

# magruder fertilizer

## check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 161211

MAP plus S

### Statistical Summary

# Analytes: 33

# Labs Reporting: 87

Issue Date : 01/31/2017

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 (%)	27	25	11.91	0.3637	11.88		0.3162	0.0790	2.66%		0.0610	2.76%
009	Ammoniacal Plus Nitrate Nitrogen (%)	4	4	11.91	0.2684	11.91		0.2684	0.1678	2.25%		0.1275	2.75%
010	Total Nitrogen (12%)	75	72	11.90	1.356	12.06	0.6106	0.2047	0.0302	1.70%	2.53%	0.0901	2.75%
020	Total Phosphorus as P2O5 (%)	51	50	42.15	1.917	42.07		1.075	0.1901	2.56%		0.4020	2.28%
030	Citrate Insoluble Phosphorus as P2O5 (%)	2	2	0.2153	0.1206								
040	Indirect Available Phosphorus as P2O5 (40%)	3	3	42.21	0.3237	42.21	0.9332	0.3237	0.2336	0.77%	1.11%	0.1013	2.28%
041	Direct Available Phosphorus as P2O5 (40%)	44	43	41.36	0.9336	41.40	0.9210	0.9492	0.1809	2.29%	1.11%	0.2804	2.28%
042	Water Soluble Orthophosphate as P2O5 (%)	1		38.29									
048	Water Soluble Phosphorus as P2O5 (%)	12	12	36.60	5.854	37.80		0.8670	0.3129	2.29%		0.3543	2.32%
050	Soluble Potassium as K2O (%)	13	9	0.1671	0.1356	0.1280		0.0272	0.0113	21.25%		0.0097	5.45%
060	Water (Free) (%)	5	5	0.5687	0.1956	0.5687		0.1956	0.1093	34.39%		0.0417	4.35%
101	Acid Soluble Calcium (%)	15	14	0.2190	0.0504	0.2201		0.0532	0.0178	24.16%		0.0050	5.02%
121	Acid Soluble Magnesium (%)	15	15	0.5109	0.0746	0.5073		0.0594	0.0192	11.71%		0.0151	4.43%
143	Elemental Sulfur (%)	7	7	6.288	2.456	6.288		2.785	1.316	44.29%		0.1043	3.03%
145	Sulfate Sulfur, HCl soluble (%)	7	6	5.448	0.9045	5.215		0.4235	0.2161	8.12%		0.0650	3.12%
146	Total Sulfur in Liquid (%)	1		9.550									
148	Total Sulfur (10%)	42	40	8.923	2.015	9.492	0.6746	0.9896	0.1956	10.43%	3.55%	0.1474	2.85%
149	Sulfur - HNO3 soluble (%)	5	5	7.441	2.215	7.441		2.215	1.238	29.77%		0.1562	2.96%
151	Acid Soluble Arsenic (ppm)	14	14	10.69	1.681	10.73		1.830	0.6113	17.06%		0.6624	11.19%
165	Acid Soluble Boron (%)	9	8	0.0097	0.0070	0.0095		0.0074	0.0033	78.31%		0.0005	8.06%
181	Acid Soluble Cadmium (ppm)	19	17	2.468	0.3831	2.439		0.3391	0.1028	13.90%		0.0565	13.99%
191	Acid Soluble Chromium (ppm)	18	17	67.25	9.984	68.68		7.380	2.237	10.74%		1.807	8.46%
202	Acid Soluble Cobalt (ppm)	14	12	2.332	0.8458	2.357		0.6741	0.2432	28.60%		0.1295	14.06%
221	Acid Soluble Copper (%)	12	6	0.8519	2.084	0.0022		0.0029	0.0015	134.32%		0.0051	10.05%
241	Acid Soluble Iron (%)	17	17	0.7936	0.2149	0.8362		0.0696	0.0211	8.32%		0.0233	4.11%
251	Acid Soluble Lead (ppm)	11	8	1.697	1.019	1.627		0.9905	0.4377	60.86%		0.1306	14.87%
261	Acid Soluble Manganese (%)	16	15	0.0301	0.0026	0.0299		0.0011	0.0004	3.71%		0.0004	6.78%
281	Acid Soluble Mercury (ppm)	4	4	10.53	20.92	10.53		20.92	13.07	198.58%		0.0472	11.22%
289	Acid Soluble Molybdenum (ppm)	18	17	10.98	1.691	11.02		1.830	0.5548	16.60%		0.4608	11.15%
291	Acid Soluble Nickel (ppm)	20	19	10.59	1.102	10.75		0.7227	0.2073	6.72%		0.3550	11.19%
301	Acid Soluble Selenium (ppm)	7	5	1.064	1.686	1.064		1.686	0.9424	158.39%		0.1772	15.85%

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
311	Sodium (%)	7	6	0.1279	0.0153	0.1263		0.0134	0.0068	10.61%		0.0022	5.46%
321	Acid Soluble Zinc (%)	30	29	9.372	35.00	0.0116		0.0019	0.0004	16.68%		0.7765	7.82%

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Lab Values

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MAP plus S

Issue Date : 01/31/2017

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 (%)	0513	11.33	0.0300	11.88	0.3162	0.0610	25	-1.76	001.99	0
001	Ammoniacal Nitrogen (%)	0513	11.36	0.1000	11.88	0.3162	0.0610	25	-1.65	001.10	0
001	Ammoniacal Nitrogen (%)	0394	11.45	0.1000	11.88	0.3162	0.0610	25	-1.37	001.99	0
001	Ammoniacal Nitrogen (%)	0231	11.58	0.0300	11.88	0.3162	0.0610	25	-0.97	001.10	0
001	Ammoniacal Nitrogen (%)	0177	11.61	0.0268	11.88	0.3162	0.0610	25	-0.85	001.10	0
001	Ammoniacal Nitrogen (%)	0524	11.64	0.0400	11.88	0.3162	0.0610	25	-0.77	001.99	0
001	Ammoniacal Nitrogen (%)	0444	11.67	0.0800	11.88	0.3162	0.0610	25	-0.67	001.10	0
001	Ammoniacal Nitrogen (%)	0027	11.73	0.0200	11.88	0.3162	0.0610	25	-0.48	001.99	0
001	Ammoniacal Nitrogen (%)	0510	11.80	0.0549	11.88	0.3162	0.0610	25	-0.26	001.99	0
001	Ammoniacal Nitrogen (%)	0420	11.82	0.0100	11.88	0.3162	0.0610	25	-0.21	001.99	0
001	Ammoniacal Nitrogen (%)	0368	11.82	0.1200	11.88	0.3162	0.0610	25	-0.20	001.99	0
001	Ammoniacal Nitrogen (%)	0487	11.84	0.1400	11.88	0.3162	0.0610	25	-0.13	001.99	0
001	Ammoniacal Nitrogen (%)	0526	11.87	0.0000	11.88	0.3162	0.0610	25	-0.04	001.10	0
001	Ammoniacal Nitrogen (%)	0519	11.90	0.0500	11.88	0.3162	0.0610	25	0.04	001.99	0
001	Ammoniacal Nitrogen (%)	0486	11.98	0.1500	11.88	0.3162	0.0610	25	0.29	001.10	0
001	Ammoniacal Nitrogen (%)	0405	11.99	0.0320	11.88	0.3162	0.0610	25	0.34	001.10	0
001	Ammoniacal Nitrogen (%)	0520	12.00	0.0100	11.88	0.3162	0.0610	25	0.36	001.99	0
001	Ammoniacal Nitrogen (%)	0371	12.05	0.1000	11.88	0.3162	0.0610	25	0.53	001.99	0
001	Ammoniacal Nitrogen (%)	0389	12.08	0.1600	11.88	0.3162	0.0610	25	0.62	001.10	0
001	Ammoniacal Nitrogen (%)	0220	12.11	0.0500	11.88	0.3162	0.0610	25	0.70	001.99	0
001	Ammoniacal Nitrogen (%)	0309	12.17	0.0300	11.88	0.3162	0.0610	25	0.89	001.10	0
001	Ammoniacal Nitrogen (%)	0522	12.22	0.0500	11.88	0.3162	0.0610	25	1.05	001.99	0
001	Ammoniacal Nitrogen (%)	0096	12.24	0.0200	11.88	0.3162	0.0610	25	1.13	001.99	0
001	Ammoniacal Nitrogen (%)	0501	12.59	0.0207	11.88	0.3162	0.0610	25	2.25	001.99	0
001	Ammoniacal Nitrogen (%)	0506	12.95	0.1000	11.88	0.3162	0.0610	25	3.38	001.99	0
001	Ammoniacal Nitrogen (%)	0230	11.20	0.4000	11.88	0.3162	0.0610	25	-2.16	001.10	1
001	Ammoniacal Nitrogen (%)	0498	12.20	0.4000	11.88	0.3162	0.0610	25	1.00	001.10	1
009	Ammoniacal Plus Nitrate Nitrogen (%)	0309	11.64	0.0400	11.91	0.2684	0.1275	4	-1.01	009.10	0
009	Ammoniacal Plus Nitrate Nitrogen (%)	0513	11.73	0.1700	11.91	0.2684	0.1275	4	-0.69	009.99	0
009	Ammoniacal Plus Nitrate Nitrogen (%)	0518	12.10	0.0400	11.91	0.2684	0.1275	4	0.70	009.99	0
009	Ammoniacal Plus Nitrate Nitrogen (%)	0444	12.18	0.2600	11.91	0.2684	0.1275	4	1.00	009.10	0
010	Total Nitrogen (12%)	0402	1.004*	0.0020	12.06	0.2047	0.0901	72	-54.01	010.60	0
010	Total Nitrogen (12%)	0526	10.20*	0.0000	12.06	0.2047	0.0901	72	-9.09	010.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010	Total Nitrogen (12%)	0521	10.83*	0.0000	12.06	0.2047	0.0901	72	-6.03	010.60	0
010	Total Nitrogen (12%)	0309	11.61	0.0400	12.06	0.2047	0.0901	72	-2.20	010.11	0
010	Total Nitrogen (12%)	0034	11.64	0.0000	12.06	0.2047	0.0901	72	-2.05	010.60	0
010	Total Nitrogen (12%)	0500	11.67	0.0500	12.06	0.2047	0.0901	72	-1.93	010.11	0
010	Total Nitrogen (12%)	0527	11.67	0.1200	12.06	0.2047	0.0901	72	-1.90	010.60	0
010	Total Nitrogen (12%)	0291	11.73	0.0000	12.06	0.2047	0.0901	72	-1.61	010.60	0
010	Total Nitrogen (12%)	0368	11.77	0.1560	12.06	0.2047	0.0901	72	-1.41	010.60	0
010	Total Nitrogen (12%)	0007	11.80	0.2000	12.06	0.2047	0.0901	72	-1.27	010.60	0
010	Total Nitrogen (12%)	0354	11.82	0.0890	12.06	0.2047	0.0901	72	-1.16	010.60	0
010	Total Nitrogen (12%)	0041	11.84	0.0100	12.06	0.2047	0.0901	72	-1.10	010.60	0
010	Total Nitrogen (12%)	0356	11.84	0.2000	12.06	0.2047	0.0901	72	-1.07	010.60	0
010	Total Nitrogen (12%)	0472	11.89	0.0100	12.06	0.2047	0.0901	72	-0.85	010.60	0
010	Total Nitrogen (12%)	0487	11.90	0.0000	12.06	0.2047	0.0901	72	-0.78	010.99	0
010	Total Nitrogen (12%)	0095	11.91	0.0700	12.06	0.2047	0.0901	72	-0.76	010.60	0
010	Total Nitrogen (12%)	0519	11.91	0.0200	12.06	0.2047	0.0901	72	-0.73	010.99	0
010	Total Nitrogen (12%)	0489	11.93	0.0600	12.06	0.2047	0.0901	72	-0.63	010.60	0
010	Total Nitrogen (12%)	0027	11.95	0.3000	12.06	0.2047	0.0901	72	-0.54	010.60	0
010	Total Nitrogen (12%)	0451	11.96	0.1600	12.06	0.2047	0.0901	72	-0.49	010.60	0
010	Total Nitrogen (12%)	0406	11.98	0.4100	12.06	0.2047	0.0901	72	-0.41	010.60	0
010	Total Nitrogen (12%)	0420	11.98	0.1700	12.06	0.2047	0.0901	72	-0.41	010.99	0
010	Total Nitrogen (12%)	0211	11.99	0.0500	12.06	0.2047	0.0901	72	-0.37	010.11	0
010	Total Nitrogen (12%)	0043	11.99	0.0100	12.06	0.2047	0.0901	72	-0.37	010.60	0
010	Total Nitrogen (12%)	0042	12.00	0.0000	12.06	0.2047	0.0901	72	-0.29	010.60	0
010	Total Nitrogen (12%)	0523	12.00	0.0000	12.06	0.2047	0.0901	72	-0.29	010.60	0
010	Total Nitrogen (12%)	0485	12.01	0.1960	12.06	0.2047	0.0901	72	-0.26	010.60	0
010	Total Nitrogen (12%)	0486	12.01	0.2200	12.06	0.2047	0.0901	72	-0.24	010.60	0
010	Total Nitrogen (12%)	0220	12.02	0.0600	12.06	0.2047	0.0901	72	-0.19	010.17	0
010	Total Nitrogen (12%)	0421	12.03	0.0500	12.06	0.2047	0.0901	72	-0.17	010.60	0
010	Total Nitrogen (12%)	0073	12.03	0.2000	12.06	0.2047	0.0901	72	-0.15	010.60	0
010	Total Nitrogen (12%)	0023	12.04	0.0050	12.06	0.2047	0.0901	72	-0.09	010.60	0
010	Total Nitrogen (12%)	0230	12.05	0.1000	12.06	0.2047	0.0901	72	-0.05	010.60	0
010	Total Nitrogen (12%)	0037	12.05	0.1010	12.06	0.2047	0.0901	72	-0.03	010.60	0
010	Total Nitrogen (12%)	0090	12.07	0.1400	12.06	0.2047	0.0901	72	0.05	010.11	0
010	Total Nitrogen (12%)	0525	12.08	0.3580	12.06	0.2047	0.0901	72	0.07	010.60	0
010	Total Nitrogen (12%)	0360	12.10	0.0500	12.06	0.2047	0.0901	72	0.17	010.60	0
010	Total Nitrogen (12%)	0157	12.10	0.0000	12.06	0.2047	0.0901	72	0.20	010.60	0
010	Total Nitrogen (12%)	0482	12.10	0.0000	12.06	0.2047	0.0901	72	0.20	010.60	0
010	Total Nitrogen (12%)	0234	12.10	0.0600	12.06	0.2047	0.0901	72	0.20	010.60	0
010	Total Nitrogen (12%)	0493	12.10	0.1000	12.06	0.2047	0.0901	72	0.20	010.99	0
010	Total Nitrogen (12%)	0524	12.11	0.0278	12.06	0.2047	0.0901	72	0.25	010.99	0
010	Total Nitrogen (12%)	0105	12.13	0.0300	12.06	0.2047	0.0901	72	0.32	010.11	0
010	Total Nitrogen (12%)	0028	12.13	0.0400	12.06	0.2047	0.0901	72	0.34	010.60	0
010	Total Nitrogen (12%)	0494	12.13	0.2400	12.06	0.2047	0.0901	72	0.34	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 (12%)	0444	12.14	0.3400	12.06	0.2047	0.0901	72	0.39	010.60	0
010	Total Nitrogen (12%)	0377	12.15	0.0100	12.06	0.2047	0.0901	72	0.42	010.60	0
010	Total Nitrogen (12%)	0072	12.15	0.1000	12.06	0.2047	0.0901	72	0.44	010.60	0
010	Total Nitrogen (12%)	0035	12.16	0.0400	12.06	0.2047	0.0901	72	0.49	010.60	0
010	Total Nitrogen (12%)	0231	12.16	0.0200	12.06	0.2047	0.0901	72	0.49	010.60	0
010	Total Nitrogen (12%)	0452	12.16	0.0400	12.06	0.2047	0.0901	72	0.49	010.60	0
010	Total Nitrogen (12%)	0292	12.18	0.0200	12.06	0.2047	0.0901	72	0.59	010.60	0
010	Total Nitrogen (12%)	0136	12.19	0.0100	12.06	0.2047	0.0901	72	0.61	010.60	0
010	Total Nitrogen (12%)	0177	12.19	0.0300	12.06	0.2047	0.0901	72	0.61	010.60	0
010	Total Nitrogen (12%)	0040	12.20	0.0000	12.06	0.2047	0.0901	72	0.68	010.60	0
010	Total Nitrogen (12%)	0516	12.20	0.0000	12.06	0.2047	0.0901	72	0.68	010.60	0
010	Total Nitrogen (12%)	0498	12.20	0.2000	12.06	0.2047	0.0901	72	0.68	010.99	0
010	Total Nitrogen (12%)	0055	12.21	0.0200	12.06	0.2047	0.0901	72	0.73	010.60	0
010	Total Nitrogen (12%)	0096	12.21	0.0600	12.06	0.2047	0.0901	72	0.73	010.60	0
010	Total Nitrogen (12%)	0405	12.21	0.0560	12.06	0.2047	0.0901	72	0.74	010.60	0
010	Total Nitrogen (12%)	0422	12.22	0.0600	12.06	0.2047	0.0901	72	0.78	010.60	0
010	Total Nitrogen (12%)	0325	12.25	0.3000	12.06	0.2047	0.0901	72	0.93	010.60	0
010	Total Nitrogen (12%)	0389	12.26	0.1200	12.06	0.2047	0.0901	72	0.98	010.60	0
010	Total Nitrogen (12%)	0483	12.27	0.0100	12.06	0.2047	0.0901	72	1.00	010.60	0
010	Total Nitrogen (12%)	0307	12.29	0.1240	12.06	0.2047	0.0901	72	1.10	010.60	0
010	Total Nitrogen (12%)	0029	12.31	0.1300	12.06	0.2047	0.0901	72	1.20	010.60	0
010	Total Nitrogen (12%)	0520	12.40	0.0100	12.06	0.2047	0.0901	72	1.64	010.99	0
010	Total Nitrogen (12%)	0025	12.41	0.0300	12.06	0.2047	0.0901	72	1.69	010.60	0
010	Total Nitrogen (12%)	0501	12.55	0.1000	12.06	0.2047	0.0901	72	2.39	010.60	0
010	Total Nitrogen (12%)	0510	12.80	0.1533	12.06	0.2047	0.0901	72	3.61	010.11	0
010	Total Nitrogen (12%)	0506	12.95	0.1000	12.06	0.2047	0.0901	72	4.35	010.99	0
010	Total Nitrogen (12%)	0443	13.30	0.3000	12.06	0.2047	0.0901	72	6.06	010.60	0
010	Total Nitrogen (12%)	0324	11.70	0.6000	12.06	0.2047	0.0901	72	-1.76	010.60	1
010	Total Nitrogen (12%)	0260	12.19	0.5000	12.06	0.2047	0.0901	72	0.64	010.60	1
010	Total Nitrogen (12%)	0131	32.67	0.1150	12.06	0.2047	0.0901	72	100.70	010.60	2
020	Total Phosphorus as P2O5 (%)	0443	36.37	0.4200	42.07	1.075	0.4020	50	-5.30	020.99	0
020	Total Phosphorus as P2O5 (%)	0157	38.70	0.4000	42.07	1.075	0.4020	50	-3.13	020.50	0
020	Total Phosphorus as P2O5 (%)	0527	39.03	0.6000	42.07	1.075	0.4020	50	-2.82	020.50	0
020	Total Phosphorus as P2O5 (%)	0420	39.75	0.3000	42.07	1.075	0.4020	50	-2.15	020.20	0
020	Total Phosphorus as P2O5 (%)	0521	40.54	0.0000	42.07	1.075	0.4020	50	-1.42	020.50	0
020	Total Phosphorus as P2O5 (%)	0309	40.71	0.0600	42.07	1.075	0.4020	50	-1.26	020.20	0
020	Total Phosphorus as P2O5 (%)	0444	40.79	0.6500	42.07	1.075	0.4020	50	-1.19	020.50	0
020	Total Phosphorus as P2O5 (%)	0406	40.80	0.0800	42.07	1.075	0.4020	50	-1.18	020.20	0
020	Total Phosphorus as P2O5 (%)	0520	40.97	0.9400	42.07	1.075	0.4020	50	-1.02	020.99	0
020	Total Phosphorus as P2O5 (%)	0472	41.14	0.4700	42.07	1.075	0.4020	50	-0.87	020.50	0
020	Total Phosphorus as P2O5 (%)	0027	41.28	0.0110	42.07	1.075	0.4020	50	-0.73	020.20	0
020	Total Phosphorus as P2O5 (%)	0433	41.30	0.1100	42.07	1.075	0.4020	50	-0.72	020.50	0
020	Total Phosphorus as P2O5 (%)	0523	41.30	0.2000	42.07	1.075	0.4020	50	-0.71	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 (%)	0513	41.42	0.0900	42.07	1.075	0.4020	50	-0.60	020.99	0
020	Total Phosphorus as P2O5 (%)	0500	41.58	0.0100	42.07	1.075	0.4020	50	-0.46	020.10	0
020	Total Phosphorus as P2O5 (%)	0234	41.60	0.3200	42.07	1.075	0.4020	50	-0.43	020.50	0
020	Total Phosphorus as P2O5 (%)	0457	41.64	0.6300	42.07	1.075	0.4020	50	-0.40	020.20	0
020	Total Phosphorus as P2O5 (%)	0042	41.65	0.3000	42.07	1.075	0.4020	50	-0.39	020.40	0
020	Total Phosphorus as P2O5 (%)	0489	41.80	0.0000	42.07	1.075	0.4020	50	-0.25	020.20	0
020	Total Phosphorus as P2O5 (%)	0368	41.89	0.7441	42.07	1.075	0.4020	50	-0.16	020.50	0
020	Total Phosphorus as P2O5 (%)	0489	41.92	0.0300	42.07	1.075	0.4020	50	-0.14	020.30	0
020	Total Phosphorus as P2O5 (%)	0157	42.05	0.3000	42.07	1.075	0.4020	50	-0.01	020.10	0
020	Total Phosphorus as P2O5 (%)	0035	42.08	1.300	42.07	1.075	0.4020	50	0.01	020.40	0
020	Total Phosphorus as P2O5 (%)	0105	42.13	0.2300	42.07	1.075	0.4020	50	0.06	020.40	0
020	Total Phosphorus as P2O5 (%)	0394	42.15	0.1000	42.07	1.075	0.4020	50	0.08	020.20	0
020	Total Phosphorus as P2O5 (%)	0231	42.18	0.0500	42.07	1.075	0.4020	50	0.10	020.20	0
020	Total Phosphorus as P2O5 (%)	0096	42.31	0.0800	42.07	1.075	0.4020	50	0.23	020.40	0
020	Total Phosphorus as P2O5 (%)	0090	42.34	0.1400	42.07	1.075	0.4020	50	0.26	020.10	0
020	Total Phosphorus as P2O5 (%)	0516	42.40	0.4000	42.07	1.075	0.4020	50	0.31	020.20	0
020	Total Phosphorus as P2O5 (%)	0389	42.41	0.2500	42.07	1.075	0.4020	50	0.32	020.50	0
020	Total Phosphorus as P2O5 (%)	0211	42.45	0.2000	42.07	1.075	0.4020	50	0.36	020.10	0
020	Total Phosphorus as P2O5 (%)	0493	42.45	0.1000	42.07	1.075	0.4020	50	0.36	020.10	0
020	Total Phosphorus as P2O5 (%)	0487	42.50	0.3400	42.07	1.075	0.4020	50	0.40	020.99	0
020	Total Phosphorus as P2O5 (%)	0356	42.52	0.3400	42.07	1.075	0.4020	50	0.42	020.20	0
020	Total Phosphorus as P2O5 (%)	0421	42.53	0.0500	42.07	1.075	0.4020	50	0.43	020.50	0
020	Total Phosphorus as P2O5 (%)	0402	42.54	0.2700	42.07	1.075	0.4020	50	0.44	020.50	0
020	Total Phosphorus as P2O5 (%)	0444	42.58	0.6600	42.07	1.075	0.4020	50	0.48	020.10	0
020	Total Phosphorus as P2O5 (%)	0506	42.60	0.8000	42.07	1.075	0.4020	50	0.50	020.20	0
020	Total Phosphorus as P2O5 (%)	0510	42.64	0.0299	42.07	1.075	0.4020	50	0.53	020.20	0
020	Total Phosphorus as P2O5 (%)	0292	42.74	0.0200	42.07	1.075	0.4020	50	0.63	020.20	0
020	Total Phosphorus as P2O5 (%)	0105	42.77	0.1300	42.07	1.075	0.4020	50	0.65	020.10	0
020	Total Phosphorus as P2O5 (%)	0405	42.85	0.0890	42.07	1.075	0.4020	50	0.73	020.20	0
020	Total Phosphorus as P2O5 (%)	0324	42.95	0.7000	42.07	1.075	0.4020	50	0.82	020.20	0
020	Total Phosphorus as P2O5 (%)	0451	43.03	0.0500	42.07	1.075	0.4020	50	0.89	020.50	0
020	Total Phosphorus as P2O5 (%)	0482	43.60	1.200	42.07	1.075	0.4020	50	1.43	020.50	0
020	Total Phosphorus as P2O5 (%)	0300	43.82	0.0400	42.07	1.075	0.4020	50	1.63	020.20	0
020	Total Phosphorus as P2O5 (%)	0524	44.17	0.5322	42.07	1.075	0.4020	50	1.96	020.50	0
020	Total Phosphorus as P2O5 (%)	0422	46.12	0.0300	42.07	1.075	0.4020	50	3.77	020.50	0
020	Total Phosphorus as P2O5 (%)	0483	47.78	4.810	42.07	1.075	0.4020	50	5.31	020.50	0
020	Total Phosphorus as P2O5 (%)	0515	48.78	0.4921	42.07	1.075	0.4020	50	6.24	020.99	0
020	Total Phosphorus as P2O5 (%)	0428	54.20	14.98	42.07	1.075	0.4020	50	11.29	020.20	1
030	Citrate Insoluble Phosphorus as P2O5 (%)	0096	0.1300	0.0000				2		030.40	0
030	Citrate Insoluble Phosphorus as P2O5 (%)	0405	0.3005	0.0090				2		030.20	0
040	Indirect Available Phosphorus as P2O5 (40%)	0394	41.91	0.1260	42.21	0.3237	0.1013	3	-0.95	040.99	0
040	Indirect Available Phosphorus as P2O5 (40%)	0096	42.18	0.0800	42.21	0.3237	0.1013	3	-0.10	040.40	0
040	Indirect Available Phosphorus as P2O5 (40%)	0405	42.55	0.0980	42.21	0.3237	0.1013	3	1.05	040.20	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				
041	Direct Available Phosphorus as P2O5 (40%)	0472	38.51*	0.1600	41.40	0.9492	0.2804	43	-3.04	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0522	39.85*	0.5000	41.40	0.9492	0.2804	43	-1.63	041.21	0
041	Direct Available Phosphorus as P2O5 (40%)	0007	39.85*	1.300	41.40	0.9492	0.2804	43	-1.63	041.50	0
041	Direct Available Phosphorus as P2O5 (40%)	0354	40.01*	0.2050	41.40	0.9492	0.2804	43	-1.46	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0518	40.07*	0.0600	41.40	0.9492	0.2804	43	-1.40	041.99	0
041	Direct Available Phosphorus as P2O5 (40%)	0519	40.13*	0.0900	41.40	0.9492	0.2804	43	-1.34	041.99	0
041	Direct Available Phosphorus as P2O5 (40%)	0526	40.46*	0.0000	41.40	0.9492	0.2804	43	-0.99	041.99	0
041	Direct Available Phosphorus as P2O5 (40%)	0513	40.50	0.2800	41.40	0.9492	0.2804	43	-0.95	041.11	0
041	Direct Available Phosphorus as P2O5 (40%)	0029	40.56	0.3000	41.40	0.9492	0.2804	43	-0.88	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0360	40.64	0.2600	41.40	0.9492	0.2804	43	-0.80	041.51	0
041	Direct Available Phosphorus as P2O5 (40%)	0291	40.68	0.0100	41.40	0.9492	0.2804	43	-0.76	041.50	0
041	Direct Available Phosphorus as P2O5 (40%)	0368	40.82	0.5000	41.40	0.9492	0.2804	43	-0.61	041.50	0
041	Direct Available Phosphorus as P2O5 (40%)	0073	40.95	0.5500	41.40	0.9492	0.2804	43	-0.48	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0117	41.06	0.0400	41.40	0.9492	0.2804	43	-0.36	041.50	0
041	Direct Available Phosphorus as P2O5 (40%)	0486	41.08	0.2500	41.40	0.9492	0.2804	43	-0.34	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0037	41.10	0.0970	41.40	0.9492	0.2804	43	-0.32	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0452	41.14	0.0800	41.40	0.9492	0.2804	43	-0.27	041.50	0
041	Direct Available Phosphorus as P2O5 (40%)	0494	41.31	0.0600	41.40	0.9492	0.2804	43	-0.09	041.51	0
041	Direct Available Phosphorus as P2O5 (40%)	0325	41.35	1.300	41.40	0.9492	0.2804	43	-0.05	041.50	0
041	Direct Available Phosphorus as P2O5 (40%)	0377	41.40	0.0300	41.40	0.9492	0.2804	43	0.00	041.51	0
041	Direct Available Phosphorus as P2O5 (40%)	0231	41.41	0.0500	41.40	0.9492	0.2804	43	0.01	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0177	41.55	0.3733	41.40	0.9492	0.2804	43	0.16	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0230	41.55	0.3000	41.40	0.9492	0.2804	43	0.16	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0055	41.60	0.4000	41.40	0.9492	0.2804	43	0.21	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0023	41.62	0.7800	41.40	0.9492	0.2804	43	0.23	041.51	0
041	Direct Available Phosphorus as P2O5 (40%)	0185	41.67	0.3700	41.40	0.9492	0.2804	43	0.28	041.11	0
041	Direct Available Phosphorus as P2O5 (40%)	0041	41.72	0.3000	41.40	0.9492	0.2804	43	0.34	041.10	0
041	Direct Available Phosphorus as P2O5 (40%)	0177	41.74	0.0902	41.40	0.9492	0.2804	43	0.36	041.10	0
041	Direct Available Phosphorus as P2O5 (40%)	0072	41.86	0.2440	41.40	0.9492	0.2804	43	0.49	041.10	0
041	Direct Available Phosphorus as P2O5 (40%)	0220	41.88	0.0100	41.40	0.9492	0.2804	43	0.50	041.11	0
041	Direct Available Phosphorus as P2O5 (40%)	0105	41.93	0.3900	41.40	0.9492	0.2804	43	0.56	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0043	41.94	0.0500	41.40	0.9492	0.2804	43	0.57	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0136	41.97	0.1100	41.40	0.9492	0.2804	43	0.60	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0072	41.97	0.0800	41.40	0.9492	0.2804	43	0.60	041.50	0
041	Direct Available Phosphorus as P2O5 (40%)	0105	42.11	0.2100	41.40	0.9492	0.2804	43	0.75	041.99	0
041	Direct Available Phosphorus as P2O5 (40%)	0055	42.18	0.1400	41.40	0.9492	0.2804	43	0.82	041.10	0
041	Direct Available Phosphorus as P2O5 (40%)	0040	42.40	0.0000	41.40	0.9492	0.2804	43	1.06	041.10	0
041	Direct Available Phosphorus as P2O5 (40%)	0034	42.46	0.1100	41.40	0.9492	0.2804	43	1.12	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0506	42.60	0.8000	41.40	0.9492	0.2804	43	1.27	041.99	0
041	Direct Available Phosphorus as P2O5 (40%)	0105	42.66	0.4700	41.40	0.9492	0.2804	43	1.32	041.10	0
041	Direct Available Phosphorus as P2O5 (40%)	0494	42.66	0.4400	41.40	0.9492	0.2804	43	1.33	041.10	0
041	Direct Available Phosphorus as P2O5 (40%)	0485	42.68	0.2470	41.40	0.9492	0.2804	43	1.35	041.11	0
041	Direct Available Phosphorus as P2O5 (40%)	0105	42.89	0.0200	41.40	0.9492	0.2804	43	1.57	041.11	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
041	Direct Available Phosphorus as P2O5 (40%)	0025	41.87	1.890	41.40	0.9492	0.2804	43	0.49	041.51	1
042	Water Soluble Orthophosphate as P2O5 (%)	0368	38.29	0.1444				1		042.99	0
048	Water Soluble Phosphorus as P2O5 (%)	0230	18.50	1.000	37.80	0.8670	0.3543	12	-22.26	048.20	0
048	Water Soluble Phosphorus as P2O5 (%)	0420	36.86	0.3200	37.80	0.8670	0.3543	12	-1.08	048.20	0
048	Water Soluble Phosphorus as P2O5 (%)	0513	37.35	0.0600	37.80	0.8670	0.3543	12	-0.52	048.99	0
048	Water Soluble Phosphorus as P2O5 (%)	0520	37.45	0.0100	37.80	0.8670	0.3543	12	-0.41	048.99	0
048	Water Soluble Phosphorus as P2O5 (%)	0220	37.69	0.0200	37.80	0.8670	0.3543	12	-0.13	048.20	0
048	Water Soluble Phosphorus as P2O5 (%)	0405	37.75	0.0390	37.80	0.8670	0.3543	12	-0.06	048.20	0
048	Water Soluble Phosphorus as P2O5 (%)	0394	37.80	0.0000	37.80	0.8670	0.3543	12	0.00	048.20	0
048	Water Soluble Phosphorus as P2O5 (%)	0444	37.93	0.3300	37.80	0.8670	0.3543	12	0.14	048.50	0
048	Water Soluble Phosphorus as P2O5 (%)	0096	38.01	0.0300	37.80	0.8670	0.3543	12	0.24	048.40	0
048	Water Soluble Phosphorus as P2O5 (%)	0444	38.07	0.5400	37.80	0.8670	0.3543	12	0.31	048.10	0
048	Water Soluble Phosphorus as P2O5 (%)	0498	40.05	0.5000	37.80	0.8670	0.3543	12	2.60	048.20	0
048	Water Soluble Phosphorus as P2O5 (%)	0501	41.73	1.402	37.80	0.8670	0.3543	12	4.53	048.50	0
050	Soluble Potassium as K2O (%)	0421	0.0825	0.0050	0.1280	0.0272	0.0097	9	-1.67	050.99	0
050	Soluble Potassium as K2O (%)	0096	0.1100	0.0200	0.1280	0.0272	0.0097	9	-0.66	050.99	0
050	Soluble Potassium as K2O (%)	0482	0.1100	0.0000	0.1280	0.0272	0.0097	9	-0.66	050.99	0
050	Soluble Potassium as K2O (%)	0524	0.1255	0.0000	0.1280	0.0272	0.0097	9	-0.09	050.99	0
050	Soluble Potassium as K2O (%)	0389	0.1290	0.0020	0.1280	0.0272	0.0097	9	0.04	050.99	0
050	Soluble Potassium as K2O (%)	0527	0.1350	0.0100	0.1280	0.0272	0.0097	9	0.26	050.99	0
050	Soluble Potassium as K2O (%)	0521	0.1366	0.0000	0.1280	0.0272	0.0097	9	0.32	050.99	0
050	Soluble Potassium as K2O (%)	0292	0.1500	0.0000	0.1280	0.0272	0.0097	9	0.81	050.50	0
050	Soluble Potassium as K2O (%)	0483	0.5250	0.0500	0.1280	0.0272	0.0097	9	14.60	050.51	0
050	Soluble Potassium as K2O (%)	0325	0.1500	0.1000	0.1280	0.0272	0.0097	9	0.81	050.99	1
050	Soluble Potassium as K2O (%)	0131	10.38	0.0000	0.1280	0.0272	0.0097	9	376.95	050.61	2
050	Soluble Potassium as K2O (%)	0472	0.0000	0.0000	0.1280	0.0272	0.0097	9		050.31	4
050	Soluble Potassium as K2O (%)	0354	0.0000	0.0000	0.1280	0.0272	0.0097	9		050.52	4
060	Water (Free) (%)	0007	0.3150	0.0100	0.5687	0.1956	0.0417	5	-1.30	060.00	0
060	Water (Free) (%)	0105	0.4910	0.0520	0.5687	0.1956	0.0417	5	-0.40	060.00	0
060	Water (Free) (%)	0510	0.5661	0.0537	0.5687	0.1956	0.0417	5	-0.01	060.99	0
060	Water (Free) (%)	0096	0.6200	0.0800	0.5687	0.1956	0.0417	5	0.26	060.00	0
060	Water (Free) (%)	0513	0.8515	0.0130	0.5687	0.1956	0.0417	5	1.45	060.30	0
101	Acid Soluble Calcium (%)	0472	0.1200	0.0000	0.2201	0.0532	0.0050	14	-1.88	101.30	0
101	Acid Soluble Calcium (%)	0105	0.1423	0.0009	0.2201	0.0532	0.0050	14	-1.46	101.00	0
101	Acid Soluble Calcium (%)	0105	0.1447	0.0049	0.2201	0.0532	0.0050	14	-1.42	101.03	0
101	Acid Soluble Calcium (%)	0035	0.2065	0.0150	0.2201	0.0532	0.0050	14	-0.26	101.30	0
101	Acid Soluble Calcium (%)	0117	0.2218	0.0038	0.2201	0.0532	0.0050	14	0.03	101.33	0
101	Acid Soluble Calcium (%)	0482	0.2300	0.0000	0.2201	0.0532	0.0050	14	0.19	101.30	0
101	Acid Soluble Calcium (%)	0494	0.2337	0.0014	0.2201	0.0532	0.0050	14	0.26	101.33	0
101	Acid Soluble Calcium (%)	0389	0.2350	0.0100	0.2201	0.0532	0.0050	14	0.28	101.99	0
101	Acid Soluble Calcium (%)	0096	0.2375	0.0110	0.2201	0.0532	0.0050	14	0.33	101.30	0
101	Acid Soluble Calcium (%)	0354	0.2400	0.0080	0.2201	0.0532	0.0050	14	0.37	101.30	0
101	Acid Soluble Calcium (%)	0421	0.2455	0.0050	0.2201	0.0532	0.0050	14	0.48	101.33	0



Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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101	Acid Soluble Calcium (%)	0527	0.2500	0.0000	0.2201	0.0532	0.0050	14	0.56	101.33	0
101	Acid Soluble Calcium (%)	0521	0.2545	0.0000	0.2201	0.0532	0.0050	14	0.65	101.32	0
101	Acid Soluble Calcium (%)	0402	0.3050	0.0100	0.2201	0.0532	0.0050	14	1.60	101.30	0
101	Acid Soluble Calcium (%)	0483	0.6375	0.0910	0.2201	0.0532	0.0050	14	7.85	101.30	1
121	Acid Soluble Magnesium (%)	0105	0.3890	0.0227	0.5073	0.0594	0.0151	15	-1.99	121.00	0
121	Acid Soluble Magnesium (%)	0105	0.3978	0.0113	0.5073	0.0594	0.0151	15	-1.84	121.03	0
121	Acid Soluble Magnesium (%)	0354	0.4320	0.0020	0.5073	0.0594	0.0151	15	-1.27	121.30	0
121	Acid Soluble Magnesium (%)	0035	0.4670	0.0520	0.5073	0.0594	0.0151	15	-0.68	121.30	0
121	Acid Soluble Magnesium (%)	0117	0.5045	0.0145	0.5073	0.0594	0.0151	15	-0.05	121.33	0
121	Acid Soluble Magnesium (%)	0096	0.5050	0.0300	0.5073	0.0594	0.0151	15	-0.04	121.30	0
121	Acid Soluble Magnesium (%)	0527	0.5100	0.0000	0.5073	0.0594	0.0151	15	0.05	121.33	0
121	Acid Soluble Magnesium (%)	0524	0.5165	0.0018	0.5073	0.0594	0.0151	15	0.16	121.99	0
121	Acid Soluble Magnesium (%)	0482	0.5250	0.0100	0.5073	0.0594	0.0151	15	0.30	121.30	0
121	Acid Soluble Magnesium (%)	0521	0.5310	0.0000	0.5073	0.0594	0.0151	15	0.40	121.32	0
121	Acid Soluble Magnesium (%)	0494	0.5389	0.0072	0.5073	0.0594	0.0151	15	0.53	121.33	0
121	Acid Soluble Magnesium (%)	0421	0.5395	0.0050	0.5073	0.0594	0.0151	15	0.54	121.33	0
121	Acid Soluble Magnesium (%)	0389	0.5520	0.0140	0.5073	0.0594	0.0151	15	0.75	121.99	0
121	Acid Soluble Magnesium (%)	0472	0.5550	0.0100	0.5073	0.0594	0.0151	15	0.80	121.30	0
121	Acid Soluble Magnesium (%)	0483	0.7010	0.0460	0.5073	0.0594	0.0151	15	3.26	121.30	0
143	Elemental Sulfur (%)	0043	4.625	0.0700	6.288	2.785	0.1043	7	-0.54	143.00	0
143	Elemental Sulfur (%)	0027	4.665	0.0900	6.288	2.785	0.1043	7	-0.53	143.00	0
143	Elemental Sulfur (%)	0506	4.840	0.2400	6.288	2.785	0.1043	7	-0.47	143.99	0
143	Elemental Sulfur (%)	0485	5.075	0.0300	6.288	2.785	0.1043	7	-0.39	143.00	0
143	Elemental Sulfur (%)	0220	5.090	0.0600	6.288	2.785	0.1043	7	-0.39	143.00	0
143	Elemental Sulfur (%)	0472	9.495	0.0100	6.288	2.785	0.1043	7	1.04	143.99	0
143	Elemental Sulfur (%)	0389	10.23	0.2300	6.288	2.785	0.1043	7	1.28	143.99	0
145	Sulfate Sulfur, HCl soluble (%)	0444	4.825	0.0300	5.215	0.4235	0.0650	6	-0.82	145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0485	4.960	0.1200	5.215	0.4235	0.0650	6	-0.54	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0522	4.995	0.0500	5.215	0.4235	0.0650	6	-0.46	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0220	5.300	0.0400	5.215	0.4235	0.0650	6	0.18	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0043	5.360	0.0600	5.215	0.4235	0.0650	6	0.30	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0518	7.245	0.0900	5.215	0.4235	0.0650	6	4.27	145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0444	4.625	0.4300	5.215	0.4235	0.0650	6	-1.24	145.00	1
146	Total Sulfur in Liquid (%)	0498	9.550	0.1000				1		146.99	0
148	Total Sulfur (10%)	0354	4.178*	0.0050	9.492	0.9896	0.1474	40	-5.37	148.99	0
148	Total Sulfur (10%)	0394	4.500*	0.0800	9.492	0.9896	0.1474	40	-5.04	148.04	0
148	Total Sulfur (10%)	0444	4.670*	0.1000	9.492	0.9896	0.1474	40	-4.87	148.07	0
148	Total Sulfur (10%)	0096	4.722*	0.1430	9.492	0.9896	0.1474	40	-4.82	148.99	0
148	Total Sulfur (10%)	0444	4.845*	0.0100	9.492	0.9896	0.1474	40	-4.70	148.01	0
148	Total Sulfur (10%)	0324	5.110*	0.0000	9.492	0.9896	0.1474	40	-4.43	148.01	0
148	Total Sulfur (10%)	0230	5.450*	0.5600	9.492	0.9896	0.1474	40	-4.08	148.01	0
148	Total Sulfur (10%)	0422	7.805*	0.0900	9.492	0.9896	0.1474	40	-1.70	148.07	0
148	Total Sulfur (10%)	0055	8.705*	0.0500	9.492	0.9896	0.1474	40	-0.80	148.01	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 (10%)	0527	8.955	0.2500	9.492	0.9896	0.1474	40	-0.54	148.07	0
148	Total Sulfur (10%)	0117	9.191	0.1820	9.492	0.9896	0.1474	40	-0.30	148.07	0
148	Total Sulfur (10%)	0073	9.325	0.3700	9.492	0.9896	0.1474	40	-0.17	148.01	0
148	Total Sulfur (10%)	0292	9.335	0.0500	9.492	0.9896	0.1474	40	-0.16	148.07	0
148	Total Sulfur (10%)	0518	9.345	0.0100	9.492	0.9896	0.1474	40	-0.15	148.99	0
148	Total Sulfur (10%)	0072	9.385	0.1100	9.492	0.9896	0.1474	40	-0.11	148.99	0
148	Total Sulfur (10%)	0157	9.530	0.1600	9.492	0.9896	0.1474	40	0.04	148.01	0
148	Total Sulfur (10%)	0028	9.540	0.4000	9.492	0.9896	0.1474	40	0.05	148.01	0
148	Total Sulfur (10%)	0231	9.615	0.0100	9.492	0.9896	0.1474	40	0.12	148.01	0
148	Total Sulfur (10%)	0105	9.700	0.1000	9.492	0.9896	0.1474	40	0.21	148.01	0
148	Total Sulfur (10%)	0037	9.747	0.4950	9.492	0.9896	0.1474	40	0.26	148.01	0
148	Total Sulfur (10%)	0025	9.790	0.0200	9.492	0.9896	0.1474	40	0.30	148.00	0
148	Total Sulfur (10%)	0421	9.855	0.0500	9.492	0.9896	0.1474	40	0.37	148.07	0
148	Total Sulfur (10%)	0023	9.889	0.0590	9.492	0.9896	0.1474	40	0.40	148.07	0
148	Total Sulfur (10%)	0029	9.900	0.0400	9.492	0.9896	0.1474	40	0.41	148.01	0
148	Total Sulfur (10%)	0523	9.950	0.3000	9.492	0.9896	0.1474	40	0.46	148.99	0
148	Total Sulfur (10%)	0177	9.952	0.1131	9.492	0.9896	0.1474	40	0.47	148.07	0
148	Total Sulfur (10%)	0360	9.965	0.0300	9.492	0.9896	0.1474	40	0.48	148.00	0
148	Total Sulfur (10%)	0029	9.980	0.1200	9.492	0.9896	0.1474	40	0.49	148.00	0
148	Total Sulfur (10%)	0043	9.990	0.0600	9.492	0.9896	0.1474	40	0.50	148.00	0
148	Total Sulfur (10%)	0485	10.04	0.0900	9.492	0.9896	0.1474	40	0.55	148.01	0
148	Total Sulfur (10%)	0482	10.10	0.4100	9.492	0.9896	0.1474	40	0.61	148.99	0
148	Total Sulfur (10%)	0291	10.11	0.0100	9.492	0.9896	0.1474	40	0.62	148.99	0
148	Total Sulfur (10%)	0136	10.11	0.0400	9.492	0.9896	0.1474	40	0.62	148.00	0
148	Total Sulfur (10%)	0520	10.13	0.0000	9.492	0.9896	0.1474	40	0.64	148.99	0
148	Total Sulfur (10%)	0506	10.40	0.4000	9.492	0.9896	0.1474	40	0.92	148.99	0
148	Total Sulfur (10%)	0157	10.45	0.3000	9.492	0.9896	0.1474	40	0.97	148.00	0
148	Total Sulfur (10%)	0220	10.49	0.2000	9.492	0.9896	0.1474	40	1.01	148.99	0
148	Total Sulfur (10%)	0486	10.58	0.0500	9.492	0.9896	0.1474	40	1.09	148.07	0
148	Total Sulfur (10%)	0494	10.61	0.0306	9.492	0.9896	0.1474	40	1.13	148.07	0
148	Total Sulfur (10%)	0451	11.00	0.4000	9.492	0.9896	0.1474	40	1.52	148.00	0
148	Total Sulfur (10%)	0515	7.873*	2.088	9.492	0.9896	0.1474	40	-1.64	148.07	1
148	Total Sulfur (10%)	0483	8.930	1.300	9.492	0.9896	0.1474	40	-0.57	148.07	1
149	Sulfur - HNO3 soluble (%)	0524	5.146	0.0108	7.441	2.215	0.1562	5	-1.04	149.04	0
149	Sulfur - HNO3 soluble (%)	0519	5.180	0.0400	7.441	2.215	0.1562	5	-1.02	149.04	0
149	Sulfur - HNO3 soluble (%)	0501	7.772	0.3220	7.441	2.215	0.1562	5	0.15	149.04	0
149	Sulfur - HNO3 soluble (%)	0521	9.237	0.0000	7.441	2.215	0.1562	5	0.81	149.04	0
149	Sulfur - HNO3 soluble (%)	0368	9.872	0.4081	7.441	2.215	0.1562	5	1.10	149.04	0
151	Acid Soluble Arsenic (ppm)	0096	7.500	2.400	10.73	1.830	0.6624	14	-1.76	151.30	0
151	Acid Soluble Arsenic (ppm)	0498	8.100	0.4400	10.73	1.830	0.6624	14	-1.44	151.99	0
151	Acid Soluble Arsenic (ppm)	0515	8.498	2.557	10.73	1.830	0.6624	14	-1.22	151.33	0
151	Acid Soluble Arsenic (ppm)	0117	9.819	1.062	10.73	1.830	0.6624	14	-0.50	151.33	0
151	Acid Soluble Arsenic (ppm)	0037	10.29	0.0720	10.73	1.830	0.6624	14	-0.24	151.33	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)	0523	10.44	0.0200	10.73	1.830	0.6624	14	-0.16	151.30	0
151	Acid Soluble Arsenic (ppm)	0515	10.82	0.8850	10.73	1.830	0.6624	14	0.05	151.34	0
151	Acid Soluble Arsenic (ppm)	0527	11.37	0.0300	10.73	1.830	0.6624	14	0.35	151.33	0
151	Acid Soluble Arsenic (ppm)	0394	11.63	0.2200	10.73	1.830	0.6624	14	0.49	151.30	0
151	Acid Soluble Arsenic (ppm)	0136	11.80	0.4000	10.73	1.830	0.6624	14	0.59	151.00	0
151	Acid Soluble Arsenic (ppm)	0368	12.04	0.4300	10.73	1.830	0.6624	14	0.71	151.30	0
151	Acid Soluble Arsenic (ppm)	0494	12.17	0.0082	10.73	1.830	0.6624	14	0.79	151.33	0
151	Acid Soluble Arsenic (ppm)	0220	12.45	0.7000	10.73	1.830	0.6624	14	0.94	151.33	0
151	Acid Soluble Arsenic (ppm)	0519	12.78	0.0500	10.73	1.830	0.6624	14	1.12	151.99	0
165	Acid Soluble Boron (%)	0421	0.0013	0.0005	0.0095	0.0074	0.0005	8	-1.01	165.99	0
165	Acid Soluble Boron (%)	0521	0.0037	0.0000	0.0095	0.0074	0.0005	8	-0.71	165.30	0
165	Acid Soluble Boron (%)	0524	0.0041	0.0000	0.0095	0.0074	0.0005	8	-0.66	165.99	0
165	Acid Soluble Boron (%)	0472	0.0100	0.0000	0.0095	0.0074	0.0005	8	0.06	165.99	0
165	Acid Soluble Boron (%)	0482	0.0100	0.0000	0.0095	0.0074	0.0005	8	0.06	165.99	0
165	Acid Soluble Boron (%)	0527	0.0100	0.0000	0.0095	0.0074	0.0005	8	0.06	165.99	0
165	Acid Soluble Boron (%)	0389	0.0162	0.0022	0.0095	0.0074	0.0005	8	0.83	165.30	0
165	Acid Soluble Boron (%)	0354	0.0225	0.0010	0.0095	0.0074	0.0005	8	1.60	165.30	0
165	Acid Soluble Boron (%)	0483	0.0173	0.0096	0.0095	0.0074	0.0005	8	0.96	165.99	1
181	Acid Soluble Cadmium (ppm)	0368	1.870	0.0400	2.439	0.3391	0.0565	17	-1.68	181.30	0
181	Acid Soluble Cadmium (ppm)	0515	1.981	0.0756	2.439	0.3391	0.0565	17	-1.35	181.33	0
181	Acid Soluble Cadmium (ppm)	0096	2.050	0.1000	2.439	0.3391	0.0565	17	-1.15	181.30	0
181	Acid Soluble Cadmium (ppm)	0230	2.190	0.2200	2.439	0.3391	0.0565	17	-0.74	181.34	0
181	Acid Soluble Cadmium (ppm)	0035	2.270	0.0000	2.439	0.3391	0.0565	17	-0.50	181.30	0
181	Acid Soluble Cadmium (ppm)	0444	2.335	0.0300	2.439	0.3391	0.0565	17	-0.31	181.30	0
181	Acid Soluble Cadmium (ppm)	0519	2.350	0.0400	2.439	0.3391	0.0565	17	-0.26	181.99	0
181	Acid Soluble Cadmium (ppm)	0523	2.420	0.0000	2.439	0.3391	0.0565	17	-0.06	181.30	0
181	Acid Soluble Cadmium (ppm)	0527	2.425	0.0700	2.439	0.3391	0.0565	17	-0.04	181.33	0
181	Acid Soluble Cadmium (ppm)	0394	2.480	0.0200	2.439	0.3391	0.0565	17	0.12	181.30	0
181	Acid Soluble Cadmium (ppm)	0524	2.496	0.0144	2.439	0.3391	0.0565	17	0.17	181.30	0
181	Acid Soluble Cadmium (ppm)	0494	2.582	0.0192	2.439	0.3391	0.0565	17	0.42	181.33	0
181	Acid Soluble Cadmium (ppm)	0037	2.657	0.0010	2.439	0.3391	0.0565	17	0.64	181.33	0
181	Acid Soluble Cadmium (ppm)	0389	2.710	0.0200	2.439	0.3391	0.0565	17	0.80	181.30	0
181	Acid Soluble Cadmium (ppm)	0300	2.795	0.0100	2.439	0.3391	0.0565	17	1.05	181.00	0
181	Acid Soluble Cadmium (ppm)	0136	2.850	0.3000	2.439	0.3391	0.0565	17	1.21	181.00	0
181	Acid Soluble Cadmium (ppm)	0482	3.500	0.0000	2.439	0.3391	0.0565	17	3.13	181.30	0
181	Acid Soluble Cadmium (ppm)	0220	2.950	0.5000	2.439	0.3391	0.0565	17	1.51	181.33	1
181	Acid Soluble Cadmium (ppm)	0515	0.0000	0.0000	2.439	0.3391	0.0565	17		181.34	4
191	Acid Soluble Chromium (ppm)	0027	40.50	1.000	68.68	7.380	1.807	17	-3.82	191.30	0
191	Acid Soluble Chromium (ppm)	0506	49.25	1.500	68.68	7.380	1.807	17	-2.63	191.99	0
191	Acid Soluble Chromium (ppm)	0527	58.72	4.690	68.68	7.380	1.807	17	-1.35	191.33	0
191	Acid Soluble Chromium (ppm)	0117	65.97	1.240	68.68	7.380	1.807	17	-0.37	191.33	0
191	Acid Soluble Chromium (ppm)	0230	66.00	1.200	68.68	7.380	1.807	17	-0.36	191.34	0
191	Acid Soluble Chromium (ppm)	0035	66.40	4.600	68.68	7.380	1.807	17	-0.31	191.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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191	Acid Soluble Chromium (ppm)	0394	66.85	0.3000	68.68	7.380	1.807	17	-0.25	191.30	0
191	Acid Soluble Chromium (ppm)	0096	69.40	6.400	68.68	7.380	1.807	17	0.10	191.30	0
191	Acid Soluble Chromium (ppm)	0220	69.50	1.000	68.68	7.380	1.807	17	0.11	191.33	0
191	Acid Soluble Chromium (ppm)	0368	69.58	1.260	68.68	7.380	1.807	17	0.12	191.30	0
191	Acid Soluble Chromium (ppm)	0515	70.03	1.755	68.68	7.380	1.807	17	0.18	191.33	0
191	Acid Soluble Chromium (ppm)	0444	71.17	1.460	68.68	7.380	1.807	17	0.34	191.30	0
191	Acid Soluble Chromium (ppm)	0515	71.90	1.640	68.68	7.380	1.807	17	0.44	191.34	0
191	Acid Soluble Chromium (ppm)	0494	72.18	0.2802	68.68	7.380	1.807	17	0.47	191.33	0
191	Acid Soluble Chromium (ppm)	0389	77.00	1.000	68.68	7.380	1.807	17	1.13	191.30	0
191	Acid Soluble Chromium (ppm)	0519	77.95	0.0900	68.68	7.380	1.807	17	1.26	191.99	0
191	Acid Soluble Chromium (ppm)	0482	80.85	1.300	68.68	7.380	1.807	17	1.65	191.30	0
191	Acid Soluble Chromium (ppm)	0037	56.46	29.93	68.68	7.380	1.807	17	-1.66	191.33	1
202	Acid Soluble Cobalt (ppm)	0515	0.4762	0.2111	2.357	0.6741	0.1295	12	-2.79	202.33	0
202	Acid Soluble Cobalt (ppm)	0096	1.590	0.0200	2.357	0.6741	0.1295	12	-1.14	202.30	0
202	Acid Soluble Cobalt (ppm)	0523	1.940	0.1400	2.357	0.6741	0.1295	12	-0.62	202.30	0
202	Acid Soluble Cobalt (ppm)	0527	1.960	0.0400	2.357	0.6741	0.1295	12	-0.59	202.33	0
202	Acid Soluble Cobalt (ppm)	0389	2.100	0.0000	2.357	0.6741	0.1295	12	-0.38	202.30	0
202	Acid Soluble Cobalt (ppm)	0035	2.370	0.1800	2.357	0.6741	0.1295	12	0.02	202.30	0
202	Acid Soluble Cobalt (ppm)	0220	2.400	0.6000	2.357	0.6741	0.1295	12	0.06	202.33	0
202	Acid Soluble Cobalt (ppm)	0494	2.688	0.0036	2.357	0.6741	0.1295	12	0.49	202.33	0
202	Acid Soluble Cobalt (ppm)	0037	2.714	0.1030	2.357	0.6741	0.1295	12	0.53	202.33	0
202	Acid Soluble Cobalt (ppm)	0519	2.810	0.0200	2.357	0.6741	0.1295	12	0.67	202.99	0
202	Acid Soluble Cobalt (ppm)	0482	3.000	0.2000	2.357	0.6741	0.1295	12	0.95	202.30	0
202	Acid Soluble Cobalt (ppm)	0524	3.937	0.0363	2.357	0.6741	0.1295	12	2.34	202.30	0
202	Acid Soluble Cobalt (ppm)	0515	0.0000	0.0000	2.357	0.6741	0.1295	12		202.34	4
202	Acid Soluble Cobalt (ppm)	0368	1.295	2.590	2.357	0.6741	0.1295	12		202.30	4
221	Acid Soluble Copper (%)	0394	0.0002	0.0001	0.0022	0.0029	0.0051	6	-0.69	221.32	0
221	Acid Soluble Copper (%)	0515	0.0004	0.0002	0.0022	0.0029	0.0051	6	-0.61	221.99	0
221	Acid Soluble Copper (%)	0515	0.0004	0.0000	0.0022	0.0029	0.0051	6	-0.61	221.33	0
221	Acid Soluble Copper (%)	0483	0.0016	0.0002	0.0022	0.0029	0.0051	6	-0.20	221.30	0
221	Acid Soluble Copper (%)	0402	0.0040	0.0000	0.0022	0.0029	0.0051	6	0.61	221.30	0
221	Acid Soluble Copper (%)	0519	5.105	0.0300	0.0022	0.0029	0.0051	6	1731.57	221.99	0
221	Acid Soluble Copper (%)	0368	0.8900	0.3000	0.0022	0.0029	0.0051	6	301.27	221.30	1
221	Acid Soluble Copper (%)	0354	0.0000	0.0000	0.0022	0.0029	0.0051	6		221.30	4
221	Acid Soluble Copper (%)	0472	0.0000	0.0000	0.0022	0.0029	0.0051	6		221.30	4
221	Acid Soluble Copper (%)	0521	0.0000	0.0000	0.0022	0.0029	0.0051	6		221.32	4
221	Acid Soluble Copper (%)	0527	0.0000	0.0000	0.0022	0.0029	0.0051	6		221.33	4
221	Acid Soluble Copper (%)	0389	0.0001	0.0002	0.0022	0.0029	0.0051	6		221.99	4
241	Acid Soluble Iron (%)	0131	0.0052	0.0013	0.8362	0.0696	0.0233	17	-11.95	241.30	0
241	Acid Soluble Iron (%)	0354	0.6765	0.0030	0.8362	0.0696	0.0233	17	-2.30	241.30	0
241	Acid Soluble Iron (%)	0105	0.7695	0.0336	0.8362	0.0696	0.0233	17	-0.96	241.03	0
241	Acid Soluble Iron (%)	0096	0.7900	0.0560	0.8362	0.0696	0.0233	17	-0.66	241.30	0
241	Acid Soluble Iron (%)	0117	0.7906	0.0195	0.8362	0.0696	0.0233	17	-0.66	241.33	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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241	Acid Soluble Iron (%)	0402	0.8050	0.0300	0.8362	0.0696	0.0233	17	-0.45	241.30	0
241	Acid Soluble Iron (%)	0035	0.8230	0.0300	0.8362	0.0696	0.0233	17	-0.19	241.30	0
241	Acid Soluble Iron (%)	0494	0.8349	0.0133	0.8362	0.0696	0.0233	17	-0.02	241.33	0
241	Acid Soluble Iron (%)	0105	0.8372	0.0431	0.8362	0.0696	0.0233	17	0.01	241.00	0
241	Acid Soluble Iron (%)	0521	0.8473	0.0000	0.8362	0.0696	0.0233	17	0.16	241.32	0
241	Acid Soluble Iron (%)	0421	0.8525	0.0050	0.8362	0.0696	0.0233	17	0.23	241.33	0
241	Acid Soluble Iron (%)	0472	0.8650	0.0100	0.8362	0.0696	0.0233	17	0.41	241.30	0
241	Acid Soluble Iron (%)	0389	0.8805	0.0170	0.8362	0.0696	0.0233	17	0.64	241.99	0
241	Acid Soluble Iron (%)	0527	0.8950	0.0100	0.8362	0.0696	0.0233	17	0.85	241.33	0
241	Acid Soluble Iron (%)	0524	0.9061	0.0111	0.8362	0.0696	0.0233	17	1.00	241.99	0
241	Acid Soluble Iron (%)	0482	0.9150	0.0300	0.8362	0.0696	0.0233	17	1.13	241.30	0
241	Acid Soluble Iron (%)	0483	0.9985	0.0830	0.8362	0.0696	0.0233	17	2.33	241.30	0
251	Acid Soluble Lead (ppm)	0389	0.9500	0.1000	1.627	0.9905	0.1306	8	-0.63	251.30	0
251	Acid Soluble Lead (ppm)	0220	0.9500	0.3000	1.627	0.9905	0.1306	8	-0.63	251.33	0
251	Acid Soluble Lead (ppm)	0494	1.052	0.0978	1.627	0.9905	0.1306	8	-0.53	251.33	0
251	Acid Soluble Lead (ppm)	0524	1.240	0.0171	1.627	0.9905	0.1306	8	-0.36	251.30	0
251	Acid Soluble Lead (ppm)	0519	1.375	0.0500	1.627	0.9905	0.1306	8	-0.23	251.99	0
251	Acid Soluble Lead (ppm)	0527	1.435	0.0100	1.627	0.9905	0.1306	8	-0.18	251.33	0
251	Acid Soluble Lead (ppm)	0035	2.905	0.3300	1.627	0.9905	0.1306	8	1.18	251.30	0
251	Acid Soluble Lead (ppm)	0394	3.670	0.1400	1.627	0.9905	0.1306	8	1.89	251.30	0
251	Acid Soluble Lead (ppm)	0515	4.327	2.873	1.627	0.9905	0.1306	8	2.49	251.33	1
251	Acid Soluble Lead (ppm)	0368	0.0000	0.0000	1.627	0.9905	0.1306	8		251.30	4
251	Acid Soluble Lead (ppm)	0515	0.0000	0.0000	1.627	0.9905	0.1306	8		251.34	4
261	Acid Soluble Manganese (%)	0354	0.0250	0.0000	0.0299	0.0011	0.0004	15	-4.40	261.30	0
261	Acid Soluble Manganese (%)	0117	0.0276	0.0007	0.0299	0.0011	0.0004	15	-2.10	261.35	0
261	Acid Soluble Manganese (%)	0105	0.0290	0.0004	0.0299	0.0011	0.0004	15	-0.80	261.15	0
261	Acid Soluble Manganese (%)	0105	0.0291	0.0002	0.0299	0.0011	0.0004	15	-0.71	261.12	0
261	Acid Soluble Manganese (%)	0096	0.0294	0.0019	0.0299	0.0011	0.0004	15	-0.48	261.30	0
261	Acid Soluble Manganese (%)	0472	0.0300	0.0000	0.0299	0.0011	0.0004	15	0.10	261.30	0
261	Acid Soluble Manganese (%)	0482	0.0300	0.0000	0.0299	0.0011	0.0004	15	0.10	261.31	0
261	Acid Soluble Manganese (%)	0402	0.0300	0.0000	0.0299	0.0011	0.0004	15	0.10	261.32	0
261	Acid Soluble Manganese (%)	0527	0.0300	0.0000	0.0299	0.0011	0.0004	15	0.10	261.35	0
261	Acid Soluble Manganese (%)	0494	0.0301	0.0005	0.0299	0.0011	0.0004	15	0.15	261.35	0
261	Acid Soluble Manganese (%)	0389	0.0302	0.0005	0.0299	0.0011	0.0004	15	0.24	261.99	0
261	Acid Soluble Manganese (%)	0035	0.0305	0.0010	0.0299	0.0011	0.0004	15	0.55	261.30	0
261	Acid Soluble Manganese (%)	0521	0.0309	0.0000	0.0299	0.0011	0.0004	15	0.91	261.34	0
261	Acid Soluble Manganese (%)	0524	0.0313	0.0003	0.0299	0.0011	0.0004	15	1.23	261.99	0
261	Acid Soluble Manganese (%)	0483	0.0379	0.0002	0.0299	0.0011	0.0004	15	7.22	261.32	0
261	Acid Soluble Manganese (%)	0421	0.0325	0.0050	0.0299	0.0011	0.0004	15	2.35	261.35	1
281	Acid Soluble Mercury (ppm)	0519	0.0200	0.0000	10.53	20.92	0.0472	4	-0.50	281.99	0
281	Acid Soluble Mercury (ppm)	0527	0.0310	0.0000	10.53	20.92	0.0472	4	-0.50	281.30	0
281	Acid Soluble Mercury (ppm)	0515	0.1738	0.0626	10.53	20.92	0.0472	4	-0.50	281.30	0
281	Acid Soluble Mercury (ppm)	0394	41.91	0.1260	10.53	20.92	0.0472	4	1.50	281.30	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				
289	Acid Soluble Molybdenum (ppm)	0519	7.610	0.0600	11.02	1.830	0.4608	17	-1.86	289.99	0
289	Acid Soluble Molybdenum (ppm)	0096	8.450	0.1000	11.02	1.830	0.4608	17	-1.41	289.30	0
289	Acid Soluble Molybdenum (ppm)	0515	8.532	1.747	11.02	1.830	0.4608	17	-1.36	289.34	0
289	Acid Soluble Molybdenum (ppm)	0368	9.630	2.040	11.02	1.830	0.4608	17	-0.76	289.30	0
289	Acid Soluble Molybdenum (ppm)	0506	10.00	0.0000	11.02	1.830	0.4608	17	-0.56	289.99	0
289	Acid Soluble Molybdenum (ppm)	0433	10.49	0.3500	11.02	1.830	0.4608	17	-0.29	289.30	0
289	Acid Soluble Molybdenum (ppm)	0394	10.90	0.2000	11.02	1.830	0.4608	17	-0.07	289.32	0
289	Acid Soluble Molybdenum (ppm)	0389	11.10	0.2000	11.02	1.830	0.4608	17	0.04	289.30	0
289	Acid Soluble Molybdenum (ppm)	0117	11.29	0.0700	11.02	1.830	0.4608	17	0.14	289.33	0
289	Acid Soluble Molybdenum (ppm)	0230	11.30	0.2000	11.02	1.830	0.4608	17	0.15	289.34	0
289	Acid Soluble Molybdenum (ppm)	0035	11.45	1.900	11.02	1.830	0.4608	17	0.23	289.30	0
289	Acid Soluble Molybdenum (ppm)	0037	11.88	0.0470	11.02	1.830	0.4608	17	0.47	289.33	0
289	Acid Soluble Molybdenum (ppm)	0524	12.25	0.0249	11.02	1.830	0.4608	17	0.67	289.30	0
289	Acid Soluble Molybdenum (ppm)	0494	12.42	0.0544	11.02	1.830	0.4608	17	0.76	289.33	0
289	Acid Soluble Molybdenum (ppm)	0521	13.05	0.0000	11.02	1.830	0.4608	17	1.11	289.30	0
289	Acid Soluble Molybdenum (ppm)	0220	13.15	0.7000	11.02	1.830	0.4608	17	1.16	289.33	0
289	Acid Soluble Molybdenum (ppm)	0527	13.23	0.1400	11.02	1.830	0.4608	17	1.21	289.33	0
289	Acid Soluble Molybdenum (ppm)	0515	7.419	4.509	11.02	1.830	0.4608	17	-1.97	289.33	1
291	Acid Soluble Nickel (ppm)	0515	7.775	1.001	10.75	0.7227	0.3550	19	-4.12	291.34	0
291	Acid Soluble Nickel (ppm)	0096	8.050	0.3000	10.75	0.7227	0.3550	19	-3.74	291.30	0
291	Acid Soluble Nickel (ppm)	0035	10.20	0.2000	10.75	0.7227	0.3550	19	-0.77	291.30	0
291	Acid Soluble Nickel (ppm)	0394	10.20	0.2000	10.75	0.7227	0.3550	19	-0.77	291.30	0
291	Acid Soluble Nickel (ppm)	0523	10.37	0.5200	10.75	0.7227	0.3550	19	-0.53	291.30	0
291	Acid Soluble Nickel (ppm)	0521	10.39	0.0000	10.75	0.7227	0.3550	19	-0.51	291.30	0
291	Acid Soluble Nickel (ppm)	0136	10.50	1.000	10.75	0.7227	0.3550	19	-0.35	291.00	0
291	Acid Soluble Nickel (ppm)	0230	10.50	0.2000	10.75	0.7227	0.3550	19	-0.35	291.34	0
291	Acid Soluble Nickel (ppm)	0524	10.52	0.1210	10.75	0.7227	0.3550	19	-0.32	291.30	0
291	Acid Soluble Nickel (ppm)	0444	10.61	0.8500	10.75	0.7227	0.3550	19	-0.21	291.30	0
291	Acid Soluble Nickel (ppm)	0527	10.71	0.1300	10.75	0.7227	0.3550	19	-0.07	291.33	0
291	Acid Soluble Nickel (ppm)	0117	10.74	0.3200	10.75	0.7227	0.3550	19	-0.02	291.33	0
291	Acid Soluble Nickel (ppm)	0482	11.15	0.5000	10.75	0.7227	0.3550	19	0.55	291.30	0
291	Acid Soluble Nickel (ppm)	0389	11.30	0.4000	10.75	0.7227	0.3550	19	0.76	291.30	0
291	Acid Soluble Nickel (ppm)	0220	11.35	0.5000	10.75	0.7227	0.3550	19	0.83	291.33	0
291	Acid Soluble Nickel (ppm)	0037	11.41	0.0970	10.75	0.7227	0.3550	19	0.90	291.33	0
291	Acid Soluble Nickel (ppm)	0368	11.57	0.2900	10.75	0.7227	0.3550	19	1.12	291.30	0
291	Acid Soluble Nickel (ppm)	0494	11.64	0.0859	10.75	0.7227	0.3550	19	1.23	291.33	0
291	Acid Soluble Nickel (ppm)	0519	12.30	0.0300	10.75	0.7227	0.3550	19	2.13	291.99	0
291	Acid Soluble Nickel (ppm)	0515	8.166	3.095	10.75	0.7227	0.3550	19	-3.58	291.33	1
301	Acid Soluble Selenium (ppm)	0519	0.0100	0.0000	1.064	1.686	0.1772	5	-0.55	301.99	0
301	Acid Soluble Selenium (ppm)	0515	0.1293	0.0953	1.064	1.686	0.1772	5	-0.48	301.33	0
301	Acid Soluble Selenium (ppm)	0524	0.2825	0.0107	1.064	1.686	0.1772	5	-0.40	301.30	0
301	Acid Soluble Selenium (ppm)	0523	0.8800	0.0200	1.064	1.686	0.1772	5	-0.10	301.30	0
301	Acid Soluble Selenium (ppm)	0527	4.020	0.7600	1.064	1.686	0.1772	5	1.53	301.33	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
301	Acid Soluble Selenium (ppm)	0368	0.0000	0.0000	1.064	1.686	0.1772	5		301.30	4
301	Acid Soluble Selenium (ppm)	0515	0.0000	0.0000	1.064	1.686	0.1772	5		301.34	4
311	Sodium (%)	0494	0.1154	0.0031	0.1263	0.0134	0.0022	6	-0.73	311.33	0
311	Sodium (%)	0521	0.1159	0.0000	0.1263	0.0134	0.0022	6	-0.69	311.32	0
311	Sodium (%)	0482	0.1200	0.0000	0.1263	0.0134	0.0022	6	-0.42	311.99	0
311	Sodium (%)	0527	0.1300	0.0000	0.1263	0.0134	0.0022	6	0.25	311.33	0
311	Sodium (%)	0096	0.1300	0.0000	0.1263	0.0134	0.0022	6	0.25	311.99	0
311	Sodium (%)	0354	0.1560	0.0100	0.1263	0.0134	0.0022	6	1.98	311.99	0
311	Sodium (%)	0035	0.1155	0.0230	0.1263	0.0134	0.0022	6	-0.72	311.33	1
321	Acid Soluble Zinc (%)	0027	0.0040	0.0000	0.0116	0.0019	0.7765	29	-3.92	321.99	0
321	Acid Soluble Zinc (%)	0072	0.0100	0.0000	0.0116	0.0019	0.7765	29	-0.82	321.30	0
321	Acid Soluble Zinc (%)	0472	0.0100	0.0000	0.0116	0.0019	0.7765	29	-0.82	321.30	0
321	Acid Soluble Zinc (%)	0482	0.0100	0.0000	0.0116	0.0019	0.7765	29	-0.82	321.30	0
321	Acid Soluble Zinc (%)	0527	0.0100	0.0000	0.0116	0.0019	0.7765	29	-0.82	321.33	0
321	Acid Soluble Zinc (%)	0487	0.0100	0.0000	0.0116	0.0019	0.7765	29	-0.82	321.99	0
321	Acid Soluble Zinc (%)	0506	0.0100	0.0000	0.0116	0.0019	0.7765	29	-0.82	321.99	0
321	Acid Soluble Zinc (%)	0117	0.0102	0.0004	0.0116	0.0019	0.7765	29	-0.71	321.33	0
321	Acid Soluble Zinc (%)	0428	0.0103	0.0019	0.0116	0.0019	0.7765	29	-0.69	321.00	0
321	Acid Soluble Zinc (%)	0105	0.0104	0.0001	0.0116	0.0019	0.7765	29	-0.64	321.00	0
321	Acid Soluble Zinc (%)	0494	0.0105	0.0001	0.0116	0.0019	0.7765	29	-0.58	321.33	0
321	Acid Soluble Zinc (%)	0515	0.0107	0.0008	0.0116	0.0019	0.7765	29	-0.45	321.99	0
321	Acid Soluble Zinc (%)	0230	0.0109	0.0001	0.0116	0.0019	0.7765	29	-0.38	321.30	0
321	Acid Soluble Zinc (%)	0515	0.0109	0.0007	0.0116	0.0019	0.7765	29	-0.38	321.33	0
321	Acid Soluble Zinc (%)	0394	0.0110	0.0000	0.0116	0.0019	0.7765	29	-0.30	321.32	0
321	Acid Soluble Zinc (%)	0389	0.0111	0.0001	0.0116	0.0019	0.7765	29	-0.27	321.99	0
321	Acid Soluble Zinc (%)	0524	0.0116	0.0001	0.0116	0.0019	0.7765	29	-0.01	321.99	0
321	Acid Soluble Zinc (%)	0354	0.0120	0.0000	0.0116	0.0019	0.7765	29	0.22	321.30	0
321	Acid Soluble Zinc (%)	0523	0.0120	0.0000	0.0116	0.0019	0.7765	29	0.22	321.99	0
321	Acid Soluble Zinc (%)	0521	0.0124	0.0000	0.0116	0.0019	0.7765	29	0.43	321.32	0
321	Acid Soluble Zinc (%)	0035	0.0125	0.0010	0.0116	0.0019	0.7765	29	0.48	321.30	0
321	Acid Soluble Zinc (%)	0421	0.0125	0.0050	0.0116	0.0019	0.7765	29	0.48	321.33	0
321	Acid Soluble Zinc (%)	0433	0.0126	0.0006	0.0116	0.0019	0.7765	29	0.53	321.30	0
321	Acid Soluble Zinc (%)	0220	0.0135	0.0050	0.0116	0.0019	0.7765	29	1.00	321.33	0
321	Acid Soluble Zinc (%)	0483	0.0144	0.0006	0.0116	0.0019	0.7765	29	1.46	321.30	0
321	Acid Soluble Zinc (%)	0519	0.0600	0.0000	0.0116	0.0019	0.7765	29	25.08	321.99	0
321	Acid Soluble Zinc (%)	0444	0.1035	0.0030	0.0116	0.0019	0.7765	29	47.61	321.30	0
321	Acid Soluble Zinc (%)	0368	132.0	7.700	0.0116	0.0019	0.7765	29	68341.93	321.30	0
321	Acid Soluble Zinc (%)	0096	139.4	14.80	0.0116	0.0019	0.7765	29	72200.91	321.30	0
321	Acid Soluble Zinc (%)	0037	62.68	102.8	0.0116	0.0019	0.7765	29	32461.99	321.33	1

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

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				

solely for the purpose of this Proficiency Testing program.