

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 190211

Grade 14-14-14

Statistical Summary

Analytes: 34

Labs Reporting: 94

Issue Date : 03/31/2019

Analyte Code	Analyte Sample # 190211	# 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)	Honwitz %RSD
001	Ammoniacal Nitrogen (%)	33	32	13.82	0.3796	13.79		0.2936	0.0649	2.13%		0.0786	2.69%
010	Total Nitrogen (14%)	76	74	13.83	0.2136	13.84	0.6284	0.1884	0.0274	1.36%	0.70	0.1231	2.69%
020	Total Phosphorus as P2O5 (%)	52	51	14.46	0.4884	14.50		0.3982	0.0697	2.75%		0.2076	2.67%
030	Citrate Insoluble Phosphorus as P2O5 (%)	3	3	5.065	8.634	5.065		8.634	6.231	170.47%		0.0633	3.13%
040	Indirect Available Phosphorus as P2O5 (14%)	2	2	14.72	0.0177								
041	Direct Available Phosphorus as P2O5 (14%)	48	47	14.44	0.4036	14.45	0.7000	0.3544	0.0646	2.45%	1.18	0.1531	2.68%
048	Water Soluble Phosphorus as P2O5 (%)	6	6	13.25	0.7777	13.14		0.6092	0.3109	4.64%		0.1712	2.71%
050	Soluble Potassium as K2O (14%)	90	87	14.32	0.7058	14.38	0.8834	0.4507	0.0604	3.13%	1.19	0.1654	2.68%
060	Water (Free) (%)	6	6	1.016	0.5789	0.8232		0.1383	0.0706	16.80%		0.0516	4.12%
101	Acid Soluble Calcium (%)	13	11	0.3289	0.1413	0.2956	0.2148	0.0717	0.0270	24.26%	0.78	0.0202	4.81%
121	Acid Soluble Magnesium (1%)	46	45	0.7056	0.7749	0.5771	0.2289	0.0484	0.0090	8.40%	0.49	0.0228	4.34%
131	Water Soluble Magnesium (%)	14	14	0.4651	0.2966	0.4531		0.3084	0.1030	68.06%		0.0186	4.51%
143	Elemental Sulfur (%)	5	5	7.793	4.397	7.793		4.397	2.458	56.41%		0.2176	2.94%
145	Sulfate Sulfur, HCl soluble (%)	14	13	10.09	0.7570	10.18		0.6486	0.2249	6.37%		0.0754	2.82%
148	Total Sulfur (7.75%)	48	44	10.30	0.6687	10.40	0.7198	0.3693	0.0696	3.55%	1.20	0.1431	2.81%
149	Sulfur - HNO3 soluble (%)	3	3	9.528	1.671	9.528		1.671	1.206	17.54%		0.1139	2.85%
151	Acid Soluble Arsenic (ppm)	21	20	150.4	23.12	150.8		25.11	7.018	16.64%		4.507	7.52%
165	Acid Soluble Boron (0.2%)	48	47	0.2022	0.0178	0.2033	0.0335	0.0163	0.0030	8.02%	1.13	0.0061	5.08%
171	Water Soluble Boron (%)	15	15	0.1943	0.0160	0.1965		0.0131	0.0042	6.69%		0.0031	5.11%
181	Acid Soluble Cadmium (ppm)	27	27	190.4	45.44	188.2		27.18	6.539	14.45%		9.334	7.27%
191	Acid Soluble Chromium (ppm)	25	24	581.9	119.3	574.3		102.9	26.26	17.92%		15.05	6.15%
202	Acid Soluble Cobalt (ppm)	24	23	351.9	67.27	351.8	106.5414	59.11	15.41	16.80%	1.29	9.482	6.62%
221	Acid Soluble Copper (0.06%)	51	49	0.1234	0.0283	0.1281	0.0178	0.0141	0.0025	11.00%	1.84	0.0054	5.45%
241	Acid Soluble Iron (1%)	52	51	0.6274	0.1526	0.6416	0.0692	0.0969	0.0170	15.11%	3.27	0.0271	4.28%
251	Acid Soluble Lead (ppm)	24	23	878.8	193.2	876.7		189.4	49.37	21.60%		32.70	5.77%
261	Acid Soluble Manganese (0.16%)	54	52	0.1561	0.0235	0.1590	0.0209	0.0158	0.0027	9.96%	1.77	0.0073	5.28%
271	Water Soluble Manganese (%)	7	7	0.0245	0.0321	0.0151		0.0102	0.0048	67.33%		0.0010	7.51%
281	Acid Soluble Mercury (ppm)	9	8	29.73	15.85	29.73		17.98	7.946	60.48%		0.9134	9.60%
289	Acid Soluble Molybdenum (50ppm)	26	25	815.6	321.0	828.3	249.4850	138.1	34.52	16.67%	1.29	20.81	5.82%
291	Acid Soluble Nickel (ppm)	23	22	13.35	2.265	13.46		2.284	0.6087	16.97%		0.9788	10.82%
301	Acid Soluble Selenium (ppm)	14	12	291.6	57.66	291.6		65.39	23.60	22.42%		8.023	6.81%

Analyte Code	Analyte Sample # 190211	# 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)	Howitz %RSD
311	Sodium (%)	6	6	0.4372	0.0529	0.4374	0.0487	0.0595	0.0303	13.59%	2.84	0.0087	4.53%
321	Acid Soluble Zinc (0.13%)	56	55	0.1879	0.0258	0.1873	0.0237	0.0140	0.0024	7.49%	1.38	0.0106	5.15%
325	Water Soluble Zinc (%)	8	7	0.0239	0.0407	0.0189		0.0338	0.0160	179.21%		0.0016	7.27%

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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Analyte Proficiency From All Labs

Analytes: 34

Sample # 190211

Lab Values

Labs Reporting: 94

Grade 14-14-14

Issue Date : 03/31/2019

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 (%)	0200	13.14	0.0100	13.79	0.2936	0.0786	32	-2.23	001.99	0
001	Ammoniacal Nitrogen (%)	0231	13.34	0.0100	13.79	0.2936	0.0786	32	-1.55	001.10	0
001	Ammoniacal Nitrogen (%)	0394	13.37	0.0090	13.79	0.2936	0.0786	32	-1.44	001.99	0
001	Ammoniacal Nitrogen (%)	0451	13.48	0.0400	13.79	0.2936	0.0786	32	-1.05	001.10	0
001	Ammoniacal Nitrogen (%)	0027	13.49	0.0200	13.79	0.2936	0.0786	32	-1.02	001.99	0
001	Ammoniacal Nitrogen (%)	0177	13.49	0.0139	13.79	0.2936	0.0786	32	-1.01	001.10	0
001	Ammoniacal Nitrogen (%)	0169	13.54	0.0100	13.79	0.2936	0.0786	32	-0.87	001.10	0
001	Ammoniacal Nitrogen (%)	0513	13.54	0.0700	13.79	0.2936	0.0786	32	-0.87	001.99	0
001	Ammoniacal Nitrogen (%)	0169	13.57	0.0400	13.79	0.2936	0.0786	32	-0.75	001.99	0
001	Ammoniacal Nitrogen (%)	0476	13.58	0.2101	13.79	0.2936	0.0786	32	-0.72	001.99	0
001	Ammoniacal Nitrogen (%)	0506	13.60	0.2000	13.79	0.2936	0.0786	32	-0.64	001.99	0
001	Ammoniacal Nitrogen (%)	0522	13.62	0.0200	13.79	0.2936	0.0786	32	-0.58	001.99	0
001	Ammoniacal Nitrogen (%)	0096	13.72	0.0500	13.79	0.2936	0.0786	32	-0.25	001.99	0
001	Ammoniacal Nitrogen (%)	0405	13.74	0.0300	13.79	0.2936	0.0786	32	-0.18	001.99	0
001	Ammoniacal Nitrogen (%)	0456	13.80	0.2400	13.79	0.2936	0.0786	32	0.04	001.10	0
001	Ammoniacal Nitrogen (%)	0556	13.81	0.0900	13.79	0.2936	0.0786	32	0.05	001.99	0
001	Ammoniacal Nitrogen (%)	0510	13.84	0.0700	13.79	0.2936	0.0786	32	0.16	001.99	0
001	Ammoniacal Nitrogen (%)	0549	13.90	0.1000	13.79	0.2936	0.0786	32	0.38	001.99	0
001	Ammoniacal Nitrogen (%)	0535	13.91	0.0200	13.79	0.2936	0.0786	32	0.41	001.99	0
001	Ammoniacal Nitrogen (%)	0498	13.95	0.1000	13.79	0.2936	0.0786	32	0.55	001.10	0
001	Ammoniacal Nitrogen (%)	0544	13.96	0.0800	13.79	0.2936	0.0786	32	0.58	001.99	0
001	Ammoniacal Nitrogen (%)	0545	13.99	0.0800	13.79	0.2936	0.0786	32	0.68	001.99	0
001	Ammoniacal Nitrogen (%)	0538	14.00	0.1000	13.79	0.2936	0.0786	32	0.72	001.99	0
001	Ammoniacal Nitrogen (%)	0444	14.01	0.2100	13.79	0.2936	0.0786	32	0.74	001.10	0
001	Ammoniacal Nitrogen (%)	0536	14.03	0.0800	13.79	0.2936	0.0786	32	0.82	001.99	0
001	Ammoniacal Nitrogen (%)	0524	14.04	0.0112	13.79	0.2936	0.0786	32	0.87	001.99	0
001	Ammoniacal Nitrogen (%)	0368	14.05	0.0310	13.79	0.2936	0.0786	32	0.88	001.99	0
001	Ammoniacal Nitrogen (%)	0550	14.05	0.0000	13.79	0.2936	0.0786	32	0.89	001.99	0
001	Ammoniacal Nitrogen (%)	0537	14.09	0.3600	13.79	0.2936	0.0786	32	1.02	001.99	0
001	Ammoniacal Nitrogen (%)	0416	14.10	0.0500	13.79	0.2936	0.0786	32	1.04	001.99	0
001	Ammoniacal Nitrogen (%)	0519	14.10	0.0100	13.79	0.2936	0.0786	32	1.04	001.99	0
001	Ammoniacal Nitrogen (%)	0553	15.33	0.1500	13.79	0.2936	0.0786	32	5.23	001.99	0
001	Ammoniacal Nitrogen (%)	0540	13.59	0.5800	13.79	0.2936	0.0786	32	-0.68	001.99	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				
010	Total Nitrogen (14%)	0481	13.24	0.0500	13.84	0.1884	0.1231	74	-3.21	010.99	0
010	Total Nitrogen (14%)	0117	13.30	0.0000	13.84	0.1884	0.1231	74	-2.87	010.60	0
010	Total Nitrogen (14%)	0394	13.37	0.0090	13.84	0.1884	0.1231	74	-2.51	010.99	0
010	Total Nitrogen (14%)	0521	13.39	0.3100	13.84	0.1884	0.1231	74	-2.42	010.60	0
010	Total Nitrogen (14%)	0371	13.49	0.0100	13.84	0.1884	0.1231	74	-1.89	010.99	0
010	Total Nitrogen (14%)	0540	13.53	0.0900	13.84	0.1884	0.1231	74	-1.67	010.11	0
010	Total Nitrogen (14%)	0472	13.58	0.0300	13.84	0.1884	0.1231	74	-1.41	010.60	0
010	Total Nitrogen (14%)	0028	13.60	0.1500	13.84	0.1884	0.1231	74	-1.30	010.60	0
010	Total Nitrogen (14%)	0027	13.60	0.0000	13.84	0.1884	0.1231	74	-1.27	010.60	0
010	Total Nitrogen (14%)	0506	13.60	0.2000	13.84	0.1884	0.1231	74	-1.27	010.99	0
010	Total Nitrogen (14%)	0356	13.62	0.0800	13.84	0.1884	0.1231	74	-1.17	010.60	0
010	Total Nitrogen (14%)	0525	13.64	0.2690	13.84	0.1884	0.1231	74	-1.05	010.60	0
010	Total Nitrogen (14%)	0389	13.65	0.0500	13.84	0.1884	0.1231	74	-1.04	010.60	0
010	Total Nitrogen (14%)	0482	13.65	0.1000	13.84	0.1884	0.1231	74	-1.01	010.60	0
010	Total Nitrogen (14%)	0351	13.68	0.2000	13.84	0.1884	0.1231	74	-0.85	010.60	0
010	Total Nitrogen (14%)	0230	13.70	0.0000	13.84	0.1884	0.1231	74	-0.74	010.60	0
010	Total Nitrogen (14%)	0234	13.70	0.2000	13.84	0.1884	0.1231	74	-0.74	010.60	0
010	Total Nitrogen (14%)	0043	13.72	0.0800	13.84	0.1884	0.1231	74	-0.64	010.60	0
010	Total Nitrogen (14%)	0136	13.73	0.0200	13.84	0.1884	0.1231	74	-0.58	010.60	0
010	Total Nitrogen (14%)	0300	13.73	0.1000	13.84	0.1884	0.1231	74	-0.58	010.99	0
010	Total Nitrogen (14%)	0105	13.74	0.0700	13.84	0.1884	0.1231	74	-0.56	010.11	0
010	Total Nitrogen (14%)	0105	13.75	0.0100	13.84	0.1884	0.1231	74	-0.51	010.60	0
010	Total Nitrogen (14%)	0292	13.75	0.0200	13.84	0.1884	0.1231	74	-0.48	010.60	0
010	Total Nitrogen (14%)	0451	13.76	0.6200	13.84	0.1884	0.1231	74	-0.43	010.60	0
010	Total Nitrogen (14%)	0073	13.76	0.1000	13.84	0.1884	0.1231	74	-0.43	010.60	0
010	Total Nitrogen (14%)	0527	13.78	0.0620	13.84	0.1884	0.1231	74	-0.35	010.60	0
010	Total Nitrogen (14%)	0177	13.79	0.0400	13.84	0.1884	0.1231	74	-0.27	010.60	0
010	Total Nitrogen (14%)	0481	13.80	0.0500	13.84	0.1884	0.1231	74	-0.24	010.60	0
010	Total Nitrogen (14%)	0325	13.80	0.8000	13.84	0.1884	0.1231	74	-0.21	010.60	0
010	Total Nitrogen (14%)	0523	13.80	0.0000	13.84	0.1884	0.1231	74	-0.21	010.60	0
010	Total Nitrogen (14%)	0095	13.82	0.1000	13.84	0.1884	0.1231	74	-0.11	010.60	0
010	Total Nitrogen (14%)	0096	13.84	0.0100	13.84	0.1884	0.1231	74	-0.03	010.60	0
010	Total Nitrogen (14%)	0360	13.84	0.0500	13.84	0.1884	0.1231	74	-0.03	010.60	0
010	Total Nitrogen (14%)	0501	13.85	0.0100	13.84	0.1884	0.1231	74	0.03	010.60	0
010	Total Nitrogen (14%)	0169	13.85	0.0420	13.84	0.1884	0.1231	74	0.04	010.60	0
010	Total Nitrogen (14%)	0421	13.85	0.1800	13.84	0.1884	0.1231	74	0.05	010.60	0
010	Total Nitrogen (14%)	0024	13.85	0.1000	13.84	0.1884	0.1231	74	0.05	010.60	0
010	Total Nitrogen (14%)	0547	13.86	0.0100	13.84	0.1884	0.1231	74	0.08	010.60	0
010	Total Nitrogen (14%)	0456	13.86	0.2800	13.84	0.1884	0.1231	74	0.11	010.11	0
010	Total Nitrogen (14%)	0405	13.86	0.0400	13.84	0.1884	0.1231	74	0.11	010.60	0
010	Total Nitrogen (14%)	0042	13.87	0.0300	13.84	0.1884	0.1231	74	0.13	010.60	0
010	Total Nitrogen (14%)	0231	13.87	0.0400	13.84	0.1884	0.1231	74	0.16	010.60	0
010	Total Nitrogen (14%)	0377	13.88	0.2900	13.84	0.1884	0.1231	74	0.18	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 (14%)	0483	13.88	0.0500	13.84	0.1884	0.1231	74	0.18	010.60	0
010	Total Nitrogen (14%)	0354	13.88	0.0200	13.84	0.1884	0.1231	74	0.23	010.60	0
010	Total Nitrogen (14%)	0510	13.89	0.0861	13.84	0.1884	0.1231	74	0.24	010.11	0
010	Total Nitrogen (14%)	0444	13.89	0.1600	13.84	0.1884	0.1231	74	0.26	010.60	0
010	Total Nitrogen (14%)	0029	13.90	0.0900	13.84	0.1884	0.1231	74	0.29	010.60	0
010	Total Nitrogen (14%)	0524	13.90	0.0041	13.84	0.1884	0.1231	74	0.32	010.99	0
010	Total Nitrogen (14%)	0007	13.90	0.2000	13.84	0.1884	0.1231	74	0.32	010.60	0
010	Total Nitrogen (14%)	0309	13.92	0.4200	13.84	0.1884	0.1231	74	0.42	010.11	0
010	Total Nitrogen (14%)	0086	13.92	0.0640	13.84	0.1884	0.1231	74	0.43	010.60	0
010	Total Nitrogen (14%)	0443	13.93	0.0500	13.84	0.1884	0.1231	74	0.45	010.60	0
010	Total Nitrogen (14%)	0041	13.94	0.0100	13.84	0.1884	0.1231	74	0.50	010.60	0
010	Total Nitrogen (14%)	0131	13.95	0.1120	13.84	0.1884	0.1231	74	0.58	010.60	0
010	Total Nitrogen (14%)	0498	13.95	0.1000	13.84	0.1884	0.1231	74	0.58	010.12	0
010	Total Nitrogen (14%)	0025	13.96	0.3100	13.84	0.1884	0.1231	74	0.61	010.60	0
010	Total Nitrogen (14%)	0486	13.96	0.0400	13.84	0.1884	0.1231	74	0.64	010.60	0
010	Total Nitrogen (14%)	0114	14.00	0.5800	13.84	0.1884	0.1231	74	0.85	010.60	0
010	Total Nitrogen (14%)	0494	14.01	0.1500	13.84	0.1884	0.1231	74	0.87	010.60	0
010	Total Nitrogen (14%)	0518	14.04	0.3200	13.84	0.1884	0.1231	74	1.06	010.99	0
010	Total Nitrogen (14%)	0040	14.05	0.3000	13.84	0.1884	0.1231	74	1.11	010.60	0
010	Total Nitrogen (14%)	0102	14.05	0.1000	13.84	0.1884	0.1231	74	1.11	010.60	0
010	Total Nitrogen (14%)	0534	14.05	0.3000	13.84	0.1884	0.1231	74	1.11	010.60	0
010	Total Nitrogen (14%)	0550	14.05	0.0000	13.84	0.1884	0.1231	74	1.11	010.60	0
010	Total Nitrogen (14%)	0531	14.06	0.0300	13.84	0.1884	0.1231	74	1.14	010.99	0
010	Total Nitrogen (14%)	0531	14.06	0.0200	13.84	0.1884	0.1231	74	1.17	010.11	0
010	Total Nitrogen (14%)	0555	14.07	0.0100	13.84	0.1884	0.1231	74	1.19	010.60	0
010	Total Nitrogen (14%)	0402	14.10	0.2000	13.84	0.1884	0.1231	74	1.38	010.60	0
010	Total Nitrogen (14%)	0493	14.10	0.1000	13.84	0.1884	0.1231	74	1.38	010.99	0
010	Total Nitrogen (14%)	0533	14.15	0.1100	13.84	0.1884	0.1231	74	1.62	010.99	0
010	Total Nitrogen (14%)	0368	14.22	0.0160	13.84	0.1884	0.1231	74	2.04	010.60	0
010	Total Nitrogen (14%)	0255	14.34	0.1450	13.84	0.1884	0.1231	74	2.68	010.60	0
010	Total Nitrogen (14%)	0546	14.40	0.1100	13.84	0.1884	0.1231	74	2.95	010.11	0
010	Total Nitrogen (14%)	0485	14.86‡	2.170	13.84	0.1884	0.1231	74	5.39	010.60	1
010	Total Nitrogen (14%)	0422	21.19‡	0.2200	13.84	0.1884	0.1231	74	39.01	010.60	2
020	Total Phosphorus as P2O5 (%)	0506	12.45	0.5000	14.50	0.3982	0.2076	51	-5.14	020.20	0
020	Total Phosphorus as P2O5 (%)	0255	13.48	0.3590	14.50	0.3982	0.2076	51	-2.54	020.50	0
020	Total Phosphorus as P2O5 (%)	0552	13.71	0.9600	14.50	0.3982	0.2076	51	-1.97	020.50	0
020	Total Phosphorus as P2O5 (%)	0476	13.78	0.1230	14.50	0.3982	0.2076	51	-1.80	020.20	0
020	Total Phosphorus as P2O5 (%)	0547	13.84	0.1800	14.50	0.3982	0.2076	51	-1.65	020.50	0
020	Total Phosphorus as P2O5 (%)	0523	13.85	0.3000	14.50	0.3982	0.2076	51	-1.62	020.50	0
020	Total Phosphorus as P2O5 (%)	0472	13.89	0.0200	14.50	0.3982	0.2076	51	-1.52	020.50	0
020	Total Phosphorus as P2O5 (%)	0553	14.06	0.3300	14.50	0.3982	0.2076	51	-1.11	020.20	0
020	Total Phosphorus as P2O5 (%)	0501	14.06	0.0200	14.50	0.3982	0.2076	51	-1.10	020.50	0
020	Total Phosphorus as P2O5 (%)	0451	14.09	0.0500	14.50	0.3982	0.2076	51	-1.03	020.50	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
020	Total Phosphorus as P2O5 (%)	0443	14.14	0.1400	14.50	0.3982	0.2076	51	-0.89	020.99	0
020	Total Phosphorus as P2O5 (%)	0389	14.15	0.0600	14.50	0.3982	0.2076	51	-0.87	020.50	0
020	Total Phosphorus as P2O5 (%)	0498	14.20	0.0000	14.50	0.3982	0.2076	51	-0.74	020.20	0
020	Total Phosphorus as P2O5 (%)	0534	14.25	0.3000	14.50	0.3982	0.2076	51	-0.62	020.20	0
020	Total Phosphorus as P2O5 (%)	0483	14.32	0.1800	14.50	0.3982	0.2076	51	-0.44	020.50	0
020	Total Phosphorus as P2O5 (%)	0368	14.37	0.3174	14.50	0.3982	0.2076	51	-0.31	020.50	0
020	Total Phosphorus as P2O5 (%)	0510	14.39	0.2595	14.50	0.3982	0.2076	51	-0.26	020.20	0
020	Total Phosphorus as P2O5 (%)	0444	14.40	0.6800	14.50	0.3982	0.2076	51	-0.24	020.50	0
020	Total Phosphorus as P2O5 (%)	0456	14.45	0.1600	14.50	0.3982	0.2076	51	-0.12	020.40	0
020	Total Phosphorus as P2O5 (%)	0042	14.45	1.260	14.50	0.3982	0.2076	51	-0.12	020.50	0
020	Total Phosphorus as P2O5 (%)	0524	14.48	0.0699	14.50	0.3982	0.2076	51	-0.05	020.50	0
020	Total Phosphorus as P2O5 (%)	0234	14.50	0.4000	14.50	0.3982	0.2076	51	0.01	020.50	0
020	Total Phosphorus as P2O5 (%)	0546	14.50	0.0250	14.50	0.3982	0.2076	51	0.01	020.50	0
020	Total Phosphorus as P2O5 (%)	0292	14.52	0.0500	14.50	0.3982	0.2076	51	0.05	020.20	0
020	Total Phosphorus as P2O5 (%)	0527	14.54	0.1513	14.50	0.3982	0.2076	51	0.11	020.50	0
020	Total Phosphorus as P2O5 (%)	0525	14.57	0.0450	14.50	0.3982	0.2076	51	0.18	020.50	0
020	Total Phosphorus as P2O5 (%)	0027	14.58	0.1900	14.50	0.3982	0.2076	51	0.20	020.20	0
020	Total Phosphorus as P2O5 (%)	0394	14.58	0.1640	14.50	0.3982	0.2076	51	0.21	020.20	0
020	Total Phosphorus as P2O5 (%)	0114	14.58	0.0000	14.50	0.3982	0.2076	51	0.21	020.10	0
020	Total Phosphorus as P2O5 (%)	0356	14.61	0.0500	14.50	0.3982	0.2076	51	0.27	020.20	0
020	Total Phosphorus as P2O5 (%)	0416	14.65	0.0100	14.50	0.3982	0.2076	51	0.37	020.20	0
020	Total Phosphorus as P2O5 (%)	0522	14.66	0.3200	14.50	0.3982	0.2076	51	0.41	020.20	0
020	Total Phosphorus as P2O5 (%)	0513	14.68	0.0300	14.50	0.3982	0.2076	51	0.45	020.99	0
020	Total Phosphorus as P2O5 (%)	0493	14.70	0.1000	14.50	0.3982	0.2076	51	0.51	020.10	0
020	Total Phosphorus as P2O5 (%)	0402	14.71	0.4900	14.50	0.3982	0.2076	51	0.52	020.50	0
020	Total Phosphorus as P2O5 (%)	0521	14.71	0.0000	14.50	0.3982	0.2076	51	0.53	020.50	0
020	Total Phosphorus as P2O5 (%)	0419	14.71	0.0200	14.50	0.3982	0.2076	51	0.54	020.20	0
020	Total Phosphorus as P2O5 (%)	0444	14.74	0.3000	14.50	0.3982	0.2076	51	0.61	020.10	0
020	Total Phosphorus as P2O5 (%)	0309	14.78	0.0500	14.50	0.3982	0.2076	51	0.70	020.20	0
020	Total Phosphorus as P2O5 (%)	0405	14.79	0.1700	14.50	0.3982	0.2076	51	0.73	020.20	0
020	Total Phosphorus as P2O5 (%)	0096	14.82	0.0700	14.50	0.3982	0.2076	51	0.80	020.40	0
020	Total Phosphorus as P2O5 (%)	0422	14.82	0.0700	14.50	0.3982	0.2076	51	0.80	020.50	0
020	Total Phosphorus as P2O5 (%)	0231	14.82	0.0400	14.50	0.3982	0.2076	51	0.81	020.20	0
020	Total Phosphorus as P2O5 (%)	0481	14.85	0.1000	14.50	0.3982	0.2076	51	0.89	020.20	0
020	Total Phosphorus as P2O5 (%)	0482	14.85	0.1000	14.50	0.3982	0.2076	51	0.89	020.50	0
020	Total Phosphorus as P2O5 (%)	0555	14.87	0.6926	14.50	0.3982	0.2076	51	0.94	020.50	0
020	Total Phosphorus as P2O5 (%)	0371	14.89	0.2400	14.50	0.3982	0.2076	51	0.99	020.20	0
020	Total Phosphorus as P2O5 (%)	0550	14.95	0.2200	14.50	0.3982	0.2076	51	1.14	020.20	0
020	Total Phosphorus as P2O5 (%)	0300	15.19	0.1200	14.50	0.3982	0.2076	51	1.74	020.20	0
020	Total Phosphorus as P2O5 (%)	0169	15.20	0.0300	14.50	0.3982	0.2076	51	1.76	020.20	0
020	Total Phosphorus as P2O5 (%)	0433	15.43	0.0700	14.50	0.3982	0.2076	51	2.33	020.50	0
020	Total Phosphorus as P2O5 (%)	0515	13.77	2.704	14.50	0.3982	0.2076	51	-1.81	020.99	1
030	Citrate Insoluble Phosphorus as P2O5 (%)	0405	0.0750	0.0100	5.065	8.634	0.0633	3	-0.58	030.20	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				
030	Citrate Insoluble Phosphorus as P2O5 (%)	0096	0.0850	0.0500	5.065	8.634	0.0633	3	-0.58	030.40	0
030	Citrate Insoluble Phosphorus as P2O5 (%)	0300	15.04	0.1300	5.065	8.634	0.0633	3	1.15	030.20	0
040	Indirect Available Phosphorus as P2O5 (14%)	0405	14.71‡	0.1900				2		040.20	0
040	Indirect Available Phosphorus as P2O5 (14%)	0096	14.73‡	0.1200				2		040.40	0
041	Direct Available Phosphorus as P2O5 (14%)	0230	13.20†	0.4000	14.45	0.3544	0.1531	47	-3.54	041.60	0
041	Direct Available Phosphorus as P2O5 (14%)	0377	13.47†	0.0400	14.45	0.3544	0.1531	47	-2.77	041.51	0
041	Direct Available Phosphorus as P2O5 (14%)	0325	13.85	0.7000	14.45	0.3544	0.1531	47	-1.70	041.50	0
041	Direct Available Phosphorus as P2O5 (14%)	0533	13.94	0.1000	14.45	0.3544	0.1531	47	-1.45	041.99	0
041	Direct Available Phosphorus as P2O5 (14%)	0027	13.96	0.2700	14.45	0.3544	0.1531	47	-1.41	041.20	0
041	Direct Available Phosphorus as P2O5 (14%)	0519	13.97	0.0000	14.45	0.3544	0.1531	47	-1.36	041.99	0
041	Direct Available Phosphorus as P2O5 (14%)	0531	14.02	0.0200	14.45	0.3544	0.1531	47	-1.22	041.99	0
041	Direct Available Phosphorus as P2O5 (14%)	0095	14.04	0.5800	14.45	0.3544	0.1531	47	-1.17	041.40	0
041	Direct Available Phosphorus as P2O5 (14%)	0043	14.08	0.0800	14.45	0.3544	0.1531	47	-1.05	041.51	0
041	Direct Available Phosphorus as P2O5 (14%)	0072	14.09	0.0700	14.45	0.3544	0.1531	47	-1.04	041.51	0
041	Direct Available Phosphorus as P2O5 (14%)	0540	14.11	0.1500	14.45	0.3544	0.1531	47	-0.98	041.99	0
041	Direct Available Phosphorus as P2O5 (14%)	0368	14.23	0.3292	14.45	0.3544	0.1531	47	-0.62	041.51	0
041	Direct Available Phosphorus as P2O5 (14%)	0518	14.26	0.2800	14.45	0.3544	0.1531	47	-0.55	041.99	0
041	Direct Available Phosphorus as P2O5 (14%)	0117	14.30	0.0224	14.45	0.3544	0.1531	47	-0.44	041.51	0
041	Direct Available Phosphorus as P2O5 (14%)	0536	14.30	0.2000	14.45	0.3544	0.1531	47	-0.43	041.99	0
041	Direct Available Phosphorus as P2O5 (14%)	0549	14.30	0.2000	14.45	0.3544	0.1531	47	-0.43	041.99	0
041	Direct Available Phosphorus as P2O5 (14%)	0537	14.33	0.2400	14.45	0.3544	0.1531	47	-0.35	041.99	0
041	Direct Available Phosphorus as P2O5 (14%)	0545	14.34	0.0200	14.45	0.3544	0.1531	47	-0.32	041.99	0
041	Direct Available Phosphorus as P2O5 (14%)	0494	14.44	0.4100	14.45	0.3544	0.1531	47	-0.05	041.51	0
041	Direct Available Phosphorus as P2O5 (14%)	0538	14.45	0.1000	14.45	0.3544	0.1531	47	-0.01	041.99	0
041	Direct Available Phosphorus as P2O5 (14%)	0394	14.49	0.0250	14.45	0.3544	0.1531	47	0.10	041.60	0
041	Direct Available Phosphorus as P2O5 (14%)	0024	14.50	0.2000	14.45	0.3544	0.1531	47	0.13	041.60	0
041	Direct Available Phosphorus as P2O5 (14%)	0472	14.51	0.0100	14.45	0.3544	0.1531	47	0.15	041.60	0
041	Direct Available Phosphorus as P2O5 (14%)	0351	14.55	0.3500	14.45	0.3544	0.1531	47	0.26	041.60	0
041	Direct Available Phosphorus as P2O5 (14%)	0102	14.55	0.1000	14.45	0.3544	0.1531	47	0.27	041.10	0
041	Direct Available Phosphorus as P2O5 (14%)	0136	14.55	0.0600	14.45	0.3544	0.1531	47	0.27	041.60	0
041	Direct Available Phosphorus as P2O5 (14%)	0177	14.56	0.1142	14.45	0.3544	0.1531	47	0.31	041.60	0
041	Direct Available Phosphorus as P2O5 (14%)	0513	14.59	0.0200	14.45	0.3544	0.1531	47	0.39	041.11	0
041	Direct Available Phosphorus as P2O5 (14%)	0040	14.60	0.0000	14.45	0.3544	0.1531	47	0.41	041.51	0
041	Direct Available Phosphorus as P2O5 (14%)	0177	14.60	0.0861	14.45	0.3544	0.1531	47	0.42	041.10	0
041	Direct Available Phosphorus as P2O5 (14%)	0041	14.61	0.0100	14.45	0.3544	0.1531	47	0.43	041.10	0
041	Direct Available Phosphorus as P2O5 (14%)	0105	14.61	0.0900	14.45	0.3544	0.1531	47	0.43	041.60	0
041	Direct Available Phosphorus as P2O5 (14%)	0200	14.63	0.0000	14.45	0.3544	0.1531	47	0.50	041.21	0
041	Direct Available Phosphorus as P2O5 (14%)	0029	14.64	0.0100	14.45	0.3544	0.1531	47	0.51	041.60	0
041	Direct Available Phosphorus as P2O5 (14%)	0360	14.65	0.0500	14.45	0.3544	0.1531	47	0.54	041.51	0
041	Direct Available Phosphorus as P2O5 (14%)	0405	14.69	0.0300	14.45	0.3544	0.1531	47	0.65	041.99	0
041	Direct Available Phosphorus as P2O5 (14%)	0025	14.70	0.4000	14.45	0.3544	0.1531	47	0.70	041.51	0
041	Direct Available Phosphorus as P2O5 (14%)	0028	14.72	0.1100	14.45	0.3544	0.1531	47	0.74	041.40	0
041	Direct Available Phosphorus as P2O5 (14%)	0105	14.74	0.1700	14.45	0.3544	0.1531	47	0.79	041.11	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 (14%)	0354	14.75	0.1000	14.45	0.3544	0.1531	47	0.84	041.60	0
041	Direct Available Phosphorus as P2O5 (14%)	0485	14.79	0.0662	14.45	0.3544	0.1531	47	0.95	041.11	0
041	Direct Available Phosphorus as P2O5 (14%)	0231	14.80	0.0900	14.45	0.3544	0.1531	47	0.96	041.60	0
041	Direct Available Phosphorus as P2O5 (14%)	0086	14.82	0.0821	14.45	0.3544	0.1531	47	1.05	041.10	0
041	Direct Available Phosphorus as P2O5 (14%)	0544	14.91	0.0300	14.45	0.3544	0.1531	47	1.27	041.21	0
041	Direct Available Phosphorus as P2O5 (14%)	0486	14.92	0.0800	14.45	0.3544	0.1531	47	1.32	041.51	0
041	Direct Available Phosphorus as P2O5 (14%)	0007	15.15	0.7000	14.45	0.3544	0.1531	47	1.97	041.50	0
041	Direct Available Phosphorus as P2O5 (14%)	0131	15.47‡	0.0000	14.45	0.3544	0.1531	47	2.87	041.40	0
041	Direct Available Phosphorus as P2O5 (14%)	0072	< 14.95		14.45	0.3544	0.1531	47		041.60	5
048	Water Soluble Phosphorus as P2O5 (%)	0513	12.65	0.0400	13.14	0.6092	0.1712	6	-0.71	048.99	0
048	Water Soluble Phosphorus as P2O5 (%)	0444	12.80	0.2300	13.14	0.6092	0.1712	6	-0.50	048.50	0
048	Water Soluble Phosphorus as P2O5 (%)	0444	12.81	0.3000	13.14	0.6092	0.1712	6	-0.48	048.10	0
048	Water Soluble Phosphorus as P2O5 (%)	0394	13.02	0.0300	13.14	0.6092	0.1712	6	-0.17	048.20	0
048	Water Soluble Phosphorus as P2O5 (%)	0556	13.50	0.2000	13.14	0.6092	0.1712	6	0.53	048.99	0
048	Water Soluble Phosphorus as P2O5 (%)	0546	14.72	0.2270	13.14	0.6092	0.1712	6	2.31	048.50	0
050	Soluble Potassium as K2O (14%)	0255	11.68†	0.1890	14.38	0.4507	0.1654	87	-6.00	050.99	0
050	Soluble Potassium as K2O (14%)	0096	11.87†	0.1000	14.38	0.4507	0.1654	87	-5.58	050.99	0
050	Soluble Potassium as K2O (14%)	0443	12.00†	0.1000	14.38	0.4507	0.1654	87	-5.29	050.60	0
050	Soluble Potassium as K2O (14%)	0553	12.56†	0.1800	14.38	0.4507	0.1654	87	-4.05	050.99	0
050	Soluble Potassium as K2O (14%)	0472	13.17†	0.3300	14.38	0.4507	0.1654	87	-2.70	050.31	0
050	Soluble Potassium as K2O (14%)	0544	13.39†	0.0000	14.38	0.4507	0.1654	87	-2.21	050.00	0
050	Soluble Potassium as K2O (14%)	0476	13.40†	0.3626	14.38	0.4507	0.1654	87	-2.18	050.60	0
050	Soluble Potassium as K2O (14%)	0540	13.56	0.0800	14.38	0.4507	0.1654	87	-1.83	050.99	0
050	Soluble Potassium as K2O (14%)	0041	13.63	0.0100	14.38	0.4507	0.1654	87	-1.68	050.60	0
050	Soluble Potassium as K2O (14%)	0481	13.80	0.0400	14.38	0.4507	0.1654	87	-1.30	050.99	0
050	Soluble Potassium as K2O (14%)	0102	13.90	0.4000	14.38	0.4507	0.1654	87	-1.07	050.00	0
050	Soluble Potassium as K2O (14%)	0456	13.91	0.0900	14.38	0.4507	0.1654	87	-1.06	050.61	0
050	Soluble Potassium as K2O (14%)	0040	13.95	0.1000	14.38	0.4507	0.1654	87	-0.96	050.30	0
050	Soluble Potassium as K2O (14%)	0498	13.95	0.3000	14.38	0.4507	0.1654	87	-0.96	050.31	0
050	Soluble Potassium as K2O (14%)	0538	14.00	0.2100	14.38	0.4507	0.1654	87	-0.86	050.99	0
050	Soluble Potassium as K2O (14%)	0531	14.03	0.0100	14.38	0.4507	0.1654	87	-0.80	050.99	0
050	Soluble Potassium as K2O (14%)	0513	14.04	0.0200	14.38	0.4507	0.1654	87	-0.76	050.62	0
050	Soluble Potassium as K2O (14%)	0325	14.05	0.1000	14.38	0.4507	0.1654	87	-0.74	050.99	0
050	Soluble Potassium as K2O (14%)	0518	14.05	0.3000	14.38	0.4507	0.1654	87	-0.74	050.99	0
050	Soluble Potassium as K2O (14%)	0377	14.07	0.0200	14.38	0.4507	0.1654	87	-0.70	050.52	0
050	Soluble Potassium as K2O (14%)	0486	14.08	0.0600	14.38	0.4507	0.1654	87	-0.67	050.52	0
050	Soluble Potassium as K2O (14%)	0519	14.09	0.0000	14.38	0.4507	0.1654	87	-0.65	050.99	0
050	Soluble Potassium as K2O (14%)	0537	14.09	0.5000	14.38	0.4507	0.1654	87	-0.65	050.99	0
050	Soluble Potassium as K2O (14%)	0506	14.10	0.2000	14.38	0.4507	0.1654	87	-0.63	050.99	0
050	Soluble Potassium as K2O (14%)	0117	14.14	0.0604	14.38	0.4507	0.1654	87	-0.54	050.52	0
050	Soluble Potassium as K2O (14%)	0533	14.14	0.1200	14.38	0.4507	0.1654	87	-0.54	050.99	0
050	Soluble Potassium as K2O (14%)	0043	14.17	0.0300	14.38	0.4507	0.1654	87	-0.49	050.52	0
050	Soluble Potassium as K2O (14%)	0510	14.17	0.6088	14.38	0.4507	0.1654	87	-0.46	050.60	0

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050	Soluble Potassium as K2O (14%)	0309	14.21	0.2200	14.38	0.4507	0.1654	87	-0.39	050.30	0
050	Soluble Potassium as K2O (14%)	0444	14.22	0.4700	14.38	0.4507	0.1654	87	-0.37	050.00	0
050	Soluble Potassium as K2O (14%)	0292	14.22	0.1100	14.38	0.4507	0.1654	87	-0.37	050.50	0
050	Soluble Potassium as K2O (14%)	0444	14.22	0.4700	14.38	0.4507	0.1654	87	-0.37	050.99	0
050	Soluble Potassium as K2O (14%)	0536	14.23	0.1500	14.38	0.4507	0.1654	87	-0.35	050.99	0
050	Soluble Potassium as K2O (14%)	0501	14.25	0.4800	14.38	0.4507	0.1654	87	-0.30	050.99	0
050	Soluble Potassium as K2O (14%)	0523	14.25	0.1000	14.38	0.4507	0.1654	87	-0.30	050.99	0
050	Soluble Potassium as K2O (14%)	0549	14.25	0.1000	14.38	0.4507	0.1654	87	-0.30	050.99	0
050	Soluble Potassium as K2O (14%)	0394	14.25	0.0120	14.38	0.4507	0.1654	87	-0.29	050.99	0
050	Soluble Potassium as K2O (14%)	0485	14.30	0.2000	14.38	0.4507	0.1654	87	-0.19	050.52	0
050	Soluble Potassium as K2O (14%)	0521	14.31	0.0000	14.38	0.4507	0.1654	87	-0.17	050.99	0
050	Soluble Potassium as K2O (14%)	0072	14.33	0.0700	14.38	0.4507	0.1654	87	-0.13	050.00	0
050	Soluble Potassium as K2O (14%)	0371	14.34	0.0300	14.38	0.4507	0.1654	87	-0.11	050.99	0
050	Soluble Potassium as K2O (14%)	0550	14.36	0.0000	14.38	0.4507	0.1654	87	-0.05	050.00	0
050	Soluble Potassium as K2O (14%)	0483	14.40	0.1300	14.38	0.4507	0.1654	87	0.02	050.51	0
050	Soluble Potassium as K2O (14%)	0545	14.41	0.0300	14.38	0.4507	0.1654	87	0.05	050.99	0
050	Soluble Potassium as K2O (14%)	0451	14.42	0.8000	14.38	0.4507	0.1654	87	0.08	050.99	0
050	Soluble Potassium as K2O (14%)	0527	14.43	0.1319	14.38	0.4507	0.1654	87	0.10	050.99	0
050	Soluble Potassium as K2O (14%)	0356	14.44	0.3000	14.38	0.4507	0.1654	87	0.12	050.30	0
050	Soluble Potassium as K2O (14%)	0025	14.45	1.100	14.38	0.4507	0.1654	87	0.15	050.52	0
050	Soluble Potassium as K2O (14%)	0389	14.45	0.0200	14.38	0.4507	0.1654	87	0.15	050.99	0
050	Soluble Potassium as K2O (14%)	0444	14.46	0.0700	14.38	0.4507	0.1654	87	0.16	050.50	0
050	Soluble Potassium as K2O (14%)	0200	14.47	0.0500	14.38	0.4507	0.1654	87	0.18	050.60	0
050	Soluble Potassium as K2O (14%)	0351	14.49	0.0850	14.38	0.4507	0.1654	87	0.24	050.50	0
050	Soluble Potassium as K2O (14%)	0024	14.50	0.0000	14.38	0.4507	0.1654	87	0.26	050.61	0
050	Soluble Potassium as K2O (14%)	0522	14.55	0.0700	14.38	0.4507	0.1654	87	0.36	050.00	0
050	Soluble Potassium as K2O (14%)	0136	14.55	0.1100	14.38	0.4507	0.1654	87	0.36	050.30	0
050	Soluble Potassium as K2O (14%)	0402	14.56	0.4100	14.38	0.4507	0.1654	87	0.38	050.99	0
050	Soluble Potassium as K2O (14%)	0105	14.56	0.1000	14.38	0.4507	0.1654	87	0.39	050.62	0
050	Soluble Potassium as K2O (14%)	0552	14.57	0.0300	14.38	0.4507	0.1654	87	0.40	050.99	0
050	Soluble Potassium as K2O (14%)	0419	14.59	0.0700	14.38	0.4507	0.1654	87	0.45	050.50	0
050	Soluble Potassium as K2O (14%)	0433	14.60	0.0100	14.38	0.4507	0.1654	87	0.47	050.99	0
050	Soluble Potassium as K2O (14%)	0177	14.61	0.0959	14.38	0.4507	0.1654	87	0.50	050.99	0
050	Soluble Potassium as K2O (14%)	0231	14.62	0.0000	14.38	0.4507	0.1654	87	0.52	050.00	0
050	Soluble Potassium as K2O (14%)	0405	14.64	0.0300	14.38	0.4507	0.1654	87	0.56	050.00	0
050	Soluble Potassium as K2O (14%)	0547	14.65	0.0200	14.38	0.4507	0.1654	87	0.59	050.51	0
050	Soluble Potassium as K2O (14%)	0354	14.65	0.3000	14.38	0.4507	0.1654	87	0.59	050.52	0
050	Soluble Potassium as K2O (14%)	0360	14.65	0.0000	14.38	0.4507	0.1654	87	0.59	050.52	0
050	Soluble Potassium as K2O (14%)	0027	14.66	0.1330	14.38	0.4507	0.1654	87	0.62	050.99	0
050	Soluble Potassium as K2O (14%)	0029	14.67	0.0700	14.38	0.4507	0.1654	87	0.62	050.62	0
050	Soluble Potassium as K2O (14%)	0169	14.68	0.1300	14.38	0.4507	0.1654	87	0.65	050.60	0
050	Soluble Potassium as K2O (14%)	0105	14.71	0.1100	14.38	0.4507	0.1654	87	0.71	050.60	0
050	Soluble Potassium as K2O (14%)	0494	14.71	0.6400	14.38	0.4507	0.1654	87	0.72	050.00	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 (14%)	0230	14.75	0.1000	14.38	0.4507	0.1654	87	0.81	050.50	0
050	Soluble Potassium as K2O (14%)	0300	14.80	0.3400	14.38	0.4507	0.1654	87	0.92	050.99	0
050	Soluble Potassium as K2O (14%)	0007	14.85	0.1000	14.38	0.4507	0.1654	87	1.03	050.51	0
050	Soluble Potassium as K2O (14%)	0525	14.89	0.1500	14.38	0.4507	0.1654	87	1.11	050.99	0
050	Soluble Potassium as K2O (14%)	0482	14.90	0.0000	14.38	0.4507	0.1654	87	1.15	050.99	0
050	Soluble Potassium as K2O (14%)	0416	14.92	0.0500	14.38	0.4507	0.1654	87	1.18	050.00	0
050	Soluble Potassium as K2O (14%)	0494	14.98	0.4900	14.38	0.4507	0.1654	87	1.31	050.52	0
050	Soluble Potassium as K2O (14%)	0556	15.00	0.2000	14.38	0.4507	0.1654	87	1.37	050.99	0
050	Soluble Potassium as K2O (14%)	0028	15.03	0.1000	14.38	0.4507	0.1654	87	1.43	050.62	0
050	Soluble Potassium as K2O (14%)	0368	15.06	0.4406	14.38	0.4507	0.1654	87	1.50	050.99	0
050	Soluble Potassium as K2O (14%)	0095	15.08	0.1900	14.38	0.4507	0.1654	87	1.53	050.62	0
050	Soluble Potassium as K2O (14%)	0234	15.15	0.1000	14.38	0.4507	0.1654	87	1.70	050.99	0
050	Soluble Potassium as K2O (14%)	0072	15.37‡	0.0000	14.38	0.4507	0.1654	87	2.19	050.52	0
050	Soluble Potassium as K2O (14%)	0524	15.59‡	0.0417	14.38	0.4507	0.1654	87	2.68	050.99	0
050	Soluble Potassium as K2O (14%)	0131	15.87‡	0.0400	14.38	0.4507	0.1654	87	3.30	050.61	0
050	Soluble Potassium as K2O (14%)	0422	16.23‡	0.0700	14.38	0.4507	0.1654	87	4.08	050.50	0
050	Soluble Potassium as K2O (14%)	0555	14.99	1.273	14.38	0.4507	0.1654	87	1.35	050.51	1
050	Soluble Potassium as K2O (14%)	0114	15.14	1.350	14.38	0.4507	0.1654	87	1.67	050.00	1
050	Soluble Potassium as K2O (14%)	0042	15.43‡	1.730	14.38	0.4507	0.1654	87	2.31	050.99	1
060	Water (Free) (%)	0007	0.6700	0.0600	0.8232	0.1383	0.0516	6	-0.99	060.00	0
060	Water (Free) (%)	0456	0.7450	0.0300	0.8232	0.1383	0.0516	6	-0.50	060.00	0
060	Water (Free) (%)	0096	0.8050	0.1500	0.8232	0.1383	0.0516	6	-0.12	060.00	0
060	Water (Free) (%)	0416	0.8274	0.0048	0.8232	0.1383	0.0516	6	0.03	060.00	0
060	Water (Free) (%)	0510	0.8610	0.0049	0.8232	0.1383	0.0516	6	0.24	060.99	0
060	Water (Free) (%)	0518	2.190	0.0600	0.8232	0.1383	0.0516	6	8.80	060.30	0
101	Acid Soluble Calcium (%)	0354	0.1950	0.0300	0.2956	0.0717	0.0202	11	-1.40	101.30	0
101	Acid Soluble Calcium (%)	0472	0.2300	0.0000	0.2956	0.0717	0.0202	11	-0.91	101.30	0
101	Acid Soluble Calcium (%)	0389	0.2500	0.0000	0.2956	0.0717	0.0202	11	-0.64	101.99	0
101	Acid Soluble Calcium (%)	0451	0.2865	0.0290	0.2956	0.0717	0.0202	11	-0.13	101.30	0
101	Acid Soluble Calcium (%)	0494	0.2882	0.0053	0.2956	0.0717	0.0202	11	-0.10	101.33	0
101	Acid Soluble Calcium (%)	0482	0.2900	0.0200	0.2956	0.0717	0.0202	11	-0.08	101.30	0
101	Acid Soluble Calcium (%)	0096	0.2950	0.0100	0.2956	0.0717	0.0202	11	-0.01	101.30	0
101	Acid Soluble Calcium (%)	0527	0.3036	0.0023	0.2956	0.0717	0.0202	11	0.11	101.33	0
101	Acid Soluble Calcium (%)	0521	0.3068	0.0000	0.2956	0.0717	0.0202	11	0.16	101.32	0
101	Acid Soluble Calcium (%)	0483	0.4730	0.0060	0.2956	0.0717	0.0202	11	2.47	101.30	0
101	Acid Soluble Calcium (%)	0552	0.7000	0.1200	0.2956	0.0717	0.0202	11	5.64	101.99	0
101	Acid Soluble Calcium (%)	0041	0.4450	0.1700	0.2956	0.0717	0.0202	11	2.08	101.30	1
101	Acid Soluble Calcium (%)	0519	14.13	0.0500	0.2956	0.0717	0.0202	11	192.85	101.99	2
121	Acid Soluble Magnesium (1%)	0476	0.4029	0.0049	0.5771	0.0484	0.0228	45	-3.60	121.99	0
121	Acid Soluble Magnesium (1%)	0524	0.4899	0.0109	0.5771	0.0484	0.0228	45	-1.80	121.99	0
121	Acid Soluble Magnesium (1%)	0255	0.4930	0.0400	0.5771	0.0484	0.0228	45	-1.74	121.30	0
121	Acid Soluble Magnesium (1%)	0515	0.5050	0.0643	0.5771	0.0484	0.0228	45	-1.49	121.99	0
121	Acid Soluble Magnesium (1%)	0515	0.5109	0.0051	0.5771	0.0484	0.0228	45	-1.37	121.33	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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121	Acid Soluble Magnesium (1%)	0389	0.5345	0.0010	0.5771	0.0484	0.0228	45	-0.88	121.99	0
121	Acid Soluble Magnesium (1%)	0231	0.5350	0.0300	0.5771	0.0484	0.0228	45	-0.87	121.30	0
121	Acid Soluble Magnesium (1%)	0506	0.5435	0.0130	0.5771	0.0484	0.0228	45	-0.69	121.99	0
121	Acid Soluble Magnesium (1%)	0555	0.5442	0.0479	0.5771	0.0484	0.0228	45	-0.68	121.33	0
121	Acid Soluble Magnesium (1%)	0177	0.5490	0.0087	0.5771	0.0484	0.0228	45	-0.58	121.33	0
121	Acid Soluble Magnesium (1%)	0040	0.5500	0.0200	0.5771	0.0484	0.0228	45	-0.56	121.00	0
121	Acid Soluble Magnesium (1%)	0394	0.5513	0.0043	0.5771	0.0484	0.0228	45	-0.53	121.32	0
121	Acid Soluble Magnesium (1%)	0405	0.5550	0.0300	0.5771	0.0484	0.0228	45	-0.46	121.99	0
121	Acid Soluble Magnesium (1%)	0485	0.5554	0.0154	0.5771	0.0484	0.0228	45	-0.45	121.00	0
121	Acid Soluble Magnesium (1%)	0360	0.5575	0.0110	0.5771	0.0484	0.0228	45	-0.40	121.30	0
121	Acid Soluble Magnesium (1%)	0419	0.5620	0.0160	0.5771	0.0484	0.0228	45	-0.31	121.99	0
121	Acid Soluble Magnesium (1%)	0024	0.5630	0.0140	0.5771	0.0484	0.0228	45	-0.29	121.33	0
121	Acid Soluble Magnesium (1%)	0300	0.5648	0.0089	0.5771	0.0484	0.0228	45	-0.25	121.32	0
121	Acid Soluble Magnesium (1%)	0513	0.5650	0.0100	0.5771	0.0484	0.0228	45	-0.25	121.00	0
121	Acid Soluble Magnesium (1%)	0481	0.5650	0.0100	0.5771	0.0484	0.0228	45	-0.25	121.99	0
121	Acid Soluble Magnesium (1%)	0521	0.5654	0.0000	0.5771	0.0484	0.0228	45	-0.24	121.32	0
121	Acid Soluble Magnesium (1%)	0494	0.5683	0.0062	0.5771	0.0484	0.0228	45	-0.18	121.33	0
121	Acid Soluble Magnesium (1%)	0444	0.5700	0.0200	0.5771	0.0484	0.0228	45	-0.15	121.30	0
121	Acid Soluble Magnesium (1%)	0096	0.5750	0.0100	0.5771	0.0484	0.0228	45	-0.04	121.30	0
121	Acid Soluble Magnesium (1%)	0354	0.5750	0.0100	0.5771	0.0484	0.0228	45	-0.04	121.30	0
121	Acid Soluble Magnesium (1%)	0482	0.5750	0.0100	0.5771	0.0484	0.0228	45	-0.04	121.30	0
121	Acid Soluble Magnesium (1%)	0043	0.5750	0.0100	0.5771	0.0484	0.0228	45	-0.04	121.33	0
121	Acid Soluble Magnesium (1%)	0451	0.5755	0.0250	0.5771	0.0484	0.0228	45	-0.03	121.30	0
121	Acid Soluble Magnesium (1%)	0498	0.5850	0.0100	0.5771	0.0484	0.0228	45	0.16	121.00	0
121	Acid Soluble Magnesium (1%)	0041	0.5900	0.0000	0.5771	0.0484	0.0228	45	0.27	121.30	0
121	Acid Soluble Magnesium (1%)	0546	0.5935	0.0110	0.5771	0.0484	0.0228	45	0.34	121.03	0
121	Acid Soluble Magnesium (1%)	0472	0.5950	0.0100	0.5771	0.0484	0.0228	45	0.37	121.30	0
121	Acid Soluble Magnesium (1%)	0029	0.5985	0.0264	0.5771	0.0484	0.0228	45	0.44	121.00	0
121	Acid Soluble Magnesium (1%)	0234	0.6000	0.0000	0.5771	0.0484	0.0228	45	0.47	121.30	0
121	Acid Soluble Magnesium (1%)	0523	0.6000	0.0000	0.5771	0.0484	0.0228	45	0.47	121.99	0
121	Acid Soluble Magnesium (1%)	0527	0.6035	0.0139	0.5771	0.0484	0.0228	45	0.54	121.33	0
121	Acid Soluble Magnesium (1%)	0117	0.6308	0.1002	0.5771	0.0484	0.0228	45	1.11	121.33	0
121	Acid Soluble Magnesium (1%)	0371	0.6350	0.0300	0.5771	0.0484	0.0228	45	1.20	121.30	0
121	Acid Soluble Magnesium (1%)	0553	0.6358	0.0085	0.5771	0.0484	0.0228	45	1.21	121.00	0
121	Acid Soluble Magnesium (1%)	0027	0.6910	0.0640	0.5771	0.0484	0.0228	45	2.35	121.99	0
121	Acid Soluble Magnesium (1%)	0552	0.7150	0.0100	0.5771	0.0484	0.0228	45	2.85	121.99	0
121	Acid Soluble Magnesium (1%)	0169	0.7600	0.0400	0.5771	0.0484	0.0228	45	3.78	121.00	0
121	Acid Soluble Magnesium (1%)	0550	0.9115‡	0.0150	0.5771	0.0484	0.0228	45	6.90	121.00	0
121	Acid Soluble Magnesium (1%)	0519	0.9850‡	0.0100	0.5771	0.0484	0.0228	45	8.42	121.99	0
121	Acid Soluble Magnesium (1%)	0102	5.749‡	0.2190	0.5771	0.0484	0.0228	45	106.74	121.30	0
121	Acid Soluble Magnesium (1%)	0483	303.8‡	606.4	0.5771	0.0484	0.0228	45	6259.18	121.30	2
131	Water Soluble Magnesium (%)	0553	0.1050	0.0009	0.4531	0.3084	0.0186	14	-1.13	131.00	0
131	Water Soluble Magnesium (%)	0300	0.1920	0.0180	0.4531	0.3084	0.0186	14	-0.85	131.30	0

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131	Water Soluble Magnesium (%)	0231	0.2600	0.0200	0.4531	0.3084	0.0186	14	-0.63	131.30	0
131	Water Soluble Magnesium (%)	0550	0.2715	0.0210	0.4531	0.3084	0.0186	14	-0.59	131.00	0
131	Water Soluble Magnesium (%)	0394	0.2826	0.0045	0.4531	0.3084	0.0186	14	-0.55	131.30	0
131	Water Soluble Magnesium (%)	0405	0.3200	0.0000	0.4531	0.3084	0.0186	14	-0.43	131.30	0
131	Water Soluble Magnesium (%)	0486	0.3350	0.0100	0.4531	0.3084	0.0186	14	-0.38	131.30	0
131	Water Soluble Magnesium (%)	0029	0.3731	0.0193	0.4531	0.3084	0.0186	14	-0.26	131.00	0
131	Water Soluble Magnesium (%)	0027	0.4390	0.0200	0.4531	0.3084	0.0186	14	-0.05	131.30	0
131	Water Soluble Magnesium (%)	0518	0.4800	0.0400	0.4531	0.3084	0.0186	14	0.09	131.70	0
131	Water Soluble Magnesium (%)	0368	0.5592	0.0239	0.4531	0.3084	0.0186	14	0.34	131.30	0
131	Water Soluble Magnesium (%)	0200	0.9050	0.0300	0.4531	0.3084	0.0186	14	1.47	131.00	0
131	Water Soluble Magnesium (%)	0309	0.9050	0.0100	0.4531	0.3084	0.0186	14	1.47	131.00	0
131	Water Soluble Magnesium (%)	0510	1.084	0.0434	0.4531	0.3084	0.0186	14	2.05	131.70	0
143	Elemental Sulfur (%)	0405	0.0250	0.0100	7.793	4.397	0.2176	5	-1.77	143.00	0
143	Elemental Sulfur (%)	0255	8.731	0.8780	7.793	4.397	0.2176	5	0.21	143.99	0
143	Elemental Sulfur (%)	0472	9.470	0.0400	7.793	4.397	0.2176	5	0.38	143.99	0
143	Elemental Sulfur (%)	0481	10.34	0.0600	7.793	4.397	0.2176	5	0.58	143.99	0
143	Elemental Sulfur (%)	0389	10.40	0.1000	7.793	4.397	0.2176	5	0.59	143.99	0
145	Sulfate Sulfur, HCl soluble (%)	0550	8.300	0.0000	10.18	0.6486	0.0754	13	-2.90	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0027	8.990	0.0200	10.18	0.6486	0.0754	13	-1.83	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0444	9.395	0.0500	10.18	0.6486	0.0754	13	-1.21	145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0200	9.855	0.0700	10.18	0.6486	0.0754	13	-0.50	145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0444	10.27	0.0300	10.18	0.6486	0.0754	13	0.13	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0544	10.35	0.0400	10.18	0.6486	0.0754	13	0.26	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0177	10.44	0.1932	10.18	0.6486	0.0754	13	0.40	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0095	10.45	0.0900	10.18	0.6486	0.0754	13	0.41	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0498	10.45	0.1000	10.18	0.6486	0.0754	13	0.42	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0510	10.50	0.0437	10.18	0.6486	0.0754	13	0.50	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0485	10.64	0.1913	10.18	0.6486	0.0754	13	0.71	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0476	10.71	0.0414	10.18	0.6486	0.0754	13	0.82	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0405	10.87	0.1100	10.18	0.6486	0.0754	13	1.06	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0522	10.23	0.5100	10.18	0.6486	0.0754	13	0.07	145.00	1
148	Total Sulfur (7.75%)	0519	7.865†	0.0300	10.40	0.3693	0.1431	44	-6.85	148.99	0
148	Total Sulfur (7.75%)	0523	8.425†	0.2100	10.40	0.3693	0.1431	44	-5.34	148.99	0
148	Total Sulfur (7.75%)	0542	8.775†	0.3300	10.40	0.3693	0.1431	44	-4.39	148.07	0
148	Total Sulfur (7.75%)	0131	9.441†	0.0630	10.40	0.3693	0.1431	44	-2.59	148.00	0
148	Total Sulfur (7.75%)	0444	9.525†	0.0300	10.40	0.3693	0.1431	44	-2.36	148.07	0
148	Total Sulfur (7.75%)	0368	9.709	0.0432	10.40	0.3693	0.1431	44	-1.86	148.99	0
148	Total Sulfur (7.75%)	0486	9.880	0.3400	10.40	0.3693	0.1431	44	-1.40	148.07	0
148	Total Sulfur (7.75%)	0402	9.965	0.1300	10.40	0.3693	0.1431	44	-1.17	148.07	0
148	Total Sulfur (7.75%)	0292	10.01	0.0000	10.40	0.3693	0.1431	44	-1.04	148.07	0
148	Total Sulfur (7.75%)	0040	10.20	0.0000	10.40	0.3693	0.1431	44	-0.53	148.07	0
148	Total Sulfur (7.75%)	0029	10.26	0.1900	10.40	0.3693	0.1431	44	-0.38	148.00	0
148	Total Sulfur (7.75%)	0394	10.26	0.0620	10.40	0.3693	0.1431	44	-0.37	148.07	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				
148	Total Sulfur (7.75%)	0546	10.31	0.1500	10.40	0.3693	0.1431	44	-0.24	148.07	0
148	Total Sulfur (7.75%)	0354	10.35	0.3000	10.40	0.3693	0.1431	44	-0.12	148.99	0
148	Total Sulfur (7.75%)	0231	10.35	0.1000	10.40	0.3693	0.1431	44	-0.12	148.01	0
148	Total Sulfur (7.75%)	0483	10.35	0.1000	10.40	0.3693	0.1431	44	-0.12	148.07	0
148	Total Sulfur (7.75%)	0177	10.37	0.0163	10.40	0.3693	0.1431	44	-0.08	148.07	0
148	Total Sulfur (7.75%)	0117	10.38	0.0400	10.40	0.3693	0.1431	44	-0.05	148.07	0
148	Total Sulfur (7.75%)	0114	10.38	0.0200	10.40	0.3693	0.1431	44	-0.04	148.00	0
148	Total Sulfur (7.75%)	0096	10.38	0.1200	10.40	0.3693	0.1431	44	-0.04	148.99	0
148	Total Sulfur (7.75%)	0433	10.40	0.0010	10.40	0.3693	0.1431	44	0.00	148.99	0
148	Total Sulfur (7.75%)	0534	10.40	0.2000	10.40	0.3693	0.1431	44	0.01	148.01	0
148	Total Sulfur (7.75%)	0024	10.41	0.0500	10.40	0.3693	0.1431	44	0.03	148.07	0
148	Total Sulfur (7.75%)	0300	10.41	0.0300	10.40	0.3693	0.1431	44	0.03	148.99	0
148	Total Sulfur (7.75%)	0419	10.41	0.0500	10.40	0.3693	0.1431	44	0.03	148.99	0
148	Total Sulfur (7.75%)	0177	10.44	0.1870	10.40	0.3693	0.1431	44	0.12	148.01	0
148	Total Sulfur (7.75%)	0029	10.50	0.1100	10.40	0.3693	0.1431	44	0.27	148.01	0
148	Total Sulfur (7.75%)	0510	10.51	0.0390	10.40	0.3693	0.1431	44	0.30	148.01	0
148	Total Sulfur (7.75%)	0025	10.53	0.2200	10.40	0.3693	0.1431	44	0.36	148.00	0
148	Total Sulfur (7.75%)	0102	10.54	0.6518	10.40	0.3693	0.1431	44	0.38	148.07	0
148	Total Sulfur (7.75%)	0506	10.55	0.1000	10.40	0.3693	0.1431	44	0.42	148.99	0
148	Total Sulfur (7.75%)	0513	10.57	0.0600	10.40	0.3693	0.1431	44	0.47	148.01	0
148	Total Sulfur (7.75%)	0525	10.59	0.0350	10.40	0.3693	0.1431	44	0.53	148.07	0
148	Total Sulfur (7.75%)	0444	10.63	0.4800	10.40	0.3693	0.1431	44	0.64	148.01	0
148	Total Sulfur (7.75%)	0527	10.63	0.1573	10.40	0.3693	0.1431	44	0.64	148.07	0
148	Total Sulfur (7.75%)	0371	10.67	0.0400	10.40	0.3693	0.1431	44	0.74	148.99	0
148	Total Sulfur (7.75%)	0494	10.71	0.0120	10.40	0.3693	0.1431	44	0.86	148.07	0
148	Total Sulfur (7.75%)	0451	10.75	0.1000	10.40	0.3693	0.1431	44	0.96	148.00	0
148	Total Sulfur (7.75%)	0230	10.75	0.3000	10.40	0.3693	0.1431	44	0.96	148.01	0
148	Total Sulfur (7.75%)	0043	10.81	0.0100	10.40	0.3693	0.1431	44	1.11	148.07	0
148	Total Sulfur (7.75%)	0405	10.89	0.1200	10.40	0.3693	0.1431	44	1.34	148.01	0
148	Total Sulfur (7.75%)	0136	11.05	0.3200	10.40	0.3693	0.1431	44	1.77	148.00	0
148	Total Sulfur (7.75%)	0482	11.15‡	0.5000	10.40	0.3693	0.1431	44	2.04	148.99	0
148	Total Sulfur (7.75%)	0553	11.73‡	0.2505	10.40	0.3693	0.1431	44	3.62	148.99	0
148	Total Sulfur (7.75%)	0515	8.857†	1.596	10.40	0.3693	0.1431	44	-4.16	148.07	1
148	Total Sulfur (7.75%)	0555	8.868†	1.761	10.40	0.3693	0.1431	44	-4.14	148.00	1
148	Total Sulfur (7.75%)	0072	24.61‡	0.1000	10.40	0.3693	0.1431	44	38.49	148.99	2
148	Total Sulfur (7.75%)	0485	0.0000†	0.0000	10.40	0.3693	0.1431	44		148.01	4
149	Sulfur - HNO3 soluble (%)	0518	7.690	0.2600	9.528	1.671	0.1139	3	-1.10	149.02	0
149	Sulfur - HNO3 soluble (%)	0524	9.938	0.0817	9.528	1.671	0.1139	3	0.25	149.04	0
149	Sulfur - HNO3 soluble (%)	0521	10.96	0.0000	9.528	1.671	0.1139	3	0.85	149.04	0
151	Acid Soluble Arsenic (ppm)	0523	103.7	1.203	150.8	25.11	4.507	20	-1.88	151.30	0
151	Acid Soluble Arsenic (ppm)	0524	114.2	2.898	150.8	25.11	4.507	20	-1.46	151.30	0
151	Acid Soluble Arsenic (ppm)	0476	117.2	1.387	150.8	25.11	4.507	20	-1.34	151.99	0
151	Acid Soluble Arsenic (ppm)	0255	124.2	14.16	150.8	25.11	4.507	20	-1.06	151.30	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				
151	Acid Soluble Arsenic (ppm)	0550	125.8	3.990	150.8	25.11	4.507	20	-1.00	151.00	0
151	Acid Soluble Arsenic (ppm)	0444	132.5	1.000	150.8	25.11	4.507	20	-0.73	151.30	0
151	Acid Soluble Arsenic (ppm)	0521	144.8	4.847	150.8	25.11	4.507	20	-0.24	151.30	0
151	Acid Soluble Arsenic (ppm)	0515	149.1	1.011	150.8	25.11	4.507	20	-0.07	151.33	0
151	Acid Soluble Arsenic (ppm)	0515	155.9	4.603	150.8	25.11	4.507	20	0.20	151.34	0
151	Acid Soluble Arsenic (ppm)	0368	159.1	9.963	150.8	25.11	4.507	20	0.33	151.34	0
151	Acid Soluble Arsenic (ppm)	0096	160.2	5.700	150.8	25.11	4.507	20	0.37	151.30	0
151	Acid Soluble Arsenic (ppm)	0481	160.9	0.3000	150.8	25.11	4.507	20	0.40	151.99	0
151	Acid Soluble Arsenic (ppm)	0102	162.2	4.517	150.8	25.11	4.507	20	0.45	151.30	0
151	Acid Soluble Arsenic (ppm)	0498	163.5	5.000	150.8	25.11	4.507	20	0.50	151.00	0
151	Acid Soluble Arsenic (ppm)	0117	164.4	7.996	150.8	25.11	4.507	20	0.54	151.33	0
151	Acid Soluble Arsenic (ppm)	0519	166.7	0.0200	150.8	25.11	4.507	20	0.63	151.99	0
151	Acid Soluble Arsenic (ppm)	0300	169.3	1.800	150.8	25.11	4.507	20	0.74	151.32	0
151	Acid Soluble Arsenic (ppm)	0527	171.6	8.265	150.8	25.11	4.507	20	0.82	151.33	0
151	Acid Soluble Arsenic (ppm)	0494	173.6	3.479	150.8	25.11	4.507	20	0.91	151.33	0
151	Acid Soluble Arsenic (ppm)	0405	189.0	8.000	150.8	25.11	4.507	20	1.52	151.99	0
151	Acid Soluble Arsenic (ppm)	0555	151.6	30.24	150.8	25.11	4.507	20	0.03	151.30	1
165	Acid Soluble Boron (0.2%)	0515	0.1471†	0.0548	0.2033	0.0163	0.0061	47	-3.44	165.99	0
165	Acid Soluble Boron (0.2%)	0255	0.1715	0.0190	0.2033	0.0163	0.0061	47	-1.95	165.99	0
165	Acid Soluble Boron (0.2%)	0476	0.1715	0.0180	0.2033	0.0163	0.0061	47	-1.95	165.99	0
165	Acid Soluble Boron (0.2%)	0506	0.1725	0.0050	0.2033	0.0163	0.0061	47	-1.89	165.00	0
165	Acid Soluble Boron (0.2%)	0309	0.1750	0.0100	0.2033	0.0163	0.0061	47	-1.73	165.00	0
165	Acid Soluble Boron (0.2%)	0513	0.1750	0.0100	0.2033	0.0163	0.0061	47	-1.73	165.99	0
165	Acid Soluble Boron (0.2%)	0524	0.1766	0.0022	0.2033	0.0163	0.0061	47	-1.64	165.99	0
165	Acid Soluble Boron (0.2%)	0472	0.1800	0.0000	0.2033	0.0163	0.0061	47	-1.43	165.99	0
165	Acid Soluble Boron (0.2%)	0537	0.1850	0.0100	0.2033	0.0163	0.0061	47	-1.12	165.00	0
165	Acid Soluble Boron (0.2%)	0029	0.1900	0.0100	0.2033	0.0163	0.0061	47	-0.81	165.00	0
165	Acid Soluble Boron (0.2%)	0405	0.1900	0.0000	0.2033	0.0163	0.0061	47	-0.81	165.00	0
165	Acid Soluble Boron (0.2%)	0234	0.1950	0.0100	0.2033	0.0163	0.0061	47	-0.51	165.30	0
165	Acid Soluble Boron (0.2%)	0028	0.1970	0.0000	0.2033	0.0163	0.0061	47	-0.38	165.00	0
165	Acid Soluble Boron (0.2%)	0481	0.2000	0.0000	0.2033	0.0163	0.0061	47	-0.20	165.00	0
165	Acid Soluble Boron (0.2%)	0498	0.2000	0.0000	0.2033	0.0163	0.0061	47	-0.20	165.00	0
165	Acid Soluble Boron (0.2%)	0389	0.2000	0.0000	0.2033	0.0163	0.0061	47	-0.20	165.30	0
165	Acid Soluble Boron (0.2%)	0486	0.2000	0.0000	0.2033	0.0163	0.0061	47	-0.20	165.99	0
165	Acid Soluble Boron (0.2%)	0501	0.2000	0.0000	0.2033	0.0163	0.0061	47	-0.20	165.99	0
165	Acid Soluble Boron (0.2%)	0550	0.2005	0.0030	0.2033	0.0163	0.0061	47	-0.17	165.00	0
165	Acid Soluble Boron (0.2%)	0542	0.2035	0.0065	0.2033	0.0163	0.0061	47	0.01	165.30	0
165	Acid Soluble Boron (0.2%)	0040	0.2050	0.0160	0.2033	0.0163	0.0061	47	0.11	165.30	0
165	Acid Soluble Boron (0.2%)	0354	0.2050	0.0100	0.2033	0.0163	0.0061	47	0.11	165.30	0
165	Acid Soluble Boron (0.2%)	0117	0.2061	0.0052	0.2033	0.0163	0.0061	47	0.17	165.99	0
165	Acid Soluble Boron (0.2%)	0536	0.2065	0.0030	0.2033	0.0163	0.0061	47	0.20	165.00	0
165	Acid Soluble Boron (0.2%)	0368	0.2067	0.0051	0.2033	0.0163	0.0061	47	0.21	165.99	0
165	Acid Soluble Boron (0.2%)	0535	0.2075	0.0030	0.2033	0.0163	0.0061	47	0.26	165.00	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				
165	Acid Soluble Boron (0.2%)	0527	0.2076	0.0030	0.2033	0.0163	0.0061	47	0.27	165.99	0
165	Acid Soluble Boron (0.2%)	0043	0.2085	0.0030	0.2033	0.0163	0.0061	47	0.32	165.30	0
165	Acid Soluble Boron (0.2%)	0360	0.2085	0.0010	0.2033	0.0163	0.0061	47	0.32	165.99	0
165	Acid Soluble Boron (0.2%)	0444	0.2100	0.0000	0.2033	0.0163	0.0061	47	0.41	165.30	0
165	Acid Soluble Boron (0.2%)	0519	0.2100	0.0000	0.2033	0.0163	0.0061	47	0.41	165.99	0
165	Acid Soluble Boron (0.2%)	0546	0.2104	0.0079	0.2033	0.0163	0.0061	47	0.43	165.99	0
165	Acid Soluble Boron (0.2%)	0451	0.2120	0.0060	0.2033	0.0163	0.0061	47	0.54	165.30	0
165	Acid Soluble Boron (0.2%)	0483	0.2120	0.0000	0.2033	0.0163	0.0061	47	0.54	165.99	0
165	Acid Soluble Boron (0.2%)	0494	0.2129	0.0060	0.2033	0.0163	0.0061	47	0.59	165.30	0
165	Acid Soluble Boron (0.2%)	0540	0.2150	0.0100	0.2033	0.0163	0.0061	47	0.72	165.00	0
165	Acid Soluble Boron (0.2%)	0482	0.2150	0.0100	0.2033	0.0163	0.0061	47	0.72	165.99	0
165	Acid Soluble Boron (0.2%)	0169	0.2153	0.0150	0.2033	0.0163	0.0061	47	0.74	165.00	0
165	Acid Soluble Boron (0.2%)	0394	0.2153	0.0016	0.2033	0.0163	0.0061	47	0.74	165.30	0
165	Acid Soluble Boron (0.2%)	0433	0.2155	0.0010	0.2033	0.0163	0.0061	47	0.75	165.30	0
165	Acid Soluble Boron (0.2%)	0485	0.2162	0.0136	0.2033	0.0163	0.0061	47	0.79	165.30	0
165	Acid Soluble Boron (0.2%)	0521	0.2183	0.0000	0.2033	0.0163	0.0061	47	0.92	165.30	0
165	Acid Soluble Boron (0.2%)	0405	0.2185	0.0010	0.2033	0.0163	0.0061	47	0.93	165.99	0
165	Acid Soluble Boron (0.2%)	0371	0.2200	0.0000	0.2033	0.0163	0.0061	47	1.03	165.30	0
165	Acid Soluble Boron (0.2%)	0300	0.2279	0.0039	0.2033	0.0163	0.0061	47	1.51	165.99	0
165	Acid Soluble Boron (0.2%)	0042	0.2295	0.0050	0.2033	0.0163	0.0061	47	1.61	165.99	0
165	Acid Soluble Boron (0.2%)	0231	0.2400‡	0.0000	0.2033	0.0163	0.0061	47	2.25	165.99	0
165	Acid Soluble Boron (0.2%)	0552	0.3700‡	0.2000	0.2033	0.0163	0.0061	47	10.22	165.99	2
171	Water Soluble Boron (%)	0200	0.1600	0.0000	0.1965	0.0131	0.0031	15	-2.77	171.10	0
171	Water Soluble Boron (%)	0506	0.1615	0.0070	0.1965	0.0131	0.0031	15	-2.66	171.99	0
171	Water Soluble Boron (%)	0444	0.1800	0.0000	0.1965	0.0131	0.0031	15	-1.25	171.99	0
171	Water Soluble Boron (%)	0405	0.1900	0.0000	0.1965	0.0131	0.0031	15	-0.49	171.10	0
171	Water Soluble Boron (%)	0535	0.1925	0.0050	0.1965	0.0131	0.0031	15	-0.30	171.10	0
171	Water Soluble Boron (%)	0536	0.1935	0.0050	0.1965	0.0131	0.0031	15	-0.23	171.00	0
171	Water Soluble Boron (%)	0533	0.1950	0.0100	0.1965	0.0131	0.0031	15	-0.11	171.10	0
171	Water Soluble Boron (%)	0540	0.2000	0.0020	0.1965	0.0131	0.0031	15	0.27	171.00	0
171	Water Soluble Boron (%)	0486	0.2000	0.0000	0.1965	0.0131	0.0031	15	0.27	171.99	0
171	Water Soluble Boron (%)	0550	0.2005	0.0010	0.1965	0.0131	0.0031	15	0.31	171.10	0
171	Water Soluble Boron (%)	0394	0.2060	0.0008	0.1965	0.0131	0.0031	15	0.73	171.99	0
171	Water Soluble Boron (%)	0553	0.2073	0.0045	0.1965	0.0131	0.0031	15	0.82	171.10	0
171	Water Soluble Boron (%)	0027	0.2090	0.0080	0.1965	0.0131	0.0031	15	0.95	171.99	0
171	Water Soluble Boron (%)	0300	0.2097	0.0037	0.1965	0.0131	0.0031	15	1.00	171.99	0
171	Water Soluble Boron (%)	0402	0.2100	0.0000	0.1965	0.0131	0.0031	15	1.03	171.99	0
181	Acid Soluble Cadmium (ppm)	0523	109.0	0.3840	188.2	27.18	9.334	27	-2.91	181.30	0
181	Acid Soluble Cadmium (ppm)	0476	128.7	16.18	188.2	27.18	9.334	27	-2.19	181.99	0
181	Acid Soluble Cadmium (ppm)	0550	134.4	0.1000	188.2	27.18	9.334	27	-1.98	181.00	0
181	Acid Soluble Cadmium (ppm)	0255	138.4	5.821	188.2	27.18	9.334	27	-1.83	181.30	0
181	Acid Soluble Cadmium (ppm)	0524	161.5	3.677	188.2	27.18	9.334	27	-0.98	181.30	0
181	Acid Soluble Cadmium (ppm)	0521	163.5	2.415	188.2	27.18	9.334	27	-0.91	181.30	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				
181	Acid Soluble Cadmium (ppm)	0515	175.7	19.62	188.2	27.18	9.334	27	-0.46	181.33	0
181	Acid Soluble Cadmium (ppm)	0300	180.9	10.00	188.2	27.18	9.334	27	-0.27	181.32	0
181	Acid Soluble Cadmium (ppm)	0368	183.6	7.445	188.2	27.18	9.334	27	-0.17	181.34	0
181	Acid Soluble Cadmium (ppm)	0389	185.8	4.000	188.2	27.18	9.334	27	-0.09	181.30	0
181	Acid Soluble Cadmium (ppm)	0515	186.4	36.77	188.2	27.18	9.334	27	-0.06	181.34	0
181	Acid Soluble Cadmium (ppm)	0394	188.0	10.00	188.2	27.18	9.334	27	-0.01	181.30	0
181	Acid Soluble Cadmium (ppm)	0494	188.7	4.356	188.2	27.18	9.334	27	0.02	181.33	0
181	Acid Soluble Cadmium (ppm)	0419	189.5	16.20	188.2	27.18	9.334	27	0.05	181.99	0
181	Acid Soluble Cadmium (ppm)	0519	189.8	0.0100	188.2	27.18	9.334	27	0.06	181.99	0
181	Acid Soluble Cadmium (ppm)	0096	189.9	2.400	188.2	27.18	9.334	27	0.06	181.30	0
181	Acid Soluble Cadmium (ppm)	0481	191.3	0.7000	188.2	27.18	9.334	27	0.11	181.99	0
181	Acid Soluble Cadmium (ppm)	0117	199.3	16.70	188.2	27.18	9.334	27	0.41	181.33	0
181	Acid Soluble Cadmium (ppm)	0405	200.0	16.00	188.2	27.18	9.334	27	0.44	181.99	0
181	Acid Soluble Cadmium (ppm)	0102	200.2	11.58	188.2	27.18	9.334	27	0.44	181.30	0
181	Acid Soluble Cadmium (ppm)	0482	205.0	8.000	188.2	27.18	9.334	27	0.62	181.30	0
181	Acid Soluble Cadmium (ppm)	0527	208.1	7.598	188.2	27.18	9.334	27	0.73	181.33	0
181	Acid Soluble Cadmium (ppm)	0300	209.5	31.00	188.2	27.18	9.334	27	0.79	181.00	0
181	Acid Soluble Cadmium (ppm)	0444	212.5	1.000	188.2	27.18	9.334	27	0.90	181.30	0
181	Acid Soluble Cadmium (ppm)	0498	223.5	1.000	188.2	27.18	9.334	27	1.30	181.00	0
181	Acid Soluble Cadmium (ppm)	0506	230.0	10.00	188.2	27.18	9.334	27	1.54	181.99	0
181	Acid Soluble Cadmium (ppm)	0555	366.9	9.070	188.2	27.18	9.334	27	6.57	181.30	0
191	Acid Soluble Chromium (ppm)	0523	379.1	6.730	574.3	102.9	15.05	24	-1.90	191.30	0
191	Acid Soluble Chromium (ppm)	0444	414.0	2.000	574.3	102.9	15.05	24	-1.56	191.30	0
191	Acid Soluble Chromium (ppm)	0476	427.2	22.04	574.3	102.9	15.05	24	-1.43	191.99	0
191	Acid Soluble Chromium (ppm)	0550	434.8	10.17	574.3	102.9	15.05	24	-1.36	191.00	0
191	Acid Soluble Chromium (ppm)	0521	456.8	7.087	574.3	102.9	15.05	24	-1.14	191.30	0
191	Acid Soluble Chromium (ppm)	0524	510.4	14.86	574.3	102.9	15.05	24	-0.62	191.30	0
191	Acid Soluble Chromium (ppm)	0394	528.5	5.000	574.3	102.9	15.05	24	-0.45	191.30	0
191	Acid Soluble Chromium (ppm)	0482	547.0	36.00	574.3	102.9	15.05	24	-0.27	191.30	0
191	Acid Soluble Chromium (ppm)	0405	551.5	43.00	574.3	102.9	15.05	24	-0.22	191.99	0
191	Acid Soluble Chromium (ppm)	0389	557.6	0.0000	574.3	102.9	15.05	24	-0.16	191.30	0
191	Acid Soluble Chromium (ppm)	0494	577.3	13.91	574.3	102.9	15.05	24	0.03	191.33	0
191	Acid Soluble Chromium (ppm)	0368	578.1	19.92	574.3	102.9	15.05	24	0.04	191.34	0
191	Acid Soluble Chromium (ppm)	0519	614.0	0.0500	574.3	102.9	15.05	24	0.39	191.99	0
191	Acid Soluble Chromium (ppm)	0300	615.6	5.900	574.3	102.9	15.05	24	0.40	191.32	0
191	Acid Soluble Chromium (ppm)	0117	618.6	5.645	574.3	102.9	15.05	24	0.43	191.33	0
191	Acid Soluble Chromium (ppm)	0419	619.0	7.400	574.3	102.9	15.05	24	0.43	191.99	0
191	Acid Soluble Chromium (ppm)	0527	636.1	19.08	574.3	102.9	15.05	24	0.60	191.33	0
191	Acid Soluble Chromium (ppm)	0515	636.3	36.59	574.3	102.9	15.05	24	0.60	191.34	0
191	Acid Soluble Chromium (ppm)	0096	638.0	3.900	574.3	102.9	15.05	24	0.62	191.30	0
191	Acid Soluble Chromium (ppm)	0498	642.5	9.000	574.3	102.9	15.05	24	0.66	191.00	0
191	Acid Soluble Chromium (ppm)	0102	649.8	38.61	574.3	102.9	15.05	24	0.73	191.30	0
191	Acid Soluble Chromium (ppm)	0481	682.2	0.3000	574.3	102.9	15.05	24	1.05	191.99	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				
191	Acid Soluble Chromium (ppm)	0555	694.1	42.03	574.3	102.9	15.05	24	1.16	191.30	0
191	Acid Soluble Chromium (ppm)	0506	958.0	12.00	574.3	102.9	15.05	24	3.73	191.99	0
191	Acid Soluble Chromium (ppm)	0515	648.5	123.8	574.3	102.9	15.05	24	0.72	191.33	1
202	Acid Soluble Cobalt (ppm)	0523	209.0	4.683	351.8	59.11	9.482	23	-2.42	202.30	0
202	Acid Soluble Cobalt (ppm)	0476	248.9	9.054	351.8	59.11	9.482	23	-1.74	202.99	0
202	Acid Soluble Cobalt (ppm)	0521	249.7	3.270	351.8	59.11	9.482	23	-1.73	202.30	0
202	Acid Soluble Cobalt (ppm)	0550	277.1	2.500	351.8	59.11	9.482	23	-1.26	202.33	0
202	Acid Soluble Cobalt (ppm)	0255	286.1	19.96	351.8	59.11	9.482	23	-1.11	202.99	0
202	Acid Soluble Cobalt (ppm)	0482	304.0	6.000	351.8	59.11	9.482	23	-0.81	202.30	0
202	Acid Soluble Cobalt (ppm)	0498	335.0	10.00	351.8	59.11	9.482	23	-0.28	202.00	0
202	Acid Soluble Cobalt (ppm)	0524	354.4	6.279	351.8	59.11	9.482	23	0.04	202.30	0
202	Acid Soluble Cobalt (ppm)	0527	357.0	7.551	351.8	59.11	9.482	23	0.09	202.33	0
202	Acid Soluble Cobalt (ppm)	0389	361.0	3.300	351.8	59.11	9.482	23	0.15	202.30	0
202	Acid Soluble Cobalt (ppm)	0481	363.8	5.200	351.8	59.11	9.482	23	0.20	202.99	0
202	Acid Soluble Cobalt (ppm)	0515	363.9	20.54	351.8	59.11	9.482	23	0.21	202.33	0
202	Acid Soluble Cobalt (ppm)	0494	364.8	2.582	351.8	59.11	9.482	23	0.22	202.33	0
202	Acid Soluble Cobalt (ppm)	0368	367.0	10.28	351.8	59.11	9.482	23	0.26	202.34	0
202	Acid Soluble Cobalt (ppm)	0515	371.9	31.15	351.8	59.11	9.482	23	0.34	202.34	0
202	Acid Soluble Cobalt (ppm)	0300	373.0	4.700	351.8	59.11	9.482	23	0.36	202.32	0
202	Acid Soluble Cobalt (ppm)	0419	374.8	2.500	351.8	59.11	9.482	23	0.39	202.99	0
202	Acid Soluble Cobalt (ppm)	0405	382.5	7.000	351.8	59.11	9.482	23	0.52	202.99	0
202	Acid Soluble Cobalt (ppm)	0117	387.8	1.088	351.8	59.11	9.482	23	0.61	202.33	0
202	Acid Soluble Cobalt (ppm)	0096	399.8	10.10	351.8	59.11	9.482	23	0.81	202.30	0
202	Acid Soluble Cobalt (ppm)	0555	410.9	22.03	351.8	59.11	9.482	23	1.00	202.30	0
202	Acid Soluble Cobalt (ppm)	0102	427.0	27.32	351.8	59.11	9.482	23	1.27	202.30	0
202	Acid Soluble Cobalt (ppm)	0519	524.5	0.9900	351.8	59.11	9.482	23	2.92	202.99	0
202	Acid Soluble Cobalt (ppm)	0546	405.0	90.00	351.8	59.11	9.482	23	0.90	202.33	1
221	Acid Soluble Copper (0.06%)	0550	0.00215†	0.0003	0.1281	0.0141	0.0054	49	-8.94	221.99	0
221	Acid Soluble Copper (0.06%)	0537	0.02500†	0.0100	0.1281	0.0141	0.0054	49	-7.32	221.00	0
221	Acid Soluble Copper (0.06%)	0519	0.07500†	0.0100	0.1281	0.0141	0.0054	49	-3.77	221.99	0
221	Acid Soluble Copper (0.06%)	0476	0.08000†	0.0000	0.1281	0.0141	0.0054	49	-3.41	221.99	0
221	Acid Soluble Copper (0.06%)	0234	0.1000†	0.0000	0.1281	0.0141	0.0054	49	-1.99	221.30	0
221	Acid Soluble Copper (0.06%)	0042	0.1025†	0.0030	0.1281	0.0141	0.0054	49	-1.82	221.99	0
221	Acid Soluble Copper (0.06%)	0255	0.1085†	0.0190	0.1281	0.0141	0.0054	49	-1.39	221.30	0
221	Acid Soluble Copper (0.06%)	0486	0.1150	0.0100	0.1281	0.0141	0.0054	49	-0.93	221.33	0
221	Acid Soluble Copper (0.06%)	0555	0.1189	0.0045	0.1281	0.0141	0.0054	49	-0.66	221.33	0
221	Acid Soluble Copper (0.06%)	0515	0.1193	0.0009	0.1281	0.0141	0.0054	49	-0.63	221.99	0
221	Acid Soluble Copper (0.06%)	0494	0.1194	0.0025	0.1281	0.0141	0.0054	49	-0.62	221.33	0
221	Acid Soluble Copper (0.06%)	0451	0.1195	0.0030	0.1281	0.0141	0.0054	49	-0.61	221.30	0
221	Acid Soluble Copper (0.06%)	0550	0.1200	0.0080	0.1281	0.0141	0.0054	49	-0.57	221.00	0
221	Acid Soluble Copper (0.06%)	0472	0.1200	0.0000	0.1281	0.0141	0.0054	49	-0.57	221.30	0
221	Acid Soluble Copper (0.06%)	0419	0.1215	0.0030	0.1281	0.0141	0.0054	49	-0.47	221.99	0
221	Acid Soluble Copper (0.06%)	0300	0.1230	0.0051	0.1281	0.0141	0.0054	49	-0.37	221.32	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
221	Acid Soluble Copper (0.06%)	0354	0.1250	0.0100	0.1281	0.0141	0.0054	49	-0.22	221.30	0
221	Acid Soluble Copper (0.06%)	0371	0.1250	0.0100	0.1281	0.0141	0.0054	49	-0.22	221.30	0
221	Acid Soluble Copper (0.06%)	0444	0.1250	0.0100	0.1281	0.0141	0.0054	49	-0.22	221.30	0
221	Acid Soluble Copper (0.06%)	0485	0.1252	0.0190	0.1281	0.0141	0.0054	49	-0.21	221.00	0
221	Acid Soluble Copper (0.06%)	0524	0.1258	0.0046	0.1281	0.0141	0.0054	49	-0.16	221.99	0
221	Acid Soluble Copper (0.06%)	0368	0.1263	0.0037	0.1281	0.0141	0.0054	49	-0.13	221.99	0
221	Acid Soluble Copper (0.06%)	0540	0.1270	0.0040	0.1281	0.0141	0.0054	49	-0.08	221.00	0
221	Acid Soluble Copper (0.06%)	0433	0.1280	0.0020	0.1281	0.0141	0.0054	49	-0.01	221.30	0
221	Acid Soluble Copper (0.06%)	0389	0.1280	0.0020	0.1281	0.0141	0.0054	49	-0.01	221.99	0
221	Acid Soluble Copper (0.06%)	0394	0.1286	0.0018	0.1281	0.0141	0.0054	49	0.04	221.32	0
221	Acid Soluble Copper (0.06%)	0535	0.1290	0.0020	0.1281	0.0141	0.0054	49	0.06	221.00	0
221	Acid Soluble Copper (0.06%)	0043	0.1290	0.0000	0.1281	0.0141	0.0054	49	0.06	221.33	0
221	Acid Soluble Copper (0.06%)	0041	0.1300	0.0000	0.1281	0.0141	0.0054	49	0.14	221.30	0
221	Acid Soluble Copper (0.06%)	0481	0.1300	0.0000	0.1281	0.0141	0.0054	49	0.14	221.99	0
221	Acid Soluble Copper (0.06%)	0029	0.1320	0.0096	0.1281	0.0141	0.0054	49	0.28	221.00	0
221	Acid Soluble Copper (0.06%)	0117	0.1333	0.0089	0.1281	0.0141	0.0054	49	0.37	221.33	0
221	Acid Soluble Copper (0.06%)	0360	0.1340	0.0020	0.1281	0.0141	0.0054	49	0.42	221.30	0
221	Acid Soluble Copper (0.06%)	0040	0.1341	0.0073	0.1281	0.0141	0.0054	49	0.42	221.00	0
221	Acid Soluble Copper (0.06%)	0553	0.1350	0.0080	0.1281	0.0141	0.0054	49	0.49	221.00	0
221	Acid Soluble Copper (0.06%)	0402	0.1350	0.0100	0.1281	0.0141	0.0054	49	0.49	221.30	0
221	Acid Soluble Copper (0.06%)	0527	0.1351	0.0035	0.1281	0.0141	0.0054	49	0.49	221.33	0
221	Acid Soluble Copper (0.06%)	0521	0.1362	0.0000	0.1281	0.0141	0.0054	49	0.58	221.32	0
221	Acid Soluble Copper (0.06%)	0483	0.1365	0.0170	0.1281	0.0141	0.0054	49	0.60	221.30	0
221	Acid Soluble Copper (0.06%)	0231	0.1400	0.0000	0.1281	0.0141	0.0054	49	0.84	221.30	0
221	Acid Soluble Copper (0.06%)	0546	0.1410	0.0043	0.1281	0.0141	0.0054	49	0.91	221.33	0
221	Acid Soluble Copper (0.06%)	0102	0.1426	0.0055	0.1281	0.0141	0.0054	49	1.03	221.30	0
221	Acid Soluble Copper (0.06%)	0482	0.1450	0.0100	0.1281	0.0141	0.0054	49	1.20	221.30	0
221	Acid Soluble Copper (0.06%)	0027	0.1465‡	0.0010	0.1281	0.0141	0.0054	49	1.31	221.99	0
221	Acid Soluble Copper (0.06%)	0405	0.1470‡	0.0040	0.1281	0.0141	0.0054	49	1.34	221.99	0
221	Acid Soluble Copper (0.06%)	0096	0.1477‡	0.0067	0.1281	0.0141	0.0054	49	1.39	221.30	0
221	Acid Soluble Copper (0.06%)	0523	0.1490‡	0.0020	0.1281	0.0141	0.0054	49	1.48	221.99	0
221	Acid Soluble Copper (0.06%)	0498	0.1500‡	0.0000	0.1281	0.0141	0.0054	49	1.55	221.00	0
221	Acid Soluble Copper (0.06%)	0515	0.1741‡	0.0167	0.1281	0.0141	0.0054	49	3.26	221.33	0
221	Acid Soluble Copper (0.06%)	0531	0.1200	0.0400	0.1281	0.0141	0.0054	49	-0.57	221.00	1
221	Acid Soluble Copper (0.06%)	0552	0.1800‡	0.0600	0.1281	0.0141	0.0054	49	3.68	221.30	1
241	Acid Soluble Iron (1%)	0550	0.00060†	0.0010	0.6416	0.0969	0.0271	51	-6.61	241.99	0
241	Acid Soluble Iron (1%)	0476	0.08000†	0.0000	0.6416	0.0969	0.0271	51	-5.79	241.99	0
241	Acid Soluble Iron (1%)	0498	0.4700†	0.0200	0.6416	0.0969	0.0271	51	-1.77	241.00	0
241	Acid Soluble Iron (1%)	0555	0.4734†	0.0397	0.6416	0.0969	0.0271	51	-1.74	241.33	0
241	Acid Soluble Iron (1%)	0389	0.4835†	0.0010	0.6416	0.0969	0.0271	51	-1.63	241.99	0
241	Acid Soluble Iron (1%)	0472	0.5050†	0.0100	0.6416	0.0969	0.0271	51	-1.41	241.30	0
241	Acid Soluble Iron (1%)	0537	0.5300†	0.0600	0.6416	0.0969	0.0271	51	-1.15	241.00	0
241	Acid Soluble Iron (1%)	0506	0.5345†	0.0130	0.6416	0.0969	0.0271	51	-1.11	241.99	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				
241	Acid Soluble Iron (1%)	0553	0.5358†	0.0785	0.6416	0.0969	0.0271	51	-1.09	241.00	0
241	Acid Soluble Iron (1%)	0481	0.5550†	0.0100	0.6416	0.0969	0.0271	51	-0.89	241.99	0
241	Acid Soluble Iron (1%)	0419	0.5605†	0.0390	0.6416	0.0969	0.0271	51	-0.84	241.99	0
241	Acid Soluble Iron (1%)	0043	0.5650†	0.0100	0.6416	0.0969	0.0271	51	-0.79	241.33	0
241	Acid Soluble Iron (1%)	0042	0.5705†	0.0210	0.6416	0.0969	0.0271	51	-0.73	241.99	0
241	Acid Soluble Iron (1%)	0515	0.5714†	0.0984	0.6416	0.0969	0.0271	51	-0.72	241.99	0
241	Acid Soluble Iron (1%)	0540	0.5850	0.0300	0.6416	0.0969	0.0271	51	-0.58	241.00	0
241	Acid Soluble Iron (1%)	0513	0.5900	0.1000	0.6416	0.0969	0.0271	51	-0.53	241.00	0
241	Acid Soluble Iron (1%)	0535	0.5950	0.0300	0.6416	0.0969	0.0271	51	-0.48	241.00	0
241	Acid Soluble Iron (1%)	0255	0.5955	0.0190	0.6416	0.0969	0.0271	51	-0.48	241.30	0
241	Acid Soluble Iron (1%)	0524	0.6096	0.0117	0.6416	0.0969	0.0271	51	-0.33	241.99	0
241	Acid Soluble Iron (1%)	0550	0.6145	0.0650	0.6416	0.0969	0.0271	51	-0.28	241.00	0
241	Acid Soluble Iron (1%)	0368	0.6183	0.0020	0.6416	0.0969	0.0271	51	-0.24	241.99	0
241	Acid Soluble Iron (1%)	0521	0.6266	0.0000	0.6416	0.0969	0.0271	51	-0.15	241.32	0
241	Acid Soluble Iron (1%)	0494	0.6331	0.0009	0.6416	0.0969	0.0271	51	-0.09	241.33	0
241	Acid Soluble Iron (1%)	0523	0.6355	0.0370	0.6416	0.0969	0.0271	51	-0.06	241.99	0
241	Acid Soluble Iron (1%)	0531	0.6500	0.0200	0.6416	0.0969	0.0271	51	0.09	241.00	0
241	Acid Soluble Iron (1%)	0394	0.6634	0.0165	0.6416	0.0969	0.0271	51	0.22	241.32	0
241	Acid Soluble Iron (1%)	0483	0.6780	0.0120	0.6416	0.0969	0.0271	51	0.38	241.30	0
241	Acid Soluble Iron (1%)	0231	0.6800	0.0200	0.6416	0.0969	0.0271	51	0.40	241.30	0
241	Acid Soluble Iron (1%)	0433	0.6805	0.0030	0.6416	0.0969	0.0271	51	0.40	241.30	0
241	Acid Soluble Iron (1%)	0444	0.6850	0.0100	0.6416	0.0969	0.0271	51	0.45	241.30	0
241	Acid Soluble Iron (1%)	0485	0.6868	0.0145	0.6416	0.0969	0.0271	51	0.47	241.00	0
241	Acid Soluble Iron (1%)	0300	0.6896	0.0096	0.6416	0.0969	0.0271	51	0.49	241.32	0
241	Acid Soluble Iron (1%)	0515	0.6931	0.0241	0.6416	0.0969	0.0271	51	0.53	241.33	0
241	Acid Soluble Iron (1%)	0041	0.6950	0.0700	0.6416	0.0969	0.0271	51	0.55	241.30	0
241	Acid Soluble Iron (1%)	0040	0.7000	0.0400	0.6416	0.0969	0.0271	51	0.60	241.00	0
241	Acid Soluble Iron (1%)	0234	0.7000	0.0000	0.6416	0.0969	0.0271	51	0.60	241.30	0
241	Acid Soluble Iron (1%)	0096	0.7100	0.0400	0.6416	0.0969	0.0271	51	0.71	241.30	0
241	Acid Soluble Iron (1%)	0405	0.7100	0.0200	0.6416	0.0969	0.0271	51	0.71	241.99	0
241	Acid Soluble Iron (1%)	0360	0.7110‡	0.0160	0.6416	0.0969	0.0271	51	0.72	241.30	0
241	Acid Soluble Iron (1%)	0117	0.7128‡	0.0348	0.6416	0.0969	0.0271	51	0.73	241.33	0
241	Acid Soluble Iron (1%)	0354	0.7150‡	0.0100	0.6416	0.0969	0.0271	51	0.76	241.30	0
241	Acid Soluble Iron (1%)	0402	0.7150‡	0.0300	0.6416	0.0969	0.0271	51	0.76	241.30	0
241	Acid Soluble Iron (1%)	0486	0.7150‡	0.0100	0.6416	0.0969	0.0271	51	0.76	241.33	0
241	Acid Soluble Iron (1%)	0177	0.7252‡	0.0077	0.6416	0.0969	0.0271	51	0.86	241.33	0
241	Acid Soluble Iron (1%)	0029	0.7286‡	0.0354	0.6416	0.0969	0.0271	51	0.90	241.00	0
241	Acid Soluble Iron (1%)	0482	0.7300‡	0.0200	0.6416	0.0969	0.0271	51	0.91	241.30	0
241	Acid Soluble Iron (1%)	0546	0.7308‡	0.0120	0.6416	0.0969	0.0271	51	0.92	241.33	0
241	Acid Soluble Iron (1%)	0527	0.7473‡	0.0201	0.6416	0.0969	0.0271	51	1.09	241.33	0
241	Acid Soluble Iron (1%)	0371	0.7850‡	0.0100	0.6416	0.0969	0.0271	51	1.48	241.30	0
241	Acid Soluble Iron (1%)	0552	0.8650‡	0.1700	0.6416	0.0969	0.0271	51	2.30	241.30	0
241	Acid Soluble Iron (1%)	0519	0.9550‡	0.0100	0.6416	0.0969	0.0271	51	3.23	241.99	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				
241	Acid Soluble Iron (1%)	0102	6.151‡	0.5444	0.6416	0.0969	0.0271	51	56.83	241.30	2
251	Acid Soluble Lead (ppm)	0523	507.3	27.18	876.7	189.4	32.70	23	-1.95	251.30	0
251	Acid Soluble Lead (ppm)	0444	570.0	0.0000	876.7	189.4	32.70	23	-1.62	251.30	0
251	Acid Soluble Lead (ppm)	0476	575.6	31.62	876.7	189.4	32.70	23	-1.59	251.99	0
251	Acid Soluble Lead (ppm)	0550	608.8	10.47	876.7	189.4	32.70	23	-1.41	251.00	0
251	Acid Soluble Lead (ppm)	0255	650.6	62.34	876.7	189.4	32.70	23	-1.19	251.30	0
251	Acid Soluble Lead (ppm)	0482	739.0	58.00	876.7	189.4	32.70	23	-0.73	251.30	0
251	Acid Soluble Lead (ppm)	0394	844.0	38.00	876.7	189.4	32.70	23	-0.17	251.30	0
251	Acid Soluble Lead (ppm)	0524	901.4	0.2228	876.7	189.4	32.70	23	0.13	251.30	0
251	Acid Soluble Lead (ppm)	0117	904.8	2.644	876.7	189.4	32.70	23	0.15	251.33	0
251	Acid Soluble Lead (ppm)	0300	907.1	20.30	876.7	189.4	32.70	23	0.16	251.32	0
251	Acid Soluble Lead (ppm)	0405	910.5	29.00	876.7	189.4	32.70	23	0.18	251.99	0
251	Acid Soluble Lead (ppm)	0494	920.7	49.12	876.7	189.4	32.70	23	0.23	251.33	0
251	Acid Soluble Lead (ppm)	0096	925.2	6.200	876.7	189.4	32.70	23	0.26	251.30	0
251	Acid Soluble Lead (ppm)	0389	932.7	0.5000	876.7	189.4	32.70	23	0.30	251.30	0
251	Acid Soluble Lead (ppm)	0519	940.5	0.9900	876.7	189.4	32.70	23	0.34	251.99	0
251	Acid Soluble Lead (ppm)	0419	942.0	4.400	876.7	189.4	32.70	23	0.34	251.99	0
251	Acid Soluble Lead (ppm)	0527	959.8	40.77	876.7	189.4	32.70	23	0.44	251.33	0
251	Acid Soluble Lead (ppm)	0102	982.8	65.11	876.7	189.4	32.70	23	0.56	251.30	0
251	Acid Soluble Lead (ppm)	0481	997.9	10.80	876.7	189.4	32.70	23	0.64	251.99	0
251	Acid Soluble Lead (ppm)	0368	1,018	105.2	876.7	189.4	32.70	23	0.74	251.34	0
251	Acid Soluble Lead (ppm)	0506	1,047	106.0	876.7	189.4	32.70	23	0.90	251.99	0
251	Acid Soluble Lead (ppm)	0555	1,094	6.740	876.7	189.4	32.70	23	1.14	251.30	0
251	Acid Soluble Lead (ppm)	0515	1,335	76.57	876.7	189.4	32.70	23	2.42	251.33	0
251	Acid Soluble Lead (ppm)	0515	523.7	1,047	876.7	189.4	32.70	23	-1.86	251.34	1
261	Acid Soluble Manganese (0.16%)	0481	0.05000†	0.0000	0.1590	0.0158	0.0073	52	-6.88	261.99	0
261	Acid Soluble Manganese (0.16%)	0476	0.1050†	0.0100	0.1590	0.0158	0.0073	52	-3.41	261.99	0
261	Acid Soluble Manganese (0.16%)	0536	0.1150†	0.0100	0.1590	0.0158	0.0073	52	-2.78	261.12	0
261	Acid Soluble Manganese (0.16%)	0535	0.1175†	0.0050	0.1590	0.0158	0.0073	52	-2.62	261.13	0
261	Acid Soluble Manganese (0.16%)	0531	0.1200†	0.0200	0.1590	0.0158	0.0073	52	-2.46	261.12	0
261	Acid Soluble Manganese (0.16%)	0515	0.1324†	0.0186	0.1590	0.0158	0.0073	52	-1.68	261.35	0
261	Acid Soluble Manganese (0.16%)	0513	0.1350†	0.0100	0.1590	0.0158	0.0073	52	-1.51	261.12	0
261	Acid Soluble Manganese (0.16%)	0485	0.1368†	0.0012	0.1590	0.0158	0.0073	52	-1.40	261.12	0
261	Acid Soluble Manganese (0.16%)	0494	0.1405	0.0078	0.1590	0.0158	0.0073	52	-1.17	261.35	0
261	Acid Soluble Manganese (0.16%)	0255	0.1410	0.0220	0.1590	0.0158	0.0073	52	-1.14	261.99	0
261	Acid Soluble Manganese (0.16%)	0519	0.1450	0.0100	0.1590	0.0158	0.0073	52	-0.88	261.99	0
261	Acid Soluble Manganese (0.16%)	0177	0.1470	0.0019	0.1590	0.0158	0.0073	52	-0.76	261.35	0
261	Acid Soluble Manganese (0.16%)	0472	0.1500	0.0000	0.1590	0.0158	0.0073	52	-0.57	261.30	0
261	Acid Soluble Manganese (0.16%)	0540	0.1530	0.0060	0.1590	0.0158	0.0073	52	-0.38	261.12	0
261	Acid Soluble Manganese (0.16%)	0524	0.1545	0.0008	0.1590	0.0158	0.0073	52	-0.28	261.99	0
261	Acid Soluble Manganese (0.16%)	0234	0.1550	0.0100	0.1590	0.0158	0.0073	52	-0.25	261.31	0
261	Acid Soluble Manganese (0.16%)	0371	0.1550	0.0100	0.1590	0.0158	0.0073	52	-0.25	261.32	0
261	Acid Soluble Manganese (0.16%)	0419	0.1560	0.0000	0.1590	0.0158	0.0073	52	-0.19	261.99	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				
261	Acid Soluble Manganese (0.16%)	0394	0.1561	0.0059	0.1590	0.0158	0.0073	52	-0.19	261.34	0
261	Acid Soluble Manganese (0.16%)	0043	0.1570	0.0060	0.1590	0.0158	0.0073	52	-0.13	261.35	0
261	Acid Soluble Manganese (0.16%)	0368	0.1576	0.0003	0.1590	0.0158	0.0073	52	-0.09	261.99	0
261	Acid Soluble Manganese (0.16%)	0546	0.1579	0.0044	0.1590	0.0158	0.0073	52	-0.07	261.35	0
261	Acid Soluble Manganese (0.16%)	0389	0.1590	0.0020	0.1590	0.0158	0.0073	52	0.00	261.99	0
261	Acid Soluble Manganese (0.16%)	0300	0.1593	0.0080	0.1590	0.0158	0.0073	52	0.02	261.32	0
261	Acid Soluble Manganese (0.16%)	0354	0.1600	0.0000	0.1590	0.0158	0.0073	52	0.06	261.30	0
261	Acid Soluble Manganese (0.16%)	0444	0.1600	0.0200	0.1590	0.0158	0.0073	52	0.06	261.30	0
261	Acid Soluble Manganese (0.16%)	0486	0.1600	0.0000	0.1590	0.0158	0.0073	52	0.06	261.35	0
261	Acid Soluble Manganese (0.16%)	0451	0.1610	0.0040	0.1590	0.0158	0.0073	52	0.13	261.32	0
261	Acid Soluble Manganese (0.16%)	0527	0.1613	0.0005	0.1590	0.0158	0.0073	52	0.14	261.35	0
261	Acid Soluble Manganese (0.16%)	0550	0.1635	0.0070	0.1590	0.0158	0.0073	52	0.29	261.11	0
261	Acid Soluble Manganese (0.16%)	0029	0.1643	0.0179	0.1590	0.0158	0.0073	52	0.33	261.12	0
261	Acid Soluble Manganese (0.16%)	0402	0.1650	0.0100	0.1590	0.0158	0.0073	52	0.38	261.32	0
261	Acid Soluble Manganese (0.16%)	0096	0.1651	0.0155	0.1590	0.0158	0.0073	52	0.38	261.30	0
261	Acid Soluble Manganese (0.16%)	0117	0.1653	0.0044	0.1590	0.0158	0.0073	52	0.40	261.35	0
261	Acid Soluble Manganese (0.16%)	0042	0.1660	0.0120	0.1590	0.0158	0.0073	52	0.44	261.99	0
261	Acid Soluble Manganese (0.16%)	0515	0.1665	0.0014	0.1590	0.0158	0.0073	52	0.47	261.99	0
261	Acid Soluble Manganese (0.16%)	0433	0.1675	0.0010	0.1590	0.0158	0.0073	52	0.54	261.30	0
261	Acid Soluble Manganese (0.16%)	0360	0.1675	0.0050	0.1590	0.0158	0.0073	52	0.54	261.31	0
261	Acid Soluble Manganese (0.16%)	0405	0.1675	0.0050	0.1590	0.0158	0.0073	52	0.54	261.99	0
261	Acid Soluble Manganese (0.16%)	0483	0.1680	0.0080	0.1590	0.0158	0.0073	52	0.57	261.32	0
261	Acid Soluble Manganese (0.16%)	0542	0.1698	0.0060	0.1590	0.0158	0.0073	52	0.68	261.34	0
261	Acid Soluble Manganese (0.16%)	0231	0.1700	0.0000	0.1590	0.0158	0.0073	52	0.70	261.32	0
261	Acid Soluble Manganese (0.16%)	0040	0.1705	0.0050	0.1590	0.0158	0.0073	52	0.73	261.12	0
261	Acid Soluble Manganese (0.16%)	0102	0.1722	0.0134	0.1590	0.0158	0.0073	52	0.83	261.30	0
261	Acid Soluble Manganese (0.16%)	0024	0.1730	0.0220	0.1590	0.0158	0.0073	52	0.88	261.35	0
261	Acid Soluble Manganese (0.16%)	0041	0.1750	0.0100	0.1590	0.0158	0.0073	52	1.01	261.30	0
261	Acid Soluble Manganese (0.16%)	0523	0.1770	0.0160	0.1590	0.0158	0.0073	52	1.14	261.99	0
261	Acid Soluble Manganese (0.16%)	0553	0.1780	0.0090	0.1590	0.0158	0.0073	52	1.20	261.12	0
261	Acid Soluble Manganese (0.16%)	0521	0.1792	0.0000	0.1590	0.0158	0.0073	52	1.28	261.34	0
261	Acid Soluble Manganese (0.16%)	0027	0.1815‡	0.0050	0.1590	0.0158	0.0073	52	1.42	261.99	0
261	Acid Soluble Manganese (0.16%)	0482	0.1900‡	0.0000	0.1590	0.0158	0.0073	52	1.96	261.31	0
261	Acid Soluble Manganese (0.16%)	0555	0.1970‡	0.0113	0.1590	0.0158	0.0073	52	2.40	261.35	0
261	Acid Soluble Manganese (0.16%)	0537	0.1350†	0.0700	0.1590	0.0158	0.0073	52	-1.51	261.11	1
261	Acid Soluble Manganese (0.16%)	0552	0.2700‡	0.0600	0.1590	0.0158	0.0073	52	7.01	261.32	1
271	Water Soluble Manganese (%)	0200	0.0063	0.0001	0.0151	0.0102	0.0010	7	-0.79	271.00	0
271	Water Soluble Manganese (%)	0550	0.0066	0.0003	0.0151	0.0102	0.0010	7	-0.76	271.00	0
271	Water Soluble Manganese (%)	0486	0.0085	0.0010	0.0151	0.0102	0.0010	7	-0.59	271.30	0
271	Water Soluble Manganese (%)	0300	0.0138	0.0004	0.0151	0.0102	0.0010	7	-0.12	271.30	0
271	Water Soluble Manganese (%)	0405	0.0200	0.0000	0.0151	0.0102	0.0010	7	0.43	271.99	0
271	Water Soluble Manganese (%)	0027	0.0205	0.0030	0.0151	0.0102	0.0010	7	0.47	271.00	0
271	Water Soluble Manganese (%)	0540	0.0960	0.0020	0.0151	0.0102	0.0010	7	7.17	271.00	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				
281	Acid Soluble Mercury (ppm)	0550	3.285	0.4500	29.73	17.98	0.9134	8	-1.35	281.00	0
281	Acid Soluble Mercury (ppm)	0481	6.605	0.0500	29.73	17.98	0.9134	8	-1.18	281.99	0
281	Acid Soluble Mercury (ppm)	0476	31.72	2.390	29.73	17.98	0.9134	8	0.10	281.99	0
281	Acid Soluble Mercury (ppm)	0519	33.25	0.0900	29.73	17.98	0.9134	8	0.18	281.99	0
281	Acid Soluble Mercury (ppm)	0117	37.82	1.650	29.73	17.98	0.9134	8	0.41	281.00	0
281	Acid Soluble Mercury (ppm)	0405	39.14	0.3800	29.73	17.98	0.9134	8	0.48	281.99	0
281	Acid Soluble Mercury (ppm)	0527	41.83	0.9172	29.73	17.98	0.9134	8	0.62	281.30	0
281	Acid Soluble Mercury (ppm)	0444	44.18	1.380	29.73	17.98	0.9134	8	0.74	281.30	0
281	Acid Soluble Mercury (ppm)	0515	0.0000	0.0000	29.73	17.98	0.9134	8		281.30	4
289	Acid Soluble Molybdenum (50ppm)	0027	0.09850†	0.0030	828.3	138.1	20.81	25	-6.00	289.99	0
289	Acid Soluble Molybdenum (50ppm)	0519	46.50†	1.000	828.3	138.1	20.81	25	-5.66	289.30	0
289	Acid Soluble Molybdenum (50ppm)	0550	615.0	2.000	828.3	138.1	20.81	25	-1.54	289.00	0
289	Acid Soluble Molybdenum (50ppm)	0476	669.2	31.49	828.3	138.1	20.81	25	-1.15	289.99	0
289	Acid Soluble Molybdenum (50ppm)	0486	707.5	5.000	828.3	138.1	20.81	25	-0.87	289.33	0
289	Acid Soluble Molybdenum (50ppm)	0255	707.5	15.23	828.3	138.1	20.81	25	-0.87	289.30	0
289	Acid Soluble Molybdenum (50ppm)	0405	762.5	11.00	828.3	138.1	20.81	25	-0.48	289.99	0
289	Acid Soluble Molybdenum (50ppm)	0494	791.8	20.31	828.3	138.1	20.81	25	-0.26	289.33	0
289	Acid Soluble Molybdenum (50ppm)	0042	794.4	15.20	828.3	138.1	20.81	25	-0.25	289.99	0
289	Acid Soluble Molybdenum (50ppm)	0419	811.4	5.600	828.3	138.1	20.81	25	-0.12	289.99	0
289	Acid Soluble Molybdenum (50ppm)	0234	812.5	25.00	828.3	138.1	20.81	25	-0.11	289.30	0
289	Acid Soluble Molybdenum (50ppm)	0546	816.5	31.00	828.3	138.1	20.81	25	-0.09	289.33	0
289	Acid Soluble Molybdenum (50ppm)	0389	827.0	6.700	828.3	138.1	20.81	25	-0.01	289.30	0
289	Acid Soluble Molybdenum (50ppm)	0394	865.5	25.00	828.3	138.1	20.81	25	0.27	289.32	0
289	Acid Soluble Molybdenum (50ppm)	0117	866.0	14.00	828.3	138.1	20.81	25	0.27	289.33	0
289	Acid Soluble Molybdenum (50ppm)	0300	874.1	18.60	828.3	138.1	20.81	25	0.33	289.32	0
289	Acid Soluble Molybdenum (50ppm)	0444	883.5	3.000	828.3	138.1	20.81	25	0.40	289.30	0
289	Acid Soluble Molybdenum (50ppm)	0515	883.6	56.58	828.3	138.1	20.81	25	0.40	289.34	0
289	Acid Soluble Molybdenum (50ppm)	0555	910.7	19.99	828.3	138.1	20.81	25	0.60	289.30	0
289	Acid Soluble Molybdenum (50ppm)	0096	913.0	68.60	828.3	138.1	20.81	25	0.61	289.30	0
289	Acid Soluble Molybdenum (50ppm)	0521	923.5	0.0000	828.3	138.1	20.81	25	0.69	289.30	0
289	Acid Soluble Molybdenum (50ppm)	0527	948.7	4.069	828.3	138.1	20.81	25	0.87	289.33	0
289	Acid Soluble Molybdenum (50ppm)	0102	1,004	71.16	828.3	138.1	20.81	25	1.27	289.30	0
289	Acid Soluble Molybdenum (50ppm)	0481	1,206‡	9.800	828.3	138.1	20.81	25	2.74	289.99	0
289	Acid Soluble Molybdenum (50ppm)	0506	1,750‡	60.00	828.3	138.1	20.81	25	6.67	289.99	0
289	Acid Soluble Molybdenum (50ppm)	0515	1,148‡	180.0	828.3	138.1	20.81	25	2.32	289.33	1
291	Acid Soluble Nickel (ppm)	0476	7.744	0.9843	13.46	2.284	0.9788	22	-2.50	291.99	0
291	Acid Soluble Nickel (ppm)	0444	9.785	0.0500	13.46	2.284	0.9788	22	-1.61	291.30	0
291	Acid Soluble Nickel (ppm)	0524	10.07	0.4579	13.46	2.284	0.9788	22	-1.49	291.30	0
291	Acid Soluble Nickel (ppm)	0482	10.85	0.1000	13.46	2.284	0.9788	22	-1.14	291.30	0
291	Acid Soluble Nickel (ppm)	0519	11.74	0.0700	13.46	2.284	0.9788	22	-0.76	291.99	0
291	Acid Soluble Nickel (ppm)	0255	12.28	0.9180	13.46	2.284	0.9788	22	-0.52	291.99	0
291	Acid Soluble Nickel (ppm)	0515	12.62	2.955	13.46	2.284	0.9788	22	-0.37	291.33	0
291	Acid Soluble Nickel (ppm)	0300	13.07	0.0000	13.46	2.284	0.9788	22	-0.17	291.32	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
291	Acid Soluble Nickel (ppm)	0515	13.24	1.717	13.46	2.284	0.9788	22	-0.10	291.34	0
291	Acid Soluble Nickel (ppm)	0394	13.40	3.000	13.46	2.284	0.9788	22	-0.03	291.30	0
291	Acid Soluble Nickel (ppm)	0481	13.74	0.4000	13.46	2.284	0.9788	22	0.12	291.99	0
291	Acid Soluble Nickel (ppm)	0494	13.79	0.3060	13.46	2.284	0.9788	22	0.15	291.33	0
291	Acid Soluble Nickel (ppm)	0102	13.88	1.452	13.46	2.284	0.9788	22	0.18	291.30	0
291	Acid Soluble Nickel (ppm)	0521	13.88	0.0000	13.46	2.284	0.9788	22	0.18	291.30	0
291	Acid Soluble Nickel (ppm)	0117	14.34	0.3990	13.46	2.284	0.9788	22	0.38	291.33	0
291	Acid Soluble Nickel (ppm)	0368	14.87	0.2204	13.46	2.284	0.9788	22	0.62	291.34	0
291	Acid Soluble Nickel (ppm)	0405	14.95	0.1000	13.46	2.284	0.9788	22	0.65	291.99	0
291	Acid Soluble Nickel (ppm)	0389	14.96	0.5100	13.46	2.284	0.9788	22	0.65	291.30	0
291	Acid Soluble Nickel (ppm)	0506	15.00	1.600	13.46	2.284	0.9788	22	0.67	291.99	0
291	Acid Soluble Nickel (ppm)	0527	15.73	2.073	13.46	2.284	0.9788	22	0.99	291.33	0
291	Acid Soluble Nickel (ppm)	0419	16.79	1.020	13.46	2.284	0.9788	22	1.46	291.99	0
291	Acid Soluble Nickel (ppm)	0096	16.90	3.200	13.46	2.284	0.9788	22	1.51	291.30	0
291	Acid Soluble Nickel (ppm)	0555	< 0.5		13.46	2.284	0.9788	22		291.30	5
301	Acid Soluble Selenium (ppm)	0555	206.5	8.510	291.6	65.39	8.023	12	-1.30	301.30	0
301	Acid Soluble Selenium (ppm)	0523	214.5	2.589	291.6	65.39	8.023	12	-1.18	301.30	0
301	Acid Soluble Selenium (ppm)	0476	240.8	4.260	291.6	65.39	8.023	12	-0.78	301.99	0
301	Acid Soluble Selenium (ppm)	0255	241.6	16.25	291.6	65.39	8.023	12	-0.77	301.99	0
301	Acid Soluble Selenium (ppm)	0515	271.8	8.208	291.6	65.39	8.023	12	-0.30	301.33	0
301	Acid Soluble Selenium (ppm)	0519	285.0	0.0500	291.6	65.39	8.023	12	-0.10	301.99	0
301	Acid Soluble Selenium (ppm)	0405	300.0	0.0000	291.6	65.39	8.023	12	0.13	301.99	0
301	Acid Soluble Selenium (ppm)	0300	331.1	1.000	291.6	65.39	8.023	12	0.60	301.32	0
301	Acid Soluble Selenium (ppm)	0527	332.5	19.44	291.6	65.39	8.023	12	0.62	301.33	0
301	Acid Soluble Selenium (ppm)	0524	335.5	14.01	291.6	65.39	8.023	12	0.67	301.30	0
301	Acid Soluble Selenium (ppm)	0368	359.1	20.97	291.6	65.39	8.023	12	1.03	301.34	0
301	Acid Soluble Selenium (ppm)	0506	381.5	1.000	291.6	65.39	8.023	12	1.37	301.99	0
301	Acid Soluble Selenium (ppm)	0515	267.6	64.10	291.6	65.39	8.023	12	-0.37	301.34	1
301	Acid Soluble Selenium (ppm)	0481	< 0.5		291.6	65.39	8.023	12		301.99	5
311	Sodium (%)	0527	0.3469	0.0222	0.4374	0.0595	0.0087	6	-1.36	311.33	0
311	Sodium (%)	0494	0.4006	0.0102	0.4374	0.0595	0.0087	6	-0.55	311.33	0
311	Sodium (%)	0354	0.4550	0.0100	0.4374	0.0595	0.0087	6	0.26	311.99	0
311	Sodium (%)	0521	0.4658	0.0000	0.4374	0.0595	0.0087	6	0.42	311.32	0
311	Sodium (%)	0096	0.4700	0.0000	0.4374	0.0595	0.0087	6	0.49	311.99	0
311	Sodium (%)	0482	0.4850	0.0100	0.4374	0.0595	0.0087	6	0.71	311.99	0
321	Acid Soluble Zinc (0.13%)	0476	0.1200†	0.0000	0.1873	0.0140	0.0106	55	-4.80	321.99	0
321	Acid Soluble Zinc (0.13%)	0537	0.1300†	0.0800	0.1873	0.0140	0.0106	55	-4.09	321.00	0
321	Acid Soluble Zinc (0.13%)	0042	0.1315†	0.0070	0.1873	0.0140	0.0106	55	-3.98	321.99	0
321	Acid Soluble Zinc (0.13%)	0519	0.1400†	0.0000	0.1873	0.0140	0.0106	55	-3.38	321.99	0
321	Acid Soluble Zinc (0.13%)	0531	0.1700	0.0200	0.1873	0.0140	0.0106	55	-1.24	321.00	0
321	Acid Soluble Zinc (0.13%)	0234	0.1700	0.0000	0.1873	0.0140	0.0106	55	-1.24	321.30	0
321	Acid Soluble Zinc (0.13%)	0486	0.1700	0.0000	0.1873	0.0140	0.0106	55	-1.24	321.33	0
321	Acid Soluble Zinc (0.13%)	0506	0.1705	0.0010	0.1873	0.0140	0.0106	55	-1.20	321.99	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				
321	Acid Soluble Zinc (0.13%)	0169	0.1725	0.0070	0.1873	0.0140	0.0106	55	-1.06	321.00	0
321	Acid Soluble Zinc (0.13%)	0550	0.1775	0.0010	0.1873	0.0140	0.0106	55	-0.70	321.00	0
321	Acid Soluble Zinc (0.13%)	0485	0.1786	0.0038	0.1873	0.0140	0.0106	55	-0.62	321.00	0
321	Acid Soluble Zinc (0.13%)	0419	0.1790	0.0020	0.1873	0.0140	0.0106	55	-0.60	321.99	0
321	Acid Soluble Zinc (0.13%)	0555	0.1791	0.0137	0.1873	0.0140	0.0106	55	-0.59	321.33	0
321	Acid Soluble Zinc (0.13%)	0535	0.1800	0.0040	0.1873	0.0140	0.0106	55	-0.52	321.00	0
321	Acid Soluble Zinc (0.13%)	0536	0.1800	0.0100	0.1873	0.0140	0.0106	55	-0.52	321.00	0
321	Acid Soluble Zinc (0.13%)	0444	0.1800	0.0000	0.1873	0.0140	0.0106	55	-0.52	321.30	0
321	Acid Soluble Zinc (0.13%)	0472	0.1800	0.0000	0.1873	0.0140	0.0106	55	-0.52	321.30	0
321	Acid Soluble Zinc (0.13%)	0540	0.1805	0.0030	0.1873	0.0140	0.0106	55	-0.49	321.00	0
321	Acid Soluble Zinc (0.13%)	0553	0.1820	0.0170	0.1873	0.0140	0.0106	55	-0.38	321.00	0
321	Acid Soluble Zinc (0.13%)	0029	0.1828	0.0012	0.1873	0.0140	0.0106	55	-0.32	321.00	0
321	Acid Soluble Zinc (0.13%)	0389	0.1835	0.0010	0.1873	0.0140	0.0106	55	-0.27	321.99	0
321	Acid Soluble Zinc (0.13%)	0394	0.1837	0.0045	0.1873	0.0140	0.0106	55	-0.26	321.32	0
321	Acid Soluble Zinc (0.13%)	0040	0.1840	0.0080	0.1873	0.0140	0.0106	55	-0.24	321.00	0
321	Acid Soluble Zinc (0.13%)	0300	0.1840	0.0040	0.1873	0.0140	0.0106	55	-0.24	321.32	0
321	Acid Soluble Zinc (0.13%)	0494	0.1845	0.0058	0.1873	0.0140	0.0106	55	-0.20	321.33	0
321	Acid Soluble Zinc (0.13%)	0371	0.1850	0.0100	0.1873	0.0140	0.0106	55	-0.17	321.30	0
321	Acid Soluble Zinc (0.13%)	0402	0.1850	0.0100	0.1873	0.0140	0.0106	55	-0.17	321.30	0
321	Acid Soluble Zinc (0.13%)	0177	0.1852	0.0023	0.1873	0.0140	0.0106	55	-0.16	321.33	0
321	Acid Soluble Zinc (0.13%)	0524	0.1860	0.0070	0.1873	0.0140	0.0106	55	-0.10	321.99	0
321	Acid Soluble Zinc (0.13%)	0368	0.1862	0.0002	0.1873	0.0140	0.0106	55	-0.08	321.99	0
321	Acid Soluble Zinc (0.13%)	0360	0.1875	0.0130	0.1873	0.0140	0.0106	55	0.01	321.30	0
321	Acid Soluble Zinc (0.13%)	0117	0.1877	0.0004	0.1873	0.0140	0.0106	55	0.03	321.33	0
321	Acid Soluble Zinc (0.13%)	0546	0.1883	0.0153	0.1873	0.0140	0.0106	55	0.06	321.33	0
321	Acid Soluble Zinc (0.13%)	0542	0.1897	0.0182	0.1873	0.0140	0.0106	55	0.17	321.32	0
321	Acid Soluble Zinc (0.13%)	0292	0.1900	0.0000	0.1873	0.0140	0.0106	55	0.19	321.30	0
321	Acid Soluble Zinc (0.13%)	0481	0.1900	0.0000	0.1873	0.0140	0.0106	55	0.19	321.99	0
321	Acid Soluble Zinc (0.13%)	0433	0.1920	0.0040	0.1873	0.0140	0.0106	55	0.33	321.30	0
321	Acid Soluble Zinc (0.13%)	0255	0.1930	0.0420	0.1873	0.0140	0.0106	55	0.40	321.30	0
321	Acid Soluble Zinc (0.13%)	0354	0.1950	0.0300	0.1873	0.0140	0.0106	55	0.55	321.30	0
321	Acid Soluble Zinc (0.13%)	0096	0.1956	0.0203	0.1873	0.0140	0.0106	55	0.59	321.30	0
321	Acid Soluble Zinc (0.13%)	0024	0.1960	0.0020	0.1873	0.0140	0.0106	55	0.62	321.33	0
321	Acid Soluble Zinc (0.13%)	0405	0.1970	0.0080	0.1873	0.0140	0.0106	55	0.69	321.99	0
321	Acid Soluble Zinc (0.13%)	0483	0.1975	0.0030	0.1873	0.0140	0.0106	55	0.72	321.30	0
321	Acid Soluble Zinc (0.13%)	0043	0.1995	0.0190	0.1873	0.0140	0.0106	55	0.87	321.33	0
321	Acid Soluble Zinc (0.13%)	0498	0.2000	0.0000	0.1873	0.0140	0.0106	55	0.90	321.00	0
321	Acid Soluble Zinc (0.13%)	0102	0.2001	0.0055	0.1873	0.0140	0.0106	55	0.91	321.30	0
321	Acid Soluble Zinc (0.13%)	0527	0.2007	0.0074	0.1873	0.0140	0.0106	55	0.95	321.33	0
321	Acid Soluble Zinc (0.13%)	0523	0.2045	0.0170	0.1873	0.0140	0.0106	55	1.22	321.99	0
321	Acid Soluble Zinc (0.13%)	0482	0.2050	0.0100	0.1873	0.0140	0.0106	55	1.26	321.30	0
321	Acid Soluble Zinc (0.13%)	0515	0.2171‡	0.0500	0.1873	0.0140	0.0106	55	2.12	321.99	0
321	Acid Soluble Zinc (0.13%)	0231	0.2200‡	0.0000	0.1873	0.0140	0.0106	55	2.33	321.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
321	Acid Soluble Zinc (0.13%)	0041	0.2250‡	0.0500	0.1873	0.0140	0.0106	55	2.69	321.30	0
321	Acid Soluble Zinc (0.13%)	0521	0.2265‡	0.0000	0.1873	0.0140	0.0106	55	2.79	321.32	0
321	Acid Soluble Zinc (0.13%)	0552	0.2400‡	0.0400	0.1873	0.0140	0.0106	55	3.76	321.30	0
321	Acid Soluble Zinc (0.13%)	0515	0.2935‡	0.0048	0.1873	0.0140	0.0106	55	7.57	321.33	0
321	Acid Soluble Zinc (0.13%)	0513	9.085‡	17.83	0.1873	0.0140	0.0106	55	634.51	321.00	2
325	Water Soluble Zinc (%)	0550	0.0008	0.0001	0.0189	0.0338	0.0016	7	-0.48	325.00	0
325	Water Soluble Zinc (%)	0200	0.0009	0.0001	0.0189	0.0338	0.0016	7	-0.48	325.00	0
325	Water Soluble Zinc (%)	0300	0.0019	0.0001	0.0189	0.0338	0.0016	7	-0.46	325.99	0
325	Water Soluble Zinc (%)	0394	0.0021	0.0021	0.0189	0.0338	0.0016	7	-0.45	325.30	0
325	Water Soluble Zinc (%)	0486	0.0025	0.0010	0.0189	0.0338	0.0016	7	-0.44	325.30	0
325	Water Soluble Zinc (%)	0027	0.0545	0.0030	0.0189	0.0338	0.0016	7	0.95	325.00	0
325	Water Soluble Zinc (%)	0540	0.1045	0.0050	0.0189	0.0338	0.0016	7	2.29	325.00	0
325	Water Soluble Zinc (%)	0405	< 0.02		0.0189	0.0338	0.0016	7		325.30	5

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