

# magruder fertilizer

## check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 181111

Grade 17-6-18

### Statistical Summary

# Analytes: 36

# Labs Reporting: 94

Issue Date : 12/31/2018

Analyte Code	Analyte Sample # 181111	# 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 (%)	34	33	9.114	1.690	9.460		0.2985	0.0649	3.16%		0.1030	2.85%
002	Nitrate Nitrogen (%)	20	19	7.460	1.754	7.727		0.4179	0.1198	5.41%		0.1432	2.94%
009	Ammoniacal Plus Nitrate Nitrogen (%)	5	5	17.26	0.1919	17.26		0.1919	0.1073	1.11%		0.1429	2.61%
010	Total Nitrogen (17%)	79	77	17.43	0.4277	17.46	0.6919	0.3445	0.0491	1.97%	1.16	0.0987	2.60%
020	Total Phosphorus as P2O5 (%)	57	56	6.874	0.3717	6.875		0.3464	0.0579	5.04%		0.1123	2.99%
030	Citrate Insoluble Phosphorus as P2O5 (%)	2	2	0.3650	0.0283								
040	Indirect Available Phosphorus as P2O5 (6%)	4	4	6.435	0.1692	6.435	0.6744	0.1692	0.1057	2.63%	0.58	0.0783	3.02%
041	Direct Available Phosphorus as P2O5 (6%)	46	45	6.617	0.3568	6.641	0.6764	0.3332	0.0621	5.02%	1.15	0.0812	3.01%
048	Water Soluble Phosphorus as P2O5 (%)	4	4	3.738	0.2344	3.738		0.2344	0.1465	6.27%		0.0540	3.28%
050	Soluble Potassium as K2O (18%)	89	88	17.88	0.8129	17.96	1.0086	0.4531	0.0604	2.52%	1.05	0.3001	2.59%
060	Water (Free) (%)	5	5	1.067	0.4035	1.067		0.4035	0.2256	37.81%		0.0981	3.96%
101	Acid Soluble Calcium (%)	19	18	2.351	0.1628	2.341	0.3171	0.1128	0.0332	4.82%	0.83	0.0424	3.52%
121	Acid Soluble Magnesium (1.2%)	57	56	1.604	0.1480	1.597	0.2798	0.0896	0.0150	5.61%	0.75	0.0535	3.73%
131	Water Soluble Magnesium (%)	4	4	1.048	0.7147	1.048		0.7147	0.4467	68.19%		0.0532	3.97%
143	Elemental Sulfur (%)	8	8	1.202	0.5324	1.248		0.4923	0.2176	39.46%		0.0345	3.87%
145	Sulfate Sulfur, HCl soluble (%)	12	12	1.538	0.2152	1.571		0.1299	0.0469	8.27%		0.0387	3.74%
148	Total Sulfur (1.6%)	43	41	1.556	0.1508	1.568	0.2784	0.1259	0.0246	8.03%	1.05	0.0514	3.74%
149	Sulfur - HNO3 soluble (%)	3	3	1.548	0.0618	1.548		0.0618	0.0446	3.99%		0.0547	3.75%
151	Acid Soluble Arsenic (ppm)	14	13	2.929	0.5550	2.933		0.6207	0.2152	21.16%		0.2016	13.60%
165	Acid Soluble Boron (0.2%)	43	41	0.2190	0.0235	0.2182	0.0357	0.0180	0.0035	8.24%	1.17	0.0066	5.03%
171	Water Soluble Boron (%)	8	8	0.2091	0.0132	0.2091		0.0149	0.0066	7.13%		0.0063	5.06%
181	Acid Soluble Cadmium (ppm)	17	16	1.051	1.387	0.7827		0.3316	0.1036	42.37%		0.1850	16.60%
190	Water Soluble Chlorine (%)	1		11.88									
191	Acid Soluble Chromium (ppm)	16	16	33.96	11.24	34.85		6.107	1.909	17.52%		1.863	9.37%
202	Acid Soluble Cobalt (ppm)	19	19	4.790	2.469	4.602	2.3805	2.306	0.6612	50.10%	2.26	0.3717	12.71%
221	Acid Soluble Copper (%)	13	12	0.0079	0.0213	0.0016	0.0052	0.0020	0.0007	124.13%	0.89	0.0098	10.55%
241	Acid Soluble Iron (%)	22	21	0.2235	0.0546	0.2345	0.0284	0.0198	0.0054	8.45%	1.62	0.0087	4.98%
251	Acid Soluble Lead (ppm)	19	18	5.369	1.798	5.181		1.349	0.3975	26.04%		0.4675	12.49%
261	Acid Soluble Manganese (%)	17	16	0.0095	0.0064	0.0081	0.0058	0.0013	0.0004	15.94%	0.52	0.0015	8.26%
281	Acid Soluble Mercury (ppm)	2	1	0.0499									
289	Acid Soluble Molybdenum (ppm)	18	17	4.148	3.394	3.123	1.9370	0.9402	0.2850	30.10%	1.13	1.212	13.48%

Analyte Code	Analyte Sample # 181111	# 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
291	Acid Soluble Nickel (ppm)	18	18	12.76	3.943	12.74		4.441	1.309	34.86%		0.9268	10.91%
301	Acid Soluble Selenium (ppm)	8	8	2.989	2.626	2.989		2.978	1.316	99.61%		0.8360	13.57%
311	Sodium (%)	8	8	0.4609	0.0243	0.4622	0.0512	0.0245	0.0108	5.29%	1.11	0.0076	4.49%
321	Acid Soluble Zinc (0.1%)	57	55	0.1394	0.0145	0.1392	0.0189	0.0113	0.0019	8.10%	1.39	0.0047	5.38%
325	Water Soluble Zinc (%)	3	3	0.0920	0.0221	0.0920		0.0221	0.0159	23.99%		0.0047	5.73%

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.

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# Analytes: 36

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Lab Values

# Labs Reporting: 94

Grade 17-6-18

Issue Date : 12/31/2018

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 (%)	0000	0.1000	0.0000	9.460	0.2985	0.1030	33	-31.36	001.10	0
001	Ammoniacal Nitrogen (%)	0169	7.370	0.0600	9.460	0.2985	0.1030	33	-7.00	001.10	0
001	Ammoniacal Nitrogen (%)	0230	8.150	0.1000	9.460	0.2985	0.1030	33	-4.39	001.10	0
001	Ammoniacal Nitrogen (%)	0117	9.000	0.4000	9.460	0.2985	0.1030	33	-1.54	001.10	0
001	Ammoniacal Nitrogen (%)	0394	9.002	0.2430	9.460	0.2985	0.1030	33	-1.54	001.99	0
001	Ammoniacal Nitrogen (%)	0513	9.085	0.0500	9.460	0.2985	0.1030	33	-1.26	001.99	0
001	Ammoniacal Nitrogen (%)	0546	9.210	0.4000	9.460	0.2985	0.1030	33	-0.84	001.99	0
001	Ammoniacal Nitrogen (%)	0027	9.265	0.2300	9.460	0.2985	0.1030	33	-0.65	001.99	0
001	Ammoniacal Nitrogen (%)	0177	9.304	0.0391	9.460	0.2985	0.1030	33	-0.52	001.10	0
001	Ammoniacal Nitrogen (%)	0476	9.369	0.0351	9.460	0.2985	0.1030	33	-0.31	001.99	0
001	Ammoniacal Nitrogen (%)	0510	9.372	0.0328	9.460	0.2985	0.1030	33	-0.30	001.99	0
001	Ammoniacal Nitrogen (%)	0486	9.375	0.0500	9.460	0.2985	0.1030	33	-0.28	001.10	0
001	Ammoniacal Nitrogen (%)	0549	9.440	0.0800	9.460	0.2985	0.1030	33	-0.07	001.99	0
001	Ammoniacal Nitrogen (%)	0371	9.465	0.0100	9.460	0.2985	0.1030	33	0.02	001.99	0
001	Ammoniacal Nitrogen (%)	0527	9.480	0.4000	9.460	0.2985	0.1030	33	0.07	001.99	0
001	Ammoniacal Nitrogen (%)	0481	9.500	0.1400	9.460	0.2985	0.1030	33	0.13	001.99	0
001	Ammoniacal Nitrogen (%)	0220	9.510	0.1600	9.460	0.2985	0.1030	33	0.17	001.99	0
001	Ammoniacal Nitrogen (%)	0405	9.515	0.0300	9.460	0.2985	0.1030	33	0.18	001.99	0
001	Ammoniacal Nitrogen (%)	0522	9.520	0.0200	9.460	0.2985	0.1030	33	0.20	001.99	0
001	Ammoniacal Nitrogen (%)	0540	9.530	0.0600	9.460	0.2985	0.1030	33	0.23	001.99	0
001	Ammoniacal Nitrogen (%)	0096	9.565	0.0100	9.460	0.2985	0.1030	33	0.35	001.99	0
001	Ammoniacal Nitrogen (%)	0544	9.590	0.0200	9.460	0.2985	0.1030	33	0.44	001.99	0
001	Ammoniacal Nitrogen (%)	0300	9.599	0.0420	9.460	0.2985	0.1030	33	0.47	001.99	0
001	Ammoniacal Nitrogen (%)	0537	9.655	0.1300	9.460	0.2985	0.1030	33	0.65	001.99	0
001	Ammoniacal Nitrogen (%)	0553	9.661	0.0780	9.460	0.2985	0.1030	33	0.67	001.99	0
001	Ammoniacal Nitrogen (%)	0444	9.690	0.2400	9.460	0.2985	0.1030	33	0.77	001.10	0
001	Ammoniacal Nitrogen (%)	0536	9.690	0.0400	9.460	0.2985	0.1030	33	0.77	001.99	0
001	Ammoniacal Nitrogen (%)	0536	9.695	0.0300	9.460	0.2985	0.1030	33	0.79	001.10	0
001	Ammoniacal Nitrogen (%)	0531	9.720	0.0400	9.460	0.2985	0.1030	33	0.87	001.99	0
001	Ammoniacal Nitrogen (%)	0550	9.775	0.0100	9.460	0.2985	0.1030	33	1.06	001.99	0
001	Ammoniacal Nitrogen (%)	0531	9.775	0.0500	9.460	0.2985	0.1030	33	1.06	001.10	0
001	Ammoniacal Nitrogen (%)	0532	9.855	0.1500	9.460	0.2985	0.1030	33	1.32	001.99	0
001	Ammoniacal Nitrogen (%)	0524	9.924	0.0195	9.460	0.2985	0.1030	33	1.55	001.99	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				
001	Ammoniacal Nitrogen (%)	0000	1.500	1.000	9.460	0.2985	0.1030	33	-26.67	001.99	1
002	Nitrate Nitrogen (%)	0000	0.6000	0.8000	7.727	0.4179	0.1432	19	-17.05	002.10	0
002	Nitrate Nitrogen (%)	0536	7.285	0.0500	7.727	0.4179	0.1432	19	-1.06	002.99	0
002	Nitrate Nitrogen (%)	0481	7.375	0.4700	7.727	0.4179	0.1432	19	-0.84	002.99	0
002	Nitrate Nitrogen (%)	0531	7.375	0.0500	7.727	0.4179	0.1432	19	-0.84	002.99	0
002	Nitrate Nitrogen (%)	0549	7.395	0.0100	7.727	0.4179	0.1432	19	-0.79	002.99	0
002	Nitrate Nitrogen (%)	0476	7.426	0.0575	7.727	0.4179	0.1432	19	-0.72	002.99	0
002	Nitrate Nitrogen (%)	0532	7.485	0.1500	7.727	0.4179	0.1432	19	-0.58	002.99	0
002	Nitrate Nitrogen (%)	0553	7.566	0.1010	7.727	0.4179	0.1432	19	-0.39	002.99	0
002	Nitrate Nitrogen (%)	0550	7.695	0.0900	7.727	0.4179	0.1432	19	-0.08	002.99	0
002	Nitrate Nitrogen (%)	0540	7.740	0.2800	7.727	0.4179	0.1432	19	0.03	002.99	0
002	Nitrate Nitrogen (%)	0394	7.745	0.1820	7.727	0.4179	0.1432	19	0.04	002.99	0
002	Nitrate Nitrogen (%)	0029	7.760	0.1800	7.727	0.4179	0.1432	19	0.08	002.99	0
002	Nitrate Nitrogen (%)	0486	7.765	0.0100	7.727	0.4179	0.1432	19	0.09	002.99	0
002	Nitrate Nitrogen (%)	0027	8.079	0.0010	7.727	0.4179	0.1432	19	0.84	002.99	0
002	Nitrate Nitrogen (%)	0371	8.085	0.0300	7.727	0.4179	0.1432	19	0.86	002.99	0
002	Nitrate Nitrogen (%)	0513	8.115	0.0100	7.727	0.4179	0.1432	19	0.93	002.99	0
002	Nitrate Nitrogen (%)	0527	8.155	0.0500	7.727	0.4179	0.1432	19	1.02	002.99	0
002	Nitrate Nitrogen (%)	0231	8.310	0.0800	7.727	0.4179	0.1432	19	1.40	002.99	0
002	Nitrate Nitrogen (%)	0230	9.790	0.1200	7.727	0.4179	0.1432	19	4.94	002.20	0
002	Nitrate Nitrogen (%)	0000	1.050	1.900	7.727	0.4179	0.1432	19	-15.98	002.20	1
009	Ammoniacal Plus Nitrate Nitrogen (%)	0537	16.96	0.0700	17.26	0.1919	0.1429	5	-1.58	009.10	0
009	Ammoniacal Plus Nitrate Nitrogen (%)	0513	17.19	0.0100	17.26	0.1919	0.1429	5	-0.38	009.99	0
009	Ammoniacal Plus Nitrate Nitrogen (%)	0444	17.35	0.4500	17.26	0.1919	0.1429	5	0.45	009.10	0
009	Ammoniacal Plus Nitrate Nitrogen (%)	0169	17.40	0.0400	17.26	0.1919	0.1429	5	0.74	009.10	0
009	Ammoniacal Plus Nitrate Nitrogen (%)	0397	17.41	0.1443	17.26	0.1919	0.1429	5	0.78	009.10	0
010	Total Nitrogen (17%)	0510	15.63†	0.2753	17.46	0.3445	0.0987	77	-5.30	010.11	0
010	Total Nitrogen (17%)	0230	16.35†	0.1000	17.46	0.3445	0.0987	77	-3.21	010.60	0
010	Total Nitrogen (17%)	0356	16.39†	0.0800	17.46	0.3445	0.0987	77	-3.10	010.60	0
010	Total Nitrogen (17%)	0394	16.75†	0.4250	17.46	0.3445	0.0987	77	-2.06	010.99	0
010	Total Nitrogen (17%)	0544	16.77†	0.0300	17.46	0.3445	0.0987	77	-2.01	010.99	0
010	Total Nitrogen (17%)	0117	16.80	0.0000	17.46	0.3445	0.0987	77	-1.91	010.60	0
010	Total Nitrogen (17%)	0476	16.82	0.0115	17.46	0.3445	0.0987	77	-1.85	010.99	0
010	Total Nitrogen (17%)	0309	16.93	0.0600	17.46	0.3445	0.0987	77	-1.53	010.11	0
010	Total Nitrogen (17%)	0537	16.99	0.0800	17.46	0.3445	0.0987	77	-1.36	010.99	0
010	Total Nitrogen (17%)	0542	17.02	0.0600	17.46	0.3445	0.0987	77	-1.26	010.60	0
010	Total Nitrogen (17%)	0481	17.04	0.0100	17.46	0.3445	0.0987	77	-1.23	010.99	0
010	Total Nitrogen (17%)	0501	17.08	0.0500	17.46	0.3445	0.0987	77	-1.11	010.60	0
010	Total Nitrogen (17%)	0523	17.10	0.0000	17.46	0.3445	0.0987	77	-1.04	010.60	0
010	Total Nitrogen (17%)	0483	17.13	0.1000	17.46	0.3445	0.0987	77	-0.95	010.60	0
010	Total Nitrogen (17%)	0534	17.15	0.1000	17.46	0.3445	0.0987	77	-0.89	010.12	0
010	Total Nitrogen (17%)	0531	17.18	0.0500	17.46	0.3445	0.0987	77	-0.82	010.11	0
010	Total Nitrogen (17%)	0307	17.20	0.1900	17.46	0.3445	0.0987	77	-0.76	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 (17%)	0423	17.24	0.0400	17.46	0.3445	0.0987	77	-0.63	010.60	0
010	Total Nitrogen (17%)	0416	17.25	0.0100	17.46	0.3445	0.0987	77	-0.62	010.12	0
010	Total Nitrogen (17%)	0234	17.25	0.1000	17.46	0.3445	0.0987	77	-0.60	010.60	0
010	Total Nitrogen (17%)	0493	17.25	0.1000	17.46	0.3445	0.0987	77	-0.60	010.99	0
010	Total Nitrogen (17%)	0397	17.28	0.0804	17.46	0.3445	0.0987	77	-0.52	010.12	0
010	Total Nitrogen (17%)	0185	17.30	0.0900	17.46	0.3445	0.0987	77	-0.47	010.60	0
010	Total Nitrogen (17%)	0472	17.30	0.0500	17.46	0.3445	0.0987	77	-0.47	010.60	0
010	Total Nitrogen (17%)	0451	17.31	0.1300	17.46	0.3445	0.0987	77	-0.44	010.60	0
010	Total Nitrogen (17%)	0035	17.31	0.2400	17.46	0.3445	0.0987	77	-0.43	010.60	0
010	Total Nitrogen (17%)	0525	17.35	0.0210	17.46	0.3445	0.0987	77	-0.32	010.60	0
010	Total Nitrogen (17%)	0325	17.35	0.3000	17.46	0.3445	0.0987	77	-0.31	010.60	0
010	Total Nitrogen (17%)	0095	17.36	0.1500	17.46	0.3445	0.0987	77	-0.30	010.60	0
010	Total Nitrogen (17%)	0086	17.37	0.1190	17.46	0.3445	0.0987	77	-0.24	010.60	0
010	Total Nitrogen (17%)	0072	17.39	0.0100	17.46	0.3445	0.0987	77	-0.21	010.60	0
010	Total Nitrogen (17%)	0540	17.40	0.0900	17.46	0.3445	0.0987	77	-0.18	010.11	0
010	Total Nitrogen (17%)	0042	17.41	0.0100	17.46	0.3445	0.0987	77	-0.15	010.60	0
010	Total Nitrogen (17%)	0073	17.41	0.0400	17.46	0.3445	0.0987	77	-0.14	010.60	0
010	Total Nitrogen (17%)	0547	17.42	0.0100	17.46	0.3445	0.0987	77	-0.12	010.60	0
010	Total Nitrogen (17%)	0114	17.45	0.0800	17.46	0.3445	0.0987	77	-0.02	010.60	0
010	Total Nitrogen (17%)	0324	17.45	0.1000	17.46	0.3445	0.0987	77	-0.02	010.60	0
010	Total Nitrogen (17%)	0482	17.45	0.1000	17.46	0.3445	0.0987	77	-0.02	010.60	0
010	Total Nitrogen (17%)	0096	17.47	0.1100	17.46	0.3445	0.0987	77	0.02	010.60	0
010	Total Nitrogen (17%)	0177	17.47	0.0900	17.46	0.3445	0.0987	77	0.02	010.60	0
010	Total Nitrogen (17%)	0389	17.49	0.0800	17.46	0.3445	0.0987	77	0.09	010.60	0
010	Total Nitrogen (17%)	0292	17.51	0.0100	17.46	0.3445	0.0987	77	0.14	010.60	0
010	Total Nitrogen (17%)	0522	17.52	0.3000	17.46	0.3445	0.0987	77	0.18	010.11	0
010	Total Nitrogen (17%)	0360	17.52	0.0200	17.46	0.3445	0.0987	77	0.18	010.60	0
010	Total Nitrogen (17%)	0231	17.53	0.0600	17.46	0.3445	0.0987	77	0.21	010.60	0
010	Total Nitrogen (17%)	0421	17.55	0.1000	17.46	0.3445	0.0987	77	0.27	010.60	0
010	Total Nitrogen (17%)	0029	17.57	0.0300	17.46	0.3445	0.0987	77	0.31	010.60	0
010	Total Nitrogen (17%)	0486	17.57	0.1000	17.46	0.3445	0.0987	77	0.33	010.60	0
010	Total Nitrogen (17%)	0105	17.59	0.1700	17.46	0.3445	0.0987	77	0.37	010.11	0
010	Total Nitrogen (17%)	0402	17.63	0.0300	17.46	0.3445	0.0987	77	0.49	010.60	0
010	Total Nitrogen (17%)	0220	17.64	0.0100	17.46	0.3445	0.0987	77	0.52	010.11	0
010	Total Nitrogen (17%)	0043	17.65	0.0300	17.46	0.3445	0.0987	77	0.54	010.60	0
010	Total Nitrogen (17%)	0377	17.67	0.0300	17.46	0.3445	0.0987	77	0.60	010.60	0
010	Total Nitrogen (17%)	0105	17.69	0.1500	17.46	0.3445	0.0987	77	0.66	010.60	0
010	Total Nitrogen (17%)	0444	17.69	0.0300	17.46	0.3445	0.0987	77	0.66	010.60	0
010	Total Nitrogen (17%)	0027	17.69	0.0260	17.46	0.3445	0.0987	77	0.67	010.60	0
010	Total Nitrogen (17%)	0405	17.70	0.0300	17.46	0.3445	0.0987	77	0.69	010.60	0
010	Total Nitrogen (17%)	0524	17.70	0.0178	17.46	0.3445	0.0987	77	0.70	010.99	0
010	Total Nitrogen (17%)	0527	17.70	0.4900	17.46	0.3445	0.0987	77	0.71	010.60	0
010	Total Nitrogen (17%)	0037	17.72	0.0440	17.46	0.3445	0.0987	77	0.75	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 (17%)	0055	17.73	0.1200	17.46	0.3445	0.0987	77	0.79	010.60	0
010	Total Nitrogen (17%)	0136	17.74	0.0000	17.46	0.3445	0.0987	77	0.82	010.60	0
010	Total Nitrogen (17%)	0452	17.74	0.0200	17.46	0.3445	0.0987	77	0.82	010.60	0
010	Total Nitrogen (17%)	0300	17.75	0.0700	17.46	0.3445	0.0987	77	0.83	010.99	0
010	Total Nitrogen (17%)	0040	17.75	0.1000	17.46	0.3445	0.0987	77	0.85	010.60	0
010	Total Nitrogen (17%)	0007	17.80	0.2000	17.46	0.3445	0.0987	77	0.99	010.60	0
010	Total Nitrogen (17%)	0354	17.80	0.0000	17.46	0.3445	0.0987	77	0.99	010.60	0
010	Total Nitrogen (17%)	0041	17.81	0.1700	17.46	0.3445	0.0987	77	1.01	010.60	0
010	Total Nitrogen (17%)	0049	17.81	0.0500	17.46	0.3445	0.0987	77	1.01	010.60	0
010	Total Nitrogen (17%)	0494	17.83	0.2500	17.46	0.3445	0.0987	77	1.07	010.60	0
010	Total Nitrogen (17%)	0550	17.87	0.0000	17.46	0.3445	0.0987	77	1.20	010.60	0
010	Total Nitrogen (17%)	0025	17.89	0.1700	17.46	0.3445	0.0987	77	1.24	010.60	0
010	Total Nitrogen (17%)	0131	18.01	0.0170	17.46	0.3445	0.0987	77	1.61	010.60	0
010	Total Nitrogen (17%)	0291	18.03	0.0100	17.46	0.3445	0.0987	77	1.65	010.60	0
010	Total Nitrogen (17%)	0443	18.11	0.5200	17.46	0.3445	0.0987	77	1.89	010.60	0
010	Total Nitrogen (17%)	0543	18.19‡	0.3040	17.46	0.3445	0.0987	77	2.11	010.60	0
010	Total Nitrogen (17%)	0546	18.48‡	0.1500	17.46	0.3445	0.0987	77	2.95	010.11	0
010	Total Nitrogen (17%)	0255	16.48†	0.9980	17.46	0.3445	0.0987	77	-2.84	010.60	1
010	Total Nitrogen (17%)	0422	2.760†	0.1000	17.46	0.3445	0.0987	77	-42.66	010.60	2
020	Total Phosphorus as P2O5 (%)	0443	5.775	0.0700	6.875	0.3464	0.1123	56	-3.17	020.99	0
020	Total Phosphorus as P2O5 (%)	0501	6.190	0.0000	6.875	0.3464	0.1123	56	-1.98	020.50	0
020	Total Phosphorus as P2O5 (%)	0255	6.214	0.1140	6.875	0.3464	0.1123	56	-1.91	020.50	0
020	Total Phosphorus as P2O5 (%)	0291	6.335	0.0100	6.875	0.3464	0.1123	56	-1.56	020.50	0
020	Total Phosphorus as P2O5 (%)	0416	6.385	0.0300	6.875	0.3464	0.1123	56	-1.41	020.20	0
020	Total Phosphorus as P2O5 (%)	0552	6.410	0.1400	6.875	0.3464	0.1123	56	-1.34	020.50	0
020	Total Phosphorus as P2O5 (%)	0389	6.425	0.0700	6.875	0.3464	0.1123	56	-1.30	020.50	0
020	Total Phosphorus as P2O5 (%)	0027	6.440	0.4000	6.875	0.3464	0.1123	56	-1.25	020.20	0
020	Total Phosphorus as P2O5 (%)	0451	6.455	0.5100	6.875	0.3464	0.1123	56	-1.21	020.50	0
020	Total Phosphorus as P2O5 (%)	0543	6.456	0.0160	6.875	0.3464	0.1123	56	-1.21	020.50	0
020	Total Phosphorus as P2O5 (%)	0515	6.656	0.4881	6.875	0.3464	0.1123	56	-0.63	020.99	0
020	Total Phosphorus as P2O5 (%)	0553	6.682	0.0750	6.875	0.3464	0.1123	56	-0.56	020.20	0
020	Total Phosphorus as P2O5 (%)	0510	6.703	0.2597	6.875	0.3464	0.1123	56	-0.50	020.20	0
020	Total Phosphorus as P2O5 (%)	0493	6.720	0.0200	6.875	0.3464	0.1123	56	-0.45	020.20	0
020	Total Phosphorus as P2O5 (%)	0476	6.737	0.0719	6.875	0.3464	0.1123	56	-0.40	020.20	0
020	Total Phosphorus as P2O5 (%)	0527	6.738	0.0093	6.875	0.3464	0.1123	56	-0.39	020.50	0
020	Total Phosphorus as P2O5 (%)	0300	6.769	0.0090	6.875	0.3464	0.1123	56	-0.31	020.50	0
020	Total Phosphorus as P2O5 (%)	0231	6.770	0.0600	6.875	0.3464	0.1123	56	-0.30	020.20	0
020	Total Phosphorus as P2O5 (%)	0513	6.770	0.0200	6.875	0.3464	0.1123	56	-0.30	020.20	0
020	Total Phosphorus as P2O5 (%)	0483	6.770	0.1600	6.875	0.3464	0.1123	56	-0.30	020.50	0
020	Total Phosphorus as P2O5 (%)	0035	6.790	0.0600	6.875	0.3464	0.1123	56	-0.24	020.40	0
020	Total Phosphorus as P2O5 (%)	0114	6.795	0.3900	6.875	0.3464	0.1123	56	-0.23	020.10	0
020	Total Phosphorus as P2O5 (%)	0394	6.799	0.1030	6.875	0.3464	0.1123	56	-0.22	020.20	0
020	Total Phosphorus as P2O5 (%)	0300	6.805	0.0300	6.875	0.3464	0.1123	56	-0.20	020.20	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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020	Total Phosphorus as P2O5 (%)	0513	6.825	0.0100	6.875	0.3464	0.1123	56	-0.14	020.99	0
020	Total Phosphorus as P2O5 (%)	0516	6.839	0.1480	6.875	0.3464	0.1123	56	-0.10	020.50	0
020	Total Phosphorus as P2O5 (%)	0356	6.850	0.1400	6.875	0.3464	0.1123	56	-0.07	020.20	0
020	Total Phosphorus as P2O5 (%)	0105	6.855	0.0300	6.875	0.3464	0.1123	56	-0.06	020.10	0
020	Total Phosphorus as P2O5 (%)	0444	6.855	0.1700	6.875	0.3464	0.1123	56	-0.06	020.50	0
020	Total Phosphorus as P2O5 (%)	0472	6.885	0.0900	6.875	0.3464	0.1123	56	0.03	020.50	0
020	Total Phosphorus as P2O5 (%)	0307	6.895	0.3300	6.875	0.3464	0.1123	56	0.06	020.50	0
020	Total Phosphorus as P2O5 (%)	0493	6.900	0.1000	6.875	0.3464	0.1123	56	0.07	020.10	0
020	Total Phosphorus as P2O5 (%)	0405	6.905	0.1100	6.875	0.3464	0.1123	56	0.09	020.20	0
020	Total Phosphorus as P2O5 (%)	0169	6.915	0.0300	6.875	0.3464	0.1123	56	0.12	020.20	0
020	Total Phosphorus as P2O5 (%)	0292	6.935	0.0100	6.875	0.3464	0.1123	56	0.17	020.20	0
020	Total Phosphorus as P2O5 (%)	0481	6.935	0.0100	6.875	0.3464	0.1123	56	0.17	020.20	0
020	Total Phosphorus as P2O5 (%)	0371	6.950	0.0200	6.875	0.3464	0.1123	56	0.22	020.20	0
020	Total Phosphorus as P2O5 (%)	0234	6.950	0.1000	6.875	0.3464	0.1123	56	0.22	020.50	0
020	Total Phosphorus as P2O5 (%)	0096	6.975	0.0500	6.875	0.3464	0.1123	56	0.29	020.40	0
020	Total Phosphorus as P2O5 (%)	0546	6.975	0.0060	6.875	0.3464	0.1123	56	0.29	020.50	0
020	Total Phosphorus as P2O5 (%)	0547	6.985	0.1300	6.875	0.3464	0.1123	56	0.32	020.50	0
020	Total Phosphorus as P2O5 (%)	0423	7.065	0.0300	6.875	0.3464	0.1123	56	0.55	020.50	0
020	Total Phosphorus as P2O5 (%)	0105	7.080	0.0400	6.875	0.3464	0.1123	56	0.59	020.40	0
020	Total Phosphorus as P2O5 (%)	0421	7.150	0.1000	6.875	0.3464	0.1123	56	0.80	020.50	0
020	Total Phosphorus as P2O5 (%)	0433	7.150	0.0400	6.875	0.3464	0.1123	56	0.80	020.50	0
020	Total Phosphorus as P2O5 (%)	0523	7.200	0.0000	6.875	0.3464	0.1123	56	0.94	020.50	0
020	Total Phosphorus as P2O5 (%)	0309	7.215	0.0500	6.875	0.3464	0.1123	56	0.98	020.20	0
020	Total Phosphorus as P2O5 (%)	0482	7.240	0.1000	6.875	0.3464	0.1123	56	1.05	020.50	0
020	Total Phosphorus as P2O5 (%)	0524	7.299	0.4536	6.875	0.3464	0.1123	56	1.22	020.50	0
020	Total Phosphorus as P2O5 (%)	0542	7.350	0.1000	6.875	0.3464	0.1123	56	1.37	020.50	0
020	Total Phosphorus as P2O5 (%)	0390	7.365	0.2100	6.875	0.3464	0.1123	56	1.42	020.50	0
020	Total Phosphorus as P2O5 (%)	0402	7.365	0.1700	6.875	0.3464	0.1123	56	1.42	020.50	0
020	Total Phosphorus as P2O5 (%)	0525	7.479	0.1450	6.875	0.3464	0.1123	56	1.74	020.50	0
020	Total Phosphorus as P2O5 (%)	0550	7.520	0.0000	6.875	0.3464	0.1123	56	1.86	020.20	0
020	Total Phosphorus as P2O5 (%)	0522	7.580	0.1800	6.875	0.3464	0.1123	56	2.04	020.20	0
020	Total Phosphorus as P2O5 (%)	0422	7.845	0.0700	6.875	0.3464	0.1123	56	2.80	020.50	0
020	Total Phosphorus as P2O5 (%)	0324	6.995	0.5700	6.875	0.3464	0.1123	56	0.35	020.20	1
030	Citrate Insoluble Phosphorus as P2O5 (%)	0405	0.3450	0.0100				2		030.20	0
030	Citrate Insoluble Phosphorus as P2O5 (%)	0096	0.3850	0.0500				2		030.40	0
040	Indirect Available Phosphorus as P2O5 (6%)	0394	6.246	0.1030	6.435	0.1692	0.0783	4	-1.12	040.99	0
040	Indirect Available Phosphorus as P2O5 (6%)	0300	6.340	0.1000	6.435	0.1692	0.0783	4	-0.56	040.20	0
040	Indirect Available Phosphorus as P2O5 (6%)	0405	6.565	0.1100	6.435	0.1692	0.0783	4	0.77	040.20	0
040	Indirect Available Phosphorus as P2O5 (6%)	0096	6.590	0.0000	6.435	0.1692	0.0783	4	0.92	040.40	0
041	Direct Available Phosphorus as P2O5 (6%)	0230	5.500†	0.1600	6.641	0.3332	0.0812	45	-3.43	041.60	0
041	Direct Available Phosphorus as P2O5 (6%)	0549	5.950†	0.1000	6.641	0.3332	0.0812	45	-2.07	041.99	0
041	Direct Available Phosphorus as P2O5 (6%)	0325	6.000	0.2000	6.641	0.3332	0.0812	45	-1.92	041.50	0
041	Direct Available Phosphorus as P2O5 (6%)	0536	6.010	0.0800	6.641	0.3332	0.0812	45	-1.89	041.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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041	Direct Available Phosphorus as P2O5 (6%)	0537	6.085	0.0700	6.641	0.3332	0.0812	45	-1.67	041.99	0
041	Direct Available Phosphorus as P2O5 (6%)	0540	6.110	0.0200	6.641	0.3332	0.0812	45	-1.59	041.99	0
041	Direct Available Phosphorus as P2O5 (6%)	0532	6.130	0.1000	6.641	0.3332	0.0812	45	-1.53	041.99	0
041	Direct Available Phosphorus as P2O5 (6%)	0531	6.150	0.1000	6.641	0.3332	0.0812	45	-1.47	041.99	0
041	Direct Available Phosphorus as P2O5 (6%)	0177	6.429	0.0442	6.641	0.3332	0.0812	45	-0.64	041.10	0
041	Direct Available Phosphorus as P2O5 (6%)	0423	6.445	0.0700	6.641	0.3332	0.0812	45	-0.59	041.51	0
041	Direct Available Phosphorus as P2O5 (6%)	0007	6.450	0.3000	6.641	0.3332	0.0812	45	-0.57	041.50	0
041	Direct Available Phosphorus as P2O5 (6%)	0095	6.475	0.0900	6.641	0.3332	0.0812	45	-0.50	041.60	0
041	Direct Available Phosphorus as P2O5 (6%)	0086	6.476	0.1269	6.641	0.3332	0.0812	45	-0.50	041.10	0
041	Direct Available Phosphorus as P2O5 (6%)	0405	6.505	0.0100	6.641	0.3332	0.0812	45	-0.41	041.99	0
041	Direct Available Phosphorus as P2O5 (6%)	0049	6.530	0.0400	6.641	0.3332	0.0812	45	-0.33	041.10	0
041	Direct Available Phosphorus as P2O5 (6%)	0231	6.545	0.0300	6.641	0.3332	0.0812	45	-0.29	041.60	0
041	Direct Available Phosphorus as P2O5 (6%)	0397	6.567	0.0868	6.641	0.3332	0.0812	45	-0.22	041.60	0
041	Direct Available Phosphorus as P2O5 (6%)	0472	6.570	0.1200	6.641	0.3332	0.0812	45	-0.21	041.60	0
041	Direct Available Phosphorus as P2O5 (6%)	0494	6.585	0.2900	6.641	0.3332	0.0812	45	-0.17	041.10	0
041	Direct Available Phosphorus as P2O5 (6%)	0106	6.615	0.0900	6.641	0.3332	0.0812	45	-0.08	041.21	0
041	Direct Available Phosphorus as P2O5 (6%)	0513	6.690	0.0200	6.641	0.3332	0.0812	45	0.15	041.11	0
041	Direct Available Phosphorus as P2O5 (6%)	0037	6.704	0.0910	6.641	0.3332	0.0812	45	0.19	041.51	0
041	Direct Available Phosphorus as P2O5 (6%)	0452	6.705	0.0100	6.641	0.3332	0.0812	45	0.19	041.50	0
041	Direct Available Phosphorus as P2O5 (6%)	0177	6.722	0.0436	6.641	0.3332	0.0812	45	0.24	041.60	0
041	Direct Available Phosphorus as P2O5 (6%)	0185	6.740	0.0200	6.641	0.3332	0.0812	45	0.30	041.11	0
041	Direct Available Phosphorus as P2O5 (6%)	0394	6.750	0.0030	6.641	0.3332	0.0812	45	0.32	041.60	0
041	Direct Available Phosphorus as P2O5 (6%)	0040	6.750	0.1000	6.641	0.3332	0.0812	45	0.33	041.51	0
041	Direct Available Phosphorus as P2O5 (6%)	0486	6.755	0.0100	6.641	0.3332	0.0812	45	0.34	041.60	0
041	Direct Available Phosphorus as P2O5 (6%)	0377	6.780	0.0400	6.641	0.3332	0.0812	45	0.42	041.51	0
041	Direct Available Phosphorus as P2O5 (6%)	0043	6.815	0.1100	6.641	0.3332	0.0812	45	0.52	041.51	0
041	Direct Available Phosphorus as P2O5 (6%)	0105	6.835	0.0700	6.641	0.3332	0.0812	45	0.58	041.60	0
041	Direct Available Phosphorus as P2O5 (6%)	0105	6.850	0.2600	6.641	0.3332	0.0812	45	0.63	041.11	0
041	Direct Available Phosphorus as P2O5 (6%)	0055	6.855	0.0100	6.641	0.3332	0.0812	45	0.64	041.60	0
041	Direct Available Phosphorus as P2O5 (6%)	0043	6.865	0.1100	6.641	0.3332	0.0812	45	0.67	041.60	0
041	Direct Available Phosphorus as P2O5 (6%)	0360	6.870	0.0200	6.641	0.3332	0.0812	45	0.69	041.51	0
041	Direct Available Phosphorus as P2O5 (6%)	0029	6.875	0.0100	6.641	0.3332	0.0812	45	0.70	041.60	0
041	Direct Available Phosphorus as P2O5 (6%)	0073	6.910	0.0800	6.641	0.3332	0.0812	45	0.81	041.60	0
041	Direct Available Phosphorus as P2O5 (6%)	0055	6.925	0.0300	6.641	0.3332	0.0812	45	0.85	041.10	0
041	Direct Available Phosphorus as P2O5 (6%)	0354	6.935	0.0900	6.641	0.3332	0.0812	45	0.88	041.60	0
041	Direct Available Phosphorus as P2O5 (6%)	0025	6.960	0.1200	6.641	0.3332	0.0812	45	0.96	041.51	0
041	Direct Available Phosphorus as P2O5 (6%)	0220	6.980	0.0400	6.641	0.3332	0.0812	45	1.02	041.11	0
041	Direct Available Phosphorus as P2O5 (6%)	0041	6.995	0.0300	6.641	0.3332	0.0812	45	1.06	041.10	0
041	Direct Available Phosphorus as P2O5 (6%)	0072	7.036	0.0184	6.641	0.3332	0.0812	45	1.18	041.60	0
041	Direct Available Phosphorus as P2O5 (6%)	0072	7.085	0.0500	6.641	0.3332	0.0812	45	1.33	041.51	0
041	Direct Available Phosphorus as P2O5 (6%)	0522	7.260	0.1400	6.641	0.3332	0.0812	45	1.86	041.21	0
041	Direct Available Phosphorus as P2O5 (6%)	0494	6.765	0.5100	6.641	0.3332	0.0812	45	0.37	041.51	1
048	Water Soluble Phosphorus as P2O5 (%)	0394	3.512	0.1310	3.738	0.2344	0.0540	4	-0.96	048.20	0



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048	Water Soluble Phosphorus as P2O5 (%)	0513	3.565	0.0100	3.738	0.2344	0.0540	4	-0.74	048.99	0
048	Water Soluble Phosphorus as P2O5 (%)	0546	3.889	0.0250	3.738	0.2344	0.0540	4	0.64	048.50	0
048	Water Soluble Phosphorus as P2O5 (%)	0096	3.985	0.0500	3.738	0.2344	0.0540	4	1.06	048.40	0
050	Soluble Potassium as K2O (18%)	0255	13.98†	0.5290	17.96	0.4531	0.3001	88	-8.79	050.99	0
050	Soluble Potassium as K2O (18%)	0543	14.65†	1.052	17.96	0.4531	0.3001	88	-7.30	050.52	0
050	Soluble Potassium as K2O (18%)	0552	16.07†	0.9500	17.96	0.4531	0.3001	88	-4.19	050.99	0
050	Soluble Potassium as K2O (18%)	0072	16.20†	0.7800	17.96	0.4531	0.3001	88	-3.89	050.52	0
050	Soluble Potassium as K2O (18%)	0451	16.41†	0.8100	17.96	0.4531	0.3001	88	-3.43	050.99	0
050	Soluble Potassium as K2O (18%)	0309	16.76†	0.4000	17.96	0.4531	0.3001	88	-2.65	050.30	0
050	Soluble Potassium as K2O (18%)	0510	17.00	0.0212	17.96	0.4531	0.3001	88	-2.13	050.60	0
050	Soluble Potassium as K2O (18%)	0481	17.14	0.1300	17.96	0.4531	0.3001	88	-1.82	050.99	0
050	Soluble Potassium as K2O (18%)	0423	17.20	0.0600	17.96	0.4531	0.3001	88	-1.68	050.52	0
050	Soluble Potassium as K2O (18%)	0037	17.23	0.1600	17.96	0.4531	0.3001	88	-1.61	050.52	0
050	Soluble Potassium as K2O (18%)	0292	17.23	0.6000	17.96	0.4531	0.3001	88	-1.61	050.50	0
050	Soluble Potassium as K2O (18%)	0553	17.23	0.3600	17.96	0.4531	0.3001	88	-1.61	050.99	0
050	Soluble Potassium as K2O (18%)	0025	17.25	1.500	17.96	0.4531	0.3001	88	-1.57	050.52	0
050	Soluble Potassium as K2O (18%)	0027	17.51	0.0660	17.96	0.4531	0.3001	88	-1.00	050.99	0
050	Soluble Potassium as K2O (18%)	0029	17.54	0.0100	17.96	0.4531	0.3001	88	-0.94	050.62	0
050	Soluble Potassium as K2O (18%)	0007	17.55	0.7000	17.96	0.4531	0.3001	88	-0.91	050.51	0
050	Soluble Potassium as K2O (18%)	0421	17.55	0.1000	17.96	0.4531	0.3001	88	-0.91	050.99	0
050	Soluble Potassium as K2O (18%)	0483	17.65	0.6000	17.96	0.4531	0.3001	88	-0.69	050.51	0
050	Soluble Potassium as K2O (18%)	0443	17.65	0.2400	17.96	0.4531	0.3001	88	-0.69	050.60	0
050	Soluble Potassium as K2O (18%)	0524	17.66	0.5896	17.96	0.4531	0.3001	88	-0.66	050.99	0
050	Soluble Potassium as K2O (18%)	0527	17.70	0.1110	17.96	0.4531	0.3001	88	-0.59	050.99	0
050	Soluble Potassium as K2O (18%)	0472	17.72	0.0400	17.96	0.4531	0.3001	88	-0.53	050.31	0
050	Soluble Potassium as K2O (18%)	0516	17.73	0.2640	17.96	0.4531	0.3001	88	-0.50	050.99	0
050	Soluble Potassium as K2O (18%)	0096	17.76	0.0700	17.96	0.4531	0.3001	88	-0.46	050.99	0
050	Soluble Potassium as K2O (18%)	0095	17.76	0.5900	17.96	0.4531	0.3001	88	-0.46	050.62	0
050	Soluble Potassium as K2O (18%)	0105	17.77	0.2700	17.96	0.4531	0.3001	88	-0.43	050.60	0
050	Soluble Potassium as K2O (18%)	0394	17.77	0.4240	17.96	0.4531	0.3001	88	-0.42	050.99	0
050	Soluble Potassium as K2O (18%)	0402	17.79	0.0900	17.96	0.4531	0.3001	88	-0.39	050.99	0
050	Soluble Potassium as K2O (18%)	0105	17.84	0.1400	17.96	0.4531	0.3001	88	-0.27	050.62	0
050	Soluble Potassium as K2O (18%)	0325	17.85	0.3000	17.96	0.4531	0.3001	88	-0.25	050.99	0
050	Soluble Potassium as K2O (18%)	0043	17.87	0.5200	17.96	0.4531	0.3001	88	-0.20	050.52	0
050	Soluble Potassium as K2O (18%)	0416	17.89	0.0000	17.96	0.4531	0.3001	88	-0.16	050.00	0
050	Soluble Potassium as K2O (18%)	0546	17.89	0.1370	17.96	0.4531	0.3001	88	-0.15	050.99	0
050	Soluble Potassium as K2O (18%)	0106	17.91	0.1800	17.96	0.4531	0.3001	88	-0.11	050.50	0
050	Soluble Potassium as K2O (18%)	0231	17.92	0.0000	17.96	0.4531	0.3001	88	-0.09	050.00	0
050	Soluble Potassium as K2O (18%)	0041	17.92	0.3000	17.96	0.4531	0.3001	88	-0.09	050.60	0
050	Soluble Potassium as K2O (18%)	0055	17.93	0.1900	17.96	0.4531	0.3001	88	-0.08	050.50	0
050	Soluble Potassium as K2O (18%)	0377	17.94	0.0100	17.96	0.4531	0.3001	88	-0.06	050.52	0
050	Soluble Potassium as K2O (18%)	0493	17.95	0.1000	17.96	0.4531	0.3001	88	-0.02	050.99	0
050	Soluble Potassium as K2O (18%)	0482	17.95	0.3000	17.96	0.4531	0.3001	88	-0.02	050.99	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				
050	Soluble Potassium as K2O (18%)	0494	17.96	0.8000	17.96	0.4531	0.3001	88	0.00	050.00	0
050	Soluble Potassium as K2O (18%)	0544	17.98	0.0100	17.96	0.4531	0.3001	88	0.03	050.00	0
050	Soluble Potassium as K2O (18%)	0356	17.99	0.8000	17.96	0.4531	0.3001	88	0.06	050.30	0
050	Soluble Potassium as K2O (18%)	0177	18.00	0.0057	17.96	0.4531	0.3001	88	0.09	050.99	0
050	Soluble Potassium as K2O (18%)	0086	18.01	0.4777	17.96	0.4531	0.3001	88	0.12	050.50	0
050	Soluble Potassium as K2O (18%)	0169	18.03	0.1000	17.96	0.4531	0.3001	88	0.15	050.60	0
050	Soluble Potassium as K2O (18%)	0522	18.04	0.0800	17.96	0.4531	0.3001	88	0.17	050.00	0
050	Soluble Potassium as K2O (18%)	0444	18.04	0.3200	17.96	0.4531	0.3001	88	0.17	050.50	0
050	Soluble Potassium as K2O (18%)	0476	18.04	0.0406	17.96	0.4531	0.3001	88	0.18	050.99	0
050	Soluble Potassium as K2O (18%)	0049	18.05	0.1400	17.96	0.4531	0.3001	88	0.20	050.00	0
050	Soluble Potassium as K2O (18%)	0354	18.05	0.1000	17.96	0.4531	0.3001	88	0.20	050.52	0
050	Soluble Potassium as K2O (18%)	0523	18.05	0.1000	17.96	0.4531	0.3001	88	0.20	050.99	0
050	Soluble Potassium as K2O (18%)	0535	18.05	0.1000	17.96	0.4531	0.3001	88	0.20	050.99	0
050	Soluble Potassium as K2O (18%)	0549	18.05	0.1000	17.96	0.4531	0.3001	88	0.20	050.99	0
050	Soluble Potassium as K2O (18%)	0433	18.07	0.0900	17.96	0.4531	0.3001	88	0.23	050.99	0
050	Soluble Potassium as K2O (18%)	0444	18.07	0.0400	17.96	0.4531	0.3001	88	0.24	050.99	0
050	Soluble Potassium as K2O (18%)	0035	18.10	0.2100	17.96	0.4531	0.3001	88	0.30	050.61	0
050	Soluble Potassium as K2O (18%)	0513	18.10	0.0800	17.96	0.4531	0.3001	88	0.31	050.62	0
050	Soluble Potassium as K2O (18%)	0220	18.11	0.0100	17.96	0.4531	0.3001	88	0.32	050.00	0
050	Soluble Potassium as K2O (18%)	0494	18.13	0.0400	17.96	0.4531	0.3001	88	0.37	050.52	0
050	Soluble Potassium as K2O (18%)	0360	18.14	0.0100	17.96	0.4531	0.3001	88	0.38	050.52	0
050	Soluble Potassium as K2O (18%)	0040	18.15	0.5000	17.96	0.4531	0.3001	88	0.42	050.30	0
050	Soluble Potassium as K2O (18%)	0234	18.15	0.3000	17.96	0.4531	0.3001	88	0.42	050.99	0
050	Soluble Potassium as K2O (18%)	0536	18.15	0.0800	17.96	0.4531	0.3001	88	0.42	050.99	0
050	Soluble Potassium as K2O (18%)	0540	18.15	0.3000	17.96	0.4531	0.3001	88	0.42	050.99	0
050	Soluble Potassium as K2O (18%)	0291	18.22	0.0100	17.96	0.4531	0.3001	88	0.56	050.51	0
050	Soluble Potassium as K2O (18%)	0055	18.22	0.0200	17.96	0.4531	0.3001	88	0.57	050.00	0
050	Soluble Potassium as K2O (18%)	0532	18.23	0.1100	17.96	0.4531	0.3001	88	0.58	050.99	0
050	Soluble Potassium as K2O (18%)	0531	18.25	0.1000	17.96	0.4531	0.3001	88	0.64	050.99	0
050	Soluble Potassium as K2O (18%)	0550	18.26	0.0800	17.96	0.4531	0.3001	88	0.66	050.00	0
050	Soluble Potassium as K2O (18%)	0501	18.29	0.4200	17.96	0.4531	0.3001	88	0.73	050.99	0
050	Soluble Potassium as K2O (18%)	0114	18.30	0.0400	17.96	0.4531	0.3001	88	0.75	050.00	0
050	Soluble Potassium as K2O (18%)	0073	18.34	0.2500	17.96	0.4531	0.3001	88	0.82	050.30	0
050	Soluble Potassium as K2O (18%)	0405	18.35	0.0600	17.96	0.4531	0.3001	88	0.86	050.00	0
050	Soluble Potassium as K2O (18%)	0535	18.35	0.1000	17.96	0.4531	0.3001	88	0.86	050.61	0
050	Soluble Potassium as K2O (18%)	0537	18.45	0.6300	17.96	0.4531	0.3001	88	1.07	050.99	0
050	Soluble Potassium as K2O (18%)	0389	18.47	0.4700	17.96	0.4531	0.3001	88	1.11	050.99	0
050	Soluble Potassium as K2O (18%)	0371	18.48	0.4900	17.96	0.4531	0.3001	88	1.13	050.99	0
050	Soluble Potassium as K2O (18%)	0486	18.56	0.8200	17.96	0.4531	0.3001	88	1.32	050.52	0
050	Soluble Potassium as K2O (18%)	0547	18.57	0.4000	17.96	0.4531	0.3001	88	1.34	050.51	0
050	Soluble Potassium as K2O (18%)	0324	18.60	1.400	17.96	0.4531	0.3001	88	1.41	050.50	0
050	Soluble Potassium as K2O (18%)	0307	18.60	0.9600	17.96	0.4531	0.3001	88	1.41	050.99	0
050	Soluble Potassium as K2O (18%)	0300	18.64	0.2700	17.96	0.4531	0.3001	88	1.49	050.99	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				
050	Soluble Potassium as K2O (18%)	0397	18.65	0.2370	17.96	0.4531	0.3001	88	1.52	050.50	0
050	Soluble Potassium as K2O (18%)	0230	18.70	0.0000	17.96	0.4531	0.3001	88	1.63	050.50	0
050	Soluble Potassium as K2O (18%)	0452	18.76	0.0000	17.96	0.4531	0.3001	88	1.76	050.51	0
050	Soluble Potassium as K2O (18%)	0422	20.04‡	0.8300	17.96	0.4531	0.3001	88	4.58	050.50	0
050	Soluble Potassium as K2O (18%)	0542	20.17‡	0.1800	17.96	0.4531	0.3001	88	4.87	050.99	0
050	Soluble Potassium as K2O (18%)	0390	17.10	1.870	17.96	0.4531	0.3001	88	-1.91	050.50	1
060	Water (Free) (%)	0007	0.6500	0.0000	1.067	0.4035	0.0981	5	-1.03	060.00	0
060	Water (Free) (%)	0096	0.8900	0.4000	1.067	0.4035	0.0981	5	-0.44	060.00	0
060	Water (Free) (%)	0510	0.9290	0.0360	1.067	0.4035	0.0981	5	-0.34	060.99	0
060	Water (Free) (%)	0416	1.152	0.0446	1.067	0.4035	0.0981	5	0.21	060.00	0
060	Water (Free) (%)	0513	1.715	0.0100	1.067	0.4035	0.0981	5	1.61	060.99	0
101	Acid Soluble Calcium (%)	0389	2.025	0.0100	2.341	0.1128	0.0424	18	-2.80	101.99	0
101	Acid Soluble Calcium (%)	0421	2.215	0.0100	2.341	0.1128	0.0424	18	-1.12	101.33	0
101	Acid Soluble Calcium (%)	0300	2.230	0.1130	2.341	0.1128	0.0424	18	-0.99	101.32	0
101	Acid Soluble Calcium (%)	0494	2.257	0.0812	2.341	0.1128	0.0424	18	-0.75	101.33	0
101	Acid Soluble Calcium (%)	0035	2.275	0.0900	2.341	0.1128	0.0424	18	-0.59	101.30	0
101	Acid Soluble Calcium (%)	0472	2.280	0.0200	2.341	0.1128	0.0424	18	-0.54	101.30	0
101	Acid Soluble Calcium (%)	0354	2.290	0.0000	2.341	0.1128	0.0424	18	-0.45	101.30	0
101	Acid Soluble Calcium (%)	0482	2.305	0.0500	2.341	0.1128	0.0424	18	-0.32	101.30	0
101	Acid Soluble Calcium (%)	0096	2.315	0.0500	2.341	0.1128	0.0424	18	-0.23	101.30	0
101	Acid Soluble Calcium (%)	0106	2.331	0.0176	2.341	0.1128	0.0424	18	-0.09	101.33	0
101	Acid Soluble Calcium (%)	0049	2.353	0.0247	2.341	0.1128	0.0424	18	0.10	101.30	0
101	Acid Soluble Calcium (%)	0423	2.385	0.0500	2.341	0.1128	0.0424	18	0.39	101.32	0
101	Acid Soluble Calcium (%)	0552	2.405	0.0300	2.341	0.1128	0.0424	18	0.57	101.99	0
101	Acid Soluble Calcium (%)	0483	2.415	0.0500	2.341	0.1128	0.0424	18	0.65	101.30	0
101	Acid Soluble Calcium (%)	0527	2.423	0.0312	2.341	0.1128	0.0424	18	0.73	101.33	0
101	Acid Soluble Calcium (%)	0041	2.485	0.0300	2.341	0.1128	0.0424	18	1.28	101.30	0
101	Acid Soluble Calcium (%)	0324	2.495	0.0500	2.341	0.1128	0.0424	18	1.36	101.30	0
101	Acid Soluble Calcium (%)	0105	2.833	0.0550	2.341	0.1128	0.0424	18	4.36	101.00	0
101	Acid Soluble Calcium (%)	0451	2.260	0.2000	2.341	0.1128	0.0424	18	-0.72	101.30	1
121	Acid Soluble Magnesium (1.2%)	0527	1.227†	0.0074	1.597	0.0896	0.0535	56	-4.12	121.33	0
121	Acid Soluble Magnesium (1.2%)	0114	1.355	0.2100	1.597	0.0896	0.0535	56	-2.70	121.30	0
121	Acid Soluble Magnesium (1.2%)	0476	1.395	0.0300	1.597	0.0896	0.0535	56	-2.25	121.99	0
121	Acid Soluble Magnesium (1.2%)	0486	1.450	0.0000	1.597	0.0896	0.0535	56	-1.64	121.33	0
121	Acid Soluble Magnesium (1.2%)	0397	1.460	0.0394	1.597	0.0896	0.0535	56	-1.53	121.33	0
121	Acid Soluble Magnesium (1.2%)	0543	1.475	0.1350	1.597	0.0896	0.0535	56	-1.36	121.33	0
121	Acid Soluble Magnesium (1.2%)	0433	1.476	0.0000	1.597	0.0896	0.0535	56	-1.35	121.30	0
121	Acid Soluble Magnesium (1.2%)	0255	1.481	0.0020	1.597	0.0896	0.0535	56	-1.29	121.30	0
121	Acid Soluble Magnesium (1.2%)	0501	1.485	0.0300	1.597	0.0896	0.0535	56	-1.25	121.99	0
121	Acid Soluble Magnesium (1.2%)	0377	1.525	0.0500	1.597	0.0896	0.0535	56	-0.80	121.30	0
121	Acid Soluble Magnesium (1.2%)	0394	1.525	0.0119	1.597	0.0896	0.0535	56	-0.80	121.32	0
121	Acid Soluble Magnesium (1.2%)	0423	1.535	0.0300	1.597	0.0896	0.0535	56	-0.69	121.32	0
121	Acid Soluble Magnesium (1.2%)	0516	1.542	0.0290	1.597	0.0896	0.0535	56	-0.62	121.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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121	Acid Soluble Magnesium (1.2%)	0444	1.545	0.0100	1.597	0.0896	0.0535	56	-0.58	121.30	0
121	Acid Soluble Magnesium (1.2%)	0389	1.550	0.0810	1.597	0.0896	0.0535	56	-0.53	121.99	0
121	Acid Soluble Magnesium (1.2%)	0451	1.560	0.1200	1.597	0.0896	0.0535	56	-0.41	121.30	0
121	Acid Soluble Magnesium (1.2%)	0525	1.560	0.0400	1.597	0.0896	0.0535	56	-0.41	121.33	0
121	Acid Soluble Magnesium (1.2%)	0291	1.565	0.0100	1.597	0.0896	0.0535	56	-0.36	121.30	0
121	Acid Soluble Magnesium (1.2%)	0371	1.565	0.0300	1.597	0.0896	0.0535	56	-0.36	121.30	0
121	Acid Soluble Magnesium (1.2%)	0515	1.569	0.0582	1.597	0.0896	0.0535	56	-0.31	121.99	0
121	Acid Soluble Magnesium (1.2%)	0043	1.575	0.0500	1.597	0.0896	0.0535	56	-0.24	121.33	0
121	Acid Soluble Magnesium (1.2%)	0105	1.576	0.1190	1.597	0.0896	0.0535	56	-0.24	121.00	0
121	Acid Soluble Magnesium (1.2%)	0546	1.586	0.0082	1.597	0.0896	0.0535	56	-0.13	121.03	0
121	Acid Soluble Magnesium (1.2%)	0552	1.590	0.0400	1.597	0.0896	0.0535	56	-0.08	121.99	0
121	Acid Soluble Magnesium (1.2%)	0042	1.591	0.1550	1.597	0.0896	0.0535	56	-0.07	121.99	0
121	Acid Soluble Magnesium (1.2%)	0309	1.595	0.0500	1.597	0.0896	0.0535	56	-0.02	121.00	0
121	Acid Soluble Magnesium (1.2%)	0515	1.596	0.2154	1.597	0.0896	0.0535	56	-0.01	121.33	0
121	Acid Soluble Magnesium (1.2%)	0300	1.600	0.0050	1.597	0.0896	0.0535	56	0.03	121.32	0
121	Acid Soluble Magnesium (1.2%)	0040	1.600	0.0600	1.597	0.0896	0.0535	56	0.04	121.00	0
121	Acid Soluble Magnesium (1.2%)	0481	1.605	0.0100	1.597	0.0896	0.0535	56	0.09	121.99	0
121	Acid Soluble Magnesium (1.2%)	0360	1.610	0.0200	1.597	0.0896	0.0535	56	0.15	121.30	0
121	Acid Soluble Magnesium (1.2%)	0106	1.612	0.0213	1.597	0.0896	0.0535	56	0.17	121.33	0
121	Acid Soluble Magnesium (1.2%)	0231	1.615	0.0100	1.597	0.0896	0.0535	56	0.20	121.30	0
121	Acid Soluble Magnesium (1.2%)	0035	1.620	0.0800	1.597	0.0896	0.0535	56	0.26	121.30	0
121	Acid Soluble Magnesium (1.2%)	0354	1.620	0.0200	1.597	0.0896	0.0535	56	0.26	121.30	0
121	Acid Soluble Magnesium (1.2%)	0292	1.620	0.0400	1.597	0.0896	0.0535	56	0.26	121.32	0
121	Acid Soluble Magnesium (1.2%)	0041	1.625	0.0500	1.597	0.0896	0.0535	56	0.31	121.30	0
121	Acid Soluble Magnesium (1.2%)	0096	1.625	0.0100	1.597	0.0896	0.0535	56	0.31	121.30	0
121	Acid Soluble Magnesium (1.2%)	0029	1.631	0.3110	1.597	0.0896	0.0535	56	0.38	121.00	0
121	Acid Soluble Magnesium (1.2%)	0524	1.633	0.0539	1.597	0.0896	0.0535	56	0.40	121.99	0
121	Acid Soluble Magnesium (1.2%)	0049	1.633	0.0798	1.597	0.0896	0.0535	56	0.40	121.30	0
121	Acid Soluble Magnesium (1.2%)	0177	1.634	0.0436	1.597	0.0896	0.0535	56	0.41	121.33	0
121	Acid Soluble Magnesium (1.2%)	0037	1.643	0.0400	1.597	0.0896	0.0535	56	0.51	121.33	0
121	Acid Soluble Magnesium (1.2%)	0324	1.645	0.0900	1.597	0.0896	0.0535	56	0.54	121.30	0
121	Acid Soluble Magnesium (1.2%)	0234	1.650	0.1000	1.597	0.0896	0.0535	56	0.59	121.30	0
121	Acid Soluble Magnesium (1.2%)	0494	1.660	0.0796	1.597	0.0896	0.0535	56	0.70	121.33	0
121	Acid Soluble Magnesium (1.2%)	0482	1.660	0.0000	1.597	0.0896	0.0535	56	0.70	121.30	0
121	Acid Soluble Magnesium (1.2%)	0390	1.704	0.0130	1.597	0.0896	0.0535	56	1.19	121.30	0
121	Acid Soluble Magnesium (1.2%)	0169	1.705	0.0500	1.597	0.0896	0.0535	56	1.21	121.00	0
121	Acid Soluble Magnesium (1.2%)	0483	1.720	0.0000	1.597	0.0896	0.0535	56	1.37	121.30	0
121	Acid Soluble Magnesium (1.2%)	0513	1.725	0.0100	1.597	0.0896	0.0535	56	1.43	121.00	0
121	Acid Soluble Magnesium (1.2%)	0055	1.730	0.0000	1.597	0.0896	0.0535	56	1.49	121.33	0
121	Acid Soluble Magnesium (1.2%)	0553	1.758	0.0550	1.597	0.0896	0.0535	56	1.79	121.00	0
121	Acid Soluble Magnesium (1.2%)	0523	1.800	0.0000	1.597	0.0896	0.0535	56	2.27	121.99	0
121	Acid Soluble Magnesium (1.2%)	0472	1.830	0.0000	1.597	0.0896	0.0535	56	2.60	121.30	0
121	Acid Soluble Magnesium (1.2%)	0550	2.390‡	0.1800	1.597	0.0896	0.0535	56	8.85	121.00	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				
121	Acid Soluble Magnesium (1.2%)	0421	97.97‡	192.1	1.597	0.0896	0.0535	56	1075.03	121.33	2
131	Water Soluble Magnesium (%)	0444	0.4550	0.0700	1.048	0.7147	0.0532	4	-0.83	131.30	0
131	Water Soluble Magnesium (%)	0546	0.4945	0.0350	1.048	0.7147	0.0532	4	-0.77	131.30	0
131	Water Soluble Magnesium (%)	0027	1.293	0.0570	1.048	0.7147	0.0532	4	0.34	131.30	0
131	Water Soluble Magnesium (%)	0510	1.951	0.0506	1.048	0.7147	0.0532	4	1.26	131.70	0
143	Elemental Sulfur (%)	0095	0.1400	0.1000	1.248	0.4923	0.0345	8	-2.06	143.99	0
143	Elemental Sulfur (%)	0405	0.6160	0.0460	1.248	0.4923	0.0345	8	-1.17	143.00	0
143	Elemental Sulfur (%)	0291	1.325	0.0100	1.248	0.4923	0.0345	8	0.14	143.99	0
143	Elemental Sulfur (%)	0255	1.399	0.0320	1.248	0.4923	0.0345	8	0.28	143.99	0
143	Elemental Sulfur (%)	0472	1.435	0.0100	1.248	0.4923	0.0345	8	0.35	143.99	0
143	Elemental Sulfur (%)	0389	1.500	0.0330	1.248	0.4923	0.0345	8	0.47	143.99	0
143	Elemental Sulfur (%)	0481	1.575	0.0100	1.248	0.4923	0.0345	8	0.61	143.99	0
143	Elemental Sulfur (%)	0390	1.623	0.0350	1.248	0.4923	0.0345	8	0.70	143.99	0
145	Sulfate Sulfur, HCl soluble (%)	0405	0.9400	0.0400	1.571	0.1299	0.0387	12	-4.86	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0444	1.385	0.1100	1.571	0.1299	0.0387	12	-1.43	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0095	1.475	0.0300	1.571	0.1299	0.0387	12	-0.74	145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0106	1.540	0.0600	1.571	0.1299	0.0387	12	-0.24	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0444	1.555	0.0900	1.571	0.1299	0.0387	12	-0.12	145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0550	1.600	0.0000	1.571	0.1299	0.0387	12	0.22	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0510	1.603	0.0020	1.571	0.1299	0.0387	12	0.25	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0231	1.605	0.0100	1.571	0.1299	0.0387	12	0.26	145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0544	1.615	0.0100	1.571	0.1299	0.0387	12	0.34	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0522	1.645	0.0100	1.571	0.1299	0.0387	12	0.57	145.00	0
145	Sulfate Sulfur, HCl soluble (%)	0169	1.685	0.0700	1.571	0.1299	0.0387	12	0.88	145.99	0
145	Sulfate Sulfur, HCl soluble (%)	0397	1.807	0.0327	1.571	0.1299	0.0387	12	1.82	145.00	0
148	Total Sulfur (1.6%)	0543	1.051†	0.0250	1.568	0.1259	0.0514	41	-4.11	148.07	0
148	Total Sulfur (1.6%)	0114	1.235†	0.0500	1.568	0.1259	0.0514	41	-2.64	148.00	0
148	Total Sulfur (1.6%)	0515	1.287†	0.2029	1.568	0.1259	0.0514	41	-2.23	148.07	0
148	Total Sulfur (1.6%)	0220	1.350	0.0000	1.568	0.1259	0.0514	41	-1.73	148.99	0
148	Total Sulfur (1.6%)	0131	1.365	0.0300	1.568	0.1259	0.0514	41	-1.61	148.00	0
148	Total Sulfur (1.6%)	0049	1.370	0.1200	1.568	0.1259	0.0514	41	-1.57	148.00	0
148	Total Sulfur (1.6%)	0451	1.450	0.0260	1.568	0.1259	0.0514	41	-0.94	148.00	0
148	Total Sulfur (1.6%)	0486	1.465	0.0100	1.568	0.1259	0.0514	41	-0.82	148.07	0
148	Total Sulfur (1.6%)	0300	1.472	0.0850	1.568	0.1259	0.0514	41	-0.76	148.99	0
148	Total Sulfur (1.6%)	0394	1.479	0.0038	1.568	0.1259	0.0514	41	-0.70	148.07	0
148	Total Sulfur (1.6%)	0096	1.500	0.0000	1.568	0.1259	0.0514	41	-0.54	148.99	0
148	Total Sulfur (1.6%)	0444	1.515	0.0900	1.568	0.1259	0.0514	41	-0.42	148.01	0
148	Total Sulfur (1.6%)	0043	1.520	0.0200	1.568	0.1259	0.0514	41	-0.38	148.07	0
148	Total Sulfur (1.6%)	0421	1.550	0.1000	1.568	0.1259	0.0514	41	-0.14	148.07	0
148	Total Sulfur (1.6%)	0377	1.550	0.0600	1.568	0.1259	0.0514	41	-0.14	148.99	0
148	Total Sulfur (1.6%)	0444	1.555	0.0900	1.568	0.1259	0.0514	41	-0.10	148.07	0
148	Total Sulfur (1.6%)	0405	1.560	0.0000	1.568	0.1259	0.0514	41	-0.06	148.01	0
148	Total Sulfur (1.6%)	0513	1.565	0.0100	1.568	0.1259	0.0514	41	-0.02	148.01	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
148	Total Sulfur (1.6%)	0433	1.565	0.0060	1.568	0.1259	0.0514	41	-0.02	148.99	0
148	Total Sulfur (1.6%)	0177	1.567	0.0436	1.568	0.1259	0.0514	41	-0.01	148.07	0
148	Total Sulfur (1.6%)	0354	1.570	0.0600	1.568	0.1259	0.0514	41	0.02	148.99	0
148	Total Sulfur (1.6%)	0037	1.583	0.0310	1.568	0.1259	0.0514	41	0.12	148.07	0
148	Total Sulfur (1.6%)	0516	1.588	0.0330	1.568	0.1259	0.0514	41	0.16	148.99	0
148	Total Sulfur (1.6%)	0483	1.590	0.0400	1.568	0.1259	0.0514	41	0.18	148.07	0
148	Total Sulfur (1.6%)	0040	1.600	0.0000	1.568	0.1259	0.0514	41	0.26	148.07	0
148	Total Sulfur (1.6%)	0029	1.605	0.0300	1.568	0.1259	0.0514	41	0.30	148.01	0
148	Total Sulfur (1.6%)	0371	1.605	0.0300	1.568	0.1259	0.0514	41	0.30	148.99	0
148	Total Sulfur (1.6%)	0494	1.609	0.0210	1.568	0.1259	0.0514	41	0.33	148.07	0
148	Total Sulfur (1.6%)	0095	1.615	0.1300	1.568	0.1259	0.0514	41	0.38	148.01	0
148	Total Sulfur (1.6%)	0029	1.630	0.0230	1.568	0.1259	0.0514	41	0.49	148.00	0
148	Total Sulfur (1.6%)	0525	1.645	0.0500	1.568	0.1259	0.0514	41	0.61	148.07	0
148	Total Sulfur (1.6%)	0523	1.645	0.0100	1.568	0.1259	0.0514	41	0.61	148.99	0
148	Total Sulfur (1.6%)	0476	1.659	0.0029	1.568	0.1259	0.0514	41	0.72	148.99	0
148	Total Sulfur (1.6%)	0402	1.660	0.0200	1.568	0.1259	0.0514	41	0.73	148.07	0
148	Total Sulfur (1.6%)	0292	1.670	0.0200	1.568	0.1259	0.0514	41	0.81	148.07	0
148	Total Sulfur (1.6%)	0546	1.684	0.1195	1.568	0.1259	0.0514	41	0.93	148.07	0
148	Total Sulfur (1.6%)	0055	1.725	0.0100	1.568	0.1259	0.0514	41	1.25	148.01	0
148	Total Sulfur (1.6%)	0482	1.740	0.0600	1.568	0.1259	0.0514	41	1.37	148.99	0
148	Total Sulfur (1.6%)	0527	1.788	0.0217	1.568	0.1259	0.0514	41	1.75	148.07	0
148	Total Sulfur (1.6%)	0230	1.795	0.2900	1.568	0.1259	0.0514	41	1.81	148.01	0
148	Total Sulfur (1.6%)	0025	1.811	0.1320	1.568	0.1259	0.0514	41	1.93	148.00	0
148	Total Sulfur (1.6%)	0324	1.545	0.3100	1.568	0.1259	0.0514	41	-0.18	148.01	1
148	Total Sulfur (1.6%)	0360	2.750‡	0.2600	1.568	0.1259	0.0514	41	9.39	148.00	2
149	Sulfur - HNO3 soluble (%)	0524	1.494	0.1040	1.548	0.0618	0.0547	3	-0.88	149.04	0
149	Sulfur - HNO3 soluble (%)	0423	1.535	0.0300	1.548	0.0618	0.0547	3	-0.21	149.04	0
149	Sulfur - HNO3 soluble (%)	0501	1.615	0.0300	1.548	0.0618	0.0547	3	1.09	149.04	0
151	Acid Soluble Arsenic (ppm)	0255	1.950	0.3310	2.933	0.6207	0.2016	13	-1.59	151.30	0
151	Acid Soluble Arsenic (ppm)	0476	2.320	0.1800	2.933	0.6207	0.2016	13	-0.99	151.99	0
151	Acid Soluble Arsenic (ppm)	0527	2.493	0.0926	2.933	0.6207	0.2016	13	-0.71	151.33	0
151	Acid Soluble Arsenic (ppm)	0220	2.500	0.4000	2.933	0.6207	0.2016	13	-0.70	151.99	0
151	Acid Soluble Arsenic (ppm)	0515	2.560	0.1160	2.933	0.6207	0.2016	13	-0.60	151.34	0
151	Acid Soluble Arsenic (ppm)	0534	2.780	0.1000	2.933	0.6207	0.2016	13	-0.25	151.99	0
151	Acid Soluble Arsenic (ppm)	0096	2.950	0.1000	2.933	0.6207	0.2016	13	0.03	151.30	0
151	Acid Soluble Arsenic (ppm)	0405	3.000	0.0000	2.933	0.6207	0.2016	13	0.11	151.30	0
151	Acid Soluble Arsenic (ppm)	0300	3.183	0.1030	2.933	0.6207	0.2016	13	0.40	151.32	0
151	Acid Soluble Arsenic (ppm)	0524	3.499	0.0523	2.933	0.6207	0.2016	13	0.91	151.30	0
151	Acid Soluble Arsenic (ppm)	0037	3.527	0.6460	2.933	0.6207	0.2016	13	0.96	151.33	0
151	Acid Soluble Arsenic (ppm)	0525	3.582	0.3460	2.933	0.6207	0.2016	13	1.05	151.33	0
151	Acid Soluble Arsenic (ppm)	0494	3.738	0.1543	2.933	0.6207	0.2016	13	1.30	151.33	0
151	Acid Soluble Arsenic (ppm)	0515	11.51	4.762	2.933	0.6207	0.2016	13	13.81	151.33	1
165	Acid Soluble Boron (0.2%)	0309	0.1550†	0.0100	0.2182	0.0180	0.0066	41	-3.52	165.00	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				
165	Acid Soluble Boron (0.2%)	0476	0.1900	0.0000	0.2182	0.0180	0.0066	41	-1.57	165.99	0
165	Acid Soluble Boron (0.2%)	0255	0.1925	0.0010	0.2182	0.0180	0.0066	41	-1.43	165.99	0
165	Acid Soluble Boron (0.2%)	0486	0.1950	0.0100	0.2182	0.0180	0.0066	41	-1.29	165.99	0
165	Acid Soluble Boron (0.2%)	0534	0.2000	0.0000	0.2182	0.0180	0.0066	41	-1.01	165.00	0
165	Acid Soluble Boron (0.2%)	0540	0.2000	0.0200	0.2182	0.0180	0.0066	41	-1.01	165.00	0
165	Acid Soluble Boron (0.2%)	0234	0.2000	0.0000	0.2182	0.0180	0.0066	41	-1.01	165.30	0
165	Acid Soluble Boron (0.2%)	0472	0.2000	0.0000	0.2182	0.0180	0.0066	41	-1.01	165.99	0
165	Acid Soluble Boron (0.2%)	0055	0.2010	0.0060	0.2182	0.0180	0.0066	41	-0.96	165.00	0
165	Acid Soluble Boron (0.2%)	0324	0.2040	0.0000	0.2182	0.0180	0.0066	41	-0.79	165.30	0
165	Acid Soluble Boron (0.2%)	0524	0.2069	0.0049	0.2182	0.0180	0.0066	41	-0.63	165.99	0
165	Acid Soluble Boron (0.2%)	0397	0.2072	0.0179	0.2182	0.0180	0.0066	41	-0.61	165.00	0
165	Acid Soluble Boron (0.2%)	0220	0.2100	0.0000	0.2182	0.0180	0.0066	41	-0.46	165.00	0
165	Acid Soluble Boron (0.2%)	0405	0.2100	0.0000	0.2182	0.0180	0.0066	41	-0.46	165.00	0
165	Acid Soluble Boron (0.2%)	0042	0.2105	0.0090	0.2182	0.0180	0.0066	41	-0.43	165.99	0
165	Acid Soluble Boron (0.2%)	0423	0.2115	0.0010	0.2182	0.0180	0.0066	41	-0.37	165.99	0
165	Acid Soluble Boron (0.2%)	0389	0.2146	0.0062	0.2182	0.0180	0.0066	41	-0.20	165.30	0
165	Acid Soluble Boron (0.2%)	0043	0.2150	0.0100	0.2182	0.0180	0.0066	41	-0.18	165.30	0
165	Acid Soluble Boron (0.2%)	0354	0.2150	0.0100	0.2182	0.0180	0.0066	41	-0.18	165.30	0
165	Acid Soluble Boron (0.2%)	0515	0.2173	0.0128	0.2182	0.0180	0.0066	41	-0.05	165.99	0
165	Acid Soluble Boron (0.2%)	0494	0.2187	0.0047	0.2182	0.0180	0.0066	41	0.03	165.30	0
165	Acid Soluble Boron (0.2%)	0169	0.2195	0.0010	0.2182	0.0180	0.0066	41	0.07	165.00	0
165	Acid Soluble Boron (0.2%)	0546	0.2201	0.0019	0.2182	0.0180	0.0066	41	0.10	165.99	0
165	Acid Soluble Boron (0.2%)	0481	0.2250	0.0100	0.2182	0.0180	0.0066	41	0.38	165.00	0
165	Acid Soluble Boron (0.2%)	0377	0.2250	0.0100	0.2182	0.0180	0.0066	41	0.38	165.30	0
165	Acid Soluble Boron (0.2%)	0433	0.2250	0.0020	0.2182	0.0180	0.0066	41	0.38	165.30	0
165	Acid Soluble Boron (0.2%)	0421	0.2250	0.0100	0.2182	0.0180	0.0066	41	0.38	165.99	0
165	Acid Soluble Boron (0.2%)	0300	0.2255	0.0010	0.2182	0.0180	0.0066	41	0.41	165.99	0
165	Acid Soluble Boron (0.2%)	0360	0.2260	0.0000	0.2182	0.0180	0.0066	41	0.43	165.99	0
165	Acid Soluble Boron (0.2%)	0394	0.2265	0.0049	0.2182	0.0180	0.0066	41	0.46	165.30	0
165	Acid Soluble Boron (0.2%)	0444	0.2300	0.0000	0.2182	0.0180	0.0066	41	0.66	165.30	0
165	Acid Soluble Boron (0.2%)	0482	0.2300	0.0000	0.2182	0.0180	0.0066	41	0.66	165.99	0
165	Acid Soluble Boron (0.2%)	0483	0.2305	0.0030	0.2182	0.0180	0.0066	41	0.68	165.99	0
165	Acid Soluble Boron (0.2%)	0535	0.2325	0.0050	0.2182	0.0180	0.0066	41	0.80	165.00	0
165	Acid Soluble Boron (0.2%)	0037	0.2360	0.0140	0.2182	0.0180	0.0066	41	0.99	165.30	0
165	Acid Soluble Boron (0.2%)	0106	0.2382	0.0056	0.2182	0.0180	0.0066	41	1.11	165.30	0
165	Acid Soluble Boron (0.2%)	0516	0.2405	0.0010	0.2182	0.0180	0.0066	41	1.24	165.99	0
165	Acid Soluble Boron (0.2%)	0390	0.2440	0.0080	0.2182	0.0180	0.0066	41	1.44	165.30	0
165	Acid Soluble Boron (0.2%)	0231	0.2450	0.0100	0.2182	0.0180	0.0066	41	1.49	165.99	0
165	Acid Soluble Boron (0.2%)	0291	0.2450	0.0100	0.2182	0.0180	0.0066	41	1.49	165.99	0
165	Acid Soluble Boron (0.2%)	0552	0.3150‡	0.0500	0.2182	0.0180	0.0066	41	5.39	165.99	0
165	Acid Soluble Boron (0.2%)	0550	0.1605†	0.0990	0.2182	0.0180	0.0066	41	-3.21	165.00	1
165	Acid Soluble Boron (0.2%)	0527	0.2368	0.0697	0.2182	0.0180	0.0066	41	1.03	165.99	1
171	Water Soluble Boron (%)	0553	0.1900	0.0140	0.2091	0.0149	0.0063	8	-1.17	171.10	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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171	Water Soluble Boron (%)	0543	0.1945	0.0050	0.2091	0.0149	0.0063	8	-0.90	171.99	0
171	Water Soluble Boron (%)	0535	0.2045	0.0070	0.2091	0.0149	0.0063	8	-0.28	171.10	0
171	Water Soluble Boron (%)	0501	0.2050	0.0100	0.2091	0.0149	0.0063	8	-0.25	171.99	0
171	Water Soluble Boron (%)	0444	0.2100	0.0000	0.2091	0.0149	0.0063	8	0.05	171.99	0
171	Water Soluble Boron (%)	0402	0.2200	0.0000	0.2091	0.0149	0.0063	8	0.67	171.99	0
171	Water Soluble Boron (%)	0027	0.2240	0.0040	0.2091	0.0149	0.0063	8	0.91	171.99	0
171	Water Soluble Boron (%)	0537	0.2250	0.0100	0.2091	0.0149	0.0063	8	0.97	171.10	0
181	Acid Soluble Cadmium (ppm)	0524	0.0032	0.0028	0.7827	0.3316	0.1850	16	-2.35	181.30	0
181	Acid Soluble Cadmium (ppm)	0550	0.0370	0.0005	0.7827	0.3316	0.1850	16	-2.25	181.00	0
181	Acid Soluble Cadmium (ppm)	0255	0.4605	0.0650	0.7827	0.3316	0.1850	16	-0.97	181.30	0
181	Acid Soluble Cadmium (ppm)	0444	0.5100	0.0000	0.7827	0.3316	0.1850	16	-0.82	181.30	0
181	Acid Soluble Cadmium (ppm)	0476	0.6550	0.0100	0.7827	0.3316	0.1850	16	-0.39	181.99	0
181	Acid Soluble Cadmium (ppm)	0494	0.7477	0.0275	0.7827	0.3316	0.1850	16	-0.11	181.33	0
181	Acid Soluble Cadmium (ppm)	0300	0.7830	0.0240	0.7827	0.3316	0.1850	16	0.00	181.32	0
181	Acid Soluble Cadmium (ppm)	0527	0.7981	0.1546	0.7827	0.3316	0.1850	16	0.05	181.33	0
181	Acid Soluble Cadmium (ppm)	0482	0.8300	0.1000	0.7827	0.3316	0.1850	16	0.14	181.30	0
181	Acid Soluble Cadmium (ppm)	0394	0.8350	0.0100	0.7827	0.3316	0.1850	16	0.16	181.30	0
181	Acid Soluble Cadmium (ppm)	0405	0.8750	0.0700	0.7827	0.3316	0.1850	16	0.28	181.30	0
181	Acid Soluble Cadmium (ppm)	0035	0.8955	0.1170	0.7827	0.3316	0.1850	16	0.34	181.30	0
181	Acid Soluble Cadmium (ppm)	0389	0.9610	0.0560	0.7827	0.3316	0.1850	16	0.54	181.30	0
181	Acid Soluble Cadmium (ppm)	0220	1.150	0.1000	0.7827	0.3316	0.1850	16	1.11	181.99	0
181	Acid Soluble Cadmium (ppm)	0525	1.172	0.0620	0.7827	0.3316	0.1850	16	1.17	181.30	0
181	Acid Soluble Cadmium (ppm)	0515	6.104	2.161	0.7827	0.3316	0.1850	16	16.05	181.33	0
181	Acid Soluble Cadmium (ppm)	0515	2.878	2.862	0.7827	0.3316	0.1850	16	6.32	181.34	1
190	Water Soluble Chlorine (%)	0546	11.88	0.2930				1		190.00	0
191	Acid Soluble Chromium (ppm)	0027	0.0023	0.0000	34.85	6.107	1.863	16	-5.71	191.30	0
191	Acid Soluble Chromium (ppm)	0444	27.38	0.1000	34.85	6.107	1.863	16	-1.22	191.30	0
191	Acid Soluble Chromium (ppm)	0482	27.80	0.2000	34.85	6.107	1.863	16	-1.15	191.30	0
191	Acid Soluble Chromium (ppm)	0394	30.60	0.4000	34.85	6.107	1.863	16	-0.70	191.30	0
191	Acid Soluble Chromium (ppm)	0035	31.05	4.900	34.85	6.107	1.863	16	-0.62	191.30	0
191	Acid Soluble Chromium (ppm)	0494	31.71	1.878	34.85	6.107	1.863	16	-0.51	191.33	0
191	Acid Soluble Chromium (ppm)	0300	35.29	0.3000	34.85	6.107	1.863	16	0.07	191.32	0
191	Acid Soluble Chromium (ppm)	0405	35.50	1.000	34.85	6.107	1.863	16	0.11	191.30	0
191	Acid Soluble Chromium (ppm)	0220	36.00	6.000	34.85	6.107	1.863	16	0.19	191.99	0
191	Acid Soluble Chromium (ppm)	0037	36.21	0.7720	34.85	6.107	1.863	16	0.22	191.33	0
191	Acid Soluble Chromium (ppm)	0096	36.90	0.0000	34.85	6.107	1.863	16	0.34	191.30	0
191	Acid Soluble Chromium (ppm)	0527	38.24	1.409	34.85	6.107	1.863	16	0.55	191.33	0
191	Acid Soluble Chromium (ppm)	0476	38.45	3.790	34.85	6.107	1.863	16	0.59	191.99	0
191	Acid Soluble Chromium (ppm)	0515	40.55	3.744	34.85	6.107	1.863	16	0.93	191.34	0
191	Acid Soluble Chromium (ppm)	0515	42.23	3.435	34.85	6.107	1.863	16	1.21	191.33	0
191	Acid Soluble Chromium (ppm)	0550	55.48	1.880	34.85	6.107	1.863	16	3.38	191.00	0
202	Acid Soluble Cobalt (ppm)	0550	0.7730	0.2500	4.602	2.306	0.3717	19	-1.66	202.33	0
202	Acid Soluble Cobalt (ppm)	0525	1.327	0.0440	4.602	2.306	0.3717	19	-1.42	202.30	0



Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
202	Acid Soluble Cobalt (ppm)	0524	1.814	0.3039	4.602	2.306	0.3717	19	-1.21	202.30	0
202	Acid Soluble Cobalt (ppm)	0255	2.965	0.1050	4.602	2.306	0.3717	19	-0.71	202.99	0
202	Acid Soluble Cobalt (ppm)	0035	3.390	1.440	4.602	2.306	0.3717	19	-0.53	202.30	0
202	Acid Soluble Cobalt (ppm)	0482	3.750	0.3000	4.602	2.306	0.3717	19	-0.37	202.30	0
202	Acid Soluble Cobalt (ppm)	0220	4.250	0.7000	4.602	2.306	0.3717	19	-0.15	202.99	0
202	Acid Soluble Cobalt (ppm)	0476	4.275	0.4500	4.602	2.306	0.3717	19	-0.14	202.99	0
202	Acid Soluble Cobalt (ppm)	0423	4.420	0.2400	4.602	2.306	0.3717	19	-0.08	202.32	0
202	Acid Soluble Cobalt (ppm)	0096	4.595	0.2500	4.602	2.306	0.3717	19	0.00	202.30	0
202	Acid Soluble Cobalt (ppm)	0405	4.900	0.0000	4.602	2.306	0.3717	19	0.13	202.30	0
202	Acid Soluble Cobalt (ppm)	0527	4.908	0.0182	4.602	2.306	0.3717	19	0.13	202.33	0
202	Acid Soluble Cobalt (ppm)	0546	5.020	1.060	4.602	2.306	0.3717	19	0.18	202.33	0
202	Acid Soluble Cobalt (ppm)	0494	5.179	0.2217	4.602	2.306	0.3717	19	0.25	202.33	0
202	Acid Soluble Cobalt (ppm)	0037	5.599	0.1600	4.602	2.306	0.3717	19	0.43	202.33	0
202	Acid Soluble Cobalt (ppm)	0300	5.718	0.0240	4.602	2.306	0.3717	19	0.48	202.32	0
202	Acid Soluble Cobalt (ppm)	0515	8.676	0.2790	4.602	2.306	0.3717	19	1.77	202.34	0
202	Acid Soluble Cobalt (ppm)	0515	9.537	1.017	4.602	2.306	0.3717	19	2.14	202.33	0
202	Acid Soluble Cobalt (ppm)	0389	9.910	0.2000	4.602	2.306	0.3717	19	2.30	202.30	0
221	Acid Soluble Copper (%)	0524	0.0002	0.0001	0.0016	0.0020	0.0098	12	-0.73	221.99	0
221	Acid Soluble Copper (%)	0527	0.0002	0.0000	0.0016	0.0020	0.0098	12	-0.70	221.33	0
221	Acid Soluble Copper (%)	0476	0.0002	0.0000	0.0016	0.0020	0.0098	12	-0.70	221.99	0
221	Acid Soluble Copper (%)	0525	0.0003	0.0001	0.0016	0.0020	0.0098	12	-0.68	221.33	0
221	Acid Soluble Copper (%)	0546	0.0003	0.0001	0.0016	0.0020	0.0098	12	-0.68	221.33	0
221	Acid Soluble Copper (%)	0035	0.0007	0.0000	0.0016	0.0020	0.0098	12	-0.45	221.30	0
221	Acid Soluble Copper (%)	0389	0.0007	0.0002	0.0016	0.0020	0.0098	12	-0.45	221.99	0
221	Acid Soluble Copper (%)	0515	0.0018	0.0004	0.0016	0.0020	0.0098	12	0.10	221.33	0
221	Acid Soluble Copper (%)	0515	0.0021	0.0013	0.0016	0.0020	0.0098	12	0.23	221.99	0
221	Acid Soluble Copper (%)	0550	0.0037	0.0056	0.0016	0.0020	0.0098	12	1.07	221.00	0
221	Acid Soluble Copper (%)	0354	0.0100	0.0000	0.0016	0.0020	0.0098	12	4.25	221.30	0
221	Acid Soluble Copper (%)	0552	0.0750	0.1100	0.0016	0.0020	0.0098	12	37.12	221.30	0
221	Acid Soluble Copper (%)	0394	3.450	0.1000	0.0016	0.0020	0.0098	12	1743.67	221.32	2
241	Acid Soluble Iron (%)	0027	0.0020	0.0000	0.2345	0.0198	0.0087	21	-11.74	241.99	0
241	Acid Soluble Iron (%)	0527	0.1751	0.0020	0.2345	0.0198	0.0087	21	-3.00	241.33	0
241	Acid Soluble Iron (%)	0524	0.2061	0.0051	0.2345	0.0198	0.0087	21	-1.44	241.99	0
241	Acid Soluble Iron (%)	0535	0.2190	0.0020	0.2345	0.0198	0.0087	21	-0.78	241.00	0
241	Acid Soluble Iron (%)	0423	0.2225	0.0050	0.2345	0.0198	0.0087	21	-0.61	241.32	0
241	Acid Soluble Iron (%)	0049	0.2259	0.0090	0.2345	0.0198	0.0087	21	-0.43	241.30	0
241	Acid Soluble Iron (%)	0483	0.2290	0.0020	0.2345	0.0198	0.0087	21	-0.28	241.30	0
241	Acid Soluble Iron (%)	0472	0.2300	0.0000	0.2345	0.0198	0.0087	21	-0.23	241.30	0
241	Acid Soluble Iron (%)	0300	0.2300	0.0000	0.2345	0.0198	0.0087	21	-0.23	241.32	0
241	Acid Soluble Iron (%)	0035	0.2320	0.0000	0.2345	0.0198	0.0087	21	-0.13	241.30	0
241	Acid Soluble Iron (%)	0324	0.2335	0.0010	0.2345	0.0198	0.0087	21	-0.05	241.30	0
241	Acid Soluble Iron (%)	0389	0.2340	0.0120	0.2345	0.0198	0.0087	21	-0.02	241.99	0
241	Acid Soluble Iron (%)	0041	0.2400	0.0000	0.2345	0.0198	0.0087	21	0.28	241.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
241	Acid Soluble Iron (%)	0096	0.2400	0.0000	0.2345	0.0198	0.0087	21	0.28	241.30	0
241	Acid Soluble Iron (%)	0106	0.2403	0.0043	0.2345	0.0198	0.0087	21	0.29	241.33	0
241	Acid Soluble Iron (%)	0515	0.2423	0.0246	0.2345	0.0198	0.0087	21	0.39	241.99	0
241	Acid Soluble Iron (%)	0354	0.2550	0.0500	0.2345	0.0198	0.0087	21	1.04	241.30	0
241	Acid Soluble Iron (%)	0421	0.2550	0.0100	0.2345	0.0198	0.0087	21	1.04	241.33	0
241	Acid Soluble Iron (%)	0105	0.2560	0.0180	0.2345	0.0198	0.0087	21	1.09	241.00	0
241	Acid Soluble Iron (%)	0482	0.2600	0.0000	0.2345	0.0198	0.0087	21	1.29	241.30	0
241	Acid Soluble Iron (%)	0515	0.2662	0.0370	0.2345	0.0198	0.0087	21	1.60	241.33	0
241	Acid Soluble Iron (%)	0552	0.2800	0.1000	0.2345	0.0198	0.0087	21	2.30	241.30	1
251	Acid Soluble Lead (ppm)	0255	2.742	0.0850	5.181	1.349	0.4675	18	-1.81	251.30	0
251	Acid Soluble Lead (ppm)	0444	3.455	0.0500	5.181	1.349	0.4675	18	-1.28	251.30	0
251	Acid Soluble Lead (ppm)	0524	3.856	0.0468	5.181	1.349	0.4675	18	-0.98	251.30	0
251	Acid Soluble Lead (ppm)	0476	3.940	0.0400	5.181	1.349	0.4675	18	-0.92	251.99	0
251	Acid Soluble Lead (ppm)	0394	4.200	0.0000	5.181	1.349	0.4675	18	-0.73	251.30	0
251	Acid Soluble Lead (ppm)	0550	4.444	0.4760	5.181	1.349	0.4675	18	-0.55	251.00	0
251	Acid Soluble Lead (ppm)	0037	4.938	0.2820	5.181	1.349	0.4675	18	-0.18	251.33	0
251	Acid Soluble Lead (ppm)	0482	4.965	0.8300	5.181	1.349	0.4675	18	-0.16	251.30	0
251	Acid Soluble Lead (ppm)	0405	5.150	0.1000	5.181	1.349	0.4675	18	-0.02	251.30	0
251	Acid Soluble Lead (ppm)	0527	5.236	0.4817	5.181	1.349	0.4675	18	0.04	251.33	0
251	Acid Soluble Lead (ppm)	0096	5.250	0.3000	5.181	1.349	0.4675	18	0.05	251.30	0
251	Acid Soluble Lead (ppm)	0220	5.750	0.3000	5.181	1.349	0.4675	18	0.42	251.99	0
251	Acid Soluble Lead (ppm)	0300	5.779	0.6090	5.181	1.349	0.4675	18	0.44	251.32	0
251	Acid Soluble Lead (ppm)	0494	6.163	0.7438	5.181	1.349	0.4675	18	0.73	251.33	0
251	Acid Soluble Lead (ppm)	0035	6.280	0.3400	5.181	1.349	0.4675	18	0.81	251.30	0
251	Acid Soluble Lead (ppm)	0525	6.417	1.956	5.181	1.349	0.4675	18	0.92	251.30	0
251	Acid Soluble Lead (ppm)	0389	7.078	0.0430	5.181	1.349	0.4675	18	1.41	251.30	0
251	Acid Soluble Lead (ppm)	0515	10.99	1.731	5.181	1.349	0.4675	18	4.31	251.34	0
251	Acid Soluble Lead (ppm)	0515	8.474	3.231	5.181	1.349	0.4675	18	2.44	251.33	1
261	Acid Soluble Manganese (%)	0527	0.0063	0.0001	0.0081	0.0013	0.0015	16	-1.41	261.35	0
261	Acid Soluble Manganese (%)	0106	0.0064	0.0005	0.0081	0.0013	0.0015	16	-1.33	261.35	0
261	Acid Soluble Manganese (%)	0049	0.0073	0.0004	0.0081	0.0013	0.0015	16	-0.59	261.32	0
261	Acid Soluble Manganese (%)	0524	0.0073	0.0002	0.0081	0.0013	0.0015	16	-0.59	261.99	0
261	Acid Soluble Manganese (%)	0494	0.0075	0.0000	0.0081	0.0013	0.0015	16	-0.44	261.35	0
261	Acid Soluble Manganese (%)	0300	0.0076	0.0000	0.0081	0.0013	0.0015	16	-0.36	261.34	0
261	Acid Soluble Manganese (%)	0096	0.0079	0.0004	0.0081	0.0013	0.0015	16	-0.13	261.30	0
261	Acid Soluble Manganese (%)	0041	0.0080	0.0000	0.0081	0.0013	0.0015	16	-0.05	261.30	0
261	Acid Soluble Manganese (%)	0423	0.0080	0.0000	0.0081	0.0013	0.0015	16	-0.05	261.34	0
261	Acid Soluble Manganese (%)	0515	0.0080	0.0016	0.0081	0.0013	0.0015	16	-0.05	261.99	0
261	Acid Soluble Manganese (%)	0035	0.0082	0.0002	0.0081	0.0013	0.0015	16	0.11	261.30	0
261	Acid Soluble Manganese (%)	0389	0.0083	0.0006	0.0081	0.0013	0.0015	16	0.18	261.99	0
261	Acid Soluble Manganese (%)	0105	0.0084	0.0005	0.0081	0.0013	0.0015	16	0.22	261.12	0
261	Acid Soluble Manganese (%)	0354	0.0100	0.0000	0.0081	0.0013	0.0015	16	1.51	261.30	0
261	Acid Soluble Manganese (%)	0482	0.0100	0.0000	0.0081	0.0013	0.0015	16	1.51	261.31	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 (%)	0515	0.0334	0.0190	0.0081	0.0013	0.0015	16	19.71	261.35	0
261	Acid Soluble Manganese (%)	0552	0.0850	0.1300	0.0081	0.0013	0.0015	16	59.85	261.32	1
281	Acid Soluble Mercury (ppm)	0527	0.0499	0.0574				1		281.30	0
281	Acid Soluble Mercury (ppm)	0515	0.0000	0.0000				1		281.30	4
289	Acid Soluble Molybdenum (ppm)	0546	2.045	0.7700	3.123	0.9402	1.212	17	-1.15	289.33	0
289	Acid Soluble Molybdenum (ppm)	0524	2.156	0.0257	3.123	0.9402	1.212	17	-1.03	289.30	0
289	Acid Soluble Molybdenum (ppm)	0476	2.250	0.0600	3.123	0.9402	1.212	17	-0.93	289.99	0
289	Acid Soluble Molybdenum (ppm)	0220	2.300	0.4000	3.123	0.9402	1.212	17	-0.88	289.99	0
289	Acid Soluble Molybdenum (ppm)	0300	2.668	0.0030	3.123	0.9402	1.212	17	-0.48	289.32	0
289	Acid Soluble Molybdenum (ppm)	0037	2.711	0.0610	3.123	0.9402	1.212	17	-0.44	289.33	0
289	Acid Soluble Molybdenum (ppm)	0423	2.885	0.0700	3.123	0.9402	1.212	17	-0.25	289.33	0
289	Acid Soluble Molybdenum (ppm)	0405	2.940	0.0600	3.123	0.9402	1.212	17	-0.20	289.30	0
289	Acid Soluble Molybdenum (ppm)	0527	2.973	0.0638	3.123	0.9402	1.212	17	-0.16	289.33	0
289	Acid Soluble Molybdenum (ppm)	0106	3.000	0.0000	3.123	0.9402	1.212	17	-0.13	289.33	0
289	Acid Soluble Molybdenum (ppm)	0389	3.024	0.1180	3.123	0.9402	1.212	17	-0.11	289.30	0
289	Acid Soluble Molybdenum (ppm)	0096	3.200	0.2000	3.123	0.9402	1.212	17	0.08	289.30	0
289	Acid Soluble Molybdenum (ppm)	0255	3.247	1.253	3.123	0.9402	1.212	17	0.13	289.30	0
289	Acid Soluble Molybdenum (ppm)	0035	4.100	0.3400	3.123	0.9402	1.212	17	1.04	289.30	0
289	Acid Soluble Molybdenum (ppm)	0515	7.210	1.401	3.123	0.9402	1.212	17	4.35	289.34	0
289	Acid Soluble Molybdenum (ppm)	0515	8.296	1.522	3.123	0.9402	1.212	17	5.50	289.33	0
289	Acid Soluble Molybdenum (ppm)	0525	15.52	14.25	3.123	0.9402	1.212	17	13.19	289.30	0
289	Acid Soluble Molybdenum (ppm)	0550	11.35	22.11	3.123	0.9402	1.212	17	8.74	289.00	1
291	Acid Soluble Nickel (ppm)	0444	6.930	0.1400	12.74	4.441	0.9268	18	-1.31	291.30	0
291	Acid Soluble Nickel (ppm)	0255	7.033	0.8450	12.74	4.441	0.9268	18	-1.29	291.99	0
291	Acid Soluble Nickel (ppm)	0525	8.407	1.946	12.74	4.441	0.9268	18	-0.98	291.30	0
291	Acid Soluble Nickel (ppm)	0524	8.665	0.1028	12.74	4.441	0.9268	18	-0.92	291.30	0
291	Acid Soluble Nickel (ppm)	0482	9.400	0.2000	12.74	4.441	0.9268	18	-0.75	291.30	0
291	Acid Soluble Nickel (ppm)	0394	10.45	0.1000	12.74	4.441	0.9268	18	-0.52	291.30	0
291	Acid Soluble Nickel (ppm)	0035	10.72	2.160	12.74	4.441	0.9268	18	-0.45	291.30	0
291	Acid Soluble Nickel (ppm)	0494	12.27	0.7494	12.74	4.441	0.9268	18	-0.11	291.33	0
291	Acid Soluble Nickel (ppm)	0220	12.50	3.000	12.74	4.441	0.9268	18	-0.05	291.99	0
291	Acid Soluble Nickel (ppm)	0405	13.00	0.2000	12.74	4.441	0.9268	18	0.06	291.30	0
291	Acid Soluble Nickel (ppm)	0037	13.39	0.1540	12.74	4.441	0.9268	18	0.15	291.33	0
291	Acid Soluble Nickel (ppm)	0300	13.48	0.3100	12.74	4.441	0.9268	18	0.17	291.32	0
291	Acid Soluble Nickel (ppm)	0527	14.71	0.6195	12.74	4.441	0.9268	18	0.44	291.33	0
291	Acid Soluble Nickel (ppm)	0476	15.36	0.6300	12.74	4.441	0.9268	18	0.59	291.99	0
291	Acid Soluble Nickel (ppm)	0515	16.70	0.3200	12.74	4.441	0.9268	18	0.89	291.34	0
291	Acid Soluble Nickel (ppm)	0096	17.75	1.700	12.74	4.441	0.9268	18	1.13	291.30	0
291	Acid Soluble Nickel (ppm)	0515	19.18	2.273	12.74	4.441	0.9268	18	1.45	291.33	0
291	Acid Soluble Nickel (ppm)	0389	19.67	1.232	12.74	4.441	0.9268	18	1.56	291.30	0
301	Acid Soluble Selenium (ppm)	0525	0.3460	0.4960	2.989	2.978	0.8360	8	-0.81	301.30	0
301	Acid Soluble Selenium (ppm)	0220	0.4500	0.1000	2.989	2.978	0.8360	8	-0.78	301.99	0
301	Acid Soluble Selenium (ppm)	0524	0.9525	0.0250	2.989	2.978	0.8360	8	-0.63	301.30	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				
301	Acid Soluble Selenium (ppm)	0476	2.160	0.0600	2.989	2.978	0.8360	8	-0.25	301.99	0
301	Acid Soluble Selenium (ppm)	0527	2.253	0.5770	2.989	2.978	0.8360	8	-0.23	301.33	0
301	Acid Soluble Selenium (ppm)	0255	4.518	1.575	2.989	2.978	0.8360	8	0.47	301.99	0
301	Acid Soluble Selenium (ppm)	0515	5.995	1.343	2.989	2.978	0.8360	8	0.92	301.34	0
301	Acid Soluble Selenium (ppm)	0515	7.242	2.512	2.989	2.978	0.8360	8	1.31	301.33	0
311	Sodium (%)	0043	0.4150	0.0100	0.4622	0.0245	0.0076	8	-1.76	311.33	0
311	Sodium (%)	0035	0.4415	0.0130	0.4622	0.0245	0.0076	8	-0.77	311.33	0
311	Sodium (%)	0527	0.4490	0.0268	0.4622	0.0245	0.0076	8	-0.49	311.33	0
311	Sodium (%)	0423	0.4675	0.0010	0.4622	0.0245	0.0076	8	0.20	311.33	0
311	Sodium (%)	0096	0.4700	0.0000	0.4622	0.0245	0.0076	8	0.29	311.99	0
311	Sodium (%)	0482	0.4750	0.0100	0.4622	0.0245	0.0076	8	0.48	311.99	0
311	Sodium (%)	0324	0.4790	0.0000	0.4622	0.0245	0.0076	8	0.63	311.32	0
311	Sodium (%)	0354	0.4900	0.0000	0.4622	0.0245	0.0076	8	1.04	311.99	0
321	Acid Soluble Zinc (0.1%)	0234	0.1000†	0.0000	0.1392	0.0113	0.0047	55	-3.48	321.30	0
321	Acid Soluble Zinc (0.1%)	0027	0.1005†	0.0010	0.1392	0.0113	0.0047	55	-3.43	321.99	0
321	Acid Soluble Zinc (0.1%)	0476	0.1200†	0.0000	0.1392	0.0113	0.0047	55	-1.70	321.99	0
321	Acid Soluble Zinc (0.1%)	0501	0.1200†	0.0000	0.1392	0.0113	0.0047	55	-1.70	321.99	0
321	Acid Soluble Zinc (0.1%)	0394	0.1213	0.0001	0.1392	0.0113	0.0047	55	-1.59	321.32	0
321	Acid Soluble Zinc (0.1%)	0397	0.1238	0.0015	0.1392	0.0113	0.0047	55	-1.37	321.33	0
321	Acid Soluble Zinc (0.1%)	0114	0.1250	0.0060	0.1392	0.0113	0.0047	55	-1.26	321.30	0
321	Acid Soluble Zinc (0.1%)	0486	0.1280	0.0060	0.1392	0.0113	0.0047	55	-0.99	321.33	0
321	Acid Soluble Zinc (0.1%)	0157	0.1295	0.0030	0.1392	0.0113	0.0047	55	-0.86	321.30	0
321	Acid Soluble Zinc (0.1%)	0043	0.1300	0.0200	0.1392	0.0113	0.0047	55	-0.82	321.33	0
321	Acid Soluble Zinc (0.1%)	0220	0.1300	0.0200	0.1392	0.0113	0.0047	55	-0.82	321.99	0
321	Acid Soluble Zinc (0.1%)	0481	0.1300	0.0000	0.1392	0.0113	0.0047	55	-0.82	321.99	0
321	Acid Soluble Zinc (0.1%)	0494	0.1302	0.0004	0.1392	0.0113	0.0047	55	-0.80	321.33	0
321	Acid Soluble Zinc (0.1%)	0049	0.1335	0.0082	0.1392	0.0113	0.0047	55	-0.51	321.30	0
321	Acid Soluble Zinc (0.1%)	0106	0.1340	0.0013	0.1392	0.0113	0.0047	55	-0.47	321.33	0
321	Acid Soluble Zinc (0.1%)	0255	0.1340	0.0000	0.1392	0.0113	0.0047	55	-0.46	321.30	0
321	Acid Soluble Zinc (0.1%)	0029	0.1346	0.0119	0.1392	0.0113	0.0047	55	-0.41	321.00	0
321	Acid Soluble Zinc (0.1%)	0546	0.1346	0.0008	0.1392	0.0113	0.0047	55	-0.41	321.33	0
321	Acid Soluble Zinc (0.1%)	0535	0.1350	0.0100	0.1392	0.0113	0.0047	55	-0.37	321.00	0
321	Acid Soluble Zinc (0.1%)	0360	0.1350	0.0040	0.1392	0.0113	0.0047	55	-0.37	321.30	0
321	Acid Soluble Zinc (0.1%)	0377	0.1350	0.0100	0.1392	0.0113	0.0047	55	-0.37	321.30	0
321	Acid Soluble Zinc (0.1%)	0177	0.1361	0.0007	0.1392	0.0113	0.0047	55	-0.28	321.33	0
321	Acid Soluble Zinc (0.1%)	0169	0.1365	0.0030	0.1392	0.0113	0.0047	55	-0.24	321.00	0
321	Acid Soluble Zinc (0.1%)	0524	0.1369	0.0026	0.1392	0.0113	0.0047	55	-0.20	321.99	0
321	Acid Soluble Zinc (0.1%)	0389	0.1370	0.0000	0.1392	0.0113	0.0047	55	-0.20	321.99	0
321	Acid Soluble Zinc (0.1%)	0300	0.1385	0.0010	0.1392	0.0113	0.0047	55	-0.06	321.32	0
321	Acid Soluble Zinc (0.1%)	0516	0.1385	0.0030	0.1392	0.0113	0.0047	55	-0.06	321.99	0
321	Acid Soluble Zinc (0.1%)	0513	0.1400	0.0000	0.1392	0.0113	0.0047	55	0.07	321.00	0
321	Acid Soluble Zinc (0.1%)	0534	0.1400	0.0000	0.1392	0.0113	0.0047	55	0.07	321.00	0
321	Acid Soluble Zinc (0.1%)	0354	0.1400	0.0000	0.1392	0.0113	0.0047	55	0.07	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 (0.1%)	0444	0.1400	0.0000	0.1392	0.0113	0.0047	55	0.07	321.30	0
321	Acid Soluble Zinc (0.1%)	0472	0.1400	0.0000	0.1392	0.0113	0.0047	55	0.07	321.30	0
321	Acid Soluble Zinc (0.1%)	0482	0.1400	0.0000	0.1392	0.0113	0.0047	55	0.07	321.30	0
321	Acid Soluble Zinc (0.1%)	0527	0.1410	0.0018	0.1392	0.0113	0.0047	55	0.16	321.33	0
321	Acid Soluble Zinc (0.1%)	0096	0.1419	0.0033	0.1392	0.0113	0.0047	55	0.23	321.30	0
321	Acid Soluble Zinc (0.1%)	0040	0.1430	0.0020	0.1392	0.0113	0.0047	55	0.34	321.00	0
321	Acid Soluble Zinc (0.1%)	0042	0.1430	0.0020	0.1392	0.0113	0.0047	55	0.34	321.99	0
321	Acid Soluble Zinc (0.1%)	0433	0.1440	0.0020	0.1392	0.0113	0.0047	55	0.43	321.30	0
321	Acid Soluble Zinc (0.1%)	0035	0.1440	0.0100	0.1392	0.0113	0.0047	55	0.43	321.30	0
321	Acid Soluble Zinc (0.1%)	0037	0.1445	0.0050	0.1392	0.0113	0.0047	55	0.47	321.33	0
321	Acid Soluble Zinc (0.1%)	0324	0.1460	0.0060	0.1392	0.0113	0.0047	55	0.60	321.30	0
321	Acid Soluble Zinc (0.1%)	0483	0.1470	0.0000	0.1392	0.0113	0.0047	55	0.69	321.30	0
321	Acid Soluble Zinc (0.1%)	0523	0.1475	0.0030	0.1392	0.0113	0.0047	55	0.74	321.99	0
321	Acid Soluble Zinc (0.1%)	0055	0.1477	0.0047	0.1392	0.0113	0.0047	55	0.75	321.33	0
321	Acid Soluble Zinc (0.1%)	0041	0.1500	0.0000	0.1392	0.0113	0.0047	55	0.96	321.30	0
321	Acid Soluble Zinc (0.1%)	0231	0.1500	0.0000	0.1392	0.0113	0.0047	55	0.96	321.30	0
321	Acid Soluble Zinc (0.1%)	0390	0.1515	0.0051	0.1392	0.0113	0.0047	55	1.09	321.30	0
321	Acid Soluble Zinc (0.1%)	0405	0.1525	0.0150	0.1392	0.0113	0.0047	55	1.18	321.99	0
321	Acid Soluble Zinc (0.1%)	0423	0.1535	0.0050	0.1392	0.0113	0.0047	55	1.27	321.32	0
321	Acid Soluble Zinc (0.1%)	0550	0.1540	0.0320	0.1392	0.0113	0.0047	55	1.31	321.00	0
321	Acid Soluble Zinc (0.1%)	0402	0.1550	0.0100	0.1392	0.0113	0.0047	55	1.40	321.30	0
321	Acid Soluble Zinc (0.1%)	0421	0.1550	0.0100	0.1392	0.0113	0.0047	55	1.40	321.33	0
321	Acid Soluble Zinc (0.1%)	0515	0.1660‡	0.0163	0.1392	0.0113	0.0047	55	2.37	321.33	0
321	Acid Soluble Zinc (0.1%)	0291	0.1750‡	0.0100	0.1392	0.0113	0.0047	55	3.17	321.30	0
321	Acid Soluble Zinc (0.1%)	0525	0.1856‡	0.0001	0.1392	0.0113	0.0047	55	4.11	321.33	0
321	Acid Soluble Zinc (0.1%)	0552	0.1700‡	0.0600	0.1392	0.0113	0.0047	55	2.73	321.30	1
321	Acid Soluble Zinc (0.1%)	0515	0.2003‡	0.0407	0.1392	0.0113	0.0047	55	5.41	321.99	1
325	Water Soluble Zinc (%)	0027	0.0690	0.0060	0.0920	0.0221	0.0047	3	-1.04	325.00	0
325	Water Soluble Zinc (%)	0540	0.0940	0.0060	0.0920	0.0221	0.0047	3	0.09	325.00	0
325	Water Soluble Zinc (%)	0543	0.1130	0.0020	0.0920	0.0221	0.0047	3	0.95	325.30	0

Interpreting Z Scores: Red indicates a normally distributed Z value >3 or <-3 (requires action), Orange = Z between 2 and 3 or -2 and -3 (warning) and Green = Z < 2 and >-2 (OK at 95%). Flags indicate data usage: 0 = Used, 1 = rejected for duplicates too far apart, 2 = rejected as extreme outlier, 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.