816	0.1474	9	0.34	148.07	0
148	Total Sulfur (%)	0451	7.503	0.2050	7.116	0.3816	0.1474	9	0.94	148.00	0
148	Total Sulfur (%)	0483	7.640	0.1000	7.116	0.3816	0.1474	9	1.27	148.07	0
148	Total Sulfur (%)	0102	6.606	1.059	7.116	0.3816	0.1474	9	-1.23	148.07	1
149	Sulfur - HNO3 soluble (%)	0524	7.716	0.2979				2		149.04	0
149	Sulfur - HNO3 soluble (%)	0521	8.205	0.0000				2		149.04	0
151	Acid Soluble Arsenic (ppm)	0394	0.0455	0.0230	0.3896	0.6562	0.4228	4	-0.52	151.30	0
151	Acid Soluble Arsenic (ppm)	0042	0.0495	0.0070	0.3896	0.6562	0.4228	4	-0.52	151.99	0
151	Acid Soluble Arsenic (ppm)	0519	0.0900	0.0000	0.3896	0.6562	0.4228	4	-0.46	151.30	0
151	Acid Soluble Arsenic (ppm)	0515	1.374	1.661	0.3896	0.6562	0.4228	4	1.50	151.33	0
151	Acid Soluble Arsenic (ppm)	0515	0.0000	0.0000	0.3896	0.6562	0.4228	4		151.34	4
165	Acid Soluble Boron (%)	0389	0.0002	0.0000	0.0023	0.0032	0.0001	4	-0.65	165.30	0
165	Acid Soluble Boron (%)	0521	0.0008	0.0000	0.0023	0.0032	0.0001	4	-0.46	165.30	0
165	Acid Soluble Boron (%)	0483	0.0011	0.0003	0.0023	0.0032	0.0001	4	-0.38	165.99	0
165	Acid Soluble Boron (%)	0354	0.0070	0.0000	0.0023	0.0032	0.0001	4	1.49	165.30	0
181	Acid Soluble Cadmium (ppm)	0524	0.0042	0.0007	0.0328	0.0316	0.0429	7	-0.82	181.30	0
181	Acid Soluble Cadmium (ppm)	0519	0.0100	0.0000	0.0328	0.0316	0.0429	7	-0.65	181.30	0
181	Acid Soluble Cadmium (ppm)	0042	0.0110	0.0000	0.0328	0.0316	0.0429	7	-0.63	181.99	0
181	Acid Soluble Cadmium (ppm)	0394	0.0260	0.0060	0.0328	0.0316	0.0429	7	-0.20	181.30	0
181	Acid Soluble Cadmium (ppm)	0389	0.0480	0.0040	0.0328	0.0316	0.0429	7	0.43	181.30	0
181	Acid Soluble Cadmium (ppm)	0102	0.0505	0.0170	0.0328	0.0316	0.0429	7	0.51	181.30	0
181	Acid Soluble Cadmium (ppm)	0515	1.084	0.2729	0.0328	0.0316	0.0429	7	30.08	181.34	0
181	Acid Soluble Cadmium (ppm)	0515	4.844	2.887	0.0328	0.0316	0.0429	7	137.72	181.33	1
190	Water Soluble Chlorine (%)	0105	0.2600	0.0000				1		190.00	0
191	Acid Soluble Chromium (ppm)	0515	0.3060	0.3986	0.9515	0.7015	0.2430	9	-0.85	191.33	0
191	Acid Soluble Chromium (ppm)	0394	0.5500	0.0600	0.9515	0.7015	0.2430	9	-0.53	191.30	0
191	Acid Soluble Chromium (ppm)	0042	0.5560	0.2000	0.9515	0.7015	0.2430	9	-0.52	191.99	0
191	Acid Soluble Chromium (ppm)	0102	0.5880	0.3400	0.9515	0.7015	0.2430	9	-0.48	191.30	0
191	Acid Soluble Chromium (ppm)	0389	0.6000	0.0400	0.9515	0.7015	0.2430	9	-0.46	191.30	0
191	Acid Soluble Chromium (ppm)	0444	0.7850	0.0300	0.9515	0.7015	0.2430	9	-0.22	191.30	0
191	Acid Soluble Chromium (ppm)	0519	1.335	0.0300	0.9515	0.7015	0.2430	9	0.50	191.30	0
191	Acid Soluble Chromium (ppm)	0035	1.840	0.2400	0.9515	0.7015	0.2430	9	1.17	191.30	0
191	Acid Soluble Chromium (ppm)	0515	4.332	0.8480	0.9515	0.7015	0.2430	9	4.45	191.34	0
202	Acid Soluble Cobalt (ppm)	0389	0.0100	0.0000	0.0621	0.0599	0.0153	6	-0.78	202.30	0
202	Acid Soluble Cobalt (ppm)	0519	0.0200	0.0000	0.0621	0.0599	0.0153	6	-0.63	202.30	0
202	Acid Soluble Cobalt (ppm)	0042	0.0445	0.0090	0.0621	0.0599	0.0153	6	-0.26	202.99	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				
202	Acid Soluble Cobalt (ppm)	0524	0.0527	0.0011	0.0621	0.0599	0.0153	6	-0.14	202.30	0
202	Acid Soluble Cobalt (ppm)	0494	0.0935	0.0004	0.0621	0.0599	0.0153	6	0.47	202.33	0
202	Acid Soluble Cobalt (ppm)	0515	2.921	0.0810	0.0621	0.0599	0.0153	6	42.53	202.34	0
202	Acid Soluble Cobalt (ppm)	0515	4.809	4.060	0.0621	0.0599	0.0153	6	70.64	202.33	1
221	Acid Soluble Copper (%)	0389	0.0001	0.0000	0.0011	0.0012	0.0029	10	-0.78	221.99	0
221	Acid Soluble Copper (%)	0394	0.0003	0.0001	0.0011	0.0012	0.0029	10	-0.66	221.32	0
221	Acid Soluble Copper (%)	0521	0.0003	0.0000	0.0011	0.0012	0.0029	10	-0.62	221.32	0
221	Acid Soluble Copper (%)	0498	0.0004	0.0000	0.0011	0.0012	0.0029	10	-0.54	221.00	0
221	Acid Soluble Copper (%)	0043	0.0007	0.0003	0.0011	0.0012	0.0029	10	-0.34	221.00	0
221	Acid Soluble Copper (%)	0515	0.0009	0.0005	0.0011	0.0012	0.0029	10	-0.18	221.33	0
221	Acid Soluble Copper (%)	0515	0.0009	0.0002	0.0011	0.0012	0.0029	10	-0.14	221.99	0
221	Acid Soluble Copper (%)	0483	0.0017	0.0002	0.0011	0.0012	0.0029	10	0.50	221.30	0
221	Acid Soluble Copper (%)	0354	0.0055	0.0010	0.0011	0.0012	0.0029	10	3.54	221.30	0
221	Acid Soluble Copper (%)	0042	0.2275	0.0270	0.0011	0.0012	0.0029	10	181.50	221.99	0
221	Acid Soluble Copper (%)	0494	0.6908	0.0449	0.0011	0.0012	0.0029	10	552.84	221.33	1
241	Acid Soluble Iron (2%)	0486	0.0030	0.0000	0.0084	0.0042	0.0022	34	-1.29	241.33	0
241	Acid Soluble Iron (2%)	0498	0.0034	0.0002	0.0084	0.0042	0.0022	34	-1.19	241.00	0
241	Acid Soluble Iron (2%)	0105	0.0047	0.0059	0.0084	0.0042	0.0022	34	-0.90	241.03	0
241	Acid Soluble Iron (2%)	0055	0.0052	0.0008	0.0084	0.0042	0.0022	34	-0.77	241.30	0
241	Acid Soluble Iron (2%)	0095	0.0054	0.0004	0.0084	0.0042	0.0022	34	-0.72	241.30	0
241	Acid Soluble Iron (2%)	0117	0.0058	0.0011	0.0084	0.0042	0.0022	34	-0.64	241.33	0
241	Acid Soluble Iron (2%)	0524	0.0059	0.0001	0.0084	0.0042	0.0022	34	-0.61	241.99	0
241	Acid Soluble Iron (2%)	0360	0.0059	0.0002	0.0084	0.0042	0.0022	34	-0.60	241.30	0
241	Acid Soluble Iron (2%)	0230	0.0060	0.0000	0.0084	0.0042	0.0022	34	-0.58	241.30	0
241	Acid Soluble Iron (2%)	0423	0.0060	0.0004	0.0084	0.0042	0.0022	34	-0.58	241.32	0
241	Acid Soluble Iron (2%)	0521	0.0062	0.0000	0.0084	0.0042	0.0022	34	-0.53	241.32	0
241	Acid Soluble Iron (2%)	0394	0.0063	0.0001	0.0084	0.0042	0.0022	34	-0.52	241.32	0
241	Acid Soluble Iron (2%)	0513	0.0064	0.0001	0.0084	0.0042	0.0022	34	-0.49	241.00	0
241	Acid Soluble Iron (2%)	0043	0.0065	0.0010	0.0084	0.0042	0.0022	34	-0.46	241.00	0
241	Acid Soluble Iron (2%)	0027	0.0065	0.0010	0.0084	0.0042	0.0022	34	-0.46	241.99	0
241	Acid Soluble Iron (2%)	0523	0.0065	0.0010	0.0084	0.0042	0.0022	34	-0.46	241.99	0
241	Acid Soluble Iron (2%)	0433	0.0066	0.0012	0.0084	0.0042	0.0022	34	-0.43	241.30	0
241	Acid Soluble Iron (2%)	0105	0.0068	0.0009	0.0084	0.0042	0.0022	34	-0.40	241.00	0
241	Acid Soluble Iron (2%)	0494	0.0071	0.0003	0.0084	0.0042	0.0022	34	-0.33	241.33	0
241	Acid Soluble Iron (2%)	0035	0.0075	0.0029	0.0084	0.0042	0.0022	34	-0.23	241.30	0
241	Acid Soluble Iron (2%)	0515	0.0080	0.0024	0.0084	0.0042	0.0022	34	-0.10	241.33	0
241	Acid Soluble Iron (2%)	0389	0.0081	0.0000	0.0084	0.0042	0.0022	34	-0.08	241.99	0
241	Acid Soluble Iron (2%)	0040	0.0085	0.0030	0.0084	0.0042	0.0022	34	0.01	241.00	0
241	Acid Soluble Iron (2%)	0485	0.0092	0.0029	0.0084	0.0042	0.0022	34	0.17	241.00	0
241	Acid Soluble Iron (2%)	0096	0.0100	0.0000	0.0084	0.0042	0.0022	34	0.37	241.30	0
241	Acid Soluble Iron (2%)	0482	0.0100	0.0000	0.0084	0.0042	0.0022	34	0.37	241.30	0
241	Acid Soluble Iron (2%)	0516	0.0124	0.0036	0.0084	0.0042	0.0022	34	0.94	241.00	0
241	Acid Soluble Iron (2%)	0231	0.0150	0.0100	0.0084	0.0042	0.0022	34	1.55	241.30	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				
241	Acid Soluble Iron (2%)	0402	0.0150	0.0100	0.0084	0.0042	0.0022	34	1.55	241.30	0
241	Acid Soluble Iron (2%)	0444	0.0155	0.0030	0.0084	0.0042	0.0022	34	1.67	241.30	0
241	Acid Soluble Iron (2%)	0354	0.0175	0.0030	0.0084	0.0042	0.0022	34	2.14	241.30	0
241	Acid Soluble Iron (2%)	0483	0.0325	0.0024	0.0084	0.0042	0.0022	34	5.69	241.30	0
241	Acid Soluble Iron (2%)	0515	0.0420	0.0065	0.0084	0.0042	0.0022	34	7.92	241.99	0
241	Acid Soluble Iron (2%)	0481	0.2930	0.0100	0.0084	0.0042	0.0022	34	67.29	241.00	0
241	Acid Soluble Iron (2%)	0519	1.895	0.0100	0.0084	0.0042	0.0022	34	446.10	241.99	2
241	Acid Soluble Iron (2%)	0390	0.00000*	0.0000	0.0084	0.0042	0.0022	34		241.30	4
251	Acid Soluble Lead (ppm)	0042	0.0645	0.0010	1.146	1.567	0.0825	8	-0.63	251.99	0
251	Acid Soluble Lead (ppm)	0524	0.1004	0.0027	1.146	1.567	0.0825	8	-0.61	251.30	0
251	Acid Soluble Lead (ppm)	0394	0.1600	0.1200	1.146	1.567	0.0825	8	-0.58	251.30	0
251	Acid Soluble Lead (ppm)	0519	0.4950	0.0100	1.146	1.567	0.0825	8	-0.38	251.30	0
251	Acid Soluble Lead (ppm)	0389	0.5500	0.1000	1.146	1.567	0.0825	8	-0.35	251.30	0
251	Acid Soluble Lead (ppm)	0096	1.200	0.0000	1.146	1.567	0.0825	8	0.03	251.30	0
251	Acid Soluble Lead (ppm)	0515	3.102	0.2440	1.146	1.567	0.0825	8	1.14	251.33	0
251	Acid Soluble Lead (ppm)	0515	5.574	0.1820	1.146	1.567	0.0825	8	2.58	251.34	0
261	Acid Soluble Manganese (%)	0494	0.0001	0.0000	0.0003	0.0004	0.0000	5	-0.49	261.35	0
261	Acid Soluble Manganese (%)	0389	0.0001	0.0000	0.0003	0.0004	0.0000	5	-0.49	261.99	0
261	Acid Soluble Manganese (%)	0524	0.0001	0.0000	0.0003	0.0004	0.0000	5	-0.49	261.99	0
261	Acid Soluble Manganese (%)	0521	0.0003	0.0000	0.0003	0.0004	0.0000	5	-0.04	261.34	0
261	Acid Soluble Manganese (%)	0354	0.0010	0.0000	0.0003	0.0004	0.0000	5	1.52	261.30	0
261	Acid Soluble Manganese (%)	0483	0.0003	0.0001	0.0003	0.0004	0.0000	5	-0.16	261.32	1
281	Acid Soluble Mercury (ppm)	0394	0.0020	0.0020	0.0580	0.0902	0.0260	3	-0.62	281.30	0
281	Acid Soluble Mercury (ppm)	0519	0.0100	0.0000	0.0580	0.0902	0.0260	3	-0.53	281.30	0
281	Acid Soluble Mercury (ppm)	0042	0.1620	0.0760	0.0580	0.0902	0.0260	3	1.15	281.99	0
281	Acid Soluble Mercury (ppm)	0515	0.0000	0.0000	0.0580	0.0902	0.0260	3		281.30	4
289	Acid Soluble Molybdenum (ppm)	0524	0.0450	0.0026	1.350	2.491	0.2152	7	-0.47	289.30	0
289	Acid Soluble Molybdenum (ppm)	0102	0.0720	0.0760	1.350	2.491	0.2152	7	-0.46	289.30	0
289	Acid Soluble Molybdenum (ppm)	0394	0.0730	0.0080	1.350	2.491	0.2152	7	-0.46	289.32	0
289	Acid Soluble Molybdenum (ppm)	0494	0.0879	0.0316	1.350	2.491	0.2152	7	-0.46	289.33	0
289	Acid Soluble Molybdenum (ppm)	0042	0.1110	0.0080	1.350	2.491	0.2152	7	-0.45	289.99	0
289	Acid Soluble Molybdenum (ppm)	0515	3.975	1.380	1.350	2.491	0.2152	7	0.95	289.34	0
289	Acid Soluble Molybdenum (ppm)	0521	8.292	0.0000	1.350	2.491	0.2152	7	2.52	289.30	0
289	Acid Soluble Molybdenum (ppm)	0515	6.082	6.517	1.350	2.491	0.2152	7	1.72	289.33	1
291	Acid Soluble Nickel (ppm)	0521	0.1495	0.0000	1.812	2.961	0.2086	7	-0.51	291.30	0
291	Acid Soluble Nickel (ppm)	0524	0.2669	0.0049	1.812	2.961	0.2086	7	-0.47	291.30	0
291	Acid Soluble Nickel (ppm)	0519	0.2950	0.0100	1.812	2.961	0.2086	7	-0.46	291.30	0
291	Acid Soluble Nickel (ppm)	0042	0.3105	0.0670	1.812	2.961	0.2086	7	-0.46	291.99	0
291	Acid Soluble Nickel (ppm)	0394	0.4850	0.1700	1.812	2.961	0.2086	7	-0.41	291.30	0
291	Acid Soluble Nickel (ppm)	0515	4.927	1.208	1.812	2.961	0.2086	7	0.95	291.34	0
291	Acid Soluble Nickel (ppm)	0481	19.90	0.0000	1.812	2.961	0.2086	7	5.52	291.99	0
291	Acid Soluble Nickel (ppm)	0515	6.443	5.312	1.812	2.961	0.2086	7	1.41	291.33	1
301	Acid Soluble Selenium (ppm)	0042	0.0280	0.0140	1.819	2.269	1.837	5	-0.79	301.99	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				
301	Acid Soluble Selenium (ppm)	0519	0.2750	0.0100	1.819	2.269	1.837	5	-0.68	301.30	0
301	Acid Soluble Selenium (ppm)	0524	0.4418	0.0185	1.819	2.269	1.837	5	-0.61	301.30	0
301	Acid Soluble Selenium (ppm)	0515	3.171	0.2330	1.819	2.269	1.837	5	0.60	301.34	0
301	Acid Soluble Selenium (ppm)	0515	5.178	8.908	1.819	2.269	1.837	5	1.48	301.33	0
311	Sodium (%)	0494	0.0224	0.0004	0.0265	0.0035	0.0019	8	-1.06	311.33	0
311	Sodium (%)	0423	0.0240	0.0020	0.0265	0.0035	0.0019	8	-0.65	311.33	0
311	Sodium (%)	0482	0.0250	0.0100	0.0265	0.0035	0.0019	8	-0.39	311.99	0
311	Sodium (%)	0025	0.0253	0.0010	0.0265	0.0035	0.0019	8	-0.31	311.32	0
311	Sodium (%)	0102	0.0262	0.0007	0.0265	0.0035	0.0019	8	-0.09	311.33	0
311	Sodium (%)	0521	0.0273	0.0000	0.0265	0.0035	0.0019	8	0.21	311.32	0
311	Sodium (%)	0096	0.0300	0.0000	0.0265	0.0035	0.0019	8	0.91	311.99	0
311	Sodium (%)	0354	0.0925	0.0010	0.0265	0.0035	0.0019	8	17.13	311.99	0
311	Sodium (%)	0035	0.0345	0.0210	0.0265	0.0035	0.0019	8	2.08	311.33	1
321	Acid Soluble Zinc (%)	0230	0.0001	0.0000	0.0016	0.0016	0.0320	16	-0.99	321.30	0
321	Acid Soluble Zinc (%)	0524	0.0001	0.0000	0.0016	0.0016	0.0320	16	-0.99	321.99	0
321	Acid Soluble Zinc (%)	0389	0.0003	0.0001	0.0016	0.0016	0.0320	16	-0.90	321.99	0
321	Acid Soluble Zinc (%)	0515	0.0004	0.0000	0.0016	0.0016	0.0320	16	-0.80	321.99	0
321	Acid Soluble Zinc (%)	0105	0.0006	0.0004	0.0016	0.0016	0.0320	16	-0.67	321.00	0
321	Acid Soluble Zinc (%)	0485	0.0009	0.0001	0.0016	0.0016	0.0320	16	-0.51	321.00	0
321	Acid Soluble Zinc (%)	0515	0.0009	0.0002	0.0016	0.0016	0.0320	16	-0.48	321.33	0
321	Acid Soluble Zinc (%)	43	0.0010	0.0003	0.0016	0.0016	0.0320	16	-0.45	321	0
321	Acid Soluble Zinc (%)	433	0.0012	0.0010	0.0016	0.0016	0.0320	16	-0.29	321.3	0
321	Acid Soluble Zinc (%)	37	0.0019	0.0002	0.0016	0.0016	0.0320	16	0.16	321.33	0
321	Acid Soluble Zinc (%)	481	0.0020	0.0000	0.0016	0.0016	0.0320	16	0.22	321	0
321	Acid Soluble Zinc (%)	521	0.0028	0.0000	0.0016	0.0016	0.0320	16	0.74	321.32	0
321	Acid Soluble Zinc (%)	96	0.0031	0.0000	0.0016	0.0016	0.0320	16	0.93	321.3	0
321	Acid Soluble Zinc (%)	483	0.0033	0.0001	0.0016	0.0016	0.0320	16	1.02	321.3	0
321	Acid Soluble Zinc (%)	354	0.0050	0.0000	0.0016	0.0016	0.0320	16	2.15	321.3	0
321	Acid Soluble Zinc (%)	42	1.685	0.5100	0.0016	0.0016	0.0320	16	1077.61	321.99	0
321	Acid Soluble Zinc (%)	394	25.40	15.60	0.0016	0.0016	0.0320	16	16258.92	321.32	2

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 and a 4 flag indicates rejected due to 0 value submitted. Robust statistics not used if < 6 labs used in calculations, in this case the Z Scores are included for information only (Grey). An offset lab value with an asterix indicates that the value is lower than the Analyte value less the IA. Method or 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.