

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 170611

Grade 2-15-15 w/PO3

Statistical Summary

Analytes: 31

Labs Reporting: 90

Issue Date : 07/31/2017

Analyte Code	Analyte	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Analyte Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	IA %RSD	Average Range (R-bar)	Horwitz %RSD
001	Ammoniacal Nitrogen (%)	29	28	0.5328	0.0885	0.5315		0.0907	0.0214	17.06%		0.0246	4.40%
002	Nitrate Nitrogen (%)	1		0.8050									
003	Water Insoluble Nitrogen (%)	1		0.4700									
005	Urea Nitrogen (%)	14	13	1.705	0.1565	1.701		0.1687	0.0585	9.92%		0.0521	3.69%
007	Urea (%)	3	3	1.522	0.0513	1.522		0.0513	0.0370	3.37%		0.0700	3.75%
010	Total Nitrogen (2%)	83	80	2.087	0.2328	2.094	0.4900	0.1521	0.0213	7.26%	11.70%	0.0386	3.58%
020	Total Phosphorus as P2O5 (%)	60	57	15.06	0.9357	15.15		0.6201	0.1027	4.09%		0.1897	2.66%
041	050.00	Statistics not calculated											
048	Water Soluble Phosphorus as P2O5 (%)	2	2	13.38	1.177								
050	Soluble Potassium as K2O (15%)	90	87	17.46	1.351	17.49	0.9922	0.8170	0.1095	4.67%	2.84%	0.1894	2.60%
101	Acid Soluble Calcium (%)	4	4	0.0087	0.0123	0.0087		0.0123	0.0077	140.47%		0.0015	8.16%
121	Acid Soluble Magnesium (%)	9	8	0.0022	0.0036	0.0011		0.0008	0.0003	71.05%		0.0002	11.21%
143	Elemental Sulfur (%)	1		0.0025									
148	Total Sulfur (%)	1		0.0285									
149	Sulfur - HNO3 soluble (%)	2	2	0.0019	0.0001								
151	Acid Soluble Arsenic (ppm)	4	4	2.745	0.4981	2.745		0.4981	0.3113	18.14%		0.4225	13.74%
165	Acid Soluble Boron (%)	4	4	0.0052	0.0085	0.0052		0.0085	0.0053	164.12%		0.0016	8.83%
181	Acid Soluble Cadmium (ppm)	5	5	0.1825	0.2584	0.1825		0.2584	0.1445	141.58%		0.0024	20.66%
191	Acid Soluble Chromium (ppm)	4	4	9.361	14.84	9.361		14.84	9.276	158.54%		0.2353	11.42%
202	Acid Soluble Cobalt (ppm)	4	4	4.818	9.289	4.818		9.289	5.806	192.80%		0.4279	12.63%
221	Acid Soluble Copper (%)	3	3	0.0012	0.0010	0.0012		0.0010	0.0007	78.66%		0.0004	10.98%
241	Acid Soluble Iron (0.1%)	24	22	0.0026	0.0035	0.0014	0.0051	0.0010	0.0003	70.86%	183.56%	0.0002	10.75%
251	Acid Soluble Lead (ppm)	5	5	1.775	2.712	1.775		2.712	1.516	152.75%		0.1872	14.67%
261	Acid Soluble Manganese (%)	1		0.0000									
281	Acid Soluble Mercury (ppm)	2	2	0.0115	0.0120								
289	Acid Soluble Molybdenum (ppm)	4	4	1.194	1.543	1.194		1.543	0.9642	129.24%		0.0640	15.58%
291	Acid Soluble Nickel (ppm)	5	5	3.035	5.720	3.035		5.720	3.198	188.48%		0.1693	13.54%
301	Acid Soluble Selenium (ppm)	1		0.0425									
311	Sodium (%)	5	5	0.1039	0.0442	0.1039		0.0442	0.0247	42.54%		0.0100	5.62%
321	Acid Soluble Zinc (0.1%)	26	23	0.0016	0.0024	0.0010	0.0051	0.0009	0.0002	87.57%	255.86%	0.0002	11.32%
325	Water Soluble Zinc (%)	3	3	0.0004	0.0003	0.0004		0.0003	0.0002	82.84%		0.0000	13.07%

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Analyte Proficiency From All Labs

Analytes: 31

Sample # 170611

Lab Values

Labs Reporting: 90

Grade 2-15-15 w/PO3

Issue Date : 07/31/2017

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
001	Ammoniacal Nitrogen (%)	0533	0.3700	0.0800	0.5315	0.0907	0.0246	28	-1.78	001.99	0
001	Ammoniacal Nitrogen (%)	0524	0.3807	0.0168	0.5315	0.0907	0.0246	28	-1.66	001.99	0
001	Ammoniacal Nitrogen (%)	0423	0.4050	0.0100	0.5315	0.0907	0.0246	28	-1.39	001.99	0
001	Ammoniacal Nitrogen (%)	0309	0.4500	0.0400	0.5315	0.0907	0.0246	28	-0.90	001.10	0
001	Ammoniacal Nitrogen (%)	0368	0.4527	0.0006	0.5315	0.0907	0.0246	28	-0.87	001.99	0
001	Ammoniacal Nitrogen (%)	0231	0.4600	0.0200	0.5315	0.0907	0.0246	28	-0.79	001.99	0
001	Ammoniacal Nitrogen (%)	0481	0.4600	0.0000	0.5315	0.0907	0.0246	28	-0.79	001.99	0
001	Ammoniacal Nitrogen (%)	0027	0.4800	0.0000	0.5315	0.0907	0.0246	28	-0.57	001.99	0
001	Ammoniacal Nitrogen (%)	0117	0.4850	0.0100	0.5315	0.0907	0.0246	28	-0.51	001.10	0
001	Ammoniacal Nitrogen (%)	0486	0.4850	0.0100	0.5315	0.0907	0.0246	28	-0.51	001.10	0
001	Ammoniacal Nitrogen (%)	0096	0.5000	0.0000	0.5315	0.0907	0.0246	28	-0.35	001.99	0
001	Ammoniacal Nitrogen (%)	0537	0.5050	0.0300	0.5315	0.0907	0.0246	28	-0.29	001.99	0
001	Ammoniacal Nitrogen (%)	0389	0.5150	0.0100	0.5315	0.0907	0.0246	28	-0.18	001.10	0
001	Ammoniacal Nitrogen (%)	0522	0.5200	0.0000	0.5315	0.0907	0.0246	28	-0.13	001.99	0
001	Ammoniacal Nitrogen (%)	0230	0.5500	0.0400	0.5315	0.0907	0.0246	28	0.20	001.10	0
001	Ammoniacal Nitrogen (%)	0498	0.5500	0.1000	0.5315	0.0907	0.0246	28	0.20	001.10	0
001	Ammoniacal Nitrogen (%)	0090	0.5550	0.0500	0.5315	0.0907	0.0246	28	0.26	001.10	0
001	Ammoniacal Nitrogen (%)	0451	0.5550	0.0100	0.5315	0.0907	0.0246	28	0.26	001.10	0
001	Ammoniacal Nitrogen (%)	0535	0.5600	0.0200	0.5315	0.0907	0.0246	28	0.31	001.99	0
001	Ammoniacal Nitrogen (%)	0532	0.5800	0.0200	0.5315	0.0907	0.0246	28	0.54	001.99	0
001	Ammoniacal Nitrogen (%)	0539	0.5900	0.0200	0.5315	0.0907	0.0246	28	0.65	001.99	0
001	Ammoniacal Nitrogen (%)	0535	0.5950	0.0300	0.5315	0.0907	0.0246	28	0.70	001.10	0
001	Ammoniacal Nitrogen (%)	0531	0.6000	0.0400	0.5315	0.0907	0.0246	28	0.76	001.10	0
001	Ammoniacal Nitrogen (%)	0540	0.6000	0.0000	0.5315	0.0907	0.0246	28	0.76	001.99	0
001	Ammoniacal Nitrogen (%)	0220	0.6450	0.0100	0.5315	0.0907	0.0246	28	1.25	001.99	0
001	Ammoniacal Nitrogen (%)	0526	0.6600	0.0000	0.5315	0.0907	0.0246	28	1.42	001.10	0
001	Ammoniacal Nitrogen (%)	0530	0.6650	0.0300	0.5315	0.0907	0.0246	28	1.47	001.99	0
001	Ammoniacal Nitrogen (%)	0501	0.7450	0.0900	0.5315	0.0907	0.0246	28	2.35	001.99	0
001	Ammoniacal Nitrogen (%)	0234	0.6950	0.2700	0.5315	0.0907	0.0246	28	1.80	001.10	1
002	Nitrate Nitrogen (%)	0530	0.8050	0.0500				1		002.99	0
003	Water Insoluble Nitrogen (%)	0500	0.4700	0.0000				1		003.99	0
005	Urea Nitrogen (%)	0451	1.500	0.0400	1.701	0.1687	0.0521	13	-1.19	005.99	0
005	Urea Nitrogen (%)	0532	1.525	0.0300	1.701	0.1687	0.0521	13	-1.04	005.99	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				
005	Urea Nitrogen (%)	0537	1.530	0.0400	1.701	0.1687	0.0521	13	-1.01	005.00	0
005	Urea Nitrogen (%)	0027	1.560	0.0200	1.701	0.1687	0.0521	13	-0.83	005.99	0
005	Urea Nitrogen (%)	0498	1.650	0.1000	1.701	0.1687	0.0521	13	-0.30	005.00	0
005	Urea Nitrogen (%)	0389	1.655	0.0100	1.701	0.1687	0.0521	13	-0.27	005.00	0
005	Urea Nitrogen (%)	0356	1.670	0.0400	1.701	0.1687	0.0521	13	-0.18	005.99	0
005	Urea Nitrogen (%)	0230	1.765	0.0500	1.701	0.1687	0.0521	13	0.38	005.00	0
005	Urea Nitrogen (%)	0309	1.775	0.0100	1.701	0.1687	0.0521	13	0.44	005.99	0
005	Urea Nitrogen (%)	0368	1.795	0.0078	1.701	0.1687	0.0521	13	0.56	005.00	0
005	Urea Nitrogen (%)	0524	1.825	0.2900	1.701	0.1687	0.0521	13	0.74	005.99	0
005	Urea Nitrogen (%)	0481	1.905	0.0100	1.701	0.1687	0.0521	13	1.21	005.99	0
005	Urea Nitrogen (%)	0533	2.005	0.0300	1.701	0.1687	0.0521	13	1.80	005.99	0
005	Urea Nitrogen (%)	0234	1.470	0.4000	1.701	0.1687	0.0521	13	-1.37	005.99	1
007	Urea (%)	0531	1.465	0.0100	1.522	0.0513	0.0700	3	-1.10	007.99	0
007	Urea (%)	0486	1.535	0.1300	1.522	0.0513	0.0700	3	0.26	007.00	0
007	Urea (%)	0220	1.565	0.0700	1.522	0.0513	0.0700	3	0.84	007.99	0
010	Total Nitrogen (2%)	0541	1.035*	0.0100	2.094	0.1521	0.0386	80	-6.96	010.60	0
010	Total Nitrogen (2%)	0423	1.500*	0.1000	2.094	0.1521	0.0386	80	-3.91	010.60	0
010	Total Nitrogen (2%)	0018	1.665	0.0500	2.094	0.1521	0.0386	80	-2.82	010.60	0
010	Total Nitrogen (2%)	0523	1.700	0.0000	2.094	0.1521	0.0386	80	-2.59	010.60	0
010	Total Nitrogen (2%)	0526	1.720	0.0000	2.094	0.1521	0.0386	80	-2.46	010.17	0
010	Total Nitrogen (2%)	0106	1.730	0.0000	2.094	0.1521	0.0386	80	-2.40	010.60	0
010	Total Nitrogen (2%)	0095	1.820	0.0400	2.094	0.1521	0.0386	80	-1.80	010.60	0
010	Total Nitrogen (2%)	0421	1.855	0.0300	2.094	0.1521	0.0386	80	-1.57	010.60	0
010	Total Nitrogen (2%)	0389	1.870	0.1000	2.094	0.1521	0.0386	80	-1.47	010.60	0
010	Total Nitrogen (2%)	0043	1.875	0.0100	2.094	0.1521	0.0386	80	-1.44	010.60	0
010	Total Nitrogen (2%)	0055	1.885	0.0700	2.094	0.1521	0.0386	80	-1.38	010.60	0
010	Total Nitrogen (2%)	0042	1.925	0.1300	2.094	0.1521	0.0386	80	-1.11	010.60	0
010	Total Nitrogen (2%)	0527	1.948	0.0400	2.094	0.1521	0.0386	80	-0.96	010.60	0
010	Total Nitrogen (2%)	0231	1.955	0.0100	2.094	0.1521	0.0386	80	-0.92	010.60	0
010	Total Nitrogen (2%)	0543	1.969	0.0070	2.094	0.1521	0.0386	80	-0.83	010.60	0
010	Total Nitrogen (2%)	0041	1.970	0.0600	2.094	0.1521	0.0386	80	-0.82	010.60	0
010	Total Nitrogen (2%)	0072	1.970	0.1000	2.094	0.1521	0.0386	80	-0.82	010.60	0
010	Total Nitrogen (2%)	0500	1.980	0.0000	2.094	0.1521	0.0386	80	-0.75	010.11	0
010	Total Nitrogen (2%)	0538	1.980	0.0400	2.094	0.1521	0.0386	80	-0.75	010.11	0
010	Total Nitrogen (2%)	0508	1.998	0.0070	2.094	0.1521	0.0386	80	-0.64	010.99	0
010	Total Nitrogen (2%)	0481	2.005	0.0100	2.094	0.1521	0.0386	80	-0.59	010.12	0
010	Total Nitrogen (2%)	0307	2.009	0.0170	2.094	0.1521	0.0386	80	-0.56	010.60	0
010	Total Nitrogen (2%)	0501	2.040	0.0200	2.094	0.1521	0.0386	80	-0.36	010.60	0
010	Total Nitrogen (2%)	0486	2.050	0.0400	2.094	0.1521	0.0386	80	-0.29	010.60	0
010	Total Nitrogen (2%)	0105	2.053	0.0680	2.094	0.1521	0.0386	80	-0.27	010.60	0
010	Total Nitrogen (2%)	0531	2.060	0.0200	2.094	0.1521	0.0386	80	-0.23	010.11	0
010	Total Nitrogen (2%)	0185	2.060	0.0000	2.094	0.1521	0.0386	80	-0.23	010.12	0
010	Total Nitrogen (2%)	0034	2.061	0.0090	2.094	0.1521	0.0386	80	-0.22	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 (2%)	0073	2.065	0.0500	2.094	0.1521	0.0386	80	-0.19	010.60	0
010	Total Nitrogen (2%)	0494	2.065	0.0500	2.094	0.1521	0.0386	80	-0.19	010.60	0
010	Total Nitrogen (2%)	0035	2.070	0.0400	2.094	0.1521	0.0386	80	-0.16	010.60	0
010	Total Nitrogen (2%)	0027	2.070	0.0200	2.094	0.1521	0.0386	80	-0.16	010.60	0
010	Total Nitrogen (2%)	0137	2.070	0.0600	2.094	0.1521	0.0386	80	-0.16	010.60	0
010	Total Nitrogen (2%)	0481	2.070	0.0200	2.094	0.1521	0.0386	80	-0.16	010.60	0
010	Total Nitrogen (2%)	0233	2.074	0.0010	2.094	0.1521	0.0386	80	-0.14	010.60	0
010	Total Nitrogen (2%)	0371	2.075	0.0100	2.094	0.1521	0.0386	80	-0.13	010.11	0
010	Total Nitrogen (2%)	0483	2.075	0.0300	2.094	0.1521	0.0386	80	-0.13	010.60	0
010	Total Nitrogen (2%)	0476	2.076	0.0406	2.094	0.1521	0.0386	80	-0.12	010.99	0
010	Total Nitrogen (2%)	0524	2.083	0.0068	2.094	0.1521	0.0386	80	-0.08	010.60	0
010	Total Nitrogen (2%)	0090	2.085	0.0900	2.094	0.1521	0.0386	80	-0.06	010.11	0
010	Total Nitrogen (2%)	0292	2.090	0.0000	2.094	0.1521	0.0386	80	-0.03	010.60	0
010	Total Nitrogen (2%)	0105	2.100	0.0200	2.094	0.1521	0.0386	80	0.04	010.11	0
010	Total Nitrogen (2%)	0493	2.100	0.1000	2.094	0.1521	0.0386	80	0.04	010.99	0
010	Total Nitrogen (2%)	0234	2.115	0.0100	2.094	0.1521	0.0386	80	0.14	010.60	0
010	Total Nitrogen (2%)	0522	2.115	0.0100	2.094	0.1521	0.0386	80	0.14	010.99	0
010	Total Nitrogen (2%)	0451	2.122	0.0480	2.094	0.1521	0.0386	80	0.18	010.60	0
010	Total Nitrogen (2%)	0416	2.125	0.0100	2.094	0.1521	0.0386	80	0.20	010.11	0
010	Total Nitrogen (2%)	0029	2.133	0.0300	2.094	0.1521	0.0386	80	0.25	010.60	0
010	Total Nitrogen (2%)	0354	2.140	0.0050	2.094	0.1521	0.0386	80	0.30	010.60	0
010	Total Nitrogen (2%)	0114	2.140	0.0200	2.094	0.1521	0.0386	80	0.30	010.11	0
010	Total Nitrogen (2%)	0513	2.145	0.0300	2.094	0.1521	0.0386	80	0.33	010.99	0
010	Total Nitrogen (2%)	0535	2.150	0.1000	2.094	0.1521	0.0386	80	0.37	010.11	0
010	Total Nitrogen (2%)	0518	2.150	0.1000	2.094	0.1521	0.0386	80	0.37	010.99	0
010	Total Nitrogen (2%)	0136	2.160	0.0600	2.094	0.1521	0.0386	80	0.43	010.60	0
010	Total Nitrogen (2%)	0049	2.170	0.0200	2.094	0.1521	0.0386	80	0.50	010.60	0
010	Total Nitrogen (2%)	0472	2.170	0.0400	2.094	0.1521	0.0386	80	0.50	010.60	0
010	Total Nitrogen (2%)	0086	2.171	0.0166	2.094	0.1521	0.0386	80	0.51	010.60	0
010	Total Nitrogen (2%)	0377	2.175	0.0500	2.094	0.1521	0.0386	80	0.53	010.60	0
010	Total Nitrogen (2%)	0131	2.180	0.0200	2.094	0.1521	0.0386	80	0.56	010.60	0
010	Total Nitrogen (2%)	0037	2.181	0.0750	2.094	0.1521	0.0386	80	0.57	010.60	0
010	Total Nitrogen (2%)	0157	2.195	0.0100	2.094	0.1521	0.0386	80	0.66	010.60	0
010	Total Nitrogen (2%)	0356	2.195	0.0100	2.094	0.1521	0.0386	80	0.66	010.60	0
010	Total Nitrogen (2%)	0498	2.200	0.0000	2.094	0.1521	0.0386	80	0.69	010.12	0
010	Total Nitrogen (2%)	0534	2.200	0.0000	2.094	0.1521	0.0386	80	0.69	010.60	0
010	Total Nitrogen (2%)	0220	2.200	0.0200	2.094	0.1521	0.0386	80	0.69	010.99	0
010	Total Nitrogen (2%)	0521	2.202	0.0000	2.094	0.1521	0.0386	80	0.71	010.60	0
010	Total Nitrogen (2%)	0324	2.205	0.0300	2.094	0.1521	0.0386	80	0.73	010.60	0
010	Total Nitrogen (2%)	0452	2.245	0.0100	2.094	0.1521	0.0386	80	0.99	010.60	0
010	Total Nitrogen (2%)	0540	2.250	0.1000	2.094	0.1521	0.0386	80	1.02	010.11	0
010	Total Nitrogen (2%)	0040	2.250	0.1000	2.094	0.1521	0.0386	80	1.02	010.60	0
010	Total Nitrogen (2%)	0230	2.270	0.0600	2.094	0.1521	0.0386	80	1.16	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 (2%)	0309	2.280	0.1400	2.094	0.1521	0.0386	80	1.22	010.11	0
010	Total Nitrogen (2%)	0539	2.305	0.0100	2.094	0.1521	0.0386	80	1.39	010.11	0
010	Total Nitrogen (2%)	0291	2.315	0.0100	2.094	0.1521	0.0386	80	1.45	010.60	0
010	Total Nitrogen (2%)	0368	2.339	0.1180	2.094	0.1521	0.0386	80	1.61	010.60	0
010	Total Nitrogen (2%)	0325	2.345	0.0100	2.094	0.1521	0.0386	80	1.65	010.60	0
010	Total Nitrogen (2%)	0536	2.425	0.0300	2.094	0.1521	0.0386	80	2.17	010.11	0
010	Total Nitrogen (2%)	0025	2.637	0.0350	2.094	0.1521	0.0386	80	3.56	010.60	0
010	Total Nitrogen (2%)	0360	2.740	0.1200	2.094	0.1521	0.0386	80	4.25	010.60	0
010	Total Nitrogen (2%)	0007	2.750	0.1000	2.094	0.1521	0.0386	80	4.31	010.60	0
010	Total Nitrogen (2%)	0070	2.075	0.2700	2.094	0.1521	0.0386	80	-0.13	010.60	1
010	Total Nitrogen (2%)	0482	2.200	0.2000	2.094	0.1521	0.0386	80	0.69	010.60	1
010	Total Nitrogen (2%)	0530	2.200	0.2000	2.094	0.1521	0.0386	80	0.69	010.99	1
020	Total Phosphorus as P2O5 (%)	0096	12.27	0.0100	15.15	0.6201	0.1897	57	-4.64	020.40	0
020	Total Phosphorus as P2O5 (%)	0169	12.37	0.0600	15.15	0.6201	0.1897	57	-4.48	020.20	0
020	Total Phosphorus as P2O5 (%)	0526	12.66	0.1900	15.15	0.6201	0.1897	57	-4.02	020.99	0
020	Total Phosphorus as P2O5 (%)	0324	13.40	0.0000	15.15	0.6201	0.1897	57	-2.81	020.20	0
020	Total Phosphorus as P2O5 (%)	0476	13.51	0.0412	15.15	0.6201	0.1897	57	-2.63	020.20	0
020	Total Phosphorus as P2O5 (%)	0530	13.60	0.2000	15.15	0.6201	0.1897	57	-2.49	020.20	0
020	Total Phosphorus as P2O5 (%)	0541	13.93	0.1600	15.15	0.6201	0.1897	57	-1.96	020.20	0
020	Total Phosphorus as P2O5 (%)	0230	14.30	0.2000	15.15	0.6201	0.1897	57	-1.36	020.20	0
020	Total Phosphorus as P2O5 (%)	0543	14.34	0.5990	15.15	0.6201	0.1897	57	-1.31	020.50	0
020	Total Phosphorus as P2O5 (%)	0309	14.43	0.0100	15.15	0.6201	0.1897	57	-1.16	020.20	0
020	Total Phosphorus as P2O5 (%)	0472	14.45	0.0300	15.15	0.6201	0.1897	57	-1.13	020.50	0
020	Total Phosphorus as P2O5 (%)	0027	14.56	0.0000	15.15	0.6201	0.1897	57	-0.94	020.20	0
020	Total Phosphorus as P2O5 (%)	0538	14.70	0.0500	15.15	0.6201	0.1897	57	-0.73	020.99	0
020	Total Phosphorus as P2O5 (%)	0416	14.71	0.0100	15.15	0.6201	0.1897	57	-0.71	020.20	0
020	Total Phosphorus as P2O5 (%)	0536	14.84	0.0400	15.15	0.6201	0.1897	57	-0.49	020.99	0
020	Total Phosphorus as P2O5 (%)	0498	14.95	0.3000	15.15	0.6201	0.1897	57	-0.31	020.20	0
020	Total Phosphorus as P2O5 (%)	0534	15.00	0.0000	15.15	0.6201	0.1897	57	-0.23	020.20	0
020	Total Phosphorus as P2O5 (%)	0494	15.03	0.2000	15.15	0.6201	0.1897	57	-0.19	020.10	0
020	Total Phosphorus as P2O5 (%)	0292	15.07	0.1000	15.15	0.6201	0.1897	57	-0.12	020.20	0
020	Total Phosphorus as P2O5 (%)	0423	15.07	0.1000	15.15	0.6201	0.1897	57	-0.12	020.50	0
020	Total Phosphorus as P2O5 (%)	0105	15.08	0.0000	15.15	0.6201	0.1897	57	-0.11	020.40	0
020	Total Phosphorus as P2O5 (%)	0537	15.16	0.1000	15.15	0.6201	0.1897	57	0.02	020.99	0
020	Total Phosphorus as P2O5 (%)	0220	15.17	0.0200	15.15	0.6201	0.1897	57	0.04	020.20	0
020	Total Phosphorus as P2O5 (%)	0531	15.17	0.0200	15.15	0.6201	0.1897	57	0.04	020.99	0
020	Total Phosphorus as P2O5 (%)	0105	15.20	0.1300	15.15	0.6201	0.1897	57	0.08	020.10	0
020	Total Phosphorus as P2O5 (%)	0493	15.20	0.1000	15.15	0.6201	0.1897	57	0.09	020.10	0
020	Total Phosphorus as P2O5 (%)	0157	15.20	0.0000	15.15	0.6201	0.1897	57	0.09	020.50	0
020	Total Phosphorus as P2O5 (%)	0535	15.20	0.2000	15.15	0.6201	0.1897	57	0.09	020.99	0
020	Total Phosphorus as P2O5 (%)	0518	15.22	0.3700	15.15	0.6201	0.1897	57	0.11	020.99	0
020	Total Phosphorus as P2O5 (%)	0433	15.24	0.0300	15.15	0.6201	0.1897	57	0.14	020.50	0
020	Total Phosphorus as P2O5 (%)	0500	15.25	0.1000	15.15	0.6201	0.1897	57	0.17	020.10	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 (%)	0535	15.25	0.1000	15.15	0.6201	0.1897	57	0.17	020.20	0
020	Total Phosphorus as P2O5 (%)	0231	15.26	0.0200	15.15	0.6201	0.1897	57	0.19	020.20	0
020	Total Phosphorus as P2O5 (%)	0356	15.27	0.3400	15.15	0.6201	0.1897	57	0.20	020.20	0
020	Total Phosphorus as P2O5 (%)	0539	15.28	0.0600	15.15	0.6201	0.1897	57	0.22	020.99	0
020	Total Phosphorus as P2O5 (%)	0049	15.32	0.1300	15.15	0.6201	0.1897	57	0.27	020.10	0
020	Total Phosphorus as P2O5 (%)	0481	15.35	0.1000	15.15	0.6201	0.1897	57	0.33	020.20	0
020	Total Phosphorus as P2O5 (%)	0540	15.35	0.1000	15.15	0.6201	0.1897	57	0.33	020.99	0
020	Total Phosphorus as P2O5 (%)	0368	15.35	0.2465	15.15	0.6201	0.1897	57	0.33	020.50	0
020	Total Phosphorus as P2O5 (%)	0136	15.37	0.0200	15.15	0.6201	0.1897	57	0.36	020.10	0
020	Total Phosphorus as P2O5 (%)	0090	15.39	0.0100	15.15	0.6201	0.1897	57	0.39	020.10	0
020	Total Phosphorus as P2O5 (%)	0389	15.40	0.2100	15.15	0.6201	0.1897	57	0.40	020.50	0
020	Total Phosphorus as P2O5 (%)	0157	15.40	0.2000	15.15	0.6201	0.1897	57	0.41	020.10	0
020	Total Phosphorus as P2O5 (%)	0501	15.45	0.2200	15.15	0.6201	0.1897	57	0.49	020.50	0
020	Total Phosphorus as P2O5 (%)	0486	15.48	0.8200	15.15	0.6201	0.1897	57	0.54	020.40	0
020	Total Phosphorus as P2O5 (%)	0523	15.55	0.3000	15.15	0.6201	0.1897	57	0.65	020.50	0
020	Total Phosphorus as P2O5 (%)	0452	15.64	0.0800	15.15	0.6201	0.1897	57	0.80	020.50	0
020	Total Phosphorus as P2O5 (%)	0508	15.67	0.2400	15.15	0.6201	0.1897	57	0.85	020.50	0
020	Total Phosphorus as P2O5 (%)	0114	15.69	0.3300	15.15	0.6201	0.1897	57	0.87	020.10	0
020	Total Phosphorus as P2O5 (%)	0482	15.70	1.200	15.15	0.6201	0.1897	57	0.89	020.50	0
020	Total Phosphorus as P2O5 (%)	0483	15.73	0.4400	15.15	0.6201	0.1897	57	0.94	020.50	0
020	Total Phosphorus as P2O5 (%)	0451	16.01	0.4400	15.15	0.6201	0.1897	57	1.39	020.50	0
020	Total Phosphorus as P2O5 (%)	0521	16.18	0.0000	15.15	0.6201	0.1897	57	1.67	020.50	0
020	Total Phosphorus as P2O5 (%)	0527	16.34	0.0300	15.15	0.6201	0.1897	57	1.92	020.50	0
020	Total Phosphorus as P2O5 (%)	0524	16.51	0.4420	15.15	0.6201	0.1897	57	2.20	020.50	0
020	Total Phosphorus as P2O5 (%)	0234	16.95	0.2500	15.15	0.6201	0.1897	57	2.90	020.50	0
020	Total Phosphorus as P2O5 (%)	0307	17.09	1.113	15.15	0.6201	0.1897	57	3.13	020.99	0
020	Total Phosphorus as P2O5 (%)	0035	13.98	1.650	15.15	0.6201	0.1897	57	-1.89	020.40	1
020	Total Phosphorus as P2O5 (%)	0042	15.38	1.430	15.15	0.6201	0.1897	57	0.37	020.50	1
020	Total Phosphorus as P2O5 (%)	0300	31.99	0.3600	15.15	0.6201	0.1897	57	27.16	020.20	2
041	Direct Available Phosphorus as P2O5 (15.2%)	0027	11.80	0.0500				50		041.20	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0029	11.87	0.0600				50		041.60	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0086	11.88	0.3994				50		041.10	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0472	12.01	0.0400				50		041.60	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0105	12.30	0.0700				50		041.10	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0513	12.30	0.0800				50		041.11	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0105	12.33	0.1000				50		041.60	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0043	12.35	0.0100				50		041.60	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0037	12.38	0.0890				50		041.60	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0055	12.39	0.1200				50		041.10	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0220	12.40	0.0900				50		041.11	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0055	12.40	0.0700				50		041.60	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0040	12.40	0.0000				50		041.10	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0538	12.40	0.0400				50		041.99	9

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 (15.2%)	0493	12.45	0.1000				50		041.11	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0136	12.49	0.0300				50		041.60	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0535	12.50	0.0000				50		041.60	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0522	12.51	0.0900				50		041.11	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0531	12.51	0.0200				50		041.99	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0535	12.55	0.1000				50		041.21	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0535	12.55	0.1000				50		041.99	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0540	12.55	0.1000				50		041.99	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0034	12.57	0.3440				50		041.60	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0539	12.59	0.0200				50		041.99	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0018	12.60	0.0000				50		041.40	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0072	12.68	0.0320				50		041.60	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0532	12.72	0.0800				50		041.99	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0117	12.84	0.1700				50		041.11	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0230	13.25	0.1000				50		041.60	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0073	13.64	0.6700				50		041.60	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0137	14.60	0.0700				50		041.50	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0533	14.60	0.0800				50		041.99	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0070	14.69	0.3400				50		041.50	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0131	14.82	0.1700				50		041.40	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0072	14.88	0.0800				50		041.51	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0043	14.98	0.0400				50		041.50	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0040	15.00	0.0000				50		041.51	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0360	15.05	0.3200				50		041.51	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0354	15.09	0.0240				50		041.60	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0325	15.10	0.4000				50		041.50	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0231	15.14	0.0700				50		041.21	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0368	15.15	0.1100				50		041.50	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0377	15.19	0.2300				50		041.51	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0233	15.19	0.2800				50		041.50	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0007	15.25	0.3000				50		041.50	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0117	15.28	0.2300				50		041.51	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0025	15.32	0.0300				50		041.51	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0291	15.40	0.0300				50		041.50	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0106	15.42	0.4300				50		041.21	9
041	Direct Available Phosphorus as P2O5 (15.2%)	0522	15.54	0.2600				50		041.21	9
048	Water Soluble Phosphorus as P2O5 (%)	0535	12.55	0.1000				2		048.20	0
048	Water Soluble Phosphorus as P2O5 (%)	0309	14.22	0.0300				2		048.20	0
050	Soluble Potassium as K2O (15%)	0472	13.34*	0.1300	17.49	0.8170	0.1894	87	-5.09	050.31	0
050	Soluble Potassium as K2O (15%)	0534	14.90*	0.0000	17.49	0.8170	0.1894	87	-3.17	050.30	0
050	Soluble Potassium as K2O (15%)	0537	14.95*	0.3000	17.49	0.8170	0.1894	87	-3.11	050.99	0
050	Soluble Potassium as K2O (15%)	0518	15.08*	0.0000	17.49	0.8170	0.1894	87	-2.95	050.99	0
050	Soluble Potassium as K2O (15%)	0532	15.11*	0.0600	17.49	0.8170	0.1894	87	-2.91	050.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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050	Soluble Potassium as K2O (15%)	0230	15.35*	0.1000	17.49	0.8170	0.1894	87	-2.62	050.50	0
050	Soluble Potassium as K2O (15%)	0531	15.56*	0.0200	17.49	0.8170	0.1894	87	-2.36	050.99	0
050	Soluble Potassium as K2O (15%)	0309	15.58*	0.1000	17.49	0.8170	0.1894	87	-2.34	050.30	0
050	Soluble Potassium as K2O (15%)	0526	15.59*	0.1800	17.49	0.8170	0.1894	87	-2.33	050.99	0
050	Soluble Potassium as K2O (15%)	0501	15.88*	0.0200	17.49	0.8170	0.1894	87	-1.97	050.99	0
050	Soluble Potassium as K2O (15%)	0114	16.12*	0.1000	17.49	0.8170	0.1894	87	-1.68	050.00	0
050	Soluble Potassium as K2O (15%)	0513	16.15*	0.0500	17.49	0.8170	0.1894	87	-1.65	050.62	0
050	Soluble Potassium as K2O (15%)	0521	16.23*	0.0000	17.49	0.8170	0.1894	87	-1.54	050.99	0
050	Soluble Potassium as K2O (15%)	0543	16.34*	0.0260	17.49	0.8170	0.1894	87	-1.41	050.52	0
050	Soluble Potassium as K2O (15%)	0541	16.46*	0.5500	17.49	0.8170	0.1894	87	-1.27	050.99	0
050	Soluble Potassium as K2O (15%)	0042	16.46*	0.7200	17.49	0.8170	0.1894	87	-1.26	050.99	0
050	Soluble Potassium as K2O (15%)	0486	16.56	0.3500	17.49	0.8170	0.1894	87	-1.14	050.52	0
050	Soluble Potassium as K2O (15%)	0476	16.58	0.1650	17.49	0.8170	0.1894	87	-1.11	050.99	0
050	Soluble Potassium as K2O (15%)	0500	16.60	0.0000	17.49	0.8170	0.1894	87	-1.09	050.99	0
050	Soluble Potassium as K2O (15%)	0354	16.71	0.1130	17.49	0.8170	0.1894	87	-0.95	050.52	0
050	Soluble Potassium as K2O (15%)	0483	16.87	0.7300	17.49	0.8170	0.1894	87	-0.77	050.51	0
050	Soluble Potassium as K2O (15%)	0041	17.14	0.0300	17.49	0.8170	0.1894	87	-0.44	050.60	0
050	Soluble Potassium as K2O (15%)	0185	17.17	0.1400	17.49	0.8170	0.1894	87	-0.39	050.32	0
050	Soluble Potassium as K2O (15%)	0034	17.30	0.2820	17.49	0.8170	0.1894	87	-0.24	050.62	0
050	Soluble Potassium as K2O (15%)	0233	17.33	0.3700	17.49	0.8170	0.1894	87	-0.20	050.52	0
050	Soluble Potassium as K2O (15%)	0043	17.34	0.1300	17.49	0.8170	0.1894	87	-0.19	050.51	0
050	Soluble Potassium as K2O (15%)	0220	17.37	0.1000	17.49	0.8170	0.1894	87	-0.15	050.00	0
050	Soluble Potassium as K2O (15%)	0106	17.40	0.0900	17.49	0.8170	0.1894	87	-0.12	050.50	0
050	Soluble Potassium as K2O (15%)	0072	17.41	0.0110	17.49	0.8170	0.1894	87	-0.09	050.00	0
050	Soluble Potassium as K2O (15%)	0029	17.47	0.0400	17.49	0.8170	0.1894	87	-0.02	050.62	0
050	Soluble Potassium as K2O (15%)	0389	17.48	0.0500	17.49	0.8170	0.1894	87	-0.02	050.99	0
050	Soluble Potassium as K2O (15%)	0292	17.52	0.0200	17.49	0.8170	0.1894	87	0.04	050.50	0
050	Soluble Potassium as K2O (15%)	0356	17.54	0.4500	17.49	0.8170	0.1894	87	0.05	050.30	0
050	Soluble Potassium as K2O (15%)	0040	17.55	0.3000	17.49	0.8170	0.1894	87	0.07	050.30	0
050	Soluble Potassium as K2O (15%)	0423	17.56	0.9020	17.49	0.8170	0.1894	87	0.08	050.52	0
050	Soluble Potassium as K2O (15%)	0377	17.56	0.1600	17.49	0.8170	0.1894	87	0.09	050.52	0
050	Soluble Potassium as K2O (15%)	0070	17.60	0.4000	17.49	0.8170	0.1894	87	0.13	050.51	0
050	Soluble Potassium as K2O (15%)	0493	17.60	0.1000	17.49	0.8170	0.1894	87	0.13	050.99	0
050	Soluble Potassium as K2O (15%)	0416	17.61	0.0100	17.49	0.8170	0.1894	87	0.14	050.00	0
050	Soluble Potassium as K2O (15%)	0073	17.61	0.1600	17.49	0.8170	0.1894	87	0.15	050.30	0
050	Soluble Potassium as K2O (15%)	0231	17.64	0.0600	17.49	0.8170	0.1894	87	0.18	050.00	0
050	Soluble Potassium as K2O (15%)	0433	17.66	0.0700	17.49	0.8170	0.1894	87	0.20	050.99	0
050	Soluble Potassium as K2O (15%)	0105	17.67	0.0900	17.49	0.8170	0.1894	87	0.21	050.60	0
050	Soluble Potassium as K2O (15%)	0025	17.70	0.1500	17.49	0.8170	0.1894	87	0.25	050.52	0
050	Soluble Potassium as K2O (15%)	0137	17.70	0.0400	17.49	0.8170	0.1894	87	0.26	050.52	0
050	Soluble Potassium as K2O (15%)	0538	17.70	0.0800	17.49	0.8170	0.1894	87	0.26	050.99	0
050	Soluble Potassium as K2O (15%)	0498	17.70	0.2000	17.49	0.8170	0.1894	87	0.26	050.99	0
050	Soluble Potassium as K2O (15%)	0136	17.72	0.0500	17.49	0.8170	0.1894	87	0.27	050.30	0

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050	Soluble Potassium as K2O (15%)	0360	17.73	0.2300	17.49	0.8170	0.1894	87	0.29	050.52	0
050	Soluble Potassium as K2O (15%)	0043	17.73	0.0900	17.49	0.8170	0.1894	87	0.29	050.99	0
050	Soluble Potassium as K2O (15%)	0523	17.75	0.3000	17.49	0.8170	0.1894	87	0.32	050.99	0
050	Soluble Potassium as K2O (15%)	0535	17.75	0.1000	17.49	0.8170	0.1894	87	0.32	050.99	0
050	Soluble Potassium as K2O (15%)	0037	17.75	0.0460	17.49	0.8170	0.1894	87	0.32	050.62	0
050	Soluble Potassium as K2O (15%)	0117	17.76	0.4000	17.49	0.8170	0.1894	87	0.33	050.52	0
050	Soluble Potassium as K2O (15%)	0169	17.76	0.0400	17.49	0.8170	0.1894	87	0.33	050.60	0
050	Soluble Potassium as K2O (15%)	0105	17.76	0.1600	17.49	0.8170	0.1894	87	0.33	050.62	0
050	Soluble Potassium as K2O (15%)	0096	17.78	0.5900	17.49	0.8170	0.1894	87	0.35	050.99	0
050	Soluble Potassium as K2O (15%)	0307	17.80	0.3200	17.49	0.8170	0.1894	87	0.38	050.99	0
050	Soluble Potassium as K2O (15%)	0371	17.80	0.6000	17.49	0.8170	0.1894	87	0.38	050.99	0
050	Soluble Potassium as K2O (15%)	0234	17.81	0.0200	17.49	0.8170	0.1894	87	0.39	050.99	0
050	Soluble Potassium as K2O (15%)	0535	17.85	0.1000	17.49	0.8170	0.1894	87	0.44	050.61	0
050	Soluble Potassium as K2O (15%)	0055	17.88	0.0600	17.49	0.8170	0.1894	87	0.48	050.50	0
050	Soluble Potassium as K2O (15%)	0368	17.89	0.0043	17.49	0.8170	0.1894	87	0.48	050.99	0
050	Soluble Potassium as K2O (15%)	0540	17.90	0.2000	17.49	0.8170	0.1894	87	0.50	050.99	0
050	Soluble Potassium as K2O (15%)	0527	17.91	0.0700	17.49	0.8170	0.1894	87	0.51	050.99	0
050	Soluble Potassium as K2O (15%)	0049	17.95	0.2700	17.49	0.8170	0.1894	87	0.56	050.00	0
050	Soluble Potassium as K2O (15%)	0494	17.95	0.4700	17.49	0.8170	0.1894	87	0.56	050.00	0
050	Soluble Potassium as K2O (15%)	0157	17.95	0.1000	17.49	0.8170	0.1894	87	0.56	050.50	0
050	Soluble Potassium as K2O (15%)	0007	17.95	0.5000	17.49	0.8170	0.1894	87	0.56	050.51	0
050	Soluble Potassium as K2O (15%)	0539	17.95	0.1000	17.49	0.8170	0.1894	87	0.56	050.99	0
050	Soluble Potassium as K2O (15%)	0451	17.98	0.1500	17.49	0.8170	0.1894	87	0.59	050.99	0
050	Soluble Potassium as K2O (15%)	0325	18.00	0.2000	17.49	0.8170	0.1894	87	0.62	050.99	0
050	Soluble Potassium as K2O (15%)	0291	18.01	0.0100	17.49	0.8170	0.1894	87	0.63	050.51	0
050	Soluble Potassium as K2O (15%)	0035	18.03	0.1800	17.49	0.8170	0.1894	87	0.66	050.61	0
050	Soluble Potassium as K2O (15%)	0452	18.08	0.0500	17.49	0.8170	0.1894	87	0.72	050.50	0
050	Soluble Potassium as K2O (15%)	0522	18.09	0.2100	17.49	0.8170	0.1894	87	0.73	050.00	0
050	Soluble Potassium as K2O (15%)	0072	18.19	0.0600	17.49	0.8170	0.1894	87	0.86	050.52	0
050	Soluble Potassium as K2O (15%)	0536	18.30	0.5300	17.49	0.8170	0.1894	87	0.98	050.99	0
050	Soluble Potassium as K2O (15%)	0090	18.35	0.0200	17.49	0.8170	0.1894	87	1.05	050.00	0
050	Soluble Potassium as K2O (15%)	0027	18.48	0.0100	17.49	0.8170	0.1894	87	1.21	050.99	0
050	Soluble Potassium as K2O (15%)	0018	18.55	0.1000	17.49	0.8170	0.1894	87	1.30	050.62	0
050	Soluble Potassium as K2O (15%)	0055	18.74	0.1900	17.49	0.8170	0.1894	87	1.52	050.00	0
050	Soluble Potassium as K2O (15%)	0300	18.80	0.0200	17.49	0.8170	0.1894	87	1.60	050.99	0
050	Soluble Potassium as K2O (15%)	0157	18.85	0.3000	17.49	0.8170	0.1894	87	1.66	050.30	0
050	Soluble Potassium as K2O (15%)	0324	19.30	0.8000	17.49	0.8170	0.1894	87	2.21	050.50	0
050	Soluble Potassium as K2O (15%)	0524	19.79	0.4098	17.49	0.8170	0.1894	87	2.81	050.99	0
050	Soluble Potassium as K2O (15%)	0428	25.36	0.2707	17.49	0.8170	0.1894	87	9.63	050.30	0
050	Soluble Potassium as K2O (15%)	0533	15.05*	1.190	17.49	0.8170	0.1894	87	-2.99	050.99	1
050	Soluble Potassium as K2O (15%)	0482	17.60	1.200	17.49	0.8170	0.1894	87	0.13	050.99	1
050	Soluble Potassium as K2O (15%)	0530	37.05	0.5000	17.49	0.8170	0.1894	87	23.94	050.99	2
101	Acid Soluble Calcium (%)	0105	0.0015	0.0000	0.0087	0.0123	0.0015	4	-0.59	101.00	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
101	Acid Soluble Calcium (%)	0105	0.0019	0.0010	0.0087	0.0123	0.0015	4	-0.56	101.03	0
101	Acid Soluble Calcium (%)	0389	0.0045	0.0010	0.0087	0.0123	0.0015	4	-0.34	101.99	0
101	Acid Soluble Calcium (%)	0354	0.0270	0.0040	0.0087	0.0123	0.0015	4	1.49	101.30	0
121	Acid Soluble Magnesium (%)	0105	0.0005	0.0001	0.0011	0.0008	0.0002	8	-0.74	121.00	0
121	Acid Soluble Magnesium (%)	0524	0.0005	0.0000	0.0011	0.0008	0.0002	8	-0.68	121.99	0
121	Acid Soluble Magnesium (%)	0521	0.0007	0.0000	0.0011	0.0008	0.0002	8	-0.44	121.32	0
121	Acid Soluble Magnesium (%)	0389	0.0008	0.0002	0.0011	0.0008	0.0002	8	-0.32	121.99	0
121	Acid Soluble Magnesium (%)	0105	0.0009	0.0009	0.0011	0.0008	0.0002	8	-0.26	121.03	0
121	Acid Soluble Magnesium (%)	0527	0.0010	0.0000	0.0011	0.0008	0.0002	8	-0.07	121.33	0
121	Acid Soluble Magnesium (%)	0530	0.0020	0.0000	0.0011	0.0008	0.0002	8	1.14	121.00	0
121	Acid Soluble Magnesium (%)	0354	0.0110	0.0000	0.0011	0.0008	0.0002	8	12.05	121.30	0
121	Acid Soluble Magnesium (%)	0309	0.0850	0.0100	0.0011	0.0008	0.0002	8	101.79	121.00	1
143	Elemental Sulfur (%)	0389	0.0025	0.0010				1		143.99	0
148	Total Sulfur (%)	0354	0.0285	0.0030				1		148.99	0
149	Sulfur - HNO3 soluble (%)	0521	0.0018	0.0000				2		149.04	0
149	Sulfur - HNO3 soluble (%)	0524	0.0020	0.0000				2		149.04	0
151	Acid Soluble Arsenic (ppm)	0498	2.165	0.0700	2.745	0.4981	0.4225	4	-1.16	151.00	0
151	Acid Soluble Arsenic (ppm)	0220	2.500	0.6000	2.745	0.4981	0.4225	4	-0.49	151.30	0
151	Acid Soluble Arsenic (ppm)	0530	3.100	1.000	2.745	0.4981	0.4225	4	0.71	151.99	0
151	Acid Soluble Arsenic (ppm)	0527	3.216	0.0200	2.745	0.4981	0.4225	4	0.95	151.33	0
165	Acid Soluble Boron (%)	0389	0.0008	0.0002	0.0052	0.0085	0.0016	4	-0.52	165.30	0
165	Acid Soluble Boron (%)	0524	0.0009	0.0000	0.0052	0.0085	0.0016	4	-0.50	165.99	0
165	Acid Soluble Boron (%)	0521	0.0011	0.0000	0.0052	0.0085	0.0016	4	-0.48	165.30	0
165	Acid Soluble Boron (%)	0354	0.0180	0.0060	0.0052	0.0085	0.0016	4	1.50	165.30	0
181	Acid Soluble Cadmium (ppm)	0530	0.0100	0.0000	0.1825	0.2584	0.0024	5	-0.67	181.99	0
181	Acid Soluble Cadmium (ppm)	0524	0.0352	0.0010	0.1825	0.2584	0.0024	5	-0.57	181.30	0
181	Acid Soluble Cadmium (ppm)	0527	0.0425	0.0010	0.1825	0.2584	0.0024	5	-0.54	181.33	0
181	Acid Soluble Cadmium (ppm)	0220	0.2000	0.0000	0.1825	0.2584	0.0024	5	0.07	181.30	0
181	Acid Soluble Cadmium (ppm)	0389	0.6250	0.0100	0.1825	0.2584	0.0024	5	1.71	181.30	0
191	Acid Soluble Chromium (ppm)	0527	0.3945	0.0410	9.361	14.84	0.2353	4	-0.60	191.33	0
191	Acid Soluble Chromium (ppm)	0482	2.200	0.0000	9.361	14.84	0.2353	4	-0.48	191.30	0
191	Acid Soluble Chromium (ppm)	0220	3.300	0.0000	9.361	14.84	0.2353	4	-0.41	191.30	0
191	Acid Soluble Chromium (ppm)	0389	31.55	0.9000	9.361	14.84	0.2353	4	1.50	191.30	0
202	Acid Soluble Cobalt (ppm)	0527	0.0095	0.0010	4.818	9.289	0.4279	4	-0.52	202.33	0
202	Acid Soluble Cobalt (ppm)	0524	0.2120	0.0107	4.818	9.289	0.4279	4	-0.50	202.30	0
202	Acid Soluble Cobalt (ppm)	0220	0.3000	0.2000	4.818	9.289	0.4279	4	-0.49	202.30	0
202	Acid Soluble Cobalt (ppm)	0389	18.75	1.500	4.818	9.289	0.4279	4	1.50	202.30	0
221	Acid Soluble Copper (%)	0389	0.0002	0.0001	0.0012	0.0010	0.0004	3	-1.11	221.99	0
221	Acid Soluble Copper (%)	0354	0.0015	0.0010	0.0012	0.0010	0.0004	3	0.30	221.30	0
221	Acid Soluble Copper (%)	0530	0.0020	0.0000	0.0012	0.0010	0.0004	3	0.82	221.00	0
241	Acid Soluble Iron (0.1%)	0524	0.0003	0.0000	0.0014	0.0010	0.0002	22	-1.11	241.99	0
241	Acid Soluble Iron (0.1%)	0105	0.0004	0.0003	0.0014	0.0010	0.0002	22	-1.06	241.03	0
241	Acid Soluble Iron (0.1%)	0360	0.0006	0.0001	0.0014	0.0010	0.0002	22	-0.86	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 (0.1%)	0521	0.0006	0.0000	0.0014	0.0010	0.0002	22	-0.81	241.32	0
241	Acid Soluble Iron (0.1%)	0389	0.0006	0.0000	0.0014	0.0010	0.0002	22	-0.81	241.99	0
241	Acid Soluble Iron (0.1%)	0105	0.0008	0.0007	0.0014	0.0010	0.0002	22	-0.66	241.00	0
241	Acid Soluble Iron (0.1%)	0368	0.0009	0.0004	0.0014	0.0010	0.0002	22	-0.50	241.99	0
241	Acid Soluble Iron (0.1%)	0535	0.0010	0.0001	0.0014	0.0010	0.0002	22	-0.45	241.00	0
241	Acid Soluble Iron (0.1%)	0486	0.0010	0.0000	0.0014	0.0010	0.0002	22	-0.40	241.33	0
241	Acid Soluble Iron (0.1%)	0324	0.0011	0.0000	0.0014	0.0010	0.0002	22	-0.30	241.30	0
241	Acid Soluble Iron (0.1%)	0541	0.0011	0.0000	0.0014	0.0010	0.0002	22	-0.30	241.30	0
241	Acid Soluble Iron (0.1%)	0055	0.0011	0.0010	0.0014	0.0010	0.0002	22	-0.30	241.33	0
241	Acid Soluble Iron (0.1%)	0531	0.0012	0.0001	0.0014	0.0010	0.0002	22	-0.25	241.00	0
241	Acid Soluble Iron (0.1%)	0042	0.0013	0.0001	0.0014	0.0010	0.0002	22	-0.15	241.99	0
241	Acid Soluble Iron (0.1%)	0157	0.0015	0.0010	0.0014	0.0010	0.0002	22	0.10	241.30	0
241	Acid Soluble Iron (0.1%)	0035	0.0016	0.0004	0.0014	0.0010	0.0002	22	0.20	241.30	0
241	Acid Soluble Iron (0.1%)	0040	0.0020	0.0000	0.0014	0.0010	0.0002	22	0.60	241.00	0
241	Acid Soluble Iron (0.1%)	0476	0.0025	0.0001	0.0014	0.0010	0.0002	22	1.06	241.99	0
241	Acid Soluble Iron (0.1%)	0354	0.0050	0.0000	0.0014	0.0010	0.0002	22	3.63	241.30	0
241	Acid Soluble Iron (0.1%)	0530	0.0100	0.0000	0.0014	0.0010	0.0002	22	8.67	241.00	0
241	Acid Soluble Iron (0.1%)	0234	0.0100	0.0000	0.0014	0.0010	0.0002	22	8.67	241.30	0
241	Acid Soluble Iron (0.1%)	0043	0.0123	0.0003	0.0014	0.0010	0.0002	22	10.94	241.00	0
241	Acid Soluble Iron (0.1%)	0518	0.1300	0.0200	0.0014	0.0010	0.0002	22	129.63	241.20	2
241	Acid Soluble Iron (0.1%)	0114	0.0000	0.0000	0.0014	0.0010	0.0002	22		241.30	4
251	Acid Soluble Lead (ppm)	0527	0.0110	0.0020	1.775	2.712	0.1872	5	-0.65	251.33	0
251	Acid Soluble Lead (ppm)	0524	0.0407	0.0042	1.775	2.712	0.1872	5	-0.64	251.30	0
251	Acid Soluble Lead (ppm)	0220	0.5750	0.0300	1.775	2.712	0.1872	5	-0.44	251.30	0
251	Acid Soluble Lead (ppm)	0389	1.800	0.0000	1.775	2.712	0.1872	5	0.01	251.30	0
251	Acid Soluble Lead (ppm)	0530	6.450	0.9000	1.775	2.712	0.1872	5	1.72	251.99	0
261	Acid Soluble Manganese (%)	0354	0.0000	0.0000				0		261.30	4
281	Acid Soluble Mercury (ppm)	0527	0.0030	0.0040				2		281.30	0
281	Acid Soluble Mercury (ppm)	0530	0.0200	0.0000				2		281.99	0
289	Acid Soluble Molybdenum (ppm)	0524	0.2711	0.0369	1.194	1.543	0.0640	4	-0.60	289.30	0
289	Acid Soluble Molybdenum (ppm)	0527	0.4245	0.0190	1.194	1.543	0.0640	4	-0.50	289.33	0
289	Acid Soluble Molybdenum (ppm)	0521	0.5791	0.0000	1.194	1.543	0.0640	4	-0.40	289.30	0
289	Acid Soluble Molybdenum (ppm)	0389	3.500	0.2000	1.194	1.543	0.0640	4	1.50	289.30	0
291	Acid Soluble Nickel (ppm)	0524	0.2620	0.0425	3.035	5.720	0.1693	5	-0.48	291.30	0
291	Acid Soluble Nickel (ppm)	0527	0.2800	0.0040	3.035	5.720	0.1693	5	-0.48	291.33	0
291	Acid Soluble Nickel (ppm)	0521	0.3319	0.0000	3.035	5.720	0.1693	5	-0.47	291.30	0
291	Acid Soluble Nickel (ppm)	0220	1.050	0.3000	3.035	5.720	0.1693	5	-0.35	291.30	0
291	Acid Soluble Nickel (ppm)	0389	13.25	0.5000	3.035	5.720	0.1693	5	1.79	291.30	0
301	Acid Soluble Selenium (ppm)	0527	0.0425	0.0130				1		301.33	0
311	Sodium (%)	0527	0.0800	0.0000	0.1039	0.0442	0.0100	5	-0.54	311.33	0
311	Sodium (%)	0482	0.0800	0.0000	0.1039	0.0442	0.0100	5	-0.54	311.99	0
311	Sodium (%)	0423	0.0855	0.0010	0.1039	0.0442	0.0100	5	-0.42	311.33	0
311	Sodium (%)	0521	0.0915	0.0000	0.1039	0.0442	0.0100	5	-0.28	311.32	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
311	Sodium (%)	0354	0.1825	0.0490	0.1039	0.0442	0.0100	5	1.78	311.99	0
321	Acid Soluble Zinc (0.1%)	0535	0.0003	0.0001	0.0010	0.0009	0.0002	23	-0.86	321.00	0
321	Acid Soluble Zinc (0.1%)	0105	0.0003	0.0003	0.0010	0.0009	0.0002	23	-0.86	321.03	0
321	Acid Soluble Zinc (0.1%)	0055	0.0003	0.0001	0.0010	0.0009	0.0002	23	-0.86	321.33	0
321	Acid Soluble Zinc (0.1%)	0524	0.0003	0.0001	0.0010	0.0009	0.0002	23	-0.86	321.99	0
321	Acid Soluble Zinc (0.1%)	0389	0.0003	0.0000	0.0010	0.0009	0.0002	23	-0.80	321.99	0
321	Acid Soluble Zinc (0.1%)	0360	0.0004	0.0002	0.0010	0.0009	0.0002	23	-0.68	321.30	0
321	Acid Soluble Zinc (0.1%)	0105	0.0004	0.0000	0.0010	0.0009	0.0002	23	-0.68	321.00	0
321	Acid Soluble Zinc (0.1%)	0368	0.0004	0.0000	0.0010	0.0009	0.0002	23	-0.68	321.99	0
321	Acid Soluble Zinc (0.1%)	0476	0.0004	0.0000	0.0010	0.0009	0.0002	23	-0.68	321.99	0
321	Acid Soluble Zinc (0.1%)	0072	0.0006	0.0001	0.0010	0.0009	0.0002	23	-0.51	321.33	0
321	Acid Soluble Zinc (0.1%)	0521	0.0006	0.0000	0.0010	0.0009	0.0002	23	-0.45	321.32	0
321	Acid Soluble Zinc (0.1%)	0531	0.0008	0.0001	0.0010	0.0009	0.0002	23	-0.28	321.00	0
321	Acid Soluble Zinc (0.1%)	0040	0.0009	0.0003	0.0010	0.0009	0.0002	23	-0.17	321.00	0
321	Acid Soluble Zinc (0.1%)	0220	0.0009	0.0003	0.0010	0.0009	0.0002	23	-0.17	321.33	0
321	Acid Soluble Zinc (0.1%)	0540	0.0011	0.0002	0.0010	0.0009	0.0002	23	0.12	321.00	0
321	Acid Soluble Zinc (0.1%)	0324	0.0011	0.0010	0.0010	0.0009	0.0002	23	0.12	321.30	0
321	Acid Soluble Zinc (0.1%)	0042	0.0014	0.0001	0.0010	0.0009	0.0002	23	0.41	321.99	0
321	Acid Soluble Zinc (0.1%)	0035	0.0017	0.0001	0.0010	0.0009	0.0002	23	0.75	321.30	0
321	Acid Soluble Zinc (0.1%)	0354	0.0020	0.0000	0.0010	0.0009	0.0002	23	1.15	321.30	0
321	Acid Soluble Zinc (0.1%)	0533	0.0026	0.0003	0.0010	0.0009	0.0002	23	1.78	321.00	0
321	Acid Soluble Zinc (0.1%)	0541	0.0032	0.0011	0.0010	0.0009	0.0002	23	2.47	321.30	0
321	Acid Soluble Zinc (0.1%)	0043	0.0075	0.0003	0.0010	0.0009	0.0002	23	7.39	321.00	0
321	Acid Soluble Zinc (0.1%)	0530	0.0100	0.0000	0.0010	0.0009	0.0002	23	10.32	321.00	0
321	Acid Soluble Zinc (0.1%)	0428	0.1343	0.0137	0.0010	0.0009	0.0002	23	152.69	321.00	2
321	Acid Soluble Zinc (0.1%)	0114	0.0000	0.0000	0.0010	0.0009	0.0002	23		321.30	4
321	Acid Soluble Zinc (0.1%)	0157	0.0000	0.0000	0.0010	0.0009	0.0002	23		321.30	4
325	Water Soluble Zinc (%)	0535	0.0002	0.0000	0.0004	0.0003	0.0000	3	-0.58	325.00	0
325	Water Soluble Zinc (%)	0539	0.0002	0.0000	0.0004	0.0003	0.0000	3	-0.58	325.00	0
325	Water Soluble Zinc (%)	0540	0.0008	0.0001	0.0004	0.0003	0.0000	3	1.15	325.00	0

Interpreting Z Scores: Red indicates a normally distributed Z value >3 or <-3 (requires action), Orange = Z between 2 and 3 or -2 and -3 (warning) and Green = Z < 2 and >-2 (OK at 95%). Flags indicate data usage: 0 = Used, 1 = rejected for duplicates too far apart, 2 = rejected as extreme outlier and a 4 flag indicates rejected due to 0 value submitted. A 9 flag indicates a data problem - scores not calculated. Robust statistics not used if < 6 labs used in calculations, in this case the Z Scores are included for information only (Grey). An offset lab value with an asterix 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.