

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 150611

micros

Statistical Summary

Analytes: 34

Labs Reporting: 89

Issue Date : 07/31/2015

Analyte Code	Analyte	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Analyte Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	IA %RSD	Average Range (R-bar)	Horwitz %RSD
001	Ammoniacal Nitrogen (%)	29	29	11.70	0.4815	11.82		0.3259	0.0428	2.76%		0.0928	2.76%
009	Ammoniacal Plus Nitrate Nitrogen (%)	3	3	12.06	0.2052	12.06		0.2052	0.0838	1.70%		0.2367	2.75%
010	Total Nitrogen (12%)	72	71	11.96	0.2696	11.95	0.6092	0.1917	0.0161	1.60%	2.55%	0.1133	2.75%
020	Total Phosphorus as P2O5 (%)	51	49	40.80	0.6771	40.77		0.6175	0.0624	1.51%		0.3951	2.29%
030	Citrate Insoluble Phosphorus as P2O5 (%)	2	2	0.2013	0.2740								
040	Indirect Available Phosphorus as P2O5 (40%)	4	4	40.77	0.2498	40.77	0.9115	0.2498	0.0883	0.61%	1.12%	0.3363	2.29%
041	Direct Available Phosphorus as P2O5 (40%)	41	39	39.94	0.8901	40.03	0.9005	0.6958	0.0788	1.74%	1.12%	0.3065	2.30%
048	Water Soluble Phosphorus as P2O5 (%)	4	4	35.96	0.3064	35.96		0.3064	0.1083	0.85%		0.1925	2.33%
050	Soluble Potassium as K2O (%)	19	15	2.858	10.31	0.2040	0.4100	0.1094	0.0200	53.66%	100.51%	0.0204	5.08%
060	Water (Free) (%)	5	5	0.8790	0.2564	0.8790		0.2564	0.0811	29.17%		0.0460	4.08%
101	Acid Soluble Calcium (%)	14	13	0.2106	0.0543	0.2145		0.0266	0.0052	12.39%		0.0274	5.04%
121	Acid Soluble Magnesium (0.35%)	46	45	0.4904	0.0483	0.4852	0.2243	0.0327	0.0035	6.75%	23.11%	0.0140	4.46%
131	Water Soluble Magnesium (%)	2	2	0.6125	0.5127								
143	Elemental Sulfur (%)	11	6	4.934	0.2483	4.896		0.2008	0.0580	4.10%		0.1350	3.15%
145	Sulfate Sulfur, HCl soluble (%)	9	9	5.678	1.115	5.313		0.2164	0.0510	4.07%		0.0433	3.11%
148	Total Sulfur (10%)	42	31	10.14	0.8138	10.30	0.7152	0.3386	0.0430	3.29%	3.47%	0.1394	2.82%
149	Sulfur - HNO3 soluble (%)	2	2	9.656	0.8405								
151	Acid Soluble Arsenic (ppm)	14	14	10.24	2.824	9.840		1.821	0.3441	18.51%		0.3886	11.34%
165	Acid Soluble Boron (%)	7	6	0.0121	0.0068	0.0109		0.0051	0.0015	46.47%		0.0012	7.89%
181	Acid Soluble Cadmium (ppm)	14	13	3.539	0.4243	3.545		0.4166	0.0817	11.75%		0.1035	13.22%
190	Water Soluble Chlorine (%)	2	2	0.5703	0.6155								
191	Acid Soluble Chromium (ppm)	14	13	66.11	8.787	67.98		4.633	0.9086	6.82%		1.228	8.48%
202	Acid Soluble Cobalt (ppm)	11	10	2.987	1.113	3.227		0.4433	0.0991	13.74%		0.1646	13.41%
221	Acid Soluble Copper (%)	17	11	0.0007	0.0009	0.0003		0.0002	0.0000	51.73%		0.0001	13.33%
241	Acid Soluble Iron (0.9%)	48	46	0.9691	0.0994	0.9633	0.1013	0.0349	0.0036	3.62%	5.26%	0.0212	4.02%
251	Acid Soluble Lead (ppm)	11	9	2.167	0.5218	2.086		0.4344	0.1024	20.82%		0.1105	14.32%
261	Acid Soluble Manganese (%)	16	15	0.0288	0.0018	0.0289		0.0016	0.0003	5.68%		0.0004	6.82%
281	Acid Soluble Mercury (ppm)	3	3	94.43	163.3	94.43		163.3	66.67	172.94%		5.352	8.07%
289	Acid Soluble Molybdenum (ppm)	12	12	10.88	1.382	10.86		1.208	0.2466	11.12%		0.5216	11.17%
291	Acid Soluble Nickel (ppm)	15	15	16.19	1.424	16.17		1.160	0.2117	7.17%		0.2576	10.52%
301	Acid Soluble Selenium (ppm)	3	0	0.0000		16.17		1.160		7.17%		0.0000	10.52%

Analyte Code	Analyte	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Analyte Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	IA %RSD	Average Range (R-bar)	Horwitz %RSD
311	Sodium (%)	7	7	0.1034	0.0428	0.1090		0.0184	0.0049	16.84%		0.0029	5.58%
321	Acid Soluble Zinc (1%)	54	52	1.053	0.0747	1.047	0.1097	0.0662	0.0065	6.32%	5.24%	0.0241	3.97%
325	Water Soluble Zinc (%)	7	6	0.4900	0.0929	0.4951		0.0361	0.0104	7.29%		0.0164	4.45%

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Lab Values

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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 (%)	0230	10.65	0.3000	11.82	0.3259	0.0928	29	-3.60	001.10	0
001	Ammoniacal Nitrogen (%)	0368	10.66	0.1100	11.82	0.3259	0.0928	29	-3.58	001.99	0
001	Ammoniacal Nitrogen (%)	0394	11.00	0.0000	11.82	0.3259	0.0928	29	-2.52	001.99	0
001	Ammoniacal Nitrogen (%)	0177	11.05	0.3196	11.82	0.3259	0.0928	29	-2.37	001.10	0
001	Ammoniacal Nitrogen (%)	0258	11.11	0.1900	11.82	0.3259	0.0928	29	-2.20	001.10	0
001	Ammoniacal Nitrogen (%)	0234	11.12	0.0300	11.82	0.3259	0.0928	29	-2.17	001.10	0
001	Ammoniacal Nitrogen (%)	0415	11.15	0.0210	11.82	0.3259	0.0928	29	-2.06	001.99	0
001	Ammoniacal Nitrogen (%)	0456	11.45	0.0700	11.82	0.3259	0.0928	29	-1.16	001.10	0
001	Ammoniacal Nitrogen (%)	0481	11.53	0.0600	11.82	0.3259	0.0928	29	-0.90	001.10	0
001	Ammoniacal Nitrogen (%)	0420	11.54	0.0700	11.82	0.3259	0.0928	29	-0.88	001.99	0
001	Ammoniacal Nitrogen (%)	0500	11.58	0.1400	11.82	0.3259	0.0928	29	-0.74	001.10	0
001	Ammoniacal Nitrogen (%)	0309	11.73	0.2100	11.82	0.3259	0.0928	29	-0.30	001.10	0
001	Ammoniacal Nitrogen (%)	0169	11.89	0.0100	11.82	0.3259	0.0928	29	0.19	001.99	0
001	Ammoniacal Nitrogen (%)	0096	11.91	0.0700	11.82	0.3259	0.0928	29	0.25	001.99	0
001	Ammoniacal Nitrogen (%)	0231	11.94	0.0500	11.82	0.3259	0.0928	29	0.35	001.10	0
001	Ammoniacal Nitrogen (%)	0371	11.94	0.1600	11.82	0.3259	0.0928	29	0.36	001.99	0
001	Ammoniacal Nitrogen (%)	0506	11.95	0.3000	11.82	0.3259	0.0928	29	0.39	001.99	0
001	Ammoniacal Nitrogen (%)	0486	11.97	0.1100	11.82	0.3259	0.0928	29	0.44	001.10	0
001	Ammoniacal Nitrogen (%)	0220	12.00	0.0100	11.82	0.3259	0.0928	29	0.53	001.99	0
001	Ammoniacal Nitrogen (%)	0211	12.00	0.0200	11.82	0.3259	0.0928	29	0.54	001.99	0
001	Ammoniacal Nitrogen (%)	0510	12.01	0.0400	11.82	0.3259	0.0928	29	0.58	001.99	0
001	Ammoniacal Nitrogen (%)	0493	12.03	0.0500	11.82	0.3259	0.0928	29	0.62	001.99	0
001	Ammoniacal Nitrogen (%)	0300	12.08	0.0100	11.82	0.3259	0.0928	29	0.77	001.99	0
001	Ammoniacal Nitrogen (%)	0405	12.09	0.0100	11.82	0.3259	0.0928	29	0.81	001.99	0
001	Ammoniacal Nitrogen (%)	0498	12.10	0.2000	11.82	0.3259	0.0928	29	0.85	001.10	0
001	Ammoniacal Nitrogen (%)	0487	12.10	0.0000	11.82	0.3259	0.0928	29	0.85	001.99	0
001	Ammoniacal Nitrogen (%)	0444	12.22	0.0500	11.82	0.3259	0.0928	29	1.20	001.10	0
001	Ammoniacal Nitrogen (%)	0513	12.25	0.0700	11.82	0.3259	0.0928	29	1.30	001.10	0
001	Ammoniacal Nitrogen (%)	0513	12.32	0.0100	11.82	0.3259	0.0928	29	1.51	001.99	0
009	Ammoniacal Plus Nitrate Nitrogen (%)	0090	11.93	0.0600	12.06	0.2052	0.2367	3	-0.63	009.10	0
009	Ammoniacal Plus Nitrate Nitrogen (%)	0258	11.95	0.0600	12.06	0.2052	0.2367	3	-0.53	009.10	0
009	Ammoniacal Plus Nitrate Nitrogen (%)	0444	12.30	0.5900	12.06	0.2052	0.2367	3	1.15	009.10	0
010	Total Nitrogen (12%)	0394	11.10*	0.0000	11.95	0.1917	0.1133	71	-4.42	010.60	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010	Total Nitrogen (12%)	0351	11.56	0.2307	11.95	0.1917	0.1133	71	-2.04	010.60	0
010	Total Nitrogen (12%)	0481	11.61	0.1500	11.95	0.1917	0.1133	71	-1.78	010.60	0
010	Total Nitrogen (12%)	0485	11.64	0.3800	11.95	0.1917	0.1133	71	-1.60	010.60	0
010	Total Nitrogen (12%)	0415	11.64	0.5053	11.95	0.1917	0.1133	71	-1.58	010.99	0
010	Total Nitrogen (12%)	0451	11.65	0.0800	11.95	0.1917	0.1133	71	-1.55	010.60	0
010	Total Nitrogen (12%)	0421	11.66	0.1800	11.95	0.1917	0.1133	71	-1.49	010.60	0
010	Total Nitrogen (12%)	0487	11.70	1.000	11.95	0.1917	0.1133	71	-1.29	010.99	0
010	Total Nitrogen (12%)	0114	11.71	0.0400	11.95	0.1917	0.1133	71	-1.23	010.11	0
010	Total Nitrogen (12%)	0356	11.71	0.1800	11.95	0.1917	0.1133	71	-1.23	010.60	0
010	Total Nitrogen (12%)	0444	11.72	0.0100	11.95	0.1917	0.1133	71	-1.21	010.60	0
010	Total Nitrogen (12%)	0041	11.73	0.0300	11.95	0.1917	0.1133	71	-1.16	010.60	0
010	Total Nitrogen (12%)	0234	11.75	0.0300	11.95	0.1917	0.1133	71	-1.05	010.60	0
010	Total Nitrogen (12%)	0456	11.76	0.0400	11.95	0.1917	0.1133	71	-0.97	010.11	0
010	Total Nitrogen (12%)	0025	11.79	0.5900	11.95	0.1917	0.1133	71	-0.84	010.60	0
010	Total Nitrogen (12%)	0007	11.80	0.2000	11.95	0.1917	0.1133	71	-0.76	010.60	0
010	Total Nitrogen (12%)	0102	11.81	0.2300	11.95	0.1917	0.1133	71	-0.74	010.60	0
010	Total Nitrogen (12%)	0368	11.82	0.0650	11.95	0.1917	0.1133	71	-0.68	010.60	0
010	Total Nitrogen (12%)	0402	11.82	0.0150	11.95	0.1917	0.1133	71	-0.66	010.60	0
010	Total Nitrogen (12%)	0095	11.83	0.3600	11.95	0.1917	0.1133	71	-0.61	010.60	0
010	Total Nitrogen (12%)	0043	11.84	0.0300	11.95	0.1917	0.1133	71	-0.58	010.60	0
010	Total Nitrogen (12%)	0390	11.85	0.0700	11.95	0.1917	0.1133	71	-0.53	010.60	0
010	Total Nitrogen (12%)	0422	11.85	0.0700	11.95	0.1917	0.1133	71	-0.53	010.60	0
010	Total Nitrogen (12%)	0086	11.87	0.0890	11.95	0.1917	0.1133	71	-0.39	010.60	0
010	Total Nitrogen (12%)	0309	11.88	0.0400	11.95	0.1917	0.1133	71	-0.35	010.11	0
010	Total Nitrogen (12%)	0233	11.90	0.1700	11.95	0.1917	0.1133	71	-0.27	010.60	0
010	Total Nitrogen (12%)	0042	11.90	0.0000	11.95	0.1917	0.1133	71	-0.24	010.60	0
010	Total Nitrogen (12%)	0474	11.91	0.0300	11.95	0.1917	0.1133	71	-0.22	010.11	0
010	Total Nitrogen (12%)	0423	11.91	0.0600	11.95	0.1917	0.1133	71	-0.19	010.60	0
010	Total Nitrogen (12%)	0377	11.94	0.0200	11.95	0.1917	0.1133	71	-0.03	010.60	0
010	Total Nitrogen (12%)	0096	11.94	0.1000	11.95	0.1917	0.1133	71	-0.03	010.60	0
010	Total Nitrogen (12%)	0420	11.94	0.1000	11.95	0.1917	0.1133	71	-0.03	010.99	0
010	Total Nitrogen (12%)	0035	11.95	0.0300	11.95	0.1917	0.1133	71	-0.01	010.60	0
010	Total Nitrogen (12%)	0324	11.95	0.1000	11.95	0.1917	0.1133	71	0.02	010.60	0
010	Total Nitrogen (12%)	0516	11.95	0.1000	11.95	0.1917	0.1133	71	0.02	010.60	0
010	Total Nitrogen (12%)	0105	11.96	0.0000	11.95	0.1917	0.1133	71	0.07	010.11	0
010	Total Nitrogen (12%)	0291	11.97	0.0100	11.95	0.1917	0.1133	71	0.10	010.60	0
010	Total Nitrogen (12%)	0405	11.97	0.0300	11.95	0.1917	0.1133	71	0.10	010.60	0
010	Total Nitrogen (12%)	0220	11.98	0.0100	11.95	0.1917	0.1133	71	0.15	010.11	0
010	Total Nitrogen (12%)	0177	11.98	0.0800	11.95	0.1917	0.1133	71	0.17	010.60	0
010	Total Nitrogen (12%)	0292	11.99	0.0100	11.95	0.1917	0.1133	71	0.20	010.60	0
010	Total Nitrogen (12%)	0360	11.99	0.0700	11.95	0.1917	0.1133	71	0.20	010.60	0
010	Total Nitrogen (12%)	0049	12.01	0.0900	11.95	0.1917	0.1133	71	0.31	010.60	0
010	Total Nitrogen (12%)	0486	12.01	0.0600	11.95	0.1917	0.1133	71	0.33	010.60	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010	Total Nitrogen (12%)	0472	12.03	0.0300	11.95	0.1917	0.1133	71	0.41	010.60	0
010	Total Nitrogen (12%)	0452	12.04	0.0200	11.95	0.1917	0.1133	71	0.49	010.60	0
010	Total Nitrogen (12%)	0483	12.04	0.0200	11.95	0.1917	0.1133	71	0.49	010.60	0
010	Total Nitrogen (12%)	0455	12.05	0.0100	11.95	0.1917	0.1133	71	0.51	010.12	0
010	Total Nitrogen (12%)	0024	12.05	0.1000	11.95	0.1917	0.1133	71	0.54	010.60	0
010	Total Nitrogen (12%)	0040	12.05	0.1000	11.95	0.1917	0.1133	71	0.54	010.60	0
010	Total Nitrogen (12%)	0157	12.05	0.1000	11.95	0.1917	0.1133	71	0.54	010.60	0
010	Total Nitrogen (12%)	0482	12.05	0.3000	11.95	0.1917	0.1133	71	0.54	010.60	0
010	Total Nitrogen (12%)	0105	12.06	0.0010	11.95	0.1917	0.1133	71	0.57	010.60	0
010	Total Nitrogen (12%)	0136	12.07	0.0200	11.95	0.1917	0.1133	71	0.64	010.60	0
010	Total Nitrogen (12%)	0307	12.09	0.0200	11.95	0.1917	0.1133	71	0.75	010.60	0
010	Total Nitrogen (12%)	0275	12.10	0.0900	11.95	0.1917	0.1133	71	0.77	010.60	0
010	Total Nitrogen (12%)	0498	12.10	0.2000	11.95	0.1917	0.1133	71	0.80	010.12	0
010	Total Nitrogen (12%)	0018	12.10	0.0000	11.95	0.1917	0.1133	71	0.80	010.60	0
010	Total Nitrogen (12%)	0072	12.10	0.1200	11.95	0.1917	0.1133	71	0.80	010.60	0
010	Total Nitrogen (12%)	0185	12.10	0.0600	11.95	0.1917	0.1133	71	0.80	010.12	0
010	Total Nitrogen (12%)	0510	12.12	0.0300	11.95	0.1917	0.1133	71	0.88	010.11	0
010	Total Nitrogen (12%)	0162	12.14	0.1600	11.95	0.1917	0.1133	71	1.01	010.60	0
010	Total Nitrogen (12%)	0055	12.15	0.1100	11.95	0.1917	0.1133	71	1.04	010.60	0
010	Total Nitrogen (12%)	0406	12.16	0.1100	11.95	0.1917	0.1133	71	1.09	010.60	0
010	Total Nitrogen (12%)	0354	12.18	0.0430	11.95	0.1917	0.1133	71	1.22	010.60	0
010	Total Nitrogen (12%)	0029	12.36	0.1600	11.95	0.1917	0.1133	71	2.16	010.60	0
010	Total Nitrogen (12%)	0508	12.39	0.0200	11.95	0.1917	0.1133	71	2.31	010.17	0
010	Total Nitrogen (12%)	0117	12.45	0.3000	11.95	0.1917	0.1133	71	2.63	010.60	0
010	Total Nitrogen (12%)	0389	12.47	0.1900	11.95	0.1917	0.1133	71	2.70	010.60	0
010	Total Nitrogen (12%)	0494	12.59	0.0360	11.95	0.1917	0.1133	71	3.38	010.60	0
010	Total Nitrogen (12%)	0073	13.17	0.0100	11.95	0.1917	0.1133	71	6.36	010.60	0
010	Total Nitrogen (12%)	0230	13.55	3.300	11.95	0.1917	0.1133	71	8.36	010.60	1
020	Total Phosphorus as P2O5 (%)	0472	39.11	1.990	40.77	0.6175	0.3951	49	-2.70	020.50	0
020	Total Phosphorus as P2O5 (%)	0422	39.65	0.2300	40.77	0.6175	0.3951	49	-1.83	020.50	0
020	Total Phosphorus as P2O5 (%)	0506	39.75	1.100	40.77	0.6175	0.3951	49	-1.66	020.20	0
020	Total Phosphorus as P2O5 (%)	0420	39.84	0.1200	40.77	0.6175	0.3951	49	-1.51	020.20	0
020	Total Phosphorus as P2O5 (%)	0389	39.85	0.3700	40.77	0.6175	0.3951	49	-1.51	020.50	0
020	Total Phosphorus as P2O5 (%)	0487	39.85	0.1000	40.77	0.6175	0.3951	49	-1.50	020.99	0
020	Total Phosphorus as P2O5 (%)	0508	39.88	0.3600	40.77	0.6175	0.3951	49	-1.45	020.20	0
020	Total Phosphorus as P2O5 (%)	0457	40.18	0.1500	40.77	0.6175	0.3951	49	-0.97	020.20	0
020	Total Phosphorus as P2O5 (%)	0307	40.22	1.526	40.77	0.6175	0.3951	49	-0.91	020.50	0
020	Total Phosphorus as P2O5 (%)	0481	40.24	0.3300	40.77	0.6175	0.3951	49	-0.87	020.20	0
020	Total Phosphorus as P2O5 (%)	0291	40.27	0.0100	40.77	0.6175	0.3951	49	-0.83	020.50	0
020	Total Phosphorus as P2O5 (%)	0324	40.50	0.0000	40.77	0.6175	0.3951	49	-0.45	020.20	0
020	Total Phosphorus as P2O5 (%)	0042	40.50	0.2000	40.77	0.6175	0.3951	49	-0.45	020.40	0
020	Total Phosphorus as P2O5 (%)	0456	40.53	0.0600	40.77	0.6175	0.3951	49	-0.40	020.40	0
020	Total Phosphorus as P2O5 (%)	0500	40.57	0.0200	40.77	0.6175	0.3951	49	-0.33	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 (%)	0455	40.60	0.2000	40.77	0.6175	0.3951	49	-0.28	020.99	0
020	Total Phosphorus as P2O5 (%)	0035	40.61	1.860	40.77	0.6175	0.3951	49	-0.27	020.40	0
020	Total Phosphorus as P2O5 (%)	0500	40.61	0.1200	40.77	0.6175	0.3951	49	-0.27	020.40	0
020	Total Phosphorus as P2O5 (%)	0356	40.62	0.4100	40.77	0.6175	0.3951	49	-0.26	020.20	0
020	Total Phosphorus as P2O5 (%)	0169	40.63	0.0400	40.77	0.6175	0.3951	49	-0.23	020.20	0
020	Total Phosphorus as P2O5 (%)	0444	40.64	0.1000	40.77	0.6175	0.3951	49	-0.22	020.10	0
020	Total Phosphorus as P2O5 (%)	0027	40.68	0.1680	40.77	0.6175	0.3951	49	-0.15	020.20	0
020	Total Phosphorus as P2O5 (%)	0292	40.69	0.0500	40.77	0.6175	0.3951	49	-0.15	020.20	0
020	Total Phosphorus as P2O5 (%)	0258	40.71	0.6300	40.77	0.6175	0.3951	49	-0.11	020.20	0
020	Total Phosphorus as P2O5 (%)	0394	40.73	0.0500	40.77	0.6175	0.3951	49	-0.08	020.20	0
020	Total Phosphorus as P2O5 (%)	0231	40.85	0.2100	40.77	0.6175	0.3951	49	0.11	020.20	0
020	Total Phosphorus as P2O5 (%)	0157	40.85	0.1000	40.77	0.6175	0.3951	49	0.12	020.10	0
020	Total Phosphorus as P2O5 (%)	0371	40.85	0.1200	40.77	0.6175	0.3951	49	0.12	020.20	0
020	Total Phosphorus as P2O5 (%)	0423	40.85	0.1200	40.77	0.6175	0.3951	49	0.12	020.50	0
020	Total Phosphorus as P2O5 (%)	0428	40.89	0.7259	40.77	0.6175	0.3951	49	0.19	020.20	0
020	Total Phosphorus as P2O5 (%)	0220	40.92	0.2300	40.77	0.6175	0.3951	49	0.23	020.20	0
020	Total Phosphorus as P2O5 (%)	0474	40.97	0.0900	40.77	0.6175	0.3951	49	0.31	020.20	0
020	Total Phosphorus as P2O5 (%)	0368	40.98	0.2180	40.77	0.6175	0.3951	49	0.33	020.50	0
020	Total Phosphorus as P2O5 (%)	0405	40.99	0.1300	40.77	0.6175	0.3951	49	0.34	020.20	0
020	Total Phosphorus as P2O5 (%)	0105	41.04	0.3800	40.77	0.6175	0.3951	49	0.43	020.40	0
020	Total Phosphorus as P2O5 (%)	0513	41.11	0.1200	40.77	0.6175	0.3951	49	0.54	020.20	0
020	Total Phosphorus as P2O5 (%)	0482	41.25	0.1000	40.77	0.6175	0.3951	49	0.77	020.50	0
020	Total Phosphorus as P2O5 (%)	0483	41.25	0.0000	40.77	0.6175	0.3951	49	0.77	020.50	0
020	Total Phosphorus as P2O5 (%)	0090	41.34	0.2900	40.77	0.6175	0.3951	49	0.91	020.10	0
020	Total Phosphorus as P2O5 (%)	0105	41.34	0.1700	40.77	0.6175	0.3951	49	0.91	020.10	0
020	Total Phosphorus as P2O5 (%)	0211	41.46	0.0100	40.77	0.6175	0.3951	49	1.10	020.10	0
020	Total Phosphorus as P2O5 (%)	0406	41.46	0.8300	40.77	0.6175	0.3951	49	1.10	020.20	0
020	Total Phosphorus as P2O5 (%)	0500	41.54	0.0000	40.77	0.6175	0.3951	49	1.24	020.10	0
020	Total Phosphorus as P2O5 (%)	0390	41.70	1.390	40.77	0.6175	0.3951	49	1.49	020.50	0
020	Total Phosphorus as P2O5 (%)	0516	41.72	2.640	40.77	0.6175	0.3951	49	1.53	020.20	0
020	Total Phosphorus as P2O5 (%)	0234	41.84	0.1600	40.77	0.6175	0.3951	49	1.72	020.50	0
020	Total Phosphorus as P2O5 (%)	0402	41.85	0.0800	40.77	0.6175	0.3951	49	1.74	020.50	0
020	Total Phosphorus as P2O5 (%)	0510	42.28	0.1200	40.77	0.6175	0.3951	49	2.44	020.20	0
020	Total Phosphorus as P2O5 (%)	0451	42.40	0.9300	40.77	0.6175	0.3951	49	2.62	020.50	0
020	Total Phosphorus as P2O5 (%)	0096	25.89	30.09	40.77	0.6175	0.3951	49	-24.11	020.40	1
020	Total Phosphorus as P2O5 (%)	0322	0.0200	0.0000	40.77	0.6175	0.3951	49	-66.00	020.10	2
030	Citrate Insoluble Phosphorus as P2O5 (%)	0513	0.0075	0.0050	0.2013	0.2740	0.0175	2	-0.71	030.20	0
030	Citrate Insoluble Phosphorus as P2O5 (%)	0220	0.3950	0.0300	0.2013	0.2740	0.0175	2	0.71	030.20	0
040	Indirect Available Phosphorus as P2O5 (40%)	0405	40.51	0.1000	40.77	0.2498	0.3363	4	-1.02	040.20	0
040	Indirect Available Phosphorus as P2O5 (40%)	0096	40.68	0.0100	40.77	0.2498	0.3363	4	-0.36	040.40	0
040	Indirect Available Phosphorus as P2O5 (40%)	0072	40.78	1.110	40.77	0.2498	0.3363	4	0.04	040.50	0
040	Indirect Available Phosphorus as P2O5 (40%)	0513	41.10	0.1250	40.77	0.2498	0.3363	4	1.35	040.20	0
041	Direct Available Phosphorus as P2O5 (40%)	0423	37.11*	0.1900	40.03	0.6958	0.3065	39	-4.21	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 (40%)	0354	37.89*	0.2030	40.03	0.6958	0.3065	39	-3.08	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0025	38.45*	1.100	40.03	0.6958	0.3065	39	-2.27	041.50	0
041	Direct Available Phosphorus as P2O5 (40%)	0368	38.50*	0.3400	40.03	0.6958	0.3065	39	-2.20	041.50	0
041	Direct Available Phosphorus as P2O5 (40%)	0029	39.18	0.7300	40.03	0.6958	0.3065	39	-1.23	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0043	39.25	0.2900	40.03	0.6958	0.3065	39	-1.13	041.50	0
041	Direct Available Phosphorus as P2O5 (40%)	0055	39.25	0.3000	40.03	0.6958	0.3065	39	-1.12	041.11	0
041	Direct Available Phosphorus as P2O5 (40%)	0102	39.40	0.0000	40.03	0.6958	0.3065	39	-0.91	041.10	0
041	Direct Available Phosphorus as P2O5 (40%)	0360	39.51	0.6900	40.03	0.6958	0.3065	39	-0.76	041.51	0
041	Direct Available Phosphorus as P2O5 (40%)	0073	39.53	0.7500	40.03	0.6958	0.3065	39	-0.73	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0055	39.63	0.0000	40.03	0.6958	0.3065	39	-0.58	041.21	0
041	Direct Available Phosphorus as P2O5 (40%)	0043	39.70	0.0600	40.03	0.6958	0.3065	39	-0.48	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0095	39.71	0.5300	40.03	0.6958	0.3065	39	-0.47	041.40	0
041	Direct Available Phosphorus as P2O5 (40%)	0177	39.77	0.0532	40.03	0.6958	0.3065	39	-0.37	041.10	0
041	Direct Available Phosphorus as P2O5 (40%)	0177	39.84	0.1398	40.03	0.6958	0.3065	39	-0.27	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0231	39.88	0.1100	40.03	0.6958	0.3065	39	-0.23	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0105	39.92	0.3400	40.03	0.6958	0.3065	39	-0.16	041.99	0
041	Direct Available Phosphorus as P2O5 (40%)	0377	39.96	0.0400	40.03	0.6958	0.3065	39	-0.10	041.51	0
041	Direct Available Phosphorus as P2O5 (40%)	0351	40.03	0.2672	40.03	0.6958	0.3065	39	-0.01	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0452	40.08	0.0200	40.03	0.6958	0.3065	39	0.07	041.50	0
041	Direct Available Phosphorus as P2O5 (40%)	0072	40.09	0.1800	40.03	0.6958	0.3065	39	0.08	041.10	0
041	Direct Available Phosphorus as P2O5 (40%)	0485	40.12	0.0100	40.03	0.6958	0.3065	39	0.12	041.11	0
041	Direct Available Phosphorus as P2O5 (40%)	0493	40.20	0.1000	40.03	0.6958	0.3065	39	0.24	041.10	0
041	Direct Available Phosphorus as P2O5 (40%)	0220	40.21	0.1400	40.03	0.6958	0.3065	39	0.25	041.11	0
041	Direct Available Phosphorus as P2O5 (40%)	0105	40.26	0.2500	40.03	0.6958	0.3065	39	0.32	041.11	0
041	Direct Available Phosphorus as P2O5 (40%)	0105	40.30	0.0700	40.03	0.6958	0.3065	39	0.38	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0136	40.41	0.0500	40.03	0.6958	0.3065	39	0.54	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0018	40.50	0.0000	40.03	0.6958	0.3065	39	0.67	041.40	0
041	Direct Available Phosphorus as P2O5 (40%)	0185	40.52	0.0000	40.03	0.6958	0.3065	39	0.70	041.10	0
041	Direct Available Phosphorus as P2O5 (40%)	0506	40.55	0.3000	40.03	0.6958	0.3065	39	0.74	041.99	0
041	Direct Available Phosphorus as P2O5 (40%)	0233	40.57	0.8800	40.03	0.6958	0.3065	39	0.77	041.50	0
041	Direct Available Phosphorus as P2O5 (40%)	0086	40.64	0.0421	40.03	0.6958	0.3065	39	0.87	041.10	0
041	Direct Available Phosphorus as P2O5 (40%)	0486	40.75	0.1500	40.03	0.6958	0.3065	39	1.02	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0040	40.75	0.3000	40.03	0.6958	0.3065	39	1.03	041.10	0
041	Direct Available Phosphorus as P2O5 (40%)	0049	40.80	0.0700	40.03	0.6958	0.3065	39	1.10	041.10	0
041	Direct Available Phosphorus as P2O5 (40%)	0117	40.80	0.4000	40.03	0.6958	0.3065	39	1.10	041.60	0
041	Direct Available Phosphorus as P2O5 (40%)	0513	40.94	0.0900	40.03	0.6958	0.3065	39	1.30	041.21	0
041	Direct Available Phosphorus as P2O5 (40%)	0421	41.10	0.9700	40.03	0.6958	0.3065	39	1.53	041.51	0
041	Direct Available Phosphorus as P2O5 (40%)	0230	41.80	1.800	40.03	0.6958	0.3065	39	2.54	041.99	0
041	Direct Available Phosphorus as P2O5 (40%)	0472	39.10*	2.150	40.03	0.6958	0.3065	39	-1.35	041.60	1
041	Direct Available Phosphorus as P2O5 (40%)	0007	39.25	2.300	40.03	0.6958	0.3065	39	-1.12	041.50	1
048	Water Soluble Phosphorus as P2O5 (%)	0096	35.67	0.1700	35.96	0.3064	0.1925	4	-0.97	048.40	0
048	Water Soluble Phosphorus as P2O5 (%)	0405	35.87	0.0600	35.96	0.3064	0.1925	4	-0.30	048.20	0
048	Water Soluble Phosphorus as P2O5 (%)	0394	35.92	0.5200	35.96	0.3064	0.1925	4	-0.13	048.20	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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048	Water Soluble Phosphorus as P2O5 (%)	0420	36.39	0.0200	35.96	0.3064	0.1925	4	1.40	048.20	0
050	Soluble Potassium as K2O (%)	0292	0.0600	0.0200	0.2040	0.1094	0.0204	15	-1.32	050.50	0
050	Soluble Potassium as K2O (%)	0096	0.1150	0.0100	0.2040	0.1094	0.0204	15	-0.81	050.99	0
050	Soluble Potassium as K2O (%)	0389	0.1150	0.0100	0.2040	0.1094	0.0204	15	-0.81	050.99	0
050	Soluble Potassium as K2O (%)	0474	0.1200	0.0000	0.2040	0.1094	0.0204	15	-0.77	050.99	0
050	Soluble Potassium as K2O (%)	0482	0.1250	0.0100	0.2040	0.1094	0.0204	15	-0.72	050.99	0
050	Soluble Potassium as K2O (%)	0421	0.1365	0.0010	0.2040	0.1094	0.0204	15	-0.62	050.52	0
050	Soluble Potassium as K2O (%)	0420	0.1650	0.0000	0.2040	0.1094	0.0204	15	-0.36	050.50	0
050	Soluble Potassium as K2O (%)	0423	0.1850	0.0300	0.2040	0.1094	0.0204	15	-0.17	050.52	0
050	Soluble Potassium as K2O (%)	0377	0.2050	0.0100	0.2040	0.1094	0.0204	15	0.01	050.52	0
050	Soluble Potassium as K2O (%)	0105	0.2300	0.0000	0.2040	0.1094	0.0204	15	0.24	050.62	0
050	Soluble Potassium as K2O (%)	0105	0.2550	0.0300	0.2040	0.1094	0.0204	15	0.47	050.99	0
050	Soluble Potassium as K2O (%)	0354	0.3315	0.0650	0.2040	0.1094	0.0204	15	1.17	050.52	0
050	Soluble Potassium as K2O (%)	0105	0.3350	0.0100	0.2040	0.1094	0.0204	15	1.20	050.60	0
050	Soluble Potassium as K2O (%)	0042	0.3800	0.0600	0.2040	0.1094	0.0204	15	1.61	050.99	0
050	Soluble Potassium as K2O (%)	0322	40.12	0.0500	0.2040	0.1094	0.0204	15	364.69	050.10	0
050	Soluble Potassium as K2O (%)	0309	37.45	0.2400	0.2040	0.1094	0.0204	15	340.34	050.60	1
050	Soluble Potassium as K2O (%)	0406	0.0000	0.0000	0.2040	0.1094	0.0204	15	-1.86	050.50	4
050	Soluble Potassium as K2O (%)	0018	0.0000	0.0000	0.2040	0.1094	0.0204	15	-1.86	050.62	4
050	Soluble Potassium as K2O (%)	0472	0.0600	0.1200	0.2040	0.1094	0.0204	15	-1.32	050.31	4
060	Water (Free) (%)	0500	0.6000	0.0400	0.8790	0.2564	0.0460	5	-1.09	060.20	0
060	Water (Free) (%)	0007	0.6700	0.0400	0.8790	0.2564	0.0460	5	-0.82	060.00	0
060	Water (Free) (%)	0456	0.8900	0.0600	0.8790	0.2564	0.0460	5	0.04	060.00	0
060	Water (Free) (%)	0096	1.000	0.0800	0.8790	0.2564	0.0460	5	0.47	060.00	0
060	Water (Free) (%)	0510	1.235	0.0100	0.8790	0.2564	0.0460	5	1.39	060.99	0
101	Acid Soluble Calcium (%)	0472	0.1000	0.0000	0.2145	0.0266	0.0274	13	-4.31	101.30	0
101	Acid Soluble Calcium (%)	0390	0.1251	0.2018	0.2145	0.0266	0.0274	13	-3.36	101.30	0
101	Acid Soluble Calcium (%)	0423	0.1855	0.0110	0.2145	0.0266	0.0274	13	-1.09	101.32	0
101	Acid Soluble Calcium (%)	0457	0.2000	0.0000	0.2145	0.0266	0.0274	13	-0.54	101.00	0
101	Acid Soluble Calcium (%)	0482	0.2050	0.0100	0.2145	0.0266	0.0274	13	-0.36	101.30	0
101	Acid Soluble Calcium (%)	0389	0.2125	0.0050	0.2145	0.0266	0.0274	13	-0.07	101.99	0
101	Acid Soluble Calcium (%)	0474	0.2150	0.0100	0.2145	0.0266	0.0274	13	0.02	101.30	0
101	Acid Soluble Calcium (%)	0096	0.2205	0.0030	0.2145	0.0266	0.0274	13	0.23	101.30	0
101	Acid Soluble Calcium (%)	0102	0.2220	0.0020	0.2145	0.0266	0.0274	13	0.28	101.30	0
101	Acid Soluble Calcium (%)	0049	0.2250	0.0100	0.2145	0.0266	0.0274	13	0.40	101.30	0
101	Acid Soluble Calcium (%)	0420	0.2425	0.0030	0.2145	0.0266	0.0274	13	1.06	101.30	0
101	Acid Soluble Calcium (%)	0421	0.2800	0.1000	0.2145	0.0266	0.0274	13	2.47	101.33	0
101	Acid Soluble Calcium (%)	0354	0.3045	0.0010	0.2145	0.0266	0.0274	13	3.39	101.30	0
101	Acid Soluble Calcium (%)	0041	0.3650	0.2900	0.2145	0.0266	0.0274	13	5.67	101.30	1
121	Acid Soluble Magnesium (0.35%)	0513	0.4045	0.0130	0.4852	0.0327	0.0140	45	-2.47	121.00	0
121	Acid Soluble Magnesium (0.35%)	0230	0.4285	0.0030	0.4852	0.0327	0.0140	45	-1.73	121.30	0
121	Acid Soluble Magnesium (0.35%)	0515	0.4333	0.0036	0.4852	0.0327	0.0140	45	-1.59	121.33	0
121	Acid Soluble Magnesium (0.35%)	0474	0.4400	0.0000	0.4852	0.0327	0.0140	45	-1.38	121.30	0

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121	Acid Soluble Magnesium (0.35%)	0169	0.4450	0.0300	0.4852	0.0327	0.0140	45	-1.23	121.00	0
121	Acid Soluble Magnesium (0.35%)	0481	0.4450	0.0100	0.4852	0.0327	0.0140	45	-1.23	121.00	0
121	Acid Soluble Magnesium (0.35%)	0042	0.4500	0.0000	0.4852	0.0327	0.0140	45	-1.08	121.99	0
121	Acid Soluble Magnesium (0.35%)	0043	0.4510	0.0080	0.4852	0.0327	0.0140	45	-1.05	121.00	0
121	Acid Soluble Magnesium (0.35%)	0389	0.4560	0.0080	0.4852	0.0327	0.0140	45	-0.89	121.99	0
121	Acid Soluble Magnesium (0.35%)	0027	0.4630	0.0160	0.4852	0.0327	0.0140	45	-0.68	121.30	0
121	Acid Soluble Magnesium (0.35%)	0258	0.4645	0.0090	0.4852	0.0327	0.0140	45	-0.63	121.00	0
121	Acid Soluble Magnesium (0.35%)	0457	0.4685	0.0030	0.4852	0.0327	0.0140	45	-0.51	121.00	0
121	Acid Soluble Magnesium (0.35%)	0177	0.4691	0.0026	0.4852	0.0327	0.0140	45	-0.49	121.33	0
121	Acid Soluble Magnesium (0.35%)	0423	0.4715	0.0070	0.4852	0.0327	0.0140	45	-0.42	121.32	0
121	Acid Soluble Magnesium (0.35%)	0157	0.4725	0.0030	0.4852	0.0327	0.0140	45	-0.39	121.00	0
121	Acid Soluble Magnesium (0.35%)	0096	0.4750	0.0100	0.4852	0.0327	0.0140	45	-0.31	121.30	0
121	Acid Soluble Magnesium (0.35%)	0291	0.4750	0.0100	0.4852	0.0327	0.0140	45	-0.31	121.30	0
121	Acid Soluble Magnesium (0.35%)	0482	0.4750	0.0100	0.4852	0.0327	0.0140	45	-0.31	121.30	0
121	Acid Soluble Magnesium (0.35%)	0029	0.4787	0.0203	0.4852	0.0327	0.0140	45	-0.20	121.00	0
121	Acid Soluble Magnesium (0.35%)	0498	0.4800	0.0200	0.4852	0.0327	0.0140	45	-0.16	121.00	0
121	Acid Soluble Magnesium (0.35%)	0049	0.4800	0.0200	0.4852	0.0327	0.0140	45	-0.16	121.30	0
121	Acid Soluble Magnesium (0.35%)	0157	0.4800	0.0120	0.4852	0.0327	0.0140	45	-0.16	121.30	0
121	Acid Soluble Magnesium (0.35%)	0444	0.4800	0.0200	0.4852	0.0327	0.0140	45	-0.16	121.30	0
121	Acid Soluble Magnesium (0.35%)	0472	0.4800	0.0400	0.4852	0.0327	0.0140	45	-0.16	121.30	0
121	Acid Soluble Magnesium (0.35%)	0485	0.4805	0.0010	0.4852	0.0327	0.0140	45	-0.14	121.00	0
121	Acid Soluble Magnesium (0.35%)	0102	0.4890	0.0020	0.4852	0.0327	0.0140	45	0.11	121.30	0
121	Acid Soluble Magnesium (0.35%)	0233	0.4915	0.0082	0.4852	0.0327	0.0140	45	0.19	121.30	0
121	Acid Soluble Magnesium (0.35%)	0095	0.4950	0.0100	0.4852	0.0327	0.0140	45	0.30	121.30	0
121	Acid Soluble Magnesium (0.35%)	0234	0.4950	0.0100	0.4852	0.0327	0.0140	45	0.30	121.30	0
121	Acid Soluble Magnesium (0.35%)	0055	0.5000	0.0200	0.4852	0.0327	0.0140	45	0.45	121.30	0
121	Acid Soluble Magnesium (0.35%)	0390	0.5025	0.0230	0.4852	0.0327	0.0140	45	0.53	121.30	0
121	Acid Soluble Magnesium (0.35%)	0433	0.5026	0.0083	0.4852	0.0327	0.0140	45	0.53	121.30	0
121	Acid Soluble Magnesium (0.35%)	0368	0.5042	0.0024	0.4852	0.0327	0.0140	45	0.58	121.30	0
121	Acid Soluble Magnesium (0.35%)	0486	0.5100	0.0000	0.4852	0.0327	0.0140	45	0.76	121.33	0
121	Acid Soluble Magnesium (0.35%)	0516	0.5123	0.0574	0.4852	0.0327	0.0140	45	0.83	121.00	0
121	Acid Soluble Magnesium (0.35%)	0421	0.5150	0.0500	0.4852	0.0327	0.0140	45	0.91	121.33	0
121	Acid Soluble Magnesium (0.35%)	0354	0.5175	0.0010	0.4852	0.0327	0.0140	45	0.99	121.30	0
121	Acid Soluble Magnesium (0.35%)	0114	0.5200	0.0000	0.4852	0.0327	0.0140	45	1.06	121.30	0
121	Acid Soluble Magnesium (0.35%)	0231	0.5200	0.0200	0.4852	0.0327	0.0140	45	1.06	121.30	0
121	Acid Soluble Magnesium (0.35%)	0324	0.5220	0.0100	0.4852	0.0327	0.0140	45	1.12	121.30	0
121	Acid Soluble Magnesium (0.35%)	0420	0.5315	0.0070	0.4852	0.0327	0.0140	45	1.41	121.30	0
121	Acid Soluble Magnesium (0.35%)	0041	0.5350	0.0300	0.4852	0.0327	0.0140	45	1.52	121.30	0
121	Acid Soluble Magnesium (0.35%)	0309	0.5700	0.0200	0.4852	0.0327	0.0140	45	2.59	121.00	0
121	Acid Soluble Magnesium (0.35%)	0483	0.5725	0.0030	0.4852	0.0327	0.0140	45	2.67	121.30	0
121	Acid Soluble Magnesium (0.35%)	0512	0.7150	0.0700	0.4852	0.0327	0.0140	45	7.02	121.99	0
121	Acid Soluble Magnesium (0.35%)	0506	0.5150	0.1900	0.4852	0.0327	0.0140	45	0.91	121.99	1
131	Water Soluble Magnesium (%)	0510	0.2500	0.0200	0.6125	0.5127	0.0250	2	-0.71	131.70	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				
131	Water Soluble Magnesium (%)	0275	0.9750	0.0300	0.6125	0.5127	0.0250	2	0.71	131.30	0
143	Elemental Sulfur (%)	0043	4.725	0.0900	4.896	0.2008	0.1350	6	-0.85	143.00	0
143	Elemental Sulfur (%)	0095	4.730	0.3000	4.896	0.2008	0.1350	6	-0.83	143.00	0
143	Elemental Sulfur (%)	0220	4.800	0.0200	4.896	0.2008	0.1350	6	-0.48	143.00	0
143	Elemental Sulfur (%)	0485	4.905	0.1100	4.896	0.2008	0.1350	6	0.05	143.00	0
143	Elemental Sulfur (%)	0027	5.085	0.0300	4.896	0.2008	0.1350	6	0.94	143.00	0
143	Elemental Sulfur (%)	0390	5.360	0.2600	4.896	0.2008	0.1350	6	2.31	143.99	0
143	Elemental Sulfur (%)	0055	9.700	0.3400	4.896	0.2008	0.1350	6	23.92	143.00	3
143	Elemental Sulfur (%)	0472	9.755	0.2100	4.896	0.2008	0.1350	6	24.19	143.99	3
143	Elemental Sulfur (%)	0291	10.37	0.0100	4.896	0.2008	0.1350	6	27.23	143.99	3
143	Elemental Sulfur (%)	0025	10.47	0.0500	4.896	0.2008	0.1350	6	27.73	143.00	3
143	Elemental Sulfur (%)	0389	10.59	0.1800	4.896	0.2008	0.1350	6	28.35	143.99	3
145	Sulfate Sulfur, HCl soluble (%)	0444	4.985	0.0500	5.313	0.2164	0.0433	9	-1.52	145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0444	5.145	0.0900	5.313	0.2164	0.0433	9	-0.78	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0095	5.205	0.0300	5.313	0.2164	0.0433	9	-0.50	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0405	5.250	0.0000	5.313	0.2164	0.0433	9	-0.29	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0027	5.265	0.0100	5.313	0.2164	0.0433	9	-0.22	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0485	5.360	0.1200	5.313	0.2164	0.0433	9	0.22	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0220	5.565	0.0500	5.313	0.2164	0.0433	9	1.16	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0513	5.740	0.0200	5.313	0.2164	0.0433	9	1.97	145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0169	8.590	0.0200	5.313	0.2164	0.0433	9	15.14	145.99	0
148	Total Sulfur (10%)	0422	7.270*	0.2000	10.30	0.3386	0.1394	31	-8.96	148.99	0
148	Total Sulfur (10%)	0483	8.000*	0.2800	10.30	0.3386	0.1394	31	-6.81	148.07	0
148	Total Sulfur (10%)	0515	8.883*	0.0993	10.30	0.3386	0.1394	31	-4.20	148.07	0
148	Total Sulfur (10%)	0292	9.495*	0.0100	10.30	0.3386	0.1394	31	-2.39	148.07	0
148	Total Sulfur (10%)	0102	9.676	0.0210	10.30	0.3386	0.1394	31	-1.86	148.07	0
148	Total Sulfur (10%)	0095	9.935	0.2700	10.30	0.3386	0.1394	31	-1.09	148.01	0
148	Total Sulfur (10%)	0510	10.03	0.0600	10.30	0.3386	0.1394	31	-0.81	148.01	0
148	Total Sulfur (10%)	0114	10.07	0.1700	10.30	0.3386	0.1394	31	-0.71	148.01	0
148	Total Sulfur (10%)	0233	10.10	0.1800	10.30	0.3386	0.1394	31	-0.60	148.01	0
148	Total Sulfur (10%)	0105	10.13	0.1900	10.30	0.3386	0.1394	31	-0.53	148.01	0
148	Total Sulfur (10%)	0177	10.22	0.4050	10.30	0.3386	0.1394	31	-0.26	148.07	0
148	Total Sulfur (10%)	0474	10.26	0.2500	10.30	0.3386	0.1394	31	-0.15	148.00	0
148	Total Sulfur (10%)	0136	10.27	0.1100	10.30	0.3386	0.1394	31	-0.12	148.00	0
148	Total Sulfur (10%)	0485	10.27	0.0100	10.30	0.3386	0.1394	31	-0.12	148.01	0
148	Total Sulfur (10%)	0043	10.34	0.0700	10.30	0.3386	0.1394	31	0.09	148.01	0
148	Total Sulfur (10%)	0177	10.35	0.0305	10.30	0.3386	0.1394	31	0.13	148.01	0
148	Total Sulfur (10%)	0029	10.37	0.1300	10.30	0.3386	0.1394	31	0.18	148.01	0
148	Total Sulfur (10%)	0360	10.39	0.2400	10.30	0.3386	0.1394	31	0.25	148.00	0
148	Total Sulfur (10%)	0157	10.40	0.0000	10.30	0.3386	0.1394	31	0.28	148.00	0
148	Total Sulfur (10%)	0157	10.40	0.0000	10.30	0.3386	0.1394	31	0.28	148.01	0
148	Total Sulfur (10%)	0482	10.40	0.2000	10.30	0.3386	0.1394	31	0.28	148.99	0
148	Total Sulfur (10%)	0481	10.41	0.0100	10.30	0.3386	0.1394	31	0.30	148.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
148	Total Sulfur (10%)	0072	10.46	0.0900	10.30	0.3386	0.1394	31	0.44	148.99	0
148	Total Sulfur (10%)	0102	10.51	0.1030	10.30	0.3386	0.1394	31	0.61	148.01	0
148	Total Sulfur (10%)	0486	10.52	0.0100	10.30	0.3386	0.1394	31	0.62	148.07	0
148	Total Sulfur (10%)	0275	10.62	0.3700	10.30	0.3386	0.1394	31	0.92	148.99	0
148	Total Sulfur (10%)	0421	10.69	0.2600	10.30	0.3386	0.1394	31	1.14	148.07	0
148	Total Sulfur (10%)	0451	10.70	0.4000	10.30	0.3386	0.1394	31	1.17	148.00	0
148	Total Sulfur (10%)	0049	10.77	0.0400	10.30	0.3386	0.1394	31	1.37	148.00	0
148	Total Sulfur (10%)	0351	10.86	0.0715	10.30	0.3386	0.1394	31	1.63	148.00	0
148	Total Sulfur (10%)	0220	11.60	0.0400	10.30	0.3386	0.1394	31	3.83	148.99	0
148	Total Sulfur (10%)	0029	10.48	0.6400	10.30	0.3386	0.1394	31	0.52	148.00	1
148	Total Sulfur (10%)	0406	4.590*	0.1000	10.30	0.3386	0.1394	31	-16.88	148.07	3
148	Total Sulfur (10%)	0444	4.795*	0.0900	10.30	0.3386	0.1394	31	-16.27	148.07	3
148	Total Sulfur (10%)	0096	5.005*	0.0700	10.30	0.3386	0.1394	31	-15.65	148.99	3
148	Total Sulfur (10%)	0394	5.040*	0.0600	10.30	0.3386	0.1394	31	-15.55	148.07	3
148	Total Sulfur (10%)	0421	5.135*	0.0500	10.30	0.3386	0.1394	31	-15.27	148.99	3
148	Total Sulfur (10%)	0307	5.146*	0.1890	10.30	0.3386	0.1394	31	-15.24	148.99	3
148	Total Sulfur (10%)	0444	5.245*	0.2700	10.30	0.3386	0.1394	31	-14.94	148.01	3
148	Total Sulfur (10%)	0354	5.370*	0.0430	10.30	0.3386	0.1394	31	-14.58	148.99	3
148	Total Sulfur (10%)	0230	5.435*	0.2500	10.30	0.3386	0.1394	31	-14.38	148.01	3
148	Total Sulfur (10%)	0324	5.495*	0.0700	10.30	0.3386	0.1394	31	-14.20	148.01	3
149	Sulfur - HNO3 soluble (%)	0368	9.061	0.0864	9.656	0.8405	0.0932	2	-0.71	149.04	0
149	Sulfur - HNO3 soluble (%)	0423	10.25	0.1000	9.656	0.8405	0.0932	2	0.71	149.04	0
151	Acid Soluble Arsenic (ppm)	0368	6.862	0.7967	9.840	1.821	0.3886	14	-1.63	151.30	0
151	Acid Soluble Arsenic (ppm)	0096	6.900	0.8000	9.840	1.821	0.3886	14	-1.61	151.30	0
151	Acid Soluble Arsenic (ppm)	0394	7.655	0.0700	9.840	1.821	0.3886	14	-1.20	151.30	0
151	Acid Soluble Arsenic (ppm)	0095	8.000	0.0000	9.840	1.821	0.3886	14	-1.01	151.30	0
151	Acid Soluble Arsenic (ppm)	0220	9.400	0.2000	9.840	1.821	0.3886	14	-0.24	151.00	0
151	Acid Soluble Arsenic (ppm)	0515	9.786	0.3210	9.840	1.821	0.3886	14	-0.03	151.34	0
151	Acid Soluble Arsenic (ppm)	0220	9.900	0.4000	9.840	1.821	0.3886	14	0.03	151.99	0
151	Acid Soluble Arsenic (ppm)	0136	10.10	0.6000	9.840	1.821	0.3886	14	0.14	151.00	0
151	Acid Soluble Arsenic (ppm)	0102	10.22	0.1930	9.840	1.821	0.3886	14	0.21	151.30	0
151	Acid Soluble Arsenic (ppm)	0230	10.59	1.230	9.840	1.821	0.3886	14	0.41	151.30	0
151	Acid Soluble Arsenic (ppm)	0481	11.00	0.4000	9.840	1.821	0.3886	14	0.64	151.99	0
151	Acid Soluble Arsenic (ppm)	0498	11.09	0.3300	9.840	1.821	0.3886	14	0.68	151.99	0
151	Acid Soluble Arsenic (ppm)	0389	14.85	0.1000	9.840	1.821	0.3886	14	2.75	151.30	0
151	Acid Soluble Arsenic (ppm)	0474	17.00	0.0000	9.840	1.821	0.3886	14	3.93	151.30	0
165	Acid Soluble Boron (%)	0423	0.0035	0.0010	0.0109	0.0051	0.0012	6	-1.46	165.99	0
165	Acid Soluble Boron (%)	0421	0.0100	0.0000	0.0109	0.0051	0.0012	6	-0.18	165.99	0
165	Acid Soluble Boron (%)	0472	0.0100	0.0000	0.0109	0.0051	0.0012	6	-0.18	165.99	0
165	Acid Soluble Boron (%)	0482	0.0100	0.0000	0.0109	0.0051	0.0012	6	-0.18	165.99	0
165	Acid Soluble Boron (%)	0389	0.0155	0.0010	0.0109	0.0051	0.0012	6	0.90	165.30	0
165	Acid Soluble Boron (%)	0354	0.0235	0.0050	0.0109	0.0051	0.0012	6	2.48	165.30	0
165	Acid Soluble Boron (%)	0055	1.044	0.0885	0.0109	0.0051	0.0012	6	203.70	165.00	1

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
181	Acid Soluble Cadmium (ppm)	0506	2.900	0.2000	3.545	0.4166	0.1035	13	-1.55	181.99	0
181	Acid Soluble Cadmium (ppm)	0474	3.000	0.0000	3.545	0.4166	0.1035	13	-1.31	181.30	0
181	Acid Soluble Cadmium (ppm)	0481	3.070	0.2200	3.545	0.4166	0.1035	13	-1.14	181.99	0
181	Acid Soluble Cadmium (ppm)	0368	3.187	0.0902	3.545	0.4166	0.1035	13	-0.86	181.30	0
181	Acid Soluble Cadmium (ppm)	0230	3.325	0.0700	3.545	0.4166	0.1035	13	-0.53	181.30	0
181	Acid Soluble Cadmium (ppm)	0515	3.456	0.0840	3.545	0.4166	0.1035	13	-0.21	181.34	0
181	Acid Soluble Cadmium (ppm)	0394	3.645	0.1300	3.545	0.4166	0.1035	13	0.24	181.30	0
181	Acid Soluble Cadmium (ppm)	0136	3.750	0.1000	3.545	0.4166	0.1035	13	0.49	181.00	0
181	Acid Soluble Cadmium (ppm)	0096	3.750	0.1000	3.545	0.4166	0.1035	13	0.49	181.30	0
181	Acid Soluble Cadmium (ppm)	0389	3.800	0.2000	3.545	0.4166	0.1035	13	0.61	181.30	0
181	Acid Soluble Cadmium (ppm)	0102	3.869	0.0510	3.545	0.4166	0.1035	13	0.78	181.30	0
181	Acid Soluble Cadmium (ppm)	0220	3.900	0.0000	3.545	0.4166	0.1035	13	0.85	181.99	0
181	Acid Soluble Cadmium (ppm)	0482	4.350	0.1000	3.545	0.4166	0.1035	13	1.93	181.30	0
181	Acid Soluble Cadmium (ppm)	0095	3.500	1.000	3.545	0.4166	0.1035	13	-0.11	181.30	1
190	Water Soluble Chlorine (%)	0105	0.1350	0.0100	0.5703	0.6155	0.0505	2	-0.71	190.00	0
190	Water Soluble Chlorine (%)	0055	1.006	0.0910	0.5703	0.6155	0.0505	2	0.71	190.00	0
191	Acid Soluble Chromium (ppm)	0027	40.71	0.7890	67.98	4.633	1.228	13	-5.89	191.30	0
191	Acid Soluble Chromium (ppm)	0506	57.50	1.000	67.98	4.633	1.228	13	-2.26	191.99	0
191	Acid Soluble Chromium (ppm)	0230	65.60	1.600	67.98	4.633	1.228	13	-0.51	191.30	0
191	Acid Soluble Chromium (ppm)	0368	65.76	0.3653	67.98	4.633	1.228	13	-0.48	191.30	0
191	Acid Soluble Chromium (ppm)	0220	65.90	0.4000	67.98	4.633	1.228	13	-0.45	191.99	0
191	Acid Soluble Chromium (ppm)	0394	67.05	0.3000	67.98	4.633	1.228	13	-0.20	191.30	0
191	Acid Soluble Chromium (ppm)	0096	67.55	2.500	67.98	4.633	1.228	13	-0.09	191.30	0
191	Acid Soluble Chromium (ppm)	0474	68.00	2.000	67.98	4.633	1.228	13	0.00	191.30	0
191	Acid Soluble Chromium (ppm)	0482	70.30	1.800	67.98	4.633	1.228	13	0.50	191.30	0
191	Acid Soluble Chromium (ppm)	0515	70.74	0.4210	67.98	4.633	1.228	13	0.60	191.34	0
191	Acid Soluble Chromium (ppm)	0102	73.13	2.093	67.98	4.633	1.228	13	1.11	191.30	0
191	Acid Soluble Chromium (ppm)	0481	73.15	1.300	67.98	4.633	1.228	13	1.12	191.99	0
191	Acid Soluble Chromium (ppm)	0389	74.00	1.400	67.98	4.633	1.228	13	1.30	191.30	0
191	Acid Soluble Chromium (ppm)	0512	76.55	5.500	67.98	4.633	1.228	13	1.85	191.99	1
202	Acid Soluble Cobalt (ppm)	0230	0.0003	0.0000	3.227	0.4433	0.1646	10	-7.28	202.30	0
202	Acid Soluble Cobalt (ppm)	0220	2.700	0.0000	3.227	0.4433	0.1646	10	-1.19	202.99	0
202	Acid Soluble Cobalt (ppm)	0389	3.050	0.3000	3.227	0.4433	0.1646	10	-0.40	202.30	0
202	Acid Soluble Cobalt (ppm)	0368	3.068	0.0024	3.227	0.4433	0.1646	10	-0.36	202.30	0
202	Acid Soluble Cobalt (ppm)	0096	3.185	0.1100	3.227	0.4433	0.1646	10	-0.09	202.30	0
202	Acid Soluble Cobalt (ppm)	0515	3.209	0.0260	3.227	0.4433	0.1646	10	-0.04	202.34	0
202	Acid Soluble Cobalt (ppm)	0102	3.409	0.1080	3.227	0.4433	0.1646	10	0.41	202.30	0
202	Acid Soluble Cobalt (ppm)	0095	3.500	1.000	3.227	0.4433	0.1646	10	0.62	202.30	0
202	Acid Soluble Cobalt (ppm)	0482	3.750	0.1000	3.227	0.4433	0.1646	10	1.18	202.30	0
202	Acid Soluble Cobalt (ppm)	0474	4.000	0.0000	3.227	0.4433	0.1646	10	1.74	202.30	0
202	Acid Soluble Cobalt (ppm)	0512	8.950	12.50	3.227	0.4433	0.1646	10	12.91	202.99	1
221	Acid Soluble Copper (%)	0096	0.0002	0.0000	0.0003	0.0002	0.0001	11	-0.78	221.30	0
221	Acid Soluble Copper (%)	0230	0.0002	0.0000	0.0003	0.0002	0.0001	11	-0.78	221.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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221	Acid Soluble Copper (%)	0368	0.0002	0.0000	0.0003	0.0002	0.0001	11	-0.78	221.30	0
221	Acid Soluble Copper (%)	0474	0.0002	0.0000	0.0003	0.0002	0.0001	11	-0.78	221.32	0
221	Acid Soluble Copper (%)	0515	0.0002	0.0000	0.0003	0.0002	0.0001	11	-0.78	221.33	0
221	Acid Soluble Copper (%)	0394	0.0003	0.0000	0.0003	0.0002	0.0001	11	-0.20	221.33	0
221	Acid Soluble Copper (%)	0389	0.0003	0.0000	0.0003	0.0002	0.0001	11	-0.20	221.99	0
221	Acid Soluble Copper (%)	0043	0.0007	0.0002	0.0003	0.0002	0.0001	11	2.10	221.00	0
221	Acid Soluble Copper (%)	0433	0.0009	0.0003	0.0003	0.0002	0.0001	11	2.97	221.30	0
221	Acid Soluble Copper (%)	0354	0.0015	0.0010	0.0003	0.0002	0.0001	11	6.71	221.30	0
221	Acid Soluble Copper (%)	0402	0.0030	0.0000	0.0003	0.0002	0.0001	11	15.36	221.30	0
221	Acid Soluble Copper (%)	0423	0.0145	0.0010	0.0003	0.0002	0.0001	11	81.63	221.32	2
221	Acid Soluble Copper (%)	0041	0.0000	0.0000	0.0003	0.0002	0.0001	11	-1.93	221.30	4
221	Acid Soluble Copper (%)	0055	0.0000	0.0000	0.0003	0.0002	0.0001	11	-1.93	221.30	4
221	Acid Soluble Copper (%)	0472	0.0000	0.0000	0.0003	0.0002	0.0001	11	-1.93	221.30	4
221	Acid Soluble Copper (%)	0421	0.0000	0.0000	0.0003	0.0002	0.0001	11	-1.93	221.33	4
221	Acid Soluble Copper (%)	0512	0.0005	0.0010	0.0003	0.0002	0.0001	11	0.95	221.99	4
241	Acid Soluble Iron (0.9%)	0498	0.6600*	0.0000	0.9633	0.0349	0.0212	46	-8.69	241.00	0
241	Acid Soluble Iron (0.9%)	0481	0.8550*	0.0300	0.9633	0.0349	0.0212	46	-3.10	241.00	0
241	Acid Soluble Iron (0.9%)	0230	0.8590*	0.0220	0.9633	0.0349	0.0212	46	-2.99	241.30	0
241	Acid Soluble Iron (0.9%)	0515	0.8872	0.0075	0.9633	0.0349	0.0212	46	-2.18	241.33	0
241	Acid Soluble Iron (0.9%)	0025	0.9135	0.0110	0.9633	0.0349	0.0212	46	-1.43	241.32	0
241	Acid Soluble Iron (0.9%)	0474	0.9200	0.0200	0.9633	0.0349	0.0212	46	-1.24	241.30	0
241	Acid Soluble Iron (0.9%)	0027	0.9220	0.0420	0.9633	0.0349	0.0212	46	-1.18	241.30	0
241	Acid Soluble Iron (0.9%)	0486	0.9250	0.0100	0.9633	0.0349	0.0212	46	-1.10	241.33	0
241	Acid Soluble Iron (0.9%)	0485	0.9285	0.0010	0.9633	0.0349	0.0212	46	-1.00	241.00	0
241	Acid Soluble Iron (0.9%)	0258	0.9385	0.0290	0.9633	0.0349	0.0212	46	-0.71	241.00	0
241	Acid Soluble Iron (0.9%)	0095	0.9400	0.0000	0.9633	0.0349	0.0212	46	-0.67	241.30	0
241	Acid Soluble Iron (0.9%)	0433	0.9401	0.0037	0.9633	0.0349	0.0212	46	-0.66	241.30	0
241	Acid Soluble Iron (0.9%)	0157	0.9450	0.0120	0.9633	0.0349	0.0212	46	-0.52	241.30	0
241	Acid Soluble Iron (0.9%)	0506	0.9450	0.0100	0.9633	0.0349	0.0212	46	-0.52	241.99	0
241	Acid Soluble Iron (0.9%)	0457	0.9510	0.0040	0.9633	0.0349	0.0212	46	-0.35	241.00	0
241	Acid Soluble Iron (0.9%)	0394	0.9540	0.0181	0.9633	0.0349	0.0212	46	-0.27	241.30	0
241	Acid Soluble Iron (0.9%)	0177	0.9546	0.0349	0.9633	0.0349	0.0212	46	-0.25	241.33	0
241	Acid Soluble Iron (0.9%)	0234	0.9550	0.0300	0.9633	0.0349	0.0212	46	-0.24	241.30	0
241	Acid Soluble Iron (0.9%)	0402	0.9550	0.0100	0.9633	0.0349	0.0212	46	-0.24	241.30	0
241	Acid Soluble Iron (0.9%)	0421	0.9550	0.0100	0.9633	0.0349	0.0212	46	-0.24	241.33	0
241	Acid Soluble Iron (0.9%)	0040	0.9550	0.0500	0.9633	0.0349	0.0212	46	-0.24	241.00	0
241	Acid Soluble Iron (0.9%)	0102	0.9555	0.0290	0.9633	0.0349	0.0212	46	-0.22	241.30	0
241	Acid Soluble Iron (0.9%)	0233	0.9579	0.0043	0.9633	0.0349	0.0212	46	-0.15	241.30	0
241	Acid Soluble Iron (0.9%)	0389	0.9650	0.0100	0.9633	0.0349	0.0212	46	0.05	241.99	0
241	Acid Soluble Iron (0.9%)	0444	0.9665	0.0470	0.9633	0.0349	0.0212	46	0.09	241.30	0
241	Acid Soluble Iron (0.9%)	0043	0.9700	0.0200	0.9633	0.0349	0.0212	46	0.19	241.00	0
241	Acid Soluble Iron (0.9%)	0042	0.9700	0.0000	0.9633	0.0349	0.0212	46	0.19	241.99	0
241	Acid Soluble Iron (0.9%)	0513	0.9725	0.0050	0.9633	0.0349	0.0212	46	0.26	241.20	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				
241	Acid Soluble Iron (0.9%)	0423	0.9735	0.0030	0.9633	0.0349	0.0212	46	0.29	241.32	0
241	Acid Soluble Iron (0.9%)	0513	0.9745	0.0110	0.9633	0.0349	0.0212	46	0.32	241.00	0
241	Acid Soluble Iron (0.9%)	0324	0.9775	0.0350	0.9633	0.0349	0.0212	46	0.41	241.30	0
241	Acid Soluble Iron (0.9%)	0390	0.9795	0.0270	0.9633	0.0349	0.0212	46	0.47	241.30	0
241	Acid Soluble Iron (0.9%)	0516	0.9813	0.0954	0.9633	0.0349	0.0212	46	0.52	241.00	0
241	Acid Soluble Iron (0.9%)	0368	0.9828	0.0066	0.9633	0.0349	0.0212	46	0.56	241.30	0
241	Acid Soluble Iron (0.9%)	0049	0.9850	0.0300	0.9633	0.0349	0.0212	46	0.62	241.30	0
241	Acid Soluble Iron (0.9%)	0371	0.9850	0.0100	0.9633	0.0349	0.0212	46	0.62	241.30	0
241	Acid Soluble Iron (0.9%)	0231	0.9950	0.0100	0.9633	0.0349	0.0212	46	0.91	241.30	0
241	Acid Soluble Iron (0.9%)	0420	0.9970	0.0020	0.9633	0.0349	0.0212	46	0.97	241.30	0
241	Acid Soluble Iron (0.9%)	0055	1.006	0.0910	0.9633	0.0349	0.0212	46	1.21	241.30	0
241	Acid Soluble Iron (0.9%)	0354	1.010	0.0000	0.9633	0.0349	0.0212	46	1.34	241.30	0
241	Acid Soluble Iron (0.9%)	0472	1.015	0.0500	0.9633	0.0349	0.0212	46	1.48	241.30	0
241	Acid Soluble Iron (0.9%)	0029	1.031	0.0120	0.9633	0.0349	0.0212	46	1.94	241.00	0
241	Acid Soluble Iron (0.9%)	0482	1.040	0.0400	0.9633	0.0349	0.0212	46	2.20	241.30	0
241	Acid Soluble Iron (0.9%)	0483	1.065	0.0100	0.9633	0.0349	0.0212	46	2.91	241.30	0
241	Acid Soluble Iron (0.9%)	0291	1.085	0.0100	0.9633	0.0349	0.0212	46	3.49	241.30	0
241	Acid Soluble Iron (0.9%)	0512	1.480	0.0600	0.9633	0.0349	0.0212	46	14.80	241.99	0
241	Acid Soluble Iron (0.9%)	0041	1.042	0.0989	0.9633	0.0349	0.0212	46	2.24	241.30	1
241	Acid Soluble Iron (0.9%)	0096	1.875	0.0300	0.9633	0.0349	0.0212	46	26.12	241.30	2
251	Acid Soluble Lead (ppm)	0481	1.540	0.1000	2.086	0.4344	0.1105	9	-1.26	251.99	0
251	Acid Soluble Lead (ppm)	0368	1.714	0.1944	2.086	0.4344	0.1105	9	-0.86	251.30	0
251	Acid Soluble Lead (ppm)	0389	1.850	0.1000	2.086	0.4344	0.1105	9	-0.54	251.30	0
251	Acid Soluble Lead (ppm)	0096	1.950	0.1000	2.086	0.4344	0.1105	9	-0.31	251.30	0
251	Acid Soluble Lead (ppm)	0136	2.000	0.0000	2.086	0.4344	0.1105	9	-0.20	251.00	0
251	Acid Soluble Lead (ppm)	0230	2.155	0.3300	2.086	0.4344	0.1105	9	0.16	251.30	0
251	Acid Soluble Lead (ppm)	0394	2.295	0.1700	2.086	0.4344	0.1105	9	0.48	251.30	0
251	Acid Soluble Lead (ppm)	0095	3.000	0.0000	2.086	0.4344	0.1105	9	2.10	251.30	0
251	Acid Soluble Lead (ppm)	0474	3.000	0.0000	2.086	0.4344	0.1105	9	2.10	251.30	0
251	Acid Soluble Lead (ppm)	0512	66.05	13.50	2.086	0.4344	0.1105	9	147.26	251.99	2
251	Acid Soluble Lead (ppm)	0515	0.0000	0.0000	2.086	0.4344	0.1105	9	-4.80	251.34	4
261	Acid Soluble Manganese (%)	0457	0.0250	0.0020	0.0289	0.0016	0.0004	15	-2.37	261.12	0
261	Acid Soluble Manganese (%)	0049	0.0260	0.0000	0.0289	0.0016	0.0004	15	-1.76	261.32	0
261	Acid Soluble Manganese (%)	0096	0.0270	0.0002	0.0289	0.0016	0.0004	15	-1.15	261.30	0
261	Acid Soluble Manganese (%)	0389	0.0275	0.0010	0.0289	0.0016	0.0004	15	-0.84	261.99	0
261	Acid Soluble Manganese (%)	0043	0.0280	0.0000	0.0289	0.0016	0.0004	15	-0.54	261.00	0
261	Acid Soluble Manganese (%)	0102	0.0280	0.0000	0.0289	0.0016	0.0004	15	-0.54	261.30	0
261	Acid Soluble Manganese (%)	0354	0.0290	0.0000	0.0289	0.0016	0.0004	15	0.07	261.30	0
261	Acid Soluble Manganese (%)	0420	0.0290	0.0000	0.0289	0.0016	0.0004	15	0.07	261.30	0
261	Acid Soluble Manganese (%)	0423	0.0295	0.0010	0.0289	0.0016	0.0004	15	0.37	261.34	0
261	Acid Soluble Manganese (%)	0472	0.0300	0.0000	0.0289	0.0016	0.0004	15	0.68	261.30	0
261	Acid Soluble Manganese (%)	0482	0.0300	0.0000	0.0289	0.0016	0.0004	15	0.68	261.31	0
261	Acid Soluble Manganese (%)	0421	0.0300	0.0000	0.0289	0.0016	0.0004	15	0.68	261.35	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 (%)	0474	0.0302	0.0001	0.0289	0.0016	0.0004	15	0.77	261.30	0
261	Acid Soluble Manganese (%)	0390	0.0304	0.0003	0.0289	0.0016	0.0004	15	0.89	261.30	0
261	Acid Soluble Manganese (%)	0041	0.0317	0.0012	0.0289	0.0016	0.0004	15	1.72	261.30	0
261	Acid Soluble Manganese (%)	0394	0.4900	0.0180	0.0289	0.0016	0.0004	15	281.12	261.30	2
281	Acid Soluble Mercury (ppm)	0230	0.0012	0.0005	94.43	163.3	5.352	3	-0.58	281.00	0
281	Acid Soluble Mercury (ppm)	0515	0.2855	0.0565	94.43	163.3	5.352	3	-0.58	281.30	0
281	Acid Soluble Mercury (ppm)	0506	283.0	16.00	94.43	163.3	5.352	3	1.15	281.00	0
289	Acid Soluble Molybdenum (ppm)	0394	8.640	0.3000	10.86	1.208	0.5216	12	-1.84	289.30	0
289	Acid Soluble Molybdenum (ppm)	0230	9.235	0.1300	10.86	1.208	0.5216	12	-1.35	289.30	0
289	Acid Soluble Molybdenum (ppm)	0096	9.800	0.2000	10.86	1.208	0.5216	12	-0.88	289.30	0
289	Acid Soluble Molybdenum (ppm)	0515	9.965	0.0100	10.86	1.208	0.5216	12	-0.74	289.34	0
289	Acid Soluble Molybdenum (ppm)	0474	10.35	0.1000	10.86	1.208	0.5216	12	-0.42	289.30	0
289	Acid Soluble Molybdenum (ppm)	0102	11.17	1.101	10.86	1.208	0.5216	12	0.26	289.30	0
289	Acid Soluble Molybdenum (ppm)	0220	11.25	0.7000	10.86	1.208	0.5216	12	0.32	289.99	0
289	Acid Soluble Molybdenum (ppm)	0233	11.38	1.020	10.86	1.208	0.5216	12	0.43	289.32	0
289	Acid Soluble Molybdenum (ppm)	0433	11.45	0.8682	10.86	1.208	0.5216	12	0.49	289.30	0
289	Acid Soluble Molybdenum (ppm)	0368	11.53	0.0294	10.86	1.208	0.5216	12	0.55	289.30	0
289	Acid Soluble Molybdenum (ppm)	0095	12.00	0.0000	10.86	1.208	0.5216	12	0.94	289.30	0
289	Acid Soluble Molybdenum (ppm)	0506	13.80	1.800	10.86	1.208	0.5216	12	2.43	289.99	0
291	Acid Soluble Nickel (ppm)	0481	13.00	0.0000	16.17	1.160	0.2576	15	-2.73	291.99	0
291	Acid Soluble Nickel (ppm)	0512	14.45	0.1000	16.17	1.160	0.2576	15	-1.48	291.99	0
291	Acid Soluble Nickel (ppm)	0506	15.40	0.2000	16.17	1.160	0.2576	15	-0.66	291.99	0
291	Acid Soluble Nickel (ppm)	0482	15.60	0.4000	16.17	1.160	0.2576	15	-0.49	291.30	0
291	Acid Soluble Nickel (ppm)	0368	15.65	0.1386	16.17	1.160	0.2576	15	-0.44	291.30	0
291	Acid Soluble Nickel (ppm)	0220	15.70	0.6000	16.17	1.160	0.2576	15	-0.40	291.99	0
291	Acid Soluble Nickel (ppm)	0230	15.75	0.1000	16.17	1.160	0.2576	15	-0.36	291.30	0
291	Acid Soluble Nickel (ppm)	0096	16.00	0.2000	16.17	1.160	0.2576	15	-0.14	291.30	0
291	Acid Soluble Nickel (ppm)	0394	16.30	0.6000	16.17	1.160	0.2576	15	0.12	291.30	0
291	Acid Soluble Nickel (ppm)	0515	16.72	0.3360	16.17	1.160	0.2576	15	0.47	291.34	0
291	Acid Soluble Nickel (ppm)	0136	17.00	0.0000	16.17	1.160	0.2576	15	0.72	291.00	0
291	Acid Soluble Nickel (ppm)	0474	17.00	0.0000	16.17	1.160	0.2576	15	0.72	291.30	0
291	Acid Soluble Nickel (ppm)	0102	17.31	0.4600	16.17	1.160	0.2576	15	0.98	291.30	0
291	Acid Soluble Nickel (ppm)	0095	18.00	0.0000	16.17	1.160	0.2576	15	1.58	291.30	0
291	Acid Soluble Nickel (ppm)	0233	18.90	0.7300	16.17	1.160	0.2576	15	2.35	291.32	0
301	Acid Soluble Selenium (ppm)	0230	0.0000	0.0000	16.17	1.160	0.0000	0	-13.94	301.30	4
301	Acid Soluble Selenium (ppm)	0368	0.0000	0.0000	16.17	1.160	0.0000	0	-13.94	301.30	4
301	Acid Soluble Selenium (ppm)	0515	0.0000	0.0000	16.17	1.160	0.0000	0	-13.94	301.34	4
311	Sodium (%)	0423	0.0200	0.0001	0.1090	0.0184	0.0029	7	-4.85	311.33	0
311	Sodium (%)	0510	0.0900	0.0000	0.1090	0.0184	0.0029	7	-1.04	311.30	0
311	Sodium (%)	0482	0.1050	0.0100	0.1090	0.0184	0.0029	7	-0.22	311.99	0
311	Sodium (%)	0474	0.1100	0.0000	0.1090	0.0184	0.0029	7	0.05	311.33	0
311	Sodium (%)	0102	0.1180	0.0060	0.1090	0.0184	0.0029	7	0.49	311.33	0
311	Sodium (%)	0096	0.1200	0.0000	0.1090	0.0184	0.0029	7	0.60	311.99	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				
311	Sodium (%)	0354	0.1610	0.0040	0.1090	0.0184	0.0029	7	2.83	311.99	0
321	Acid Soluble Zinc (1%)	0230	0.9155*	0.0270	1.047	0.0662	0.0241	52	-1.99	321.30	0
321	Acid Soluble Zinc (1%)	0029	0.9396	0.0021	1.047	0.0662	0.0241	52	-1.62	321.00	0
321	Acid Soluble Zinc (1%)	0157	0.9450	0.0440	1.047	0.0662	0.0241	52	-1.54	321.30	0
321	Acid Soluble Zinc (1%)	0481	0.9550	0.0300	1.047	0.0662	0.0241	52	-1.39	321.00	0
321	Acid Soluble Zinc (1%)	0169	0.9655	0.0010	1.047	0.0662	0.0241	52	-1.23	321.00	0
321	Acid Soluble Zinc (1%)	0474	0.9700	0.0200	1.047	0.0662	0.0241	52	-1.16	321.30	0
321	Acid Soluble Zinc (1%)	0027	0.9805	0.0050	1.047	0.0662	0.0241	52	-1.01	321.30	0
321	Acid Soluble Zinc (1%)	0482	0.9850	0.0300	1.047	0.0662	0.0241	52	-0.94	321.30	0
321	Acid Soluble Zinc (1%)	0513	0.9900	0.0100	1.047	0.0662	0.0241	52	-0.86	321.00	0
321	Acid Soluble Zinc (1%)	0292	0.9900	0.0000	1.047	0.0662	0.0241	52	-0.86	321.30	0
321	Acid Soluble Zinc (1%)	0420	0.9900	0.0180	1.047	0.0662	0.0241	52	-0.86	321.30	0
321	Acid Soluble Zinc (1%)	0025	0.9950	0.0100	1.047	0.0662	0.0241	52	-0.79	321.30	0
321	Acid Soluble Zinc (1%)	0072	1.000	0.0000	1.047	0.0662	0.0241	52	-0.71	321.30	0
321	Acid Soluble Zinc (1%)	0220	1.000	0.0200	1.047	0.0662	0.0241	52	-0.71	321.32	0
321	Acid Soluble Zinc (1%)	0177	1.002	0.0041	1.047	0.0662	0.0241	52	-0.69	321.33	0
321	Acid Soluble Zinc (1%)	0258	1.019	0.0410	1.047	0.0662	0.0241	52	-0.43	321.00	0
321	Acid Soluble Zinc (1%)	0485	1.019	0.0430	1.047	0.0662	0.0241	52	-0.43	321.00	0
321	Acid Soluble Zinc (1%)	0402	1.020	0.0000	1.047	0.0662	0.0241	52	-0.41	321.30	0
321	Acid Soluble Zinc (1%)	0040	1.023	0.0110	1.047	0.0662	0.0241	52	-0.37	321.00	0
321	Acid Soluble Zinc (1%)	0394	1.023	0.0540	1.047	0.0662	0.0241	52	-0.36	321.30	0
321	Acid Soluble Zinc (1%)	0043	1.028	0.0050	1.047	0.0662	0.0241	52	-0.29	321.00	0
321	Acid Soluble Zinc (1%)	0234	1.030	0.0200	1.047	0.0662	0.0241	52	-0.26	321.30	0
321	Acid Soluble Zinc (1%)	0307	1.032	0.0380	1.047	0.0662	0.0241	52	-0.23	321.30	0
321	Acid Soluble Zinc (1%)	0233	1.038	0.0260	1.047	0.0662	0.0241	52	-0.14	321.30	0
321	Acid Soluble Zinc (1%)	0472	1.040	0.0797	1.047	0.0662	0.0241	52	-0.10	321.30	0
321	Acid Soluble Zinc (1%)	0055	1.044	0.0885	1.047	0.0662	0.0241	52	-0.04	321.30	0
321	Acid Soluble Zinc (1%)	0444	1.050	0.0410	1.047	0.0662	0.0241	52	0.04	321.30	0
321	Acid Soluble Zinc (1%)	0390	1.050	0.0400	1.047	0.0662	0.0241	52	0.05	321.30	0
321	Acid Soluble Zinc (1%)	0354	1.057	0.0050	1.047	0.0662	0.0241	52	0.14	321.30	0
321	Acid Soluble Zinc (1%)	0433	1.057	0.0129	1.047	0.0662	0.0241	52	0.14	321.30	0
321	Acid Soluble Zinc (1%)	0498	1.060	0.0000	1.047	0.0662	0.0241	52	0.20	321.01	0
321	Acid Soluble Zinc (1%)	0049	1.060	0.0000	1.047	0.0662	0.0241	52	0.20	321.30	0
321	Acid Soluble Zinc (1%)	0095	1.060	0.0000	1.047	0.0662	0.0241	52	0.20	321.30	0
321	Acid Soluble Zinc (1%)	0324	1.060	0.0600	1.047	0.0662	0.0241	52	0.20	321.30	0
321	Acid Soluble Zinc (1%)	0389	1.070	0.0200	1.047	0.0662	0.0241	52	0.35	321.99	0
321	Acid Soluble Zinc (1%)	0457	1.072	0.0370	1.047	0.0662	0.0241	52	0.37	321.00	0
321	Acid Soluble Zinc (1%)	0516	1.074	0.0172	1.047	0.0662	0.0241	52	0.41	321.00	0
321	Acid Soluble Zinc (1%)	0291	1.080	0.0000	1.047	0.0662	0.0241	52	0.50	321.30	0
321	Acid Soluble Zinc (1%)	0042	1.085	0.0300	1.047	0.0662	0.0241	52	0.57	321.99	0
321	Acid Soluble Zinc (1%)	0506	1.085	0.0700	1.047	0.0662	0.0241	52	0.57	321.99	0
321	Acid Soluble Zinc (1%)	0371	1.090	0.0000	1.047	0.0662	0.0241	52	0.65	321.30	0
321	Acid Soluble Zinc (1%)	0368	1.096	0.0135	1.047	0.0662	0.0241	52	0.73	321.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
321	Acid Soluble Zinc (1%)	0231	1.110	0.0200	1.047	0.0662	0.0241	52	0.95	321.30	0
321	Acid Soluble Zinc (1%)	0421	1.115	0.0300	1.047	0.0662	0.0241	52	1.03	321.33	0
321	Acid Soluble Zinc (1%)	0096	1.117	0.0010	1.047	0.0662	0.0241	52	1.05	321.30	0
321	Acid Soluble Zinc (1%)	0486	1.155	0.0100	1.047	0.0662	0.0241	52	1.63	321.33	0
321	Acid Soluble Zinc (1%)	0515	1.159	0.0321	1.047	0.0662	0.0241	52	1.69	321.33	0
321	Acid Soluble Zinc (1%)	0102	1.169	0.1120	1.047	0.0662	0.0241	52	1.84	321.30	0
321	Acid Soluble Zinc (1%)	0114	1.190	0.0200	1.047	0.0662	0.0241	52	2.16	321.30	0
321	Acid Soluble Zinc (1%)	0483	1.195	0.0300	1.047	0.0662	0.0241	52	2.24	321.30	0
321	Acid Soluble Zinc (1%)	0041	1.212	0.0120	1.047	0.0662	0.0241	52	2.49	321.30	0
321	Acid Soluble Zinc (1%)	0423	1.295	0.0100	1.047	0.0662	0.0241	52	3.75	321.32	0
321	Acid Soluble Zinc (1%)	0512	1.045	0.1700	1.047	0.0662	0.0241	52	-0.03	321.99	1
321	Acid Soluble Zinc (1%)	0428	1.755	0.0500	1.047	0.0662	0.0241	52	10.70	321.00	2
325	Water Soluble Zinc (%)	0231	0.3400	0.0000	0.4951	0.0361	0.0164	6	-4.30	325.30	0
325	Water Soluble Zinc (%)	0230	0.4650	0.0100	0.4951	0.0361	0.0164	6	-0.83	325.10	0
325	Water Soluble Zinc (%)	0394	0.4985	0.0050	0.4951	0.0361	0.0164	6	0.10	325.30	0
325	Water Soluble Zinc (%)	0368	0.5017	0.0293	0.4951	0.0361	0.0164	6	0.18	325.30	0
325	Water Soluble Zinc (%)	0444	0.5050	0.0500	0.4951	0.0361	0.0164	6	0.28	325.30	0
325	Water Soluble Zinc (%)	0513	0.6300	0.0040	0.4951	0.0361	0.0164	6	3.74	325.00	0
325	Water Soluble Zinc (%)	0406	1.050	0.1600	0.4951	0.0361	0.0164	6	15.37	325.30	1

Interpreting Z Scores: Red indicates a normally distributed Z value >3 or <-3 (requires action), Orange = Z between 2 and 3 or -2 and -3 (warning) and Green = Z < 2 and >-2 (OK at 95%). Flags indicate data usage: 0 = Used, 1 = rejected for duplicates too far apart, 2 = rejected as extreme outlier and a 4 flag indicates rejected due to 0 value submitted. Robust statistics not used if < 6 labs reporting, 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.