

# magruder fertilizer

## check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 170511

Grade 16-1-0

### Statistical Summary

# Analytes: 35

# Labs Reporting: 88

Issue Date : 06/30/2017

Analyte Code	Analyte	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Analyte Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	IA %RSD	Average Range (R-bar)	Horwitz %RSD
001	Ammoniacal Nitrogen (%)	26	25	15.33	0.3490	15.32		0.3727	0.0932	2.43%		0.1340	2.65%
002	Nitrate Nitrogen (%)	1		16.75									
003	Water Insoluble Nitrogen (%)	5	5	1.490	0.4797	1.490		0.4797	0.2681	32.19%		0.0942	3.77%
010	Total Nitrogen (16%)	81	78	16.83	0.3571	16.88	0.6832	0.2172	0.0307	1.29%	2.02%	0.0835	2.61%
020	Total Phosphorus as P2O5 (%)	41	40	1.253	0.2474	1.219		0.1749	0.0346	14.36%		0.0400	3.88%
030	Citrate Insoluble Phosphorus as P2O5 (%)	1		0.1600									
040	Indirect Available Phosphorus as P2O5 (1%)	1		1.700									
041	Direct Available Phosphorus as P2O5 (1%)	49	46	1.142	0.1968	1.101	0.6700	0.1146	0.0211	10.41%	30.42%	0.0434	3.94%
048	Water Soluble Phosphorus as P2O5 (%)	1		0.1150									
050	Soluble Potassium as K2O (0.0000001%)	22	20	1.711	0.1482	1.731	0.4100	0.0814	0.0228	4.70%	11.84%	0.0625	3.68%
060	Water (Free) (%)	6	6	0.8666	0.4229	0.8666		0.4795	0.2447	55.33%		0.0483	4.09%
101	Acid Soluble Calcium (%)	17	17	0.5049	0.0710	0.4945		0.0407	0.0123	8.23%		0.0245	4.45%
121	Acid Soluble Magnesium (%)	19	19	0.2047	0.0616	0.1921		0.0198	0.0057	10.31%		0.0050	5.13%
143	Elemental Sulfur (%)	2	2	18.58	0.6682								
145	Sulfate Sulfur, HCl soluble (%)	8	8	18.66	1.333	18.75		1.301	0.5750	6.94%		0.3000	2.57%
146	Total Sulfur in Liquid (%)	1		19.10									
148	Total Sulfur (20%)	43	41	19.05	0.8652	19.12	1.0000	0.7888	0.1540	4.13%	2.61%	0.3275	2.57%
149	Sulfur - HNO3 soluble (%)	3	3	18.11	1.542	18.11		1.542	1.113	8.52%		0.0917	2.59%
151	Acid Soluble Arsenic (ppm)	8	7	0.9597	1.246	0.5791		0.3379	0.1596	58.34%		0.1257	17.37%
165	Acid Soluble Boron (%)	8	7	0.0061	0.0090	0.0041		0.0050	0.0024	121.80%		0.0002	9.13%
181	Acid Soluble Cadmium (ppm)	14	12	0.4872	0.5501	0.3798		0.2862	0.1033	75.34%		0.0470	18.51%
190	Water Soluble Chlorine (%)	1		1.120									
191	Acid Soluble Chromium (ppm)	18	17	15.08	5.749	13.87		3.066	0.9295	22.10%		0.8270	10.77%
202	Acid Soluble Cobalt (ppm)	17	16	7.195	1.721	7.180		1.904	0.5949	26.52%		0.6583	11.89%
221	Acid Soluble Copper (%)	31	29	1.869	10.03	0.0058		0.0013	0.0003	22.65%		0.0825	8.69%
241	Acid Soluble Iron (2%)	58	57	2.543	0.3095	2.583	0.2633	0.2188	0.0362	8.47%	5.10%	0.0667	3.47%
251	Acid Soluble Lead (ppm)	13	12	3.752	3.890	2.916		2.379	0.8585	81.59%		0.3650	13.62%
261	Acid Soluble Manganese (%)	18	18	0.0076	0.0013	0.0076		0.0014	0.0004	18.48%		0.0003	8.34%
281	Acid Soluble Mercury (ppm)	5	5	0.1140	0.0549	0.1140		0.0549	0.0307	48.19%		0.0260	22.18%
289	Acid Soluble Molybdenum (ppm)	13	11	3.608	0.9680	3.633		1.042	0.3929	28.69%		0.2282	13.17%
291	Acid Soluble Nickel (ppm)	20	19	14.42	2.658	14.36		2.567	0.7360	17.88%		1.178	10.71%

Analyte Code	Analyte	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Analyte Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	IA %RSD	Average Range (R-bar)	Horwitz %RSD
301	Acid Soluble Selenium (ppm)	5	5	2.359	3.022	2.359		3.022	1.689	128.11%		1.510	14.06%
311	Sodium (%)	9	8	0.1250	0.0142	0.1234		0.0077	0.0034	6.21%		0.0033	5.48%
321	Acid Soluble Zinc (%)	35	32	0.0137	0.0067	0.0122		0.0023	0.0005	19.12%		0.0008	7.76%
325	Water Soluble Zinc (%)	1		2.480									

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Lab Values

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Issue Date : 06/30/2017

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 (%)	0522	14.90	0.0600	15.32	0.3727	0.1340	25	-1.12	001.99	0
001	Ammoniacal Nitrogen (%)	0529	14.92	0.0300	15.32	0.3727	0.1340	25	-1.08	001.99	0
001	Ammoniacal Nitrogen (%)	0420	14.97	0.5300	15.32	0.3727	0.1340	25	-0.94	001.99	0
001	Ammoniacal Nitrogen (%)	0532	15.02	0.0200	15.32	0.3727	0.1340	25	-0.80	001.10	0
001	Ammoniacal Nitrogen (%)	0231	15.03	0.0000	15.32	0.3727	0.1340	25	-0.77	001.10	0
001	Ammoniacal Nitrogen (%)	0533	15.04	0.0200	15.32	0.3727	0.1340	25	-0.74	001.99	0
001	Ammoniacal Nitrogen (%)	0518	15.05	0.3000	15.32	0.3727	0.1340	25	-0.72	001.99	0
001	Ammoniacal Nitrogen (%)	0535	15.05	0.1000	15.32	0.3727	0.1340	25	-0.72	001.99	0
001	Ammoniacal Nitrogen (%)	0230	15.10	0.0000	15.32	0.3727	0.1340	25	-0.58	001.10	0
001	Ammoniacal Nitrogen (%)	0456	15.10	0.2000	15.32	0.3727	0.1340	25	-0.58	001.10	0
001	Ammoniacal Nitrogen (%)	0368	15.10	0.3449	15.32	0.3727	0.1340	25	-0.58	001.99	0
001	Ammoniacal Nitrogen (%)	0090	15.11	0.3000	15.32	0.3727	0.1340	25	-0.55	001.10	0
001	Ammoniacal Nitrogen (%)	0540	15.15	0.1000	15.32	0.3727	0.1340	25	-0.45	001.99	0
001	Ammoniacal Nitrogen (%)	0200	15.24	0.0200	15.32	0.3727	0.1340	25	-0.21	001.99	0
001	Ammoniacal Nitrogen (%)	0486	15.42	0.0800	15.32	0.3727	0.1340	25	0.28	001.10	0
001	Ammoniacal Nitrogen (%)	0105	15.45	0.3800	15.32	0.3727	0.1340	25	0.36	001.10	0
001	Ammoniacal Nitrogen (%)	0177	15.47	0.0160	15.32	0.3727	0.1340	25	0.42	001.10	0
001	Ammoniacal Nitrogen (%)	0531	15.52	0.1900	15.32	0.3727	0.1340	25	0.53	001.10	0
001	Ammoniacal Nitrogen (%)	0524	15.59	0.0700	15.32	0.3727	0.1340	25	0.72	001.99	0
001	Ammoniacal Nitrogen (%)	0493	15.60	0.1000	15.32	0.3727	0.1340	25	0.76	001.99	0
001	Ammoniacal Nitrogen (%)	0444	15.72	0.1600	15.32	0.3727	0.1340	25	1.08	001.10	0
001	Ammoniacal Nitrogen (%)	0371	15.80	0.2000	15.32	0.3727	0.1340	25	1.30	001.99	0
001	Ammoniacal Nitrogen (%)	0526	15.85	0.1000	15.32	0.3727	0.1340	25	1.43	001.10	0
001	Ammoniacal Nitrogen (%)	0220	15.86	0.0100	15.32	0.3727	0.1340	25	1.44	001.99	0
001	Ammoniacal Nitrogen (%)	0096	16.12	0.0200	15.32	0.3727	0.1340	25	2.16	001.99	0
001	Ammoniacal Nitrogen (%)	0501	16.22	0.7400	15.32	0.3727	0.1340	25	2.42	001.99	1
002	Nitrate Nitrogen (%)	0029	16.75	0.0070				1		002.20	0
003	Water Insoluble Nitrogen (%)	0029	1.226	0.1210	1.490	0.4797	0.0942	5	-0.55	003.10	0
003	Water Insoluble Nitrogen (%)	0356	1.265	0.2100	1.490	0.4797	0.0942	5	-0.47	003.10	0
003	Water Insoluble Nitrogen (%)	0105	1.275	0.1300	1.490	0.4797	0.0942	5	-0.45	003.10	0
003	Water Insoluble Nitrogen (%)	0220	1.340	0.0000	1.490	0.4797	0.0942	5	-0.31	003.10	0
003	Water Insoluble Nitrogen (%)	0230	2.345	0.0100	1.490	0.4797	0.0942	5	1.78	003.10	0
010	Total Nitrogen (16%)	0309	14.99*	0.0300	16.88	0.2172	0.0835	78	-8.72	010.10	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 (16%)	0500	16.07*	0.0000	16.88	0.2172	0.0835	78	-3.72	010.11	0
010	Total Nitrogen (16%)	0532	16.08*	0.0800	16.88	0.2172	0.0835	78	-3.68	010.11	0
010	Total Nitrogen (16%)	0476	16.10*	0.0028	16.88	0.2172	0.0835	78	-3.60	010.99	0
010	Total Nitrogen (16%)	0309	16.13*	0.0200	16.88	0.2172	0.0835	78	-3.45	010.11	0
010	Total Nitrogen (16%)	0526	16.25	0.1000	16.88	0.2172	0.0835	78	-2.89	010.17	0
010	Total Nitrogen (16%)	0529	16.30	0.2600	16.88	0.2172	0.0835	78	-2.66	010.99	0
010	Total Nitrogen (16%)	0533	16.33	0.0500	16.88	0.2172	0.0835	78	-2.55	010.11	0
010	Total Nitrogen (16%)	0185	16.38	0.0100	16.88	0.2172	0.0835	78	-2.32	010.12	0
010	Total Nitrogen (16%)	0535	16.45	0.1000	16.88	0.2172	0.0835	78	-1.97	010.11	0
010	Total Nitrogen (16%)	0540	16.45	0.1000	16.88	0.2172	0.0835	78	-1.97	010.11	0
010	Total Nitrogen (16%)	0368	16.61	0.1260	16.88	0.2172	0.0835	78	-1.25	010.60	0
010	Total Nitrogen (16%)	0493	16.65	0.1000	16.88	0.2172	0.0835	78	-1.05	010.99	0
010	Total Nitrogen (16%)	0055	16.67	0.0400	16.88	0.2172	0.0835	78	-0.96	010.60	0
010	Total Nitrogen (16%)	0041	16.68	0.0500	16.88	0.2172	0.0835	78	-0.94	010.60	0
010	Total Nitrogen (16%)	0070	16.68	0.1900	16.88	0.2172	0.0835	78	-0.94	010.60	0
010	Total Nitrogen (16%)	0444	16.69	0.2200	16.88	0.2172	0.0835	78	-0.87	010.60	0
010	Total Nitrogen (16%)	0292	16.71	0.0100	16.88	0.2172	0.0835	78	-0.80	010.60	0
010	Total Nitrogen (16%)	0525	16.74	0.0370	16.88	0.2172	0.0835	78	-0.64	010.60	0
010	Total Nitrogen (16%)	0521	16.75	0.0000	16.88	0.2172	0.0835	78	-0.60	010.60	0
010	Total Nitrogen (16%)	0356	16.77	0.1200	16.88	0.2172	0.0835	78	-0.50	010.60	0
010	Total Nitrogen (16%)	0035	16.78	0.2700	16.88	0.2172	0.0835	78	-0.48	010.60	0
010	Total Nitrogen (16%)	0234	16.78	0.2500	16.88	0.2172	0.0835	78	-0.48	010.60	0
010	Total Nitrogen (16%)	0157	16.80	0.0000	16.88	0.2172	0.0835	78	-0.36	010.60	0
010	Total Nitrogen (16%)	0420	16.80	0.4000	16.88	0.2172	0.0835	78	-0.36	010.99	0
010	Total Nitrogen (16%)	0095	16.83	0.0500	16.88	0.2172	0.0835	78	-0.25	010.60	0
010	Total Nitrogen (16%)	0114	16.83	0.0200	16.88	0.2172	0.0835	78	-0.22	010.11	0
010	Total Nitrogen (16%)	0072	16.84	0.2000	16.88	0.2172	0.0835	78	-0.18	010.60	0
010	Total Nitrogen (16%)	0131	16.84	0.0300	16.88	0.2172	0.0835	78	-0.16	010.60	0
010	Total Nitrogen (16%)	0037	16.85	0.1490	16.88	0.2172	0.0835	78	-0.14	010.60	0
010	Total Nitrogen (16%)	0105	16.87	0.0400	16.88	0.2172	0.0835	78	-0.04	010.11	0
010	Total Nitrogen (16%)	0043	16.87	0.0000	16.88	0.2172	0.0835	78	-0.04	010.60	0
010	Total Nitrogen (16%)	0456	16.88	0.0900	16.88	0.2172	0.0835	78	-0.02	010.11	0
010	Total Nitrogen (16%)	0096	16.88	0.0100	16.88	0.2172	0.0835	78	-0.02	010.60	0
010	Total Nitrogen (16%)	0377	16.88	0.1900	16.88	0.2172	0.0835	78	-0.02	010.60	0
010	Total Nitrogen (16%)	0086	16.89	0.0790	16.88	0.2172	0.0835	78	0.05	010.60	0
010	Total Nitrogen (16%)	0371	16.90	0.0000	16.88	0.2172	0.0835	78	0.10	010.11	0
010	Total Nitrogen (16%)	0018	16.90	0.0000	16.88	0.2172	0.0835	78	0.10	010.60	0
010	Total Nitrogen (16%)	0042	16.90	0.2000	16.88	0.2172	0.0835	78	0.10	010.60	0
010	Total Nitrogen (16%)	0482	16.90	0.0000	16.88	0.2172	0.0835	78	0.10	010.60	0
010	Total Nitrogen (16%)	0508	16.90	0.0200	16.88	0.2172	0.0835	78	0.10	010.99	0
010	Total Nitrogen (16%)	0233	16.91	0.0000	16.88	0.2172	0.0835	78	0.14	010.60	0
010	Total Nitrogen (16%)	0472	16.93	0.0200	16.88	0.2172	0.0835	78	0.24	010.60	0
010	Total Nitrogen (16%)	0231	16.94	0.0300	16.88	0.2172	0.0835	78	0.26	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 (16%)	0291	16.94	0.0100	16.88	0.2172	0.0835	78	0.26	010.60	0
010	Total Nitrogen (16%)	0354	16.94	0.0390	16.88	0.2172	0.0835	78	0.28	010.60	0
010	Total Nitrogen (16%)	0136	16.95	0.0100	16.88	0.2172	0.0835	78	0.31	010.60	0
010	Total Nitrogen (16%)	0516	16.95	0.1000	16.88	0.2172	0.0835	78	0.33	010.60	0
010	Total Nitrogen (16%)	0494	16.96	0.0300	16.88	0.2172	0.0835	78	0.35	010.60	0
010	Total Nitrogen (16%)	0073	16.96	0.0800	16.88	0.2172	0.0835	78	0.37	010.60	0
010	Total Nitrogen (16%)	0105	16.96	0.0200	16.88	0.2172	0.0835	78	0.37	010.60	0
010	Total Nitrogen (16%)	0220	16.97	0.0300	16.88	0.2172	0.0835	78	0.40	010.11	0
010	Total Nitrogen (16%)	0421	16.97	0.3300	16.88	0.2172	0.0835	78	0.40	010.60	0
010	Total Nitrogen (16%)	0416	16.97	0.0200	16.88	0.2172	0.0835	78	0.42	010.12	0
010	Total Nitrogen (16%)	0524	16.97	0.1696	16.88	0.2172	0.0835	78	0.44	010.99	0
010	Total Nitrogen (16%)	0023	17.00	0.0700	16.88	0.2172	0.0835	78	0.54	010.60	0
010	Total Nitrogen (16%)	0389	17.00	0.2100	16.88	0.2172	0.0835	78	0.54	010.60	0
010	Total Nitrogen (16%)	0040	17.00	0.2000	16.88	0.2172	0.0835	78	0.56	010.60	0
010	Total Nitrogen (16%)	0049	17.00	0.0400	16.88	0.2172	0.0835	78	0.56	010.60	0
010	Total Nitrogen (16%)	0501	17.02	0.1100	16.88	0.2172	0.0835	78	0.63	010.60	0
010	Total Nitrogen (16%)	0325	17.05	0.1000	16.88	0.2172	0.0835	78	0.79	010.60	0
010	Total Nitrogen (16%)	0457	17.05	0.1000	16.88	0.2172	0.0835	78	0.79	010.60	0
010	Total Nitrogen (16%)	0029	17.06	0.0500	16.88	0.2172	0.0835	78	0.81	010.60	0
010	Total Nitrogen (16%)	0360	17.06	0.0500	16.88	0.2172	0.0835	78	0.81	010.60	0
010	Total Nitrogen (16%)	0177	17.07	0.1200	16.88	0.2172	0.0835	78	0.88	010.60	0
010	Total Nitrogen (16%)	0451	17.07	0.1600	16.88	0.2172	0.0835	78	0.88	010.60	0
010	Total Nitrogen (16%)	0486	17.07	0.0000	16.88	0.2172	0.0835	78	0.88	010.60	0
010	Total Nitrogen (16%)	0230	17.10	0.2000	16.88	0.2172	0.0835	78	1.02	010.60	0
010	Total Nitrogen (16%)	0324	17.10	0.0000	16.88	0.2172	0.0835	78	1.02	010.60	0
010	Total Nitrogen (16%)	0523	17.10	0.0000	16.88	0.2172	0.0835	78	1.02	010.60	0
010	Total Nitrogen (16%)	0423	17.11	0.0200	16.88	0.2172	0.0835	78	1.07	010.60	0
010	Total Nitrogen (16%)	0406	17.14	0.0700	16.88	0.2172	0.0835	78	1.18	010.60	0
010	Total Nitrogen (16%)	0007	17.15	0.1000	16.88	0.2172	0.0835	78	1.25	010.60	0
010	Total Nitrogen (16%)	0527	17.20	0.1030	16.88	0.2172	0.0835	78	1.46	010.60	0
010	Total Nitrogen (16%)	0483	17.21	0.0200	16.88	0.2172	0.0835	78	1.53	010.60	0
010	Total Nitrogen (16%)	0034	17.32	0.0200	16.88	0.2172	0.0835	78	2.03	010.60	0
010	Total Nitrogen (16%)	0025	17.44	0.1900	16.88	0.2172	0.0835	78	2.56	010.60	0
010	Total Nitrogen (16%)	0513	17.56	0.0500	16.88	0.2172	0.0835	78	3.11	010.99	0
010	Total Nitrogen (16%)	0522	16.45	0.8000	16.88	0.2172	0.0835	78	-1.97	010.99	1
010	Total Nitrogen (16%)	0137	17.55	0.5000	16.88	0.2172	0.0835	78	3.09	010.60	1
010	Total Nitrogen (16%)	0531	1.215*	0.0500	16.88	0.2172	0.0835	78	-72.10	010.11	2
020	Total Phosphorus as P2O5 (%)	0406	0.8650	0.0700	1.219	0.1749	0.0400	40	-2.02	020.20	0
020	Total Phosphorus as P2O5 (%)	0035	0.8925	0.1890	1.219	0.1749	0.0400	40	-1.86	020.40	0
020	Total Phosphorus as P2O5 (%)	0482	0.9150	0.0500	1.219	0.1749	0.0400	40	-1.73	020.50	0
020	Total Phosphorus as P2O5 (%)	0508	1.041	0.0040	1.219	0.1749	0.0400	40	-1.01	020.50	0
020	Total Phosphorus as P2O5 (%)	0501	1.055	0.1100	1.219	0.1749	0.0400	40	-0.93	020.50	0
020	Total Phosphorus as P2O5 (%)	0472	1.070	0.1200	1.219	0.1749	0.0400	40	-0.85	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 (%)	0416	1.070	0.0600	1.219	0.1749	0.0400	40	-0.85	020.20	0
020	Total Phosphorus as P2O5 (%)	0389	1.070	0.0200	1.219	0.1749	0.0400	40	-0.85	020.50	0
020	Total Phosphorus as P2O5 (%)	0515	1.076	0.0144	1.219	0.1749	0.0400	40	-0.82	020.99	0
020	Total Phosphorus as P2O5 (%)	0500	1.080	0.0000	1.219	0.1749	0.0400	40	-0.79	020.10	0
020	Total Phosphorus as P2O5 (%)	0420	1.100	0.2000	1.219	0.1749	0.0400	40	-0.68	020.20	0
020	Total Phosphorus as P2O5 (%)	0521	1.108	0.0000	1.219	0.1749	0.0400	40	-0.63	020.50	0
020	Total Phosphorus as P2O5 (%)	0157	1.150	0.0600	1.219	0.1749	0.0400	40	-0.39	020.10	0
020	Total Phosphorus as P2O5 (%)	0433	1.155	0.0100	1.219	0.1749	0.0400	40	-0.36	020.50	0
020	Total Phosphorus as P2O5 (%)	0493	1.175	0.0500	1.219	0.1749	0.0400	40	-0.25	020.10	0
020	Total Phosphorus as P2O5 (%)	0444	1.175	0.0100	1.219	0.1749	0.0400	40	-0.25	020.50	0
020	Total Phosphorus as P2O5 (%)	0105	1.180	0.0000	1.219	0.1749	0.0400	40	-0.22	020.10	0
020	Total Phosphorus as P2O5 (%)	0090	1.200	0.0600	1.219	0.1749	0.0400	40	-0.11	020.10	0
020	Total Phosphorus as P2O5 (%)	0451	1.200	0.0200	1.219	0.1749	0.0400	40	-0.11	020.50	0
020	Total Phosphorus as P2O5 (%)	0523	1.200	0.0000	1.219	0.1749	0.0400	40	-0.11	020.50	0
020	Total Phosphorus as P2O5 (%)	0231	1.205	0.0100	1.219	0.1749	0.0400	40	-0.08	020.50	0
020	Total Phosphorus as P2O5 (%)	0423	1.215	0.0100	1.219	0.1749	0.0400	40	-0.02	020.50	0
020	Total Phosphorus as P2O5 (%)	0114	1.225	0.0300	1.219	0.1749	0.0400	40	0.04	020.10	0
020	Total Phosphorus as P2O5 (%)	0476	1.226	0.0271	1.219	0.1749	0.0400	40	0.04	020.20	0
020	Total Phosphorus as P2O5 (%)	0234	1.230	0.0200	1.219	0.1749	0.0400	40	0.07	020.50	0
020	Total Phosphorus as P2O5 (%)	0136	1.235	0.0100	1.219	0.1749	0.0400	40	0.09	020.10	0
020	Total Phosphorus as P2O5 (%)	0457	1.255	0.0300	1.219	0.1749	0.0400	40	0.21	020.20	0
020	Total Phosphorus as P2O5 (%)	0105	1.260	0.0400	1.219	0.1749	0.0400	40	0.24	020.40	0
020	Total Phosphorus as P2O5 (%)	0456	1.275	0.0500	1.219	0.1749	0.0400	40	0.32	020.40	0
020	Total Phosphorus as P2O5 (%)	0524	1.301	0.0104	1.219	0.1749	0.0400	40	0.47	020.50	0
020	Total Phosphorus as P2O5 (%)	0292	1.315	0.0300	1.219	0.1749	0.0400	40	0.55	020.20	0
020	Total Phosphorus as P2O5 (%)	0483	1.350	0.0200	1.219	0.1749	0.0400	40	0.75	020.50	0
020	Total Phosphorus as P2O5 (%)	0527	1.386	0.0080	1.219	0.1749	0.0400	40	0.96	020.50	0
020	Total Phosphorus as P2O5 (%)	0324	1.405	0.0700	1.219	0.1749	0.0400	40	1.07	020.20	0
020	Total Phosphorus as P2O5 (%)	0177	1.540	0.0484	1.219	0.1749	0.0400	40	1.84	020.20	0
020	Total Phosphorus as P2O5 (%)	0356	1.610	0.0600	1.219	0.1749	0.0400	40	2.24	020.20	0
020	Total Phosphorus as P2O5 (%)	0309	1.615	0.0300	1.219	0.1749	0.0400	40	2.27	020.20	0
020	Total Phosphorus as P2O5 (%)	0096	1.855	0.0300	1.219	0.1749	0.0400	40	3.64	020.40	0
020	Total Phosphorus as P2O5 (%)	0516	1.910	0.0200	1.219	0.1749	0.0400	40	3.95	020.20	0
020	Total Phosphorus as P2O5 (%)	0522	1.930	0.0000	1.219	0.1749	0.0400	40	4.07	020.20	0
020	Total Phosphorus as P2O5 (%)	0428	2.876	1.613	1.219	0.1749	0.0400	40	9.47	020.20	1
030	Citrate Insoluble Phosphorus as P2O5 (%)	0096	0.1600	0.0600				1		030.40	0
040	Indirect Available Phosphorus as P2O5 (1%)	0096	1.700	0.0200				1		040.40	0
041	Direct Available Phosphorus as P2O5 (1%)	0518	0.9100	0.0600	1.101	0.1146	0.0434	46	-1.67	041.99	0
041	Direct Available Phosphorus as P2O5 (1%)	0472	0.9450	0.0100	1.101	0.1146	0.0434	46	-1.36	041.60	0
041	Direct Available Phosphorus as P2O5 (1%)	0043	0.9800	0.0200	1.101	0.1146	0.0434	46	-1.06	041.50	0
041	Direct Available Phosphorus as P2O5 (1%)	0486	0.9900	0.0200	1.101	0.1146	0.0434	46	-0.97	041.60	0
041	Direct Available Phosphorus as P2O5 (1%)	0040	1.000	0.0000	1.101	0.1146	0.0434	46	-0.88	041.51	0
041	Direct Available Phosphorus as P2O5 (1%)	0073	1.005	0.0500	1.101	0.1146	0.0434	46	-0.84	041.60	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 (1%)	0233	1.011	0.0090	1.101	0.1146	0.0434	46	-0.79	041.50	0
041	Direct Available Phosphorus as P2O5 (1%)	0532	1.015	0.0500	1.101	0.1146	0.0434	46	-0.75	041.99	0
041	Direct Available Phosphorus as P2O5 (1%)	0531	1.020	0.0200	1.101	0.1146	0.0434	46	-0.71	041.99	0
041	Direct Available Phosphorus as P2O5 (1%)	0535	1.030	0.0400	1.101	0.1146	0.0434	46	-0.62	041.21	0
041	Direct Available Phosphorus as P2O5 (1%)	0231	1.030	0.0600	1.101	0.1146	0.0434	46	-0.62	041.51	0
041	Direct Available Phosphorus as P2O5 (1%)	0117	1.031	0.0150	1.101	0.1146	0.0434	46	-0.62	041.51	0
041	Direct Available Phosphorus as P2O5 (1%)	0423	1.035	0.0500	1.101	0.1146	0.0434	46	-0.58	041.51	0
041	Direct Available Phosphorus as P2O5 (1%)	0513	1.040	0.0600	1.101	0.1146	0.0434	46	-0.53	041.11	0
041	Direct Available Phosphorus as P2O5 (1%)	0360	1.040	0.0000	1.101	0.1146	0.0434	46	-0.53	041.51	0
041	Direct Available Phosphorus as P2O5 (1%)	0533	1.040	0.0200	1.101	0.1146	0.0434	46	-0.53	041.99	0
041	Direct Available Phosphorus as P2O5 (1%)	0086	1.044	0.0123	1.101	0.1146	0.0434	46	-0.50	041.10	0
041	Direct Available Phosphorus as P2O5 (1%)	0220	1.050	0.1000	1.101	0.1146	0.0434	46	-0.45	041.11	0
041	Direct Available Phosphorus as P2O5 (1%)	0007	1.050	0.1000	1.101	0.1146	0.0434	46	-0.45	041.50	0
041	Direct Available Phosphorus as P2O5 (1%)	0535	1.050	0.1000	1.101	0.1146	0.0434	46	-0.45	041.99	0
041	Direct Available Phosphorus as P2O5 (1%)	0070	1.055	0.0300	1.101	0.1146	0.0434	46	-0.40	041.50	0
041	Direct Available Phosphorus as P2O5 (1%)	0377	1.065	0.0700	1.101	0.1146	0.0434	46	-0.31	041.51	0
041	Direct Available Phosphorus as P2O5 (1%)	0041	1.070	0.1000	1.101	0.1146	0.0434	46	-0.27	041.10	0
041	Direct Available Phosphorus as P2O5 (1%)	0540	1.070	0.0600	1.101	0.1146	0.0434	46	-0.27	041.99	0
041	Direct Available Phosphorus as P2O5 (1%)	0351	1.071	0.0457	1.101	0.1146	0.0434	46	-0.26	041.60	0
041	Direct Available Phosphorus as P2O5 (1%)	0105	1.075	0.0100	1.101	0.1146	0.0434	46	-0.23	041.10	0
041	Direct Available Phosphorus as P2O5 (1%)	0368	1.087	0.0008	1.101	0.1146	0.0434	46	-0.12	041.50	0
041	Direct Available Phosphorus as P2O5 (1%)	0040	1.100	0.0000	1.101	0.1146	0.0434	46	-0.01	041.10	0
041	Direct Available Phosphorus as P2O5 (1%)	0072	1.105	0.0300	1.101	0.1146	0.0434	46	0.03	041.60	0
041	Direct Available Phosphorus as P2O5 (1%)	0137	1.107	0.0970	1.101	0.1146	0.0434	46	0.05	041.50	0
041	Direct Available Phosphorus as P2O5 (1%)	0043	1.115	0.0100	1.101	0.1146	0.0434	46	0.12	041.60	0
041	Direct Available Phosphorus as P2O5 (1%)	0291	1.120	0.0400	1.101	0.1146	0.0434	46	0.17	041.50	0
041	Direct Available Phosphorus as P2O5 (1%)	0023	1.145	0.0100	1.101	0.1146	0.0434	46	0.38	041.51	0
041	Direct Available Phosphorus as P2O5 (1%)	0055	1.150	0.0200	1.101	0.1146	0.0434	46	0.43	041.10	0
041	Direct Available Phosphorus as P2O5 (1%)	0200	1.150	0.0000	1.101	0.1146	0.0434	46	0.43	041.21	0
041	Direct Available Phosphorus as P2O5 (1%)	0354	1.163	0.0350	1.101	0.1146	0.0434	46	0.54	041.60	0
041	Direct Available Phosphorus as P2O5 (1%)	0131	1.225	0.0300	1.101	0.1146	0.0434	46	1.08	041.40	0
041	Direct Available Phosphorus as P2O5 (1%)	0522	1.260	0.0400	1.101	0.1146	0.0434	46	1.39	041.21	0
041	Direct Available Phosphorus as P2O5 (1%)	0494	1.285	0.0900	1.101	0.1146	0.0434	46	1.61	041.51	0
041	Direct Available Phosphorus as P2O5 (1%)	0072	1.325	0.0500	1.101	0.1146	0.0434	46	1.95	041.51	0
041	Direct Available Phosphorus as P2O5 (1%)	0037	1.440	0.1060	1.101	0.1146	0.0434	46	2.96	041.60	0
041	Direct Available Phosphorus as P2O5 (1%)	0526	1.450	0.1000	1.101	0.1146	0.0434	46	3.04	041.60	0
041	Direct Available Phosphorus as P2O5 (1%)	0018	1.475	0.0300	1.101	0.1146	0.0434	46	3.26	041.40	0
041	Direct Available Phosphorus as P2O5 (1%)	0034	1.516	0.1060	1.101	0.1146	0.0434	46	3.62	041.60	0
041	Direct Available Phosphorus as P2O5 (1%)	0055	1.785	0.0100	1.101	0.1146	0.0434	46	5.97	041.60	0
041	Direct Available Phosphorus as P2O5 (1%)	0029	1.800	0.0800	1.101	0.1146	0.0434	46	6.10	041.60	0
041	Direct Available Phosphorus as P2O5 (1%)	0325	0.8500	0.3000	1.101	0.1146	0.0434	46	-2.19	041.50	1
041	Direct Available Phosphorus as P2O5 (1%)	0231	1.265	0.3100	1.101	0.1146	0.0434	46	1.43	041.99	1
041	Direct Available Phosphorus as P2O5 (1%)	0230	1.595	0.3300	1.101	0.1146	0.0434	46	4.31	041.60	1

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 (%)	0096	0.1150	0.0300				1		048.40	0
050	Soluble Potassium as K2O (0.0000001%)	0043	1.155*	0.0500	1.731	0.0814	0.0625	20	-7.08	050.99	0
050	Soluble Potassium as K2O (0.0000001%)	0472	1.630	0.0600	1.731	0.0814	0.0625	20	-1.24	050.31	0
050	Soluble Potassium as K2O (0.0000001%)	0521	1.659	0.0000	1.731	0.0814	0.0625	20	-0.89	050.99	0
050	Soluble Potassium as K2O (0.0000001%)	0494	1.665	0.1700	1.731	0.0814	0.0625	20	-0.81	050.52	0
050	Soluble Potassium as K2O (0.0000001%)	0389	1.665	0.0100	1.731	0.0814	0.0625	20	-0.81	050.99	0
050	Soluble Potassium as K2O (0.0000001%)	0096	1.685	0.0300	1.731	0.0814	0.0625	20	-0.57	050.99	0
050	Soluble Potassium as K2O (0.0000001%)	0354	1.689	0.1550	1.731	0.0814	0.0625	20	-0.53	050.52	0
050	Soluble Potassium as K2O (0.0000001%)	0007	1.700	0.0000	1.731	0.0814	0.0625	20	-0.38	050.51	0
050	Soluble Potassium as K2O (0.0000001%)	0483	1.700	0.1800	1.731	0.0814	0.0625	20	-0.38	050.51	0
050	Soluble Potassium as K2O (0.0000001%)	0482	1.715	0.0300	1.731	0.0814	0.0625	20	-0.20	050.99	0
050	Soluble Potassium as K2O (0.0000001%)	0423	1.740	0.0210	1.731	0.0814	0.0625	20	0.10	050.52	0
050	Soluble Potassium as K2O (0.0000001%)	0523	1.750	0.1000	1.731	0.0814	0.0625	20	0.23	050.99	0
050	Soluble Potassium as K2O (0.0000001%)	0360	1.760	0.0000	1.731	0.0814	0.0625	20	0.35	050.52	0
050	Soluble Potassium as K2O (0.0000001%)	0451	1.760	0.0400	1.731	0.0814	0.0625	20	0.35	050.99	0
050	Soluble Potassium as K2O (0.0000001%)	0105	1.765	0.0100	1.731	0.0814	0.0625	20	0.41	050.60	0
050	Soluble Potassium as K2O (0.0000001%)	0117	1.779	0.1230	1.731	0.0814	0.0625	20	0.58	050.52	0
050	Soluble Potassium as K2O (0.0000001%)	0377	1.820	0.0400	1.731	0.0814	0.0625	20	1.09	050.52	0
050	Soluble Potassium as K2O (0.0000001%)	0527	1.835	0.0900	1.731	0.0814	0.0625	20	1.27	050.99	0
050	Soluble Potassium as K2O (0.0000001%)	0137	1.848	0.1360	1.731	0.0814	0.0625	20	1.43	050.52	0
050	Soluble Potassium as K2O (0.0000001%)	0524	1.892	0.0049	1.731	0.0814	0.0625	20	1.98	050.99	0
050	Soluble Potassium as K2O (0.0000001%)	0325	1.550	0.5000	1.731	0.0814	0.0625	20	-2.23	050.99	1
050	Soluble Potassium as K2O (0.0000001%)	0035	1.650	0.4800	1.731	0.0814	0.0625	20	-1.00	050.61	1
060	Water (Free) (%)	0007	0.4650	0.0500	0.8666	0.4795	0.0483	6	-0.75	060.00	0
060	Water (Free) (%)	0456	0.4650	0.0300	0.8666	0.4795	0.0483	6	-0.75	060.00	0
060	Water (Free) (%)	0416	0.5598	0.0299	0.8666	0.4795	0.0483	6	-0.57	060.00	0
060	Water (Free) (%)	0096	1.035	0.1300	0.8666	0.4795	0.0483	6	0.31	060.00	0
060	Water (Free) (%)	0513	1.285	0.0300	0.8666	0.4795	0.0483	6	0.78	060.30	0
060	Water (Free) (%)	0513	1.390	0.0200	0.8666	0.4795	0.0483	6	0.97	060.99	0
101	Acid Soluble Calcium (%)	0472	0.4200	0.0000	0.4945	0.0407	0.0245	17	-1.83	101.30	0
101	Acid Soluble Calcium (%)	0521	0.4417	0.0000	0.4945	0.0407	0.0245	17	-1.30	101.32	0
101	Acid Soluble Calcium (%)	0389	0.4650	0.0000	0.4945	0.0407	0.0245	17	-0.72	101.99	0
101	Acid Soluble Calcium (%)	0423	0.4700	0.0160	0.4945	0.0407	0.0245	17	-0.60	101.32	0
101	Acid Soluble Calcium (%)	0494	0.4735	0.0370	0.4945	0.0407	0.0245	17	-0.52	101.33	0
101	Acid Soluble Calcium (%)	0535	0.4750	0.0500	0.4945	0.0407	0.0245	17	-0.48	101.00	0
101	Acid Soluble Calcium (%)	0501	0.4750	0.0100	0.4945	0.0407	0.0245	17	-0.48	101.99	0
101	Acid Soluble Calcium (%)	0034	0.4805	0.0290	0.4945	0.0407	0.0245	17	-0.34	101.33	0
101	Acid Soluble Calcium (%)	0117	0.4807	0.0101	0.4945	0.0407	0.0245	17	-0.34	101.33	0
101	Acid Soluble Calcium (%)	0482	0.4950	0.0100	0.4945	0.0407	0.0245	17	0.01	101.30	0
101	Acid Soluble Calcium (%)	0096	0.5025	0.0010	0.4945	0.0407	0.0245	17	0.20	101.30	0
101	Acid Soluble Calcium (%)	0035	0.5170	0.0420	0.4945	0.0407	0.0245	17	0.55	101.30	0
101	Acid Soluble Calcium (%)	0354	0.5290	0.0620	0.4945	0.0407	0.0245	17	0.85	101.30	0
101	Acid Soluble Calcium (%)	0105	0.5320	0.0180	0.4945	0.0407	0.0245	17	0.92	101.00	0



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101	Acid Soluble Calcium (%)	0105	0.5390	0.0420	0.4945	0.0407	0.0245	17	1.09	101.03	0
101	Acid Soluble Calcium (%)	0527	0.5410	0.0020	0.4945	0.0407	0.0245	17	1.14	101.33	0
101	Acid Soluble Calcium (%)	0483	0.7470	0.0880	0.4945	0.0407	0.0245	17	6.21	101.30	0
121	Acid Soluble Magnesium (%)	0501	0.1600	0.0200	0.1921	0.0198	0.0050	19	-1.62	121.99	0
121	Acid Soluble Magnesium (%)	0472	0.1700	0.0000	0.1921	0.0198	0.0050	19	-1.12	121.30	0
121	Acid Soluble Magnesium (%)	0389	0.1740	0.0000	0.1921	0.0198	0.0050	19	-0.91	121.99	0
121	Acid Soluble Magnesium (%)	0105	0.1770	0.0000	0.1921	0.0198	0.0050	19	-0.76	121.03	0
121	Acid Soluble Magnesium (%)	0521	0.1783	0.0000	0.1921	0.0198	0.0050	19	-0.70	121.32	0
121	Acid Soluble Magnesium (%)	0494	0.1825	0.0070	0.1921	0.0198	0.0050	19	-0.48	121.33	0
121	Acid Soluble Magnesium (%)	0105	0.1835	0.0010	0.1921	0.0198	0.0050	19	-0.43	121.00	0
121	Acid Soluble Magnesium (%)	0524	0.1854	0.0025	0.1921	0.0198	0.0050	19	-0.34	121.99	0
121	Acid Soluble Magnesium (%)	0117	0.1882	0.0017	0.1921	0.0198	0.0050	19	-0.20	121.33	0
121	Acid Soluble Magnesium (%)	0096	0.1900	0.0000	0.1921	0.0198	0.0050	19	-0.11	121.30	0
121	Acid Soluble Magnesium (%)	0482	0.1900	0.0000	0.1921	0.0198	0.0050	19	-0.11	121.30	0
121	Acid Soluble Magnesium (%)	0043	0.1950	0.0100	0.1921	0.0198	0.0050	19	0.15	121.00	0
121	Acid Soluble Magnesium (%)	0354	0.1975	0.0130	0.1921	0.0198	0.0050	19	0.27	121.30	0
121	Acid Soluble Magnesium (%)	0035	0.1980	0.0040	0.1921	0.0198	0.0050	19	0.30	121.30	0
121	Acid Soluble Magnesium (%)	0034	0.2010	0.0020	0.1921	0.0198	0.0050	19	0.45	121.33	0
121	Acid Soluble Magnesium (%)	0535	0.2150	0.0100	0.1921	0.0198	0.0050	19	1.16	121.00	0
121	Acid Soluble Magnesium (%)	0527	0.2185	0.0030	0.1921	0.0198	0.0050	19	1.33	121.33	0
121	Acid Soluble Magnesium (%)	0483	0.2380	0.0040	0.1921	0.0198	0.0050	19	2.32	121.30	0
121	Acid Soluble Magnesium (%)	0423	0.4475	0.0170	0.1921	0.0198	0.0050	19	12.90	121.32	0
143	Elemental Sulfur (%)	0472	18.11	0.0100				2		143.99	0
143	Elemental Sulfur (%)	0389	19.05	0.1000				2		143.99	0
145	Sulfate Sulfur, HCl soluble (%)	0456	16.09	0.1300	18.75	1.301	0.3000	8	-1.87	145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0200	17.23	0.0000	18.75	1.301	0.3000	8	-1.07	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0444	18.77	0.4300	18.75	1.301	0.3000	8	0.01	145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0522	19.04	0.3400	18.75	1.301	0.3000	8	0.21	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0444	19.15	0.7600	18.75	1.301	0.3000	8	0.28	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0233	19.25	0.0400	18.75	1.301	0.3000	8	0.35	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0043	19.70	0.2000	18.75	1.301	0.3000	8	0.67	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0518	20.05	0.5000	18.75	1.301	0.3000	8	0.92	145.99	0
146	Total Sulfur in Liquid (%)	0131	19.10	0.0300				1		146.99	0
148	Total Sulfur (20%)	0368	16.08*	0.4047	19.12	0.7888	0.3275	41	-3.85	148.99	0
148	Total Sulfur (20%)	0444	17.37*	0.3500	19.12	0.7888	0.3275	41	-2.23	148.07	0
148	Total Sulfur (20%)	0137	17.55*	0.5000	19.12	0.7888	0.3275	41	-1.99	148.99	0
148	Total Sulfur (20%)	0515	17.86*	0.2618	19.12	0.7888	0.3275	41	-1.60	148.07	0
148	Total Sulfur (20%)	0096	18.19	0.3000	19.12	0.7888	0.3275	41	-1.18	148.99	0
148	Total Sulfur (20%)	0444	18.32	0.7200	19.12	0.7888	0.3275	41	-1.02	148.01	0
148	Total Sulfur (20%)	0157	18.40	0.8000	19.12	0.7888	0.3275	41	-0.92	148.00	0
148	Total Sulfur (20%)	0354	18.55	0.0380	19.12	0.7888	0.3275	41	-0.73	148.99	0
148	Total Sulfur (20%)	0072	18.55	0.1400	19.12	0.7888	0.3275	41	-0.73	148.99	0
148	Total Sulfur (20%)	0523	18.59	0.1200	19.12	0.7888	0.3275	41	-0.67	148.99	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				
148	Total Sulfur (20%)	0117	18.61	0.0682	19.12	0.7888	0.3275	41	-0.65	148.01	0
148	Total Sulfur (20%)	0029	18.69	0.0400	19.12	0.7888	0.3275	41	-0.55	148.00	0
148	Total Sulfur (20%)	0117	18.71	0.1100	19.12	0.7888	0.3275	41	-0.53	148.07	0
148	Total Sulfur (20%)	0360	18.74	0.2600	19.12	0.7888	0.3275	41	-0.48	148.00	0
148	Total Sulfur (20%)	0025	18.78	0.4600	19.12	0.7888	0.3275	41	-0.43	148.00	0
148	Total Sulfur (20%)	0105	18.85	0.2900	19.12	0.7888	0.3275	41	-0.35	148.01	0
148	Total Sulfur (20%)	0513	18.93	0.0400	19.12	0.7888	0.3275	41	-0.24	148.01	0
148	Total Sulfur (20%)	0023	18.94	0.4500	19.12	0.7888	0.3275	41	-0.23	148.07	0
148	Total Sulfur (20%)	0486	18.98	0.1700	19.12	0.7888	0.3275	41	-0.19	148.07	0
148	Total Sulfur (20%)	0029	19.04	0.0600	19.12	0.7888	0.3275	41	-0.10	148.01	0
148	Total Sulfur (20%)	0482	19.10	1.000	19.12	0.7888	0.3275	41	-0.03	148.99	0
148	Total Sulfur (20%)	0494	19.13	0.0300	19.12	0.7888	0.3275	41	0.00	148.07	0
148	Total Sulfur (20%)	0230	19.20	0.4000	19.12	0.7888	0.3275	41	0.10	148.01	0
148	Total Sulfur (20%)	0406	19.21	0.0500	19.12	0.7888	0.3275	41	0.11	148.07	0
148	Total Sulfur (20%)	0037	19.21	0.2090	19.12	0.7888	0.3275	41	0.11	148.07	0
148	Total Sulfur (20%)	0324	19.25	0.1000	19.12	0.7888	0.3275	41	0.16	148.01	0
148	Total Sulfur (20%)	0040	19.40	0.2000	19.12	0.7888	0.3275	41	0.35	148.01	0
148	Total Sulfur (20%)	0177	19.67	0.1446	19.12	0.7888	0.3275	41	0.69	148.07	0
148	Total Sulfur (20%)	0055	19.71	0.2200	19.12	0.7888	0.3275	41	0.75	148.01	0
148	Total Sulfur (20%)	0500	19.71	0.0000	19.12	0.7888	0.3275	41	0.75	148.99	0
148	Total Sulfur (20%)	0291	19.72	0.0100	19.12	0.7888	0.3275	41	0.75	148.99	0
148	Total Sulfur (20%)	0525	19.73	0.1300	19.12	0.7888	0.3275	41	0.76	148.07	0
148	Total Sulfur (20%)	0501	19.80	1.630	19.12	0.7888	0.3275	41	0.85	148.99	0
148	Total Sulfur (20%)	0157	19.80	0.8000	19.12	0.7888	0.3275	41	0.86	148.01	0
148	Total Sulfur (20%)	0420	19.90	0.2000	19.12	0.7888	0.3275	41	0.99	148.00	0
148	Total Sulfur (20%)	0220	20.04	0.1400	19.12	0.7888	0.3275	41	1.16	148.99	0
148	Total Sulfur (20%)	0114	20.07	1.170	19.12	0.7888	0.3275	41	1.20	148.01	0
148	Total Sulfur (20%)	0457	20.08	0.0500	19.12	0.7888	0.3275	41	1.21	148.01	0
148	Total Sulfur (20%)	0527	20.17	0.0030	19.12	0.7888	0.3275	41	1.33	148.07	0
148	Total Sulfur (20%)	0451	20.24	1.160	19.12	0.7888	0.3275	41	1.42	148.00	0
148	Total Sulfur (20%)	0526	20.30	0.2000	19.12	0.7888	0.3275	41	1.49	148.01	0
148	Total Sulfur (20%)	0483	18.05*	3.500	19.12	0.7888	0.3275	41	-1.36	148.07	1
148	Total Sulfur (20%)	0450	27.17	0.5800	19.12	0.7888	0.3275	41	10.20	148.99	2
149	Sulfur - HNO3 soluble (%)	0524	16.39	0.1750	18.11	1.542	0.0917	3	-1.11	149.04	0
149	Sulfur - HNO3 soluble (%)	0423	18.55	0.1000	18.11	1.542	0.0917	3	0.29	149.04	0
149	Sulfur - HNO3 soluble (%)	0521	19.38	0.0000	18.11	1.542	0.0917	3	0.83	149.04	0
151	Acid Soluble Arsenic (ppm)	0523	0.1800	0.0200	0.5791	0.3379	0.1257	7	-1.07	151.30	0
151	Acid Soluble Arsenic (ppm)	0136	0.3700	0.0200	0.5791	0.3379	0.1257	7	-0.56	151.00	0
151	Acid Soluble Arsenic (ppm)	0450	0.5000	0.0000	0.5791	0.3379	0.1257	7	-0.21	151.30	0
151	Acid Soluble Arsenic (ppm)	0527	0.5210	0.0240	0.5791	0.3379	0.1257	7	-0.16	151.33	0
151	Acid Soluble Arsenic (ppm)	0476	0.5670	0.0560	0.5791	0.3379	0.1257	7	-0.03	151.30	0
151	Acid Soluble Arsenic (ppm)	0501	0.8300	0.0600	0.5791	0.3379	0.1257	7	0.67	151.30	0
151	Acid Soluble Arsenic (ppm)	0368	3.750	0.7000	0.5791	0.3379	0.1257	7	8.49	151.30	0

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151	Acid Soluble Arsenic (ppm)	0042	49.51	1.280	0.5791	0.3379	0.1257	7	130.95	151.99	1
165	Acid Soluble Boron (%)	0389	0.0005	0.0001	0.0041	0.0050	0.0002	7	-0.66	165.30	0
165	Acid Soluble Boron (%)	0521	0.0009	0.0000	0.0041	0.0050	0.0002	7	-0.58	165.30	0
165	Acid Soluble Boron (%)	0423	0.0010	0.0000	0.0041	0.0050	0.0002	7	-0.56	165.99	0
165	Acid Soluble Boron (%)	0524	0.0022	0.0000	0.0041	0.0050	0.0002	7	-0.35	165.99	0
165	Acid Soluble Boron (%)	0501	0.0038	0.0003	0.0041	0.0050	0.0002	7	-0.07	165.99	0
165	Acid Soluble Boron (%)	0354	0.0090	0.0000	0.0041	0.0050	0.0002	7	0.87	165.30	0
165	Acid Soluble Boron (%)	0527	0.0255	0.0010	0.0041	0.0050	0.0002	7	3.82	165.99	0
165	Acid Soluble Boron (%)	0483	0.0030	0.0022	0.0041	0.0050	0.0002	7	-0.21	165.99	1
181	Acid Soluble Cadmium (ppm)	0042	0.1250	0.0100	0.3798	0.2862	0.0470	12	-0.89	181.99	0
181	Acid Soluble Cadmium (ppm)	0501	0.1500	0.0000	0.3798	0.2862	0.0470	12	-0.80	181.30	0
181	Acid Soluble Cadmium (ppm)	0389	0.1500	0.1000	0.3798	0.2862	0.0470	12	-0.80	181.30	0
181	Acid Soluble Cadmium (ppm)	0476	0.1550	0.0080	0.3798	0.2862	0.0470	12	-0.79	181.30	0
181	Acid Soluble Cadmium (ppm)	0527	0.1795	0.0070	0.3798	0.2862	0.0470	12	-0.70	181.33	0
181	Acid Soluble Cadmium (ppm)	0450	0.2000	0.0000	0.3798	0.2862	0.0470	12	-0.63	181.30	0
181	Acid Soluble Cadmium (ppm)	0523	0.4425	0.0110	0.3798	0.2862	0.0470	12	0.22	181.30	0
181	Acid Soluble Cadmium (ppm)	0444	0.4800	0.1200	0.3798	0.2862	0.0470	12	0.35	181.30	0
181	Acid Soluble Cadmium (ppm)	0035	0.5460	0.0480	0.3798	0.2862	0.0470	12	0.58	181.30	0
181	Acid Soluble Cadmium (ppm)	0524	0.5521	0.0069	0.3798	0.2862	0.0470	12	0.60	181.30	0
181	Acid Soluble Cadmium (ppm)	0515	0.7690	0.0640	0.3798	0.2862	0.0470	12	1.36	181.34	0
181	Acid Soluble Cadmium (ppm)	0515	2.098	0.1890	0.3798	0.2862	0.0470	12	6.00	181.33	0
181	Acid Soluble Cadmium (ppm)	0230	0.4120	0.3520	0.3798	0.2862	0.0470	12	0.11	181.34	1
181	Acid Soluble Cadmium (ppm)	0368	0.0000	0.0000	0.3798	0.2862	0.0470	12		181.30	4
190	Water Soluble Chlorine (%)	0105	1.120	0.1000				1		190.00	0
191	Acid Soluble Chromium (ppm)	0501	9.495	0.5100	13.87	3.066	0.8270	17	-1.43	191.30	0
191	Acid Soluble Chromium (ppm)	0368	9.650	0.3000	13.87	3.066	0.8270	17	-1.38	191.30	0
191	Acid Soluble Chromium (ppm)	0444	10.61	1.420	13.87	3.066	0.8270	17	-1.06	191.30	0
191	Acid Soluble Chromium (ppm)	0527	11.49	0.0800	13.87	3.066	0.8270	17	-0.78	191.33	0
191	Acid Soluble Chromium (ppm)	0042	12.59	0.4100	13.87	3.066	0.8270	17	-0.42	191.99	0
191	Acid Soluble Chromium (ppm)	0482	12.85	0.5000	13.87	3.066	0.8270	17	-0.33	191.30	0
191	Acid Soluble Chromium (ppm)	0389	12.85	0.1000	13.87	3.066	0.8270	17	-0.33	191.30	0
191	Acid Soluble Chromium (ppm)	0096	13.35	0.3000	13.87	3.066	0.8270	17	-0.17	191.30	0
191	Acid Soluble Chromium (ppm)	0476	13.54	0.8300	13.87	3.066	0.8270	17	-0.11	191.30	0
191	Acid Soluble Chromium (ppm)	0515	14.00	2.293	13.87	3.066	0.8270	17	0.04	191.34	0
191	Acid Soluble Chromium (ppm)	0515	15.27	3.164	13.87	3.066	0.8270	17	0.46	191.33	0
191	Acid Soluble Chromium (ppm)	0117	15.43	0.0900	13.87	3.066	0.8270	17	0.51	191.33	0
191	Acid Soluble Chromium (ppm)	0037	15.70	0.6820	13.87	3.066	0.8270	17	0.59	191.33	0
191	Acid Soluble Chromium (ppm)	0450	16.00	2.000	13.87	3.066	0.8270	17	0.69	191.30	0
191	Acid Soluble Chromium (ppm)	0035	16.10	0.0000	13.87	3.066	0.8270	17	0.73	191.30	0
191	Acid Soluble Chromium (ppm)	0535	24.50	1.000	13.87	3.066	0.8270	17	3.47	191.99	0
191	Acid Soluble Chromium (ppm)	0523	33.01	0.3800	13.87	3.066	0.8270	17	6.24	191.30	0
191	Acid Soluble Chromium (ppm)	0230	11.16	8.090	13.87	3.066	0.8270	17	-0.89	191.34	1
202	Acid Soluble Cobalt (ppm)	0096	4.265	2.490	7.180	1.904	0.6583	16	-1.53	202.30	0

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202	Acid Soluble Cobalt (ppm)	0368	4.450	1.300	7.180	1.904	0.6583	16	-1.43	202.30	0
202	Acid Soluble Cobalt (ppm)	0042	5.350	0.2600	7.180	1.904	0.6583	16	-0.96	202.99	0
202	Acid Soluble Cobalt (ppm)	0501	5.505	0.3100	7.180	1.904	0.6583	16	-0.88	202.34	0
202	Acid Soluble Cobalt (ppm)	0515	6.238	1.491	7.180	1.904	0.6583	16	-0.50	202.34	0
202	Acid Soluble Cobalt (ppm)	0389	6.850	0.1000	7.180	1.904	0.6583	16	-0.17	202.30	0
202	Acid Soluble Cobalt (ppm)	0515	7.213	1.665	7.180	1.904	0.6583	16	0.02	202.33	0
202	Acid Soluble Cobalt (ppm)	0476	7.215	0.2100	7.180	1.904	0.6583	16	0.02	202.30	0
202	Acid Soluble Cobalt (ppm)	0527	7.567	0.1520	7.180	1.904	0.6583	16	0.20	202.33	0
202	Acid Soluble Cobalt (ppm)	0482	7.650	0.3000	7.180	1.904	0.6583	16	0.25	202.30	0
202	Acid Soluble Cobalt (ppm)	0523	7.750	0.0000	7.180	1.904	0.6583	16	0.30	202.30	0
202	Acid Soluble Cobalt (ppm)	0035	7.985	1.090	7.180	1.904	0.6583	16	0.42	202.30	0
202	Acid Soluble Cobalt (ppm)	0423	8.115	0.4500	7.180	1.904	0.6583	16	0.49	202.32	0
202	Acid Soluble Cobalt (ppm)	0117	9.217	0.0940	7.180	1.904	0.6583	16	1.07	202.33	0
202	Acid Soluble Cobalt (ppm)	0524	9.415	0.2224	7.180	1.904	0.6583	16	1.17	202.30	0
202	Acid Soluble Cobalt (ppm)	0037	10.34	0.3990	7.180	1.904	0.6583	16	1.66	202.33	0
202	Acid Soluble Cobalt (ppm)	0230	5.595	4.210	7.180	1.904	0.6583	16	-0.83	202.34	1
221	Acid Soluble Copper (%)	0515	0.0039	0.0023	0.0058	0.0013	0.0825	29	-1.47	221.99	0
221	Acid Soluble Copper (%)	0105	0.0040	0.0000	0.0058	0.0013	0.0825	29	-1.36	221.00	0
221	Acid Soluble Copper (%)	0042	0.0040	0.0000	0.0058	0.0013	0.0825	29	-1.36	221.99	0
221	Acid Soluble Copper (%)	0096	0.0043	0.0001	0.0058	0.0013	0.0825	29	-1.17	221.30	0
221	Acid Soluble Copper (%)	0230	0.0045	0.0033	0.0058	0.0013	0.0825	29	-1.01	221.30	0
221	Acid Soluble Copper (%)	0444	0.0046	0.0000	0.0058	0.0013	0.0825	29	-0.90	221.30	0
221	Acid Soluble Copper (%)	0476	0.0050	0.0000	0.0058	0.0013	0.0825	29	-0.59	221.99	0
221	Acid Soluble Copper (%)	0368	0.0054	0.0001	0.0058	0.0013	0.0825	29	-0.33	221.99	0
221	Acid Soluble Copper (%)	0515	0.0054	0.0002	0.0058	0.0013	0.0825	29	-0.29	221.33	0
221	Acid Soluble Copper (%)	0233	0.0055	0.0003	0.0058	0.0013	0.0825	29	-0.25	221.30	0
221	Acid Soluble Copper (%)	0501	0.0055	0.0010	0.0058	0.0013	0.0825	29	-0.21	221.99	0
221	Acid Soluble Copper (%)	0524	0.0055	0.0002	0.0058	0.0013	0.0825	29	-0.21	221.99	0
221	Acid Soluble Copper (%)	0389	0.0056	0.0001	0.0058	0.0013	0.0825	29	-0.17	221.99	0
221	Acid Soluble Copper (%)	0483	0.0057	0.0003	0.0058	0.0013	0.0825	29	-0.10	221.30	0
221	Acid Soluble Copper (%)	0117	0.0057	0.0003	0.0058	0.0013	0.0825	29	-0.10	221.33	0
221	Acid Soluble Copper (%)	0494	0.0058	0.0004	0.0058	0.0013	0.0825	29	0.02	221.33	0
221	Acid Soluble Copper (%)	0043	0.0060	0.0003	0.0058	0.0013	0.0825	29	0.13	221.00	0
221	Acid Soluble Copper (%)	0200	0.0060	0.0001	0.0058	0.0013	0.0825	29	0.13	221.00	0
221	Acid Soluble Copper (%)	0105	0.0060	0.0001	0.0058	0.0013	0.0825	29	0.13	221.03	0
221	Acid Soluble Copper (%)	0035	0.0060	0.0003	0.0058	0.0013	0.0825	29	0.13	221.30	0
221	Acid Soluble Copper (%)	0433	0.0060	0.0000	0.0058	0.0013	0.0825	29	0.17	221.30	0
221	Acid Soluble Copper (%)	0527	0.0060	0.0000	0.0058	0.0013	0.0825	29	0.17	221.33	0
221	Acid Soluble Copper (%)	0354	0.0065	0.0030	0.0058	0.0013	0.0825	29	0.55	221.30	0
221	Acid Soluble Copper (%)	0523	0.0065	0.0010	0.0058	0.0013	0.0825	29	0.55	221.99	0
221	Acid Soluble Copper (%)	0521	0.0081	0.0000	0.0058	0.0013	0.0825	29	1.78	221.32	0
221	Acid Soluble Copper (%)	0472	0.0100	0.0000	0.0058	0.0013	0.0825	29	3.23	221.30	0
221	Acid Soluble Copper (%)	0482	0.0100	0.0000	0.0058	0.0013	0.0825	29	3.23	221.30	0

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221	Acid Soluble Copper (%)	0423	0.0125	0.0010	0.0058	0.0013	0.0825	29	5.14	221.32	0
221	Acid Soluble Copper (%)	0037	54.03	2.379	0.0058	0.0013	0.0825	29	41301.34	221.33	0
221	Acid Soluble Copper (%)	0450	61.10	12.40	0.0058	0.0013	0.0825	29	46709.36	221.30	1
221	Acid Soluble Copper (%)	0531	0.0000	0.0000	0.0058	0.0013	0.0825	29		221.01	4
241	Acid Soluble Iron (2%)	0476	1.325*	0.0700	2.583	0.2188	0.0667	57	-5.75	241.99	0
241	Acid Soluble Iron (2%)	0482	1.370*	0.2600	2.583	0.2188	0.0667	57	-5.54	241.30	0
241	Acid Soluble Iron (2%)	0500	1.960*	0.0000	2.583	0.2188	0.0667	57	-2.85	241.00	0
241	Acid Soluble Iron (2%)	0531	2.100*	0.0400	2.583	0.2188	0.0667	57	-2.21	241.01	0
241	Acid Soluble Iron (2%)	0486	2.215*	0.0100	2.583	0.2188	0.0667	57	-1.68	241.33	0
241	Acid Soluble Iron (2%)	0042	2.220*	0.0400	2.583	0.2188	0.0667	57	-1.66	241.99	0
241	Acid Soluble Iron (2%)	0540	2.250*	0.1000	2.583	0.2188	0.0667	57	-1.52	241.00	0
241	Acid Soluble Iron (2%)	0518	2.270*	0.0400	2.583	0.2188	0.0667	57	-1.43	241.20	0
241	Acid Soluble Iron (2%)	0516	2.315*	0.0700	2.583	0.2188	0.0667	57	-1.22	241.00	0
241	Acid Soluble Iron (2%)	0501	2.340	0.3600	2.583	0.2188	0.0667	57	-1.11	241.99	0
241	Acid Soluble Iron (2%)	0535	2.350	0.1000	2.583	0.2188	0.0667	57	-1.06	241.00	0
241	Acid Soluble Iron (2%)	0521	2.403	0.0000	2.583	0.2188	0.0667	57	-0.82	241.32	0
241	Acid Soluble Iron (2%)	0420	2.416	0.0160	2.583	0.2188	0.0667	57	-0.76	241.30	0
241	Acid Soluble Iron (2%)	0532	2.420	0.0400	2.583	0.2188	0.0667	57	-0.74	241.00	0
241	Acid Soluble Iron (2%)	0356	2.475	0.0300	2.583	0.2188	0.0667	57	-0.49	241.01	0
241	Acid Soluble Iron (2%)	0136	2.485	0.0900	2.583	0.2188	0.0667	57	-0.45	241.33	0
241	Acid Soluble Iron (2%)	0515	2.489	0.0587	2.583	0.2188	0.0667	57	-0.43	241.99	0
241	Acid Soluble Iron (2%)	0513	2.495	0.0500	2.583	0.2188	0.0667	57	-0.40	241.00	0
241	Acid Soluble Iron (2%)	0055	2.510	0.0800	2.583	0.2188	0.0667	57	-0.33	241.33	0
241	Acid Soluble Iron (2%)	0515	2.526	0.0780	2.583	0.2188	0.0667	57	-0.26	241.33	0
241	Acid Soluble Iron (2%)	0137	2.542	0.0620	2.583	0.2188	0.0667	57	-0.19	241.99	0
241	Acid Soluble Iron (2%)	0368	2.545	0.0745	2.583	0.2188	0.0667	57	-0.17	241.99	0
241	Acid Soluble Iron (2%)	0234	2.550	0.0600	2.583	0.2188	0.0667	57	-0.15	241.30	0
241	Acid Soluble Iron (2%)	0157	2.570	0.1800	2.583	0.2188	0.0667	57	-0.06	241.30	0
241	Acid Soluble Iron (2%)	0233	2.596	0.0930	2.583	0.2188	0.0667	57	0.06	241.30	0
241	Acid Soluble Iron (2%)	0354	2.597	0.0010	2.583	0.2188	0.0667	57	0.06	241.30	0
241	Acid Soluble Iron (2%)	0457	2.605	0.0300	2.583	0.2188	0.0667	57	0.10	241.00	0
241	Acid Soluble Iron (2%)	0291	2.620	0.0400	2.583	0.2188	0.0667	57	0.17	241.30	0
241	Acid Soluble Iron (2%)	0433	2.625	0.0300	2.583	0.2188	0.0667	57	0.19	241.30	0
241	Acid Soluble Iron (2%)	0494	2.638	0.1590	2.583	0.2188	0.0667	57	0.25	241.33	0
241	Acid Soluble Iron (2%)	0423	2.640	0.0400	2.583	0.2188	0.0667	57	0.26	241.32	0
241	Acid Soluble Iron (2%)	0177	2.640	0.0478	2.583	0.2188	0.0667	57	0.26	241.33	0
241	Acid Soluble Iron (2%)	0029	2.643	0.0700	2.583	0.2188	0.0667	57	0.28	241.00	0
241	Acid Soluble Iron (2%)	0117	2.649	0.0200	2.583	0.2188	0.0667	57	0.30	241.33	0
241	Acid Soluble Iron (2%)	0444	2.655	0.0700	2.583	0.2188	0.0667	57	0.33	241.30	0
241	Acid Soluble Iron (2%)	0523	2.660	0.0800	2.583	0.2188	0.0667	57	0.35	241.99	0
241	Acid Soluble Iron (2%)	0043	2.670	0.0400	2.583	0.2188	0.0667	57	0.40	241.00	0
241	Acid Soluble Iron (2%)	0096	2.670	0.0600	2.583	0.2188	0.0667	57	0.40	241.30	0
241	Acid Soluble Iron (2%)	0114	2.670	0.0200	2.583	0.2188	0.0667	57	0.40	241.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
241	Acid Soluble Iron (2%)	0025	2.672	0.0170	2.583	0.2188	0.0667	57	0.41	241.33	0
241	Acid Soluble Iron (2%)	0524	2.677	0.0006	2.583	0.2188	0.0667	57	0.43	241.99	0
241	Acid Soluble Iron (2%)	0034	2.705	0.1270	2.583	0.2188	0.0667	57	0.56	241.33	0
241	Acid Soluble Iron (2%)	0220	2.715	0.0300	2.583	0.2188	0.0667	57	0.60	241.33	0
241	Acid Soluble Iron (2%)	0037	2.717	0.0210	2.583	0.2188	0.0667	57	0.61	241.33	0
241	Acid Soluble Iron (2%)	0324	2.720	0.1400	2.583	0.2188	0.0667	57	0.63	241.30	0
241	Acid Soluble Iron (2%)	0040	2.755	0.0100	2.583	0.2188	0.0667	57	0.79	241.00	0
241	Acid Soluble Iron (2%)	0360	2.760	0.0000	2.583	0.2188	0.0667	57	0.81	241.30	0
241	Acid Soluble Iron (2%)	0389	2.770	0.0200	2.583	0.2188	0.0667	57	0.86	241.99	0
241	Acid Soluble Iron (2%)	0105	2.773	0.2180	2.583	0.2188	0.0667	57	0.87	241.03	0
241	Acid Soluble Iron (2%)	0200	2.790	0.0000	2.583	0.2188	0.0667	57	0.95	241.99	0
241	Acid Soluble Iron (2%)	0472	2.815	0.0500	2.583	0.2188	0.0667	57	1.06	241.30	0
241	Acid Soluble Iron (2%)	0023	2.834	0.0200	2.583	0.2188	0.0667	57	1.15	241.33	0
241	Acid Soluble Iron (2%)	0483	2.855	0.3500	2.583	0.2188	0.0667	57	1.24	241.30	0
241	Acid Soluble Iron (2%)	0231	2.880	0.0400	2.583	0.2188	0.0667	57	1.36	241.31	0
241	Acid Soluble Iron (2%)	0035	2.900	0.0200	2.583	0.2188	0.0667	57	1.45	241.30	0
241	Acid Soluble Iron (2%)	0527	2.909	0.0060	2.583	0.2188	0.0667	57	1.49	241.33	0
241	Acid Soluble Iron (2%)	0105	3.007	0.0220	2.583	0.2188	0.0667	57	1.94	241.00	0
241	Acid Soluble Iron (2%)	0230	1.765*	1.270	2.583	0.2188	0.0667	57	-3.74	241.30	1
251	Acid Soluble Lead (ppm)	0501	0.3100	0.0000	2.916	2.379	0.3650	12	-1.10	251.30	0
251	Acid Soluble Lead (ppm)	0042	0.9500	0.0200	2.916	2.379	0.3650	12	-0.83	251.99	0
251	Acid Soluble Lead (ppm)	0230	1.482	1.256	2.916	2.379	0.3650	12	-0.60	251.34	0
251	Acid Soluble Lead (ppm)	0476	2.050	0.0000	2.916	2.379	0.3650	12	-0.36	251.30	0
251	Acid Soluble Lead (ppm)	0527	2.104	0.0350	2.916	2.379	0.3650	12	-0.34	251.33	0
251	Acid Soluble Lead (ppm)	0515	2.217	1.168	2.916	2.379	0.3650	12	-0.29	251.34	0
251	Acid Soluble Lead (ppm)	0524	2.253	0.0819	2.916	2.379	0.3650	12	-0.28	251.30	0
251	Acid Soluble Lead (ppm)	0523	2.285	0.0900	2.916	2.379	0.3650	12	-0.27	251.30	0
251	Acid Soluble Lead (ppm)	0035	2.725	0.7100	2.916	2.379	0.3650	12	-0.08	251.30	0
251	Acid Soluble Lead (ppm)	0515	5.648	0.4185	2.916	2.379	0.3650	12	1.15	251.33	0
251	Acid Soluble Lead (ppm)	0200	10.00	0.0000	2.916	2.379	0.3650	12	2.98	251.99	0
251	Acid Soluble Lead (ppm)	0535	13.00	0.6000	2.916	2.379	0.3650	12	4.24	251.99	0
251	Acid Soluble Lead (ppm)	0368	0.0000	0.0000	2.916	2.379	0.3650	12		251.30	4
261	Acid Soluble Manganese (%)	0483	0.0057	0.0003	0.0076	0.0014	0.0003	18	-1.37	261.32	0
261	Acid Soluble Manganese (%)	0535	0.0057	0.0001	0.0076	0.0014	0.0003	18	-1.37	261.12	0
261	Acid Soluble Manganese (%)	0389	0.0067	0.0001	0.0076	0.0014	0.0003	18	-0.66	261.99	0
261	Acid Soluble Manganese (%)	0117	0.0068	0.0002	0.0076	0.0014	0.0003	18	-0.55	261.35	0
261	Acid Soluble Manganese (%)	0423	0.0070	0.0000	0.0076	0.0014	0.0003	18	-0.41	261.34	0
261	Acid Soluble Manganese (%)	0105	0.0071	0.0013	0.0076	0.0014	0.0003	18	-0.37	261.12	0
261	Acid Soluble Manganese (%)	0043	0.0071	0.0010	0.0076	0.0014	0.0003	18	-0.34	261.00	0
261	Acid Soluble Manganese (%)	0105	0.0071	0.0000	0.0076	0.0014	0.0003	18	-0.34	261.15	0
261	Acid Soluble Manganese (%)	0494	0.0071	0.0006	0.0076	0.0014	0.0003	18	-0.34	261.35	0
261	Acid Soluble Manganese (%)	0096	0.0074	0.0001	0.0076	0.0014	0.0003	18	-0.16	261.30	0
261	Acid Soluble Manganese (%)	0354	0.0075	0.0010	0.0076	0.0014	0.0003	18	-0.05	261.30	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				
261	Acid Soluble Manganese (%)	0524	0.0075	0.0000	0.0076	0.0014	0.0003	18	-0.05	261.99	0
261	Acid Soluble Manganese (%)	0035	0.0077	0.0004	0.0076	0.0014	0.0003	18	0.09	261.30	0
261	Acid Soluble Manganese (%)	0527	0.0080	0.0000	0.0076	0.0014	0.0003	18	0.31	261.35	0
261	Acid Soluble Manganese (%)	0521	0.0091	0.0000	0.0076	0.0014	0.0003	18	1.09	261.34	0
261	Acid Soluble Manganese (%)	0472	0.0100	0.0000	0.0076	0.0014	0.0003	18	1.74	261.30	0
261	Acid Soluble Manganese (%)	0482	0.0100	0.0000	0.0076	0.0014	0.0003	18	1.74	261.31	0
261	Acid Soluble Manganese (%)	0501	0.0100	0.0000	0.0076	0.0014	0.0003	18	1.74	261.99	0
281	Acid Soluble Mercury (ppm)	0501	0.0200	0.0000	0.1140	0.0549	0.0260	5	-1.71	281.30	0
281	Acid Soluble Mercury (ppm)	0450	0.1100	0.0200	0.1140	0.0549	0.0260	5	-0.07	281.30	0
281	Acid Soluble Mercury (ppm)	0527	0.1440	0.0080	0.1140	0.0549	0.0260	5	0.55	281.30	0
281	Acid Soluble Mercury (ppm)	0476	0.1460	0.0220	0.1140	0.0549	0.0260	5	0.58	281.30	0
281	Acid Soluble Mercury (ppm)	0042	0.1500	0.0800	0.1140	0.0549	0.0260	5	0.66	281.99	0
289	Acid Soluble Molybdenum (ppm)	0515	1.796	1.193	3.633	1.042	0.2282	11	-1.76	289.33	0
289	Acid Soluble Molybdenum (ppm)	0433	2.155	0.0050	3.633	1.042	0.2282	11	-1.42	289.30	0
289	Acid Soluble Molybdenum (ppm)	0042	3.425	0.1100	3.633	1.042	0.2282	11	-0.20	289.99	0
289	Acid Soluble Molybdenum (ppm)	0035	3.490	0.2800	3.633	1.042	0.2282	11	-0.14	289.30	0
289	Acid Soluble Molybdenum (ppm)	0524	3.493	0.1068	3.633	1.042	0.2282	11	-0.13	289.30	0
289	Acid Soluble Molybdenum (ppm)	0037	3.628	0.0770	3.633	1.042	0.2282	11	-0.01	289.33	0
289	Acid Soluble Molybdenum (ppm)	0527	3.737	0.0060	3.633	1.042	0.2282	11	0.10	289.33	0
289	Acid Soluble Molybdenum (ppm)	0501	4.030	0.6800	3.633	1.042	0.2282	11	0.38	289.34	0
289	Acid Soluble Molybdenum (ppm)	0515	4.093	0.0430	3.633	1.042	0.2282	11	0.44	289.34	0
289	Acid Soluble Molybdenum (ppm)	0476	4.785	0.0100	3.633	1.042	0.2282	11	1.11	289.30	0
289	Acid Soluble Molybdenum (ppm)	0521	5.057	0.0000	3.633	1.042	0.2282	11	1.37	289.30	0
289	Acid Soluble Molybdenum (ppm)	0230	2.810	2.060	3.633	1.042	0.2282	11	-0.79	289.34	1
289	Acid Soluble Molybdenum (ppm)	0368	0.3000	0.6000	3.633	1.042	0.2282	11		289.30	4
291	Acid Soluble Nickel (ppm)	0368	9.200	3.800	14.36	2.567	1.178	19	-2.01	291.30	0
291	Acid Soluble Nickel (ppm)	0444	11.24	1.240	14.36	2.567	1.178	19	-1.21	291.30	0
291	Acid Soluble Nickel (ppm)	0042	11.82	0.5800	14.36	2.567	1.178	19	-0.99	291.99	0
291	Acid Soluble Nickel (ppm)	0501	12.75	0.1600	14.36	2.567	1.178	19	-0.63	291.34	0
291	Acid Soluble Nickel (ppm)	0523	12.84	0.1800	14.36	2.567	1.178	19	-0.59	291.30	0
291	Acid Soluble Nickel (ppm)	0117	12.95	0.4000	14.36	2.567	1.178	19	-0.55	291.33	0
291	Acid Soluble Nickel (ppm)	0515	13.25	0.1225	14.36	2.567	1.178	19	-0.43	291.33	0
291	Acid Soluble Nickel (ppm)	0096	13.30	0.2000	14.36	2.567	1.178	19	-0.41	291.30	0
291	Acid Soluble Nickel (ppm)	0515	13.31	4.029	14.36	2.567	1.178	19	-0.41	291.34	0
291	Acid Soluble Nickel (ppm)	0482	14.00	0.2000	14.36	2.567	1.178	19	-0.14	291.30	0
291	Acid Soluble Nickel (ppm)	0035	14.25	1.700	14.36	2.567	1.178	19	-0.04	291.30	0
291	Acid Soluble Nickel (ppm)	0524	14.39	0.2617	14.36	2.567	1.178	19	0.01	291.30	0
291	Acid Soluble Nickel (ppm)	0476	15.71	1.020	14.36	2.567	1.178	19	0.53	291.30	0
291	Acid Soluble Nickel (ppm)	0527	16.03	0.1990	14.36	2.567	1.178	19	0.65	291.33	0
291	Acid Soluble Nickel (ppm)	0521	16.13	0.0000	14.36	2.567	1.178	19	0.69	291.30	0
291	Acid Soluble Nickel (ppm)	0037	16.89	0.2890	14.36	2.567	1.178	19	0.99	291.33	0
291	Acid Soluble Nickel (ppm)	0136	17.00	0.0000	14.36	2.567	1.178	19	1.03	291.00	0
291	Acid Soluble Nickel (ppm)	0450	19.50	7.000	14.36	2.567	1.178	19	2.00	291.30	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				
291	Acid Soluble Nickel (ppm)	0535	19.50	1.000	14.36	2.567	1.178	19	2.00	291.99	0
291	Acid Soluble Nickel (ppm)	0230	12.16	8.880	14.36	2.567	1.178	19	-0.86	291.34	1
301	Acid Soluble Selenium (ppm)	0042	0.7600	0.0800	2.359	3.022	1.510	5	-0.53	301.99	0
301	Acid Soluble Selenium (ppm)	0527	0.9480	0.0220	2.359	3.022	1.510	5	-0.47	301.33	0
301	Acid Soluble Selenium (ppm)	0476	0.9800	0.0400	2.359	3.022	1.510	5	-0.46	301.30	0
301	Acid Soluble Selenium (ppm)	0501	1.355	0.1100	2.359	3.022	1.510	5	-0.33	301.30	0
301	Acid Soluble Selenium (ppm)	0368	7.750	7.300	2.359	3.022	1.510	5	1.78	301.30	0
311	Sodium (%)	0423	0.1045	0.0030	0.1234	0.0077	0.0033	8	-2.26	311.33	0
311	Sodium (%)	0482	0.1200	0.0000	0.1234	0.0077	0.0033	8	-0.41	311.99	0
311	Sodium (%)	0501	0.1200	0.0000	0.1234	0.0077	0.0033	8	-0.41	311.99	0
311	Sodium (%)	0527	0.1230	0.0060	0.1234	0.0077	0.0033	8	-0.05	311.33	0
311	Sodium (%)	0035	0.1235	0.0070	0.1234	0.0077	0.0033	8	0.01	311.33	0
311	Sodium (%)	0521	0.1241	0.0000	0.1234	0.0077	0.0033	8	0.08	311.32	0
311	Sodium (%)	0096	0.1300	0.0000	0.1234	0.0077	0.0033	8	0.78	311.99	0
311	Sodium (%)	0043	0.1550	0.0100	0.1234	0.0077	0.0033	8	3.77	311.30	0
311	Sodium (%)	0354	0.1420	0.0240	0.1234	0.0077	0.0033	8	2.22	311.99	1
321	Acid Soluble Zinc (%)	0444	0.0093	0.0002	0.0122	0.0023	0.0008	32	-1.24	321.30	0
321	Acid Soluble Zinc (%)	0234	0.0100	0.0000	0.0122	0.0023	0.0008	32	-0.94	321.30	0
321	Acid Soluble Zinc (%)	0472	0.0100	0.0000	0.0122	0.0023	0.0008	32	-0.94	321.30	0
321	Acid Soluble Zinc (%)	0482	0.0100	0.0000	0.0122	0.0023	0.0008	32	-0.94	321.30	0
321	Acid Soluble Zinc (%)	0476	0.0100	0.0000	0.0122	0.0023	0.0008	32	-0.94	321.99	0
321	Acid Soluble Zinc (%)	0501	0.0100	0.0000	0.0122	0.0023	0.0008	32	-0.94	321.99	0
321	Acid Soluble Zinc (%)	0483	0.0101	0.0026	0.0122	0.0023	0.0008	32	-0.90	321.30	0
321	Acid Soluble Zinc (%)	0535	0.0103	0.0005	0.0122	0.0023	0.0008	32	-0.84	321.00	0
321	Acid Soluble Zinc (%)	0515	0.0110	0.0009	0.0122	0.0023	0.0008	32	-0.54	321.99	0
321	Acid Soluble Zinc (%)	0368	0.0112	0.0007	0.0122	0.0023	0.0008	32	-0.45	321.99	0
321	Acid Soluble Zinc (%)	0515	0.0113	0.0011	0.0122	0.0023	0.0008	32	-0.41	321.33	0
321	Acid Soluble Zinc (%)	0389	0.0113	0.0005	0.0122	0.0023	0.0008	32	-0.41	321.99	0
321	Acid Soluble Zinc (%)	0035	0.0115	0.0010	0.0122	0.0023	0.0008	32	-0.30	321.30	0
321	Acid Soluble Zinc (%)	0042	0.0115	0.0010	0.0122	0.0023	0.0008	32	-0.30	321.99	0
321	Acid Soluble Zinc (%)	0117	0.0116	0.0003	0.0122	0.0023	0.0008	32	-0.28	321.33	0
321	Acid Soluble Zinc (%)	0524	0.0118	0.0000	0.0122	0.0023	0.0008	32	-0.17	321.99	0
321	Acid Soluble Zinc (%)	0494	0.0119	0.0017	0.0122	0.0023	0.0008	32	-0.15	321.33	0
321	Acid Soluble Zinc (%)	0105	0.0119	0.0004	0.0122	0.0023	0.0008	32	-0.13	321.00	0
321	Acid Soluble Zinc (%)	0105	0.0120	0.0002	0.0122	0.0023	0.0008	32	-0.08	321.03	0
321	Acid Soluble Zinc (%)	0433	0.0120	0.0000	0.0122	0.0023	0.0008	32	-0.08	321.30	0
321	Acid Soluble Zinc (%)	0527	0.0120	0.0000	0.0122	0.0023	0.0008	32	-0.08	321.33	0
321	Acid Soluble Zinc (%)	0037	0.0122	0.0007	0.0122	0.0023	0.0008	32	-0.02	321.33	0
321	Acid Soluble Zinc (%)	0233	0.0122	0.0002	0.0122	0.0023	0.0008	32	0.00	321.30	0
321	Acid Soluble Zinc (%)	0523	0.0125	0.0010	0.0122	0.0023	0.0008	32	0.13	321.99	0
321	Acid Soluble Zinc (%)	0533	0.0141	0.0007	0.0122	0.0023	0.0008	32	0.79	321.00	0
321	Acid Soluble Zinc (%)	0521	0.0151	0.0000	0.0122	0.0023	0.0008	32	1.24	321.32	0
321	Acid Soluble Zinc (%)	0354	0.0155	0.0030	0.0122	0.0023	0.0008	32	1.42	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 (%)	0043	0.0159	0.0002	0.0122	0.0023	0.0008	32	1.59	321.00	0
321	Acid Soluble Zinc (%)	0096	0.0162	0.0002	0.0122	0.0023	0.0008	32	1.72	321.30	0
321	Acid Soluble Zinc (%)	0200	0.0198	0.0001	0.0122	0.0023	0.0008	32	3.24	321.99	0
321	Acid Soluble Zinc (%)	0423	0.0375	0.0010	0.0122	0.0023	0.0008	32	10.85	321.32	0
321	Acid Soluble Zinc (%)	0532	0.0380	0.0060	0.0122	0.0023	0.0008	32	11.06	321.00	0
321	Acid Soluble Zinc (%)	0230	0.0086	0.0063	0.0122	0.0023	0.0008	32	-1.56	321.30	1
321	Acid Soluble Zinc (%)	0540	0.1060	0.0080	0.0122	0.0023	0.0008	32	40.22	321.00	2
321	Acid Soluble Zinc (%)	0531	0.0000	0.0000	0.0122	0.0023	0.0008	32		321.01	4
325	Water Soluble Zinc (%)	0406	2.480	0.0000				1		325.30	0

Interpreting Z Scores: Red indicates a normally distributed Z value >3 or <-3 (requires action), Orange = Z between 2 and 3 or -2 and -3 (warning) and Green = Z < 2 and >-2 (OK at 95%). Flags indicate data usage: 0 = Used, 1 = rejected for duplicates too far apart, 2 = rejected as extreme outlier and a 4 flag indicates rejected due to 0 value submitted. Robust statistics not used if < 6 labs used in calculations, in this case the Z Scores are included for information only (Grey). An offset lab value with an astrix indicates that the value is lower than the Analyte value less the IA. Method or Analyte codes in light green indicate a guaranteed analyte. Individual lab values may be below detection limits but are reported solely for the purpose of this Proficiency Testing program.