

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 201011

Grade 10-0-20

Statistical Summary

Methods: 129

Labs Reporting: 90

Issue Date : 11/30/2020

Method Code	Analyte & Method Sample # 201011	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
001.10	Ammoniacal N, Magnesium Oxide Method (%)	8	8	8.403	1.732	8.403		1.964	0.8679	23.37%		0.2738	2.90%
001.99	Ammoniacal N, Other (%)	29	29	9.965	0.7520	9.976		0.6093	0.1414	6.11%		0.2173	2.83%
002.99	Nitrate N, Other (%)	1		0.0041									
009.10	Ammoniacal Plus Nitrate N, Devarda (%)	1		8.745									
010.11	Total N, Modified Comprehensive (10%)	4	4	10.35	1.267	10.35	0.5852	1.267	0.7919	12.25%	5.04	0.1163	2.81%
010.12	Total N, Salicylic (10%)	4	4	9.786	1.084	9.786	0.5779	1.084	0.6777	11.08%	4.37	0.3725	2.84%
010.60	Total N, Combustion (10%)	48	47	9.529	1.625	9.586	0.5759	1.366	0.2490	14.25%	5.53	0.3330	2.85%
010.99	Total N, Other (10%)	14	13	10.15	0.3375	10.13	0.5819	0.3409	0.1182	3.37%	1.36	0.1165	2.82%
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	1		0.0070									
020.50	Total P2O5, ICP (%)	4	2	0.0774	0.1027	0.0774		0.1027	0.0908	132.65%		0.0004	5.88%
020.99	Total P2O5, Other (%)	1		0.0017									
041.10	Direct Available P2O5, Gravimetric Quinolinium (%)	1		0.1000									
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	2	1	0.0330									
050.00	Soluble K2O, STPB Oxalate (20%)	7	7	25.65	1.978	25.65	1.2594	2.244	1.060	8.75%	4.15	0.2671	2.45%
050.30	Soluble K2O, AA (Oxalate) (20%)	3	3	27.44	2.921	27.44	1.3132	2.921	2.108	10.64%	5.18	0.8653	2.43%
050.31	Soluble K2O, AA (Citrate) (20%)	2	2	23.41	0.6187								
050.50	Soluble K2O, ICP (Oxalate) (20%)	9	9	26.82	2.722	26.82	1.2945	3.087	1.286	11.51%	5.56	1.046	2.44%
050.51	Soluble K2O, ICP (Citrate) (20%)	3	3	24.24	1.593	24.24	1.2171	1.593	1.150	6.57%	3.05	1.547	2.48%
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	9	8	26.25	3.733	26.25	1.2776	4.233	1.871	16.13%	7.72	0.4710	2.45%
050.60	Soluble K2O, Flame Photometric (Oxalate) (20%)	3	3	21.16	1.084	21.16	1.1206	1.084	0.7823	5.12%	2.25	0.0697	2.53%
050.61	Soluble K2O, Flame Photometric (Citrate) (20%)	1		24.29									
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (20%)	4	4	26.88	2.824	26.88	1.2963	2.824	1.765	10.51%	5.08	0.8050	2.44%
050.99	Soluble K2O, Other (20%)	37	35	23.80	3.126	23.53	1.1958	2.954	0.6241	12.55%	5.76	0.3063	2.49%
060.00	Water (Free), Vacuum Oven (%)	2	2	0.2175	0.1450								
060.10	Water (Free), Vacuum Desiccation (%)	1		0.1250									
060.99	Water (Free), Other (%)	1		0.2353									
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	1		0.0125									
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	3	3	0.0345	0.0309	0.0345	0.2017	0.0309	0.0223	89.61%	0.36	0.0003	6.64%
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	4	2	0.0146	0.0030	0.0146	0.2007	0.0030	0.0027	20.62%	0.03	0.0017	7.56%
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	1		0.0195									
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	3	3	0.0218	0.0028	0.0218	0.2011	0.0028	0.0020	12.61%	0.03	0.0037	7.11%
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	2	2	0.0199	0.0009								
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	6	6	0.0241	0.0099	0.0241	0.2012	0.0113	0.0058	46.88%	0.13	0.0072	7.01%

Method Code	Analyte & Method Sample # 201011	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
121.99	Acid Soluble Mg, Other (%)	3	3	0.0347	0.0125	0.0347	0.2017	0.0125	0.0090	36.02%	0.14	0.0095	6.63%
143.99	Elemental S, Other (%)	4	4	20.76	0.8674	20.76		0.8674	0.5421	4.18%		0.5410	2.53%
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	6	6	20.86	0.4861	20.86		0.5512	0.2813	2.64%		0.1450	2.53%
145.99	Sulfate S, HCl soluble, Other (%)	2	2	21.02	0.6788								
148.00	Total S, Combustion (20.5%)	6	6	20.90	1.026	20.90	1.0000	1.164	0.5939	5.57%	2.71	0.3817	2.53%
148.01	Total S, Gravimetric - sulfate and elemental (20.5%)	16	16	21.17	0.6160	21.16	1.0000	0.6840	0.2137	3.23%	1.59	0.2721	2.53%
148.07	Total S, ICP, test portion as in 2017.02 (20.5%)	14	14	21.06	0.8856	21.12	1.0000	0.8502	0.2840	4.03%	1.98	0.6205	2.53%
148.99	Total S, Other (20.5%)	21	21	20.78	0.5307	20.69	1.0000	0.3700	0.1009	1.79%	0.86	0.1827	2.54%
149.04	S - HNO3 soluble, ICP (%)	3	3	20.83	0.1323	20.83		0.1323	0.0955	0.64%		0.3038	2.53%
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	1		0.0800									
151.30	Acid Soluble As, ICP (ppm)	3	2	0.1933	0.0541	0.1933		0.0541	0.0478	27.99%		0.0275	20.49%
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	1		1.000									
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	5	1	2.700		0.1933		0.0541	0.0676	27.99%		1.020	20.49%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	1		0.0000									
151.99	Acid Soluble As, Other (ppm)	2	0	0.5000									
165.00	Acid Soluble B, Spectrophotometric (%)	1		0.0034									
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	2	1	0.0007									
165.99	Acid Soluble B, Other (%)	5	3	0.0026	0.0004	0.0026	0.0034	0.0004	0.0003	13.56%	0.24	0.0002	9.79%
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	1		1.200									
181.30	Acid Soluble Cd, ICP (ppm)	4	3	0.0680	0.0611	0.0680		0.0611	0.0441	89.88%		0.0111	23.98%
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	1		1.000									
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	4	1	4.944		0.0680		0.0611	0.0764	89.88%		1.165	23.98%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	1		3.334									
181.99	Acid Soluble Cd, Other (ppm)	3	2	0.0963	0.0866	0.0963		0.0866	0.0766	90.00%		0.0105	22.75%
190.00	Water Soluble Cl, Titrimetric (%)	1		0.2450									
191.00	Acid Soluble Cr, AA, test portion 2006.03 modified w/dual acid (ppm)	1		0.2500									
191.30	Acid Soluble Cr, ICP (ppm)	3	3	4.110	2.097	4.110		2.097	1.513	51.01%		0.2437	12.93%
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	1		3.950									
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	5	5	6.564	3.298	6.564		3.298	1.844	50.24%		1.160	12.05%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	1		16.98									
191.99	Acid Soluble Cr, Other (ppm)	3	2	3.498	0.7106	3.498		0.7106	0.6281	20.32%		1.035	13.25%
202.30	Acid Soluble Co, ICP (ppm)	3	2	2.690	0.5017	2.690	1.8071	0.5017	0.4435	18.65%	0.65	0.2653	13.78%
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	6	5	2.828	0.9385	2.828	1.8485	0.9385	0.5247	33.18%	1.18	0.2657	13.68%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	1		4.945									
202.99	Acid Soluble Co, Other (ppm)	3	2	2.696	0.9956	2.696	1.8088	0.9956	0.8800	36.93%	1.28	0.2160	13.78%
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	3	2	0.1033	0.1439	0.1033	0.0153	0.1439	0.1272	139.37%	21.88	0.0251	5.63%
221.02	Acid Soluble Cu, AA, 965.09, test portion 2006.03A-C (%)	1		0.0018									
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	4	2	4.151	5.868	4.151	0.4201	5.868	5.187	141.37%	32.55	0.1050	3.23%
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	3	3	0.0017	0.0002	0.0017	0.0052	0.0002	0.0001	10.50%	0.08	0.0002	10.49%
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	6	6	0.0017	0.0008	0.0017	0.0052	0.0009	0.0004	50.80%	0.39	0.0004	10.44%
221.99	Acid Soluble Cu, Other (%)	6	5	0.0019	0.0007	0.0019	0.0052	0.0007	0.0004	37.64%	0.31	0.0003	10.31%
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	14	14	1.031	0.0718	1.031	0.1081	0.0815	0.0272	7.90%	1.76	0.0538	3.98%
241.02	Acid Soluble Fe, AA, 965.09, test portion 2006.03A-C (1%)	1		0.7850									
241.20	Acid Soluble Fe, Colorimetric (1%)	1		0.6150									

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241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	17	17	1.062	0.1739	1.062	0.1112	0.1857	0.0563	17.49%	3.89	0.0582	3.96%
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (1%)	3	3	0.9516	0.0597	0.9516	0.1002	0.0597	0.0431	6.28%	1.39	0.0117	4.03%
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	14	14	1.003	0.1644	0.9980	0.1048	0.1759	0.0588	17.63%	3.91	0.1160	4.00%
241.99	Acid Soluble Fe, Other (1%)	16	15	1.023	0.0962	1.011	0.1061	0.0728	0.0235	7.19%	1.60	0.0248	3.99%
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid (ppm)	1		13.18									
251.30	Acid Soluble Pb, ICP (ppm)	5	5	1.015	0.9602	1.015		0.9602	0.5368	94.62%		0.3310	15.96%
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	4	2	3.257	3.746	3.257		3.746	3.311	115.01%		1.571	13.39%
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	1		1.224									
251.99	Acid Soluble Pb, Other (ppm)	2	1	0.7500									
261.11	Acid Soluble Mn, AA, total Mn (0.2%)	3	3	0.2432	0.0550	0.2432	0.0293	0.0550	0.0397	22.63%	4.37	0.0230	4.95%
261.12	Acid Soluble Mn, AA, inorganic 965.09 (0.2%)	9	9	0.2259	0.0279	0.2266	0.0277	0.0300	0.0125	13.26%	2.53	0.0140	5.00%
261.14	Acid Soluble Mn, AA, 965.09, test portion 2006.03A-C (0.2%)	1		0.2350									
261.30	Acid Soluble Mn, ICP, test portion 972.02a (0.2%)	9	9	0.2571	0.0394	0.2567	0.0307	0.0438	0.0182	17.05%	3.32	0.0215	4.91%
261.31	Acid Soluble Mn, ICP, test portion 972.02b (0.2%)	2	2	0.2888	0.0329								
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (0.2%)	4	4	0.3018	0.0247	0.3018	0.0352	0.0247	0.0155	8.20%	1.64	0.0180	4.79%
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (0.2%)	4	4	0.2540	0.0115	0.2540	0.0304	0.0115	0.0072	4.51%	0.88	0.0113	4.92%
261.35	Acid Soluble Mn, ICP, 2017.02 (0.2%)	12	12	0.2305	0.0749	0.2423	0.0292	0.0504	0.0182	20.80%	4.02	0.0194	4.95%
261.50	Acid Soluble Mn, Spectrometric (0.2%)	2	2	0.2063	0.0011								
261.99	Acid Soluble Mn, Other (0.2%)	12	11	0.2379	0.0392	0.2368	0.0287	0.0378	0.0142	15.97%	3.07	0.0137	4.97%
271.00	Water Soluble Mn, AA (%)	2	2	0.2475	0.0601								
271.99	Water Soluble Mn, Other (%)	3	3	0.2363	0.0513	0.2363		0.0513	0.0370	21.71%		0.0013	4.97%
281.00	Acid Soluble Hg, AA (ppm)	4	2	9.120	12.77	9.120		12.77	11.29	140.02%		4.283	11.47%
281.30	Acid Soluble Hg, ICP (ppm)	5	1	604.7		9.120		12.77	15.96	140.02%		21.62	11.47%
281.99	Acid Soluble Hg, Other (ppm)	1		0.0100									
289.00	Acid Soluble Mo, AA, test portion 2006.03 modified w/dual acid (ppm)	1		1.000									
289.30	Acid Soluble Mo, ICP (ppm)	3	3	3.970	6.090	3.970	2.1910	6.090	4.395	153.41%	6.48	0.2444	13.00%
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	5	2	3.940	2.036	3.940	2.1820	2.036	1.800	51.69%	2.17	3.996	13.01%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	1		0.0000									
289.99	Acid Soluble Mo, Other (ppm)	2	1	0.3850									
291.00	Acid Soluble Ni, AA, test portion 2006.03 modified w/dual acid (ppm)	1		0.6000									
291.30	Acid Soluble Ni, ICP (ppm)	6	6	4.526	0.9114	4.571		0.9280	0.4736	20.30%		0.0734	12.73%
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	6	5	5.830	1.829	5.830		1.829	1.022	31.37%		0.4101	12.27%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	1		3.709									
291.99	Acid Soluble Ni, Other (ppm)	4	3	5.755	1.457	5.755		1.457	1.052	25.32%		0.2970	12.29%
301.00	Acid Soluble Se, AA, test portion 2006.03 modified w/dual acid (ppm)	1		0.0800									
301.30	Acid Soluble Se, ICP (ppm)	1		0.0100									
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	3	0	0.0000		5.755		1.457		25.32%		0.0000	12.29%
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	1		0.0000									
301.99	Acid Soluble Se, Other (ppm)	4	2	107.8	150.2	107.8		150.2	132.7	139.27%		5.433	7.91%
311.00	Sodium, AA (%)	1		0.1615									
311.32	Sodium, ICP, 2006.03 test portion (%)	1		0.1974									
311.33	Sodium, ICP, test portion as in 2017.02 (%)	4	4	0.1890	0.0146	0.1890	0.0239	0.0146	0.0091	7.73%	1.42	0.0091	5.14%
311.99	Sodium, Other (%)	2	2	0.1850	0.0071								
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.2%)	12	11	0.2027	0.0200	0.2049	0.0255	0.0169	0.0064	8.24%	1.54	0.0111	5.08%

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321.02	Acid Soluble Zn, AA, 965.09, test portion 2006.03A-C (0.2%)	1		0.2100									
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	17	17	0.2141	0.0198	0.2138	0.0264	0.0219	0.0066	10.25%	1.94	0.0171	5.04%
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (0.2%)	4	4	0.2303	0.0315	0.2303	0.0280	0.0315	0.0197	13.68%	2.62	0.0070	4.99%
321.33	Acid Soluble Zn, ICP, 2017.02 (0.2%)	13	13	0.1892	0.0567	0.2000	0.0250	0.0317	0.0110	15.84%	2.95	0.0160	5.10%
321.99	Acid Soluble Zn, Other (0.2%)	14	14	0.2144	0.0243	0.2136	0.0264	0.0245	0.0082	11.47%	2.17	0.0106	5.05%
325.00	Water Soluble Zn, AA (%)	6	6	0.2430	0.0775	0.2245		0.0405	0.0206	18.02%		0.0147	5.01%
325.30	Water Soluble Zn, ICP (%)	1		0.2243									
325.99	Water Soluble Zn, Other (%)	5	5	0.2050	0.0242	0.2050		0.0242	0.0135	11.79%		0.0144	5.08%

The Method IA Ratio = 2.33 * Robust SD / IA at the Method Assigned Value. IA ratios of 1 and less indicate participant data dispersion is as good or less than the IA. Red indicates the IA ratio is significantly greater than 1, Orange indicates marginally greater than 1, Green indicates IA ratio is not significantly greater than 1 and Grey indicates < 6 labs reporting.

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 201011

Method Precision Report

Grade 10-0-20

Issue Date : 11/30/2020

Method Code	Analyte & Method	# Tests Submitted	# Tests Used in Precision Calcs	Mean	SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
001.10	Ammoniacal N, Magnesium Oxide Method (%)	8	8	8.403	1.732	1.721	0.2671	1.742	20.49%	3.18%	20.73%	6.522
001.99	Ammoniacal N, Other (%)	29	27	9.879	0.6570	0.6418	0.1988	0.6719	6.50%	2.01%	6.80%	3.380
010.60	Total N, Combustion (10%)	48	44	9.471	1.339	1.325	0.2734	1.353	13.99%	2.89%	14.28%	4.947
010.99	Total N, Other (10%)	14	13	10.15	0.3375	0.3283	0.1104	0.3464	3.24%	1.09%	3.41%	3.136
050.50	Soluble K2O, ICP (Oxalate) (20%)	9	8	26.58	2.805	2.771	0.6181	2.839	10.43%	2.33%	10.68%	4.593
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	9	8	26.25	3.733	3.724	0.3723	3.742	14.19%	1.42%	14.26%	10.05
050.99	Soluble K2O, Other (20%)	37	34	23.75	3.161	3.155	0.2859	3.168	13.28%	1.20%	13.34%	11.08
148.01	Total S, Gravimetric - sulfate and elemental (20.5%)	16	15	21.14	0.6192	0.6030	0.1993	0.6351	2.85%	0.94%	3.00%	3.187
148.07	Total S, ICP, test portion as in 2017.02 (20.5%)	14	12	21.27	0.6865	0.5945	0.4856	0.7676	2.80%	2.28%	3.61%	1.581
148.99	Total S, Other (20.5%)	21	20	20.70	0.3996	0.3832	0.1605	0.4154	1.85%	0.78%	2.01%	2.589
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	14	14	1.031	0.0718	0.0625	0.0501	0.0801	6.06%	4.86%	7.77%	1.600
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	17	17	1.062	0.1739	0.1689	0.0589	0.1788	15.90%	5.54%	16.84%	3.038
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	14	14	1.003	0.1644	0.1467	0.1051	0.1804	14.62%	10.48%	17.99%	1.717
241.99	Acid Soluble Fe, Other (1%)	16	14	1.003	0.0587	0.0568	0.0210	0.0606	5.66%	2.09%	6.04%	2.883
261.12	Acid Soluble Mn, AA, inorganic 965.09 (0.2%)	9	9	0.2259	0.0279	0.0266	0.0123	0.0293	11.75%	5.46%	12.96%	2.375
261.30	Acid Soluble Mn, ICP, test portion 972.02a (0.2%)	9	9	0.2571	0.0394	0.0364	0.0211	0.0421	14.17%	8.20%	16.37%	1.997
261.35	Acid Soluble Mn, ICP, 2017.02 (0.2%)	12	11	0.2492	0.0394	0.0364	0.0211	0.0421	14.61%	8.48%	16.90%	1.992
261.99	Acid Soluble Mn, Other (0.2%)	12	10	0.2352	0.0402	0.0398	0.0080	0.0406	16.92%	3.39%	17.26%	5.094
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.2%)	12	10	0.2075	0.0130	0.0113	0.0090	0.0144	5.44%	4.33%	6.96%	1.607
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	17	17	0.2141	0.0198	0.0161	0.0163	0.0229	7.53%	7.61%	10.70%	1.407
321.33	Acid Soluble Zn, ICP, 2017.02 (0.2%)	13	12	0.2033	0.0265	0.0245	0.0145	0.0284	12.03%	7.12%	13.98%	1.964
321.99	Acid Soluble Zn, Other (0.2%)	14	14	0.2144	0.0243	0.0233	0.0096	0.0252	10.87%	4.46%	11.75%	2.632

Notes: Precision data calculated when 8 or more Tests included.

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 201011

Grade 10-0-20

Lab Values

Methods: 129

Labs Reporting: 90

Issue Date : 11/30/2020

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0117	5.850	0.5000	8.403	1.964	0.2738	8	-1.19	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0230	5.930	0.0200	8.403	1.964	0.2738	8	-1.15	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0231	8.105	0.6900	8.403	1.964	0.2738	8	-0.14	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0498	8.500	0.2000	8.403	1.964	0.2738	8	0.05	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0456	8.710	0.0200	8.403	1.964	0.2738	8	0.14	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0136	9.800	0.6000	8.403	1.964	0.2738	8	0.65	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0546	10.11	0.1100	8.403	1.964	0.2738	8	0.79	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0481	10.23	0.0500	8.403	1.964	0.2738	8	0.85	NA	0
001.99	Ammoniacal N, Other (%)	0567	8.450	0.1000	9.976	0.6093	0.2173	29	-2.50	NA	0
001.99	Ammoniacal N, Other (%)	0027	8.494	0.4020	9.976	0.6093	0.2173	29	-2.43	NA	0
001.99	Ammoniacal N, Other (%)	0562	8.675	0.1500	9.976	0.6093	0.2173	29	-2.14	NA	0
001.99	Ammoniacal N, Other (%)	0524	8.963	0.0380	9.976	0.6093	0.2173	29	-1.66	NA	0
001.99	Ammoniacal N, Other (%)	0537	9.500	0.4000	9.976	0.6093	0.2173	29	-0.78	NA	0
001.99	Ammoniacal N, Other (%)	0371	9.595	0.0300	9.976	0.6093	0.2173	29	-0.63	NA	0
001.99	Ammoniacal N, Other (%)	0394	9.634	0.3340	9.976	0.6093	0.2173	29	-0.56	NA	0
001.99	Ammoniacal N, Other (%)	0558	9.715	0.0300	9.976	0.6093	0.2173	29	-0.43	NA	0
001.99	Ammoniacal N, Other (%)	0550	9.760	0.0400	9.976	0.6093	0.2173	29	-0.35	NA	0
001.99	Ammoniacal N, Other (%)	0564	9.790	0.0800	9.976	0.6093	0.2173	29	-0.31	NA	0
001.99	Ammoniacal N, Other (%)	0539	9.800	0.2000	9.976	0.6093	0.2173	29	-0.29	NA	0
001.99	Ammoniacal N, Other (%)	0565	9.815	0.0700	9.976	0.6093	0.2173	29	-0.26	NA	0
001.99	Ammoniacal N, Other (%)	0549	9.875	0.0500	9.976	0.6093	0.2173	29	-0.17	NA	0
001.99	Ammoniacal N, Other (%)	0493	9.950	0.1000	9.976	0.6093	0.2173	29	-0.04	NA	0
001.99	Ammoniacal N, Other (%)	0513	9.950	0.0800	9.976	0.6093	0.2173	29	-0.04	NA	0
001.99	Ammoniacal N, Other (%)	0540	9.980	0.0200	9.976	0.6093	0.2173	29	0.01	NA	0
001.99	Ammoniacal N, Other (%)	0423	10.02	0.3800	9.976	0.6093	0.2173	29	0.07	NA	0
001.99	Ammoniacal N, Other (%)	0510	10.10	0.1686	9.976	0.6093	0.2173	29	0.20	NA	0
001.99	Ammoniacal N, Other (%)	0532	10.15	0.7000	9.976	0.6093	0.2173	29	0.29	NA	0
001.99	Ammoniacal N, Other (%)	0560	10.19	0.0900	9.976	0.6093	0.2173	29	0.34	NA	0
001.99	Ammoniacal N, Other (%)	0255	10.21	0.9400	9.976	0.6093	0.2173	29	0.38	NA	0
001.99	Ammoniacal N, Other (%)	0096	10.23	0.8000	9.976	0.6093	0.2173	29	0.42	NA	0
001.99	Ammoniacal N, Other (%)	0506	10.25	0.3000	9.976	0.6093	0.2173	29	0.45	NA	0
001.99	Ammoniacal N, Other (%)	0553	10.60	0.4000	9.976	0.6093	0.2173	29	1.02	NA	0
001.99	Ammoniacal N, Other (%)	0536	10.63	0.0500	9.976	0.6093	0.2173	29	1.07	NA	0
001.99	Ammoniacal N, Other (%)	0405	10.75	0.1400	9.976	0.6093	0.2173	29	1.27	NA	0
001.99	Ammoniacal N, Other (%)	0559	10.80	0.0100	9.976	0.6093	0.2173	29	1.34	NA	0
001.99	Ammoniacal N, Other (%)	0200	11.08	0.1000	9.976	0.6093	0.2173	29	1.81	NA	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
001.99	Ammoniacal N, Other (%)	0535	12.05	0.1000	9.976	0.6093	0.2173	29	3.40	NA	0
002.99	Nitrate N, Other (%)	0553	0.0041	0.0001				1			0
009.10	Ammoniacal Plus Nitrate N, Devarda (%)	0444	8.745	0.5100				1			0
010.11	Total N, Modified Comprehensive (10%)	0456	9.080	0.0600	10.35	1.267	0.1163	4	-1.00		0
010.11	Total N, Modified Comprehensive (10%)	0539	9.800	0.2000	10.35	1.267	0.1163	4	-0.43		0
010.11	Total N, Modified Comprehensive (10%)	0510	10.45	0.1050	10.35	1.267	0.1163	4	0.09		0
010.11	Total N, Modified Comprehensive (10%)	0535	12.05	0.1000	10.35	1.267	0.1163	4	1.34		0
010.12	Total N, Salicylic (10%)	0498	8.500	0.2000	9.786	1.084	0.3725	4	-1.19		0
010.12	Total N, Salicylic (10%)	0481	9.675	0.2700	9.786	1.084	0.3725	4	-0.10		0
010.12	Total N, Salicylic (10%)	0117	9.820	0.1200	9.786	1.084	0.3725	4	0.03		0
010.12	Total N, Salicylic (10%)	0568	11.15	0.9000	9.786	1.084	0.3725	4	1.26		0
010.60	Total N, Combustion (10%)	0034	5.105	0.2900	9.586	1.366	0.3330	47	-3.28	Low	0
010.60	Total N, Combustion (10%)	0023	6.000	0.0000	9.586	1.366	0.3330	47	-2.63	Low	0
010.60	Total N, Combustion (10%)	0486	6.395	0.4100	9.586	1.366	0.3330	47	-2.34	Low	0
010.60	Total N, Combustion (10%)	0114	6.940	0.9400	9.586	1.366	0.3330	47	-1.94	Low	0
010.60	Total N, Combustion (10%)	0230	7.005	0.0900	9.586	1.366	0.3330	47	-1.89	Low	0
010.60	Total N, Combustion (10%)	0472	7.610	0.0800	9.586	1.366	0.3330	47	-1.45	Low	0
010.60	Total N, Combustion (10%)	0390	8.140	0.2600	9.586	1.366	0.3330	47	-1.06	Low	0
010.60	Total N, Combustion (10%)	0043	8.290	0.2000	9.586	1.366	0.3330	47	-0.95	Low	0
010.60	Total N, Combustion (10%)	0086	8.378	0.1921	9.586	1.366	0.3330	47	-0.88	Low	0
010.60	Total N, Combustion (10%)	0095	8.495	0.2300	9.586	1.366	0.3330	47	-0.80	Low	0
010.60	Total N, Combustion (10%)	0234	8.525	0.0100	9.586	1.366	0.3330	47	-0.78	Low	0
010.60	Total N, Combustion (10%)	0041	8.696	0.6840	9.586	1.366	0.3330	47	-0.65	Low	0
010.60	Total N, Combustion (10%)	0040	8.700	0.6000	9.586	1.366	0.3330	47	-0.65	Low	0
010.60	Total N, Combustion (10%)	0527	8.835	0.1090	9.586	1.366	0.3330	47	-0.55	Low	0
010.60	Total N, Combustion (10%)	0106	8.850	0.4800	9.586	1.366	0.3330	47	-0.54	Low	0
010.60	Total N, Combustion (10%)	0037	8.960	0.1390	9.586	1.366	0.3330	47	-0.46	Low	0
010.60	Total N, Combustion (10%)	0422	9.020	0.2000	9.586	1.366	0.3330	47	-0.41	OK	0
010.60	Total N, Combustion (10%)	0561	9.265	0.4900	9.586	1.366	0.3330	47	-0.23	OK	0
010.60	Total N, Combustion (10%)	0169	9.320	0.0200	9.586	1.366	0.3330	47	-0.19	OK	0
010.60	Total N, Combustion (10%)	0029	9.467	0.7220	9.586	1.366	0.3330	47	-0.09	OK	0
010.60	Total N, Combustion (10%)	0444	9.490	0.2000	9.586	1.366	0.3330	47	-0.07	OK	0
010.60	Total N, Combustion (10%)	0377	9.645	0.3700	9.586	1.366	0.3330	47	0.04	OK	0
010.60	Total N, Combustion (10%)	0547	9.680	0.1400	9.586	1.366	0.3330	47	0.07	OK	0
010.60	Total N, Combustion (10%)	0073	9.870	0.3400	9.586	1.366	0.3330	47	0.21	OK	0
010.60	Total N, Combustion (10%)	0360	9.885	0.4700	9.586	1.366	0.3330	47	0.22	OK	0
010.60	Total N, Combustion (10%)	0049	9.925	0.1300	9.586	1.366	0.3330	47	0.25	OK	0
010.60	Total N, Combustion (10%)	0550	9.985	0.0300	9.586	1.366	0.3330	47	0.29	OK	0
010.60	Total N, Combustion (10%)	0177	9.994	0.0920	9.586	1.366	0.3330	47	0.30	OK	0
010.60	Total N, Combustion (10%)	0231	10.05	0.2000	9.586	1.366	0.3330	47	0.34	OK	0
010.60	Total N, Combustion (10%)	0421	10.17	0.0480	9.586	1.366	0.3330	47	0.43	High	0
010.60	Total N, Combustion (10%)	0521	10.24	0.0000	9.586	1.366	0.3330	47	0.48	High	0
010.60	Total N, Combustion (10%)	0255	10.25	0.6420	9.586	1.366	0.3330	47	0.48	High	0
010.60	Total N, Combustion (10%)	0481	10.26	0.5600	9.586	1.366	0.3330	47	0.49	High	0
010.60	Total N, Combustion (10%)	0485	10.36	0.1170	9.586	1.366	0.3330	47	0.57	High	0
010.60	Total N, Combustion (10%)	0534	10.40	0.2000	9.586	1.366	0.3330	47	0.60	High	0
010.60	Total N, Combustion (10%)	0291	10.41	0.0100	9.586	1.366	0.3330	47	0.60	High	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010.60	Total N, Combustion (10%)	0450	10.50	0.2000	9.586	1.366	0.3330	47	0.67	High	0
010.60	Total N, Combustion (10%)	0354	10.60	0.4000	9.586	1.366	0.3330	47	0.74	High	0
010.60	Total N, Combustion (10%)	0096	10.71	0.4400	9.586	1.366	0.3330	47	0.82	High	0
010.60	Total N, Combustion (10%)	0423	10.71	0.4400	9.586	1.366	0.3330	47	0.82	High	0
010.60	Total N, Combustion (10%)	0420	10.75	0.1000	9.586	1.366	0.3330	47	0.85	High	0
010.60	Total N, Combustion (10%)	0405	10.79	0.1700	9.586	1.366	0.3330	47	0.88	High	0
010.60	Total N, Combustion (10%)	0324	11.10	0.6000	9.586	1.366	0.3330	47	1.11	High	0
010.60	Total N, Combustion (10%)	0025	11.97	0.2400	9.586	1.366	0.3330	47	1.75	High	0
010.60	Total N, Combustion (10%)	0136	12.10	1.000	9.586	1.366	0.3330	47	1.84	High	0
010.60	Total N, Combustion (10%)	0035	12.80	1.200	9.586	1.366	0.3330	47	2.35	High	0
010.60	Total N, Combustion (10%)	0494	13.26	1.164	9.586	1.366	0.3330	47	2.69	High	0
010.60	Total N, Combustion (10%)	0516	8.890	2.300	9.586	1.366	0.3330	47	-0.51	Low	1
010.99	Total N, Other (10%)	0394	9.634	0.3340	10.13	0.3409	0.1165	13	-1.45	OK	0
010.99	Total N, Other (10%)	0558	9.715	0.0300	10.13	0.3409	0.1165	13	-1.21	OK	0
010.99	Total N, Other (10%)	0556	9.855	0.0300	10.13	0.3409	0.1165	13	-0.80	OK	0
010.99	Total N, Other (10%)	0533	9.945	0.0500	10.13	0.3409	0.1165	13	-0.54	OK	0
010.99	Total N, Other (10%)	0560	10.09	0.2400	10.13	0.3409	0.1165	13	-0.11	OK	0
010.99	Total N, Other (10%)	0518	10.13	0.0900	10.13	0.3409	0.1165	13	-0.01	OK	0
010.99	Total N, Other (10%)	0564	10.15	0.0500	10.13	0.3409	0.1165	13	0.05	OK	0
010.99	Total N, Other (10%)	0565	10.18	0.0600	10.13	0.3409	0.1165	13	0.15	OK	0
010.99	Total N, Other (10%)	0567	10.23	0.0500	10.13	0.3409	0.1165	13	0.28	OK	0
010.99	Total N, Other (10%)	0562	10.23	0.1500	10.13	0.3409	0.1165	13	0.28	OK	0
010.99	Total N, Other (10%)	0506	10.25	0.3000	10.13	0.3409	0.1165	13	0.36	OK	0
010.99	Total N, Other (10%)	0420	10.71	0.1200	10.13	0.3409	0.1165	13	1.71	OK	0
010.99	Total N, Other (10%)	0559	10.82	0.0100	10.13	0.3409	0.1165	13	2.01	High	0
010.99	Total N, Other (10%)	0524	12.67	0.7277	10.13	0.3409	0.1165	13	7.46	High	1
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0553	< 0.007					0			5
020.50	Total P2O5, ICP (%)	0524	0.0048	0.0008				2			0
020.50	Total P2O5, ICP (%)	0516	0.1500	0.0000				2			0
020.50	Total P2O5, ICP (%)	0422	0.0000	0.0000				2			4
020.50	Total P2O5, ICP (%)	0527	< 0.01					2			5
020.99	Total P2O5, Other (%)	0515	0.0017	0.0001				1			0
041.10	Direct Available P2O5, Gravimetric Quinolinium (%)	0009	< 0.1					0			5
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	0354	0.0330	0.0000				1			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	0568	0.0000	0.0000				1			4
050.00	Soluble K2O, STPB Oxalate (20%)	0114	22.84	0.8700	25.65	2.244	0.2671	7	-1.13	Low	0
050.00	Soluble K2O, STPB Oxalate (20%)	0049	23.17	0.1500	25.65	2.244	0.2671	7	-1.00	Low	0
050.00	Soluble K2O, STPB Oxalate (20%)	0494	25.17	0.1700	25.65	2.244	0.2671	7	-0.19	OK	0
050.00	Soluble K2O, STPB Oxalate (20%)	0444	26.59	0.1300	25.65	2.244	0.2671	7	0.38	OK	0
050.00	Soluble K2O, STPB Oxalate (20%)	0550	26.76	0.2000	25.65	2.244	0.2671	7	0.45	OK	0
050.00	Soluble K2O, STPB Oxalate (20%)	0561	27.24	0.0000	25.65	2.244	0.2671	7	0.64	High	0
050.00	Soluble K2O, STPB Oxalate (20%)	0231	27.78	0.3500	25.65	2.244	0.2671	7	0.86	High	0
050.30	Soluble K2O, AA (Oxalate) (20%)	0073	24.65	0.1100	27.44	2.921	0.8653	3	-0.96		0
050.30	Soluble K2O, AA (Oxalate) (20%)	0040	27.20	1.400	27.44	2.921	0.8653	3	-0.08		0
050.30	Soluble K2O, AA (Oxalate) (20%)	0356	30.47	1.086	27.44	2.921	0.8653	3	1.04		0
050.31	Soluble K2O, AA (Citrate) (20%)	0472	22.98	0.4500				2			0
050.31	Soluble K2O, AA (Citrate) (20%)	0498	23.85	1.500				2			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
050.50	Soluble K2O, ICP (Oxalate) (20%)	0230	22.20	0.4000	26.82	3.087	1.046	9	-1.38	Low	0
050.50	Soluble K2O, ICP (Oxalate) (20%)	0420	22.71	0.0400	26.82	3.087	1.046	9	-1.23	Low	0
050.50	Soluble K2O, ICP (Oxalate) (20%)	0086	26.47	0.8252	26.82	3.087	1.046	9	-0.10	OK	0
050.50	Soluble K2O, ICP (Oxalate) (20%)	0390	27.09	0.4200	26.82	3.087	1.046	9	0.08	OK	0
050.50	Soluble K2O, ICP (Oxalate) (20%)	0422	27.16	0.4600	26.82	3.087	1.046	9	0.10	OK	0
050.50	Soluble K2O, ICP (Oxalate) (20%)	0106	27.66	1.820	26.82	3.087	1.046	9	0.25	OK	0
050.50	Soluble K2O, ICP (Oxalate) (20%)	0324	28.75	3.700	26.82	3.087	1.046	9	0.58	High	0
050.50	Soluble K2O, ICP (Oxalate) (20%)	0444	29.31	0.7200	26.82	3.087	1.046	9	0.75	High	0
050.50	Soluble K2O, ICP (Oxalate) (20%)	0419	30.00	1.026	26.82	3.087	1.046	9	0.95	High	0
050.51	Soluble K2O, ICP (Citrate) (20%)	0547	22.76	0.0000	24.24	1.593	1.547	3	-0.93		0
050.51	Soluble K2O, ICP (Citrate) (20%)	0568	24.03	4.630	24.24	1.593	1.547	3	-0.13		0
050.51	Soluble K2O, ICP (Citrate) (20%)	0291	25.93	0.0100	24.24	1.593	1.547	3	1.06		0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0423	21.10	0.4000	26.25	4.233	0.4710	8	-1.11	Low	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0354	23.90	0.0000	26.25	4.233	0.4710	8	-0.51	Low	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0136	23.95	0.7000	26.25	4.233	0.4710	8	-0.50	Low	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0360	24.97	0.2300	26.25	4.233	0.4710	8	-0.28	Low	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0117	24.98	0.6876	26.25	4.233	0.4710	8	-0.28	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0377	28.88	0.5100	26.25	4.233	0.4710	8	0.57	High	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0486	30.00	0.5400	26.25	4.233	0.4710	8	0.81	High	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0023	32.25	0.7000	26.25	4.233	0.4710	8	1.30	High	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (20%)	0494	25.28	2.880	26.25	4.233	0.4710	8	-0.21	OK	1
050.60	Soluble K2O, Flame Photometric (Oxalate) (20%)	0510	20.51	0.0091	21.16	1.084	0.0697	3	-0.60		0
050.60	Soluble K2O, Flame Photometric (Oxalate) (20%)	0200	20.56	0.1000	21.16	1.084	0.0697	3	-0.55		0
050.60	Soluble K2O, Flame Photometric (Oxalate) (20%)	0169	22.41	0.1000	21.16	1.084	0.0697	3	1.15		0
050.61	Soluble K2O, Flame Photometric (Citrate) (20%)	0035	24.29	3.430				1			0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (20%)	0513	23.59	0.1700	26.88	2.824	0.8050	4	-1.17		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (20%)	0029	25.47	0.3500	26.88	2.824	0.8050	4	-0.50		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (20%)	0095	29.05	1.160	26.88	2.824	0.8050	4	0.77		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (20%)	0034	29.40	1.540	26.88	2.824	0.8050	4	0.89		0
050.99	Soluble K2O, Other (20%)	0540	20.01	0.0300	23.53	2.954	0.3063	35	-1.19	Low	0
050.99	Soluble K2O, Other (20%)	0560	20.02	0.0880	23.53	2.954	0.3063	35	-1.19	Low	0
050.99	Soluble K2O, Other (20%)	0518	20.05	0.0000	23.53	2.954	0.3063	35	-1.18	Low	0
050.99	Soluble K2O, Other (20%)	0506	20.20	0.0000	23.53	2.954	0.3063	35	-1.13	Low	0
050.99	Soluble K2O, Other (20%)	0537	20.20	0.2000	23.53	2.954	0.3063	35	-1.13	Low	0
050.99	Soluble K2O, Other (20%)	0234	20.23	0.1000	23.53	2.954	0.3063	35	-1.12	Low	0
050.99	Soluble K2O, Other (20%)	0549	20.58	0.1500	23.53	2.954	0.3063	35	-1.00	Low	0
050.99	Soluble K2O, Other (20%)	0531	20.70	0.6000	23.53	2.954	0.3063	35	-0.96	Low	0
050.99	Soluble K2O, Other (20%)	0553	20.80	1.200	23.53	2.954	0.3063	35	-0.92	Low	0
050.99	Soluble K2O, Other (20%)	0536	22.05	0.1000	23.53	2.954	0.3063	35	-0.50	Low	0
050.99	Soluble K2O, Other (20%)	0559	22.08	0.0600	23.53	2.954	0.3063	35	-0.49	Low	0
050.99	Soluble K2O, Other (20%)	0255	22.10	0.5160	23.53	2.954	0.3063	35	-0.48	Low	0
050.99	Soluble K2O, Other (20%)	0532	22.25	0.5000	23.53	2.954	0.3063	35	-0.43	Low	0
050.99	Soluble K2O, Other (20%)	0516	22.27	0.0400	23.53	2.954	0.3063	35	-0.43	Low	0
050.99	Soluble K2O, Other (20%)	0533	22.37	0.8100	23.53	2.954	0.3063	35	-0.39	OK	0
050.99	Soluble K2O, Other (20%)	0556	23.00	0.2000	23.53	2.954	0.3063	35	-0.18	OK	0
050.99	Soluble K2O, Other (20%)	0558	23.30	0.2000	23.53	2.954	0.3063	35	-0.08	OK	0
050.99	Soluble K2O, Other (20%)	0535	23.60	0.2000	23.53	2.954	0.3063	35	0.02	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
050.99	Soluble K2O, Other (20%)	0539	23.60	0.2000	23.53	2.954	0.3063	35	0.02	OK	0
050.99	Soluble K2O, Other (20%)	0421	23.71	0.1038	23.53	2.954	0.3063	35	0.06	OK	0
050.99	Soluble K2O, Other (20%)	0450	23.79	0.2000	23.53	2.954	0.3063	35	0.09	OK	0
050.99	Soluble K2O, Other (20%)	0481	24.51	0.0000	23.53	2.954	0.3063	35	0.33	OK	0
050.99	Soluble K2O, Other (20%)	0177	24.52	0.3172	23.53	2.954	0.3063	35	0.33	OK	0
050.99	Soluble K2O, Other (20%)	0565	24.80	0.1000	23.53	2.954	0.3063	35	0.43	High	0
050.99	Soluble K2O, Other (20%)	0564	24.83	0.1500	23.53	2.954	0.3063	35	0.44	High	0
050.99	Soluble K2O, Other (20%)	0546	25.32	1.637	23.53	2.954	0.3063	35	0.61	High	0
050.99	Soluble K2O, Other (20%)	0394	25.53	0.6400	23.53	2.954	0.3063	35	0.68	High	0
050.99	Soluble K2O, Other (20%)	0562	25.70	0.2000	23.53	2.954	0.3063	35	0.74	High	0
050.99	Soluble K2O, Other (20%)	0521	25.77	0.0000	23.53	2.954	0.3063	35	0.76	High	0
050.99	Soluble K2O, Other (20%)	0567	25.78	0.1500	23.53	2.954	0.3063	35	0.76	High	0
050.99	Soluble K2O, Other (20%)	0027	28.52	0.1000	23.53	2.954	0.3063	35	1.69	High	0
050.99	Soluble K2O, Other (20%)	0524	29.41	1.176	23.53	2.954	0.3063	35	1.99	High	0
050.99	Soluble K2O, Other (20%)	0433	30.29	0.4200	23.53	2.954	0.3063	35	2.29	High	0
050.99	Soluble K2O, Other (20%)	0527	30.33	0.3234	23.53	2.954	0.3063	35	2.30	High	0
050.99	Soluble K2O, Other (20%)	0043	30.65	0.0100	23.53	2.954	0.3063	35	2.41	High	0
050.99	Soluble K2O, Other (20%)	0042	18.81	7.580	23.53	2.954	0.3063	35	-1.60	Low	1
050.99	Soluble K2O, Other (20%)	0515	22.80	4.771	23.53	2.954	0.3063	35	-0.25	OK	1
060.00	Water (Free), Vacuum Oven (%)	0456	0.1150	0.0300				2			0
060.00	Water (Free), Vacuum Oven (%)	0096	0.3200	0.0800				2			0
060.10	Water (Free), Vacuum Desiccation (%)	0419	0.1250	0.0300				1			0
060.99	Water (Free), Other (%)	0510	0.2353	0.0013				1			0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	0553	0.0125	0.0010				1			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0035	0.0135	0.0010	0.0345	0.0309	0.0003	3	-0.68		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0096	0.0200	0.0000	0.0345	0.0309	0.0003	3	-0.47		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0354	0.0700	0.0000	0.0345	0.0309	0.0003	3	1.15		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0419	0.0125	0.0027				2			0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0494	0.0167	0.0006				2			0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0106	0.0000	0.0000				2			4
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0527	< 0.01					2			5
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	0553	0.0195	0.0010				1			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	0.0200	0.0000	0.0218	0.0028	0.0037	3	-0.67		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0035	0.0205	0.0010	0.0218	0.0028	0.0037	3	-0.48		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0096	0.0250	0.0100	0.0218	0.0028	0.0037	3	1.15		0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0521	0.0192	0.0000				2			0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0423	0.0205	0.0010				2			0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0136	0.0150	0.0000	0.0241	0.0113	0.0072	6	-0.72	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0494	0.0153	0.0125	0.0241	0.0113	0.0072	6	-0.70	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0419	0.0176	0.0046	0.0241	0.0113	0.0072	6	-0.51	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0106	0.0265	0.0032	0.0241	0.0113	0.0072	6	0.19	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0527	0.0301	0.0011	0.0241	0.0113	0.0072	6	0.47	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0515	0.0399	0.0218	0.0241	0.0113	0.0072	6	1.25	OK	0
121.99	Acid Soluble Mg, Other (%)	0524	0.0208	0.0014	0.0347	0.0125	0.0095	3	-1.11		0
121.99	Acid Soluble Mg, Other (%)	0515	0.0384	0.0230	0.0347	0.0125	0.0095	3	0.29		0
121.99	Acid Soluble Mg, Other (%)	0516	0.0450	0.0040	0.0347	0.0125	0.0095	3	0.82		0
143.99	Elemental S, Other (%)	0472	19.80	0.0600	20.76	0.8674	0.5410	4	-1.11		0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
143.99	Elemental S, Other (%)	0390	20.25	1.100	20.76	0.8674	0.5410	4	-0.59		0
143.99	Elemental S, Other (%)	0255	21.45	0.9940	20.76	0.8674	0.5410	4	0.80		0
143.99	Elemental S, Other (%)	0291	21.54	0.0100	20.76	0.8674	0.5410	4	0.90		0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0518	20.27	0.0600	20.86	0.5512	0.1450	6	-0.95	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0106	20.37	0.4100	20.86	0.5512	0.1450	6	-0.79	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0550	20.75	0.0400	20.86	0.5512	0.1450	6	-0.17	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0200	20.98	0.0100	20.86	0.5512	0.1450	6	0.19	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0444	21.33	0.2400	20.86	0.5512	0.1450	6	0.77	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0561	21.45	0.1100	20.86	0.5512	0.1450	6	0.95	NA	0
145.99	Sulfate S, HCl soluble, Other (%)	0444	20.54	0.7200				2			0
145.99	Sulfate S, HCl soluble, Other (%)	0553	21.50	1.000				2			0
148.00	Total S, Combustion (20.5%)	0493	19.50	0.1000	20.90	1.164	0.3817	6	-1.07	Low	0
148.00	Total S, Combustion (20.5%)	0556	20.40	0.2000	20.90	1.164	0.3817	6	-0.38	OK	0
148.00	Total S, Combustion (20.5%)	0049	20.50	0.2600	20.90	1.164	0.3817	6	-0.30	OK	0
148.00	Total S, Combustion (20.5%)	0029	21.17	0.4600	20.90	1.164	0.3817	6	0.21	OK	0
148.00	Total S, Combustion (20.5%)	0114	21.27	1.130	20.90	1.164	0.3817	6	0.28	OK	0
148.00	Total S, Combustion (20.5%)	0136	22.54	0.1400	20.90	1.164	0.3817	6	1.26	High	0
148.01	Total S, Gravimetric - sulfate and elemental (20.5%)	0230	20.15	0.3000	21.16	0.6840	0.2721	16	-1.48	Low	0
148.01	Total S, Gravimetric - sulfate and elemental (20.5%)	0534	20.40	0.0500	21.16	0.6840	0.2721	16	-1.13	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (20.5%)	0535	20.60	0.2000	21.16	0.6840	0.2721	16	-0.83	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (20.5%)	0073	20.76	0.4200	21.16	0.6840	0.2721	16	-0.59	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (20.5%)	0481	20.76	0.2200	21.16	0.6840	0.2721	16	-0.59	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (20.5%)	0565	20.88	0.1000	21.16	0.6840	0.2721	16	-0.42	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (20.5%)	0564	20.88	0.0600	21.16	0.6840	0.2721	16	-0.42	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (20.5%)	0157	20.90	0.2000	21.16	0.6840	0.2721	16	-0.39	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (20.5%)	0405	21.05	0.0400	21.16	0.6840	0.2721	16	-0.17	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (20.5%)	0231	21.35	0.1000	21.16	0.6840	0.2721	16	0.27	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (20.5%)	0028	21.53	0.3600	21.16	0.6840	0.2721	16	0.53	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (20.5%)	0029	21.56	0.0700	21.16	0.6840	0.2721	16	0.57	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (20.5%)	0485	21.72	1.043	21.16	0.6840	0.2721	16	0.82	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (20.5%)	0444	21.93	0.6800	21.16	0.6840	0.2721	16	1.12	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (20.5%)	0513	21.99	0.1100	21.16	0.6840	0.2721	16	1.20	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (20.5%)	0324	22.30	0.4000	21.16	0.6840	0.2721	16	1.66	High	0
148.07	Total S, ICP, test portion as in 2017.02 (20.5%)	0486	18.99	0.3900	21.12	0.8502	0.6205	14	-2.51	Low	0
148.07	Total S, ICP, test portion as in 2017.02 (20.5%)	0023	19.90	0.2000	21.12	0.8502	0.6205	14	-1.44	Low	0
148.07	Total S, ICP, test portion as in 2017.02 (20.5%)	0394	20.35	0.0700	21.12	0.8502	0.6205	14	-0.91	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (20.5%)	0117	20.55	0.0511	21.12	0.8502	0.6205	14	-0.68	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (20.5%)	0043	20.64	2.190	21.12	0.8502	0.6205	14	-0.57	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (20.5%)	0527	21.15	0.3200	21.12	0.8502	0.6205	14	0.04	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (20.5%)	0546	21.18	0.6072	21.12	0.8502	0.6205	14	0.07	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (20.5%)	0040	21.50	0.6000	21.12	0.8502	0.6205	14	0.44	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (20.5%)	0515	21.58	1.545	21.12	0.8502	0.6205	14	0.54	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (20.5%)	0177	21.62	0.2383	21.12	0.8502	0.6205	14	0.58	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (20.5%)	0037	21.62	0.5680	21.12	0.8502	0.6205	14	0.59	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (20.5%)	0421	21.70	0.0135	21.12	0.8502	0.6205	14	0.68	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (20.5%)	0444	21.76	1.280	21.12	0.8502	0.6205	14	0.75	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (20.5%)	0494	22.31	0.6129	21.12	0.8502	0.6205	14	1.40	High	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
148.99	Total S, Other (20.5%)	0516	20.14	0.0970	20.69	0.3700	0.1827	21	-1.48	OK	0
148.99	Total S, Other (20.5%)	0537	20.16	0.1200	20.69	0.3700	0.1827	21	-1.42	OK	0
148.99	Total S, Other (20.5%)	0558	20.30	0.0000	20.69	0.3700	0.1827	21	-1.04	OK	0
148.99	Total S, Other (20.5%)	0538	20.45	0.1000	20.69	0.3700	0.1827	21	-0.64	OK	0
148.99	Total S, Other (20.5%)	0533	20.47	0.0900	20.69	0.3700	0.1827	21	-0.60	OK	0
148.99	Total S, Other (20.5%)	0540	20.50	0.0100	20.69	0.3700	0.1827	21	-0.51	OK	0
148.99	Total S, Other (20.5%)	0560	20.50	0.0400	20.69	0.3700	0.1827	21	-0.50	OK	0
148.99	Total S, Other (20.5%)	0506	20.55	0.1000	20.69	0.3700	0.1827	21	-0.37	OK	0
148.99	Total S, Other (20.5%)	0535	20.60	0.2000	20.69	0.3700	0.1827	21	-0.23	OK	0
148.99	Total S, Other (20.5%)	0539	20.60	0.2000	20.69	0.3700	0.1827	21	-0.23	OK	0
148.99	Total S, Other (20.5%)	0532	20.65	0.5000	20.69	0.3700	0.1827	21	-0.10	OK	0
148.99	Total S, Other (20.5%)	0450	20.69	0.1900	20.69	0.3700	0.1827	21	0.00	OK	0
148.99	Total S, Other (20.5%)	0567	20.75	0.1000	20.69	0.3700	0.1827	21	0.17	OK	0
148.99	Total S, Other (20.5%)	0531	20.76	0.4800	20.69	0.3700	0.1827	21	0.20	OK	0
148.99	Total S, Other (20.5%)	0562	20.78	0.1500	20.69	0.3700	0.1827	21	0.24	OK	0
148.99	Total S, Other (20.5%)	0536	20.80	0.2000	20.69	0.3700	0.1827	21	0.31	OK	0
148.99	Total S, Other (20.5%)	0433	20.85	0.2100	20.69	0.3700	0.1827	21	0.43	OK	0
148.99	Total S, Other (20.5%)	0559	21.15	0.1000	20.69	0.3700	0.1827	21	1.26	OK	0
148.99	Total S, Other (20.5%)	0371	21.63	0.4700	20.69	0.3700	0.1827	21	2.54	OK	0
148.99	Total S, Other (20.5%)	0377	21.66	0.1800	20.69	0.3700	0.1827	21	2.63	OK	0
148.99	Total S, Other (20.5%)	0354	22.35	0.3000	20.69	0.3700	0.1827	21	4.50	High	0
149.04	S - HNO3 soluble, ICP (%)	0524	20.68	0.3615	20.83	0.1323	0.3038	3	-1.13		0
149.04	S - HNO3 soluble, ICP (%)	0521	20.88	0.0000	20.83	0.1323	0.3038	3	0.38		0
149.04	S - HNO3 soluble, ICP (%)	0423	20.93	0.5500	20.83	0.1323	0.3038	3	0.75		0
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 0.08					0			5
151.30	Acid Soluble As, ICP (ppm)	0524	0.1550	0.0280				2			0
151.30	Acid Soluble As, ICP (ppm)	0255	0.2315	0.0270				2			0
151.30	Acid Soluble As, ICP (ppm)	0450	< 0.5					2			5
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0096	< 1					0			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0494	2.700	1.020				1			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0515	0.0000	0.0000				1			4
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0527	< 0.001					1			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0136	< 1					1			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0117	< 10					1			5
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0515	0.0000	0.0000				0			4
151.99	Acid Soluble As, Other (ppm)	0481	< 0.5					0			5
151.99	Acid Soluble As, Other (ppm)	0405	< 1					0			5
165.00	Acid Soluble B, Spectrophotometric (%)	0553	0.0034	0.0001				1			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0106	0.0007	0.0006				1			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	< 0.01					1			5
165.99	Acid Soluble B, Other (%)	0524	0.0023	0.0002	0.0026	0.0004	0.0002	3	-0.89		0
165.99	Acid Soluble B, Other (%)	0423	0.0026	0.0003	0.0026	0.0004	0.0002	3	-0.19		0
165.99	Acid Soluble B, Other (%)	0516	0.0030	0.0000	0.0026	0.0004	0.0002	3	1.08		0
165.99	Acid Soluble B, Other (%)	0515	0.0000	0.0000	0.0026	0.0004	0.0002	3			4
165.99	Acid Soluble B, Other (%)	0527	< 0.01		0.0026	0.0004	0.0002	3			5
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	1.200	0.2000				1			0
181.30	Acid Soluble Cd, ICP (ppm)	0394	0.0250	0.0040	0.0680	0.0611	0.0111	3	-0.70		0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
181.30	Acid Soluble Cd, ICP (ppm)	0255	0.0410	0.0260	0.0680	0.0611	0.0111	3	-0.44		0
181.30	Acid Soluble Cd, ICP (ppm)	0524	0.1379	0.0034	0.0680	0.0611	0.0111	3	1.14		0
181.30	Acid Soluble Cd, ICP (ppm)	0450	< 0.5		0.0680	0.0611	0.0111	3			5
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0096	< 1					0			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0515	4.944	1.165				1			0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0527	< 0.001					1			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0494	< 0.54					1			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0117	< 5					1			5
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0515	3.334	6.668				0			4
181.99	Acid Soluble Cd, Other (ppm)	0405	0.0350	0.0100				2			0
181.99	Acid Soluble Cd, Other (ppm)	0506	0.1575	0.0110				2			0
181.99	Acid Soluble Cd, Other (ppm)	0481	< 0.5					2			5
190.00	Water Soluble Cl, Titrimetric (%)	0553	0.2450	0.0100				1			0
191.00	Acid Soluble Cr, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 0.25					0			5
191.30	Acid Soluble Cr, ICP (ppm)	0524	2.326	0.0011	4.110	2.097	0.2437	3	-0.85		0
191.30	Acid Soluble Cr, ICP (ppm)	0394	3.585	0.2100	4.110	2.097	0.2437	3	-0.25		0
191.30	Acid Soluble Cr, ICP (ppm)	0035	6.420	0.5200	4.110	2.097	0.2437	3	1.10		0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0096	3.950	0.1000				1			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0136	3.100	0.6000	6.564	3.298	1.160	5	-1.05		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0037	3.467	0.2490	6.564	3.298	1.160	5	-0.94		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0494	7.225	2.277	6.564	3.298	1.160	5	0.20		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0515	8.090	2.450	6.564	3.298	1.160	5	0.46		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0527	10.94	0.2270	6.564	3.298	1.160	5	1.33		0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0515	16.98	3.097				1			0
191.99	Acid Soluble Cr, Other (ppm)	0506	2.995	0.0700				2			0
191.99	Acid Soluble Cr, Other (ppm)	0405	4.000	2.000				2			0
191.99	Acid Soluble Cr, Other (ppm)	0481	< 20					2			5
202.30	Acid Soluble Co, ICP (ppm)	0524	2.335	0.0205				2			0
202.30	Acid Soluble Co, ICP (ppm)	0035	3.045	0.5100				2			0
202.30	Acid Soluble Co, ICP (ppm)	0096	< 1					2			5
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0550	1.415	0.0500	2.828	0.9385	0.2657	5	-1.31		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0136	2.400	0.8000	2.828	0.9385	0.2657	5	-0.40		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0494	3.110	0.2200	2.828	0.9385	0.2657	5	0.26		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0527	3.457	0.2266	2.828	0.9385	0.2657	5	0.58		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0037	3.760	0.0320	2.828	0.9385	0.2657	5	0.87		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0515	7.218	3.454	2.828	0.9385	0.2657	5	4.08		1
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0515	4.945	1.754				1			0
202.99	Acid Soluble Co, Other (ppm)	0255	1.992	0.0320				2			0
202.99	Acid Soluble Co, Other (ppm)	0405	3.400	0.4000				2			0
202.99	Acid Soluble Co, Other (ppm)	0481	< 10					2			5
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0550	0.0015	0.0002				2			0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0537	0.2050	0.0500				2			0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0553	< 0.005					2			5
221.02	Acid Soluble Cu, AA, 965.09, test portion 2006.03A-C (%)	0498	0.0018	0.0000				1			0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0035	0.0016	0.0000				2			0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0096	8.300	0.2100				2			0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0255	0.0000	0.0000				2			4

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			Value	Range	Rob Mean	Rob SD	R-bar				
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					2			5
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0423	0.0016	0.0003	0.0017	0.0002	0.0002	3	-0.58		0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0095	0.0016	0.0001	0.0017	0.0002	0.0002	3	-0.58		0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0394	0.0019	0.0003	0.0017	0.0002	0.0002	3	1.15		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0106	0.0007	0.0005	0.0017	0.0009	0.0004	6	-1.08	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0494	0.0010	0.0003	0.0017	0.0009	0.0004	6	-0.77	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0136	0.0019	0.0003	0.0017	0.0009	0.0004	6	0.15	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0421	0.0020	0.0002	0.0017	0.0009	0.0004	6	0.31	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0527	0.0021	0.0001	0.0017	0.0009	0.0004	6	0.36	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0515	0.0027	0.0010	0.0017	0.0009	0.0004	6	1.03	OK	0
221.99	Acid Soluble Cu, Other (%)	0506	0.0010	0.0000	0.0019	0.0007	0.0003	5	-1.07		0
221.99	Acid Soluble Cu, Other (%)	0405	0.0016	0.0001	0.0019	0.0007	0.0003	5	-0.38		0
221.99	Acid Soluble Cu, Other (%)	0524	0.0018	0.0002	0.0019	0.0007	0.0003	5	-0.06		0
221.99	Acid Soluble Cu, Other (%)	0481	0.0020	0.0000	0.0019	0.0007	0.0003	5	0.19		0
221.99	Acid Soluble Cu, Other (%)	0515	0.0029	0.0010	0.0019	0.0007	0.0003	5	1.32		0
221.99	Acid Soluble Cu, Other (%)	0516	0.0185	0.0030	0.0019	0.0007	0.0003	5	20.87		1
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0553	0.9300	0.0300	1.031	0.0815	0.0538	14	-1.24	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0534	0.9350	0.0100	1.031	0.0815	0.0538	14	-1.18	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0513	0.9550	0.0100	1.031	0.0815	0.0538	14	-0.93	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0531	0.9800	0.0400	1.031	0.0815	0.0538	14	-0.62	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0485	0.9958	0.0156	1.031	0.0815	0.0538	14	-0.43	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0356	1.008	0.0420	1.031	0.0815	0.0538	14	-0.28	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0536	1.030	0.0200	1.031	0.0815	0.0538	14	-0.01	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0040	1.035	0.1100	1.031	0.0815	0.0538	14	0.05	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0556	1.040	0.0200	1.031	0.0815	0.0538	14	0.11	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0535	1.050	0.1000	1.031	0.0815	0.0538	14	0.24	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0539	1.050	0.1000	1.031	0.0815	0.0538	14	0.24	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0537	1.125	0.1500	1.031	0.0815	0.0538	14	1.16	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0029	1.148	0.0060	1.031	0.0815	0.0538	14	1.44	High	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0550	1.150	0.1000	1.031	0.0815	0.0538	14	1.46	High	0
241.02	Acid Soluble Fe, AA, 965.09, test portion 2006.03A-C (1%)	0498	0.7850	0.0300				1			0
241.20	Acid Soluble Fe, Colormetric (1%)	0200	0.6150	0.0100				1			0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0390	0.7370	0.0160	1.062	0.1857	0.0582	17	-1.75	Low	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0035	0.8160	0.0040	1.062	0.1857	0.0582	17	-1.32	Low	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0354	0.8450	0.1700	1.062	0.1857	0.0582	17	-1.17	Low	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0291	0.9250	0.0100	1.062	0.1857	0.0582	17	-0.74	Low	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0360	0.9960	0.0280	1.062	0.1857	0.0582	17	-0.36	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0472	1.005	0.0500	1.062	0.1857	0.0582	17	-0.31	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0234	1.010	0.0400	1.062	0.1857	0.0582	17	-0.28	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0096	1.030	0.0800	1.062	0.1857	0.0582	17	-0.17	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0433	1.067	0.0450	1.062	0.1857	0.0582	17	0.02	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0444	1.085	0.0100	1.062	0.1857	0.0582	17	0.12	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0255	1.093	0.0070	1.062	0.1857	0.0582	17	0.16	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0231	1.115	0.0100	1.062	0.1857	0.0582	17	0.29	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0324	1.170	0.1200	1.062	0.1857	0.0582	17	0.58	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0377	1.205	0.1300	1.062	0.1857	0.0582	17	0.77	High	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0157	1.270	0.0600	1.062	0.1857	0.0582	17	1.12	High	0

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			Value	Range	Rob Mean	Rob SD	R-bar				
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0023	1.300	0.2000	1.062	0.1857	0.0582	17	1.28	High	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0371	1.385	0.0100	1.062	0.1857	0.0582	17	1.74	High	0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (1%)	0095	0.8850	0.0100	0.9516	0.0597	0.0117	3	-1.12		0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (1%)	0394	0.9695	0.0250	0.9516	0.0597	0.0117	3	0.30		0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (1%)	0521	1.000	0.0000	0.9516	0.0597	0.0117	3	0.82		0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0421	0.8139	0.0011	0.9980	0.1759	0.1160	14	-1.05	Low	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0546	0.8296	0.0967	0.9980	0.1759	0.1160	14	-0.96	Low	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0106	0.8429	0.1480	0.9980	0.1759	0.1160	14	-0.88	Low	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0419	0.8590	0.1860	0.9980	0.1759	0.1160	14	-0.79	Low	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0136	0.8700	0.0200	0.9980	0.1759	0.1160	14	-0.73	Low	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0177	0.8955	0.0089	0.9980	0.1759	0.1160	14	-0.58	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0043	0.9650	0.2700	0.9980	0.1759	0.1160	14	-0.19	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0515	1.005	0.1684	0.9980	0.1759	0.1160	14	0.04	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0494	1.035	0.1600	0.9980	0.1759	0.1160	14	0.21	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0561	1.095	0.1500	0.9980	0.1759	0.1160	14	0.55	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0117	1.111	0.2934	0.9980	0.1759	0.1160	14	0.64	High	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0527	1.126	0.0209	0.9980	0.1759	0.1160	14	0.73	High	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0037	1.282	0.0800	0.9980	0.1759	0.1160	14	1.61	High	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0486	1.310	0.0200	0.9980	0.1759	0.1160	14	1.77	High	0
241.99	Acid Soluble Fe, Other (1%)	0481	0.9050	0.0300	1.011	0.0728	0.0248	15	-1.46	Low	0
241.99	Acid Soluble Fe, Other (1%)	0506	0.9085	0.0250	1.011	0.0728	0.0248	15	-1.41	OK	0
241.99	Acid Soluble Fe, Other (1%)	0516	0.9280	0.0120	1.011	0.0728	0.0248	15	-1.14	OK	0
241.99	Acid Soluble Fe, Other (1%)	0559	0.9750	0.0100	1.011	0.0728	0.0248	15	-0.50	OK	0
241.99	Acid Soluble Fe, Other (1%)	0405	0.9900	0.0600	1.011	0.0728	0.0248	15	-0.29	OK	0
241.99	Acid Soluble Fe, Other (1%)	0533	0.9900	0.0200	1.011	0.0728	0.0248	15	-0.29	OK	0
241.99	Acid Soluble Fe, Other (1%)	0560	1.015	0.0500	1.011	0.0728	0.0248	15	0.05	OK	0
241.99	Acid Soluble Fe, Other (1%)	0567	1.015	0.0100	1.011	0.0728	0.0248	15	0.05	OK	0
241.99	Acid Soluble Fe, Other (1%)	0558	1.020	0.0200	1.011	0.0728	0.0248	15	0.12	OK	0
241.99	Acid Soluble Fe, Other (1%)	0564	1.035	0.0100	1.011	0.0728	0.0248	15	0.33	OK	0
241.99	Acid Soluble Fe, Other (1%)	0565	1.036	0.0100	1.011	0.0728	0.0248	15	0.34	OK	0
241.99	Acid Soluble Fe, Other (1%)	0042	1.060	0.0000	1.011	0.0728	0.0248	15	0.67	OK	0
241.99	Acid Soluble Fe, Other (1%)	0532	1.075	0.0500	1.011	0.0728	0.0248	15	0.88	OK	0
241.99	Acid Soluble Fe, Other (1%)	0562	1.095	0.0300	1.011	0.0728	0.0248	15	1.15	OK	0
241.99	Acid Soluble Fe, Other (1%)	0515	1.304	0.0343	1.011	0.0728	0.0248	15	4.03	High	0
241.99	Acid Soluble Fe, Other (1%)	0524	1.002	0.1933	1.011	0.0728	0.0248	15	-0.13	OK	1
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	13.18	5.330				1			0
251.30	Acid Soluble Pb, ICP (ppm)	0255	0.3250	0.0400	1.015	0.9602	0.3310	5	-0.72		0
251.30	Acid Soluble Pb, ICP (ppm)	0450	0.5000	0.0000	1.015	0.9602	0.3310	5	-0.54		0
251.30	Acid Soluble Pb, ICP (ppm)	0394	0.7040	0.0080	1.015	0.9602	0.3310	5	-0.32		0
251.30	Acid Soluble Pb, ICP (ppm)	0524	0.8499	0.2172	1.015	0.9602	0.3310	5	-0.17		0
251.30	Acid Soluble Pb, ICP (ppm)	0035	2.695	1.390	1.015	0.9602	0.3310	5	1.75		0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0527	0.6085	0.0005				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0515	5.906	3.141				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0494	< 1.27					2			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0117	< 5					2			5
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0515	1.224	2.448				0			4
251.99	Acid Soluble Pb, Other (ppm)	0405	0.7500	0.3000				1			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
251.99	Acid Soluble Pb, Other (ppm)	0481	< 1					1			5
261.11	Acid Soluble Mn, AA, total Mn (0.2%)	0553	0.2035	0.0010	0.2432	0.0550	0.0230	3	-0.72		0
261.11	Acid Soluble Mn, AA, total Mn (0.2%)	0556	0.2200	0.0400	0.2432	0.0550	0.0230	3	-0.42		0
261.11	Acid Soluble Mn, AA, total Mn (0.2%)	0550	0.3060	0.0280	0.2432	0.0550	0.0230	3	1.14		0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (0.2%)	0531	0.1750	0.0300	0.2266	0.0300	0.0140	9	-1.59	Low	0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (0.2%)	0513	0.2000	0.0000	0.2266	0.0300	0.0140	9	-0.82	OK	0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (0.2%)	0534	0.2110	0.0060	0.2266	0.0300	0.0140	9	-0.48	OK	0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (0.2%)	0536	0.2150	0.0100	0.2266	0.0300	0.0140	9	-0.36	OK	0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (0.2%)	0535	0.2350	0.0100	0.2266	0.0300	0.0140	9	0.26	OK	0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (0.2%)	0539	0.2350	0.0100	0.2266	0.0300	0.0140	9	0.26	OK	0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (0.2%)	0485	0.2468	0.0153	0.2266	0.0300	0.0140	9	0.62	OK	0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (0.2%)	0029	0.2544	0.0104	0.2266	0.0300	0.0140	9	0.85	High	0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (0.2%)	0040	0.2610	0.0340	0.2266	0.0300	0.0140	9	1.06	High	0
261.14	Acid Soluble Mn, AA, 965.09, test portion 2006.03A-C (0.2%)	0498	0.2350	0.0300				1			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (0.2%)	0390	0.2065	0.0430	0.2567	0.0438	0.0215	9	-1.06	Low	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (0.2%)	0234	0.2250	0.0100	0.2567	0.0438	0.0215	9	-0.67	Low	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (0.2%)	0354	0.2300	0.0400	0.2567	0.0438	0.0215	9	-0.56	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (0.2%)	0035	0.2315	0.0270	0.2567	0.0438	0.0215	9	-0.53	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (0.2%)	0291	0.2450	0.0100	0.2567	0.0438	0.0215	9	-0.25	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (0.2%)	0096	0.2700	0.0600	0.2567	0.0438	0.0215	9	0.28	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (0.2%)	0472	0.2800	0.0000	0.2567	0.0438	0.0215	9	0.49	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (0.2%)	0444	0.3000	0.0000	0.2567	0.0438	0.0215	9	0.91	High	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (0.2%)	0433	0.3259	0.0038	0.2567	0.0438	0.0215	9	1.46	High	0
261.31	Acid Soluble Mn, ICP, test portion 972.02b (0.2%)	0360	0.2655	0.0010				2			0
261.31	Acid Soluble Mn, ICP, test portion 972.02b (0.2%)	0324	0.3120	0.0000				2			0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (0.2%)	0231	0.2700	0.0200	0.3018	0.0247	0.0180	4	-1.28		0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (0.2%)	0023	0.3000	0.0000	0.3018	0.0247	0.0180	4	-0.07		0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (0.2%)	0377	0.3070	0.0120	0.3018	0.0247	0.0180	4	0.21		0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (0.2%)	0371	0.3300	0.0400	0.3018	0.0247	0.0180	4	1.14		0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (0.2%)	0095	0.2450	0.0100	0.2540	0.0115	0.0113	4	-0.79		0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (0.2%)	0394	0.2465	0.0070	0.2540	0.0115	0.0113	4	-0.65		0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (0.2%)	0521	0.2545	0.0000	0.2540	0.0115	0.0113	4	0.04		0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (0.2%)	0423	0.2700	0.0280	0.2540	0.0115	0.0113	4	1.40		0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.2%)	0419	0.0248	0.0001	0.2423	0.0504	0.0194	12	-4.32	Low	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.2%)	0136	0.1700	0.0000	0.2423	0.0504	0.0194	12	-1.43	Low	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.2%)	0106	0.2130	0.0645	0.2423	0.0504	0.0194	12	-0.58	Low	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.2%)	0043	0.2150	0.0300	0.2423	0.0504	0.0194	12	-0.54	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.2%)	0546	0.2359	0.0409	0.2423	0.0504	0.0194	12	-0.13	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.2%)	0177	0.2371	0.0015	0.2423	0.0504	0.0194	12	-0.10	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.2%)	0527	0.2594	0.0039	0.2423	0.0504	0.0194	12	0.34	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.2%)	0494	0.2636	0.0095	0.2423	0.0504	0.0194	12	0.42	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.2%)	0515	0.2706	0.0127	0.2423	0.0504	0.0194	12	0.56	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.2%)	0117	0.2866	0.0492	0.2423	0.0504	0.0194	12	0.88	High	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.2%)	0561	0.2900	0.0200	0.2423	0.0504	0.0194	12	0.95	High	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.2%)	0486	0.3000	0.0000	0.2423	0.0504	0.0194	12	1.14	High	0
261.50	Acid Soluble Mn, Spectrometric (0.2%)	0564	0.2055	0.0030				2			0
261.50	Acid Soluble Mn, Spectrometric (0.2%)	0565	0.2071	0.0021				2			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
261.99	Acid Soluble Mn, Other (0.2%)	0562	0.1700	0.0200	0.2368	0.0378	0.0137	11	-1.77	Low	0
261.99	Acid Soluble Mn, Other (0.2%)	0567	0.1900	0.0000	0.2368	0.0378	0.0137	11	-1.24	Low	0
261.99	Acid Soluble Mn, Other (0.2%)	0481	0.2200	0.0000	0.2368	0.0378	0.0137	11	-0.44	OK	0
261.99	Acid Soluble Mn, Other (0.2%)	0516	0.2240	0.0020	0.2368	0.0378	0.0137	11	-0.34	OK	0
261.99	Acid Soluble Mn, Other (0.2%)	0532	0.2250	0.0100	0.2368	0.0378	0.0137	11	-0.31	OK	0
261.99	Acid Soluble Mn, Other (0.2%)	0558	0.2400	0.0200	0.2368	0.0378	0.0137	11	0.08	OK	0
261.99	Acid Soluble Mn, Other (0.2%)	0255	0.2510	0.0020	0.2368	0.0378	0.0137	11	0.38	OK	0
261.99	Acid Soluble Mn, Other (0.2%)	0042	0.2550	0.0100	0.2368	0.0378	0.0137	11	0.48	OK	0
261.99	Acid Soluble Mn, Other (0.2%)	0506	0.2610	0.0060	0.2368	0.0378	0.0137	11	0.64	OK	0
261.99	Acid Soluble Mn, Other (0.2%)	0524	0.2652	0.0658	0.2368	0.0378	0.0137	11	0.75	OK	0
261.99	Acid Soluble Mn, Other (0.2%)	0027	0.3155	0.0150	0.2368	0.0378	0.0137	11	2.08	High	0
261.99	Acid Soluble Mn, Other (0.2%)	0515	0.2894	0.1647	0.2368	0.0378	0.0137	11	1.39	High	1
271.00	Water Soluble Mn, AA (%)	0536	0.2050	0.0100				2			0
271.00	Water Soluble Mn, AA (%)	0356	0.2900	0.0120				2			0
271.99	Water Soluble Mn, Other (%)	0560	0.1975	0.0010	0.2363	0.0513	0.0013	3	-0.76		0
271.99	Water Soluble Mn, Other (%)	0559	0.2170	0.0020	0.2363	0.0513	0.0013	3	-0.38		0
271.99	Water Soluble Mn, Other (%)	0405	0.2945	0.0010	0.2363	0.0513	0.0013	3	1.13		0
281.00	Acid Soluble Hg, AA (ppm)	0506	0.0905	0.0650				2			0
281.00	Acid Soluble Hg, AA (ppm)	0550	18.15	8.500				2			0
281.00	Acid Soluble Hg, AA (ppm)	0117	< 0.2					2			5
281.00	Acid Soluble Hg, AA (ppm)	0481	< 0.5					2			5
281.30	Acid Soluble Hg, ICP (ppm)	0524	604.7	21.62				1			0
281.30	Acid Soluble Hg, ICP (ppm)	0515	0.0000	0.0000				1			4
281.30	Acid Soluble Hg, ICP (ppm)	0527	< 0.001					1			5
281.30	Acid Soluble Hg, ICP (ppm)	0009	< 0.05					1			5
281.30	Acid Soluble Hg, ICP (ppm)	0450	< 0.5					1			5
281.99	Acid Soluble Hg, Other (ppm)	0405	< 0.01					0			5
289.00	Acid Soluble Mo, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 1					0			5
289.30	Acid Soluble Mo, ICP (ppm)	0524	0.3018	0.3153	3.970	6.090	0.2444	3	-0.60		0
289.30	Acid Soluble Mo, ICP (ppm)	0255	0.6080	0.4180	3.970	6.090	0.2444	3	-0.55		0
289.30	Acid Soluble Mo, ICP (ppm)	0516	11.00	0.0000	3.970	6.090	0.2444	3	1.15		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0106	2.500	1.000				2			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0515	5.380	6.992				2			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	< 0.001					2			5
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0494	< 0.34					2			5
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0136	< 5					2			5
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0515	0.0000	0.0000				0			4
289.99	Acid Soluble Mo, Other (ppm)	0405	0.3850	0.0700				1			0
289.99	Acid Soluble Mo, Other (ppm)	0481	< 50					1			5
291.00	Acid Soluble Ni, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 0.6					0			5
291.30	Acid Soluble Ni, ICP (ppm)	0524	2.911	0.0702	4.571	0.9280	0.0734	6	-1.59	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0394	3.950	0.0800	4.571	0.9280	0.0734	6	-0.60	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0450	5.000	0.0000	4.571	0.9280	0.0734	6	0.41	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0035	5.045	0.0900	4.571	0.9280	0.0734	6	0.46	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0096	5.100	0.2000	4.571	0.9280	0.0734	6	0.51	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0521	5.150	0.0000	4.571	0.9280	0.0734	6	0.56	NA	0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0136	3.810	1.300	5.830	1.829	0.4101	5	-0.96		0

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			Value	Range	Rob Mean	Rob SD	R-bar				
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0494	5.113	0.1150	5.830	1.829	0.4101	5	-0.34		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0037	5.661	0.3210	5.830	1.829	0.4101	5	-0.08		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0527	5.779	0.1628	5.830	1.829	0.4101	5	-0.02		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0515	8.788	0.1515	5.830	1.829	0.4101	5	1.41		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0117	< 5		5.830	1.829	0.4101	5			5
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0515	3.709	1.625				1			0
291.99	Acid Soluble Ni, Other (ppm)	0506	4.830	0.0600	5.755	1.457	0.2970	3	-0.63		0
291.99	Acid Soluble Ni, Other (ppm)	0405	5.000	0.0000	5.755	1.457	0.2970	3	-0.52		0
291.99	Acid Soluble Ni, Other (ppm)	0255	7.435	0.8310	5.755	1.457	0.2970	3	1.15		0
291.99	Acid Soluble Ni, Other (ppm)	0481	< 5		5.755	1.457	0.2970	3			5
301.00	Acid Soluble Se, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 0.08					0			5
301.30	Acid Soluble Se, ICP (ppm)	0524	0.0100	0.0000				1			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0515	0.0000	0.0000				0			4
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0527	< 0.01					0			5
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0494	< 0.95					0			5
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0515	0.0000	0.0000				0			4
301.99	Acid Soluble Se, Other (ppm)	0255	1.640	0.8660				2			0
301.99	Acid Soluble Se, Other (ppm)	0506	214.0	10.00				2			0
301.99	Acid Soluble Se, Other (ppm)	0481	< 0.5					2			5
301.99	Acid Soluble Se, Other (ppm)	0405	< 1					2			5
311.00	Sodium, AA (%)	0553	0.1615	0.0010				1			0
311.32	Sodium, ICP, 2006.03 test portion (%)	0521	0.1974	0.0000				1			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0035	0.1760	0.0080	0.1890	0.0146	0.0091	4	-0.89		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0423	0.1790	0.0040	0.1890	0.0146	0.0091	4	-0.68		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0494	0.1931	0.0203	0.1890	0.0146	0.0091	4	0.28		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	0.2079	0.0041	0.1890	0.0146	0.0091	4	1.29		0
311.99	Sodium, Other (%)	0354	0.1800	0.0400				2			0
311.99	Sodium, Other (%)	0096	0.1900	0.0200				2			0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.2%)	0200	0.1550	0.0100	0.2049	0.0169	0.0111	11	-2.96	Low	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.2%)	0513	0.1850	0.0100	0.2049	0.0169	0.0111	11	-1.18	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.2%)	0550	0.1990	0.0160	0.2049	0.0169	0.0111	11	-0.35	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.2%)	0534	0.2000	0.0000	0.2049	0.0169	0.0111	11	-0.29	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.2%)	0535	0.2050	0.0100	0.2049	0.0169	0.0111	11	0.00	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.2%)	0539	0.2050	0.0100	0.2049	0.0169	0.0111	11	0.00	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.2%)	0029	0.2052	0.0094	0.2049	0.0169	0.0111	11	0.02	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.2%)	0553	0.2095	0.0050	0.2049	0.0169	0.0111	11	0.27	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.2%)	0536	0.2100	0.0200	0.2049	0.0169	0.0111	11	0.30	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.2%)	0040	0.2260	0.0120	0.2049	0.0169	0.0111	11	1.25	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.2%)	0531	0.2300	0.0200	0.2049	0.0169	0.0111	11	1.48	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.2%)	0537	0.2200	0.0600	0.2049	0.0169	0.0111	11	0.89	OK	1
321.02	Acid Soluble Zn, AA, 965.09, test portion 2006.03A-C (0.2%)	0498	0.2100	0.0200				1			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	0390	0.1825	0.0410	0.2138	0.0219	0.0171	17	-1.43	Low	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	0291	0.1850	0.0100	0.2138	0.0219	0.0171	17	-1.32	Low	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	0354	0.1900	0.0400	0.2138	0.0219	0.0171	17	-1.09	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	0234	0.1950	0.0100	0.2138	0.0219	0.0171	17	-0.86	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	0023	0.2000	0.0000	0.2138	0.0219	0.0171	17	-0.63	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	0360	0.2075	0.0170	0.2138	0.0219	0.0171	17	-0.29	OK	0

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			Value	Range	Rob Mean	Rob SD	R-bar				
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	0035	0.2095	0.0330	0.2138	0.0219	0.0171	17	-0.20	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	0472	0.2100	0.0000	0.2138	0.0219	0.0171	17	-0.18	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	0231	0.2150	0.0100	0.2138	0.0219	0.0171	17	0.05	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	0371	0.2150	0.0100	0.2138	0.0219	0.0171	17	0.05	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	0444	0.2200	0.0000	0.2138	0.0219	0.0171	17	0.28	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	0096	0.2250	0.0100	0.2138	0.0219	0.0171	17	0.51	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	0433	0.2251	0.0145	0.2138	0.0219	0.0171	17	0.51	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	0255	0.2290	0.0520	0.2138	0.0219	0.0171	17	0.69	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	0157	0.2380	0.0280	0.2138	0.0219	0.0171	17	1.10	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	0324	0.2420	0.0040	0.2138	0.0219	0.0171	17	1.28	High	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.2%)	0377	0.2510	0.0120	0.2138	0.0219	0.0171	17	1.69	High	0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (0.2%)	0521	0.1972	0.0000	0.2303	0.0315	0.0070	4	-1.05		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (0.2%)	0394	0.2105	0.0050	0.2303	0.0315	0.0070	4	-0.63		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (0.2%)	0095	0.2500	0.0200	0.2303	0.0315	0.0070	4	0.63		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (0.2%)	0423	0.2635	0.0030	0.2303	0.0315	0.0070	4	1.05		0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.2%)	0419	0.0205	0.0010	0.2000	0.0317	0.0160	13	-5.67	Low	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.2%)	0561	0.1450	0.0100	0.2000	0.0317	0.0160	13	-1.74	Low	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.2%)	0421	0.1823	0.0001	0.2000	0.0317	0.0160	13	-0.56	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.2%)	0136	0.1850	0.0300	0.2000	0.0317	0.0160	13	-0.47	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.2%)	0494	0.1943	0.0112	0.2000	0.0317	0.0160	13	-0.18	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.2%)	0486	0.1950	0.0100	0.2000	0.0317	0.0160	13	-0.16	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.2%)	0106	0.1972	0.0148	0.2000	0.0317	0.0160	13	-0.09	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.2%)	0117	0.2074	0.0198	0.2000	0.0317	0.0160	13	0.23	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.2%)	0177	0.2120	0.0212	0.2000	0.0317	0.0160	13	0.38	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.2%)	0043	0.2150	0.0360	0.2000	0.0317	0.0160	13	0.47	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.2%)	0515	0.2332	0.0349	0.2000	0.0317	0.0160	13	1.05	High	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.2%)	0527	0.2334	0.0055	0.2000	0.0317	0.0160	13	1.05	High	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.2%)	0037	0.2400	0.0140	0.2000	0.0317	0.0160	13	1.26	High	0
321.99	Acid Soluble Zn, Other (0.2%)	0516	0.1730	0.0020	0.2136	0.0245	0.0106	14	-1.66	Low	0
321.99	Acid Soluble Zn, Other (0.2%)	0506	0.1965	0.0110	0.2136	0.0245	0.0106	14	-0.70	OK	0
321.99	Acid Soluble Zn, Other (0.2%)	0560	0.1985	0.0010	0.2136	0.0245	0.0106	14	-0.62	OK	0
321.99	Acid Soluble Zn, Other (0.2%)	0532	0.2000	0.0200	0.2136	0.0245	0.0106	14	-0.56	OK	0
321.99	Acid Soluble Zn, Other (0.2%)	0533	0.2000	0.0020	0.2136	0.0245	0.0106	14	-0.56	OK	0
321.99	Acid Soluble Zn, Other (0.2%)	0558	0.2000	0.0200	0.2136	0.0245	0.0106	14	-0.56	OK	0
321.99	Acid Soluble Zn, Other (0.2%)	0481	0.2050	0.0100	0.2136	0.0245	0.0106	14	-0.35	OK	0
321.99	Acid Soluble Zn, Other (0.2%)	0405	0.2085	0.0030	0.2136	0.0245	0.0106	14	-0.21	OK	0
321.99	Acid Soluble Zn, Other (0.2%)	0567	0.2150	0.0100	0.2136	0.0245	0.0106	14	0.06	OK	0
321.99	Acid Soluble Zn, Other (0.2%)	0562	0.2200	0.0200	0.2136	0.0245	0.0106	14	0.26	OK	0
321.99	Acid Soluble Zn, Other (0.2%)	0524	0.2333	0.0019	0.2136	0.0245	0.0106	14	0.80	OK	0
321.99	Acid Soluble Zn, Other (0.2%)	0515	0.2405	0.0293	0.2136	0.0245	0.0106	14	1.10	High	0
321.99	Acid Soluble Zn, Other (0.2%)	0027	0.2460	0.0080	0.2136	0.0245	0.0106	14	1.32	High	0
321.99	Acid Soluble Zn, Other (0.2%)	0042	0.2650	0.0100	0.2136	0.0245	0.0106	14	2.10	High	0
325.00	Water Soluble Zn, AA (%)	0535	0.1950	0.0100	0.2245	0.0405	0.0147	6	-0.65	NA	0
325.00	Water Soluble Zn, AA (%)	0539	0.1950	0.0100	0.2245	0.0405	0.0147	6	-0.65	NA	0
325.00	Water Soluble Zn, AA (%)	0536	0.2000	0.0200	0.2245	0.0405	0.0147	6	-0.54	NA	0
325.00	Water Soluble Zn, AA (%)	0556	0.2300	0.0200	0.2245	0.0405	0.0147	6	0.12	NA	0
325.00	Water Soluble Zn, AA (%)	0027	0.2420	0.0220	0.2245	0.0405	0.0147	6	0.38	NA	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
325.00	Water Soluble Zn, AA (%)	0356	0.3960	0.0060	0.2245	0.0405	0.0147	6	3.77	NA	0
325.30	Water Soluble Zn, ICP (%)	0546	0.2243	0.0055				1			0
325.99	Water Soluble Zn, Other (%)	0562	0.1800	0.0200	0.2050	0.0242	0.0144	5	-1.03		0
325.99	Water Soluble Zn, Other (%)	0559	0.1950	0.0100	0.2050	0.0242	0.0144	5	-0.41		0
325.99	Water Soluble Zn, Other (%)	0565	0.2025	0.0031	0.2050	0.0242	0.0144	5	-0.11		0
325.99	Water Soluble Zn, Other (%)	0564	0.2025	0.0090	0.2050	0.0242	0.0144	5	-0.10		0
325.99	Water Soluble Zn, Other (%)	0518	0.2450	0.0300	0.2050	0.0242	0.0144	5	1.66		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. IA Status describes where your result is relative to the Assigned Value ± IA. Red indicates Higher or Lower, Green indicates within the IA range. Method 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.