

# magruder fertilizer

## check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 171012

TSP, 0-45-0

### Statistical Summary

# Analytes: 31

# Labs Reporting: 100

Issue Date : 12/31/2017

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
010	Total Nitrogen (%)	5	5	0.1204	0.0386	0.1204		0.0386	0.0216	32.06%		0.0095	5.50%
020	Total Phosphorus as P2O5 (%)	57	54	46.20	1.370	46.16		1.201	0.2043	2.60%		0.5043	2.25%
030	Citrate Insoluble Phosphorus as P2O5 (%)	4	4	0.2685	0.1510	0.2685		0.1510	0.0944	56.23%		0.0335	4.87%
040	Indirect Available Phosphorus as P2O5 (45%)	5	5	45.96	0.2414	45.96	0.9991	0.2414	0.1349	0.53%	1.09%	0.1400	2.25%
041	Direct Available Phosphorus as P2O5 (45%)	59	57	45.69	0.8573	45.72	0.9943	0.7807	0.1293	1.71%	1.09%	0.3261	2.25%
042	Water Soluble Orthophosphate as P2O5 (%)	1		38.86									
048	Water Soluble Phosphorus as P2O5 (%)	4	4	40.36	0.5688	40.36		0.5688	0.3555	1.41%		0.4425	2.29%
050	Soluble Potassium as K2O (%)	8	8	0.2525	0.1341	0.2366		0.0947	0.0419	40.03%		0.0181	4.97%
060	Water (Free) (%)	8	8	3.100	2.524	2.369		0.6912	0.3055	29.17%		0.1178	3.51%
101	Acid Soluble Calcium (13.5%)	65	62	13.44	2.280	13.48	0.8739	0.7251	0.1151	5.38%	3.24%	0.2239	2.70%
121	Acid Soluble Magnesium (%)	20	19	0.8794	0.0784	0.8790		0.0677	0.0194	7.70%		0.0278	4.08%
143	Elemental Sulfur (%)	2	2	1.116	0.0196								
145	Sulfate Sulfur, HCl soluble (%)	2	2	8.300	6.923								
148	Total Sulfur (%)	8	8	1.136	0.1252	1.117		0.0916	0.0405	8.20%		0.0290	3.93%
149	Sulfur - HNO3 soluble (%)	2	2	1.051	0.0438								
151	Acid Soluble Arsenic (ppm)	18	17	19.45	3.959	19.52		4.327	1.312	22.17%		0.9018	10.23%
165	Acid Soluble Boron (%)	7	5	0.0055	0.0044	0.0055		0.0044	0.0025	81.30%		0.0008	8.76%
181	Acid Soluble Cadmium (ppm)	29	29	79.63	18.89	82.76		13.83	3.210	16.71%		2.251	8.23%
191	Acid Soluble Chromium (ppm)	25	24	414.0	102.7	415.3		59.86	15.27	14.41%		15.46	6.46%
202	Acid Soluble Cobalt (ppm)	17	16	6.335	1.234	6.414		1.221	0.3815	19.04%		0.3224	12.09%
221	Acid Soluble Copper (%)	39	37	0.0086	0.0035	0.0081		0.0016	0.0003	19.50%		0.0007	8.26%
241	Acid Soluble Iron (%)	21	20	0.7879	0.0549	0.7928		0.0409	0.0114	5.16%		0.0177	4.14%
251	Acid Soluble Lead (ppm)	20	17	4.421	1.549	4.451		1.502	0.4552	33.74%		0.1869	12.78%
261	Acid Soluble Manganese (%)	20	18	0.0204	0.0035	0.0203		0.0023	0.0007	11.16%		0.0006	7.19%
281	Acid Soluble Mercury (ppm)	5	4	0.5664	1.089	0.5664		1.089	0.6807	192.31%		0.0558	17.43%
289	Acid Soluble Molybdenum (ppm)	24	23	12.86	4.847	12.43		2.513	0.6550	20.22%		0.6371	10.95%
291	Acid Soluble Nickel (ppm)	30	28	221.6	50.16	229.4		33.67	7.953	14.68%		6.835	7.06%
301	Acid Soluble Selenium (ppm)	12	9	6.331	6.349	5.403		4.764	1.985	88.17%		0.3864	12.41%
311	Sodium (%)	6	5	0.1431	0.0306	0.1431		0.0306	0.0171	21.41%		0.0039	5.36%
321	Acid Soluble Zinc (%)	39	38	0.1364	0.1553	0.1039		0.0153	0.0031	14.70%		0.0285	5.62%
325	Water Soluble Zinc (%)	2	2	0.0715	0.0616								

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# Analytes: 31

Sample # 171012

Lab Values

# Labs Reporting: 100

TSP, 0-45-0

Issue Date : 12/31/2017

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				
010	Total Nitrogen (%)	0524	0.0860	0.0014	0.1204	0.0386	0.0095	5	-0.89	010.99	0
010	Total Nitrogen (%)	0325	0.1000	0.0000	0.1204	0.0386	0.0095	5	-0.53	010.60	0
010	Total Nitrogen (%)	0354	0.1150	0.0080	0.1204	0.0386	0.0095	5	-0.14	010.60	0
010	Total Nitrogen (%)	0482	0.1150	0.0300	0.1204	0.0386	0.0095	5	-0.14	010.60	0
010	Total Nitrogen (%)	0472	0.1860	0.0080	0.1204	0.0386	0.0095	5	1.70	010.60	0
020	Total Phosphorus as P2O5 (%)	0234	43.32	0.1300	46.16	1.201	0.5043	54	-2.37	020.50	0
020	Total Phosphorus as P2O5 (%)	0307	43.70	2.667	46.16	1.201	0.5043	54	-2.05	020.50	0
020	Total Phosphorus as P2O5 (%)	0472	43.70	0.0600	46.16	1.201	0.5043	54	-2.05	020.50	0
020	Total Phosphorus as P2O5 (%)	0523	43.75	0.1000	46.16	1.201	0.5043	54	-2.01	020.50	0
020	Total Phosphorus as P2O5 (%)	0114	44.18	0.0000	46.16	1.201	0.5043	54	-1.65	020.10	0
020	Total Phosphorus as P2O5 (%)	0500	44.30	0.0000	46.16	1.201	0.5043	54	-1.55	020.10	0
020	Total Phosphorus as P2O5 (%)	0506	44.90	1.600	46.16	1.201	0.5043	54	-1.05	020.20	0
020	Total Phosphorus as P2O5 (%)	0356	45.00	0.6900	46.16	1.201	0.5043	54	-0.97	020.20	0
020	Total Phosphorus as P2O5 (%)	0423	45.02	0.4600	46.16	1.201	0.5043	54	-0.95	020.50	0
020	Total Phosphorus as P2O5 (%)	0522	45.14	0.0100	46.16	1.201	0.5043	54	-0.86	020.20	0
020	Total Phosphorus as P2O5 (%)	0443	45.15	2.150	46.16	1.201	0.5043	54	-0.85	020.99	0
020	Total Phosphorus as P2O5 (%)	0309	45.26	0.0300	46.16	1.201	0.5043	54	-0.76	020.20	0
020	Total Phosphorus as P2O5 (%)	0476	45.27	0.1755	46.16	1.201	0.5043	54	-0.74	020.20	0
020	Total Phosphorus as P2O5 (%)	0157	45.40	0.6000	46.16	1.201	0.5043	54	-0.63	020.10	0
020	Total Phosphorus as P2O5 (%)	0524	45.46	0.0950	46.16	1.201	0.5043	54	-0.58	020.50	0
020	Total Phosphorus as P2O5 (%)	0501	45.55	0.1000	46.16	1.201	0.5043	54	-0.51	020.50	0
020	Total Phosphorus as P2O5 (%)	0169	45.61	0.2200	46.16	1.201	0.5043	54	-0.46	020.20	0
020	Total Phosphorus as P2O5 (%)	0433	45.80	0.3900	46.16	1.201	0.5043	54	-0.31	020.50	0
020	Total Phosphorus as P2O5 (%)	0521	45.83	0.0000	46.16	1.201	0.5043	54	-0.27	020.50	0
020	Total Phosphorus as P2O5 (%)	0444	45.84	0.1200	46.16	1.201	0.5043	54	-0.27	020.50	0
020	Total Phosphorus as P2O5 (%)	0096	45.94	0.1100	46.16	1.201	0.5043	54	-0.19	020.40	0
020	Total Phosphorus as P2O5 (%)	0405	45.98	0.1130	46.16	1.201	0.5043	54	-0.15	020.20	0
020	Total Phosphorus as P2O5 (%)	0481	46.09	0.6400	46.16	1.201	0.5043	54	-0.06	020.10	0
020	Total Phosphorus as P2O5 (%)	0371	46.10	0.0000	46.16	1.201	0.5043	54	-0.05	020.20	0
020	Total Phosphorus as P2O5 (%)	0541	46.19	0.2300	46.16	1.201	0.5043	54	0.02	020.20	0
020	Total Phosphorus as P2O5 (%)	0292	46.21	0.1100	46.16	1.201	0.5043	54	0.04	020.20	0
020	Total Phosphorus as P2O5 (%)	0090	46.21	0.0000	46.16	1.201	0.5043	54	0.04	020.10	0
020	Total Phosphorus as P2O5 (%)	0368	46.23	1.120	46.16	1.201	0.5043	54	0.06	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 (%)	0493	46.25	0.1000	46.16	1.201	0.5043	54	0.07	020.10	0
020	Total Phosphorus as P2O5 (%)	0421	46.25	0.1000	46.16	1.201	0.5043	54	0.07	020.50	0
020	Total Phosphorus as P2O5 (%)	0220	46.33	0.4900	46.16	1.201	0.5043	54	0.14	020.20	0
020	Total Phosphorus as P2O5 (%)	0527	46.39	0.0800	46.16	1.201	0.5043	54	0.19	020.50	0
020	Total Phosphorus as P2O5 (%)	0404	46.41	0.0300	46.16	1.201	0.5043	54	0.20	020.40	0
020	Total Phosphorus as P2O5 (%)	0049	46.46	0.1000	46.16	1.201	0.5043	54	0.25	020.10	0
020	Total Phosphorus as P2O5 (%)	0394	46.49	0.0300	46.16	1.201	0.5043	54	0.27	020.20	0
020	Total Phosphorus as P2O5 (%)	0157	46.50	0.6000	46.16	1.201	0.5043	54	0.28	020.50	0
020	Total Phosphorus as P2O5 (%)	0534	46.53	0.1400	46.16	1.201	0.5043	54	0.31	020.20	0
020	Total Phosphorus as P2O5 (%)	0516	46.56	0.1200	46.16	1.201	0.5043	54	0.33	020.20	0
020	Total Phosphorus as P2O5 (%)	0035	46.61	1.690	46.16	1.201	0.5043	54	0.37	020.40	0
020	Total Phosphorus as P2O5 (%)	0105	46.66	0.0500	46.16	1.201	0.5043	54	0.41	020.40	0
020	Total Phosphorus as P2O5 (%)	0416	46.66	0.1200	46.16	1.201	0.5043	54	0.41	020.30	0
020	Total Phosphorus as P2O5 (%)	0105	46.74	0.0400	46.16	1.201	0.5043	54	0.48	020.10	0
020	Total Phosphorus as P2O5 (%)	0444	46.76	0.2200	46.16	1.201	0.5043	54	0.50	020.10	0
020	Total Phosphorus as P2O5 (%)	0042	46.93	0.9800	46.16	1.201	0.5043	54	0.64	020.50	0
020	Total Phosphorus as P2O5 (%)	0542	47.28	0.3900	46.16	1.201	0.5043	54	0.93	020.50	0
020	Total Phosphorus as P2O5 (%)	0324	47.60	1.200	46.16	1.201	0.5043	54	1.20	020.20	0
020	Total Phosphorus as P2O5 (%)	0482	47.60	1.800	46.16	1.201	0.5043	54	1.20	020.50	0
020	Total Phosphorus as P2O5 (%)	0510	47.80	0.0038	46.16	1.201	0.5043	54	1.36	020.20	0
020	Total Phosphorus as P2O5 (%)	0402	47.85	0.2100	46.16	1.201	0.5043	54	1.40	020.50	0
020	Total Phosphorus as P2O5 (%)	0483	48.35	1.380	46.16	1.201	0.5043	54	1.82	020.50	0
020	Total Phosphorus as P2O5 (%)	0291	48.44	0.0100	46.16	1.201	0.5043	54	1.89	020.50	0
020	Total Phosphorus as P2O5 (%)	0451	48.98	0.3400	46.16	1.201	0.5043	54	2.35	020.50	0
020	Total Phosphorus as P2O5 (%)	0515	49.41	3.963	46.16	1.201	0.5043	54	2.71	020.99	0
020	Total Phosphorus as P2O5 (%)	0255	49.89	1.122	46.16	1.201	0.5043	54	3.10	020.50	0
020	Total Phosphorus as P2O5 (%)	0543	49.51	9.785	46.16	1.201	0.5043	54	2.79	020.50	1
020	Total Phosphorus as P2O5 (%)	0231	50.36	9.040	46.16	1.201	0.5043	54	3.49	020.20	1
020	Total Phosphorus as P2O5 (%)	0390	13.62	0.2300	46.16	1.201	0.5043	54	-27.10	020.50	2
030	Citrate Insoluble Phosphorus as P2O5 (%)	0404	0.1700	0.0400	0.2685	0.1510	0.0335	4	-0.65	030.40	0
030	Citrate Insoluble Phosphorus as P2O5 (%)	0096	0.1750	0.0300	0.2685	0.1510	0.0335	4	-0.62	030.40	0
030	Citrate Insoluble Phosphorus as P2O5 (%)	0405	0.2390	0.0240	0.2685	0.1510	0.0335	4	-0.20	030.20	0
030	Citrate Insoluble Phosphorus as P2O5 (%)	0220	0.4900	0.0400	0.2685	0.1510	0.0335	4	1.47	030.20	0
040	Indirect Available Phosphorus as P2O5 (45%)	0405	45.75	0.0900	45.96	0.2414	0.1400	5	-0.87	040.20	0
040	Indirect Available Phosphorus as P2O5 (45%)	0096	45.77	0.1500	45.96	0.2414	0.1400	5	-0.79	040.40	0
040	Indirect Available Phosphorus as P2O5 (45%)	0220	45.84	0.4500	45.96	0.2414	0.1400	5	-0.50	040.20	0
040	Indirect Available Phosphorus as P2O5 (45%)	0394	46.20	0.0000	45.96	0.2414	0.1400	5	1.01	040.99	0
040	Indirect Available Phosphorus as P2O5 (45%)	0404	46.24	0.0100	45.96	0.2414	0.1400	5	1.16	040.40	0
041	Direct Available Phosphorus as P2O5 (45%)	0522	42.68*	0.0900	45.72	0.7807	0.3261	57	-3.90	041.21	0
041	Direct Available Phosphorus as P2O5 (45%)	0095	43.59*	0.1100	45.72	0.7807	0.3261	57	-2.73	041.40	0
041	Direct Available Phosphorus as P2O5 (45%)	0055	44.46*	1.460	45.72	0.7807	0.3261	57	-1.61	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0230	44.65*	0.5000	45.72	0.7807	0.3261	57	-1.37	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0423	44.73	0.1000	45.72	0.7807	0.3261	57	-1.26	041.51	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 (45%)	0519	44.88	0.0900	45.72	0.7807	0.3261	57	-1.08	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0533	44.88	0.0700	45.72	0.7807	0.3261	57	-1.08	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0531	45.02	0.0800	45.72	0.7807	0.3261	57	-0.89	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0177	45.10	0.0543	45.72	0.7807	0.3261	57	-0.79	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0354	45.13	0.0930	45.72	0.7807	0.3261	57	-0.75	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0397	45.14	0.0753	45.72	0.7807	0.3261	57	-0.74	041.20	0
041	Direct Available Phosphorus as P2O5 (45%)	0397	45.14	0.0753	45.72	0.7807	0.3261	57	-0.74	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0535	45.15	0.1000	45.72	0.7807	0.3261	57	-0.72	041.21	0
041	Direct Available Phosphorus as P2O5 (45%)	0535	45.15	0.1000	45.72	0.7807	0.3261	57	-0.72	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0532	45.15	0.0400	45.72	0.7807	0.3261	57	-0.72	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0535	45.15	0.1000	45.72	0.7807	0.3261	57	-0.72	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0027	45.16	0.8900	45.72	0.7807	0.3261	57	-0.72	041.20	0
041	Direct Available Phosphorus as P2O5 (45%)	0540	45.25	0.1000	45.72	0.7807	0.3261	57	-0.60	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0043	45.26	0.1700	45.72	0.7807	0.3261	57	-0.59	041.50	0
041	Direct Available Phosphorus as P2O5 (45%)	0472	45.30	0.5300	45.72	0.7807	0.3261	57	-0.54	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0518	45.30	0.2000	45.72	0.7807	0.3261	57	-0.53	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0106	45.35	1.495	45.72	0.7807	0.3261	57	-0.47	041.21	0
041	Direct Available Phosphorus as P2O5 (45%)	0538	45.36	0.0900	45.72	0.7807	0.3261	57	-0.46	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0537	45.37	0.1100	45.72	0.7807	0.3261	57	-0.45	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0544	45.44	0.3000	45.72	0.7807	0.3261	57	-0.35	041.21	0
041	Direct Available Phosphorus as P2O5 (45%)	0536	45.48	0.0500	45.72	0.7807	0.3261	57	-0.31	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0029	45.50	0.3400	45.72	0.7807	0.3261	57	-0.28	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0539	45.56	0.0400	45.72	0.7807	0.3261	57	-0.20	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0023	45.71	1.070	45.72	0.7807	0.3261	57	-0.01	041.51	0
041	Direct Available Phosphorus as P2O5 (45%)	0117	45.75	0.2800	45.72	0.7807	0.3261	57	0.04	041.51	0
041	Direct Available Phosphorus as P2O5 (45%)	0073	45.78	0.2500	45.72	0.7807	0.3261	57	0.08	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0360	45.86	0.6200	45.72	0.7807	0.3261	57	0.18	041.51	0
041	Direct Available Phosphorus as P2O5 (45%)	0105	45.87	0.1900	45.72	0.7807	0.3261	57	0.19	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0102	45.90	0.0000	45.72	0.7807	0.3261	57	0.24	041.10	0
041	Direct Available Phosphorus as P2O5 (45%)	0325	45.90	2.000	45.72	0.7807	0.3261	57	0.24	041.50	0
041	Direct Available Phosphorus as P2O5 (45%)	0105	45.98	0.2900	45.72	0.7807	0.3261	57	0.33	041.11	0
041	Direct Available Phosphorus as P2O5 (45%)	0494	46.03	1.340	45.72	0.7807	0.3261	57	0.40	041.51	0
041	Direct Available Phosphorus as P2O5 (45%)	0105	46.07	0.0500	45.72	0.7807	0.3261	57	0.45	041.10	0
041	Direct Available Phosphorus as P2O5 (45%)	0105	46.07	0.0400	45.72	0.7807	0.3261	57	0.45	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0220	46.09	0.0300	45.72	0.7807	0.3261	57	0.47	041.11	0
041	Direct Available Phosphorus as P2O5 (45%)	0055	46.14	0.0500	45.72	0.7807	0.3261	57	0.54	041.10	0
041	Direct Available Phosphorus as P2O5 (45%)	0231	46.17	0.1900	45.72	0.7807	0.3261	57	0.58	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0177	46.22	0.0672	45.72	0.7807	0.3261	57	0.64	041.10	0
041	Direct Available Phosphorus as P2O5 (45%)	0041	46.24	0.0400	45.72	0.7807	0.3261	57	0.67	041.10	0
041	Direct Available Phosphorus as P2O5 (45%)	0486	46.35	0.3600	45.72	0.7807	0.3261	57	0.81	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0007	46.50	1.600	45.72	0.7807	0.3261	57	1.00	041.50	0
041	Direct Available Phosphorus as P2O5 (45%)	0494	46.52	0.6700	45.72	0.7807	0.3261	57	1.02	041.10	0
041	Direct Available Phosphorus as P2O5 (45%)	0072	46.61	0.2900	45.72	0.7807	0.3261	57	1.14	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 (45%)	0377	46.63	0.1100	45.72	0.7807	0.3261	57	1.16	041.51	0
041	Direct Available Phosphorus as P2O5 (45%)	0034	46.67	0.2220	45.72	0.7807	0.3261	57	1.22	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0086	46.69	0.0357	45.72	0.7807	0.3261	57	1.25	041.10	0
041	Direct Available Phosphorus as P2O5 (45%)	0025	46.74	0.8400	45.72	0.7807	0.3261	57	1.31	041.51	0
041	Direct Available Phosphorus as P2O5 (45%)	0136	46.76	0.0900	45.72	0.7807	0.3261	57	1.33	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0452	46.77	0.0800	45.72	0.7807	0.3261	57	1.35	041.50	0
041	Direct Available Phosphorus as P2O5 (45%)	0040	46.95	0.1000	45.72	0.7807	0.3261	57	1.58	041.10	0
041	Direct Available Phosphorus as P2O5 (45%)	0485	47.44	0.2075	45.72	0.7807	0.3261	57	2.21	041.11	0
041	Direct Available Phosphorus as P2O5 (45%)	0131	47.46	0.0200	45.72	0.7807	0.3261	57	2.23	041.40	0
041	Direct Available Phosphorus as P2O5 (45%)	0233	44.52*	3.980	45.72	0.7807	0.3261	57	-1.53	041.51	1
041	Direct Available Phosphorus as P2O5 (45%)	0368	46.12	2.908	45.72	0.7807	0.3261	57	0.52	041.50	1
042	Water Soluble Orthophosphate as P2O5 (%)	0481	38.86	1.170				1		042.10	0
048	Water Soluble Phosphorus as P2O5 (%)	0096	39.95	0.0700	40.36	0.5688	0.4425	4	-0.73	048.40	0
048	Water Soluble Phosphorus as P2O5 (%)	0444	40.00	1.130	40.36	0.5688	0.4425	4	-0.64	048.10	0
048	Water Soluble Phosphorus as P2O5 (%)	0394	40.33	0.4200	40.36	0.5688	0.4425	4	-0.05	048.20	0
048	Water Soluble Phosphorus as P2O5 (%)	0444	41.18	0.1500	40.36	0.5688	0.4425	4	1.43	048.50	0
050	Soluble Potassium as K2O (%)	0472	0.0650	0.0300	0.2366	0.0947	0.0181	8	-1.66	050.31	0
050	Soluble Potassium as K2O (%)	0096	0.1700	0.0000	0.2366	0.0947	0.0181	8	-0.64	050.99	0
050	Soluble Potassium as K2O (%)	0524	0.2133	0.0134	0.2366	0.0947	0.0181	8	-0.23	050.99	0
050	Soluble Potassium as K2O (%)	0521	0.2350	0.0000	0.2366	0.0947	0.0181	8	-0.02	050.99	0
050	Soluble Potassium as K2O (%)	0482	0.2450	0.0300	0.2366	0.0947	0.0181	8	0.08	050.99	0
050	Soluble Potassium as K2O (%)	0354	0.2565	0.0010	0.2366	0.0947	0.0181	8	0.19	050.52	0
050	Soluble Potassium as K2O (%)	0325	0.3000	0.0000	0.2366	0.0947	0.0181	8	0.61	050.99	0
050	Soluble Potassium as K2O (%)	0483	0.5350	0.0700	0.2366	0.0947	0.0181	8	2.88	050.51	0
060	Water (Free) (%)	0518	1.700	0.1400	2.369	0.6912	0.1178	8	-0.89	060.30	0
060	Water (Free) (%)	0007	1.820	0.0800	2.369	0.6912	0.1178	8	-0.73	060.00	0
060	Water (Free) (%)	0510	1.919	0.0812	2.369	0.6912	0.1178	8	-0.60	060.99	0
060	Water (Free) (%)	0055	2.090	0.2000	2.369	0.6912	0.1178	8	-0.37	060.99	0
060	Water (Free) (%)	0096	2.340	0.0400	2.369	0.6912	0.1178	8	-0.04	060.00	0
060	Water (Free) (%)	0518	2.680	0.1200	2.369	0.6912	0.1178	8	0.41	060.20	0
060	Water (Free) (%)	0055	3.000	0.2000	2.369	0.6912	0.1178	8	0.83	060.30	0
060	Water (Free) (%)	0416	9.250	0.0810	2.369	0.6912	0.1178	8	9.10	060.00	0
101	Acid Soluble Calcium (13.5%)	0404	1.345*	0.0100	13.48	0.7251	0.2239	62	-16.73	101.30	0
101	Acid Soluble Calcium (13.5%)	0476	10.29*	0.1004	13.48	0.7251	0.2239	62	-4.39	101.99	0
101	Acid Soluble Calcium (13.5%)	0230	11.45*	0.1000	13.48	0.7251	0.2239	62	-2.80	101.30	0
101	Acid Soluble Calcium (13.5%)	0415	12.07*	0.2326	13.48	0.7251	0.2239	62	-1.94	101.99	0
101	Acid Soluble Calcium (13.5%)	0324	12.15*	0.3000	13.48	0.7251	0.2239	62	-1.83	101.30	0
101	Acid Soluble Calcium (13.5%)	0055	12.15*	0.1200	13.48	0.7251	0.2239	62	-1.83	101.33	0
101	Acid Soluble Calcium (13.5%)	0522	12.42*	0.0800	13.48	0.7251	0.2239	62	-1.46	101.70	0
101	Acid Soluble Calcium (13.5%)	0177	12.45*	0.1383	13.48	0.7251	0.2239	62	-1.41	101.33	0
101	Acid Soluble Calcium (13.5%)	0541	12.63	0.4100	13.48	0.7251	0.2239	62	-1.18	101.32	0
101	Acid Soluble Calcium (13.5%)	0368	12.82	0.0235	13.48	0.7251	0.2239	62	-0.90	101.99	0
101	Acid Soluble Calcium (13.5%)	0481	12.83	0.2500	13.48	0.7251	0.2239	62	-0.90	101.00	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
101	Acid Soluble Calcium (13.5%)	0354	12.92	0.2270	13.48	0.7251	0.2239	62	-0.77	101.30	0
101	Acid Soluble Calcium (13.5%)	0102	12.93	0.1468	13.48	0.7251	0.2239	62	-0.76	101.30	0
101	Acid Soluble Calcium (13.5%)	0042	12.97	0.8800	13.48	0.7251	0.2239	62	-0.70	101.99	0
101	Acid Soluble Calcium (13.5%)	0231	12.99	0.1400	13.48	0.7251	0.2239	62	-0.67	101.30	0
101	Acid Soluble Calcium (13.5%)	0157	13.00	0.4000	13.48	0.7251	0.2239	62	-0.66	101.30	0
101	Acid Soluble Calcium (13.5%)	0360	13.07	0.1000	13.48	0.7251	0.2239	62	-0.56	101.30	0
101	Acid Soluble Calcium (13.5%)	0444	13.09	0.0600	13.48	0.7251	0.2239	62	-0.53	101.30	0
101	Acid Soluble Calcium (13.5%)	0307	13.16	0.2240	13.48	0.7251	0.2239	62	-0.43	101.30	0
101	Acid Soluble Calcium (13.5%)	0255	13.22	0.5070	13.48	0.7251	0.2239	62	-0.36	101.30	0
101	Acid Soluble Calcium (13.5%)	0096	13.27	0.1600	13.48	0.7251	0.2239	62	-0.29	101.30	0
101	Acid Soluble Calcium (13.5%)	0117	13.29	0.1200	13.48	0.7251	0.2239	62	-0.26	101.33	0
101	Acid Soluble Calcium (13.5%)	0041	13.30	0.0000	13.48	0.7251	0.2239	62	-0.24	101.30	0
101	Acid Soluble Calcium (13.5%)	0486	13.31	0.1600	13.48	0.7251	0.2239	62	-0.23	101.30	0
101	Acid Soluble Calcium (13.5%)	0501	13.35	0.3000	13.48	0.7251	0.2239	62	-0.18	101.99	0
101	Acid Soluble Calcium (13.5%)	0233	13.37	0.4000	13.48	0.7251	0.2239	62	-0.15	101.33	0
101	Acid Soluble Calcium (13.5%)	0377	13.39	0.2800	13.48	0.7251	0.2239	62	-0.12	101.30	0
101	Acid Soluble Calcium (13.5%)	0034	13.40	0.3000	13.48	0.7251	0.2239	62	-0.11	101.33	0
101	Acid Soluble Calcium (13.5%)	0027	13.41	0.2800	13.48	0.7251	0.2239	62	-0.09	101.99	0
101	Acid Soluble Calcium (13.5%)	0136	13.45	0.1500	13.48	0.7251	0.2239	62	-0.04	101.33	0
101	Acid Soluble Calcium (13.5%)	0157	13.45	0.1000	13.48	0.7251	0.2239	62	-0.04	101.00	0
101	Acid Soluble Calcium (13.5%)	0086	13.54	0.5090	13.48	0.7251	0.2239	62	0.08	101.33	0
101	Acid Soluble Calcium (13.5%)	0421	13.55	0.3000	13.48	0.7251	0.2239	62	0.10	101.33	0
101	Acid Soluble Calcium (13.5%)	0472	13.56	0.0900	13.48	0.7251	0.2239	62	0.11	101.30	0
101	Acid Soluble Calcium (13.5%)	0043	13.56	0.2600	13.48	0.7251	0.2239	62	0.11	101.00	0
101	Acid Soluble Calcium (13.5%)	0521	13.60	0.0000	13.48	0.7251	0.2239	62	0.17	101.32	0
101	Acid Soluble Calcium (13.5%)	0519	13.61	0.0300	13.48	0.7251	0.2239	62	0.18	101.99	0
101	Acid Soluble Calcium (13.5%)	0035	13.65	0.5000	13.48	0.7251	0.2239	62	0.24	101.30	0
101	Acid Soluble Calcium (13.5%)	0494	13.71	0.5413	13.48	0.7251	0.2239	62	0.32	101.33	0
101	Acid Soluble Calcium (13.5%)	0485	13.73	0.1900	13.48	0.7251	0.2239	62	0.34	101.00	0
101	Acid Soluble Calcium (13.5%)	0527	13.76	0.0300	13.48	0.7251	0.2239	62	0.39	101.33	0
101	Acid Soluble Calcium (13.5%)	0423	13.77	0.1400	13.48	0.7251	0.2239	62	0.40	101.32	0
101	Acid Soluble Calcium (13.5%)	0523	13.78	0.1300	13.48	0.7251	0.2239	62	0.41	101.99	0
101	Acid Soluble Calcium (13.5%)	0402	13.84	0.2100	13.48	0.7251	0.2239	62	0.49	101.30	0
101	Acid Soluble Calcium (13.5%)	0500	13.85	0.0000	13.48	0.7251	0.2239	62	0.51	101.00	0
101	Acid Soluble Calcium (13.5%)	0040	13.86	0.2900	13.48	0.7251	0.2239	62	0.52	101.00	0
101	Acid Soluble Calcium (13.5%)	0023	13.87	0.2380	13.48	0.7251	0.2239	62	0.55	101.33	0
101	Acid Soluble Calcium (13.5%)	0029	13.94	0.2500	13.48	0.7251	0.2239	62	0.63	101.00	0
101	Acid Soluble Calcium (13.5%)	0397	14.00	0.0666	13.48	0.7251	0.2239	62	0.71	101.33	0
101	Acid Soluble Calcium (13.5%)	0371	14.00	0.4000	13.48	0.7251	0.2239	62	0.72	101.99	0
101	Acid Soluble Calcium (13.5%)	0506	14.05	0.3000	13.48	0.7251	0.2239	62	0.79	101.99	0
101	Acid Soluble Calcium (13.5%)	0544	14.13	0.1500	13.48	0.7251	0.2239	62	0.89	101.70	0
101	Acid Soluble Calcium (13.5%)	0291	14.16	0.0100	13.48	0.7251	0.2239	62	0.93	101.99	0
101	Acid Soluble Calcium (13.5%)	0234	14.30	0.2000	13.48	0.7251	0.2239	62	1.13	101.30	0

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101	Acid Soluble Calcium (13.5%)	0433	14.33	0.1000	13.48	0.7251	0.2239	62	1.18	101.30	0
101	Acid Soluble Calcium (13.5%)	0394	14.35	0.3000	13.48	0.7251	0.2239	62	1.20	101.30	0
101	Acid Soluble Calcium (13.5%)	0543	14.50	1.121	13.48	0.7251	0.2239	62	1.41	101.30	0
101	Acid Soluble Calcium (13.5%)	0483	14.60	0.2000	13.48	0.7251	0.2239	62	1.55	101.30	0
101	Acid Soluble Calcium (13.5%)	0452	14.73	0.0300	13.48	0.7251	0.2239	62	1.72	101.30	0
101	Acid Soluble Calcium (13.5%)	0325	14.85	0.3000	13.48	0.7251	0.2239	62	1.89	101.30	0
101	Acid Soluble Calcium (13.5%)	0493	16.45	0.1000	13.48	0.7251	0.2239	62	4.10	101.99	0
101	Acid Soluble Calcium (13.5%)	0476	24.64	0.1962	13.48	0.7251	0.2239	62	15.40	101.70	0
101	Acid Soluble Calcium (13.5%)	0106	11.56*	1.880	13.48	0.7251	0.2239	62	-2.65	101.33	1
101	Acid Soluble Calcium (13.5%)	0482	13.50	1.200	13.48	0.7251	0.2239	62	0.03	101.30	1
101	Acid Soluble Calcium (13.5%)	0390	35.45	0.3200	13.48	0.7251	0.2239	62	30.30	101.30	2
121	Acid Soluble Magnesium (%)	0106	0.7135	0.1385	0.8790	0.0677	0.0278	19	-2.45	121.33	0
121	Acid Soluble Magnesium (%)	0515	0.7548	0.0204	0.8790	0.0677	0.0278	19	-1.84	121.99	0
121	Acid Soluble Magnesium (%)	0515	0.8062	0.0107	0.8790	0.0677	0.0278	19	-1.08	121.33	0
121	Acid Soluble Magnesium (%)	0086	0.8340	0.0176	0.8790	0.0677	0.0278	19	-0.67	121.33	0
121	Acid Soluble Magnesium (%)	0043	0.8450	0.0100	0.8790	0.0677	0.0278	19	-0.50	121.00	0
121	Acid Soluble Magnesium (%)	0404	0.8500	0.0200	0.8790	0.0677	0.0278	19	-0.43	121.32	0
121	Acid Soluble Magnesium (%)	0482	0.8550	0.0500	0.8790	0.0677	0.0278	19	-0.36	121.30	0
121	Acid Soluble Magnesium (%)	0096	0.8590	0.0060	0.8790	0.0677	0.0278	19	-0.30	121.30	0
121	Acid Soluble Magnesium (%)	0524	0.8719	0.0045	0.8790	0.0677	0.0278	19	-0.11	121.99	0
121	Acid Soluble Magnesium (%)	0521	0.8747	0.0000	0.8790	0.0677	0.0278	19	-0.06	121.32	0
121	Acid Soluble Magnesium (%)	0494	0.8765	0.0094	0.8790	0.0677	0.0278	19	-0.04	121.33	0
121	Acid Soluble Magnesium (%)	0035	0.8815	0.0330	0.8790	0.0677	0.0278	19	0.04	121.30	0
121	Acid Soluble Magnesium (%)	0105	0.9035	0.0570	0.8790	0.0677	0.0278	19	0.36	121.03	0
121	Acid Soluble Magnesium (%)	0354	0.9050	0.0360	0.8790	0.0677	0.0278	19	0.38	121.30	0
121	Acid Soluble Magnesium (%)	0105	0.9400	0.0520	0.8790	0.0677	0.0278	19	0.90	121.00	0
121	Acid Soluble Magnesium (%)	0527	0.9415	0.0130	0.8790	0.0677	0.0278	19	0.92	121.33	0
121	Acid Soluble Magnesium (%)	0117	0.9420	0.0196	0.8790	0.0677	0.0278	19	0.93	121.33	0
121	Acid Soluble Magnesium (%)	0483	1.015	0.0100	0.8790	0.0677	0.0278	19	2.01	121.30	0
121	Acid Soluble Magnesium (%)	0472	1.040	0.0200	0.8790	0.0677	0.0278	19	2.38	121.30	0
121	Acid Soluble Magnesium (%)	0522	9.460	0.2000	0.8790	0.0677	0.0278	19	126.84	121.70	2
143	Elemental Sulfur (%)	0086	1.102	0.0181				2		143.99	0
143	Elemental Sulfur (%)	0472	1.130	0.0000				2		143.99	0
145	Sulfate Sulfur, HCl soluble (%)	0404	3.405	0.1300				2		145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0522	13.20	0.0100				2		145.00	0
148	Total Sulfur (%)	0096	1.050	0.0200	1.117	0.0916	0.0290	8	-0.67	148.99	0
148	Total Sulfur (%)	0354	1.054	0.0570	1.117	0.0916	0.0290	8	-0.63	148.99	0
148	Total Sulfur (%)	0494	1.071	0.0073	1.117	0.0916	0.0290	8	-0.46	148.07	0
148	Total Sulfur (%)	0117	1.075	0.0050	1.117	0.0916	0.0290	8	-0.42	148.07	0
148	Total Sulfur (%)	0515	1.078	0.0765	1.117	0.0916	0.0290	8	-0.39	148.07	0
148	Total Sulfur (%)	0527	1.124	0.0660	1.117	0.0916	0.0290	8	0.07	148.07	0
148	Total Sulfur (%)	0483	1.230	0.0000	1.117	0.0916	0.0290	8	1.13	148.07	0
148	Total Sulfur (%)	0482	1.410	0.0000	1.117	0.0916	0.0290	8	2.93	148.99	0

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149	Sulfur - HNO3 soluble (%)	0521	1.020	0.0000				2		149.04	0
149	Sulfur - HNO3 soluble (%)	0524	1.082	0.0005				2		149.04	0
151	Acid Soluble Arsenic (ppm)	0255	11.77	0.1500	19.52	4.327	0.9018	17	-1.79	151.30	0
151	Acid Soluble Arsenic (ppm)	0096	13.30	0.4000	19.52	4.327	0.9018	17	-1.44	151.30	0
151	Acid Soluble Arsenic (ppm)	0476	14.10	0.1313	19.52	4.327	0.9018	17	-1.25	151.99	0
151	Acid Soluble Arsenic (ppm)	0481	17.05	0.3000	19.52	4.327	0.9018	17	-0.57	151.00	0
151	Acid Soluble Arsenic (ppm)	0136	17.20	1.000	19.52	4.327	0.9018	17	-0.54	151.00	0
151	Acid Soluble Arsenic (ppm)	0515	17.50	0.2240	19.52	4.327	0.9018	17	-0.47	151.34	0
151	Acid Soluble Arsenic (ppm)	0394	17.80	0.6000	19.52	4.327	0.9018	17	-0.40	151.30	0
151	Acid Soluble Arsenic (ppm)	0117	19.57	0.2300	19.52	4.327	0.9018	17	0.01	151.33	0
151	Acid Soluble Arsenic (ppm)	0086	19.57	0.2860	19.52	4.327	0.9018	17	0.01	151.33	0
151	Acid Soluble Arsenic (ppm)	0527	20.27	0.0250	19.52	4.327	0.9018	17	0.17	151.33	0
151	Acid Soluble Arsenic (ppm)	0515	20.87	3.250	19.52	4.327	0.9018	17	0.31	151.33	0
151	Acid Soluble Arsenic (ppm)	0541	22.74	1.520	19.52	4.327	0.9018	17	0.74	151.30	0
151	Acid Soluble Arsenic (ppm)	0037	22.95	0.0030	19.52	4.327	0.9018	17	0.79	151.33	0
151	Acid Soluble Arsenic (ppm)	0494	23.64	1.861	19.52	4.327	0.9018	17	0.95	151.33	0
151	Acid Soluble Arsenic (ppm)	0519	23.88	1.600	19.52	4.327	0.9018	17	1.01	151.99	0
151	Acid Soluble Arsenic (ppm)	0368	23.90	1.000	19.52	4.327	0.9018	17	1.01	151.30	0
151	Acid Soluble Arsenic (ppm)	0501	24.48	2.750	19.52	4.327	0.9018	17	1.15	151.30	0
151	Acid Soluble Arsenic (ppm)	0230	20.15	6.100	19.52	4.327	0.9018	17	0.15	151.34	1
165	Acid Soluble Boron (%)	0106	0.0014	0.0009	0.0055	0.0044	0.0008	5	-0.81	165.30	0
165	Acid Soluble Boron (%)	0521	0.0032	0.0000	0.0055	0.0044	0.0008	5	-0.44	165.30	0
165	Acid Soluble Boron (%)	0524	0.0033	0.0001	0.0055	0.0044	0.0008	5	-0.43	165.99	0
165	Acid Soluble Boron (%)	0354	0.0070	0.0020	0.0055	0.0044	0.0008	5	0.30	165.30	0
165	Acid Soluble Boron (%)	0527	0.0125	0.0010	0.0055	0.0044	0.0008	5	1.38	165.99	0
165	Acid Soluble Boron (%)	0483	113.3	53.50	0.0055	0.0044	0.0008	5	22268.33	165.99	2
165	Acid Soluble Boron (%)	0515	0.0000	0.0000	0.0055	0.0044	0.0008	5		165.99	4
181	Acid Soluble Cadmium (ppm)	0027	23.40	0.1990	82.76	13.83	2.251	29	-4.29	181.30	0
181	Acid Soluble Cadmium (ppm)	0506	40.85	0.7000	82.76	13.83	2.251	29	-3.03	181.99	0
181	Acid Soluble Cadmium (ppm)	0255	47.20	0.5140	82.76	13.83	2.251	29	-2.57	181.30	0
181	Acid Soluble Cadmium (ppm)	0096	48.70	0.2000	82.76	13.83	2.251	29	-2.46	181.30	0
181	Acid Soluble Cadmium (ppm)	0476	59.14	0.1648	82.76	13.83	2.251	29	-1.71	181.99	0
181	Acid Soluble Cadmium (ppm)	0444	65.88	5.230	82.76	13.83	2.251	29	-1.22	181.30	0
181	Acid Soluble Cadmium (ppm)	0501	69.85	4.900	82.76	13.83	2.251	29	-0.93	181.30	0
181	Acid Soluble Cadmium (ppm)	0541	79.87	2.270	82.76	13.83	2.251	29	-0.21	181.30	0
181	Acid Soluble Cadmium (ppm)	0368	80.25	0.5000	82.76	13.83	2.251	29	-0.18	181.30	0
181	Acid Soluble Cadmium (ppm)	0230	80.70	8.600	82.76	13.83	2.251	29	-0.15	181.34	0
181	Acid Soluble Cadmium (ppm)	0035	81.20	2.400	82.76	13.83	2.251	29	-0.11	181.30	0
181	Acid Soluble Cadmium (ppm)	0220	83.45	0.9000	82.76	13.83	2.251	29	0.05	181.99	0
181	Acid Soluble Cadmium (ppm)	0377	84.72	2.170	82.76	13.83	2.251	29	0.14	181.30	0
181	Acid Soluble Cadmium (ppm)	0515	85.97	0.2100	82.76	13.83	2.251	29	0.23	181.34	0
181	Acid Soluble Cadmium (ppm)	0494	87.20	0.4914	82.76	13.83	2.251	29	0.32	181.33	0
181	Acid Soluble Cadmium (ppm)	0535	87.50	5.000	82.76	13.83	2.251	29	0.34	181.00	0



Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
181	Acid Soluble Cadmium (ppm)	0136	87.80	0.4000	82.76	13.83	2.251	29	0.36	181.00	0
181	Acid Soluble Cadmium (ppm)	0086	88.51	4.137	82.76	13.83	2.251	29	0.42	181.33	0
181	Acid Soluble Cadmium (ppm)	0515	89.64	1.438	82.76	13.83	2.251	29	0.50	181.33	0
181	Acid Soluble Cadmium (ppm)	0117	90.31	0.2900	82.76	13.83	2.251	29	0.55	181.33	0
181	Acid Soluble Cadmium (ppm)	0394	90.55	3.500	82.76	13.83	2.251	29	0.56	181.30	0
181	Acid Soluble Cadmium (ppm)	0233	91.13	0.9700	82.76	13.83	2.251	29	0.60	181.33	0
181	Acid Soluble Cadmium (ppm)	0482	91.15	7.100	82.76	13.83	2.251	29	0.61	181.30	0
181	Acid Soluble Cadmium (ppm)	0037	91.26	0.4510	82.76	13.83	2.251	29	0.61	181.33	0
181	Acid Soluble Cadmium (ppm)	0481	92.25	2.700	82.76	13.83	2.251	29	0.69	181.00	0
181	Acid Soluble Cadmium (ppm)	0404	92.50	3.000	82.76	13.83	2.251	29	0.70	181.33	0
181	Acid Soluble Cadmium (ppm)	0524	95.11	1.431	82.76	13.83	2.251	29	0.89	181.30	0
181	Acid Soluble Cadmium (ppm)	0519	101.2	5.390	82.76	13.83	2.251	29	1.34	181.99	0
181	Acid Soluble Cadmium (ppm)	0527	101.9	0.0330	82.76	13.83	2.251	29	1.39	181.33	0
191	Acid Soluble Chromium (ppm)	0027	125.0	1.983	415.3	59.86	15.46	24	-4.85	191.30	0
191	Acid Soluble Chromium (ppm)	0444	286.0	8.000	415.3	59.86	15.46	24	-2.16	191.30	0
191	Acid Soluble Chromium (ppm)	0476	291.7	1.321	415.3	59.86	15.46	24	-2.06	191.99	0
191	Acid Soluble Chromium (ppm)	0535	347.5	5.000	415.3	59.86	15.46	24	-1.13	191.00	0
191	Acid Soluble Chromium (ppm)	0394	356.5	11.00	415.3	59.86	15.46	24	-0.98	191.30	0
191	Acid Soluble Chromium (ppm)	0482	381.0	42.00	415.3	59.86	15.46	24	-0.57	191.30	0
191	Acid Soluble Chromium (ppm)	0230	384.0	40.00	415.3	59.86	15.46	24	-0.52	191.34	0
191	Acid Soluble Chromium (ppm)	0368	400.5	3.000	415.3	59.86	15.46	24	-0.25	191.30	0
191	Acid Soluble Chromium (ppm)	0515	401.2	5.243	415.3	59.86	15.46	24	-0.23	191.34	0
191	Acid Soluble Chromium (ppm)	0481	414.4	11.90	415.3	59.86	15.46	24	-0.02	191.00	0
191	Acid Soluble Chromium (ppm)	0086	418.4	18.46	415.3	59.86	15.46	24	0.05	191.33	0
191	Acid Soluble Chromium (ppm)	0377	419.3	6.010	415.3	59.86	15.46	24	0.07	191.30	0
191	Acid Soluble Chromium (ppm)	0527	427.0	2.419	415.3	59.86	15.46	24	0.20	191.33	0
191	Acid Soluble Chromium (ppm)	0541	430.5	27.00	415.3	59.86	15.46	24	0.25	191.30	0
191	Acid Soluble Chromium (ppm)	0494	431.2	5.877	415.3	59.86	15.46	24	0.27	191.33	0
191	Acid Soluble Chromium (ppm)	0117	436.8	10.00	415.3	59.86	15.46	24	0.36	191.33	0
191	Acid Soluble Chromium (ppm)	0096	439.8	10.10	415.3	59.86	15.46	24	0.41	191.30	0
191	Acid Soluble Chromium (ppm)	0220	444.5	7.000	415.3	59.86	15.46	24	0.49	191.99	0
191	Acid Soluble Chromium (ppm)	0037	445.1	2.011	415.3	59.86	15.46	24	0.50	191.33	0
191	Acid Soluble Chromium (ppm)	0515	449.0	20.20	415.3	59.86	15.46	24	0.56	191.33	0
191	Acid Soluble Chromium (ppm)	0404	454.5	9.000	415.3	59.86	15.46	24	0.66	191.33	0
191	Acid Soluble Chromium (ppm)	0519	499.1	6.730	415.3	59.86	15.46	24	1.40	191.99	0
191	Acid Soluble Chromium (ppm)	0506	547.0	44.00	415.3	59.86	15.46	24	2.20	191.99	0
191	Acid Soluble Chromium (ppm)	0501	707.0	72.86	415.3	59.86	15.46	24	4.87	191.30	0
191	Acid Soluble Chromium (ppm)	0035	297.0	152.0	415.3	59.86	15.46	24	-1.98	191.30	1
202	Acid Soluble Cobalt (ppm)	0255	3.661	0.0900	6.414	1.221	0.3224	16	-2.25	202.99	0
202	Acid Soluble Cobalt (ppm)	0476	4.250	0.0318	6.414	1.221	0.3224	16	-1.77	202.99	0
202	Acid Soluble Cobalt (ppm)	0515	5.464	0.1280	6.414	1.221	0.3224	16	-0.78	202.34	0
202	Acid Soluble Cobalt (ppm)	0377	5.480	0.1200	6.414	1.221	0.3224	16	-0.76	202.30	0
202	Acid Soluble Cobalt (ppm)	0482	5.500	0.4000	6.414	1.221	0.3224	16	-0.75	202.30	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				
202	Acid Soluble Cobalt (ppm)	0519	5.940	0.0800	6.414	1.221	0.3224	16	-0.39	202.99	0
202	Acid Soluble Cobalt (ppm)	0368	6.300	0.2000	6.414	1.221	0.3224	16	-0.09	202.30	0
202	Acid Soluble Cobalt (ppm)	0035	6.500	0.4000	6.414	1.221	0.3224	16	0.07	202.30	0
202	Acid Soluble Cobalt (ppm)	0527	6.676	0.0030	6.414	1.221	0.3224	16	0.21	202.33	0
202	Acid Soluble Cobalt (ppm)	0220	6.700	0.2000	6.414	1.221	0.3224	16	0.23	202.99	0
202	Acid Soluble Cobalt (ppm)	0086	6.941	1.217	6.414	1.221	0.3224	16	0.43	202.33	0
202	Acid Soluble Cobalt (ppm)	0117	7.074	0.0570	6.414	1.221	0.3224	16	0.54	202.33	0
202	Acid Soluble Cobalt (ppm)	0037	7.399	0.2660	6.414	1.221	0.3224	16	0.81	202.33	0
202	Acid Soluble Cobalt (ppm)	0524	7.789	0.2886	6.414	1.221	0.3224	16	1.13	202.30	0
202	Acid Soluble Cobalt (ppm)	0494	7.825	0.9463	6.414	1.221	0.3224	16	1.16	202.33	0
202	Acid Soluble Cobalt (ppm)	0501	7.865	0.7300	6.414	1.221	0.3224	16	1.19	202.34	0
202	Acid Soluble Cobalt (ppm)	0515	4.908	2.184	6.414	1.221	0.3224	16	-1.23	202.33	1
221	Acid Soluble Copper (%)	0027	0.0030	0.0000	0.0081	0.0016	0.0007	37	-3.23	221.99	0
221	Acid Soluble Copper (%)	0476	0.0045	0.0000	0.0081	0.0016	0.0007	37	-2.28	221.99	0
221	Acid Soluble Copper (%)	0531	0.0060	0.0000	0.0081	0.0016	0.0007	37	-1.33	221.00	0
221	Acid Soluble Copper (%)	0096	0.0062	0.0004	0.0081	0.0016	0.0007	37	-1.20	221.30	0
221	Acid Soluble Copper (%)	0106	0.0063	0.0020	0.0081	0.0016	0.0007	37	-1.14	221.33	0
221	Acid Soluble Copper (%)	0521	0.0064	0.0000	0.0081	0.0016	0.0007	37	-1.07	221.32	0
221	Acid Soluble Copper (%)	0444	0.0067	0.0001	0.0081	0.0016	0.0007	37	-0.91	221.30	0
221	Acid Soluble Copper (%)	0230	0.0069	0.0006	0.0081	0.0016	0.0007	37	-0.76	221.30	0
221	Acid Soluble Copper (%)	0105	0.0070	0.0000	0.0081	0.0016	0.0007	37	-0.69	221.00	0
221	Acid Soluble Copper (%)	0105	0.0070	0.0020	0.0081	0.0016	0.0007	37	-0.69	221.03	0
221	Acid Soluble Copper (%)	0220	0.0075	0.0001	0.0081	0.0016	0.0007	37	-0.41	221.99	0
221	Acid Soluble Copper (%)	0527	0.0075	0.0010	0.0081	0.0016	0.0007	37	-0.38	221.33	0
221	Acid Soluble Copper (%)	0377	0.0076	0.0007	0.0081	0.0016	0.0007	37	-0.34	221.30	0
221	Acid Soluble Copper (%)	0029	0.0078	0.0003	0.0081	0.0016	0.0007	37	-0.22	221.00	0
221	Acid Soluble Copper (%)	0524	0.0078	0.0000	0.0081	0.0016	0.0007	37	-0.19	221.99	0
221	Acid Soluble Copper (%)	0515	0.0080	0.0001	0.0081	0.0016	0.0007	37	-0.09	221.33	0
221	Acid Soluble Copper (%)	0041	0.0080	0.0000	0.0081	0.0016	0.0007	37	-0.06	221.30	0
221	Acid Soluble Copper (%)	0541	0.0080	0.0000	0.0081	0.0016	0.0007	37	-0.06	221.30	0
221	Acid Soluble Copper (%)	0368	0.0081	0.0001	0.0081	0.0016	0.0007	37	-0.03	221.99	0
221	Acid Soluble Copper (%)	0481	0.0081	0.0000	0.0081	0.0016	0.0007	37	0.00	221.00	0
221	Acid Soluble Copper (%)	0515	0.0081	0.0002	0.0081	0.0016	0.0007	37	0.00	221.99	0
221	Acid Soluble Copper (%)	0394	0.0082	0.0003	0.0081	0.0016	0.0007	37	0.04	221.32	0
221	Acid Soluble Copper (%)	0086	0.0082	0.0002	0.0081	0.0016	0.0007	37	0.07	221.33	0
221	Acid Soluble Copper (%)	0535	0.0083	0.0002	0.0081	0.0016	0.0007	37	0.13	221.00	0
221	Acid Soluble Copper (%)	0043	0.0084	0.0001	0.0081	0.0016	0.0007	37	0.16	221.00	0
221	Acid Soluble Copper (%)	0035	0.0084	0.0003	0.0081	0.0016	0.0007	37	0.16	221.30	0
221	Acid Soluble Copper (%)	0494	0.0084	0.0001	0.0081	0.0016	0.0007	37	0.16	221.33	0
221	Acid Soluble Copper (%)	0433	0.0090	0.0000	0.0081	0.0016	0.0007	37	0.57	221.30	0
221	Acid Soluble Copper (%)	0117	0.0092	0.0002	0.0081	0.0016	0.0007	37	0.70	221.33	0
221	Acid Soluble Copper (%)	0472	0.0100	0.0000	0.0081	0.0016	0.0007	37	1.21	221.30	0
221	Acid Soluble Copper (%)	0482	0.0100	0.0000	0.0081	0.0016	0.0007	37	1.21	221.30	0

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			Value	Range	Rob Mean	Rob SD	R-bar				
221	Acid Soluble Copper (%)	0501	0.0100	0.0000	0.0081	0.0016	0.0007	37	1.21	221.99	0
221	Acid Soluble Copper (%)	0506	0.0100	0.0000	0.0081	0.0016	0.0007	37	1.21	221.99	0
221	Acid Soluble Copper (%)	0519	0.0100	0.0000	0.0081	0.0016	0.0007	37	1.21	221.99	0
221	Acid Soluble Copper (%)	0354	0.0125	0.0030	0.0081	0.0016	0.0007	37	2.79	221.30	0
221	Acid Soluble Copper (%)	0537	0.0159	0.0033	0.0081	0.0016	0.0007	37	4.91	221.99	0
221	Acid Soluble Copper (%)	0402	0.0250	0.0100	0.0081	0.0016	0.0007	37	10.71	221.30	0
221	Acid Soluble Copper (%)	0483	85.85	1.100	0.0081	0.0016	0.0007	37	54388.91	221.30	2
221	Acid Soluble Copper (%)	0255	0.0000	0.0000	0.0081	0.0016	0.0007	37		221.30	4
241	Acid Soluble Iron (%)	0531	0.6175	0.0350	0.7928	0.0409	0.0177	20	-4.28	241.00	0
241	Acid Soluble Iron (%)	0515	0.7206	0.0082	0.7928	0.0409	0.0177	20	-1.76	241.99	0
241	Acid Soluble Iron (%)	0535	0.7300	0.0200	0.7928	0.0409	0.0177	20	-1.53	241.00	0
241	Acid Soluble Iron (%)	0096	0.7550	0.0000	0.7928	0.0409	0.0177	20	-0.92	241.30	0
241	Acid Soluble Iron (%)	0472	0.7650	0.0100	0.7928	0.0409	0.0177	20	-0.68	241.30	0
241	Acid Soluble Iron (%)	0402	0.7750	0.0100	0.7928	0.0409	0.0177	20	-0.43	241.30	0
241	Acid Soluble Iron (%)	0524	0.7849	0.0017	0.7928	0.0409	0.0177	20	-0.19	241.99	0
241	Acid Soluble Iron (%)	0515	0.7916	0.0285	0.7928	0.0409	0.0177	20	-0.03	241.33	0
241	Acid Soluble Iron (%)	0086	0.7928	0.0244	0.7928	0.0409	0.0177	20	0.00	241.33	0
241	Acid Soluble Iron (%)	0494	0.7934	0.0045	0.7928	0.0409	0.0177	20	0.01	241.33	0
241	Acid Soluble Iron (%)	0521	0.7986	0.0000	0.7928	0.0409	0.0177	20	0.14	241.32	0
241	Acid Soluble Iron (%)	0117	0.8006	0.0138	0.7928	0.0409	0.0177	20	0.19	241.33	0
241	Acid Soluble Iron (%)	0106	0.8027	0.0157	0.7928	0.0409	0.0177	20	0.24	241.33	0
241	Acid Soluble Iron (%)	0354	0.8085	0.0070	0.7928	0.0409	0.0177	20	0.38	241.30	0
241	Acid Soluble Iron (%)	0035	0.8155	0.0090	0.7928	0.0409	0.0177	20	0.56	241.30	0
241	Acid Soluble Iron (%)	0404	0.8200	0.1000	0.7928	0.0409	0.0177	20	0.67	241.30	0
241	Acid Soluble Iron (%)	0105	0.8265	0.0050	0.7928	0.0409	0.0177	20	0.82	241.03	0
241	Acid Soluble Iron (%)	0482	0.8350	0.0300	0.7928	0.0409	0.0177	20	1.03	241.30	0
241	Acid Soluble Iron (%)	0527	0.8425	0.0050	0.7928	0.0409	0.0177	20	1.22	241.33	0
241	Acid Soluble Iron (%)	0105	0.8830	0.0260	0.7928	0.0409	0.0177	20	2.21	241.00	0
241	Acid Soluble Iron (%)	0483	8,720	420.0	0.7928	0.0409	0.0177	20	213132.76	241.30	2
251	Acid Soluble Lead (ppm)	0255	1.005	0.0200	4.451	1.502	0.1869	17	-2.29	251.30	0
251	Acid Soluble Lead (ppm)	0404	2.800	0.2000	4.451	1.502	0.1869	17	-1.10	251.30	0
251	Acid Soluble Lead (ppm)	0096	3.250	0.3000	4.451	1.502	0.1869	17	-0.80	251.30	0
251	Acid Soluble Lead (ppm)	0501	3.395	0.1900	4.451	1.502	0.1869	17	-0.70	251.30	0
251	Acid Soluble Lead (ppm)	0444	3.430	0.6800	4.451	1.502	0.1869	17	-0.68	251.30	0
251	Acid Soluble Lead (ppm)	0519	3.670	0.1000	4.451	1.502	0.1869	17	-0.52	251.99	0
251	Acid Soluble Lead (ppm)	0481	3.955	0.0700	4.451	1.502	0.1869	17	-0.33	251.00	0
251	Acid Soluble Lead (ppm)	0136	4.000	0.0000	4.451	1.502	0.1869	17	-0.30	251.00	0
251	Acid Soluble Lead (ppm)	0086	4.486	0.4508	4.451	1.502	0.1869	17	0.02	251.33	0
251	Acid Soluble Lead (ppm)	0515	4.505	0.0650	4.451	1.502	0.1869	17	0.04	251.34	0
251	Acid Soluble Lead (ppm)	0524	4.648	0.0160	4.451	1.502	0.1869	17	0.13	251.30	0
251	Acid Soluble Lead (ppm)	0494	4.736	0.0667	4.451	1.502	0.1869	17	0.19	251.33	0
251	Acid Soluble Lead (ppm)	0527	5.125	0.0160	4.451	1.502	0.1869	17	0.45	251.33	0
251	Acid Soluble Lead (ppm)	0541	5.970	0.3400	4.451	1.502	0.1869	17	1.01	251.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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251	Acid Soluble Lead (ppm)	0476	6.188	0.1031	4.451	1.502	0.1869	17	1.16	251.99	0
251	Acid Soluble Lead (ppm)	0220	6.600	0.4000	4.451	1.502	0.1869	17	1.43	251.99	0
251	Acid Soluble Lead (ppm)	0394	7.390	0.1600	4.451	1.502	0.1869	17	1.96	251.30	0
251	Acid Soluble Lead (ppm)	0515	4.379	1.642	4.451	1.502	0.1869	17	-0.05	251.33	1
251	Acid Soluble Lead (ppm)	0230	5.435	1.630	4.451	1.502	0.1869	17	0.66	251.34	1
251	Acid Soluble Lead (ppm)	0368	0.0000	0.0000	4.451	1.502	0.1869	17		251.30	4
261	Acid Soluble Manganese (%)	0531	0.0129	0.0001	0.0203	0.0023	0.0006	18	-3.30	261.12	0
261	Acid Soluble Manganese (%)	0535	0.0155	0.0010	0.0203	0.0023	0.0006	18	-2.13	261.12	0
261	Acid Soluble Manganese (%)	0515	0.0176	0.0018	0.0203	0.0023	0.0006	18	-1.21	261.99	0
261	Acid Soluble Manganese (%)	0106	0.0177	0.0017	0.0203	0.0023	0.0006	18	-1.19	261.35	0
261	Acid Soluble Manganese (%)	0521	0.0187	0.0000	0.0203	0.0023	0.0006	18	-0.72	261.34	0
261	Acid Soluble Manganese (%)	0472	0.0200	0.0000	0.0203	0.0023	0.0006	18	-0.15	261.30	0
261	Acid Soluble Manganese (%)	0482	0.0200	0.0000	0.0203	0.0023	0.0006	18	-0.15	261.31	0
261	Acid Soluble Manganese (%)	0354	0.0205	0.0010	0.0203	0.0023	0.0006	18	0.07	261.30	0
261	Acid Soluble Manganese (%)	0117	0.0210	0.0003	0.0203	0.0023	0.0006	18	0.27	261.35	0
261	Acid Soluble Manganese (%)	0527	0.0210	0.0000	0.0203	0.0023	0.0006	18	0.29	261.35	0
261	Acid Soluble Manganese (%)	0096	0.0213	0.0007	0.0203	0.0023	0.0006	18	0.40	261.30	0
261	Acid Soluble Manganese (%)	0086	0.0213	0.0008	0.0203	0.0023	0.0006	18	0.42	261.33	0
261	Acid Soluble Manganese (%)	0105	0.0215	0.0010	0.0203	0.0023	0.0006	18	0.51	261.15	0
261	Acid Soluble Manganese (%)	0524	0.0217	0.0001	0.0203	0.0023	0.0006	18	0.58	261.99	0
261	Acid Soluble Manganese (%)	0494	0.0218	0.0010	0.0203	0.0023	0.0006	18	0.64	261.35	0
261	Acid Soluble Manganese (%)	0035	0.0222	0.0003	0.0203	0.0023	0.0006	18	0.80	261.30	0
261	Acid Soluble Manganese (%)	0105	0.0225	0.0010	0.0203	0.0023	0.0006	18	0.95	261.12	0
261	Acid Soluble Manganese (%)	0402	0.0300	0.0000	0.0203	0.0023	0.0006	18	4.25	261.32	0
261	Acid Soluble Manganese (%)	0483	148.0	22.00	0.0203	0.0023	0.0006	18	65173.52	261.32	2
261	Acid Soluble Manganese (%)	0515	0.0041	0.0082	0.0203	0.0023	0.0006	18		261.35	4
281	Acid Soluble Mercury (ppm)	0519	0.0100	0.0000	0.5664	1.089	0.0558	4	-0.51	281.99	0
281	Acid Soluble Mercury (ppm)	0527	0.0125	0.0010	0.5664	1.089	0.0558	4	-0.51	281.30	0
281	Acid Soluble Mercury (ppm)	0394	0.0430	0.0220	0.5664	1.089	0.0558	4	-0.48	281.30	0
281	Acid Soluble Mercury (ppm)	0541	2.200	0.2000	0.5664	1.089	0.0558	4	1.50	281.30	0
281	Acid Soluble Mercury (ppm)	0515	0.0000	0.0000	0.5664	1.089	0.0558	4		281.30	4
289	Acid Soluble Molybdenum (ppm)	0377	2.150	0.3600	12.43	2.513	0.6371	23	-4.09	289.30	0
289	Acid Soluble Molybdenum (ppm)	0096	8.600	0.0000	12.43	2.513	0.6371	23	-1.52	289.30	0
289	Acid Soluble Molybdenum (ppm)	0476	9.675	0.0379	12.43	2.513	0.6371	23	-1.10	289.99	0
289	Acid Soluble Molybdenum (ppm)	0521	10.00	0.0000	12.43	2.513	0.6371	23	-0.97	289.30	0
289	Acid Soluble Molybdenum (ppm)	0433	10.26	0.1100	12.43	2.513	0.6371	23	-0.86	289.30	0
289	Acid Soluble Molybdenum (ppm)	0255	11.07	0.2350	12.43	2.513	0.6371	23	-0.54	289.30	0
289	Acid Soluble Molybdenum (ppm)	0230	11.10	2.810	12.43	2.513	0.6371	23	-0.53	289.34	0
289	Acid Soluble Molybdenum (ppm)	0394	11.36	0.7900	12.43	2.513	0.6371	23	-0.43	289.32	0
289	Acid Soluble Molybdenum (ppm)	0515	11.65	2.455	12.43	2.513	0.6371	23	-0.31	289.33	0
289	Acid Soluble Molybdenum (ppm)	0035	11.70	0.8000	12.43	2.513	0.6371	23	-0.29	289.30	0
289	Acid Soluble Molybdenum (ppm)	0086	11.73	0.2650	12.43	2.513	0.6371	23	-0.28	289.33	0
289	Acid Soluble Molybdenum (ppm)	0524	12.50	0.1304	12.43	2.513	0.6371	23	0.03	289.30	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)	0494	13.06	0.9128	12.43	2.513	0.6371	23	0.25	289.33	0
289	Acid Soluble Molybdenum (ppm)	0117	13.12	0.2400	12.43	2.513	0.6371	23	0.28	289.33	0
289	Acid Soluble Molybdenum (ppm)	0037	13.27	0.0740	12.43	2.513	0.6371	23	0.34	289.33	0
289	Acid Soluble Molybdenum (ppm)	0233	13.33	0.0900	12.43	2.513	0.6371	23	0.36	289.33	0
289	Acid Soluble Molybdenum (ppm)	0106	13.50	1.000	12.43	2.513	0.6371	23	0.43	289.33	0
289	Acid Soluble Molybdenum (ppm)	0541	13.80	0.0000	12.43	2.513	0.6371	23	0.55	289.30	0
289	Acid Soluble Molybdenum (ppm)	0220	14.30	0.2000	12.43	2.513	0.6371	23	0.74	289.99	0
289	Acid Soluble Molybdenum (ppm)	0527	14.86	0.1930	12.43	2.513	0.6371	23	0.97	289.33	0
289	Acid Soluble Molybdenum (ppm)	0501	15.88	1.350	12.43	2.513	0.6371	23	1.37	289.34	0
289	Acid Soluble Molybdenum (ppm)	0368	18.80	0.6000	12.43	2.513	0.6371	23	2.54	289.30	0
289	Acid Soluble Molybdenum (ppm)	0519	30.00	2.000	12.43	2.513	0.6371	23	6.99	289.30	0
289	Acid Soluble Molybdenum (ppm)	0515	14.18	4.908	12.43	2.513	0.6371	23	0.70	289.34	1
291	Acid Soluble Nickel (ppm)	0027	65.80	1.487	229.4	33.67	6.835	28	-4.86	291.30	0
291	Acid Soluble Nickel (ppm)	0476	121.0	0.1792	229.4	33.67	6.835	28	-3.22	291.99	0
291	Acid Soluble Nickel (ppm)	0255	127.7	0.7030	229.4	33.67	6.835	28	-3.02	291.99	0
291	Acid Soluble Nickel (ppm)	0444	162.0	6.000	229.4	33.67	6.835	28	-2.00	291.30	0
291	Acid Soluble Nickel (ppm)	0521	188.7	0.0000	229.4	33.67	6.835	28	-1.21	291.30	0
291	Acid Soluble Nickel (ppm)	0394	191.5	5.000	229.4	33.67	6.835	28	-1.13	291.30	0
291	Acid Soluble Nickel (ppm)	0482	195.0	20.00	229.4	33.67	6.835	28	-1.02	291.30	0
291	Acid Soluble Nickel (ppm)	0230	220.5	29.00	229.4	33.67	6.835	28	-0.26	291.34	0
291	Acid Soluble Nickel (ppm)	0086	222.7	21.40	229.4	33.67	6.835	28	-0.20	291.33	0
291	Acid Soluble Nickel (ppm)	0368	230.5	19.00	229.4	33.67	6.835	28	0.03	291.30	0
291	Acid Soluble Nickel (ppm)	0515	231.0	3.752	229.4	33.67	6.835	28	0.05	291.34	0
291	Acid Soluble Nickel (ppm)	0494	231.2	0.9144	229.4	33.67	6.835	28	0.05	291.33	0
291	Acid Soluble Nickel (ppm)	0527	231.7	0.8170	229.4	33.67	6.835	28	0.07	291.33	0
291	Acid Soluble Nickel (ppm)	0233	234.4	6.700	229.4	33.67	6.835	28	0.15	291.33	0
291	Acid Soluble Nickel (ppm)	0220	241.5	1.000	229.4	33.67	6.835	28	0.36	291.99	0
291	Acid Soluble Nickel (ppm)	0037	241.6	1.664	229.4	33.67	6.835	28	0.36	291.33	0
291	Acid Soluble Nickel (ppm)	0535	242.5	5.000	229.4	33.67	6.835	28	0.39	291.00	0
291	Acid Soluble Nickel (ppm)	0541	242.5	1.000	229.4	33.67	6.835	28	0.39	291.30	0
291	Acid Soluble Nickel (ppm)	0404	245.0	10.00	229.4	33.67	6.835	28	0.46	291.30	0
291	Acid Soluble Nickel (ppm)	0117	246.6	4.500	229.4	33.67	6.835	28	0.51	291.33	0
291	Acid Soluble Nickel (ppm)	0096	249.2	1.600	229.4	33.67	6.835	28	0.59	291.30	0
291	Acid Soluble Nickel (ppm)	0377	249.6	1.770	229.4	33.67	6.835	28	0.60	291.30	0
291	Acid Soluble Nickel (ppm)	0481	250.5	0.3000	229.4	33.67	6.835	28	0.63	291.00	0
291	Acid Soluble Nickel (ppm)	0515	253.6	5.814	229.4	33.67	6.835	28	0.72	291.33	0
291	Acid Soluble Nickel (ppm)	0136	255.0	4.000	229.4	33.67	6.835	28	0.76	291.00	0
291	Acid Soluble Nickel (ppm)	0524	255.8	8.188	229.4	33.67	6.835	28	0.79	291.30	0
291	Acid Soluble Nickel (ppm)	0501	276.8	26.39	229.4	33.67	6.835	28	1.41	291.34	0
291	Acid Soluble Nickel (ppm)	0519	301.5	5.200	229.4	33.67	6.835	28	2.14	291.99	0
291	Acid Soluble Nickel (ppm)	0035	300.5	185.0	229.4	33.67	6.835	28	2.11	291.30	1
291	Acid Soluble Nickel (ppm)	0506	960.0	20.00	229.4	33.67	6.835	28	21.70	291.99	2
301	Acid Soluble Selenium (ppm)	0519	0.0100	0.0000	5.403	4.764	0.3864	9	-1.13	301.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
301	Acid Soluble Selenium (ppm)	0524	1.130	0.1800	5.403	4.764	0.3864	9	-0.90	301.30	0
301	Acid Soluble Selenium (ppm)	0220	2.200	0.2000	5.403	4.764	0.3864	9	-0.67	301.99	0
301	Acid Soluble Selenium (ppm)	0515	3.079	0.0760	5.403	4.764	0.3864	9	-0.49	301.34	0
301	Acid Soluble Selenium (ppm)	0255	5.014	0.1490	5.403	4.764	0.3864	9	-0.08	301.99	0
301	Acid Soluble Selenium (ppm)	0501	7.200	0.6000	5.403	4.764	0.3864	9	0.38	301.30	0
301	Acid Soluble Selenium (ppm)	0527	7.805	0.2820	5.403	4.764	0.3864	9	0.50	301.33	0
301	Acid Soluble Selenium (ppm)	0476	9.642	0.3970	5.403	4.764	0.3864	9	0.89	301.99	0
301	Acid Soluble Selenium (ppm)	0494	20.90	1.594	5.403	4.764	0.3864	9	3.25	301.33	0
301	Acid Soluble Selenium (ppm)	0541	63.70	17.39	5.403	4.764	0.3864	9	12.24	301.30	1
301	Acid Soluble Selenium (ppm)	0368	0.0000	0.0000	5.403	4.764	0.3864	9		301.30	4
301	Acid Soluble Selenium (ppm)	0515	0.0000	0.0000	5.403	4.764	0.3864	9		301.33	4
311	Sodium (%)	0354	0.0900	0.0020	0.1431	0.0306	0.0039	5	-1.51	311.99	0
311	Sodium (%)	0482	0.1500	0.0000	0.1431	0.0306	0.0039	5	0.20	311.99	0
311	Sodium (%)	0521	0.1512	0.0000	0.1431	0.0306	0.0039	5	0.23	311.32	0
311	Sodium (%)	0096	0.1550	0.0100	0.1431	0.0306	0.0039	5	0.34	311.99	0
311	Sodium (%)	0086	0.1692	0.0073	0.1431	0.0306	0.0039	5	0.74	311.33	0
311	Sodium (%)	0035	0.1910	0.0780	0.1431	0.0306	0.0039	5	1.37	311.33	1
321	Acid Soluble Zinc (%)	0027	0.0255	0.0010	0.1039	0.0153	0.0285	38	-5.13	321.99	0
321	Acid Soluble Zinc (%)	0255	0.0580	0.0000	0.1039	0.0153	0.0285	38	-3.01	321.30	0
321	Acid Soluble Zinc (%)	0444	0.0720	0.0037	0.1039	0.0153	0.0285	38	-2.09	321.30	0
321	Acid Soluble Zinc (%)	0390	0.0797	0.0021	0.1039	0.0153	0.0285	38	-1.59	321.30	0
321	Acid Soluble Zinc (%)	0519	0.0850	0.0100	0.1039	0.0153	0.0285	38	-1.24	321.99	0
321	Acid Soluble Zinc (%)	0230	0.0925	0.0106	0.1039	0.0153	0.0285	38	-0.75	321.30	0
321	Acid Soluble Zinc (%)	0106	0.0935	0.0099	0.1039	0.0153	0.0285	38	-0.69	321.33	0
321	Acid Soluble Zinc (%)	0531	0.0940	0.0020	0.1039	0.0153	0.0285	38	-0.65	321.00	0
321	Acid Soluble Zinc (%)	0501	0.0950	0.0100	0.1039	0.0153	0.0285	38	-0.58	321.99	0
321	Acid Soluble Zinc (%)	0535	0.0955	0.0030	0.1039	0.0153	0.0285	38	-0.55	321.00	0
321	Acid Soluble Zinc (%)	0368	0.0961	0.0020	0.1039	0.0153	0.0285	38	-0.51	321.99	0
321	Acid Soluble Zinc (%)	0527	0.0970	0.0020	0.1039	0.0153	0.0285	38	-0.45	321.33	0
321	Acid Soluble Zinc (%)	0521	0.0971	0.0000	0.1039	0.0153	0.0285	38	-0.45	321.32	0
321	Acid Soluble Zinc (%)	0533	0.0975	0.0010	0.1039	0.0153	0.0285	38	-0.42	321.00	0
321	Acid Soluble Zinc (%)	0117	0.0983	0.0016	0.1039	0.0153	0.0285	38	-0.37	321.33	0
321	Acid Soluble Zinc (%)	0472	0.1000	0.0000	0.1039	0.0153	0.0285	38	-0.26	321.30	0
321	Acid Soluble Zinc (%)	0086	0.1025	0.0035	0.1039	0.0153	0.0285	38	-0.10	321.33	0
321	Acid Soluble Zinc (%)	0220	0.1025	0.0010	0.1039	0.0153	0.0285	38	-0.09	321.99	0
321	Acid Soluble Zinc (%)	0043	0.1035	0.0010	0.1039	0.0153	0.0285	38	-0.03	321.00	0
321	Acid Soluble Zinc (%)	0433	0.1035	0.0030	0.1039	0.0153	0.0285	38	-0.03	321.30	0
321	Acid Soluble Zinc (%)	0428	0.1039	0.0067	0.1039	0.0153	0.0285	38	0.00	321.00	0
321	Acid Soluble Zinc (%)	0105	0.1045	0.0050	0.1039	0.0153	0.0285	38	0.04	321.00	0
321	Acid Soluble Zinc (%)	0494	0.1045	0.0024	0.1039	0.0153	0.0285	38	0.04	321.33	0
321	Acid Soluble Zinc (%)	0096	0.1073	0.0046	0.1039	0.0153	0.0285	38	0.22	321.30	0
321	Acid Soluble Zinc (%)	0515	0.1081	0.0083	0.1039	0.0153	0.0285	38	0.27	321.99	0
321	Acid Soluble Zinc (%)	0524	0.1081	0.0007	0.1039	0.0153	0.0285	38	0.27	321.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
321	Acid Soluble Zinc (%)	0482	0.1100	0.0000	0.1039	0.0153	0.0285	38	0.40	321.30	0
321	Acid Soluble Zinc (%)	0354	0.1110	0.0040	0.1039	0.0153	0.0285	38	0.46	321.30	0
321	Acid Soluble Zinc (%)	0377	0.1136	0.0001	0.1039	0.0153	0.0285	38	0.63	321.30	0
321	Acid Soluble Zinc (%)	0029	0.1136	0.0012	0.1039	0.0153	0.0285	38	0.63	321.00	0
321	Acid Soluble Zinc (%)	0041	0.1150	0.0100	0.1039	0.0153	0.0285	38	0.73	321.30	0
321	Acid Soluble Zinc (%)	0515	0.1178	0.0098	0.1039	0.0153	0.0285	38	0.91	321.33	0
321	Acid Soluble Zinc (%)	0506	0.1200	0.0000	0.1039	0.0153	0.0285	38	1.05	321.99	0
321	Acid Soluble Zinc (%)	0233	0.1445	0.0169	0.1039	0.0153	0.0285	38	2.65	321.33	0
321	Acid Soluble Zinc (%)	0394	0.1500	0.0980	0.1039	0.0153	0.0285	38	3.02	321.32	0
321	Acid Soluble Zinc (%)	0035	0.1990	0.0260	0.1039	0.0153	0.0285	38	6.23	321.30	0
321	Acid Soluble Zinc (%)	0541	0.4900	0.8200	0.1039	0.0153	0.0285	38	25.28	321.32	0
321	Acid Soluble Zinc (%)	0404	0.9750	0.0000	0.1039	0.0153	0.0285	38	57.04	321.30	0
321	Acid Soluble Zinc (%)	0483	1,165	30.00	0.1039	0.0153	0.0285	38	76273.47	321.30	2
325	Water Soluble Zinc (%)	0537	0.0280	0.0019				2		325.00	0
325	Water Soluble Zinc (%)	0402	0.1150	0.0100				2		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. A 9 flag indicates a data problem - scores not calculated. Robust statistics not used if < 6 labs used in calculations, in this case the Z Scores are 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.