

# magruder fertilizer

## check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 180512

TSP + Zn

### Statistical Summary

# Analytes: 31

# Labs Reporting: 94

Issue Date : 06/30/2018

Analyte Code	Analyte Sample # 180512	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Analyte Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Analyte IA Ratio	Average Range (R-bar)	Honwitz %RSD
001	Ammoniacal Nitrogen (%)	2	2	0.0875	0.0035								
010	Total Nitrogen (%)	9	8	0.1305	0.0561	0.1200	0.4900	0.0355	0.0157	29.56%	0.17	0.0172	5.50%
020	Total Phosphorus as P2O5 (%)	55	53	45.59	1.274	45.62		0.9447	0.1622	2.07%		0.4286	2.25%
030	Citrate Insoluble Phosphorus as P2O5 (%)	2	2	0.1725	0.0106								
040	Indirect Available Phosphorus as P2O5 (45%)	2	2	45.13	0.3500								
041	Direct Available Phosphorus as P2O5 (45%)	58	57	45.38	0.9557	45.40	0.9881	0.5836	0.0966	1.29%	1.38	0.2337	2.25%
042	Water Soluble OrthoP as P2O5 (%)	1		0.1952									
048	Water Soluble Phosphorus as P2O5 (%)	4	4	38.98	0.4346	38.98		0.4346	0.2716	1.11%		0.2228	2.30%
050	Soluble Potassium as K2O (%)	14	13	0.2518	0.1369	0.2366	0.4100	0.1141	0.0395	48.21%	0.65	0.0091	4.97%
060	Water (Free) (%)	7	7	1.709	0.4347	1.664		0.3828	0.1808	23.00%		0.0346	3.70%
101	Acid Soluble Calcium (13.5%)	58	56	14.28	1.124	14.29	0.9146	0.9066	0.1514	6.34%	2.31	0.2816	2.68%
121	Acid Soluble Magnesium (%)	20	19	0.7192	0.1524	0.7436	0.2372	0.0863	0.0248	11.61%	0.85	0.0235	4.18%
143	Elemental Sulfur (%)	2	2	0.7763	0.0088								
148	Total Sulfur (%)	8	7	0.8182	0.1411	0.7943	0.2397	0.0991	0.0468	12.48%	0.96	0.0138	4.14%
149	Sulfur - HNO3 soluble (%)	3	3	0.7107	0.0207	0.7107		0.0207	0.0150	2.92%		0.0096	4.21%
151	Acid Soluble Arsenic (ppm)	16	16	17.43	7.388	16.67		4.573	1.429	27.43%		1.658	10.47%
165	Acid Soluble Boron (%)	10	8	0.0065	0.0045	0.0065	0.0040	0.0051	0.0023	78.69%	3.00	0.0004	8.53%
181	Acid Soluble Cadmium (ppm)	23	23	105.6	23.95	106.7		14.72	3.838	13.80%		5.402	7.92%
191	Acid Soluble Chromium (ppm)	18	17	430.0	100.0	438.3		71.72	21.74	16.36%		26.09	6.40%
202	Acid Soluble Cobalt (ppm)	16	15	3.178	0.8715	3.224	1.9673	0.8711	0.2812	27.02%	1.03	0.2266	13.41%
221	Acid Soluble Copper (%)	35	34	0.0095	0.0185	0.0050	0.0055	0.0013	0.0003	25.63%	0.55	0.0008	8.87%
241	Acid Soluble Iron (%)	23	22	0.7199	0.1320	0.7472	0.0797	0.0542	0.0144	7.25%	1.58	0.0270	4.18%
251	Acid Soluble Lead (ppm)	19	17	6.187	5.221	5.172		2.351	0.7128	45.46%		1.975	12.49%
261	Acid Soluble Manganese (%)	20	18	0.0190	0.0256	0.0139	0.0064	0.0037	0.0011	26.64%	1.35	0.0027	7.61%
281	Acid Soluble Mercury (ppm)	5	4	2.932	3.440	2.932		3.440	2.150	117.32%		1.850	13.61%
289	Acid Soluble Molybdenum (ppm)	23	23	15.75	5.458	16.57	5.9712	3.684	0.9603	22.23%	1.44	0.8385	10.48%
291	Acid Soluble Nickel (ppm)	23	22	137.6	22.91	138.8		21.15	5.638	15.24%		4.606	7.61%
301	Acid Soluble Selenium (ppm)	11	7	2.776	3.372	2.353		2.778	1.313	118.07%		0.2586	14.06%
311	Sodium (%)	7	7	0.1079	0.0140	0.1065	0.0156	0.0123	0.0058	11.60%	1.84	0.0095	5.60%
321	Acid Soluble Zinc (0.62%)	64	62	0.4763	0.0718	0.4751	0.0525	0.0342	0.0054	7.20%	1.52	0.0125	4.47%
325	Water Soluble Zinc (%)	6	6	0.3688	0.2071	0.3688		0.2349	0.1199	63.69%		0.0242	4.65%

Analyte Code	Analyte Sample # 180512	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Analyte Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Analyte IA Ratio	Average Range (R-bar)	Howitz %RSD
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The Analyte IA Ratio =  $2.33 * \text{Robust SD} / \text{IA at the Analyte Assigned Value}$ . IA ratios of 1 and less indicate participant data dispersion is as good or less than the IA. Red indicates the IA ratio is significantly greater than 1, Orange indicates marginally greater than 1, Green indicates IA ratio is not significantly greater than 1 and Grey indicates < 6 labs reporting.

# magruder fertilizer

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Analyte Proficiency From All Labs

# Analytes: 31

Sample # 180512

Lab Values

# Labs Reporting: 94

TSP + Zn

Issue Date : 06/30/2018

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 (%)	0096	0.0850	0.0500				2		001.99	0
001	Ammoniacal Nitrogen (%)	0524	0.0900	0.0400				2		001.99	0
010	Total Nitrogen (%)	0354	0.0860	0.0100	0.1200	0.0355	0.0172	8	-0.88	010.60	0
010	Total Nitrogen (%)	0521	0.0945	0.0000	0.1200	0.0355	0.0172	8	-0.66	010.60	0
010	Total Nitrogen (%)	0325	0.1000	0.0000	0.1200	0.0355	0.0172	8	-0.51	010.60	0
010	Total Nitrogen (%)	0524	0.1086	0.0015	0.1200	0.0355	0.0172	8	-0.29	010.99	0
010	Total Nitrogen (%)	0389	0.1125	0.0050	0.1200	0.0355	0.0172	8	-0.19	010.60	0
010	Total Nitrogen (%)	0292	0.1250	0.0100	0.1200	0.0355	0.0172	8	0.13	010.60	0
010	Total Nitrogen (%)	0482	0.1600	0.0400	0.1200	0.0355	0.0172	8	1.03	010.60	0
010	Total Nitrogen (%)	0472	0.2575	0.0710	0.1200	0.0355	0.0172	8	3.55	010.60	0
010	Total Nitrogen (%)	0536	46.05	0.1000	0.1200	0.0355	0.0172	8	1184.86	010.11	2
020	Total Phosphorus as P2O5 (%)	0389	42.05	0.3000	45.62	0.9447	0.4286	53	-3.78	020.50	0
020	Total Phosphorus as P2O5 (%)	0234	42.11	0.9700	45.62	0.9447	0.4286	53	-3.72	020.50	0
020	Total Phosphorus as P2O5 (%)	0307	42.83	1.591	45.62	0.9447	0.4286	53	-2.95	020.50	0
020	Total Phosphorus as P2O5 (%)	0552	43.90	0.6600	45.62	0.9447	0.4286	53	-1.82	020.50	0
020	Total Phosphorus as P2O5 (%)	0472	44.01	0.6200	45.62	0.9447	0.4286	53	-1.70	020.50	0
020	Total Phosphorus as P2O5 (%)	0422	44.32	0.6400	45.62	0.9447	0.4286	53	-1.38	020.50	0
020	Total Phosphorus as P2O5 (%)	0521	44.67	0.0000	45.62	0.9447	0.4286	53	-1.01	020.50	0
020	Total Phosphorus as P2O5 (%)	0255	44.76	0.5260	45.62	0.9447	0.4286	53	-0.91	020.50	0
020	Total Phosphorus as P2O5 (%)	0309	44.84	0.0800	45.62	0.9447	0.4286	53	-0.83	020.20	0
020	Total Phosphorus as P2O5 (%)	0169	44.91	0.0800	45.62	0.9447	0.4286	53	-0.75	020.20	0
020	Total Phosphorus as P2O5 (%)	0444	44.98	0.3900	45.62	0.9447	0.4286	53	-0.68	020.50	0
020	Total Phosphorus as P2O5 (%)	0157	45.00	0.2000	45.62	0.9447	0.4286	53	-0.66	020.10	0
020	Total Phosphorus as P2O5 (%)	0405	45.07	0.2700	45.62	0.9447	0.4286	53	-0.59	020.20	0
020	Total Phosphorus as P2O5 (%)	0423	45.14	0.2200	45.62	0.9447	0.4286	53	-0.51	020.50	0
020	Total Phosphorus as P2O5 (%)	0544	45.28	0.0400	45.62	0.9447	0.4286	53	-0.36	020.20	0
020	Total Phosphorus as P2O5 (%)	0419	45.32	0.1400	45.62	0.9447	0.4286	53	-0.32	020.20	0
020	Total Phosphorus as P2O5 (%)	0522	45.32	0.0200	45.62	0.9447	0.4286	53	-0.32	020.20	0
020	Total Phosphorus as P2O5 (%)	0371	45.35	0.1000	45.62	0.9447	0.4286	53	-0.29	020.20	0
020	Total Phosphorus as P2O5 (%)	0547	45.35	0.1000	45.62	0.9447	0.4286	53	-0.29	020.20	0
020	Total Phosphorus as P2O5 (%)	0523	45.35	0.1000	45.62	0.9447	0.4286	53	-0.29	020.50	0
020	Total Phosphorus as P2O5 (%)	0513	45.37	0.0200	45.62	0.9447	0.4286	53	-0.26	020.99	0
020	Total Phosphorus as P2O5 (%)	0027	45.38	0.6000	45.62	0.9447	0.4286	53	-0.25	020.20	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
020	Total Phosphorus as P2O5 (%)	0444	45.39	0.5200	45.62	0.9447	0.4286	53	-0.24	020.10	0
020	Total Phosphorus as P2O5 (%)	0105	45.40	0.0500	45.62	0.9447	0.4286	53	-0.24	020.40	0
020	Total Phosphorus as P2O5 (%)	0534	45.48	0.0600	45.62	0.9447	0.4286	53	-0.15	020.20	0
020	Total Phosphorus as P2O5 (%)	0394	45.54	0.1420	45.62	0.9447	0.4286	53	-0.09	020.20	0
020	Total Phosphorus as P2O5 (%)	0096	45.55	0.2500	45.62	0.9447	0.4286	53	-0.08	020.40	0
020	Total Phosphorus as P2O5 (%)	0527	45.56	0.2600	45.62	0.9447	0.4286	53	-0.06	020.50	0
020	Total Phosphorus as P2O5 (%)	0520	45.64	0.0600	45.62	0.9447	0.4286	53	0.02	020.99	0
020	Total Phosphorus as P2O5 (%)	0105	45.67	0.1500	45.62	0.9447	0.4286	53	0.05	020.10	0
020	Total Phosphorus as P2O5 (%)	0231	45.67	0.0600	45.62	0.9447	0.4286	53	0.05	020.20	0
020	Total Phosphorus as P2O5 (%)	0541	45.69	0.2600	45.62	0.9447	0.4286	53	0.07	020.20	0
020	Total Phosphorus as P2O5 (%)	0433	45.74	0.3900	45.62	0.9447	0.4286	53	0.12	020.50	0
020	Total Phosphorus as P2O5 (%)	0049	45.74	0.0800	45.62	0.9447	0.4286	53	0.13	020.10	0
020	Total Phosphorus as P2O5 (%)	0042	45.75	1.900	45.62	0.9447	0.4286	53	0.14	020.40	0
020	Total Phosphorus as P2O5 (%)	0510	45.76	0.0404	45.62	0.9447	0.4286	53	0.15	020.20	0
020	Total Phosphorus as P2O5 (%)	0493	45.85	0.1000	45.62	0.9447	0.4286	53	0.24	020.10	0
020	Total Phosphorus as P2O5 (%)	0402	45.86	1.690	45.62	0.9447	0.4286	53	0.25	020.50	0
020	Total Phosphorus as P2O5 (%)	0542	45.96	0.0500	45.62	0.9447	0.4286	53	0.36	020.50	0
020	Total Phosphorus as P2O5 (%)	0546	45.97	1.030	45.62	0.9447	0.4286	53	0.37	020.50	0
020	Total Phosphorus as P2O5 (%)	0292	46.06	0.0100	45.62	0.9447	0.4286	53	0.46	020.20	0
020	Total Phosphorus as P2O5 (%)	0356	46.27	0.1500	45.62	0.9447	0.4286	53	0.68	020.20	0
020	Total Phosphorus as P2O5 (%)	0114	46.56	0.7500	45.62	0.9447	0.4286	53	0.99	020.10	0
020	Total Phosphorus as P2O5 (%)	0416	46.68	0.1300	45.62	0.9447	0.4286	53	1.12	020.20	0
020	Total Phosphorus as P2O5 (%)	0291	46.69	0.0200	45.62	0.9447	0.4286	53	1.13	020.50	0
020	Total Phosphorus as P2O5 (%)	0482	46.75	1.700	45.62	0.9447	0.4286	53	1.20	020.50	0
020	Total Phosphorus as P2O5 (%)	0324	47.10	1.000	45.62	0.9447	0.4286	53	1.57	020.20	0
020	Total Phosphorus as P2O5 (%)	0476	47.20	0.3495	45.62	0.9447	0.4286	53	1.68	020.20	0
020	Total Phosphorus as P2O5 (%)	0524	47.32	1.683	45.62	0.9447	0.4286	53	1.80	020.50	0
020	Total Phosphorus as P2O5 (%)	0516	47.37	0.5600	45.62	0.9447	0.4286	53	1.85	020.20	0
020	Total Phosphorus as P2O5 (%)	0483	47.66	1.380	45.62	0.9447	0.4286	53	2.16	020.50	0
020	Total Phosphorus as P2O5 (%)	0368	47.86	0.0225	45.62	0.9447	0.4286	53	2.37	020.50	0
020	Total Phosphorus as P2O5 (%)	0451	49.39	0.2000	45.62	0.9447	0.4286	53	3.99	020.50	0
020	Total Phosphorus as P2O5 (%)	0550	46.26	2.990	45.62	0.9447	0.4286	53	0.67	020.20	1
020	Total Phosphorus as P2O5 (%)	0515	14.56	1.540	45.62	0.9447	0.4286	53	-32.87	020.99	2
030	Citrate Insoluble Phosphorus as P2O5 (%)	0096	0.1650	0.0500				2		030.40	0
030	Citrate Insoluble Phosphorus as P2O5 (%)	0405	0.1800	0.0000				2		030.20	0
040	Indirect Available Phosphorus as P2O5 (45%)	0405	44.89†	0.2700				2		040.20	0
040	Indirect Available Phosphorus as P2O5 (45%)	0096	45.38†	0.3000				2		040.40	0
041	Direct Available Phosphorus as P2O5 (45%)	0423	42.53†	0.0500	45.40	0.5836	0.2337	57	-4.93	041.51	0
041	Direct Available Phosphorus as P2O5 (45%)	0230	42.60†	0.2000	45.40	0.5836	0.2337	57	-4.80	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0041	43.15†	0.0100	45.40	0.5836	0.2337	57	-3.87	041.10	0
041	Direct Available Phosphorus as P2O5 (45%)	0472	43.75†	0.3000	45.40	0.5836	0.2337	57	-2.83	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0486	44.15†	0.1300	45.40	0.5836	0.2337	57	-2.16	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0522	44.64	0.4000	45.40	0.5836	0.2337	57	-1.31	041.21	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%)	0007	44.65	1.300	45.40	0.5836	0.2337	57	-1.29	041.50	0
041	Direct Available Phosphorus as P2O5 (45%)	0177	44.74	0.2947	45.40	0.5836	0.2337	57	-1.14	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0519	44.82	0.0300	45.40	0.5836	0.2337	57	-1.01	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0405	45.02	0.1200	45.40	0.5836	0.2337	57	-0.66	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0325	45.05	0.1000	45.40	0.5836	0.2337	57	-0.61	041.50	0
041	Direct Available Phosphorus as P2O5 (45%)	0544	45.06	0.1300	45.40	0.5836	0.2337	57	-0.60	041.20	0
041	Direct Available Phosphorus as P2O5 (45%)	0544	45.06	0.1300	45.40	0.5836	0.2337	57	-0.60	041.21	0
041	Direct Available Phosphorus as P2O5 (45%)	0522	45.08	0.6400	45.40	0.5836	0.2337	57	-0.55	041.11	0
041	Direct Available Phosphorus as P2O5 (45%)	0533	45.11	0.0300	45.40	0.5836	0.2337	57	-0.51	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0532	45.15	0.1100	45.40	0.5836	0.2337	57	-0.44	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0535	45.15	0.1000	45.40	0.5836	0.2337	57	-0.43	041.21	0
041	Direct Available Phosphorus as P2O5 (45%)	0117	45.17	0.8400	45.40	0.5836	0.2337	57	-0.40	041.51	0
041	Direct Available Phosphorus as P2O5 (45%)	0531	45.18	0.0300	45.40	0.5836	0.2337	57	-0.39	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0102	45.20	0.0000	45.40	0.5836	0.2337	57	-0.35	041.10	0
041	Direct Available Phosphorus as P2O5 (45%)	0539	45.23	0.0500	45.40	0.5836	0.2337	57	-0.31	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0535	45.25	0.1000	45.40	0.5836	0.2337	57	-0.26	041.20	0
041	Direct Available Phosphorus as P2O5 (45%)	0535	45.25	0.1000	45.40	0.5836	0.2337	57	-0.26	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0538	45.25	0.1000	45.40	0.5836	0.2337	57	-0.26	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0037	45.30	0.0900	45.40	0.5836	0.2337	57	-0.18	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0537	45.33	0.2401	45.40	0.5836	0.2337	57	-0.12	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0231	45.35	0.3000	45.40	0.5836	0.2337	57	-0.09	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0368	45.35	0.6959	45.40	0.5836	0.2337	57	-0.09	041.51	0
041	Direct Available Phosphorus as P2O5 (45%)	0360	45.37	0.0000	45.40	0.5836	0.2337	57	-0.06	041.51	0
041	Direct Available Phosphorus as P2O5 (45%)	0177	45.38	0.2446	45.40	0.5836	0.2337	57	-0.04	041.10	0
041	Direct Available Phosphorus as P2O5 (45%)	0494	45.40	0.7100	45.40	0.5836	0.2337	57	-0.01	041.51	0
041	Direct Available Phosphorus as P2O5 (45%)	0040	45.40	0.0000	45.40	0.5836	0.2337	57	-0.01	041.10	0
041	Direct Available Phosphorus as P2O5 (45%)	0494	45.41	0.4900	45.40	0.5836	0.2337	57	0.00	041.10	0
041	Direct Available Phosphorus as P2O5 (45%)	0536	45.43	0.1500	45.40	0.5836	0.2337	57	0.04	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0513	45.48	0.0500	45.40	0.5836	0.2337	57	0.12	041.11	0
041	Direct Available Phosphorus as P2O5 (45%)	0105	45.48	0.0200	45.40	0.5836	0.2337	57	0.13	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0485	45.52	0.1274	45.40	0.5836	0.2337	57	0.20	041.11	0
041	Direct Available Phosphorus as P2O5 (45%)	0549	45.55	0.1000	45.40	0.5836	0.2337	57	0.25	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0034	45.55	0.0240	45.40	0.5836	0.2337	57	0.26	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0055	45.60	0.0000	45.40	0.5836	0.2337	57	0.34	041.10	0
041	Direct Available Phosphorus as P2O5 (45%)	0086	45.63	0.1928	45.40	0.5836	0.2337	57	0.39	041.10	0
041	Direct Available Phosphorus as P2O5 (45%)	0055	45.64	0.0900	45.40	0.5836	0.2337	57	0.40	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0105	45.65	0.4800	45.40	0.5836	0.2337	57	0.42	041.11	0
041	Direct Available Phosphorus as P2O5 (45%)	0072	45.76	0.1300	45.40	0.5836	0.2337	57	0.60	041.51	0
041	Direct Available Phosphorus as P2O5 (45%)	0025	45.78	0.6700	45.40	0.5836	0.2337	57	0.64	041.51	0
041	Direct Available Phosphorus as P2O5 (45%)	0498	45.80	0.8000	45.40	0.5836	0.2337	57	0.68	041.20	0
041	Direct Available Phosphorus as P2O5 (45%)	0018	45.85	0.1000	45.40	0.5836	0.2337	57	0.76	041.40	0
041	Direct Available Phosphorus as P2O5 (45%)	0027	45.91	0.0900	45.40	0.5836	0.2337	57	0.86	041.20	0
041	Direct Available Phosphorus as P2O5 (45%)	0072	46.23	0.1100	45.40	0.5836	0.2337	57	1.41	041.60	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				
041	Direct Available Phosphorus as P2O5 (45%)	0073	46.32	0.5700	45.40	0.5836	0.2337	57	1.56	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0070	46.40‡	0.2000	45.40	0.5836	0.2337	57	1.71	041.50	0
041	Direct Available Phosphorus as P2O5 (45%)	0029	46.45‡	0.2600	45.40	0.5836	0.2337	57	1.79	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0452	46.50‡	0.0500	45.40	0.5836	0.2337	57	1.87	041.50	0
041	Direct Available Phosphorus as P2O5 (45%)	0354	46.90‡	0.0000	45.40	0.5836	0.2337	57	2.56	041.60	0
041	Direct Available Phosphorus as P2O5 (45%)	0043	47.00‡	0.4900	45.40	0.5836	0.2337	57	2.73	041.51	0
041	Direct Available Phosphorus as P2O5 (45%)	0545	47.74‡	0.1400	45.40	0.5836	0.2337	57	4.00	041.99	0
041	Direct Available Phosphorus as P2O5 (45%)	0233	47.94‡	0.4100	45.40	0.5836	0.2337	57	4.34	041.51	0
041	Direct Available Phosphorus as P2O5 (45%)	0106	41.87†	3.070	45.40	0.5836	0.2337	57	-6.06	041.21	1
042	Water Soluble OrthoP as P2O5 (%)	0510	0.1952	0.0354				1		042.99	0
048	Water Soluble Phosphorus as P2O5 (%)	0444	38.43	0.5000	38.98	0.4346	0.2228	4	-1.28	048.10	0
048	Water Soluble Phosphorus as P2O5 (%)	0096	38.88	0.0900	38.98	0.4346	0.2228	4	-0.25	048.40	0
048	Water Soluble Phosphorus as P2O5 (%)	0513	39.20	0.1000	38.98	0.4346	0.2228	4	0.50	048.99	0
048	Water Soluble Phosphorus as P2O5 (%)	0394	39.43	0.2010	38.98	0.4346	0.2228	4	1.03	048.20	0
050	Soluble Potassium as K2O (%)	0547	0.0850	0.0100	0.2366	0.1141	0.0091	13	-1.33	050.51	0
050	Soluble Potassium as K2O (%)	0325	0.1000	0.0000	0.2366	0.1141	0.0091	13	-1.20	050.99	0
050	Soluble Potassium as K2O (%)	0354	0.1545	0.0090	0.2366	0.1141	0.0091	13	-0.72	050.52	0
050	Soluble Potassium as K2O (%)	0096	0.1800	0.0000	0.2366	0.1141	0.0091	13	-0.50	050.99	0
050	Soluble Potassium as K2O (%)	0542	0.1800	0.0200	0.2366	0.1141	0.0091	13	-0.50	050.99	0
050	Soluble Potassium as K2O (%)	0527	0.2150	0.0100	0.2366	0.1141	0.0091	13	-0.19	050.99	0
050	Soluble Potassium as K2O (%)	0524	0.2152	0.0064	0.2366	0.1141	0.0091	13	-0.19	050.99	0
050	Soluble Potassium as K2O (%)	0521	0.2394	0.0000	0.2366	0.1141	0.0091	13	0.02	050.99	0
050	Soluble Potassium as K2O (%)	0482	0.2700	0.0200	0.2366	0.1141	0.0091	13	0.29	050.99	0
050	Soluble Potassium as K2O (%)	0423	0.3210	0.0180	0.2366	0.1141	0.0091	13	0.74	050.52	0
050	Soluble Potassium as K2O (%)	0389	0.3385	0.0150	0.2366	0.1141	0.0091	13	0.89	050.99	0
050	Soluble Potassium as K2O (%)	0483	0.3700	0.0000	0.2366	0.1141	0.0091	13	1.17	050.51	0
050	Soluble Potassium as K2O (%)	0552	0.6050	0.0100	0.2366	0.1141	0.0091	13	3.23	050.99	0
050	Soluble Potassium as K2O (%)	0494	0.5750	0.0700	0.2366	0.1141	0.0091	13	2.97	050.52	1
060	Water (Free) (%)	0513	1.230	0.0200	1.664	0.3828	0.0346	7	-1.02	060.99	0
060	Water (Free) (%)	0007	1.295	0.0100	1.664	0.3828	0.0346	7	-0.87	060.00	0
060	Water (Free) (%)	0055	1.650	0.1000	1.664	0.3828	0.0346	7	-0.03	060.99	0
060	Water (Free) (%)	0510	1.664	0.0604	1.664	0.3828	0.0346	7	0.00	060.99	0
060	Water (Free) (%)	0416	1.780	0.0220	1.664	0.3828	0.0346	7	0.28	060.00	0
060	Water (Free) (%)	0096	1.790	0.0200	1.664	0.3828	0.0346	7	0.30	060.00	0
060	Water (Free) (%)	0513	2.555	0.0100	1.664	0.3828	0.0346	7	2.11	060.30	0
101	Acid Soluble Calcium (13.5%)	0476	9.572†	0.0238	14.29	0.9066	0.2816	56	-5.21	101.70	0
101	Acid Soluble Calcium (13.5%)	0307	12.72†	1.346	14.29	0.9066	0.2816	56	-1.74	101.30	0
101	Acid Soluble Calcium (13.5%)	0485	13.03†	0.0100	14.29	0.9066	0.2816	56	-1.40	101.00	0
101	Acid Soluble Calcium (13.5%)	0102	13.13†	0.0818	14.29	0.9066	0.2816	56	-1.28	101.30	0
101	Acid Soluble Calcium (13.5%)	0501	13.30†	0.2000	14.29	0.9066	0.2816	56	-1.09	101.99	0
101	Acid Soluble Calcium (13.5%)	0055	13.33†	0.2200	14.29	0.9066	0.2816	56	-1.06	101.33	0
101	Acid Soluble Calcium (13.5%)	0324	13.35†	0.3000	14.29	0.9066	0.2816	56	-1.04	101.30	0
101	Acid Soluble Calcium (13.5%)	0498	13.35†	0.1000	14.29	0.9066	0.2816	56	-1.04	101.03	0

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			Value	Range	Rob Mean	Rob SD	R-bar				
101	Acid Soluble Calcium (13.5%)	0389	13.44	0.7600	14.29	0.9066	0.2816	56	-0.94	101.99	0
101	Acid Soluble Calcium (13.5%)	0523	13.48	0.4000	14.29	0.9066	0.2816	56	-0.89	101.99	0
101	Acid Soluble Calcium (13.5%)	0519	13.51	0.0300	14.29	0.9066	0.2816	56	-0.87	101.99	0
101	Acid Soluble Calcium (13.5%)	0494	13.56	0.3606	14.29	0.9066	0.2816	56	-0.81	101.33	0
101	Acid Soluble Calcium (13.5%)	0513	13.57	0.0400	14.29	0.9066	0.2816	56	-0.80	101.00	0
101	Acid Soluble Calcium (13.5%)	0508	13.58	0.2900	14.29	0.9066	0.2816	56	-0.79	101.99	0
101	Acid Soluble Calcium (13.5%)	0255	13.60	0.1950	14.29	0.9066	0.2816	56	-0.77	101.30	0
101	Acid Soluble Calcium (13.5%)	0106	13.65	0.0310	14.29	0.9066	0.2816	56	-0.70	101.33	0
101	Acid Soluble Calcium (13.5%)	0231	13.78	0.0700	14.29	0.9066	0.2816	56	-0.57	101.30	0
101	Acid Soluble Calcium (13.5%)	0177	13.81	0.0487	14.29	0.9066	0.2816	56	-0.53	101.33	0
101	Acid Soluble Calcium (13.5%)	0042	13.83	0.6300	14.29	0.9066	0.2816	56	-0.51	101.99	0
101	Acid Soluble Calcium (13.5%)	0292	13.88	0.0200	14.29	0.9066	0.2816	56	-0.45	101.33	0
101	Acid Soluble Calcium (13.5%)	0360	13.91	0.1800	14.29	0.9066	0.2816	56	-0.42	101.30	0
101	Acid Soluble Calcium (13.5%)	0486	14.01	0.3000	14.29	0.9066	0.2816	56	-0.31	101.30	0
101	Acid Soluble Calcium (13.5%)	0527	14.05	0.3560	14.29	0.9066	0.2816	56	-0.27	101.33	0
101	Acid Soluble Calcium (13.5%)	0073	14.06	0.4000	14.29	0.9066	0.2816	56	-0.25	101.30	0
101	Acid Soluble Calcium (13.5%)	0234	14.08	0.0500	14.29	0.9066	0.2816	56	-0.24	101.30	0
101	Acid Soluble Calcium (13.5%)	0096	14.18	0.1900	14.29	0.9066	0.2816	56	-0.13	101.30	0
101	Acid Soluble Calcium (13.5%)	0233	14.22	0.1800	14.29	0.9066	0.2816	56	-0.08	101.33	0
101	Acid Soluble Calcium (13.5%)	0402	14.23	0.0300	14.29	0.9066	0.2816	56	-0.07	101.30	0
101	Acid Soluble Calcium (13.5%)	0482	14.25	1.500	14.29	0.9066	0.2816	56	-0.05	101.30	0
101	Acid Soluble Calcium (13.5%)	0117	14.26	0.3300	14.29	0.9066	0.2816	56	-0.04	101.33	0
101	Acid Soluble Calcium (13.5%)	0049	14.26	0.4850	14.29	0.9066	0.2816	56	-0.03	101.30	0
101	Acid Soluble Calcium (13.5%)	0552	14.27	0.6900	14.29	0.9066	0.2816	56	-0.03	101.99	0
101	Acid Soluble Calcium (13.5%)	0521	14.29	0.0000	14.29	0.9066	0.2816	56	0.00	101.32	0
101	Acid Soluble Calcium (13.5%)	0368	14.40	0.1020	14.29	0.9066	0.2816	56	0.12	101.99	0
101	Acid Soluble Calcium (13.5%)	0433	14.48	0.1000	14.29	0.9066	0.2816	56	0.21	101.30	0
101	Acid Soluble Calcium (13.5%)	0419	14.56	0.2100	14.29	0.9066	0.2816	56	0.29	101.30	0
101	Acid Soluble Calcium (13.5%)	0444	14.57	0.4000	14.29	0.9066	0.2816	56	0.31	101.30	0
101	Acid Soluble Calcium (13.5%)	0422	14.75	0.0700	14.29	0.9066	0.2816	56	0.50	101.33	0
101	Acid Soluble Calcium (13.5%)	0546	14.76	0.0500	14.29	0.9066	0.2816	56	0.51	101.33	0
101	Acid Soluble Calcium (13.5%)	0029	14.77	0.1200	14.29	0.9066	0.2816	56	0.53	101.00	0
101	Acid Soluble Calcium (13.5%)	0354	14.80	1.200	14.29	0.9066	0.2816	56	0.56	101.30	0
101	Acid Soluble Calcium (13.5%)	0041	14.85	0.9000	14.29	0.9066	0.2816	56	0.62	101.30	0
101	Acid Soluble Calcium (13.5%)	0472	14.85	0.1000	14.29	0.9066	0.2816	56	0.62	101.30	0
101	Acid Soluble Calcium (13.5%)	0037	14.99	0.0070	14.29	0.9066	0.2816	56	0.77	101.33	0
101	Acid Soluble Calcium (13.5%)	0040	15.04	0.2600	14.29	0.9066	0.2816	56	0.83	101.00	0
101	Acid Soluble Calcium (13.5%)	0451	15.17	0.0700	14.29	0.9066	0.2816	56	0.96	101.30	0
101	Acid Soluble Calcium (13.5%)	0544	15.25‡	0.0200	14.29	0.9066	0.2816	56	1.06	101.70	0
101	Acid Soluble Calcium (13.5%)	0105	15.34‡	0.4800	14.29	0.9066	0.2816	56	1.16	101.00	0
101	Acid Soluble Calcium (13.5%)	0394	15.40‡	0.6000	14.29	0.9066	0.2816	56	1.22	101.32	0
101	Acid Soluble Calcium (13.5%)	0157	15.50‡	0.6000	14.29	0.9066	0.2816	56	1.33	101.00	0
101	Acid Soluble Calcium (13.5%)	0452	15.59‡	0.1400	14.29	0.9066	0.2816	56	1.43	101.30	0

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101	Acid Soluble Calcium (13.5%)	0483	15.60‡	0.0000	14.29	0.9066	0.2816	56	1.44	101.30	0
101	Acid Soluble Calcium (13.5%)	0291	15.72‡	0.0200	14.29	0.9066	0.2816	56	1.58	101.99	0
101	Acid Soluble Calcium (13.5%)	0043	15.76‡	0.3300	14.29	0.9066	0.2816	56	1.61	101.32	0
101	Acid Soluble Calcium (13.5%)	0423	16.24‡	0.0400	14.29	0.9066	0.2816	56	2.15	101.32	0
101	Acid Soluble Calcium (13.5%)	0520	17.85‡	0.1000	14.29	0.9066	0.2816	56	3.93	101.99	0
101	Acid Soluble Calcium (13.5%)	0550	14.58	2.020	14.29	0.9066	0.2816	56	0.32	101.00	1
101	Acid Soluble Calcium (13.5%)	0541	20.13‡	2.650	14.29	0.9066	0.2816	56	6.44	101.99	1
121	Acid Soluble Magnesium (%)	0389	0.1885	0.0010	0.7436	0.0863	0.0235	19	-6.43	121.99	0
121	Acid Soluble Magnesium (%)	0105	0.5418	0.0239	0.7436	0.0863	0.0235	19	-2.34	121.00	0
121	Acid Soluble Magnesium (%)	0515	0.6438	0.0113	0.7436	0.0863	0.0235	19	-1.16	121.33	0
121	Acid Soluble Magnesium (%)	0106	0.6742	0.0134	0.7436	0.0863	0.0235	19	-0.80	121.33	0
121	Acid Soluble Magnesium (%)	0105	0.7078	0.0374	0.7436	0.0863	0.0235	19	-0.41	121.03	0
121	Acid Soluble Magnesium (%)	0524	0.7117	0.0024	0.7436	0.0863	0.0235	19	-0.37	121.99	0
121	Acid Soluble Magnesium (%)	0041	0.7150	0.0100	0.7436	0.0863	0.0235	19	-0.33	121.30	0
121	Acid Soluble Magnesium (%)	0482	0.7150	0.0300	0.7436	0.0863	0.0235	19	-0.33	121.30	0
121	Acid Soluble Magnesium (%)	0096	0.7420	0.0360	0.7436	0.0863	0.0235	19	-0.02	121.30	0
121	Acid Soluble Magnesium (%)	0527	0.7530	0.0000	0.7436	0.0863	0.0235	19	0.11	121.33	0
121	Acid Soluble Magnesium (%)	0354	0.7550	0.0300	0.7436	0.0863	0.0235	19	0.13	121.30	0
121	Acid Soluble Magnesium (%)	0049	0.7595	0.0452	0.7436	0.0863	0.0235	19	0.18	121.30	0
121	Acid Soluble Magnesium (%)	0494	0.7608	0.0159	0.7436	0.0863	0.0235	19	0.20	121.33	0
121	Acid Soluble Magnesium (%)	0025	0.7636	0.0075	0.7436	0.0863	0.0235	19	0.23	121.33	0
121	Acid Soluble Magnesium (%)	0423	0.7950	0.0100	0.7436	0.0863	0.0235	19	0.60	121.32	0
121	Acid Soluble Magnesium (%)	0117	0.8130	0.0109	0.7436	0.0863	0.0235	19	0.80	121.33	0
121	Acid Soluble Magnesium (%)	0472	0.8450	0.0100	0.7436	0.0863	0.0235	19	1.17	121.30	0
121	Acid Soluble Magnesium (%)	0552	0.8800	0.1000	0.7436	0.0863	0.0235	19	1.58	121.99	0
121	Acid Soluble Magnesium (%)	0483	0.9000	0.0520	0.7436	0.0863	0.0235	19	1.81	121.30	0
121	Acid Soluble Magnesium (%)	0515	0.5401	0.2721	0.7436	0.0863	0.0235	19	-2.36	121.99	1
143	Elemental Sulfur (%)	0472	0.7700	0.0000				2		143.99	0
143	Elemental Sulfur (%)	0389	0.7825	0.0010				2		143.99	0
148	Total Sulfur (%)	0096	0.7055	0.0150	0.7943	0.0991	0.0138	7	-0.81	148.99	0
148	Total Sulfur (%)	0117	0.7195	0.0178	0.7943	0.0991	0.0138	7	-0.68	148.07	0
148	Total Sulfur (%)	0494	0.7294	0.0021	0.7943	0.0991	0.0138	7	-0.59	148.07	0
148	Total Sulfur (%)	0354	0.7750	0.0100	0.7943	0.0991	0.0138	7	-0.18	148.99	0
148	Total Sulfur (%)	0527	0.8250	0.0040	0.7943	0.0991	0.0138	7	0.28	148.07	0
148	Total Sulfur (%)	0483	0.8630	0.0080	0.7943	0.0991	0.0138	7	0.63	148.07	0
148	Total Sulfur (%)	0482	1.110	0.0400	0.7943	0.0991	0.0138	7	2.88	148.99	0
148	Total Sulfur (%)	0515	0.8425	0.1004	0.7943	0.0991	0.0138	7	0.44	148.07	1
149	Sulfur - HNO3 soluble (%)	0521	0.6974	0.0000	0.7107	0.0207	0.0096	3	-0.64	149.04	0
149	Sulfur - HNO3 soluble (%)	0423	0.7000	0.0200	0.7107	0.0207	0.0096	3	-0.51	149.04	0
149	Sulfur - HNO3 soluble (%)	0524	0.7346	0.0087	0.7107	0.0207	0.0096	3	1.15	149.04	0
151	Acid Soluble Arsenic (ppm)	0550	4.715	7.310	16.67	4.573	1.658	16	-2.62	151.00	0
151	Acid Soluble Arsenic (ppm)	0096	13.15	3.300	16.67	4.573	1.658	16	-0.77	151.30	0
151	Acid Soluble Arsenic (ppm)	0515	13.57	0.2370	16.67	4.573	1.658	16	-0.68	151.33	0



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151	Acid Soluble Arsenic (ppm)	0117	13.64	0.3500	16.67	4.573	1.658	16	-0.66	151.33	0
151	Acid Soluble Arsenic (ppm)	0255	14.20	0.1300	16.67	4.573	1.658	16	-0.54	151.30	0
151	Acid Soluble Arsenic (ppm)	0515	14.45	0.9480	16.67	4.573	1.658	16	-0.49	151.34	0
151	Acid Soluble Arsenic (ppm)	0476	14.54	0.1500	16.67	4.573	1.658	16	-0.47	151.99	0
151	Acid Soluble Arsenic (ppm)	0527	15.91	0.0760	16.67	4.573	1.658	16	-0.17	151.33	0
151	Acid Soluble Arsenic (ppm)	0494	16.38	1.497	16.67	4.573	1.658	16	-0.06	151.33	0
151	Acid Soluble Arsenic (ppm)	0501	16.65	0.3000	16.67	4.573	1.658	16	-0.01	151.30	0
151	Acid Soluble Arsenic (ppm)	0037	17.08	0.7250	16.67	4.573	1.658	16	0.09	151.33	0
151	Acid Soluble Arsenic (ppm)	0519	17.41	0.0100	16.67	4.573	1.658	16	0.16	151.99	0
151	Acid Soluble Arsenic (ppm)	0368	19.40	1.400	16.67	4.573	1.658	16	0.60	151.34	0
151	Acid Soluble Arsenic (ppm)	0520	24.00	1.200	16.67	4.573	1.658	16	1.60	151.99	0
151	Acid Soluble Arsenic (ppm)	0541	24.50	5.000	16.67	4.573	1.658	16	1.71	151.30	0
151	Acid Soluble Arsenic (ppm)	0498	39.35	3.900	16.67	4.573	1.658	16	4.96	151.00	0
165	Acid Soluble Boron (%)	0106	0.0013	0.0012	0.0065	0.0051	0.0004	8	-0.93	165.30	0
165	Acid Soluble Boron (%)	0521	0.0024	0.0000	0.0065	0.0051	0.0004	8	-0.73	165.30	0
165	Acid Soluble Boron (%)	0524	0.0026	0.0002	0.0065	0.0051	0.0004	8	-0.70	165.99	0
165	Acid Soluble Boron (%)	0423	0.0033	0.0001	0.0065	0.0051	0.0004	8	-0.58	165.99	0
165	Acid Soluble Boron (%)	0354	0.0100	0.0000	0.0065	0.0051	0.0004	8	0.62	165.30	0
165	Acid Soluble Boron (%)	0472	0.0100	0.0000	0.0065	0.0051	0.0004	8	0.62	165.99	0
165	Acid Soluble Boron (%)	0527	0.0100	0.0000	0.0065	0.0051	0.0004	8	0.62	165.99	0
165	Acid Soluble Boron (%)	0483	0.0126	0.0019	0.0065	0.0051	0.0004	8	1.08	165.99	0
165	Acid Soluble Boron (%)	0552	0.2500	0.2200	0.0065	0.0051	0.0004	8	43.46	165.99	2
165	Acid Soluble Boron (%)	0515	0.0000	0.0000	0.0065	0.0051	0.0004	8		165.99	4
181	Acid Soluble Cadmium (ppm)	0389	39.73	0.3000	106.7	14.72	5.402	23	-4.55	181.30	0
181	Acid Soluble Cadmium (ppm)	0523	71.47	0.0100	106.7	14.72	5.402	23	-2.39	181.30	0
181	Acid Soluble Cadmium (ppm)	0444	75.16	1.290	106.7	14.72	5.402	23	-2.14	181.30	0
181	Acid Soluble Cadmium (ppm)	0255	88.28	1.334	106.7	14.72	5.402	23	-1.25	181.30	0
181	Acid Soluble Cadmium (ppm)	0368	93.35	12.50	106.7	14.72	5.402	23	-0.91	181.34	0
181	Acid Soluble Cadmium (ppm)	0476	93.45	0.7000	106.7	14.72	5.402	23	-0.90	181.99	0
181	Acid Soluble Cadmium (ppm)	0550	99.11	28.56	106.7	14.72	5.402	23	-0.52	181.00	0
181	Acid Soluble Cadmium (ppm)	0515	101.9	4.434	106.7	14.72	5.402	23	-0.33	181.33	0
181	Acid Soluble Cadmium (ppm)	0519	105.8	0.0200	106.7	14.72	5.402	23	-0.06	181.99	0
181	Acid Soluble Cadmium (ppm)	0498	107.0	2.000	106.7	14.72	5.402	23	0.02	181.00	0
181	Acid Soluble Cadmium (ppm)	0096	110.1	1.400	106.7	14.72	5.402	23	0.23	181.30	0
181	Acid Soluble Cadmium (ppm)	0394	110.5	1.000	106.7	14.72	5.402	23	0.26	181.30	0
181	Acid Soluble Cadmium (ppm)	0482	113.0	2.000	106.7	14.72	5.402	23	0.43	181.30	0
181	Acid Soluble Cadmium (ppm)	0037	113.4	2.595	106.7	14.72	5.402	23	0.45	181.33	0
181	Acid Soluble Cadmium (ppm)	0117	113.5	1.000	106.7	14.72	5.402	23	0.46	181.33	0
181	Acid Soluble Cadmium (ppm)	0233	116.3	3.100	106.7	14.72	5.402	23	0.65	181.33	0
181	Acid Soluble Cadmium (ppm)	0494	116.3	11.89	106.7	14.72	5.402	23	0.65	181.33	0
181	Acid Soluble Cadmium (ppm)	0524	116.4	3.576	106.7	14.72	5.402	23	0.66	181.30	0
181	Acid Soluble Cadmium (ppm)	0515	117.0	23.61	106.7	14.72	5.402	23	0.70	181.34	0
181	Acid Soluble Cadmium (ppm)	0541	118.0	22.00	106.7	14.72	5.402	23	0.77	181.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
181	Acid Soluble Cadmium (ppm)	0501	119.1	0.0000	106.7	14.72	5.402	23	0.84	181.30	0
181	Acid Soluble Cadmium (ppm)	0527	119.5	0.4250	106.7	14.72	5.402	23	0.87	181.33	0
181	Acid Soluble Cadmium (ppm)	0520	171.3	0.5000	106.7	14.72	5.402	23	4.38	181.99	0
191	Acid Soluble Chromium (ppm)	0389	147.6	0.6000	438.3	71.72	26.09	17	-4.05	191.30	0
191	Acid Soluble Chromium (ppm)	0523	306.6	7.500	438.3	71.72	26.09	17	-1.84	191.30	0
191	Acid Soluble Chromium (ppm)	0444	359.5	33.00	438.3	71.72	26.09	17	-1.10	191.30	0
191	Acid Soluble Chromium (ppm)	0482	379.5	29.00	438.3	71.72	26.09	17	-0.82	191.30	0
191	Acid Soluble Chromium (ppm)	0368	395.5	45.00	438.3	71.72	26.09	17	-0.60	191.34	0
191	Acid Soluble Chromium (ppm)	0476	399.3	2.000	438.3	71.72	26.09	17	-0.54	191.99	0
191	Acid Soluble Chromium (ppm)	0515	436.6	20.28	438.3	71.72	26.09	17	-0.02	191.33	0
191	Acid Soluble Chromium (ppm)	0520	450.3	15.50	438.3	71.72	26.09	17	0.17	191.99	0
191	Acid Soluble Chromium (ppm)	0541	462.0	54.00	438.3	71.72	26.09	17	0.33	191.30	0
191	Acid Soluble Chromium (ppm)	0501	462.1	5.400	438.3	71.72	26.09	17	0.33	191.30	0
191	Acid Soluble Chromium (ppm)	0494	466.8	39.38	438.3	71.72	26.09	17	0.40	191.33	0
191	Acid Soluble Chromium (ppm)	0037	469.1	9.288	438.3	71.72	26.09	17	0.43	191.33	0
191	Acid Soluble Chromium (ppm)	0096	475.1	5.400	438.3	71.72	26.09	17	0.51	191.30	0
191	Acid Soluble Chromium (ppm)	0527	475.9	5.214	438.3	71.72	26.09	17	0.52	191.33	0
191	Acid Soluble Chromium (ppm)	0117	480.9	6.300	438.3	71.72	26.09	17	0.59	191.33	0
191	Acid Soluble Chromium (ppm)	0519	531.3	2.400	438.3	71.72	26.09	17	1.30	191.99	0
191	Acid Soluble Chromium (ppm)	0550	611.6	163.3	438.3	71.72	26.09	17	2.42	191.00	0
191	Acid Soluble Chromium (ppm)	0515	562.3	245.4	438.3	71.72	26.09	17	1.73	191.34	1
202	Acid Soluble Cobalt (ppm)	0550	1.210	0.0200	3.224	0.8711	0.2266	15	-2.31	202.33	0
202	Acid Soluble Cobalt (ppm)	0515	2.082	0.8410	3.224	0.8711	0.2266	15	-1.31	202.34	0
202	Acid Soluble Cobalt (ppm)	0523	2.502	0.0000	3.224	0.8711	0.2266	15	-0.83	202.30	0
202	Acid Soluble Cobalt (ppm)	0255	2.808	0.0970	3.224	0.8711	0.2266	15	-0.48	202.99	0
202	Acid Soluble Cobalt (ppm)	0546	2.830	0.1600	3.224	0.8711	0.2266	15	-0.45	202.33	0
202	Acid Soluble Cobalt (ppm)	0482	3.000	0.0000	3.224	0.8711	0.2266	15	-0.26	202.30	0
202	Acid Soluble Cobalt (ppm)	0476	3.000	0.2000	3.224	0.8711	0.2266	15	-0.26	202.99	0
202	Acid Soluble Cobalt (ppm)	0519	3.015	0.0100	3.224	0.8711	0.2266	15	-0.24	202.99	0
202	Acid Soluble Cobalt (ppm)	0423	3.340	0.2000	3.224	0.8711	0.2266	15	0.13	202.32	0
202	Acid Soluble Cobalt (ppm)	0368	3.550	0.7000	3.224	0.8711	0.2266	15	0.37	202.34	0
202	Acid Soluble Cobalt (ppm)	0527	3.608	0.1070	3.224	0.8711	0.2266	15	0.44	202.33	0
202	Acid Soluble Cobalt (ppm)	0524	3.831	0.0760	3.224	0.8711	0.2266	15	0.70	202.30	0
202	Acid Soluble Cobalt (ppm)	0037	3.952	0.3390	3.224	0.8711	0.2266	15	0.83	202.33	0
202	Acid Soluble Cobalt (ppm)	0501	4.400	0.2000	3.224	0.8711	0.2266	15	1.35	202.34	0
202	Acid Soluble Cobalt (ppm)	0494	4.551	0.4490	3.224	0.8711	0.2266	15	1.52	202.33	0
202	Acid Soluble Cobalt (ppm)	0515	0.0773	0.1545	3.224	0.8711	0.2266	15		202.33	4
221	Acid Soluble Copper (%)	0389	0.0010	0.0000	0.0050	0.0013	0.0008	34	-3.13	221.99	0
221	Acid Soluble Copper (%)	0519	0.0010	0.0000	0.0050	0.0013	0.0008	34	-3.13	221.99	0
221	Acid Soluble Copper (%)	0255	0.0025	0.0010	0.0050	0.0013	0.0008	34	-1.96	221.30	0
221	Acid Soluble Copper (%)	0515	0.0034	0.0036	0.0050	0.0013	0.0008	34	-1.26	221.99	0
221	Acid Soluble Copper (%)	0476	0.0036	0.0000	0.0050	0.0013	0.0008	34	-1.11	221.99	0
221	Acid Soluble Copper (%)	0521	0.0040	0.0000	0.0050	0.0013	0.0008	34	-0.80	221.32	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
221	Acid Soluble Copper (%)	0444	0.0042	0.0000	0.0050	0.0013	0.0008	34	-0.64	221.30	0
221	Acid Soluble Copper (%)	0049	0.0044	0.0005	0.0050	0.0013	0.0008	34	-0.52	221.30	0
221	Acid Soluble Copper (%)	0515	0.0044	0.0005	0.0050	0.0013	0.0008	34	-0.52	221.33	0
221	Acid Soluble Copper (%)	0368	0.0045	0.0003	0.0050	0.0013	0.0008	34	-0.45	221.99	0
221	Acid Soluble Copper (%)	0096	0.0046	0.0000	0.0050	0.0013	0.0008	34	-0.33	221.30	0
221	Acid Soluble Copper (%)	0524	0.0048	0.0001	0.0050	0.0013	0.0008	34	-0.21	221.99	0
221	Acid Soluble Copper (%)	0105	0.0049	0.0001	0.0050	0.0013	0.0008	34	-0.14	221.03	0
221	Acid Soluble Copper (%)	0105	0.0049	0.0010	0.0050	0.0013	0.0008	34	-0.10	221.00	0
221	Acid Soluble Copper (%)	0037	0.0050	0.0001	0.0050	0.0013	0.0008	34	-0.06	221.33	0
221	Acid Soluble Copper (%)	0233	0.0050	0.0001	0.0050	0.0013	0.0008	34	-0.06	221.33	0
221	Acid Soluble Copper (%)	0498	0.0050	0.0000	0.0050	0.0013	0.0008	34	-0.02	221.03	0
221	Acid Soluble Copper (%)	0041	0.0050	0.0000	0.0050	0.0013	0.0008	34	-0.02	221.30	0
221	Acid Soluble Copper (%)	0433	0.0050	0.0000	0.0050	0.0013	0.0008	34	-0.02	221.30	0
221	Acid Soluble Copper (%)	0527	0.0050	0.0000	0.0050	0.0013	0.0008	34	-0.02	221.33	0
221	Acid Soluble Copper (%)	0106	0.0051	0.0003	0.0050	0.0013	0.0008	34	0.02	221.33	0
221	Acid Soluble Copper (%)	0533	0.0051	0.0001	0.0050	0.0013	0.0008	34	0.02	221.00	0
221	Acid Soluble Copper (%)	0546	0.0052	0.0001	0.0050	0.0013	0.0008	34	0.10	221.33	0
221	Acid Soluble Copper (%)	0483	0.0052	0.0002	0.0050	0.0013	0.0008	34	0.14	221.30	0
221	Acid Soluble Copper (%)	0423	0.0054	0.0002	0.0050	0.0013	0.0008	34	0.29	221.32	0
221	Acid Soluble Copper (%)	0402	0.0055	0.0010	0.0050	0.0013	0.0008	34	0.37	221.30	0
221	Acid Soluble Copper (%)	0541	0.0055	0.0010	0.0050	0.0013	0.0008	34	0.37	221.99	0
221	Acid Soluble Copper (%)	0117	0.0057	0.0001	0.0050	0.0013	0.0008	34	0.48	221.33	0
221	Acid Soluble Copper (%)	0354	0.0100	0.0000	0.0050	0.0013	0.0008	34	3.86	221.30	0
221	Acid Soluble Copper (%)	0482	0.0100	0.0000	0.0050	0.0013	0.0008	34	3.86	221.30	0
221	Acid Soluble Copper (%)	0550	0.0122	0.0058	0.0050	0.0013	0.0008	34	5.57	221.00	0
221	Acid Soluble Copper (%)	0394	0.0170	0.0000	0.0050	0.0013	0.0008	34	9.30	221.32	0
221	Acid Soluble Copper (%)	0501	0.0460	0.0000	0.0050	0.0013	0.0008	34	31.82	221.99	0
221	Acid Soluble Copper (%)	0552	0.1050	0.0100	0.0050	0.0013	0.0008	34	77.63	221.30	0
221	Acid Soluble Copper (%)	0494	51.05	3.085	0.0050	0.0013	0.0008	34	39638.67	221.33	2
241	Acid Soluble Iron (%)	0389	0.1880	0.0000	0.7472	0.0542	0.0270	22	-10.32	241.99	0
241	Acid Soluble Iron (%)	0535	0.5850	0.0100	0.7472	0.0542	0.0270	22	-2.99	241.00	0
241	Acid Soluble Iron (%)	0515	0.6234	0.0118	0.7472	0.0542	0.0270	22	-2.28	241.33	0
241	Acid Soluble Iron (%)	0106	0.6685	0.0092	0.7472	0.0542	0.0270	22	-1.45	241.33	0
241	Acid Soluble Iron (%)	0025	0.7144	0.0305	0.7472	0.0542	0.0270	22	-0.61	241.33	0
241	Acid Soluble Iron (%)	0105	0.7223	0.0504	0.7472	0.0542	0.0270	22	-0.46	241.03	0
241	Acid Soluble Iron (%)	0096	0.7375	0.0210	0.7472	0.0542	0.0270	22	-0.18	241.30	0
241	Acid Soluble Iron (%)	0117	0.7375	0.0020	0.7472	0.0542	0.0270	22	-0.18	241.33	0
241	Acid Soluble Iron (%)	0515	0.7462	0.1006	0.7472	0.0542	0.0270	22	-0.02	241.99	0
241	Acid Soluble Iron (%)	0402	0.7470	0.0060	0.7472	0.0542	0.0270	22	0.00	241.30	0
241	Acid Soluble Iron (%)	0527	0.7510	0.0300	0.7472	0.0542	0.0270	22	0.07	241.33	0
241	Acid Soluble Iron (%)	0494	0.7520	0.0582	0.7472	0.0542	0.0270	22	0.09	241.33	0
241	Acid Soluble Iron (%)	0472	0.7550	0.0100	0.7472	0.0542	0.0270	22	0.14	241.30	0
241	Acid Soluble Iron (%)	0105	0.7605	0.0530	0.7472	0.0542	0.0270	22	0.24	241.00	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				
241	Acid Soluble Iron (%)	0354	0.7650	0.0300	0.7472	0.0542	0.0270	22	0.33	241.30	0
241	Acid Soluble Iron (%)	0049	0.7690	0.0254	0.7472	0.0542	0.0270	22	0.40	241.30	0
241	Acid Soluble Iron (%)	0423	0.7875	0.0030	0.7472	0.0542	0.0270	22	0.74	241.32	0
241	Acid Soluble Iron (%)	0524	0.7929	0.0025	0.7472	0.0542	0.0270	22	0.84	241.99	0
241	Acid Soluble Iron (%)	0041	0.8000	0.0800	0.7472	0.0542	0.0270	22	0.97	241.30	0
241	Acid Soluble Iron (%)	0521	0.8065	0.0000	0.7472	0.0542	0.0270	22	1.09	241.32	0
241	Acid Soluble Iron (%)	0483	0.8135	0.0110	0.7472	0.0542	0.0270	22	1.22	241.30	0
241	Acid Soluble Iron (%)	0482	0.8150	0.0500	0.7472	0.0542	0.0270	22	1.25	241.30	0
241	Acid Soluble Iron (%)	0552	1.205	0.5300	0.7472	0.0542	0.0270	22	8.45	241.30	1
251	Acid Soluble Lead (ppm)	0498	1.430	0.0200	5.172	2.351	1.975	17	-1.59	251.00	0
251	Acid Soluble Lead (ppm)	0515	1.728	1.075	5.172	2.351	1.975	17	-1.46	251.34	0
251	Acid Soluble Lead (ppm)	0255	3.805	0.1990	5.172	2.351	1.975	17	-0.58	251.30	0
251	Acid Soluble Lead (ppm)	0444	3.810	0.0000	5.172	2.351	1.975	17	-0.58	251.30	0
251	Acid Soluble Lead (ppm)	0476	4.190	0.4000	5.172	2.351	1.975	17	-0.42	251.99	0
251	Acid Soluble Lead (ppm)	0037	4.360	0.2910	5.172	2.351	1.975	17	-0.35	251.33	0
251	Acid Soluble Lead (ppm)	0519	4.495	0.0100	5.172	2.351	1.975	17	-0.29	251.99	0
251	Acid Soluble Lead (ppm)	0394	4.550	0.1000	5.172	2.351	1.975	17	-0.26	251.30	0
251	Acid Soluble Lead (ppm)	0524	4.844	0.1540	5.172	2.351	1.975	17	-0.14	251.30	0
251	Acid Soluble Lead (ppm)	0515	4.944	0.1930	5.172	2.351	1.975	17	-0.10	251.33	0
251	Acid Soluble Lead (ppm)	0096	5.600	2.200	5.172	2.351	1.975	17	0.18	251.30	0
251	Acid Soluble Lead (ppm)	0501	5.950	0.3000	5.172	2.351	1.975	17	0.33	251.30	0
251	Acid Soluble Lead (ppm)	0527	6.045	0.0660	5.172	2.351	1.975	17	0.37	251.33	0
251	Acid Soluble Lead (ppm)	0494	6.096	0.2040	5.172	2.351	1.975	17	0.39	251.33	0
251	Acid Soluble Lead (ppm)	0482	8.465	2.830	5.172	2.351	1.975	17	1.40	251.30	0
251	Acid Soluble Lead (ppm)	0520	10.10	0.4000	5.172	2.351	1.975	17	2.10	251.99	0
251	Acid Soluble Lead (ppm)	0550	24.77	25.13	5.172	2.351	1.975	17	8.33	251.00	0
251	Acid Soluble Lead (ppm)	0541	56.00	54.00	5.172	2.351	1.975	17	21.62	251.30	1
251	Acid Soluble Lead (ppm)	0368	0.0000	0.0000	5.172	2.351	1.975	17		251.34	4
261	Acid Soluble Manganese (%)	0389	0.0030	0.0000	0.0139	0.0037	0.0027	18	-2.94	261.99	0
261	Acid Soluble Manganese (%)	0483	0.0039	0.0012	0.0139	0.0037	0.0027	18	-2.70	261.32	0
261	Acid Soluble Manganese (%)	0354	0.0100	0.0000	0.0139	0.0037	0.0027	18	-1.06	261.30	0
261	Acid Soluble Manganese (%)	0472	0.0100	0.0000	0.0139	0.0037	0.0027	18	-1.06	261.30	0
261	Acid Soluble Manganese (%)	0049	0.0123	0.0013	0.0139	0.0037	0.0027	18	-0.45	261.32	0
261	Acid Soluble Manganese (%)	0106	0.0125	0.0003	0.0139	0.0037	0.0027	18	-0.40	261.35	0
261	Acid Soluble Manganese (%)	0105	0.0133	0.0007	0.0139	0.0037	0.0027	18	-0.18	261.15	0
261	Acid Soluble Manganese (%)	0105	0.0139	0.0005	0.0139	0.0037	0.0027	18	-0.02	261.12	0
261	Acid Soluble Manganese (%)	0524	0.0139	0.0000	0.0139	0.0037	0.0027	18	-0.01	261.99	0
261	Acid Soluble Manganese (%)	0521	0.0147	0.0000	0.0139	0.0037	0.0027	18	0.21	261.34	0
261	Acid Soluble Manganese (%)	0117	0.0151	0.0000	0.0139	0.0037	0.0027	18	0.32	261.35	0
261	Acid Soluble Manganese (%)	0515	0.0154	0.0014	0.0139	0.0037	0.0027	18	0.40	261.99	0
261	Acid Soluble Manganese (%)	0041	0.0155	0.0010	0.0139	0.0037	0.0027	18	0.42	261.30	0
261	Acid Soluble Manganese (%)	0527	0.0155	0.0010	0.0139	0.0037	0.0027	18	0.42	261.35	0
261	Acid Soluble Manganese (%)	0096	0.0156	0.0003	0.0139	0.0037	0.0027	18	0.44	261.30	0



Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
261	Acid Soluble Manganese (%)	0423	0.0176	0.0001	0.0139	0.0037	0.0027	18	0.98	261.34	0
261	Acid Soluble Manganese (%)	0482	0.0200	0.0000	0.0139	0.0037	0.0027	18	1.64	261.31	0
261	Acid Soluble Manganese (%)	0552	0.1200	0.0400	0.0139	0.0037	0.0027	18	28.58	261.32	0
261	Acid Soluble Manganese (%)	0494	151.4	0.3072	0.0139	0.0037	0.0027	18	40807.54	261.35	2
261	Acid Soluble Manganese (%)	0515	0.0000	0.0000	0.0139	0.0037	0.0027	18		261.35	4
281	Acid Soluble Mercury (ppm)	0519	0.0100	0.0000	2.932	3.440	1.850	4	-0.85	281.99	0
281	Acid Soluble Mercury (ppm)	0527	0.0185	0.0010	2.932	3.440	1.850	4	-0.85	281.30	0
281	Acid Soluble Mercury (ppm)	0096	5.000	1.000	2.932	3.440	1.850	4	0.60	281.99	0
281	Acid Soluble Mercury (ppm)	0541	6.700	6.400	2.932	3.440	1.850	4	1.10	281.30	0
281	Acid Soluble Mercury (ppm)	0515	0.0000	0.0000	2.932	3.440	1.850	4		281.30	4
289	Acid Soluble Molybdenum (ppm)	0519	0.0100	0.0000	16.57	3.684	0.8385	23	-4.50	289.99	0
289	Acid Soluble Molybdenum (ppm)	0521	2.004	0.0000	16.57	3.684	0.8385	23	-3.95	289.30	0
289	Acid Soluble Molybdenum (ppm)	0515	12.65	1.846	16.57	3.684	0.8385	23	-1.06	289.34	0
289	Acid Soluble Molybdenum (ppm)	0515	12.97	1.050	16.57	3.684	0.8385	23	-0.98	289.33	0
289	Acid Soluble Molybdenum (ppm)	0049	13.55	1.590	16.57	3.684	0.8385	23	-0.82	289.30	0
289	Acid Soluble Molybdenum (ppm)	0433	14.19	0.0800	16.57	3.684	0.8385	23	-0.65	289.30	0
289	Acid Soluble Molybdenum (ppm)	0476	14.82	0.1400	16.57	3.684	0.8385	23	-0.48	289.99	0
289	Acid Soluble Molybdenum (ppm)	0394	15.00	0.0000	16.57	3.684	0.8385	23	-0.43	289.32	0
289	Acid Soluble Molybdenum (ppm)	0494	15.37	0.0413	16.57	3.684	0.8385	23	-0.32	289.33	0
289	Acid Soluble Molybdenum (ppm)	0520	15.55	0.1000	16.57	3.684	0.8385	23	-0.28	289.99	0
289	Acid Soluble Molybdenum (ppm)	0524	15.76	0.0150	16.57	3.684	0.8385	23	-0.22	289.30	0
289	Acid Soluble Molybdenum (ppm)	0117	16.72	0.4700	16.57	3.684	0.8385	23	0.04	289.33	0
289	Acid Soluble Molybdenum (ppm)	0546	16.73	1.230	16.57	3.684	0.8385	23	0.04	289.33	0
289	Acid Soluble Molybdenum (ppm)	0423	17.21	0.3600	16.57	3.684	0.8385	23	0.17	289.33	0
289	Acid Soluble Molybdenum (ppm)	0037	17.69	0.2770	16.57	3.684	0.8385	23	0.30	289.33	0
289	Acid Soluble Molybdenum (ppm)	0501	18.45	0.7000	16.57	3.684	0.8385	23	0.51	289.34	0
289	Acid Soluble Molybdenum (ppm)	0541	18.50	3.000	16.57	3.684	0.8385	23	0.52	289.30	0
289	Acid Soluble Molybdenum (ppm)	0233	18.58	1.160	16.57	3.684	0.8385	23	0.55	289.33	0
289	Acid Soluble Molybdenum (ppm)	0527	19.13	0.0350	16.57	3.684	0.8385	23	0.70	289.33	0
289	Acid Soluble Molybdenum (ppm)	0096	20.90	2.600	16.57	3.684	0.8385	23	1.18	289.30	0
289	Acid Soluble Molybdenum (ppm)	0106	21.50	1.000	16.57	3.684	0.8385	23	1.34	289.33	0
289	Acid Soluble Molybdenum (ppm)	0255	21.68	0.7910	16.57	3.684	0.8385	23	1.39	289.30	0
289	Acid Soluble Molybdenum (ppm)	0368	23.20	2.800	16.57	3.684	0.8385	23	1.80	289.34	0
291	Acid Soluble Nickel (ppm)	0523	73.81	0.2100	138.8	21.15	4.606	22	-3.07	291.30	0
291	Acid Soluble Nickel (ppm)	0482	109.5	7.000	138.8	21.15	4.606	22	-1.38	291.30	0
291	Acid Soluble Nickel (ppm)	0444	111.0	10.00	138.8	21.15	4.606	22	-1.31	291.30	0
291	Acid Soluble Nickel (ppm)	0255	115.2	3.349	138.8	21.15	4.606	22	-1.12	291.99	0
291	Acid Soluble Nickel (ppm)	0521	116.8	0.0000	138.8	21.15	4.606	22	-1.04	291.30	0
291	Acid Soluble Nickel (ppm)	0394	121.0	2.000	138.8	21.15	4.606	22	-0.84	291.30	0
291	Acid Soluble Nickel (ppm)	0476	121.3	0.6000	138.8	21.15	4.606	22	-0.83	291.99	0
291	Acid Soluble Nickel (ppm)	0550	133.7	17.89	138.8	21.15	4.606	22	-0.24	291.00	0
291	Acid Soluble Nickel (ppm)	0368	138.0	4.000	138.8	21.15	4.606	22	-0.04	291.34	0
291	Acid Soluble Nickel (ppm)	0515	140.3	6.716	138.8	21.15	4.606	22	0.07	291.33	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				
291	Acid Soluble Nickel (ppm)	0494	146.2	18.62	138.8	21.15	4.606	22	0.35	291.33	0
291	Acid Soluble Nickel (ppm)	0541	148.0	18.00	138.8	21.15	4.606	22	0.44	291.30	0
291	Acid Soluble Nickel (ppm)	0037	148.3	2.996	138.8	21.15	4.606	22	0.45	291.33	0
291	Acid Soluble Nickel (ppm)	0498	148.8	0.6000	138.8	21.15	4.606	22	0.47	291.00	0
291	Acid Soluble Nickel (ppm)	0096	150.1	1.800	138.8	21.15	4.606	22	0.54	291.30	0
291	Acid Soluble Nickel (ppm)	0117	152.8	2.600	138.8	21.15	4.606	22	0.66	291.33	0
291	Acid Soluble Nickel (ppm)	0233	153.0	1.800	138.8	21.15	4.606	22	0.67	291.33	0
291	Acid Soluble Nickel (ppm)	0524	153.5	0.2102	138.8	21.15	4.606	22	0.70	291.30	0
291	Acid Soluble Nickel (ppm)	0527	153.7	1.270	138.8	21.15	4.606	22	0.71	291.33	0
291	Acid Soluble Nickel (ppm)	0519	156.2	0.4600	138.8	21.15	4.606	22	0.82	291.99	0
291	Acid Soluble Nickel (ppm)	0501	158.2	1.100	138.8	21.15	4.606	22	0.92	291.34	0
291	Acid Soluble Nickel (ppm)	0520	178.0	0.1000	138.8	21.15	4.606	22	1.85	291.99	0
291	Acid Soluble Nickel (ppm)	0515	187.5	87.57	138.8	21.15	4.606	22	2.30	291.34	1
301	Acid Soluble Selenium (ppm)	0519	0.0100	0.0000	2.353	2.778	0.2586	7	-0.76	301.99	0
301	Acid Soluble Selenium (ppm)	0524	0.4700	0.0800	2.353	2.778	0.2586	7	-0.61	301.30	0
301	Acid Soluble Selenium (ppm)	0498	0.7800	0.1000	2.353	2.778	0.2586	7	-0.51	301.00	0
301	Acid Soluble Selenium (ppm)	0541	0.9500	0.9000	2.353	2.778	0.2586	7	-0.46	301.30	0
301	Acid Soluble Selenium (ppm)	0527	3.342	0.1890	2.353	2.778	0.2586	7	0.32	301.33	0
301	Acid Soluble Selenium (ppm)	0476	4.400	0.2000	2.353	2.778	0.2586	7	0.67	301.99	0
301	Acid Soluble Selenium (ppm)	0255	9.484	0.3410	2.353	2.778	0.2586	7	2.32	301.99	0
301	Acid Soluble Selenium (ppm)	0550	0.8800	1.540	2.353	2.778	0.2586	7	-0.48	301.00	1
301	Acid Soluble Selenium (ppm)	0515	0.0000	0.0000	2.353	2.778	0.2586	7		301.33	4
301	Acid Soluble Selenium (ppm)	0368	0.0000	0.0000	2.353	2.778	0.2586	7		301.34	4
301	Acid Soluble Selenium (ppm)	0515	0.0000	0.0000	2.353	2.778	0.2586	7		301.34	4
311	Sodium (%)	0521	0.0925	0.0000	0.1065	0.0123	0.0095	7	-1.02	311.32	0
311	Sodium (%)	0482	0.1000	0.0000	0.1065	0.0123	0.0095	7	-0.47	311.99	0
311	Sodium (%)	0117	0.1003	0.0133	0.1065	0.0123	0.0095	7	-0.45	311.33	0
311	Sodium (%)	0096	0.1050	0.0100	0.1065	0.0123	0.0095	7	-0.11	311.99	0
311	Sodium (%)	0527	0.1065	0.0090	0.1065	0.0123	0.0095	7	0.00	311.33	0
311	Sodium (%)	0423	0.1160	0.0040	0.1065	0.0123	0.0095	7	0.70	311.33	0
311	Sodium (%)	0354	0.1350	0.0300	0.1065	0.0123	0.0095	7	2.09	311.99	0
321	Acid Soluble Zinc (0.62%)	0389	0.1190†	0.0000	0.4751	0.0342	0.0125	62	-10.40	321.99	0
321	Acid Soluble Zinc (0.62%)	0102	0.3642†	0.0002	0.4751	0.0342	0.0125	62	-3.24	321.30	0
321	Acid Soluble Zinc (0.62%)	0230	0.3935†	0.0130	0.4751	0.0342	0.0125	62	-2.38	321.30	0
321	Acid Soluble Zinc (0.62%)	0476	0.3950†	0.0100	0.4751	0.0342	0.0125	62	-2.34	321.99	0
321	Acid Soluble Zinc (0.62%)	0368	0.4210†	0.0464	0.4751	0.0342	0.0125	62	-1.58	321.99	0
321	Acid Soluble Zinc (0.62%)	0106	0.4232	0.0000	0.4751	0.0342	0.0125	62	-1.52	321.33	0
321	Acid Soluble Zinc (0.62%)	0422	0.4300	0.0800	0.4751	0.0342	0.0125	62	-1.32	321.30	0
321	Acid Soluble Zinc (0.62%)	0324	0.4315	0.0130	0.4751	0.0342	0.0125	62	-1.27	321.30	0
321	Acid Soluble Zinc (0.62%)	0255	0.4395	0.0070	0.4751	0.0342	0.0125	62	-1.04	321.30	0
321	Acid Soluble Zinc (0.62%)	0452	0.4400	0.0000	0.4751	0.0342	0.0125	62	-1.02	321.30	0
321	Acid Soluble Zinc (0.62%)	0531	0.4435	0.0170	0.4751	0.0342	0.0125	62	-0.92	321.00	0
321	Acid Soluble Zinc (0.62%)	0177	0.4471	0.0111	0.4751	0.0342	0.0125	62	-0.82	321.33	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				
321	Acid Soluble Zinc (0.62%)	0524	0.4518	0.0088	0.4751	0.0342	0.0125	62	-0.68	321.99	0
321	Acid Soluble Zinc (0.62%)	0533	0.4525	0.0050	0.4751	0.0342	0.0125	62	-0.66	321.00	0
321	Acid Soluble Zinc (0.62%)	0535	0.4550	0.0100	0.4751	0.0342	0.0125	62	-0.59	321.00	0
321	Acid Soluble Zinc (0.62%)	0231	0.4550	0.0100	0.4751	0.0342	0.0125	62	-0.59	321.30	0
321	Acid Soluble Zinc (0.62%)	0513	0.4560	0.0280	0.4751	0.0342	0.0125	62	-0.56	321.00	0
321	Acid Soluble Zinc (0.62%)	0234	0.4600	0.0200	0.4751	0.0342	0.0125	62	-0.44	321.30	0
321	Acid Soluble Zinc (0.62%)	0444	0.4600	0.0000	0.4751	0.0342	0.0125	62	-0.44	321.30	0
321	Acid Soluble Zinc (0.62%)	0034	0.4600	0.0120	0.4751	0.0342	0.0125	62	-0.44	321.33	0
321	Acid Soluble Zinc (0.62%)	0523	0.4600	0.0020	0.4751	0.0342	0.0125	62	-0.44	321.99	0
321	Acid Soluble Zinc (0.62%)	0037	0.4630	0.0220	0.4751	0.0342	0.0125	62	-0.35	321.33	0
321	Acid Soluble Zinc (0.62%)	0542	0.4637	0.0033	0.4751	0.0342	0.0125	62	-0.33	321.32	0
321	Acid Soluble Zinc (0.62%)	0516	0.4643	0.0155	0.4751	0.0342	0.0125	62	-0.32	321.00	0
321	Acid Soluble Zinc (0.62%)	0117	0.4680	0.0011	0.4751	0.0342	0.0125	62	-0.21	321.33	0
321	Acid Soluble Zinc (0.62%)	0546	0.4685	0.0010	0.4751	0.0342	0.0125	62	-0.19	321.33	0
321	Acid Soluble Zinc (0.62%)	0055	0.4700	0.0000	0.4751	0.0342	0.0125	62	-0.15	321.33	0
321	Acid Soluble Zinc (0.62%)	0486	0.4700	0.0200	0.4751	0.0342	0.0125	62	-0.15	321.33	0
321	Acid Soluble Zinc (0.62%)	0105	0.4733	0.0159	0.4751	0.0342	0.0125	62	-0.05	321.03	0
321	Acid Soluble Zinc (0.62%)	0527	0.4735	0.0050	0.4751	0.0342	0.0125	62	-0.05	321.33	0
321	Acid Soluble Zinc (0.62%)	0360	0.4740	0.0020	0.4751	0.0342	0.0125	62	-0.03	321.30	0
321	Acid Soluble Zinc (0.62%)	0040	0.4750	0.0080	0.4751	0.0342	0.0125	62	0.00	321.00	0
321	Acid Soluble Zinc (0.62%)	0025	0.4766	0.0003	0.4751	0.0342	0.0125	62	0.04	321.33	0
321	Acid Soluble Zinc (0.62%)	0169	0.4800	0.0080	0.4751	0.0342	0.0125	62	0.14	321.00	0
321	Acid Soluble Zinc (0.62%)	0550	0.4800	0.0200	0.4751	0.0342	0.0125	62	0.14	321.00	0
321	Acid Soluble Zinc (0.62%)	0292	0.4800	0.0000	0.4751	0.0342	0.0125	62	0.14	321.30	0
321	Acid Soluble Zinc (0.62%)	0472	0.4800	0.0000	0.4751	0.0342	0.0125	62	0.14	321.30	0
321	Acid Soluble Zinc (0.62%)	0482	0.4800	0.0200	0.4751	0.0342	0.0125	62	0.14	321.30	0
321	Acid Soluble Zinc (0.62%)	0233	0.4816	0.0103	0.4751	0.0342	0.0125	62	0.19	321.33	0
321	Acid Soluble Zinc (0.62%)	0494	0.4819	0.0160	0.4751	0.0342	0.0125	62	0.20	321.33	0
321	Acid Soluble Zinc (0.62%)	0105	0.4848	0.0100	0.4751	0.0342	0.0125	62	0.28	321.00	0
321	Acid Soluble Zinc (0.62%)	0096	0.4888	0.0117	0.4751	0.0342	0.0125	62	0.40	321.30	0
321	Acid Soluble Zinc (0.62%)	0485	0.4936	0.0155	0.4751	0.0342	0.0125	62	0.54	321.00	0
321	Acid Soluble Zinc (0.62%)	0307	0.4950	0.0540	0.4751	0.0342	0.0125	62	0.58	321.30	0
321	Acid Soluble Zinc (0.62%)	0552	0.4950	0.0300	0.4751	0.0342	0.0125	62	0.58	321.30	0
321	Acid Soluble Zinc (0.62%)	0049	0.4965	0.0313	0.4751	0.0342	0.0125	62	0.62	321.30	0
321	Acid Soluble Zinc (0.62%)	0433	0.4990	0.0060	0.4751	0.0342	0.0125	62	0.70	321.30	0
321	Acid Soluble Zinc (0.62%)	0041	0.5000	0.0200	0.4751	0.0342	0.0125	62	0.73	321.30	0
321	Acid Soluble Zinc (0.62%)	0354	0.5000	0.0200	0.4751	0.0342	0.0125	62	0.73	321.30	0
321	Acid Soluble Zinc (0.62%)	0371	0.5000	0.0000	0.4751	0.0342	0.0125	62	0.73	321.30	0
321	Acid Soluble Zinc (0.62%)	0042	0.5005	0.0090	0.4751	0.0342	0.0125	62	0.74	321.99	0
321	Acid Soluble Zinc (0.62%)	0043	0.5030	0.0000	0.4751	0.0342	0.0125	62	0.82	321.32	0
321	Acid Soluble Zinc (0.62%)	0029	0.5032	0.0004	0.4751	0.0342	0.0125	62	0.82	321.00	0
321	Acid Soluble Zinc (0.62%)	0394	0.5050	0.0100	0.4751	0.0342	0.0125	62	0.87	321.32	0
321	Acid Soluble Zinc (0.62%)	0521	0.5220	0.0000	0.4751	0.0342	0.0125	62	1.37	321.32	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
321	Acid Soluble Zinc (0.62%)	0483	0.5230	0.0160	0.4751	0.0342	0.0125	62	1.40	321.30	0
321	Acid Soluble Zinc (0.62%)	0498	0.5350‡	0.0100	0.4751	0.0342	0.0125	62	1.75	321.03	0
321	Acid Soluble Zinc (0.62%)	0291	0.5550‡	0.0100	0.4751	0.0342	0.0125	62	2.33	321.30	0
321	Acid Soluble Zinc (0.62%)	0402	0.5850‡	0.0300	0.4751	0.0342	0.0125	62	3.21	321.30	0
321	Acid Soluble Zinc (0.62%)	0423	0.6090‡	0.0020	0.4751	0.0342	0.0125	62	3.91	321.32	0
321	Acid Soluble Zinc (0.62%)	0519	0.6550‡	0.0300	0.4751	0.0342	0.0125	62	5.26	321.99	0
321	Acid Soluble Zinc (0.62%)	0520	0.7200‡	0.0000	0.4751	0.0342	0.0125	62	7.16	321.99	0
321	Acid Soluble Zinc (0.62%)	0515	0.4693	0.0902	0.4751	0.0342	0.0125	62	-0.17	321.99	1
321	Acid Soluble Zinc (0.62%)	0515	0.4761	0.1161	0.4751	0.0342	0.0125	62	0.03	321.33	1
325	Water Soluble Zinc (%)	0027	0.1215	0.0330	0.3688	0.2349	0.0242	6	-0.94	325.00	0
325	Water Soluble Zinc (%)	0356	0.2110	0.0120	0.3688	0.2349	0.0242	6	-0.60	325.00	0
325	Water Soluble Zinc (%)	0444	0.2850	0.0300	0.3688	0.2349	0.0242	6	-0.32	325.30	0
325	Water Soluble Zinc (%)	0541	0.3750	0.0100	0.3688	0.2349	0.0242	6	0.02	325.30	0
325	Water Soluble Zinc (%)	0532	0.5600	0.0400	0.3688	0.2349	0.0242	6	0.73	325.00	0
325	Water Soluble Zinc (%)	0537	0.6600	0.0200	0.3688	0.2349	0.0242	6	1.10	325.00	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, 3 = removed from stats, 4 = rejected due to 0s submitted and 5 = LOD. A 9 flag indicates a data problem - scores not calculated. Robust statistics not used if < 6 labs used in calculations, in this case the Z Scores are grey and included for information only. Your offset values are higher (‡) or lower (†) than the Robust Analyte value ± Investigational Allowance. Analyte codes in light green indicate a guaranteed analyte. Individual lab values may be below detection limits but are reported solely for the purpose of this Proficiency Testing program.