

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 190311

Grade 12-12-2.5

Statistical Summary

Analytes: 37

Labs Reporting: 90

Issue Date : 04/30/2019

Analyte Code	Analyte Sample # 190311	# 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 Nitrogen (%)	24	24	5.174	2.644	4.813		1.676	0.4277	34.83%		0.0950	3.16%
002	Nitrate Nitrogen (%)	11	10	0.1380	0.1880	0.0928		0.0790	0.0312	85.04%		0.0082	5.72%
003	Water Insoluble Nitrogen (%)	7	7	6.466	1.704	6.554		1.728	0.8164	26.37%		0.2157	3.01%
005	Urea Nitrogen (%)	1		3.475									
010	Total Nitrogen (12%)	77	76	15.12	1.406	15.56	0.6612	0.4395	0.0630	2.82%	1.55	0.1534	2.65%
020	Total Phosphorus as P2O5 (%)	47	46	12.58	0.4590	12.56		0.3678	0.0678	2.93%		0.2611	2.73%
030	Citrate Insoluble Phosphorus as P2O5 (%)	2	2	0.0475	0.0248								
040	Indirect Available Phosphorus as P2O5 (12%)	4	4	12.44	0.0570	12.44	0.6922	0.0570	0.0356	0.46%	0.19	0.1100	2.74%
041	Direct Available Phosphorus as P2O5 (12%)	46	44	12.30	0.4715	12.34	0.6917	0.3406	0.0642	2.76%	1.15	0.1254	2.74%
042	Water Soluble OrthoP as P2O5 (%)	1		1.175									
048	Water Soluble Phosphorus as P2O5 (%)	5	5	7.012	2.993	7.012		2.993	1.673	42.68%		0.1640	2.98%
050	Soluble Potassium as K2O (2.5%)	85	81	2.555	0.3011	2.575	0.4100	0.1845	0.0256	7.17%	1.05	0.0785	3.47%
060	Water (Free) (%)	2	2	5.475	1.025								
101	Acid Soluble Calcium (6%)	53	53	7.624	0.6909	7.715	0.5857	0.5058	0.0868	6.56%	2.01	0.2064	2.94%
121	Acid Soluble Magnesium (%)	24	24	0.4791	0.0399	0.4788	0.2239	0.0350	0.0089	7.31%	0.36	0.0166	4.47%
131	Water Soluble Magnesium (%)	1		0.0505									
143	Elemental Sulfur (%)	6	6	1.347	0.6241	1.460		0.4242	0.2165	29.05%		0.0385	3.78%
145	Sulfate Sulfur, HCl soluble (%)	10	8	2.013	0.9826	1.803		0.5386	0.2380	29.87%		0.0760	3.66%
148	Total Sulfur (1.5%)	47	45	1.761	0.2427	1.749	0.2875	0.2230	0.0416	12.75%	1.81	0.0698	3.68%
149	Sulfur - HNO3 soluble (%)	2	2	1.723	0.1969								
151	Acid Soluble Arsenic (ppm)	22	17	5.922	2.443	6.120		2.319	0.7032	37.90%		0.4216	12.18%
165	Acid Soluble Boron (%)	8	4	0.0034	0.0029	0.0034	0.0035	0.0029	0.0018	85.60%	1.94	0.0014	9.40%
181	Acid Soluble Cadmium (ppm)	24	20	2.597	0.7964	2.693		0.5360	0.1498	19.90%		0.1407	13.78%
190	Water Soluble Chlorine (%)	9	8	4.358	7.275	2.320	0.2370	2.253	0.9959	97.13%	22.15	0.0220	3.52%
191	Acid Soluble Chromium (ppm)	23	20	7.657	3.599	7.683		3.951	1.104	51.43%		0.7457	11.77%
202	Acid Soluble Cobalt (ppm)	23	19	5.520	2.498	5.577	2.6731	2.705	0.7758	48.51%	2.36	0.4390	12.35%
221	Acid Soluble Copper (%)	30	25	0.4687	2.092	0.0018	0.0052	0.0012	0.0003	66.08%	0.53	0.0057	10.38%
241	Acid Soluble Iron (%)	22	20	0.1144	0.0140	0.1158	0.0166	0.0122	0.0034	10.50%	1.71	0.0049	5.53%
251	Acid Soluble Lead (ppm)	17	11	0.9420	0.8033	0.7232		0.3938	0.1484	54.45%		0.4074	16.80%
261	Acid Soluble Manganese (%)	16	11	0.0038	0.0006	0.0037	0.0054	0.0004	0.0002	11.65%	0.19	0.0001	9.29%
281	Acid Soluble Mercury (ppm)	11	8	0.0733	0.0554	0.0681		0.0500	0.0221	73.47%		0.0057	23.97%
289	Acid Soluble Molybdenum (ppm)	19	14	2.840	5.052	1.416	1.4248	0.6802	0.2272	48.04%	1.11	0.3706	15.18%
291	Acid Soluble Nickel (ppm)	19	14	2.974	1.086	2.965		1.203	0.4018	40.57%		0.4409	13.58%

Analyte Code	Analyte Sample # 190311	# 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
301	Acid Soluble Selenium (ppm)	15	13	2.949	2.210	2.896		2.391	0.8291	82.57%		0.3763	13.63%
311	Sodium (%)	28	27	1.534	0.5407	1.513	0.1563	0.1818	0.0437	12.01%	2.71	0.0405	3.76%
321	Acid Soluble Zinc (%)	39	36	4.402	26.25	0.0188	0.0069	0.0020	0.0004	10.87%	0.69	0.0383	7.27%
325	Water Soluble Zinc (%)	1		0.0050									

The Analyte IA Ratio = $2.33 * \text{Robust SD} / \text{IA at the Analyte Assigned Value}$. 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.

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Sample # 190311

Grade 12-12-2.5

Lab Values

Analytes: 37

Labs Reporting: 90

Issue Date : 04/30/2019

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 (%)	0117	2.255	0.2300	4.813	1.676	0.0950	24	-1.53	001.10	0
001	Ammoniacal Nitrogen (%)	0532	2.455	0.0500	4.813	1.676	0.0950	24	-1.41	001.99	0
001	Ammoniacal Nitrogen (%)	0420	2.490	0.0400	4.813	1.676	0.0950	24	-1.39	001.99	0
001	Ammoniacal Nitrogen (%)	0519	2.560	0.0200	4.813	1.676	0.0950	24	-1.34	001.99	0
001	Ammoniacal Nitrogen (%)	0527	3.160	0.0200	4.813	1.676	0.0950	24	-0.99	001.99	0
001	Ammoniacal Nitrogen (%)	0533	3.560	0.1200	4.813	1.676	0.0950	24	-0.75	001.99	0
001	Ammoniacal Nitrogen (%)	0444	3.725	0.0100	4.813	1.676	0.0950	24	-0.65	001.10	0
001	Ammoniacal Nitrogen (%)	0423	4.290	0.0800	4.813	1.676	0.0950	24	-0.31	001.99	0
001	Ammoniacal Nitrogen (%)	0177	4.947	0.2253	4.813	1.676	0.0950	24	0.08	001.10	0
001	Ammoniacal Nitrogen (%)	0230	5.030	0.0800	4.813	1.676	0.0950	24	0.13	001.10	0
001	Ammoniacal Nitrogen (%)	0231	5.115	0.0100	4.813	1.676	0.0950	24	0.18	001.10	0
001	Ammoniacal Nitrogen (%)	0526	5.121	0.1958	4.813	1.676	0.0950	24	0.18	001.10	0
001	Ammoniacal Nitrogen (%)	0451	5.140	0.1200	4.813	1.676	0.0950	24	0.20	001.10	0
001	Ammoniacal Nitrogen (%)	0476	5.206	0.0578	4.813	1.676	0.0950	24	0.23	001.99	0
001	Ammoniacal Nitrogen (%)	0481	5.335	0.0100	4.813	1.676	0.0950	24	0.31	001.99	0
001	Ammoniacal Nitrogen (%)	0498	5.400	0.0000	4.813	1.676	0.0950	24	0.35	001.10	0
001	Ammoniacal Nitrogen (%)	0522	5.455	0.1100	4.813	1.676	0.0950	24	0.38	001.99	0
001	Ammoniacal Nitrogen (%)	0405	5.485	0.1300	4.813	1.676	0.0950	24	0.40	001.99	0
001	Ammoniacal Nitrogen (%)	0255	5.525	0.2300	4.813	1.676	0.0950	24	0.42	001.99	0
001	Ammoniacal Nitrogen (%)	0096	5.610	0.1600	4.813	1.676	0.0950	24	0.48	001.99	0
001	Ammoniacal Nitrogen (%)	0220	5.825	0.0100	4.813	1.676	0.0950	24	0.60	001.99	0
001	Ammoniacal Nitrogen (%)	0368	7.122	0.1907	4.813	1.676	0.0950	24	1.38	001.99	0
001	Ammoniacal Nitrogen (%)	0486	7.705	0.1500	4.813	1.676	0.0950	24	1.73	001.10	0
001	Ammoniacal Nitrogen (%)	0556	15.67	0.0300	4.813	1.676	0.0950	24	6.47	001.99	0
002	Nitrate Nitrogen (%)	0220	0.0350	0.0100	0.0928	0.0790	0.0082	10	-0.68	002.99	0
002	Nitrate Nitrogen (%)	0527	0.0355	0.0050	0.0928	0.0790	0.0082	10	-0.68	002.99	0
002	Nitrate Nitrogen (%)	0027	0.0400	0.0000	0.0928	0.0790	0.0082	10	-0.62	002.99	0
002	Nitrate Nitrogen (%)	0423	0.0400	0.0000	0.0928	0.0790	0.0082	10	-0.62	002.99	0
002	Nitrate Nitrogen (%)	0486	0.0420	0.0000	0.0928	0.0790	0.0082	10	-0.60	002.99	0
002	Nitrate Nitrogen (%)	0532	0.0950	0.0100	0.0928	0.0790	0.0082	10	0.03	002.99	0
002	Nitrate Nitrogen (%)	0476	0.0984	0.0166	0.0928	0.0790	0.0082	10	0.07	002.99	0
002	Nitrate Nitrogen (%)	0519	0.1200	0.0000	0.0928	0.0790	0.0082	10	0.32	002.99	0
002	Nitrate Nitrogen (%)	0481	0.2300	0.0400	0.0928	0.0790	0.0082	10	1.62	002.99	0
002	Nitrate Nitrogen (%)	0526	0.6444	0.0000	0.0928	0.0790	0.0082	10	6.50	002.20	0
002	Nitrate Nitrogen (%)	0368	0.3780	0.0840	0.0928	0.0790	0.0082	10	3.36	002.99	1
003	Water Insoluble Nitrogen (%)	0498	3.350	0.5000	6.554	1.728	0.2157	7	-1.68	003.99	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				
003	Water Insoluble Nitrogen (%)	0519	5.400	0.0000	6.554	1.728	0.2157	7	-0.60	003.99	0
003	Water Insoluble Nitrogen (%)	0451	6.305	0.3300	6.554	1.728	0.2157	7	-0.13	003.10	0
003	Water Insoluble Nitrogen (%)	0526	6.508	0.0000	6.554	1.728	0.2157	7	-0.02	003.10	0
003	Water Insoluble Nitrogen (%)	0423	7.600	0.1400	6.554	1.728	0.2157	7	0.55	003.10	0
003	Water Insoluble Nitrogen (%)	0220	7.700	0.2400	6.554	1.728	0.2157	7	0.60	003.10	0
003	Water Insoluble Nitrogen (%)	0027	8.400	0.3000	6.554	1.728	0.2157	7	0.97	003.10	0
005	Urea Nitrogen (%)	0027	3.475	0.0500				1		005.00	0
010	Total Nitrogen (12%)	0546	9.385†	0.6500	15.56	0.4395	0.1534	76	-14.05	010.11	0
010	Total Nitrogen (12%)	0553	11.06†	0.6340	15.56	0.4395	0.1534	76	-10.25	010.99	0
010	Total Nitrogen (12%)	0519	11.92†	0.0500	15.56	0.4395	0.1534	76	-8.30	010.99	0
010	Total Nitrogen (12%)	0537	12.06†	0.1700	15.56	0.4395	0.1534	76	-7.98	010.99	0
010	Total Nitrogen (12%)	0532	12.10†	0.0400	15.56	0.4395	0.1534	76	-7.88	010.99	0
010	Total Nitrogen (12%)	0545	12.13†	0.0300	15.56	0.4395	0.1534	76	-7.82	010.99	0
010	Total Nitrogen (12%)	0558	12.25†	0.7000	15.56	0.4395	0.1534	76	-7.53	010.99	0
010	Total Nitrogen (12%)	0526	12.28†	0.0346	15.56	0.4395	0.1534	76	-7.46	010.17	0
010	Total Nitrogen (12%)	0443	12.80†	0.1000	15.56	0.4395	0.1534	76	-6.28	010.60	0
010	Total Nitrogen (12%)	0420	13.23†	0.0400	15.56	0.4395	0.1534	76	-5.31	010.99	0
010	Total Nitrogen (12%)	0498	13.70†	0.2000	15.56	0.4395	0.1534	76	-4.24	010.12	0
010	Total Nitrogen (12%)	0533	13.73†	0.7000	15.56	0.4395	0.1534	76	-4.17	010.99	0
010	Total Nitrogen (12%)	0523	13.80†	0.0000	15.56	0.4395	0.1534	76	-4.01	010.60	0
010	Total Nitrogen (12%)	0420	13.88†	0.0500	15.56	0.4395	0.1534	76	-3.84	010.60	0
010	Total Nitrogen (12%)	0555	14.63†	0.0700	15.56	0.4395	0.1534	76	-2.13	010.60	0
010	Total Nitrogen (12%)	0481	14.88†	0.2300	15.56	0.4395	0.1534	76	-1.56	010.99	0
010	Total Nitrogen (12%)	0476	15.00	0.1601	15.56	0.4395	0.1534	76	-1.28	010.99	0
010	Total Nitrogen (12%)	0234	15.40	0.0000	15.56	0.4395	0.1534	76	-0.37	010.60	0
010	Total Nitrogen (12%)	0421	15.45	0.3600	15.56	0.4395	0.1534	76	-0.25	010.60	0
010	Total Nitrogen (12%)	0371	15.49	0.0200	15.56	0.4395	0.1534	76	-0.16	010.99	0
010	Total Nitrogen (12%)	0550	15.50	0.6200	15.56	0.4395	0.1534	76	-0.14	010.60	0
010	Total Nitrogen (12%)	0105	15.55	0.0600	15.56	0.4395	0.1534	76	-0.03	010.11	0
010	Total Nitrogen (12%)	0027	15.55	0.1000	15.56	0.4395	0.1534	76	-0.03	010.60	0
010	Total Nitrogen (12%)	0513	15.56	0.0500	15.56	0.4395	0.1534	76	-0.01	010.99	0
010	Total Nitrogen (12%)	0354	15.56	0.0110	15.56	0.4395	0.1534	76	0.00	010.60	0
010	Total Nitrogen (12%)	0501	15.56	0.2800	15.56	0.4395	0.1534	76	0.00	010.60	0
010	Total Nitrogen (12%)	0444	15.58	0.0300	15.56	0.4395	0.1534	76	0.03	010.60	0
010	Total Nitrogen (12%)	0422	15.59	0.3800	15.56	0.4395	0.1534	76	0.06	010.60	0
010	Total Nitrogen (12%)	0105	15.61	0.1700	15.56	0.4395	0.1534	76	0.10	010.60	0
010	Total Nitrogen (12%)	0486	15.61	0.0700	15.56	0.4395	0.1534	76	0.10	010.60	0
010	Total Nitrogen (12%)	0220	15.62	0.1100	15.56	0.4395	0.1534	76	0.12	010.11	0
010	Total Nitrogen (12%)	0525	15.62	0.3900	15.56	0.4395	0.1534	76	0.12	010.60	0
010	Total Nitrogen (12%)	0040	15.65	0.1000	15.56	0.4395	0.1534	76	0.20	010.60	0
010	Total Nitrogen (12%)	0527	15.65	0.0870	15.56	0.4395	0.1534	76	0.21	010.60	0
010	Total Nitrogen (12%)	0423	15.66	0.0500	15.56	0.4395	0.1534	76	0.21	010.60	0
010	Total Nitrogen (12%)	0292	15.66	0.0600	15.56	0.4395	0.1534	76	0.22	010.60	0
010	Total Nitrogen (12%)	0360	15.66	0.1000	15.56	0.4395	0.1534	76	0.22	010.60	0
010	Total Nitrogen (12%)	0542	15.67	0.0040	15.56	0.4395	0.1534	76	0.24	010.60	0
010	Total Nitrogen (12%)	0397	15.67	0.0875	15.56	0.4395	0.1534	76	0.25	010.12	0
010	Total Nitrogen (12%)	0416	15.68	0.0100	15.56	0.4395	0.1534	76	0.26	010.12	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 (12%)	0451	15.69	0.2600	15.56	0.4395	0.1534	76	0.29	010.60	0
010	Total Nitrogen (12%)	0231	15.70	0.0100	15.56	0.4395	0.1534	76	0.30	010.60	0
010	Total Nitrogen (12%)	0494	15.70	0.1300	15.56	0.4395	0.1534	76	0.30	010.60	0
010	Total Nitrogen (12%)	0324	15.70	0.0000	15.56	0.4395	0.1534	76	0.32	010.60	0
010	Total Nitrogen (12%)	0043	15.71	0.0800	15.56	0.4395	0.1534	76	0.34	010.60	0
010	Total Nitrogen (12%)	0095	15.72	0.0100	15.56	0.4395	0.1534	76	0.35	010.60	0
010	Total Nitrogen (12%)	0106	15.72	0.1300	15.56	0.4395	0.1534	76	0.35	010.60	0
010	Total Nitrogen (12%)	0035	15.73	0.0000	15.56	0.4395	0.1534	76	0.38	010.60	0
010	Total Nitrogen (12%)	0034	15.74	0.1000	15.56	0.4395	0.1534	76	0.41	010.60	0
010	Total Nitrogen (12%)	0472	15.74	0.0800	15.56	0.4395	0.1534	76	0.41	010.60	0
010	Total Nitrogen (12%)	0405	15.74	0.0200	15.56	0.4395	0.1534	76	0.41	010.60	0
010	Total Nitrogen (12%)	0534	15.75	0.1000	15.56	0.4395	0.1534	76	0.43	010.60	0
010	Total Nitrogen (12%)	0547	15.76	0.1900	15.56	0.4395	0.1534	76	0.44	010.60	0
010	Total Nitrogen (12%)	0368	15.77	0.0680	15.56	0.4395	0.1534	76	0.48	010.60	0
010	Total Nitrogen (12%)	0131	15.79	0.0130	15.56	0.4395	0.1534	76	0.52	010.60	0
010	Total Nitrogen (12%)	0102	15.80	0.2000	15.56	0.4395	0.1534	76	0.54	010.60	0
010	Total Nitrogen (12%)	0041	15.81	0.0600	15.56	0.4395	0.1534	76	0.57	010.60	0
010	Total Nitrogen (12%)	0485	15.82	0.4830	15.56	0.4395	0.1534	76	0.60	010.60	0
010	Total Nitrogen (12%)	0356	15.83	0.0300	15.56	0.4395	0.1534	76	0.60	010.60	0
010	Total Nitrogen (12%)	0177	15.83	0.0200	15.56	0.4395	0.1534	76	0.61	010.60	0
010	Total Nitrogen (12%)	0452	15.83	0.0400	15.56	0.4395	0.1534	76	0.61	010.60	0
010	Total Nitrogen (12%)	0136	15.84	0.0400	15.56	0.4395	0.1534	76	0.63	010.60	0
010	Total Nitrogen (12%)	0255	15.84	0.2460	15.56	0.4395	0.1534	76	0.64	010.60	0
010	Total Nitrogen (12%)	0325	15.85	0.1000	15.56	0.4395	0.1534	76	0.66	010.60	0
010	Total Nitrogen (12%)	0114	15.89	0.3300	15.56	0.4395	0.1534	76	0.74	010.60	0
010	Total Nitrogen (12%)	0482	15.90	0.6000	15.56	0.4395	0.1534	76	0.77	010.60	0
010	Total Nitrogen (12%)	0029	15.95	0.1400	15.56	0.4395	0.1534	76	0.88	010.60	0
010	Total Nitrogen (12%)	0055	15.95	0.3800	15.56	0.4395	0.1534	76	0.88	010.60	0
010	Total Nitrogen (12%)	0025	15.96	0.4000	15.56	0.4395	0.1534	76	0.91	010.60	0
010	Total Nitrogen (12%)	0086	15.98	0.0870	15.56	0.4395	0.1534	76	0.96	010.60	0
010	Total Nitrogen (12%)	0377	16.00	0.0300	15.56	0.4395	0.1534	76	0.99	010.60	0
010	Total Nitrogen (12%)	0483	16.02	0.0500	15.56	0.4395	0.1534	76	1.03	010.60	0
010	Total Nitrogen (12%)	0049	16.04	0.0800	15.56	0.4395	0.1534	76	1.09	010.60	0
010	Total Nitrogen (12%)	0230	16.40‡	0.0000	15.56	0.4395	0.1534	76	1.91	010.60	0
010	Total Nitrogen (12%)	0559	16.46‡	0.0400	15.56	0.4395	0.1534	76	2.04	010.99	0
010	Total Nitrogen (12%)	0493	16.90‡	0.1000	15.56	0.4395	0.1534	76	3.05	010.99	0
010	Total Nitrogen (12%)	0307	15.38	1.235	15.56	0.4395	0.1534	76	-0.42	010.60	1
020	Total Phosphorus as P2O5 (%)	0515	11.72	0.3117	12.56	0.3678	0.2611	46	-2.29	020.99	0
020	Total Phosphorus as P2O5 (%)	0555	11.82	0.3810	12.56	0.3678	0.2611	46	-2.02	020.50	0
020	Total Phosphorus as P2O5 (%)	0552	11.84	1.560	12.56	0.3678	0.2611	46	-1.95	020.50	0
020	Total Phosphorus as P2O5 (%)	0553	11.91	0.0700	12.56	0.3678	0.2611	46	-1.77	020.20	0
020	Total Phosphorus as P2O5 (%)	0472	12.03	0.3500	12.56	0.3678	0.2611	46	-1.45	020.50	0
020	Total Phosphorus as P2O5 (%)	0558	12.10	0.2000	12.56	0.3678	0.2611	46	-1.24	020.20	0
020	Total Phosphorus as P2O5 (%)	0420	12.10	0.0600	12.56	0.3678	0.2611	46	-1.24	020.20	0
020	Total Phosphorus as P2O5 (%)	0027	12.18	0.1200	12.56	0.3678	0.2611	46	-1.02	020.20	0
020	Total Phosphorus as P2O5 (%)	0476	12.19	0.3272	12.56	0.3678	0.2611	46	-0.98	020.20	0
020	Total Phosphorus as P2O5 (%)	0534	12.30	0.2000	12.56	0.3678	0.2611	46	-0.70	020.20	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 Phosphorus as P2O5 (%)	0525	12.34	0.2300	12.56	0.3678	0.2611	46	-0.60	020.50	0
020	Total Phosphorus as P2O5 (%)	0547	12.35	0.1000	12.56	0.3678	0.2611	46	-0.56	020.50	0
020	Total Phosphorus as P2O5 (%)	0501	12.41	0.5900	12.56	0.3678	0.2611	46	-0.41	020.50	0
020	Total Phosphorus as P2O5 (%)	0096	12.45	0.3300	12.56	0.3678	0.2611	46	-0.30	020.40	0
020	Total Phosphorus as P2O5 (%)	0493	12.45	0.1000	12.56	0.3678	0.2611	46	-0.29	020.10	0
020	Total Phosphorus as P2O5 (%)	0220	12.47	0.0200	12.56	0.3678	0.2611	46	-0.24	020.20	0
020	Total Phosphorus as P2O5 (%)	0049	12.48	0.1700	12.56	0.3678	0.2611	46	-0.22	020.10	0
020	Total Phosphorus as P2O5 (%)	0324	12.50	0.0000	12.56	0.3678	0.2611	46	-0.15	020.20	0
020	Total Phosphorus as P2O5 (%)	0231	12.53	0.0100	12.56	0.3678	0.2611	46	-0.09	020.20	0
020	Total Phosphorus as P2O5 (%)	0422	12.54	0.3000	12.56	0.3678	0.2611	46	-0.05	020.50	0
020	Total Phosphorus as P2O5 (%)	0234	12.55	0.3000	12.56	0.3678	0.2611	46	-0.02	020.50	0
020	Total Phosphorus as P2O5 (%)	0421	12.55	0.1000	12.56	0.3678	0.2611	46	-0.02	020.50	0
020	Total Phosphorus as P2O5 (%)	0443	12.56	0.2000	12.56	0.3678	0.2611	46	0.01	020.99	0
020	Total Phosphorus as P2O5 (%)	0255	12.57	1.381	12.56	0.3678	0.2611	46	0.03	020.50	0
020	Total Phosphorus as P2O5 (%)	0513	12.58	0.1500	12.56	0.3678	0.2611	46	0.05	020.99	0
020	Total Phosphorus as P2O5 (%)	0419	12.58	0.0200	12.56	0.3678	0.2611	46	0.06	020.20	0
020	Total Phosphorus as P2O5 (%)	0416	12.61	0.0700	12.56	0.3678	0.2611	46	0.13	020.20	0
020	Total Phosphorus as P2O5 (%)	0405	12.61	0.0800	12.56	0.3678	0.2611	46	0.14	020.20	0
020	Total Phosphorus as P2O5 (%)	0114	12.62	0.0200	12.56	0.3678	0.2611	46	0.17	020.10	0
020	Total Phosphorus as P2O5 (%)	0522	12.63	0.2400	12.56	0.3678	0.2611	46	0.20	020.20	0
020	Total Phosphorus as P2O5 (%)	0035	12.63	0.0600	12.56	0.3678	0.2611	46	0.20	020.40	0
020	Total Phosphorus as P2O5 (%)	0526	12.68	0.0836	12.56	0.3678	0.2611	46	0.33	020.20	0
020	Total Phosphorus as P2O5 (%)	0444	12.70	0.0900	12.56	0.3678	0.2611	46	0.38	020.50	0
020	Total Phosphorus as P2O5 (%)	0433	12.71	0.0100	12.56	0.3678	0.2611	46	0.40	020.50	0
020	Total Phosphorus as P2O5 (%)	0523	12.75	0.1000	12.56	0.3678	0.2611	46	0.53	020.50	0
020	Total Phosphorus as P2O5 (%)	0356	12.79	0.3200	12.56	0.3678	0.2611	46	0.63	020.20	0
020	Total Phosphorus as P2O5 (%)	0481	12.84	0.0400	12.56	0.3678	0.2611	46	0.77	020.20	0
020	Total Phosphorus as P2O5 (%)	0371	12.87	0.3700	12.56	0.3678	0.2611	46	0.84	020.20	0
020	Total Phosphorus as P2O5 (%)	0546	12.93	0.9860	12.56	0.3678	0.2611	46	1.02	020.50	0
020	Total Phosphorus as P2O5 (%)	0451	12.97	0.0300	12.56	0.3678	0.2611	46	1.11	020.50	0
020	Total Phosphorus as P2O5 (%)	0483	13.01	0.2500	12.56	0.3678	0.2611	46	1.22	020.50	0
020	Total Phosphorus as P2O5 (%)	0292	13.06	0.0400	12.56	0.3678	0.2611	46	1.37	020.20	0
020	Total Phosphorus as P2O5 (%)	0527	13.15	0.2984	12.56	0.3678	0.2611	46	1.62	020.50	0
020	Total Phosphorus as P2O5 (%)	0482	13.30	0.6000	12.56	0.3678	0.2611	46	2.02	020.50	0
020	Total Phosphorus as P2O5 (%)	0423	13.98	0.2100	12.56	0.3678	0.2611	46	3.86	020.50	0
020	Total Phosphorus as P2O5 (%)	0542	14.01	0.5300	12.56	0.3678	0.2611	46	3.94	020.50	0
020	Total Phosphorus as P2O5 (%)	0550	15.48	2.900	12.56	0.3678	0.2611	46	7.95	020.20	1
030	Citrate Insoluble Phosphorus as P2O5 (%)	0096	0.0300	0.0000				2		030.40	0
030	Citrate Insoluble Phosphorus as P2O5 (%)	0220	0.0650	0.0500				2		030.20	0
040	Indirect Available Phosphorus as P2O5 (12%)	0498	12.40	0.0000	12.44	0.0570	0.1100	4	-0.61	040.20	0
040	Indirect Available Phosphorus as P2O5 (12%)	0220	12.41	0.0300	12.44	0.0570	0.1100	4	-0.53	040.20	0
040	Indirect Available Phosphorus as P2O5 (12%)	0096	12.42	0.3300	12.44	0.0570	0.1100	4	-0.35	040.40	0
040	Indirect Available Phosphorus as P2O5 (12%)	0405	12.52	0.0800	12.44	0.0570	0.1100	4	1.49	040.20	0
041	Direct Available Phosphorus as P2O5 (12%)	0230	10.25†	0.3000	12.34	0.3406	0.1254	44	-6.14	041.60	0
041	Direct Available Phosphorus as P2O5 (12%)	0131	11.39†	0.0600	12.34	0.3406	0.1254	44	-2.79	041.40	0
041	Direct Available Phosphorus as P2O5 (12%)	0520	11.75	0.1000	12.34	0.3406	0.1254	44	-1.73	041.99	0
041	Direct Available Phosphorus as P2O5 (12%)	0106	11.76	0.0800	12.34	0.3406	0.1254	44	-1.70	041.21	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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041	Direct Available Phosphorus as P2O5 (12%)	0117	11.91	0.1144	12.34	0.3406	0.1254	44	-1.27	041.51	0
041	Direct Available Phosphorus as P2O5 (12%)	0519	11.94	0.0000	12.34	0.3406	0.1254	44	-1.18	041.99	0
041	Direct Available Phosphorus as P2O5 (12%)	0368	11.94	0.2750	12.34	0.3406	0.1254	44	-1.17	041.51	0
041	Direct Available Phosphorus as P2O5 (12%)	0397	11.94	0.0168	12.34	0.3406	0.1254	44	-1.17	041.60	0
041	Direct Available Phosphorus as P2O5 (12%)	0532	11.98	0.1200	12.34	0.3406	0.1254	44	-1.06	041.99	0
041	Direct Available Phosphorus as P2O5 (12%)	0513	12.01	0.0200	12.34	0.3406	0.1254	44	-0.97	041.11	0
041	Direct Available Phosphorus as P2O5 (12%)	0533	12.10	0.1100	12.34	0.3406	0.1254	44	-0.72	041.99	0
041	Direct Available Phosphorus as P2O5 (12%)	0423	12.12	0.1200	12.34	0.3406	0.1254	44	-0.65	041.51	0
041	Direct Available Phosphorus as P2O5 (12%)	0102	12.15	0.3000	12.34	0.3406	0.1254	44	-0.56	041.10	0
041	Direct Available Phosphorus as P2O5 (12%)	0522	12.15	0.3000	12.34	0.3406	0.1254	44	-0.56	041.21	0
041	Direct Available Phosphorus as P2O5 (12%)	0055	12.22	0.0000	12.34	0.3406	0.1254	44	-0.35	041.10	0
041	Direct Available Phosphorus as P2O5 (12%)	0040	12.25	0.1000	12.34	0.3406	0.1254	44	-0.27	041.51	0
041	Direct Available Phosphorus as P2O5 (12%)	0536	12.30	0.2000	12.34	0.3406	0.1254	44	-0.12	041.99	0
041	Direct Available Phosphorus as P2O5 (12%)	0231	12.33	0.0700	12.34	0.3406	0.1254	44	-0.05	041.60	0
041	Direct Available Phosphorus as P2O5 (12%)	0220	12.38	0.0500	12.34	0.3406	0.1254	44	0.10	041.11	0
041	Direct Available Phosphorus as P2O5 (12%)	0559	12.38	0.0500	12.34	0.3406	0.1254	44	0.10	041.99	0
041	Direct Available Phosphorus as P2O5 (12%)	0494	12.40	0.5900	12.34	0.3406	0.1254	44	0.16	041.10	0
041	Direct Available Phosphorus as P2O5 (12%)	0086	12.40	0.0844	12.34	0.3406	0.1254	44	0.17	041.10	0
041	Direct Available Phosphorus as P2O5 (12%)	0472	12.40	0.1400	12.34	0.3406	0.1254	44	0.17	041.60	0
041	Direct Available Phosphorus as P2O5 (12%)	0177	12.41	0.0677	12.34	0.3406	0.1254	44	0.19	041.10	0
041	Direct Available Phosphorus as P2O5 (12%)	0136	12.43	0.1000	12.34	0.3406	0.1254	44	0.26	041.60	0
041	Direct Available Phosphorus as P2O5 (12%)	0452	12.44	0.0500	12.34	0.3406	0.1254	44	0.28	041.50	0
041	Direct Available Phosphorus as P2O5 (12%)	0177	12.44	0.1624	12.34	0.3406	0.1254	44	0.30	041.60	0
041	Direct Available Phosphorus as P2O5 (12%)	0043	12.49	0.0200	12.34	0.3406	0.1254	44	0.44	041.51	0
041	Direct Available Phosphorus as P2O5 (12%)	0405	12.49	0.1800	12.34	0.3406	0.1254	44	0.44	041.99	0
041	Direct Available Phosphorus as P2O5 (12%)	0055	12.50	0.2000	12.34	0.3406	0.1254	44	0.47	041.60	0
041	Direct Available Phosphorus as P2O5 (12%)	0545	12.53	0.0300	12.34	0.3406	0.1254	44	0.54	041.99	0
041	Direct Available Phosphorus as P2O5 (12%)	0095	12.55	0.4300	12.34	0.3406	0.1254	44	0.60	041.40	0
041	Direct Available Phosphorus as P2O5 (12%)	0486	12.55	0.1100	12.34	0.3406	0.1254	44	0.60	041.51	0
041	Direct Available Phosphorus as P2O5 (12%)	0354	12.55	0.1000	12.34	0.3406	0.1254	44	0.62	041.60	0
041	Direct Available Phosphorus as P2O5 (12%)	0041	12.56	0.0200	12.34	0.3406	0.1254	44	0.64	041.10	0
041	Direct Available Phosphorus as P2O5 (12%)	0494	12.59	0.1600	12.34	0.3406	0.1254	44	0.73	041.51	0
041	Direct Available Phosphorus as P2O5 (12%)	0537	12.60	0.1800	12.34	0.3406	0.1254	44	0.76	041.99	0
041	Direct Available Phosphorus as P2O5 (12%)	0485	12.60	0.1139	12.34	0.3406	0.1254	44	0.76	041.11	0
041	Direct Available Phosphorus as P2O5 (12%)	0025	12.65	0.1000	12.34	0.3406	0.1254	44	0.91	041.51	0
041	Direct Available Phosphorus as P2O5 (12%)	0105	12.68	0.0900	12.34	0.3406	0.1254	44	0.98	041.60	0
041	Direct Available Phosphorus as P2O5 (12%)	0377	12.80	0.0400	12.34	0.3406	0.1254	44	1.35	041.51	0
041	Direct Available Phosphorus as P2O5 (12%)	0029	12.86	0.1100	12.34	0.3406	0.1254	44	1.51	041.60	0
041	Direct Available Phosphorus as P2O5 (12%)	0360	13.03	0.0000	12.34	0.3406	0.1254	44	2.02	041.51	0
041	Direct Available Phosphorus as P2O5 (12%)	0034	13.27‡	0.0510	12.34	0.3406	0.1254	44	2.73	041.60	0
041	Direct Available Phosphorus as P2O5 (12%)	0325	12.40	0.8000	12.34	0.3406	0.1254	44	0.17	041.50	1
041	Direct Available Phosphorus as P2O5 (12%)	0027	8.100†	0.4000	12.34	0.3406	0.1254	44	-12.45	041.20	2
042	Water Soluble OrthoP as P2O5 (%)	0553	1.175	0.0700				1		042.10	0
048	Water Soluble Phosphorus as P2O5 (%)	0513	4.670	0.1400	7.012	2.993	0.1640	5	-0.78	048.99	0
048	Water Soluble Phosphorus as P2O5 (%)	0096	5.630	0.1400	7.012	2.993	0.1640	5	-0.46	048.40	0
048	Water Soluble Phosphorus as P2O5 (%)	0444	5.810	0.0400	7.012	2.993	0.1640	5	-0.40	048.50	0
048	Water Soluble Phosphorus as P2O5 (%)	0420	6.750	0.1000	7.012	2.993	0.1640	5	-0.09	048.20	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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048	Water Soluble Phosphorus as P2O5 (%)	0556	12.20	0.4000	7.012	2.993	0.1640	5	1.73	048.99	0
050	Soluble Potassium as K2O (2.5%)	0553	0.5800†	0.0200	2.575	0.1845	0.0785	81	-10.81	050.99	0
050	Soluble Potassium as K2O (2.5%)	0556	1.900†	0.1000	2.575	0.1845	0.0785	81	-3.66	050.99	0
050	Soluble Potassium as K2O (2.5%)	0547	2.070†	0.0000	2.575	0.1845	0.0785	81	-2.74	050.51	0
050	Soluble Potassium as K2O (2.5%)	0550	2.225	0.2700	2.575	0.1845	0.0785	81	-1.90	050.00	0
050	Soluble Potassium as K2O (2.5%)	0040	2.250	0.1000	2.575	0.1845	0.0785	81	-1.76	050.30	0
050	Soluble Potassium as K2O (2.5%)	0485	2.297	0.0060	2.575	0.1845	0.0785	81	-1.51	050.52	0
050	Soluble Potassium as K2O (2.5%)	0105	2.305	0.1700	2.575	0.1845	0.0785	81	-1.46	050.62	0
050	Soluble Potassium as K2O (2.5%)	0476	2.316	0.0128	2.575	0.1845	0.0785	81	-1.40	050.99	0
050	Soluble Potassium as K2O (2.5%)	0422	2.370	0.1600	2.575	0.1845	0.0785	81	-1.11	050.50	0
050	Soluble Potassium as K2O (2.5%)	0526	2.377	0.0608	2.575	0.1845	0.0785	81	-1.08	050.60	0
050	Soluble Potassium as K2O (2.5%)	0231	2.385	0.3100	2.575	0.1845	0.0785	81	-1.03	050.30	0
050	Soluble Potassium as K2O (2.5%)	0035	2.385	0.2100	2.575	0.1845	0.0785	81	-1.03	050.61	0
050	Soluble Potassium as K2O (2.5%)	0472	2.390	0.0200	2.575	0.1845	0.0785	81	-1.00	050.31	0
050	Soluble Potassium as K2O (2.5%)	0555	2.407	0.0193	2.575	0.1845	0.0785	81	-0.91	050.51	0
050	Soluble Potassium as K2O (2.5%)	0377	2.410	0.1000	2.575	0.1845	0.0785	81	-0.90	050.52	0
050	Soluble Potassium as K2O (2.5%)	0117	2.413	0.0183	2.575	0.1845	0.0785	81	-0.88	050.52	0
050	Soluble Potassium as K2O (2.5%)	0416	2.415	0.0500	2.575	0.1845	0.0785	81	-0.87	050.00	0
050	Soluble Potassium as K2O (2.5%)	0405	2.425	0.0500	2.575	0.1845	0.0785	81	-0.81	050.00	0
050	Soluble Potassium as K2O (2.5%)	0493	2.425	0.0500	2.575	0.1845	0.0785	81	-0.81	050.99	0
050	Soluble Potassium as K2O (2.5%)	0533	2.440	0.1000	2.575	0.1845	0.0785	81	-0.73	050.99	0
050	Soluble Potassium as K2O (2.5%)	0231	2.445	0.1700	2.575	0.1845	0.0785	81	-0.71	050.00	0
050	Soluble Potassium as K2O (2.5%)	0494	2.450	0.2200	2.575	0.1845	0.0785	81	-0.68	050.52	0
050	Soluble Potassium as K2O (2.5%)	0481	2.455	0.0100	2.575	0.1845	0.0785	81	-0.65	050.99	0
050	Soluble Potassium as K2O (2.5%)	0522	2.465	0.2500	2.575	0.1845	0.0785	81	-0.60	050.00	0
050	Soluble Potassium as K2O (2.5%)	0043	2.465	0.0100	2.575	0.1845	0.0785	81	-0.60	050.52	0
050	Soluble Potassium as K2O (2.5%)	0559	2.465	0.0100	2.575	0.1845	0.0785	81	-0.60	050.99	0
050	Soluble Potassium as K2O (2.5%)	0220	2.470	0.0000	2.575	0.1845	0.0785	81	-0.57	050.00	0
050	Soluble Potassium as K2O (2.5%)	0136	2.485	0.0700	2.575	0.1845	0.0785	81	-0.49	050.30	0
050	Soluble Potassium as K2O (2.5%)	0025	2.500	0.0200	2.575	0.1845	0.0785	81	-0.41	050.52	0
050	Soluble Potassium as K2O (2.5%)	0368	2.501	0.1797	2.575	0.1845	0.0785	81	-0.40	050.99	0
050	Soluble Potassium as K2O (2.5%)	0513	2.505	0.0900	2.575	0.1845	0.0785	81	-0.38	050.62	0
050	Soluble Potassium as K2O (2.5%)	0029	2.510	0.4000	2.575	0.1845	0.0785	81	-0.35	050.62	0
050	Soluble Potassium as K2O (2.5%)	0519	2.520	0.0000	2.575	0.1845	0.0785	81	-0.30	050.99	0
050	Soluble Potassium as K2O (2.5%)	0501	2.535	0.0100	2.575	0.1845	0.0785	81	-0.22	050.99	0
050	Soluble Potassium as K2O (2.5%)	0419	2.549	0.0290	2.575	0.1845	0.0785	81	-0.15	050.50	0
050	Soluble Potassium as K2O (2.5%)	0234	2.550	0.1000	2.575	0.1845	0.0785	81	-0.14	050.99	0
050	Soluble Potassium as K2O (2.5%)	0360	2.565	0.0100	2.575	0.1845	0.0785	81	-0.06	050.52	0
050	Soluble Potassium as K2O (2.5%)	0106	2.575	0.0500	2.575	0.1845	0.0785	81	0.00	050.50	0
050	Soluble Potassium as K2O (2.5%)	0532	2.575	0.0300	2.575	0.1845	0.0785	81	0.00	050.99	0
050	Soluble Potassium as K2O (2.5%)	0371	2.580	0.0200	2.575	0.1845	0.0785	81	0.03	050.99	0
050	Soluble Potassium as K2O (2.5%)	0041	2.585	0.0900	2.575	0.1845	0.0785	81	0.05	050.60	0
050	Soluble Potassium as K2O (2.5%)	0452	2.590	0.0000	2.575	0.1845	0.0785	81	0.08	050.51	0
050	Soluble Potassium as K2O (2.5%)	0558	2.590	0.0200	2.575	0.1845	0.0785	81	0.08	050.99	0
050	Soluble Potassium as K2O (2.5%)	0096	2.605	0.0100	2.575	0.1845	0.0785	81	0.16	050.99	0
050	Soluble Potassium as K2O (2.5%)	0433	2.620	0.0000	2.575	0.1845	0.0785	81	0.24	050.99	0
050	Soluble Potassium as K2O (2.5%)	0354	2.630	0.0200	2.575	0.1845	0.0785	81	0.30	050.52	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 (2.5%)	0292	2.635	0.0500	2.575	0.1845	0.0785	81	0.32	050.50	0
050	Soluble Potassium as K2O (2.5%)	0389	2.635	0.0100	2.575	0.1845	0.0785	81	0.32	050.99	0
050	Soluble Potassium as K2O (2.5%)	0537	2.640	0.2600	2.575	0.1845	0.0785	81	0.35	050.99	0
050	Soluble Potassium as K2O (2.5%)	0055	2.655	0.0100	2.575	0.1845	0.0785	81	0.43	050.50	0
050	Soluble Potassium as K2O (2.5%)	0546	2.666	0.1410	2.575	0.1845	0.0785	81	0.49	050.99	0
050	Soluble Potassium as K2O (2.5%)	0525	2.672	0.0530	2.575	0.1845	0.0785	81	0.52	050.99	0
050	Soluble Potassium as K2O (2.5%)	0230	2.675	0.1700	2.575	0.1845	0.0785	81	0.54	050.00	0
050	Soluble Potassium as K2O (2.5%)	0494	2.680	0.0200	2.575	0.1845	0.0785	81	0.57	050.00	0
050	Soluble Potassium as K2O (2.5%)	0356	2.680	0.2000	2.575	0.1845	0.0785	81	0.57	050.30	0
050	Soluble Potassium as K2O (2.5%)	0397	2.681	0.0265	2.575	0.1845	0.0785	81	0.58	050.50	0
050	Soluble Potassium as K2O (2.5%)	0086	2.685	0.0100	2.575	0.1845	0.0785	81	0.59	050.50	0
050	Soluble Potassium as K2O (2.5%)	0027	2.685	0.0500	2.575	0.1845	0.0785	81	0.59	050.99	0
050	Soluble Potassium as K2O (2.5%)	0552	2.685	0.3300	2.575	0.1845	0.0785	81	0.59	050.99	0
050	Soluble Potassium as K2O (2.5%)	0443	2.690	0.0400	2.575	0.1845	0.0785	81	0.62	050.60	0
050	Soluble Potassium as K2O (2.5%)	0482	2.690	0.0600	2.575	0.1845	0.0785	81	0.62	050.99	0
050	Soluble Potassium as K2O (2.5%)	0486	2.695	0.0100	2.575	0.1845	0.0785	81	0.65	050.52	0
050	Soluble Potassium as K2O (2.5%)	0102	2.700	0.4000	2.575	0.1845	0.0785	81	0.68	050.00	0
050	Soluble Potassium as K2O (2.5%)	0324	2.705	0.0500	2.575	0.1845	0.0785	81	0.70	050.50	0
050	Soluble Potassium as K2O (2.5%)	0444	2.710	0.0000	2.575	0.1845	0.0785	81	0.73	050.50	0
050	Soluble Potassium as K2O (2.5%)	0444	2.710	0.0000	2.575	0.1845	0.0785	81	0.73	050.99	0
050	Soluble Potassium as K2O (2.5%)	0177	2.710	0.0311	2.575	0.1845	0.0785	81	0.73	050.99	0
050	Soluble Potassium as K2O (2.5%)	0527	2.711	0.0125	2.575	0.1845	0.0785	81	0.73	050.99	0
050	Soluble Potassium as K2O (2.5%)	0095	2.735	0.0300	2.575	0.1845	0.0785	81	0.87	050.62	0
050	Soluble Potassium as K2O (2.5%)	0421	2.735	0.0100	2.575	0.1845	0.0785	81	0.87	050.99	0
050	Soluble Potassium as K2O (2.5%)	0034	2.742	0.0750	2.575	0.1845	0.0785	81	0.90	050.62	0
050	Soluble Potassium as K2O (2.5%)	0131	2.755	0.0100	2.575	0.1845	0.0785	81	0.97	050.61	0
050	Soluble Potassium as K2O (2.5%)	0523	2.800	0.2000	2.575	0.1845	0.0785	81	1.22	050.99	0
050	Soluble Potassium as K2O (2.5%)	0542	2.840	0.1000	2.575	0.1845	0.0785	81	1.43	050.99	0
050	Soluble Potassium as K2O (2.5%)	0420	2.844	0.0040	2.575	0.1845	0.0785	81	1.46	050.50	0
050	Soluble Potassium as K2O (2.5%)	0508	2.865	0.0700	2.575	0.1845	0.0785	81	1.57	050.99	0
050	Soluble Potassium as K2O (2.5%)	0451	2.910	0.0400	2.575	0.1845	0.0785	81	1.81	050.99	0
050	Soluble Potassium as K2O (2.5%)	0423	3.021‡	0.0060	2.575	0.1845	0.0785	81	2.42	050.52	0
050	Soluble Potassium as K2O (2.5%)	0483	3.035‡	0.0300	2.575	0.1845	0.0785	81	2.49	050.51	0
050	Soluble Potassium as K2O (2.5%)	0498	3.050‡	0.1000	2.575	0.1845	0.0785	81	2.57	050.31	0
050	Soluble Potassium as K2O (2.5%)	0114	3.080‡	0.1000	2.575	0.1845	0.0785	81	2.74	050.00	0
050	Soluble Potassium as K2O (2.5%)	0055	0.5600†	0.8000	2.575	0.1845	0.0785	81	-10.92	050.00	1
050	Soluble Potassium as K2O (2.5%)	0255	2.579	0.5930	2.575	0.1845	0.0785	81	0.02	050.99	1
050	Soluble Potassium as K2O (2.5%)	0325	2.600	0.6000	2.575	0.1845	0.0785	81	0.13	050.99	1
050	Soluble Potassium as K2O (2.5%)	0545	13.02‡	0.0700	2.575	0.1845	0.0785	81	56.57	050.99	2
060	Water (Free) (%)	0096	4.750	0.4200				2		060.00	0
060	Water (Free) (%)	0055	6.200	0.4000				2		060.99	0
101	Acid Soluble Calcium (6%)	0555	4.611†	0.2926	7.715	0.5058	0.2064	53	-6.14	101.33	0
101	Acid Soluble Calcium (6%)	0476	6.036†	0.3702	7.715	0.5058	0.2064	53	-3.32	101.70	0
101	Acid Soluble Calcium (6%)	0519	6.075†	0.0100	7.715	0.5058	0.2064	53	-3.24	101.99	0
101	Acid Soluble Calcium (6%)	0255	6.496†	0.4830	7.715	0.5058	0.2064	53	-2.41	101.30	0
101	Acid Soluble Calcium (6%)	0498	6.750†	0.1000	7.715	0.5058	0.2064	53	-1.91	101.00	0
101	Acid Soluble Calcium (6%)	0481	6.875†	0.2100	7.715	0.5058	0.2064	53	-1.66	101.99	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				
101	Acid Soluble Calcium (6%)	0368	6.983†	0.0051	7.715	0.5058	0.2064	53	-1.45	101.99	0
101	Acid Soluble Calcium (6%)	0558	6.995†	0.1500	7.715	0.5058	0.2064	53	-1.42	101.99	0
101	Acid Soluble Calcium (6%)	0501	7.000†	0.4000	7.715	0.5058	0.2064	53	-1.41	101.99	0
101	Acid Soluble Calcium (6%)	0526	7.281	0.0000	7.715	0.5058	0.2064	53	-0.86	101.03	0
101	Acid Soluble Calcium (6%)	0177	7.284	0.1495	7.715	0.5058	0.2064	53	-0.85	101.33	0
101	Acid Soluble Calcium (6%)	0485	7.330	0.3400	7.715	0.5058	0.2064	53	-0.76	101.00	0
101	Acid Soluble Calcium (6%)	0472	7.380	0.1800	7.715	0.5058	0.2064	53	-0.66	101.30	0
101	Acid Soluble Calcium (6%)	0324	7.495	0.1700	7.715	0.5058	0.2064	53	-0.43	101.30	0
101	Acid Soluble Calcium (6%)	0042	7.525	0.0100	7.715	0.5058	0.2064	53	-0.38	101.99	0
101	Acid Soluble Calcium (6%)	0234	7.550	0.5000	7.715	0.5058	0.2064	53	-0.33	101.30	0
101	Acid Soluble Calcium (6%)	0420	7.556	0.1200	7.715	0.5058	0.2064	53	-0.31	101.30	0
101	Acid Soluble Calcium (6%)	0157	7.565	0.0700	7.715	0.5058	0.2064	53	-0.30	101.00	0
101	Acid Soluble Calcium (6%)	0102	7.565	0.4120	7.715	0.5058	0.2064	53	-0.30	101.30	0
101	Acid Soluble Calcium (6%)	0034	7.618	0.0290	7.715	0.5058	0.2064	53	-0.19	101.33	0
101	Acid Soluble Calcium (6%)	0040	7.625	0.0100	7.715	0.5058	0.2064	53	-0.18	101.33	0
101	Acid Soluble Calcium (6%)	0552	7.630	0.6400	7.715	0.5058	0.2064	53	-0.17	101.99	0
101	Acid Soluble Calcium (6%)	0028	7.640	0.0800	7.715	0.5058	0.2064	53	-0.15	101.32	0
101	Acid Soluble Calcium (6%)	0354	7.680	0.0800	7.715	0.5058	0.2064	53	-0.07	101.30	0
101	Acid Soluble Calcium (6%)	0231	7.735	0.1300	7.715	0.5058	0.2064	53	0.04	101.30	0
101	Acid Soluble Calcium (6%)	0546	7.777	0.6659	7.715	0.5058	0.2064	53	0.12	101.33	0
101	Acid Soluble Calcium (6%)	0292	7.810	0.0600	7.715	0.5058	0.2064	53	0.19	101.33	0
101	Acid Soluble Calcium (6%)	0117	7.818	0.0560	7.715	0.5058	0.2064	53	0.20	101.33	0
101	Acid Soluble Calcium (6%)	0360	7.845	0.0900	7.715	0.5058	0.2064	53	0.26	101.30	0
101	Acid Soluble Calcium (6%)	0444	7.845	0.0100	7.715	0.5058	0.2064	53	0.26	101.30	0
101	Acid Soluble Calcium (6%)	0114	7.855	0.6900	7.715	0.5058	0.2064	53	0.28	101.30	0
101	Acid Soluble Calcium (6%)	0513	7.890	0.0800	7.715	0.5058	0.2064	53	0.35	101.99	0
101	Acid Soluble Calcium (6%)	0553	7.900	0.1000	7.715	0.5058	0.2064	53	0.37	101.00	0
101	Acid Soluble Calcium (6%)	0397	7.903	0.1373	7.715	0.5058	0.2064	53	0.37	101.33	0
101	Acid Soluble Calcium (6%)	0055	7.920	0.3400	7.715	0.5058	0.2064	53	0.41	101.33	0
101	Acid Soluble Calcium (6%)	0041	7.960	0.2800	7.715	0.5058	0.2064	53	0.48	101.30	0
101	Acid Soluble Calcium (6%)	0421	7.965	0.0700	7.715	0.5058	0.2064	53	0.49	101.33	0
101	Acid Soluble Calcium (6%)	0043	7.985	0.2500	7.715	0.5058	0.2064	53	0.53	101.33	0
101	Acid Soluble Calcium (6%)	0096	8.020	0.0600	7.715	0.5058	0.2064	53	0.60	101.30	0
101	Acid Soluble Calcium (6%)	0029	8.024	0.1080	7.715	0.5058	0.2064	53	0.61	101.00	0
101	Acid Soluble Calcium (6%)	0482	8.025	0.3900	7.715	0.5058	0.2064	53	0.61	101.30	0
101	Acid Soluble Calcium (6%)	0527	8.099	0.0078	7.715	0.5058	0.2064	53	0.76	101.33	0
101	Acid Soluble Calcium (6%)	0371	8.125	0.0700	7.715	0.5058	0.2064	53	0.81	101.30	0
101	Acid Soluble Calcium (6%)	0494	8.184	0.2090	7.715	0.5058	0.2064	53	0.93	101.33	0
101	Acid Soluble Calcium (6%)	0451	8.215	0.2100	7.715	0.5058	0.2064	53	0.99	101.30	0
101	Acid Soluble Calcium (6%)	0422	8.225	0.5900	7.715	0.5058	0.2064	53	1.01	101.32	0
101	Acid Soluble Calcium (6%)	0433	8.230	0.0400	7.715	0.5058	0.2064	53	1.02	101.30	0
101	Acid Soluble Calcium (6%)	0423	8.250	0.0200	7.715	0.5058	0.2064	53	1.06	101.32	0
101	Acid Soluble Calcium (6%)	0086	8.252	0.4640	7.715	0.5058	0.2064	53	1.06	101.33	0
101	Acid Soluble Calcium (6%)	0405	8.310‡	0.0200	7.715	0.5058	0.2064	53	1.18	101.99	0
101	Acid Soluble Calcium (6%)	0483	8.340‡	0.1000	7.715	0.5058	0.2064	53	1.24	101.30	0
101	Acid Soluble Calcium (6%)	0486	8.470‡	0.0800	7.715	0.5058	0.2064	53	1.49	101.30	0
101	Acid Soluble Calcium (6%)	0035	8.540‡	0.8000	7.715	0.5058	0.2064	53	1.63	101.30	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				
121	Acid Soluble Magnesium (%)	0515	0.3853	0.0375	0.4788	0.0350	0.0166	24	-2.68	121.99	0
121	Acid Soluble Magnesium (%)	0515	0.4155	0.0433	0.4788	0.0350	0.0166	24	-1.81	121.33	0
121	Acid Soluble Magnesium (%)	0420	0.4385	0.0070	0.4788	0.0350	0.0166	24	-1.15	121.30	0
121	Acid Soluble Magnesium (%)	0423	0.4510	0.0060	0.4788	0.0350	0.0166	24	-0.80	121.32	0
121	Acid Soluble Magnesium (%)	0553	0.4550	0.0100	0.4788	0.0350	0.0166	24	-0.68	121.00	0
121	Acid Soluble Magnesium (%)	0546	0.4620	0.0300	0.4788	0.0350	0.0166	24	-0.48	121.03	0
121	Acid Soluble Magnesium (%)	0419	0.4625	0.0010	0.4788	0.0350	0.0166	24	-0.47	121.30	0
121	Acid Soluble Magnesium (%)	0034	0.4625	0.0010	0.4788	0.0350	0.0166	24	-0.47	121.33	0
121	Acid Soluble Magnesium (%)	0086	0.4635	0.0348	0.4788	0.0350	0.0166	24	-0.44	121.33	0
121	Acid Soluble Magnesium (%)	0354	0.4650	0.0100	0.4788	0.0350	0.0166	24	-0.40	121.30	0
121	Acid Soluble Magnesium (%)	0472	0.4700	0.0000	0.4788	0.0350	0.0166	24	-0.25	121.30	0
121	Acid Soluble Magnesium (%)	0389	0.4700	0.0000	0.4788	0.0350	0.0166	24	-0.25	121.99	0
121	Acid Soluble Magnesium (%)	0117	0.4734	0.0021	0.4788	0.0350	0.0166	24	-0.16	121.33	0
121	Acid Soluble Magnesium (%)	0041	0.4800	0.0000	0.4788	0.0350	0.0166	24	0.03	121.30	0
121	Acid Soluble Magnesium (%)	0482	0.4800	0.0400	0.4788	0.0350	0.0166	24	0.03	121.30	0
121	Acid Soluble Magnesium (%)	0096	0.4850	0.0100	0.4788	0.0350	0.0166	24	0.18	121.30	0
121	Acid Soluble Magnesium (%)	0028	0.4980	0.0080	0.4788	0.0350	0.0166	24	0.55	121.32	0
121	Acid Soluble Magnesium (%)	0494	0.5027	0.0043	0.4788	0.0350	0.0166	24	0.68	121.33	0
121	Acid Soluble Magnesium (%)	0451	0.5035	0.0030	0.4788	0.0350	0.0166	24	0.70	121.30	0
121	Acid Soluble Magnesium (%)	0421	0.5100	0.0600	0.4788	0.0350	0.0166	24	0.89	121.33	0
121	Acid Soluble Magnesium (%)	0527	0.5130	0.0130	0.4788	0.0350	0.0166	24	0.98	121.33	0
121	Acid Soluble Magnesium (%)	0035	0.5420	0.0180	0.4788	0.0350	0.0166	24	1.81	121.30	0
121	Acid Soluble Magnesium (%)	0552	0.5550	0.0500	0.4788	0.0350	0.0166	24	2.18	121.99	0
121	Acid Soluble Magnesium (%)	0483	0.5560	0.0100	0.4788	0.0350	0.0166	24	2.21	121.30	0
131	Water Soluble Magnesium (%)	0553	0.0505	0.0030				1		131.00	0
143	Elemental Sulfur (%)	0095	0.1450	0.0300	1.460	0.4242	0.0385	6	-2.76	143.00	0
143	Elemental Sulfur (%)	0481	1.235	0.0300	1.460	0.4242	0.0385	6	-0.47	143.99	0
143	Elemental Sulfur (%)	0255	1.583	0.0070	1.460	0.4242	0.0385	6	0.26	143.99	0
143	Elemental Sulfur (%)	0472	1.585	0.0500	1.460	0.4242	0.0385	6	0.26	143.99	0
143	Elemental Sulfur (%)	0389	1.655	0.0100	1.460	0.4242	0.0385	6	0.41	143.99	0
143	Elemental Sulfur (%)	0086	1.879	0.1040	1.460	0.4242	0.0385	6	0.88	143.99	0
145	Sulfate Sulfur, HCl soluble (%)	0177	1.363	0.0225	1.803	0.5386	0.0760	8	-0.75	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0397	1.386	0.0356	1.803	0.5386	0.0760	8	-0.71	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0522	1.395	0.0300	1.803	0.5386	0.0760	8	-0.69	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0444	1.595	0.0300	1.803	0.5386	0.0760	8	-0.35	145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0231	1.820	0.0400	1.803	0.5386	0.0760	8	0.03	145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0498	1.865	0.3100	1.803	0.5386	0.0760	8	0.11	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0095	2.390	0.0000	1.803	0.5386	0.0760	8	1.00	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0027	4.290	0.1400	1.803	0.5386	0.0760	8	4.22	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0550	2.100	1.600	1.803	0.5386	0.0760	8	0.50	145.00	1
145	Sulfate Sulfur, HCl soluble (%)	0485	0.0000	0.0000	1.803	0.5386	0.0760	8		145.00	4
148	Total Sulfur (1.5%)	0405	1.220†	0.1200	1.749	0.2230	0.0698	45	-2.37	148.01	0
148	Total Sulfur (1.5%)	0220	1.405†	0.0100	1.749	0.2230	0.0698	45	-1.54	148.01	0
148	Total Sulfur (1.5%)	0105	1.430†	0.0400	1.749	0.2230	0.0698	45	-1.43	148.01	0
148	Total Sulfur (1.5%)	0029	1.440†	0.0200	1.749	0.2230	0.0698	45	-1.39	148.01	0
148	Total Sulfur (1.5%)	0476	1.446†	0.1612	1.749	0.2230	0.0698	45	-1.36	148.99	0
148	Total Sulfur (1.5%)	0055	1.460†	0.0400	1.749	0.2230	0.0698	45	-1.30	148.01	0

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148	Total Sulfur (1.5%)	0486	1.480	0.0600	1.749	0.2230	0.0698	45	-1.21	148.07	0
148	Total Sulfur (1.5%)	0534	1.530	0.0600	1.749	0.2230	0.0698	45	-0.98	148.01	0
148	Total Sulfur (1.5%)	0177	1.599	0.0412	1.749	0.2230	0.0698	45	-0.67	148.01	0
148	Total Sulfur (1.5%)	0377	1.600	0.0600	1.749	0.2230	0.0698	45	-0.67	148.00	0
148	Total Sulfur (1.5%)	0526	1.601	0.0000	1.749	0.2230	0.0698	45	-0.66	148.01	0
148	Total Sulfur (1.5%)	0131	1.619	0.0080	1.749	0.2230	0.0698	45	-0.58	148.00	0
148	Total Sulfur (1.5%)	0525	1.629	0.0240	1.749	0.2230	0.0698	45	-0.54	148.07	0
148	Total Sulfur (1.5%)	0324	1.635	0.2700	1.749	0.2230	0.0698	45	-0.51	148.01	0
148	Total Sulfur (1.5%)	0029	1.660	0.1470	1.749	0.2230	0.0698	45	-0.40	148.00	0
148	Total Sulfur (1.5%)	0444	1.670	0.0000	1.749	0.2230	0.0698	45	-0.35	148.07	0
148	Total Sulfur (1.5%)	0368	1.692	0.0890	1.749	0.2230	0.0698	45	-0.26	148.99	0
148	Total Sulfur (1.5%)	0040	1.700	0.0000	1.749	0.2230	0.0698	45	-0.22	148.07	0
148	Total Sulfur (1.5%)	0433	1.700	0.0200	1.749	0.2230	0.0698	45	-0.22	148.99	0
148	Total Sulfur (1.5%)	0043	1.730	0.0400	1.749	0.2230	0.0698	45	-0.09	148.07	0
148	Total Sulfur (1.5%)	0117	1.735	0.0020	1.749	0.2230	0.0698	45	-0.06	148.07	0
148	Total Sulfur (1.5%)	0096	1.735	0.0300	1.749	0.2230	0.0698	45	-0.06	148.99	0
148	Total Sulfur (1.5%)	0515	1.756	0.3571	1.749	0.2230	0.0698	45	0.03	148.07	0
148	Total Sulfur (1.5%)	0354	1.760	0.0000	1.749	0.2230	0.0698	45	0.05	148.99	0
148	Total Sulfur (1.5%)	0501	1.765	0.0500	1.749	0.2230	0.0698	45	0.07	148.99	0
148	Total Sulfur (1.5%)	0136	1.770	0.1000	1.749	0.2230	0.0698	45	0.09	148.00	0
148	Total Sulfur (1.5%)	0220	1.770	0.0200	1.749	0.2230	0.0698	45	0.09	148.99	0
148	Total Sulfur (1.5%)	0114	1.815	0.0500	1.749	0.2230	0.0698	45	0.30	148.00	0
148	Total Sulfur (1.5%)	0177	1.820	0.0119	1.749	0.2230	0.0698	45	0.32	148.07	0
148	Total Sulfur (1.5%)	0546	1.826	0.2102	1.749	0.2230	0.0698	45	0.35	148.07	0
148	Total Sulfur (1.5%)	0102	1.827	0.1690	1.749	0.2230	0.0698	45	0.35	148.07	0
148	Total Sulfur (1.5%)	0494	1.827	0.0030	1.749	0.2230	0.0698	45	0.35	148.07	0
148	Total Sulfur (1.5%)	0049	1.900	0.0200	1.749	0.2230	0.0698	45	0.68	148.00	0
148	Total Sulfur (1.5%)	0451	1.901	0.1110	1.749	0.2230	0.0698	45	0.68	148.00	0
148	Total Sulfur (1.5%)	0483	1.905	0.0700	1.749	0.2230	0.0698	45	0.70	148.07	0
148	Total Sulfur (1.5%)	0523	1.905	0.1300	1.749	0.2230	0.0698	45	0.70	148.99	0
148	Total Sulfur (1.5%)	0555	1.908	0.0120	1.749	0.2230	0.0698	45	0.71	148.00	0
148	Total Sulfur (1.5%)	0421	1.975	0.0100	1.749	0.2230	0.0698	45	1.01	148.07	0
148	Total Sulfur (1.5%)	0558	1.985	0.1900	1.749	0.2230	0.0698	45	1.06	148.99	0
148	Total Sulfur (1.5%)	0025	2.017	0.0780	1.749	0.2230	0.0698	45	1.20	148.00	0
148	Total Sulfur (1.5%)	0292	2.025	0.0100	1.749	0.2230	0.0698	45	1.24	148.07	0
148	Total Sulfur (1.5%)	0371	2.105‡	0.0100	1.749	0.2230	0.0698	45	1.60	148.99	0
148	Total Sulfur (1.5%)	0527	2.199‡	0.1561	1.749	0.2230	0.0698	45	2.02	148.07	0
148	Total Sulfur (1.5%)	0482	2.220‡	0.1000	1.749	0.2230	0.0698	45	2.11	148.99	0
148	Total Sulfur (1.5%)	0095	2.535‡	0.0300	1.749	0.2230	0.0698	45	3.52	148.01	0
148	Total Sulfur (1.5%)	0485	2.730‡	0.3945	1.749	0.2230	0.0698	45	4.40	148.01	1
148	Total Sulfur (1.5%)	0422	17.60‡	0.1600	1.749	0.2230	0.0698	45	71.07	148.99	2
149	Sulfur - HNO3 soluble (%)	0519	1.584	0.0080				2		149.04	0
149	Sulfur - HNO3 soluble (%)	0423	1.863	0.0650				2		149.04	0
151	Acid Soluble Arsenic (ppm)	0498	0.7450	0.0500	6.120	2.319	0.4216	17	-2.32	151.00	0
151	Acid Soluble Arsenic (ppm)	0550	1.165	0.1900	6.120	2.319	0.4216	17	-2.14	151.00	0
151	Acid Soluble Arsenic (ppm)	0520	2.860	0.0200	6.120	2.319	0.4216	17	-1.41	151.99	0
151	Acid Soluble Arsenic (ppm)	0220	5.000	0.0000	6.120	2.319	0.4216	17	-0.48	151.99	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				
151	Acid Soluble Arsenic (ppm)	0255	5.126	0.6270	6.120	2.319	0.4216	17	-0.43	151.30	0
151	Acid Soluble Arsenic (ppm)	0515	5.368	2.098	6.120	2.319	0.4216	17	-0.32	151.33	0
151	Acid Soluble Arsenic (ppm)	0519	5.450	0.0000	6.120	2.319	0.4216	17	-0.29	151.99	0
151	Acid Soluble Arsenic (ppm)	0389	5.970	1.721	6.120	2.319	0.4216	17	-0.06	151.30	0
151	Acid Soluble Arsenic (ppm)	0368	6.390	0.1436	6.120	2.319	0.4216	17	0.12	151.34	0
151	Acid Soluble Arsenic (ppm)	0444	6.405	0.0500	6.120	2.319	0.4216	17	0.12	151.30	0
151	Acid Soluble Arsenic (ppm)	0523	6.855	0.0100	6.120	2.319	0.4216	17	0.32	151.30	0
151	Acid Soluble Arsenic (ppm)	0096	7.300	0.0000	6.120	2.319	0.4216	17	0.51	151.30	0
151	Acid Soluble Arsenic (ppm)	0086	7.983	1.037	6.120	2.319	0.4216	17	0.80	151.33	0
151	Acid Soluble Arsenic (ppm)	0405	8.000	0.0000	6.120	2.319	0.4216	17	0.81	151.30	0
151	Acid Soluble Arsenic (ppm)	0527	8.659	0.3394	6.120	2.319	0.4216	17	1.09	151.33	0
151	Acid Soluble Arsenic (ppm)	0515	8.694	0.4820	6.120	2.319	0.4216	17	1.11	151.34	0
151	Acid Soluble Arsenic (ppm)	0501	8.700	0.4000	6.120	2.319	0.4216	17	1.11	151.30	0
151	Acid Soluble Arsenic (ppm)	0494	12.82	3.220	6.120	2.319	0.4216	17	2.89	151.33	1
151	Acid Soluble Arsenic (ppm)	0555	< 0.5		6.120	2.319	0.4216	17		151.30	5
151	Acid Soluble Arsenic (ppm)	0481	< 0.5		6.120	2.319	0.4216	17		151.99	5
151	Acid Soluble Arsenic (ppm)	0117	< 10		6.120	2.319	0.4216	17		151.33	5
151	Acid Soluble Arsenic (ppm)	0526	< 50		6.120	2.319	0.4216	17		151.00	5
165	Acid Soluble Boron (%)	0546	0.0007	0.0001	0.0034	0.0029	0.0014	4	-0.80	165.99	0
165	Acid Soluble Boron (%)	0423	0.0013	0.0004	0.0034	0.0029	0.0014	4	-0.61	165.99	0
165	Acid Soluble Boron (%)	0086	0.0050	0.0037	0.0034	0.0029	0.0014	4	0.45	165.99	0
165	Acid Soluble Boron (%)	0527	0.0068	0.0015	0.0034	0.0029	0.0014	4	0.97	165.99	0
165	Acid Soluble Boron (%)	0515	0.0000	0.0000	0.0034	0.0029	0.0014	4		165.99	4
165	Acid Soluble Boron (%)	0552	0.0000	0.0000	0.0034	0.0029	0.0014	4		165.99	4
165	Acid Soluble Boron (%)	0354	< 0.01		0.0034	0.0029	0.0014	4		165.30	5
165	Acid Soluble Boron (%)	0117	< 0.01		0.0034	0.0029	0.0014	4		165.99	5
181	Acid Soluble Cadmium (ppm)	0520	0.1700	0.0000	2.693	0.5360	0.1407	20	-4.71	181.99	0
181	Acid Soluble Cadmium (ppm)	0515	1.265	0.4800	2.693	0.5360	0.1407	20	-2.66	181.33	0
181	Acid Soluble Cadmium (ppm)	0444	1.960	0.0200	2.693	0.5360	0.1407	20	-1.37	181.30	0
181	Acid Soluble Cadmium (ppm)	0255	2.021	0.1420	2.693	0.5360	0.1407	20	-1.25	181.30	0
181	Acid Soluble Cadmium (ppm)	0389	2.357	0.1480	2.693	0.5360	0.1407	20	-0.63	181.30	0
181	Acid Soluble Cadmium (ppm)	0523	2.525	0.0300	2.693	0.5360	0.1407	20	-0.31	181.30	0
181	Acid Soluble Cadmium (ppm)	0096	2.550	0.1000	2.693	0.5360	0.1407	20	-0.27	181.30	0
181	Acid Soluble Cadmium (ppm)	0368	2.613	0.0720	2.693	0.5360	0.1407	20	-0.15	181.34	0
181	Acid Soluble Cadmium (ppm)	0550	2.645	0.0300	2.693	0.5360	0.1407	20	-0.09	181.00	0
181	Acid Soluble Cadmium (ppm)	0498	2.730	0.2400	2.693	0.5360	0.1407	20	0.07	181.00	0
181	Acid Soluble Cadmium (ppm)	0481	2.805	0.0700	2.693	0.5360	0.1407	20	0.21	181.99	0
181	Acid Soluble Cadmium (ppm)	0035	2.875	0.2700	2.693	0.5360	0.1407	20	0.34	181.30	0
181	Acid Soluble Cadmium (ppm)	0086	2.881	0.0440	2.693	0.5360	0.1407	20	0.35	181.33	0
181	Acid Soluble Cadmium (ppm)	0220	3.000	0.0000	2.693	0.5360	0.1407	20	0.57	181.99	0
181	Acid Soluble Cadmium (ppm)	0482	3.050	0.5000	2.693	0.5360	0.1407	20	0.67	181.30	0
181	Acid Soluble Cadmium (ppm)	0405	3.065	0.0500	2.693	0.5360	0.1407	20	0.69	181.30	0
181	Acid Soluble Cadmium (ppm)	0501	3.070	0.1200	2.693	0.5360	0.1407	20	0.70	181.30	0
181	Acid Soluble Cadmium (ppm)	0527	3.152	0.0043	2.693	0.5360	0.1407	20	0.86	181.33	0
181	Acid Soluble Cadmium (ppm)	0519	3.285	0.0300	2.693	0.5360	0.1407	20	1.10	181.99	0
181	Acid Soluble Cadmium (ppm)	0494	3.928	0.4645	2.693	0.5360	0.1407	20	2.30	181.33	0
181	Acid Soluble Cadmium (ppm)	0515	0.0000	0.0000	2.693	0.5360	0.1407	20		181.34	4

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				
181	Acid Soluble Cadmium (ppm)	0526	< 0.0028		2.693	0.5360	0.1407	20		181.00	5
181	Acid Soluble Cadmium (ppm)	0555	< 0.5		2.693	0.5360	0.1407	20		181.30	5
181	Acid Soluble Cadmium (ppm)	0117	< 5		2.693	0.5360	0.1407	20		181.33	5
190	Water Soluble Chlorine (%)	0526	0.0332	0.0041	2.320	2.253	0.0220	8	-0.93	190.00	0
190	Water Soluble Chlorine (%)	0555	0.3174	0.0018	2.320	2.253	0.0220	8	-0.81	190.99	0
190	Water Soluble Chlorine (%)	0444	1.660	0.1200	2.320	2.253	0.0220	8	-0.27	190.00	0
190	Water Soluble Chlorine (%)	0498	1.985	0.0100	2.320	2.253	0.0220	8	-0.14	190.00	0
190	Water Soluble Chlorine (%)	0029	2.015	0.0100	2.320	2.253	0.0220	8	-0.12	190.99	0
190	Water Soluble Chlorine (%)	0546	2.030	0.0200	2.320	2.253	0.0220	8	-0.12	190.00	0
190	Water Soluble Chlorine (%)	0550	4.820	0.0000	2.320	2.253	0.0220	8	1.01	190.00	0
190	Water Soluble Chlorine (%)	0519	22.01	0.0100	2.320	2.253	0.0220	8	7.99	190.99	0
190	Water Soluble Chlorine (%)	0368	2.507	0.2230	2.320	2.253	0.0220	8	0.08	190.99	1
191	Acid Soluble Chromium (ppm)	0550	0.8890	0.2060	7.683	3.951	0.7457	20	-1.72	191.00	0
191	Acid Soluble Chromium (ppm)	0519	2.205	0.0100	7.683	3.951	0.7457	20	-1.39	191.99	0
191	Acid Soluble Chromium (ppm)	0498	3.000	0.1800	7.683	3.951	0.7457	20	-1.19	191.00	0
191	Acid Soluble Chromium (ppm)	0520	3.810	0.0200	7.683	3.951	0.7457	20	-0.98	191.99	0
191	Acid Soluble Chromium (ppm)	0368	4.156	1.420	7.683	3.951	0.7457	20	-0.89	191.34	0
191	Acid Soluble Chromium (ppm)	0035	5.240	3.380	7.683	3.951	0.7457	20	-0.62	191.30	0
191	Acid Soluble Chromium (ppm)	0389	5.824	0.1790	7.683	3.951	0.7457	20	-0.47	191.30	0
191	Acid Soluble Chromium (ppm)	0482	6.300	1.000	7.683	3.951	0.7457	20	-0.35	191.30	0
191	Acid Soluble Chromium (ppm)	0405	8.000	2.000	7.683	3.951	0.7457	20	0.08	191.30	0
191	Acid Soluble Chromium (ppm)	0444	8.300	0.4000	7.683	3.951	0.7457	20	0.16	191.30	0
191	Acid Soluble Chromium (ppm)	0523	8.510	0.1200	7.683	3.951	0.7457	20	0.21	191.30	0
191	Acid Soluble Chromium (ppm)	0515	8.925	0.9960	7.683	3.951	0.7457	20	0.31	191.34	0
191	Acid Soluble Chromium (ppm)	0096	9.250	0.9000	7.683	3.951	0.7457	20	0.40	191.30	0
191	Acid Soluble Chromium (ppm)	0527	9.788	0.2851	7.683	3.951	0.7457	20	0.53	191.33	0
191	Acid Soluble Chromium (ppm)	0220	10.00	0.0000	7.683	3.951	0.7457	20	0.59	191.99	0
191	Acid Soluble Chromium (ppm)	0086	10.33	0.1100	7.683	3.951	0.7457	20	0.67	191.33	0
191	Acid Soluble Chromium (ppm)	0515	10.33	2.118	7.683	3.951	0.7457	20	0.67	191.33	0
191	Acid Soluble Chromium (ppm)	0117	11.63	0.6900	7.683	3.951	0.7457	20	1.00	191.33	0
191	Acid Soluble Chromium (ppm)	0501	12.70	0.4000	7.683	3.951	0.7457	20	1.27	191.30	0
191	Acid Soluble Chromium (ppm)	0481	13.97	0.5000	7.683	3.951	0.7457	20	1.59	191.99	0
191	Acid Soluble Chromium (ppm)	0494	14.41	4.045	7.683	3.951	0.7457	20	1.70	191.33	1
191	Acid Soluble Chromium (ppm)	0526	< 0.0054		7.683	3.951	0.7457	20		191.00	5
191	Acid Soluble Chromium (ppm)	0555	< 0.5		7.683	3.951	0.7457	20		191.30	5
202	Acid Soluble Cobalt (ppm)	0519	0.4350	0.0100	5.577	2.705	0.4390	19	-1.90	202.99	0
202	Acid Soluble Cobalt (ppm)	0368	2.217	0.5880	5.577	2.705	0.4390	19	-1.24	202.34	0
202	Acid Soluble Cobalt (ppm)	0035	2.405	0.7100	5.577	2.705	0.4390	19	-1.17	202.30	0
202	Acid Soluble Cobalt (ppm)	0520	2.530	0.0200	5.577	2.705	0.4390	19	-1.13	202.99	0
202	Acid Soluble Cobalt (ppm)	0515	3.230	0.6490	5.577	2.705	0.4390	19	-0.87	202.34	0
202	Acid Soluble Cobalt (ppm)	0482	3.700	0.4000	5.577	2.705	0.4390	19	-0.69	202.30	0
202	Acid Soluble Cobalt (ppm)	0389	4.798	0.1040	5.577	2.705	0.4390	19	-0.29	202.30	0
202	Acid Soluble Cobalt (ppm)	0255	5.081	0.2330	5.577	2.705	0.4390	19	-0.18	202.99	0
202	Acid Soluble Cobalt (ppm)	0515	5.107	1.085	5.577	2.705	0.4390	19	-0.17	202.33	0
202	Acid Soluble Cobalt (ppm)	0423	6.010	0.1800	5.577	2.705	0.4390	19	0.16	202.32	0
202	Acid Soluble Cobalt (ppm)	0527	6.825	0.1325	5.577	2.705	0.4390	19	0.46	202.33	0
202	Acid Soluble Cobalt (ppm)	0220	6.850	0.1000	5.577	2.705	0.4390	19	0.47	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)	0086	7.056	0.0300	5.577	2.705	0.4390	19	0.55	202.33	0
202	Acid Soluble Cobalt (ppm)	0546	7.427	0.9040	5.577	2.705	0.4390	19	0.68	202.33	0
202	Acid Soluble Cobalt (ppm)	0501	7.550	0.1000	5.577	2.705	0.4390	19	0.73	202.34	0
202	Acid Soluble Cobalt (ppm)	0096	8.205	1.210	5.577	2.705	0.4390	19	0.97	202.30	0
202	Acid Soluble Cobalt (ppm)	0405	8.300	0.8000	5.577	2.705	0.4390	19	1.01	202.30	0
202	Acid Soluble Cobalt (ppm)	0494	8.412	0.4280	5.577	2.705	0.4390	19	1.05	202.33	0
202	Acid Soluble Cobalt (ppm)	0117	8.742	0.6570	5.577	2.705	0.4390	19	1.17	202.33	0
202	Acid Soluble Cobalt (ppm)	0526	< 0.01		5.577	2.705	0.4390	19		202.00	5
202	Acid Soluble Cobalt (ppm)	0550	< 0.09		5.577	2.705	0.4390	19		202.33	5
202	Acid Soluble Cobalt (ppm)	0555	< 0.5		5.577	2.705	0.4390	19		202.30	5
202	Acid Soluble Cobalt (ppm)	0481	< 10		5.577	2.705	0.4390	19		202.99	5
221	Acid Soluble Copper (%)	0096	0.0008	0.0001	0.0018	0.0012	0.0057	25	-0.87	221.30	0
221	Acid Soluble Copper (%)	0546	0.0009	0.0003	0.0018	0.0012	0.0057	25	-0.79	221.33	0
221	Acid Soluble Copper (%)	0041	0.0010	0.0000	0.0018	0.0012	0.0057	25	-0.66	221.30	0
221	Acid Soluble Copper (%)	0255	0.0010	0.0000	0.0018	0.0012	0.0057	25	-0.66	221.30	0
221	Acid Soluble Copper (%)	0423	0.0010	0.0000	0.0018	0.0012	0.0057	25	-0.66	221.32	0
221	Acid Soluble Copper (%)	0035	0.0011	0.0001	0.0018	0.0012	0.0057	25	-0.61	221.30	0
221	Acid Soluble Copper (%)	0086	0.0011	0.0001	0.0018	0.0012	0.0057	25	-0.61	221.33	0
221	Acid Soluble Copper (%)	0483	0.0011	0.0000	0.0018	0.0012	0.0057	25	-0.57	221.30	0
221	Acid Soluble Copper (%)	0553	0.0012	0.0001	0.0018	0.0012	0.0057	25	-0.53	221.00	0
221	Acid Soluble Copper (%)	0527	0.0012	0.0001	0.0018	0.0012	0.0057	25	-0.53	221.33	0
221	Acid Soluble Copper (%)	0220	0.0012	0.0001	0.0018	0.0012	0.0057	25	-0.53	221.99	0
221	Acid Soluble Copper (%)	0515	0.0012	0.0000	0.0018	0.0012	0.0057	25	-0.49	221.33	0
221	Acid Soluble Copper (%)	0368	0.0012	0.0000	0.0018	0.0012	0.0057	25	-0.49	221.99	0
221	Acid Soluble Copper (%)	0481	0.0012	0.0000	0.0018	0.0012	0.0057	25	-0.49	221.99	0
221	Acid Soluble Copper (%)	0498	0.0013	0.0001	0.0018	0.0012	0.0057	25	-0.44	221.00	0
221	Acid Soluble Copper (%)	0494	0.0013	0.0002	0.0018	0.0012	0.0057	25	-0.40	221.33	0
221	Acid Soluble Copper (%)	0515	0.0016	0.0001	0.0018	0.0012	0.0057	25	-0.19	221.99	0
221	Acid Soluble Copper (%)	0523	0.0020	0.0000	0.0018	0.0012	0.0057	25	0.20	221.99	0
221	Acid Soluble Copper (%)	0550	0.0027	0.0017	0.0018	0.0012	0.0057	25	0.75	221.00	0
221	Acid Soluble Copper (%)	0444	0.0030	0.0000	0.0018	0.0012	0.0057	25	1.05	221.30	0
221	Acid Soluble Copper (%)	0519	0.0100	0.0000	0.0018	0.0012	0.0057	25	7.05	221.99	0
221	Acid Soluble Copper (%)	0501	0.0120	0.0000	0.0018	0.0012	0.0057	25	8.76	221.99	0
221	Acid Soluble Copper (%)	0552	0.0500	0.0400	0.0018	0.0012	0.0057	25	41.28	221.30	0
221	Acid Soluble Copper (%)	0526	1.169	0.0000	0.0018	0.0012	0.0057	25	998.73	221.03	0
221	Acid Soluble Copper (%)	0405	10.45	0.1000	0.0018	0.0012	0.0057	25	8942.94	221.99	0
221	Acid Soluble Copper (%)	0389	6.810	0.2800	0.0018	0.0012	0.0057	25	5827.36	221.99	1
221	Acid Soluble Copper (%)	0117	< 0.0025		0.0018	0.0012	0.0057	25		221.33	5
221	Acid Soluble Copper (%)	0354	< 0.01		0.0018	0.0012	0.0057	25		221.30	5
221	Acid Soluble Copper (%)	0558	< 0.3		0.0018	0.0012	0.0057	25		221.99	5
221	Acid Soluble Copper (%)	0555	< 0.5		0.0018	0.0012	0.0057	25		221.33	5
241	Acid Soluble Iron (%)	0472	0.0800	0.0000	0.1158	0.0122	0.0049	20	-2.95	241.30	0
241	Acid Soluble Iron (%)	0389	0.0855	0.0006	0.1158	0.0122	0.0049	20	-2.50	241.99	0
241	Acid Soluble Iron (%)	0553	0.0970	0.0040	0.1158	0.0122	0.0049	20	-1.55	241.00	0
241	Acid Soluble Iron (%)	0515	0.1020	0.0020	0.1158	0.0122	0.0049	20	-1.14	241.33	0
241	Acid Soluble Iron (%)	0423	0.1095	0.0030	0.1158	0.0122	0.0049	20	-0.52	241.32	0
241	Acid Soluble Iron (%)	0035	0.1105	0.0150	0.1158	0.0122	0.0049	20	-0.44	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 (%)	0419	0.1110	0.0000	0.1158	0.0122	0.0049	20	-0.40	241.30	0
241	Acid Soluble Iron (%)	0028	0.1140	0.0040	0.1158	0.0122	0.0049	20	-0.15	241.32	0
241	Acid Soluble Iron (%)	0546	0.1145	0.0051	0.1158	0.0122	0.0049	20	-0.11	241.33	0
241	Acid Soluble Iron (%)	0096	0.1200	0.0000	0.1158	0.0122	0.0049	20	0.34	241.30	0
241	Acid Soluble Iron (%)	0354	0.1200	0.0000	0.1158	0.0122	0.0049	20	0.34	241.30	0
241	Acid Soluble Iron (%)	0482	0.1200	0.0000	0.1158	0.0122	0.0049	20	0.34	241.30	0
241	Acid Soluble Iron (%)	0117	0.1206	0.0037	0.1158	0.0122	0.0049	20	0.39	241.33	0
241	Acid Soluble Iron (%)	0515	0.1212	0.0215	0.1158	0.0122	0.0049	20	0.44	241.99	0
241	Acid Soluble Iron (%)	0086	0.1235	0.0005	0.1158	0.0122	0.0049	20	0.63	241.33	0
241	Acid Soluble Iron (%)	0041	0.1250	0.0100	0.1158	0.0122	0.0049	20	0.75	241.30	0
241	Acid Soluble Iron (%)	0483	0.1250	0.0120	0.1158	0.0122	0.0049	20	0.75	241.30	0
241	Acid Soluble Iron (%)	0527	0.1262	0.0004	0.1158	0.0122	0.0049	20	0.85	241.33	0
241	Acid Soluble Iron (%)	0494	0.1273	0.0053	0.1158	0.0122	0.0049	20	0.94	241.33	0
241	Acid Soluble Iron (%)	0421	0.1350	0.0100	0.1158	0.0122	0.0049	20	1.58	241.33	0
241	Acid Soluble Iron (%)	0552	0.2750	0.1700	0.1158	0.0122	0.0049	20	13.09	241.30	1
241	Acid Soluble Iron (%)	0027	< 0.005		0.1158	0.0122	0.0049	20		241.99	5
251	Acid Soluble Lead (ppm)	0389	0.3450	0.0020	0.7232	0.3938	0.4074	11	-0.96	251.30	0
251	Acid Soluble Lead (ppm)	0255	0.3575	0.2530	0.7232	0.3938	0.4074	11	-0.93	251.30	0
251	Acid Soluble Lead (ppm)	0520	0.3800	0.0000	0.7232	0.3938	0.4074	11	-0.87	251.99	0
251	Acid Soluble Lead (ppm)	0550	0.5780	0.1880	0.7232	0.3938	0.4074	11	-0.37	251.00	0
251	Acid Soluble Lead (ppm)	0501	0.6355	0.0070	0.7232	0.3938	0.4074	11	-0.22	251.30	0
251	Acid Soluble Lead (ppm)	0481	0.6450	0.0100	0.7232	0.3938	0.4074	11	-0.20	251.99	0
251	Acid Soluble Lead (ppm)	0527	0.6868	0.0168	0.7232	0.3938	0.4074	11	-0.09	251.33	0
251	Acid Soluble Lead (ppm)	0405	0.7000	0.2000	0.7232	0.3938	0.4074	11	-0.06	251.30	0
251	Acid Soluble Lead (ppm)	0220	1.000	0.2000	0.7232	0.3938	0.4074	11	0.70	251.99	0
251	Acid Soluble Lead (ppm)	0515	2.384	3.585	0.7232	0.3938	0.4074	11	4.22	251.33	0
251	Acid Soluble Lead (ppm)	0519	2.650	0.0200	0.7232	0.3938	0.4074	11	4.89	251.99	0
251	Acid Soluble Lead (ppm)	0368	18.36	9.267	0.7232	0.3938	0.4074	11	44.79	251.34	1
251	Acid Soluble Lead (ppm)	0515	0.0000	0.0000	0.7232	0.3938	0.4074	11		251.34	4
251	Acid Soluble Lead (ppm)	0526	< 0.016		0.7232	0.3938	0.4074	11		251.00	5
251	Acid Soluble Lead (ppm)	0555	< 0.5		0.7232	0.3938	0.4074	11		251.30	5
251	Acid Soluble Lead (ppm)	0096	< 1		0.7232	0.3938	0.4074	11		251.30	5
251	Acid Soluble Lead (ppm)	0117	< 5		0.7232	0.3938	0.4074	11		251.33	5
261	Acid Soluble Manganese (%)	0389	0.0031	0.0000	0.0037	0.0004	0.0001	11	-1.39	261.99	0
261	Acid Soluble Manganese (%)	0515	0.0031	0.0002	0.0037	0.0004	0.0001	11	-1.39	261.99	0
261	Acid Soluble Manganese (%)	0028	0.0035	0.0000	0.0037	0.0004	0.0001	11	-0.46	261.34	0
261	Acid Soluble Manganese (%)	0546	0.0036	0.0003	0.0037	0.0004	0.0001	11	-0.35	261.35	0
261	Acid Soluble Manganese (%)	0096	0.0037	0.0000	0.0037	0.0004	0.0001	11	0.00	261.30	0
261	Acid Soluble Manganese (%)	0086	0.0037	0.0000	0.0037	0.0004	0.0001	11	0.00	261.33	0
261	Acid Soluble Manganese (%)	0527	0.0038	0.0000	0.0037	0.0004	0.0001	11	0.23	261.35	0
261	Acid Soluble Manganese (%)	0423	0.0039	0.0003	0.0037	0.0004	0.0001	11	0.35	261.34	0
261	Acid Soluble Manganese (%)	0041	0.0040	0.0000	0.0037	0.0004	0.0001	11	0.70	261.32	0
261	Acid Soluble Manganese (%)	0494	0.0041	0.0001	0.0037	0.0004	0.0001	11	0.81	261.35	0
261	Acid Soluble Manganese (%)	0553	0.0054	0.0001	0.0037	0.0004	0.0001	11	3.83	261.00	0
261	Acid Soluble Manganese (%)	0035	0.0037	0.0005	0.0037	0.0004	0.0001	11	-0.12	261.30	1
261	Acid Soluble Manganese (%)	0552	0.0800	0.0000	0.0037	0.0004	0.0001	11	177.02	261.32	2
261	Acid Soluble Manganese (%)	0515	0.0000	0.0000	0.0037	0.0004	0.0001	11		261.35	4

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 Manganese (%)	0117	< 0.005		0.0037	0.0004	0.0001	11		261.35	5
261	Acid Soluble Manganese (%)	0354	< 0.01		0.0037	0.0004	0.0001	11		261.30	5
281	Acid Soluble Mercury (ppm)	0519	0.0100	0.0000	0.0681	0.0500	0.0057	8	-1.06	281.99	0
281	Acid Soluble Mercury (ppm)	0550	0.0293	0.0093	0.0681	0.0500	0.0057	8	-0.71	281.00	0
281	Acid Soluble Mercury (ppm)	0405	0.0350	0.0100	0.0681	0.0500	0.0057	8	-0.61	281.30	0
281	Acid Soluble Mercury (ppm)	0368	0.0648	0.0012	0.0681	0.0500	0.0057	8	-0.06	281.99	0
281	Acid Soluble Mercury (ppm)	0035	0.0681	0.0007	0.0681	0.0500	0.0057	8	0.00	281.00	0
281	Acid Soluble Mercury (ppm)	0220	0.0850	0.0100	0.0681	0.0500	0.0057	8	0.31	281.99	0
281	Acid Soluble Mercury (ppm)	0527	0.1096	0.0047	0.0681	0.0500	0.0057	8	0.76	281.30	0
281	Acid Soluble Mercury (ppm)	0520	0.1850	0.0100	0.0681	0.0500	0.0057	8	2.14	281.99	0
281	Acid Soluble Mercury (ppm)	0515	0.0000	0.0000	0.0681	0.0500	0.0057	8		281.30	4
281	Acid Soluble Mercury (ppm)	0481	< 0.5		0.0681	0.0500	0.0057	8		281.99	5
281	Acid Soluble Mercury (ppm)	0526	< 60		0.0681	0.0500	0.0057	8		281.00	5
289	Acid Soluble Molybdenum (ppm)	0520	0.3400	0.0400	1.416	0.6802	0.3706	14	-1.58	289.99	0
289	Acid Soluble Molybdenum (ppm)	0433	0.7344	0.0069	1.416	0.6802	0.3706	14	-1.00	289.30	0
289	Acid Soluble Molybdenum (ppm)	0550	0.9485	0.0550	1.416	0.6802	0.3706	14	-0.69	289.00	0
289	Acid Soluble Molybdenum (ppm)	0220	1.050	0.3000	1.416	0.6802	0.3706	14	-0.54	289.99	0
289	Acid Soluble Molybdenum (ppm)	0546	1.056	0.3560	1.416	0.6802	0.3706	14	-0.53	289.33	0
289	Acid Soluble Molybdenum (ppm)	0086	1.119	0.0220	1.416	0.6802	0.3706	14	-0.44	289.33	0
289	Acid Soluble Molybdenum (ppm)	0035	1.340	0.4800	1.416	0.6802	0.3706	14	-0.11	289.30	0
289	Acid Soluble Molybdenum (ppm)	0405	1.495	0.0900	1.416	0.6802	0.3706	14	0.12	289.30	0
289	Acid Soluble Molybdenum (ppm)	0527	1.513	0.0794	1.416	0.6802	0.3706	14	0.14	289.33	0
289	Acid Soluble Molybdenum (ppm)	0501	1.569	0.0180	1.416	0.6802	0.3706	14	0.22	289.34	0
289	Acid Soluble Molybdenum (ppm)	0526	1.678	0.0000	1.416	0.6802	0.3706	14	0.39	289.00	0
289	Acid Soluble Molybdenum (ppm)	0255	2.053	2.096	1.416	0.6802	0.3706	14	0.94	289.30	0
289	Acid Soluble Molybdenum (ppm)	0368	4.862	1.635	1.416	0.6802	0.3706	14	5.07	289.34	0
289	Acid Soluble Molybdenum (ppm)	0519	20.01	0.0100	1.416	0.6802	0.3706	14	27.33	289.30	0
289	Acid Soluble Molybdenum (ppm)	0515	3.105	3.622	1.416	0.6802	0.3706	14	2.48	289.34	1
289	Acid Soluble Molybdenum (ppm)	0515	0.0000	0.0000	1.416	0.6802	0.3706	14		289.33	4
289	Acid Soluble Molybdenum (ppm)	0555	< 0.5		1.416	0.6802	0.3706	14		289.30	5
289	Acid Soluble Molybdenum (ppm)	0117	< 5		1.416	0.6802	0.3706	14		289.33	5
289	Acid Soluble Molybdenum (ppm)	0481	< 60		1.416	0.6802	0.3706	14		289.99	5
291	Acid Soluble Nickel (ppm)	0520	1.130	0.0200	2.965	1.203	0.4409	14	-1.53	291.99	0
291	Acid Soluble Nickel (ppm)	0515	1.667	0.5260	2.965	1.203	0.4409	14	-1.08	291.33	0
291	Acid Soluble Nickel (ppm)	0368	2.083	0.6823	2.965	1.203	0.4409	14	-0.73	291.34	0
291	Acid Soluble Nickel (ppm)	0482	2.115	0.2900	2.965	1.203	0.4409	14	-0.71	291.30	0
291	Acid Soluble Nickel (ppm)	0389	2.324	0.1030	2.965	1.203	0.4409	14	-0.53	291.30	0
291	Acid Soluble Nickel (ppm)	0035	2.420	1.320	2.965	1.203	0.4409	14	-0.45	291.30	0
291	Acid Soluble Nickel (ppm)	0255	2.915	0.3410	2.965	1.203	0.4409	14	-0.04	291.99	0
291	Acid Soluble Nickel (ppm)	0444	3.145	0.0300	2.965	1.203	0.4409	14	0.15	291.30	0
291	Acid Soluble Nickel (ppm)	0405	3.250	0.7000	2.965	1.203	0.4409	14	0.24	291.30	0
291	Acid Soluble Nickel (ppm)	0519	3.560	0.0000	2.965	1.203	0.4409	14	0.49	291.99	0
291	Acid Soluble Nickel (ppm)	0096	3.600	0.4000	2.965	1.203	0.4409	14	0.53	291.30	0
291	Acid Soluble Nickel (ppm)	0527	4.099	0.3360	2.965	1.203	0.4409	14	0.94	291.33	0
291	Acid Soluble Nickel (ppm)	0220	4.400	1.200	2.965	1.203	0.4409	14	1.19	291.99	0
291	Acid Soluble Nickel (ppm)	0494	4.929	0.2240	2.965	1.203	0.4409	14	1.63	291.33	0
291	Acid Soluble Nickel (ppm)	0515	1.923	2.086	2.965	1.203	0.4409	14	-0.87	291.34	1

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 Nickel (ppm)	0555	< 0.5		2.965	1.203	0.4409	14		291.30	5
291	Acid Soluble Nickel (ppm)	0550	< 0.6		2.965	1.203	0.4409	14		291.00	5
291	Acid Soluble Nickel (ppm)	0117	< 5		2.965	1.203	0.4409	14		291.33	5
291	Acid Soluble Nickel (ppm)	0481	< 5		2.965	1.203	0.4409	14		291.99	5
301	Acid Soluble Selenium (ppm)	0550	0.0506	0.0000	2.896	2.391	0.3763	13	-1.19	301.00	0
301	Acid Soluble Selenium (ppm)	0498	0.3000	0.0000	2.896	2.391	0.3763	13	-1.09	301.00	0
301	Acid Soluble Selenium (ppm)	0220	0.7000	0.0000	2.896	2.391	0.3763	13	-0.92	301.99	0
301	Acid Soluble Selenium (ppm)	0520	1.110	0.0200	2.896	2.391	0.3763	13	-0.75	301.99	0
301	Acid Soluble Selenium (ppm)	0515	1.766	1.563	2.896	2.391	0.3763	13	-0.47	301.33	0
301	Acid Soluble Selenium (ppm)	0527	2.900	0.2119	2.896	2.391	0.3763	13	0.00	301.33	0
301	Acid Soluble Selenium (ppm)	0515	3.029	0.0270	2.896	2.391	0.3763	13	0.06	301.34	0
301	Acid Soluble Selenium (ppm)	0519	3.375	0.0100	2.896	2.391	0.3763	13	0.20	301.99	0
301	Acid Soluble Selenium (ppm)	0389	3.400	0.1600	2.896	2.391	0.3763	13	0.21	301.30	0
301	Acid Soluble Selenium (ppm)	0255	3.552	1.310	2.896	2.391	0.3763	13	0.27	301.99	0
301	Acid Soluble Selenium (ppm)	0405	4.500	1.000	2.896	2.391	0.3763	13	0.67	301.30	0
301	Acid Soluble Selenium (ppm)	0494	6.629	0.5909	2.896	2.391	0.3763	13	1.56	301.33	0
301	Acid Soluble Selenium (ppm)	0526	7.027	0.0000	2.896	2.391	0.3763	13	1.73	301.00	0
301	Acid Soluble Selenium (ppm)	0555	< 0.5		2.896	2.391	0.3763	13		301.30	5
301	Acid Soluble Selenium (ppm)	0368	< 1.2		2.896	2.391	0.3763	13		301.34	5
311	Sodium (%)	0520	0.0400	0.0000	1.513	0.1818	0.0405	27	-8.10	311.99	0
311	Sodium (%)	0555	1.051	0.0096	1.513	0.1818	0.0405	27	-2.54	311.33	0
311	Sodium (%)	0220	1.210	0.0600	1.513	0.1818	0.0405	27	-1.67	311.33	0
311	Sodium (%)	0255	1.271	0.1140	1.513	0.1818	0.0405	27	-1.33	311.99	0
311	Sodium (%)	0444	1.320	0.0000	1.513	0.1818	0.0405	27	-1.06	311.33	0
311	Sodium (%)	0136	1.325	0.1700	1.513	0.1818	0.0405	27	-1.04	311.33	0
311	Sodium (%)	0368	1.444	0.0284	1.513	0.1818	0.0405	27	-0.38	311.99	0
311	Sodium (%)	0405	1.475	0.0500	1.513	0.1818	0.0405	27	-0.21	311.99	0
311	Sodium (%)	0043	1.485	0.0100	1.513	0.1818	0.0405	27	-0.16	311.33	0
311	Sodium (%)	0481	1.490	0.0200	1.513	0.1818	0.0405	27	-0.13	311.99	0
311	Sodium (%)	0444	1.500	0.0400	1.513	0.1818	0.0405	27	-0.07	311.99	0
311	Sodium (%)	0546	1.502	0.1101	1.513	0.1818	0.0405	27	-0.06	311.33	0
311	Sodium (%)	0558	1.505	0.0100	1.513	0.1818	0.0405	27	-0.05	311.99	0
311	Sodium (%)	0034	1.507	0.0030	1.513	0.1818	0.0405	27	-0.04	311.33	0
311	Sodium (%)	0086	1.522	0.0180	1.513	0.1818	0.0405	27	0.05	311.33	0
311	Sodium (%)	0419	1.533	0.0430	1.513	0.1818	0.0405	27	0.11	311.32	0
311	Sodium (%)	0035	1.560	0.0200	1.513	0.1818	0.0405	27	0.26	311.33	0
311	Sodium (%)	0423	1.575	0.0100	1.513	0.1818	0.0405	27	0.34	311.33	0
311	Sodium (%)	0494	1.601	0.0579	1.513	0.1818	0.0405	27	0.48	311.33	0
311	Sodium (%)	0482	1.605	0.0700	1.513	0.1818	0.0405	27	0.50	311.99	0
311	Sodium (%)	0354	1.620	0.0000	1.513	0.1818	0.0405	27	0.59	311.99	0
311	Sodium (%)	0117	1.624	0.0010	1.513	0.1818	0.0405	27	0.61	311.33	0
311	Sodium (%)	0527	1.653	0.0277	1.513	0.1818	0.0405	27	0.77	311.33	0
311	Sodium (%)	0096	1.695	0.0300	1.513	0.1818	0.0405	27	1.00	311.99	0
311	Sodium (%)	0519	1.755	0.0300	1.513	0.1818	0.0405	27	1.33	311.99	0
311	Sodium (%)	0486	1.860	0.0600	1.513	0.1818	0.0405	27	1.91	311.33	0
311	Sodium (%)	0526	3.685	0.1020	1.513	0.1818	0.0405	27	11.95	311.30	0
311	Sodium (%)	0550	1.445	0.2100	1.513	0.1818	0.0405	27	-0.38	311.00	1

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 Zinc (%)	0519	0.0100	0.0000	0.0188	0.0020	0.0383	36	-4.31	321.99	0
321	Acid Soluble Zinc (%)	0255	0.0160	0.0000	0.0188	0.0020	0.0383	36	-1.37	321.30	0
321	Acid Soluble Zinc (%)	0368	0.0169	0.0002	0.0188	0.0020	0.0383	36	-0.93	321.99	0
321	Acid Soluble Zinc (%)	0515	0.0170	0.0013	0.0188	0.0020	0.0383	36	-0.91	321.33	0
321	Acid Soluble Zinc (%)	0498	0.0170	0.0000	0.0188	0.0020	0.0383	36	-0.88	321.00	0
321	Acid Soluble Zinc (%)	0433	0.0170	0.0000	0.0188	0.0020	0.0383	36	-0.88	321.30	0
321	Acid Soluble Zinc (%)	0389	0.0170	0.0000	0.0188	0.0020	0.0383	36	-0.88	321.99	0
321	Acid Soluble Zinc (%)	0481	0.0170	0.0000	0.0188	0.0020	0.0383	36	-0.88	321.99	0
321	Acid Soluble Zinc (%)	0515	0.0173	0.0009	0.0188	0.0020	0.0383	36	-0.76	321.99	0
321	Acid Soluble Zinc (%)	0546	0.0174	0.0013	0.0188	0.0020	0.0383	36	-0.71	321.33	0
321	Acid Soluble Zinc (%)	0028	0.0175	0.0002	0.0188	0.0020	0.0383	36	-0.64	321.32	0
321	Acid Soluble Zinc (%)	0220	0.0175	0.0010	0.0188	0.0020	0.0383	36	-0.64	321.99	0
321	Acid Soluble Zinc (%)	0558	0.0175	0.0010	0.0188	0.0020	0.0383	36	-0.64	321.99	0
321	Acid Soluble Zinc (%)	0043	0.0178	0.0001	0.0188	0.0020	0.0383	36	-0.52	321.33	0
321	Acid Soluble Zinc (%)	0444	0.0180	0.0000	0.0188	0.0020	0.0383	36	-0.39	321.30	0
321	Acid Soluble Zinc (%)	0501	0.0180	0.0000	0.0188	0.0020	0.0383	36	-0.39	321.99	0
321	Acid Soluble Zinc (%)	0483	0.0180	0.0002	0.0188	0.0020	0.0383	36	-0.39	321.30	0
321	Acid Soluble Zinc (%)	0086	0.0184	0.0013	0.0188	0.0020	0.0383	36	-0.22	321.33	0
321	Acid Soluble Zinc (%)	0527	0.0186	0.0001	0.0188	0.0020	0.0383	36	-0.13	321.33	0
321	Acid Soluble Zinc (%)	0035	0.0187	0.0021	0.0188	0.0020	0.0383	36	-0.08	321.30	0
321	Acid Soluble Zinc (%)	0523	0.0190	0.0020	0.0188	0.0020	0.0383	36	0.09	321.99	0
321	Acid Soluble Zinc (%)	0096	0.0199	0.0004	0.0188	0.0020	0.0383	36	0.53	321.30	0
321	Acid Soluble Zinc (%)	0553	0.0200	0.0002	0.0188	0.0020	0.0383	36	0.58	321.00	0
321	Acid Soluble Zinc (%)	0292	0.0200	0.0000	0.0188	0.0020	0.0383	36	0.58	321.30	0
321	Acid Soluble Zinc (%)	0354	0.0200	0.0000	0.0188	0.0020	0.0383	36	0.58	321.30	0
321	Acid Soluble Zinc (%)	0472	0.0200	0.0000	0.0188	0.0020	0.0383	36	0.58	321.30	0
321	Acid Soluble Zinc (%)	0482	0.0200	0.0000	0.0188	0.0020	0.0383	36	0.58	321.30	0
321	Acid Soluble Zinc (%)	0421	0.0200	0.0000	0.0188	0.0020	0.0383	36	0.58	321.33	0
321	Acid Soluble Zinc (%)	0526	0.0201	0.0000	0.0188	0.0020	0.0383	36	0.63	321.03	0
321	Acid Soluble Zinc (%)	0555	0.0202	0.0002	0.0188	0.0020	0.0383	36	0.68	321.33	0
321	Acid Soluble Zinc (%)	0423	0.0205	0.0010	0.0188	0.0020	0.0383	36	0.83	321.32	0
321	Acid Soluble Zinc (%)	0550	0.0250	0.0090	0.0188	0.0020	0.0383	36	3.03	321.00	0
321	Acid Soluble Zinc (%)	0041	0.0250	0.0100	0.0188	0.0020	0.0383	36	3.03	321.30	0
321	Acid Soluble Zinc (%)	0027	0.1585	0.0150	0.0188	0.0020	0.0383	36	68.34	321.99	0
321	Acid Soluble Zinc (%)	0552	0.2050	0.3300	0.0188	0.0020	0.0383	36	91.09	321.30	0
321	Acid Soluble Zinc (%)	0136	157.5	1.000	0.0188	0.0020	0.0383	36	77046.62	321.33	0
321	Acid Soluble Zinc (%)	0405	169.0	10.00	0.0188	0.0020	0.0383	36	82672.92	321.99	1
321	Acid Soluble Zinc (%)	0494	199.7	6.271	0.0188	0.0020	0.0383	36	97674.83	321.33	1
321	Acid Soluble Zinc (%)	0117	< 0.02		0.0188	0.0020	0.0383	36		321.33	5
325	Water Soluble Zinc (%)	0027	< 0.005					0		325.00	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.