

# magruder fertilizer

## check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 200511

Grade 8-5-5 Organic

### Statistical Summary

# Methods: 115

# Labs Reporting: 70

Issue Date : 06/30/2020

Method Code	Analyte & Method Sample # 200511	# 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 (%)	3	3	0.3533	0.4961	0.3533		0.4961	0.3581	140.42%		0.0200	4.68%
001.99	Ammoniacal N, Other (%)	11	11	1.119	2.414	0.4585		0.4138	0.1559	90.24%		0.0195	4.50%
003.10	Water Insoluble N, Method 1 (%)	5	5	7.352	0.2565	7.352		0.2565	0.1434	3.49%		0.2280	2.96%
003.99	Water Insoluble N, Other (%)	3	3	6.907	0.0275	6.907		0.0275	0.0199	0.40%		0.0400	2.99%
010.11	Total N, Modified Comprehensive (8%)	1		8.490									
010.12	Total N, Salicylic (8%)	1		8.060									
010.60	Total N, Combustion (8%)	48	47	8.674	0.2144	8.663	0.5633	0.1005	0.0183	1.16%	0.42	0.0652	2.89%
010.99	Total N, Other (8%)	10	9	8.361	0.2438	8.361	0.5572	0.2765	0.1152	3.31%	1.16	0.1179	2.91%
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	2	2	4.303	0.0884								
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	8	7	4.579	0.4236	4.513		0.3144	0.1485	6.97%		0.0570	3.19%
020.40	Total P2O5, Automated (%)	2	2	4.785	0.2404								
020.50	Total P2O5, ICP (%)	18	17	4.574	0.4993	4.558		0.5319	0.1613	11.67%		0.1734	3.18%
020.99	Total P2O5, Other (%)	7	6	4.918	0.3101	4.949		0.1881	0.0960	3.80%		0.0667	3.14%
030.40	Citrate Insoluble P2O5, Automated, test portion 963.03 A-B (%)	1		0.7400									
040.40	Indirect Available P2O5, Automated (5%)	1		3.870									
041.10	Direct Available P2O5, Gravimetric Quinolinium (5%)	1		3.850									
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (5%)	6	6	4.038	0.5546	4.138	0.6700	0.3773	0.1925	9.12%	1.31	0.0937	3.23%
041.20	Direct Available P2O5, Spectrophotometric (5%)	1		1.845									
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (5%)	6	6	4.361	0.4985	4.291	0.6700	0.3937	0.2009	9.18%	1.37	0.1250	3.21%
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (5%)	4	4	3.579	1.177	3.579	0.6700	1.177	0.7357	32.89%	4.09	0.0525	3.30%
041.50	Direct Available P2O5, ICP (5%)	2	2	3.598	0.6329								
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (5%)	9	9	4.109	0.3909	4.119	0.6700	0.4195	0.1748	10.18%	1.46	0.0806	3.23%
041.99	Direct Available P2O5, Other (5%)	5	5	4.975	0.1551	4.975	0.6700	0.1551	0.0867	3.12%	0.54	0.0740	3.14%
048.40	Water Soluble P2O5, Automated (%)	1		0.6600									
048.99	Water Soluble P2O5, Other (%)	1		5.115									
050.00	Soluble K2O, STPB Oxalate (5%)	7	6	5.535	0.7291	5.535	0.4514	0.8268	0.4219	14.94%	4.27	0.1100	3.09%
050.30	Soluble K2O, AA (Oxalate) (5%)	2	2	7.440	0.2970								
050.31	Soluble K2O, AA (Citrate) (5%)	1		6.655									
050.50	Soluble K2O, ICP (Oxalate) (5%)	6	6	7.068	0.6900	7.068	0.5348	0.7824	0.3993	11.07%	3.41	0.2800	2.98%
050.52	Soluble K2O, ICP (Citrate-EDTA) (5%)	11	11	6.940	0.3552	7.022	0.5315	0.2135	0.0805	3.04%	0.94	0.1333	2.98%
050.60	Soluble K2O, Flame Photometric (Oxalate) (5%)	1		4.815									
050.61	Soluble K2O, Flame Photometric (Citrate) (5%)	1		6.910									
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (5%)	5	5	7.277	0.3198	7.277	0.5494	0.3198	0.1788	4.39%	1.36	0.0888	2.97%

Method Code	Analyte & Method Sample # 200511	# 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
050.99	Soluble K2O, Other (5%)	29	27	6.467	1.158	6.560	0.5036	0.9802	0.2358	14.94%	4.54	0.1131	3.01%
060.00	Water (Free), Vacuum Oven (%)	2	2	3.573	1.998								
101.00	Acid Soluble Ca, AA, inorganic 965.09 (4.5%)	4	4	4.016	0.3067	4.016	0.4008	0.3067	0.1917	7.64%	1.78	0.1255	3.24%
101.03	Acid Soluble Ca, AA, 965.09, test portion 2006.03A-C w/dual acid ... (4.5%)	1		3.955									
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (4.5%)	14	13	3.915	0.2849	3.876	0.3938	0.1441	0.0499	3.72%	0.85	0.1188	3.26%
101.31	Acid Soluble Ca, ICP, test portion organic 965.09 (4.5%)	1		3.710									
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (4.5%)	2	2	3.883	0.1662								
101.33	Acid Soluble Ca, ICP, 2017.02 (4.5%)	10	10	3.711	0.3243	3.648	0.3824	0.1769	0.0699	4.85%	1.08	0.0699	3.29%
101.99	Acid Soluble Ca, Other (4.5%)	8	8	3.864	0.4735	3.864	0.3932	0.5370	0.2373	13.90%	3.18	0.1050	3.26%
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	1		0.6525									
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	6	6	0.1931	0.0204	0.1931	0.2097	0.0232	0.0118	11.99%	0.26	0.0045	5.12%
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	1		0.1870									
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	3	3	0.2049	0.0342	0.2049	0.2102	0.0342	0.0247	16.71%	0.38	0.0093	5.08%
121.99	Acid Soluble Mg, Other (%)	6	6	0.1967	0.0297	0.1992	0.2100	0.0278	0.0142	13.94%	0.31	0.0096	5.10%
143.99	Elemental S, Other (%)	4	4	2.763	0.3971	2.763		0.3971	0.2482	14.37%		0.0635	3.43%
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	1		2.255									
145.99	Sulfate S, HCl soluble, Other (%)	1		2.435									
148.00	Total S, Combustion (1%)	5	5	3.190	0.2127	3.190	0.3595	0.2127	0.1189	6.67%	1.38	0.0426	3.36%
148.01	Total S, Gravimetric - sulfate and elemental (1%)	5	5	2.476	0.1630	2.476	0.3238	0.1630	0.0911	6.58%	1.17	0.0640	3.49%
148.07	Total S, ICP, test portion as in 2017.02 (1%)	11	11	3.084	0.3308	3.058	0.3529	0.2804	0.1057	9.17%	1.85	0.0524	3.38%
148.99	Total S, Other (1%)	14	14	2.368	0.6122	2.368	0.3184	0.6943	0.2319	29.32%	5.08	0.0536	3.51%
149.04	S - HNO3 soluble, ICP (%)	3	3	3.106	0.1293	3.106		0.1293	0.0933	4.16%		0.0535	3.37%
151.30	Acid Soluble As, ICP (ppm)	3	3	0.3180	0.3433	0.3180		0.3433	0.2478	107.96%		0.1180	19.01%
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	1		1.700									
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	3	0	0.0000		0.3180		0.3433		107.96%		0.0000	19.01%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	1		0.0000									
151.99	Acid Soluble As, Other (ppm)	2	1	1.600									
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	1		0.0100									
165.99	Acid Soluble B, Other (%)	6	4	0.0004	0.0004	0.0004	0.0031	0.0004	0.0003	94.85%	0.31	0.0001	12.87%
181.30	Acid Soluble Cd, ICP (ppm)	3	3	0.0222	0.0129	0.0222		0.0129	0.0093	58.22%		0.0025	28.38%
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	1		0.1000									
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	3	1	1.038		0.0222		0.0129	0.0161	58.22%		0.4206	28.38%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	1		0.4320									
181.99	Acid Soluble Cd, Other (ppm)	2	1	0.0250									
191.30	Acid Soluble Cr, ICP (ppm)	5	5	4.169	2.284	4.169		2.284	1.277	54.78%		0.8377	12.90%
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	1		5.350									
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	3	3	9.205	5.606	9.205		5.606	4.046	60.90%		5.473	11.45%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	1		10.62									
191.99	Acid Soluble Cr, Other (ppm)	2	2	7.700	3.253								
202.30	Acid Soluble Co, ICP (ppm)	5	5	1.529	0.8677	1.529	1.4588	0.8677	0.4851	56.74%	1.39	0.1471	15.01%
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	2	2	1.495	0.7354								
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	4	3	3.075	0.5557	3.075	1.9225	0.5557	0.4010	18.07%	0.67	1.101	13.51%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	1		4.558									
202.99	Acid Soluble Co, Other (ppm)	3	3	1.774	0.3178	1.774	1.5323	0.3178	0.2294	17.91%	0.48	0.0777	14.67%

Method Code	Analyte & Method Sample # 200511	# 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
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	7	5	0.0049	0.0082	0.0049	0.0055	0.0082	0.0046	168.50%	3.48	0.0071	8.92%
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	1		0.0014									
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	6	5	2.633	5.885	2.633	0.2683	5.885	3.290	223.48%	51.10	0.6562	3.46%
221.99	Acid Soluble Cu, Other (%)	6	6	0.0019	0.0015	0.0015	0.0052	0.0008	0.0004	55.21%	0.38	0.0002	10.63%
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	7	5	0.0375	0.0042	0.0375	0.0088	0.0042	0.0024	11.31%	1.13	0.0002	6.56%
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	4	4	0.0555	0.0158	0.0555	0.0106	0.0158	0.0098	28.37%	3.48	0.0249	6.18%
241.99	Acid Soluble Fe, Other (%)	5	5	0.0444	0.0135	0.0444	0.0094	0.0135	0.0075	30.30%	3.32	0.0056	6.39%
251.30	Acid Soluble Pb, ICP (ppm)	6	6	2.966	1.542	2.966		1.748	0.8921	58.93%		0.6590	13.58%
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	1		3.300									
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	4	3	7.699	7.409	7.699		7.409	5.347	96.23%		2.115	11.77%
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	1		7.441									
251.99	Acid Soluble Pb, Other (ppm)	2	2	3.350	0.8485								
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	4	3	0.0017	0.0003	0.0017	0.0052	0.0003	0.0002	17.56%	0.14	0.0002	10.43%
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)	1		0.0150									
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	4	4	0.0019	0.0008	0.0019	0.0052	0.0008	0.0005	40.25%	0.34	0.0003	10.28%
261.99	Acid Soluble Mn, Other (%)	5	5	0.0021	0.0012	0.0021	0.0052	0.0012	0.0007	59.29%	0.54	0.0005	10.15%
281.30	Acid Soluble Hg, ICP (ppm)	2	0	0.0000									
281.99	Acid Soluble Hg, Other (ppm)	2	0	0.0100									
289.30	Acid Soluble Mo, ICP (ppm)	5	5	2.490	4.202	2.490	1.7470	4.202	2.349	168.76%	5.60	0.0734	13.94%
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	4	3	17.48	29.26	17.48	6.2452	29.26	21.12	167.36%	10.92	2.237	10.40%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	1		39.15									
289.99	Acid Soluble Mo, Other (ppm)	2	1	0.6600									
291.30	Acid Soluble Ni, ICP (ppm)	4	4	2.679	0.8006	2.679		0.8006	0.5004	29.89%		0.4360	13.79%
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	1		2.650									
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	3	2	3.130	0.4945	3.130		0.4945	0.4371	15.80%		1.127	13.47%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	1		4.532									
291.99	Acid Soluble Ni, Other (ppm)	3	3	2.518	0.8936	2.518		0.8936	0.6449	35.49%		1.194	13.92%
301.30	Acid Soluble Se, ICP (ppm)	1		0.5550									
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	1		0.3600									
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	2	1	3.955									
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	1		11.95									
301.99	Acid Soluble Se, Other (ppm)	3	3	1.294	0.8503	1.294		0.8503	0.6136	65.72%		0.0430	15.39%
311.33	Sodium, ICP, test portion as in 2017.02 (%)	3	3	0.7395	0.0914	0.7395	0.0790	0.0914	0.0660	12.36%	2.70	0.0084	4.19%
311.99	Sodium, Other (%)	2	2	0.7050	0.0283								
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	9	7	0.0098	0.0007	0.0097	0.0060	0.0006	0.0003	6.35%	0.24	0.0009	8.04%
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	3	3	0.0097	0.0005	0.0097	0.0060	0.0005	0.0004	5.05%	0.19	0.0001	8.03%
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	5	4	0.0093	0.0011	0.0093	0.0059	0.0011	0.0007	11.39%	0.42	0.0003	8.09%
321.99	Acid Soluble Zn, Other (%)	7	7	0.0093	0.0012	0.0093	0.0059	0.0013	0.0006	14.26%	0.52	0.0010	8.09%

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.

Horwitz %RSD	
Average Range (R-bar)	
Method IA Ratio	
Robust % RSD	
Robust Uncertainty (U)	
Robust sd	
IA at Method Value	
Assigned Value Robust Mean	
Raw SD	
Raw Mean	
# Tests in Robust Calculations	
# Tests Submitted	
Analyte & Method Sample # 200511	
Method Code	

# magruder fertilizer

## check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 200511

### Method Precision Report

Grade 8-5-5 Organic

Issue Date : 06/30/2020

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
001.99	Ammoniacal N, Other (%)	11	10	0.3965	0.3176	0.3172	0.0201	0.3179	80.02%	5.06%	80.18%	15.84
010.60	Total N, Combustion (8%)	48	45	8.670	0.1111	0.1044	0.0538	0.1174	1.20%	0.62%	1.35%	2.181
010.99	Total N, Other (8%)	10	9	8.361	0.2438	0.2337	0.0982	0.2535	2.80%	1.17%	3.03%	2.581
020.50	Total P2O5, ICP (%)	18	16	4.520	0.4610	0.4479	0.1543	0.4737	9.91%	3.41%	10.48%	3.071
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (5%)	9	9	4.109	0.3909	0.3879	0.0685	0.3939	9.44%	1.67%	9.59%	5.750
050.52	Soluble K2O, ICP (Citrate-EDTA) (5%)	11	11	6.940	0.3552	0.3440	0.1255	0.3661	4.96%	1.81%	5.28%	2.917
050.99	Soluble K2O, Other (5%)	29	25	6.600	0.8530	0.8498	0.1041	0.8561	12.88%	1.58%	12.97%	8.226
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (4.5%)	14	12	3.846	0.1412	0.1015	0.1389	0.1720	2.64%	3.61%	4.47%	1.239
101.33	Acid Soluble Ca, ICP, 2017.02 (4.5%)	10	9	3.617	0.1369	0.1304	0.0591	0.1432	3.60%	1.64%	3.96%	2.420
101.99	Acid Soluble Ca, Other (4.5%)	8	8	3.864	0.4735	0.4683	0.0989	0.4787	12.12%	2.56%	12.39%	4.838
148.07	Total S, ICP, test portion as in 2017.02 (1%)	11	10	3.009	0.2294	0.2272	0.0448	0.2316	7.55%	1.49%	7.69%	5.173
148.99	Total S, Other (1%)	14	13	2.396	0.6276	0.6270	0.0395	0.6283	26.17%	1.65%	26.22%	15.92

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 # 200511  
Grade 8-5-5 Organic

Lab Values

# Methods: 115

# Labs Reporting: 70

Issue Date : 06/30/2020

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 (%)	0230	0.0350	0.0100	0.3533	0.4961	0.0200	3	-0.64		0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0136	0.1000	0.0000	0.3533	0.4961	0.0200	3	-0.51		0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0117	0.9250	0.0500	0.3533	0.4961	0.0200	3	1.15		0
001.99	Ammoniacal N, Other (%)	0423	0.0200	0.0000	0.4585	0.4138	0.0195	11	-0.99	NA	0
001.99	Ammoniacal N, Other (%)	0524	0.0340	0.0000	0.4585	0.4138	0.0195	11	-0.96	NA	0
001.99	Ammoniacal N, Other (%)	0546	0.0750	0.0100	0.4585	0.4138	0.0195	11	-0.87	NA	0
001.99	Ammoniacal N, Other (%)	0096	0.2800	0.0600	0.4585	0.4138	0.0195	11	-0.40	NA	0
001.99	Ammoniacal N, Other (%)	0564	0.3850	0.0300	0.4585	0.4138	0.0195	11	-0.17	NA	0
001.99	Ammoniacal N, Other (%)	0565	0.3900	0.0200	0.4585	0.4138	0.0195	11	-0.15	NA	0
001.99	Ammoniacal N, Other (%)	0553	0.3925	0.0530	0.4585	0.4138	0.0195	11	-0.15	NA	0
001.99	Ammoniacal N, Other (%)	0255	0.6630	0.0120	0.4585	0.4138	0.0195	11	0.46	NA	0
001.99	Ammoniacal N, Other (%)	0405	0.7850	0.0100	0.4585	0.4138	0.0195	11	0.74	NA	0
001.99	Ammoniacal N, Other (%)	0220	0.9400	0.0000	0.4585	0.4138	0.0195	11	1.09	NA	0
001.99	Ammoniacal N, Other (%)	0513	8.340	0.0200	0.4585	0.4138	0.0195	11	17.82	NA	0
003.10	Water Insoluble N, Method I (%)	0029	6.920	0.2200	7.352	0.2565	0.2280	5	-1.68		0
003.10	Water Insoluble N, Method I (%)	0451	7.325	0.1500	7.352	0.2565	0.2280	5	-0.11		0
003.10	Water Insoluble N, Method I (%)	0136	7.450	0.5000	7.352	0.2565	0.2280	5	0.38		0
003.10	Water Insoluble N, Method I (%)	0027	7.510	0.2600	7.352	0.2565	0.2280	5	0.62		0
003.10	Water Insoluble N, Method I (%)	0220	7.555	0.0100	7.352	0.2565	0.2280	5	0.79		0
003.99	Water Insoluble N, Other (%)	0230	6.875	0.0300	6.907	0.0275	0.0400	3	-1.15		0
003.99	Water Insoluble N, Other (%)	0565	6.920	0.0400	6.907	0.0275	0.0400	3	0.48		0
003.99	Water Insoluble N, Other (%)	0564	6.925	0.0500	6.907	0.0275	0.0400	3	0.67		0
010.11	Total N, Modified Comprehensive (8%)	0546	8.490	0.0400				1			0
010.12	Total N, Salicylic (8%)	0117	8.060	0.1400				1			0
010.60	Total N, Combustion (8%)	0023	7.900	0.2000	8.663	0.1005	0.0652	47	-7.59	Low	0
010.60	Total N, Combustion (8%)	0444	8.445	0.1100	8.663	0.1005	0.0652	47	-2.17	OK	0
010.60	Total N, Combustion (8%)	0095	8.525	0.0100	8.663	0.1005	0.0652	47	-1.37	OK	0
010.60	Total N, Combustion (8%)	0231	8.530	0.0200	8.663	0.1005	0.0652	47	-1.32	OK	0
010.60	Total N, Combustion (8%)	0055	8.530	0.0400	8.663	0.1005	0.0652	47	-1.32	OK	0
010.60	Total N, Combustion (8%)	0114	8.535	0.0100	8.663	0.1005	0.0652	47	-1.27	OK	0
010.60	Total N, Combustion (8%)	0220	8.545	0.0100	8.663	0.1005	0.0652	47	-1.17	OK	0
010.60	Total N, Combustion (8%)	0018	8.565	0.0300	8.663	0.1005	0.0652	47	-0.97	OK	0
010.60	Total N, Combustion (8%)	0485	8.567	0.0679	8.663	0.1005	0.0652	47	-0.95	OK	0
010.60	Total N, Combustion (8%)	0035	8.570	0.0600	8.663	0.1005	0.0652	47	-0.92	OK	0
010.60	Total N, Combustion (8%)	0390	8.575	0.1100	8.663	0.1005	0.0652	47	-0.87	OK	0
010.60	Total N, Combustion (8%)	0230	8.600	0.0000	8.663	0.1005	0.0652	47	-0.63	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				
010.60	Total N, Combustion (8%)	0029	8.602	0.1370	8.663	0.1005	0.0652	47	-0.61	OK	0
010.60	Total N, Combustion (8%)	0542	8.614	0.0740	8.663	0.1005	0.0652	47	-0.49	OK	0
010.60	Total N, Combustion (8%)	0043	8.615	0.0900	8.663	0.1005	0.0652	47	-0.48	OK	0
010.60	Total N, Combustion (8%)	0472	8.620	0.0200	8.663	0.1005	0.0652	47	-0.43	OK	0
010.60	Total N, Combustion (8%)	0561	8.635	0.0700	8.663	0.1005	0.0652	47	-0.28	OK	0
010.60	Total N, Combustion (8%)	0096	8.640	0.0200	8.663	0.1005	0.0652	47	-0.23	OK	0
010.60	Total N, Combustion (8%)	0354	8.645	0.0100	8.663	0.1005	0.0652	47	-0.18	OK	0
010.60	Total N, Combustion (8%)	0049	8.650	0.1000	8.663	0.1005	0.0652	47	-0.13	OK	0
010.60	Total N, Combustion (8%)	0389	8.650	0.0600	8.663	0.1005	0.0652	47	-0.13	OK	0
010.60	Total N, Combustion (8%)	0073	8.665	0.0100	8.663	0.1005	0.0652	47	0.02	OK	0
010.60	Total N, Combustion (8%)	0024	8.670	0.0600	8.663	0.1005	0.0652	47	0.07	OK	0
010.60	Total N, Combustion (8%)	0255	8.674	0.0500	8.663	0.1005	0.0652	47	0.11	OK	0
010.60	Total N, Combustion (8%)	0547	8.675	0.0700	8.663	0.1005	0.0652	47	0.12	OK	0
010.60	Total N, Combustion (8%)	0177	8.679	0.0500	8.663	0.1005	0.0652	47	0.16	OK	0
010.60	Total N, Combustion (8%)	0324	8.680	0.0800	8.663	0.1005	0.0652	47	0.17	OK	0
010.60	Total N, Combustion (8%)	0527	8.681	0.0470	8.663	0.1005	0.0652	47	0.17	OK	0
010.60	Total N, Combustion (8%)	0292	8.690	0.0000	8.663	0.1005	0.0652	47	0.27	OK	0
010.60	Total N, Combustion (8%)	0025	8.692	0.1240	8.663	0.1005	0.0652	47	0.29	OK	0
010.60	Total N, Combustion (8%)	0443	8.695	0.0100	8.663	0.1005	0.0652	47	0.32	OK	0
010.60	Total N, Combustion (8%)	0136	8.700	0.0000	8.663	0.1005	0.0652	47	0.37	OK	0
010.60	Total N, Combustion (8%)	0422	8.700	0.2000	8.663	0.1005	0.0652	47	0.37	OK	0
010.60	Total N, Combustion (8%)	0523	8.700	0.2000	8.663	0.1005	0.0652	47	0.37	OK	0
010.60	Total N, Combustion (8%)	0233	8.712	0.0950	8.663	0.1005	0.0652	47	0.48	OK	0
010.60	Total N, Combustion (8%)	0360	8.715	0.0300	8.663	0.1005	0.0652	47	0.52	OK	0
010.60	Total N, Combustion (8%)	0405	8.725	0.0100	8.663	0.1005	0.0652	47	0.62	OK	0
010.60	Total N, Combustion (8%)	0377	8.740	0.0800	8.663	0.1005	0.0652	47	0.77	OK	0
010.60	Total N, Combustion (8%)	0402	8.745	0.0500	8.663	0.1005	0.0652	47	0.82	OK	0
010.60	Total N, Combustion (8%)	0027	8.758	0.1030	8.663	0.1005	0.0652	47	0.94	OK	0
010.60	Total N, Combustion (8%)	0423	8.758	0.0250	8.663	0.1005	0.0652	47	0.94	OK	0
010.60	Total N, Combustion (8%)	0040	8.800	0.0000	8.663	0.1005	0.0652	47	1.36	OK	0
010.60	Total N, Combustion (8%)	0543	8.822	0.0680	8.663	0.1005	0.0652	47	1.58	OK	0
010.60	Total N, Combustion (8%)	0041	8.827	0.0250	8.663	0.1005	0.0652	47	1.63	OK	0
010.60	Total N, Combustion (8%)	0325	8.860	0.0600	8.663	0.1005	0.0652	47	1.96	OK	0
010.60	Total N, Combustion (8%)	0516	9.115	0.1300	8.663	0.1005	0.0652	47	4.50	OK	0
010.60	Total N, Combustion (8%)	0102	9.660	0.2400	8.663	0.1005	0.0652	47	9.92	High	0
010.60	Total N, Combustion (8%)	0451	9.042	0.3980	8.663	0.1005	0.0652	47	3.77	OK	1
010.99	Total N, Other (8%)	0538	8.040	0.1200	8.361	0.2765	0.1179	9	-1.07	OK	0
010.99	Total N, Other (8%)	0564	8.150	0.1000	8.361	0.2765	0.1179	9	-0.70	OK	0
010.99	Total N, Other (8%)	0556	8.175	0.0500	8.361	0.2765	0.1179	9	-0.62	OK	0
010.99	Total N, Other (8%)	0565	8.205	0.0100	8.361	0.2765	0.1179	9	-0.52	OK	0
010.99	Total N, Other (8%)	0537	8.260	0.2400	8.361	0.2765	0.1179	9	-0.34	OK	0
010.99	Total N, Other (8%)	0567	8.550	0.1000	8.361	0.2765	0.1179	9	0.63	OK	0
010.99	Total N, Other (8%)	0524	8.555	0.0608	8.361	0.2765	0.1179	9	0.65	OK	0
010.99	Total N, Other (8%)	0545	8.575	0.1500	8.361	0.2765	0.1179	9	0.72	OK	0
010.99	Total N, Other (8%)	0562	8.735	0.2300	8.361	0.2765	0.1179	9	1.25	OK	0
010.99	Total N, Other (8%)	0560	6.610	3.380	8.361	0.2765	0.1179	9	-5.84	Low	1
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0049	4.240	0.1000				2			0

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			Value	Range	Rob Mean	Rob SD	R-bar				
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0114	4.365	0.0900				2			0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0405	4.245	0.0500	4.513	0.3144	0.0570	7	-0.77	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0027	4.260	0.1200	4.513	0.3144	0.0570	7	-0.73	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0231	4.400	0.0000	4.513	0.3144	0.0570	7	-0.33	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0561	4.450	0.0600	4.513	0.3144	0.0570	7	-0.18	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0177	4.454	0.0790	4.513	0.3144	0.0570	7	-0.17	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0292	4.800	0.0200	4.513	0.3144	0.0570	7	0.82	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0553	5.445	0.0700	4.513	0.3144	0.0570	7	2.68	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0324	4.615	0.4700	4.513	0.3144	0.0570	7	0.29	NA	1
020.40	Total P2O5, Automated (%)	0096	4.615	0.4300				2			0
020.40	Total P2O5, Automated (%)	0035	4.955	0.3700				2			0
020.50	Total P2O5, ICP (%)	0524	3.887	0.0179	4.558	0.5319	0.1734	17	-1.26	NA	0
020.50	Total P2O5, ICP (%)	0422	3.900	0.2000	4.558	0.5319	0.1734	17	-1.24	NA	0
020.50	Total P2O5, ICP (%)	0516	3.964	0.6600	4.558	0.5319	0.1734	17	-1.12	NA	0
020.50	Total P2O5, ICP (%)	0523	4.150	0.1000	4.558	0.5319	0.1734	17	-0.77	NA	0
020.50	Total P2O5, ICP (%)	0472	4.260	0.0200	4.558	0.5319	0.1734	17	-0.56	NA	0
020.50	Total P2O5, ICP (%)	0552	4.290	0.3000	4.558	0.5319	0.1734	17	-0.50	NA	0
020.50	Total P2O5, ICP (%)	0390	4.375	0.0900	4.558	0.5319	0.1734	17	-0.34	NA	0
020.50	Total P2O5, ICP (%)	0543	4.428	0.3780	4.558	0.5319	0.1734	17	-0.24	NA	0
020.50	Total P2O5, ICP (%)	0423	4.560	0.0600	4.558	0.5319	0.1734	17	0.00	NA	0
020.50	Total P2O5, ICP (%)	0444	4.585	0.0300	4.558	0.5319	0.1734	17	0.05	NA	0
020.50	Total P2O5, ICP (%)	0547	4.705	0.0300	4.558	0.5319	0.1734	17	0.28	NA	0
020.50	Total P2O5, ICP (%)	0231	4.765	0.0500	4.558	0.5319	0.1734	17	0.39	NA	0
020.50	Total P2O5, ICP (%)	0389	4.815	0.0100	4.558	0.5319	0.1734	17	0.48	NA	0
020.50	Total P2O5, ICP (%)	0546	4.927	0.0310	4.558	0.5319	0.1734	17	0.69	NA	0
020.50	Total P2O5, ICP (%)	0527	5.163	0.1543	4.558	0.5319	0.1734	17	1.14	NA	0
020.50	Total P2O5, ICP (%)	0255	5.442	0.7760	4.558	0.5319	0.1734	17	1.66	NA	0
020.50	Total P2O5, ICP (%)	0402	5.540	0.0400	4.558	0.5319	0.1734	17	1.85	NA	0
020.50	Total P2O5, ICP (%)	0433	13.42	0.0200	4.558	0.5319	0.1734	17	16.66	NA	2
020.99	Total P2O5, Other (%)	0513	4.375	0.0100	4.949	0.1881	0.0667	6	-2.72	NA	0
020.99	Total P2O5, Other (%)	0565	4.910	0.0200	4.949	0.1881	0.0667	6	-0.18	NA	0
020.99	Total P2O5, Other (%)	0564	4.925	0.0500	4.949	0.1881	0.0667	6	-0.11	NA	0
020.99	Total P2O5, Other (%)	0562	4.975	0.1500	4.949	0.1881	0.0667	6	0.12	NA	0
020.99	Total P2O5, Other (%)	0567	4.985	0.0500	4.949	0.1881	0.0667	6	0.17	NA	0
020.99	Total P2O5, Other (%)	0443	5.340	0.1200	4.949	0.1881	0.0667	6	1.85	NA	0
020.99	Total P2O5, Other (%)	0515	5.783	1.447	4.949	0.1881	0.0667	6	3.95	NA	1
030.40	Citrate Insoluble P2O5, Automated, test portion 963.03 A-B (%)	0096	0.7400	0.0600				1			0
040.40	Indirect Available P2O5, Automated (5%)	0096	3.870	0.4800				1			0
041.10	Direct Available P2O5, Gravimetric Quinolinium (5%)	0102	3.850	0.1000				1			0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (5%)	0055	2.970	0.0200	4.138	0.3773	0.0937	6	-2.76	Low	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (5%)	0513	3.985	0.0700	4.138	0.3773	0.0937	6	-0.36	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (5%)	0351	4.120	0.2000	4.138	0.3773	0.0937	6	-0.04	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (5%)	0485	4.247	0.1023	4.138	0.3773	0.0937	6	0.26	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (5%)	0220	4.450	0.0200	4.138	0.3773	0.0937	6	0.74	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (5%)	0073	4.455	0.1500	4.138	0.3773	0.0937	6	0.75	OK	0
041.20	Direct Available P2O5, Spectrophotometric (5%)	0027	1.845	0.1300				1			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (5%)	0231	3.880	0.0400	4.291	0.3937	0.1250	6	-0.93	OK	0



Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
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041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (5%)	0472	4.010	0.0800	4.291	0.3937	0.1250	6	-0.64	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (5%)	0405	4.290	0.2000	4.291	0.3937	0.1250	6	0.00	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (5%)	0230	4.325	0.1700	4.291	0.3937	0.1250	6	0.08	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (5%)	0055	4.360	0.0200	4.291	0.3937	0.1250	6	0.16	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (5%)	0354	5.300	0.2400	4.291	0.3937	0.1250	6	2.28	High	0
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (5%)	0095	1.840	0.0600	3.579	1.177	0.0525	4	-1.48		0
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (5%)	0024	3.920	0.0200	3.579	1.177	0.0525	4	0.29		0
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (5%)	0029	4.135	0.0500	3.579	1.177	0.0525	4	0.47		0
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (5%)	0018	4.420	0.0800	3.579	1.177	0.0525	4	0.71		0
041.50	Direct Available P2O5, ICP (5%)	0325	3.150	0.1000				2			0
041.50	Direct Available P2O5, ICP (5%)	0231	4.045	0.0100				2			0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (5%)	0025	3.395	0.0100	4.119	0.4195	0.0806	9	-1.59	Low	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (5%)	0023	3.750	0.1000	4.119	0.4195	0.0806	9	-0.81	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (5%)	0423	3.805	0.0700	4.119	0.4195	0.0806	9	-0.69	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (5%)	0117	4.119	0.0457	4.119	0.4195	0.0806	9	0.00	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (5%)	0377	4.225	0.0700	4.119	0.4195	0.0806	9	0.23	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (5%)	0040	4.300	0.2000	4.119	0.4195	0.0806	9	0.40	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (5%)	0136	4.350	0.1000	4.119	0.4195	0.0806	9	0.51	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (5%)	0360	4.360	0.0200	4.119	0.4195	0.0806	9	0.53	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (5%)	0043	4.675	0.1100	4.119	0.4195	0.0806	9	1.22	OK	0
041.99	Direct Available P2O5, Other (5%)	0537	4.815	0.1500	4.975	0.1551	0.0740	5	-1.03		0
041.99	Direct Available P2O5, Other (5%)	0562	4.850	0.1000	4.975	0.1551	0.0740	5	-0.81		0
041.99	Direct Available P2O5, Other (5%)	0538	4.985	0.0500	4.975	0.1551	0.0740	5	0.06		0
041.99	Direct Available P2O5, Other (5%)	0531	5.020	0.0200	4.975	0.1551	0.0740	5	0.29		0
041.99	Direct Available P2O5, Other (5%)	0560	5.205	0.0500	4.975	0.1551	0.0740	5	1.48		0
048.40	Water Soluble P2O5, Automated (%)	0096	0.6600	0.0200				1			0
048.99	Water Soluble P2O5, Other (%)	0556	5.115	0.0300				1			0
050.00	Soluble K2O, STPB Oxalate (5%)	0220	4.715	0.2100	5.535	0.8268	0.1100	6	-0.88	Low	0
050.00	Soluble K2O, STPB Oxalate (5%)	0102	5.000	0.0000	5.535	0.8268	0.1100	6	-0.58	Low	0
050.00	Soluble K2O, STPB Oxalate (5%)	0049	5.030	0.1400	5.535	0.8268	0.1100	6	-0.54	Low	0
050.00	Soluble K2O, STPB Oxalate (5%)	0405	5.745	0.0300	5.535	0.8268	0.1100	6	0.23	OK	0
050.00	Soluble K2O, STPB Oxalate (5%)	0231	6.220	0.0200	5.535	0.8268	0.1100	6	0.74	High	0
050.00	Soluble K2O, STPB Oxalate (5%)	0055	6.500	0.2600	5.535	0.8268	0.1100	6	1.04	High	0
050.00	Soluble K2O, STPB Oxalate (5%)	0114	6.290	1.040	5.535	0.8268	0.1100	6	0.81	High	1
050.30	Soluble K2O, AA (Oxalate) (5%)	0073	7.230	0.1200				2			0
050.30	Soluble K2O, AA (Oxalate) (5%)	0040	7.650	0.1000				2			0
050.31	Soluble K2O, AA (Citrate) (5%)	0472	6.655	0.3300				1			0
050.50	Soluble K2O, ICP (Oxalate) (5%)	0390	6.300	0.5000	7.068	0.7824	0.2800	6	-0.87	Low	0
050.50	Soluble K2O, ICP (Oxalate) (5%)	0422	6.355	0.1300	7.068	0.7824	0.2800	6	-0.81	Low	0
050.50	Soluble K2O, ICP (Oxalate) (5%)	0292	6.945	0.0100	7.068	0.7824	0.2800	6	-0.14	OK	0
050.50	Soluble K2O, ICP (Oxalate) (5%)	0324	7.245	0.4500	7.068	0.7824	0.2800	6	0.20	OK	0
050.50	Soluble K2O, ICP (Oxalate) (5%)	0444	7.455	0.0100	7.068	0.7824	0.2800	6	0.44	OK	0
050.50	Soluble K2O, ICP (Oxalate) (5%)	0055	8.110	0.5800	7.068	0.7824	0.2800	6	1.19	High	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (5%)	0543	6.229	0.3600	7.022	0.2135	0.1333	11	-3.47	Low	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (5%)	0023	6.275	0.0500	7.022	0.2135	0.1333	11	-3.27	Low	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (5%)	0025	6.905	0.0500	7.022	0.2135	0.1333	11	-0.51	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (5%)	0485	6.940	0.1460	7.022	0.2135	0.1333	11	-0.36	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				
050.52	Soluble K2O, ICP (Citrate-EDTA) (5%)	0136	7.050	0.1000	7.022	0.2135	0.1333	11	0.12	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (5%)	0043	7.070	0.3400	7.022	0.2135	0.1333	11	0.21	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (5%)	0423	7.099	0.0420	7.022	0.2135	0.1333	11	0.34	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (5%)	0117	7.167	0.0882	7.022	0.2135	0.1333	11	0.64	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (5%)	0354	7.185	0.2300	7.022	0.2135	0.1333	11	0.72	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (5%)	0377	7.185	0.0500	7.022	0.2135	0.1333	11	0.72	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (5%)	0360	7.235	0.0100	7.022	0.2135	0.1333	11	0.93	OK	0
050.60	Soluble K2O, Flame Photometric (Oxalate) (5%)	0443	4.815	0.1300				1			0
050.61	Soluble K2O, Flame Photometric (Citrate) (5%)	0035	6.910	0.2600				1			0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (5%)	0024	6.985	0.0500	7.277	0.3198	0.0888	5	-0.91		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (5%)	0018	7.070	0.1000	7.277	0.3198	0.0888	5	-0.65		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (5%)	0029	7.132	0.0940	7.277	0.3198	0.0888	5	-0.45		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (5%)	0095	7.440	0.1200	7.277	0.3198	0.0888	5	0.51		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (5%)	0513	7.760	0.0800	7.277	0.3198	0.0888	5	1.51		0
050.99	Soluble K2O, Other (5%)	0433	2.415	0.0300	6.560	0.9802	0.1131	27	-4.23	Low	0
050.99	Soluble K2O, Other (5%)	0531	5.075	0.0500	6.560	0.9802	0.1131	27	-1.51	Low	0
050.99	Soluble K2O, Other (5%)	0515	5.212	0.0998	6.560	0.9802	0.1131	27	-1.38	Low	0
050.99	Soluble K2O, Other (5%)	0556	5.295	0.0700	6.560	0.9802	0.1131	27	-1.29	Low	0
050.99	Soluble K2O, Other (5%)	0560	5.300	0.0800	6.560	0.9802	0.1131	27	-1.29	Low	0
050.99	Soluble K2O, Other (5%)	0537	5.505	0.3700	6.560	0.9802	0.1131	27	-1.08	Low	0
050.99	Soluble K2O, Other (5%)	0538	5.930	0.1600	6.560	0.9802	0.1131	27	-0.64	Low	0
050.99	Soluble K2O, Other (5%)	0547	6.200	0.1200	6.560	0.9802	0.1131	27	-0.37	OK	0
050.99	Soluble K2O, Other (5%)	0565	6.350	0.0200	6.560	0.9802	0.1131	27	-0.21	OK	0
050.99	Soluble K2O, Other (5%)	0564	6.380	0.0400	6.560	0.9802	0.1131	27	-0.18	OK	0
050.99	Soluble K2O, Other (5%)	0523	6.400	0.0000	6.560	0.9802	0.1131	27	-0.16	OK	0
050.99	Soluble K2O, Other (5%)	0524	6.595	0.2002	6.560	0.9802	0.1131	27	0.04	OK	0
050.99	Soluble K2O, Other (5%)	0552	6.645	0.0500	6.560	0.9802	0.1131	27	0.09	OK	0
050.99	Soluble K2O, Other (5%)	0096	6.805	0.0100	6.560	0.9802	0.1131	27	0.25	OK	0
050.99	Soluble K2O, Other (5%)	0177	6.845	0.0154	6.560	0.9802	0.1131	27	0.29	OK	0
050.99	Soluble K2O, Other (5%)	0567	6.925	0.0500	6.560	0.9802	0.1131	27	0.37	OK	0
050.99	Soluble K2O, Other (5%)	0562	6.950	0.2000	6.560	0.9802	0.1131	27	0.40	OK	0
050.99	Soluble K2O, Other (5%)	0389	7.010	0.0200	6.560	0.9802	0.1131	27	0.46	OK	0
050.99	Soluble K2O, Other (5%)	0561	7.025	0.0100	6.560	0.9802	0.1131	27	0.47	OK	0
050.99	Soluble K2O, Other (5%)	0255	7.032	0.2750	6.560	0.9802	0.1131	27	0.48	OK	0
050.99	Soluble K2O, Other (5%)	0546	7.070	0.1590	6.560	0.9802	0.1131	27	0.52	High	0
050.99	Soluble K2O, Other (5%)	0501	7.200	0.0000	6.560	0.9802	0.1131	27	0.65	High	0
050.99	Soluble K2O, Other (5%)	0220	7.205	0.4100	6.560	0.9802	0.1131	27	0.66	High	0
050.99	Soluble K2O, Other (5%)	0553	7.260	0.1800	6.560	0.9802	0.1131	27	0.71	High	0
050.99	Soluble K2O, Other (5%)	0027	7.755	0.0100	6.560	0.9802	0.1131	27	1.22	High	0
050.99	Soluble K2O, Other (5%)	0527	8.013	0.3339	6.560	0.9802	0.1131	27	1.48	High	0
050.99	Soluble K2O, Other (5%)	0402	8.225	0.0900	6.560	0.9802	0.1131	27	1.70	High	0
050.99	Soluble K2O, Other (5%)	0325	6.550	0.9000	6.560	0.9802	0.1131	27	-0.01	OK	1
050.99	Soluble K2O, Other (5%)	0516	6.769	0.8380	6.560	0.9802	0.1131	27	0.21	OK	1
060.00	Water (Free), Vacuum Oven (%)	0513	2.160	0.1000				2			0
060.00	Water (Free), Vacuum Oven (%)	0096	4.985	0.6900				2			0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (4.5%)	0157	3.640	0.1400	4.016	0.3067	0.1255	4	-1.22		0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (4.5%)	0029	3.957	0.1520	4.016	0.3067	0.1255	4	-0.19		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				
101.00	Acid Soluble Ca, AA, inorganic 965.09 (4.5%)	0553	4.085	0.1100	4.016	0.3067	0.1255	4	0.23		0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (4.5%)	0513	4.380	0.1000	4.016	0.3067	0.1255	4	1.19		0
101.03	Acid Soluble Ca, AA, 965.09, test portion 2006.03A-C w/dual acid ... (4.5%)	0546	3.955	0.0605				1			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (4.5%)	0220	3.515	0.1300	3.876	0.1441	0.1188	13	-2.50	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (4.5%)	0377	3.720	0.2400	3.876	0.1441	0.1188	13	-1.08	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (4.5%)	0360	3.740	0.0400	3.876	0.1441	0.1188	13	-0.94	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (4.5%)	0354	3.825	0.0100	3.876	0.1441	0.1188	13	-0.35	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (4.5%)	0096	3.840	0.0700	3.876	0.1441	0.1188	13	-0.25	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (4.5%)	0073	3.845	0.4500	3.876	0.1441	0.1188	13	-0.21	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (4.5%)	0444	3.865	0.0100	3.876	0.1441	0.1188	13	-0.07	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (4.5%)	0472	3.875	0.0100	3.876	0.1441	0.1188	13	0.00	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (4.5%)	0433	3.908	0.0150	3.876	0.1441	0.1188	13	0.22	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (4.5%)	0035	3.985	0.4100	3.876	0.1441	0.1188	13	0.76	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (4.5%)	0324	3.995	0.0500	3.876	0.1441	0.1188	13	0.83	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (4.5%)	0041	4.035	0.0900	3.876	0.1441	0.1188	13	1.11	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (4.5%)	0402	4.750	0.0200	3.876	0.1441	0.1188	13	6.07	High	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (4.5%)	0255	4.553	0.8590	3.876	0.1441	0.1188	13	4.70	High	1
101.31	Acid Soluble Ca, ICP, test portion organic 965.09 (4.5%)	0231	3.710	0.0400				1			0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (4.5%)	0423	3.765	0.0100				2			0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (4.5%)	0095	4.000	0.0800				2			0
101.33	Acid Soluble Ca, ICP, 2017.02 (4.5%)	0177	3.366	0.0769	3.648	0.1769	0.0699	10	-1.48	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (4.5%)	0543	3.492	0.1640	3.648	0.1769	0.0699	10	-0.82	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (4.5%)	0561	3.540	0.0800	3.648	0.1769	0.0699	10	-0.57	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (4.5%)	0136	3.635	0.0100	3.648	0.1769	0.0699	10	-0.07	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (4.5%)	0055	3.640	0.0600	3.648	0.1769	0.0699	10	-0.04	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (4.5%)	0292	3.645	0.0500	3.648	0.1769	0.0699	10	-0.02	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (4.5%)	0117	3.691	0.0732	3.648	0.1769	0.0699	10	0.23	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (4.5%)	0043	3.695	0.0100	3.648	0.1769	0.0699	10	0.25	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (4.5%)	0040	3.845	0.1100	3.648	0.1769	0.0699	10	1.04	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (4.5%)	0527	4.557	0.0644	3.648	0.1769	0.0699	10	4.78	High	0
101.99	Acid Soluble Ca, Other (4.5%)	0405	3.175	0.3100	3.864	0.5370	0.1050	8	-1.17	Low	0
101.99	Acid Soluble Ca, Other (4.5%)	0501	3.545	0.0500	3.864	0.5370	0.1050	8	-0.54	OK	0
101.99	Acid Soluble Ca, Other (4.5%)	0552	3.605	0.1900	3.864	0.5370	0.1050	8	-0.44	OK	0
101.99	Acid Soluble Ca, Other (4.5%)	0390	3.640	0.0600	3.864	0.5370	0.1050	8	-0.38	OK	0
101.99	Acid Soluble Ca, Other (4.5%)	0389	3.925	0.0100	3.864	0.5370	0.1050	8	0.10	OK	0
101.99	Acid Soluble Ca, Other (4.5%)	0027	4.020	0.1100	3.864	0.5370	0.1050	8	0.27	OK	0
101.99	Acid Soluble Ca, Other (4.5%)	0564	4.375	0.0500	3.864	0.5370	0.1050	8	0.87	High	0
101.99	Acid Soluble Ca, Other (4.5%)	0565	4.630	0.0600	3.864	0.5370	0.1050	8	1.30	High	0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	0553	0.6525	0.0950				1			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0472	0.1600	0.0000	0.1931	0.0232	0.0045	6	-1.27	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0096	0.1900	0.0000	0.1931	0.0232	0.0045	6	-0.12	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0220	0.1900	0.0000	0.1931	0.0232	0.0045	6	-0.12	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	0.1900	0.0000	0.1931	0.0232	0.0045	6	-0.12	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0035	0.2085	0.0070	0.1931	0.0232	0.0045	6	0.59	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0041	0.2200	0.0200	0.1931	0.0232	0.0045	6	1.04	OK	0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0423	0.1870	0.0020				1			0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0136	0.1800	0.0000	0.2049	0.0342	0.0093	3	-0.73		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				
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0515	0.1907	0.0094	0.2049	0.0342	0.0093	3	-0.41		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0527	0.2439	0.0184	0.2049	0.0342	0.0093	3	1.14		0
121.99	Acid Soluble Mg, Other (%)	0524	0.1427	0.0079	0.1992	0.0278	0.0096	6	-1.81	OK	0
121.99	Acid Soluble Mg, Other (%)	0389	0.1900	0.0000	0.1992	0.0278	0.0096	6	-0.29	OK	0
121.99	Acid Soluble Mg, Other (%)	0523	0.2000	0.0000	0.1992	0.0278	0.0096	6	0.03	OK	0
121.99	Acid Soluble Mg, Other (%)	0516	0.2040	0.0060	0.1992	0.0278	0.0096	6	0.16	OK	0
121.99	Acid Soluble Mg, Other (%)	0515	0.2135	0.0235	0.1992	0.0278	0.0096	6	0.46	OK	0
121.99	Acid Soluble Mg, Other (%)	0552	0.2300	0.0200	0.1992	0.0278	0.0096	6	0.99	OK	0
143.99	Elemental S, Other (%)	0389	2.170	0.0200	2.763	0.3971	0.0635	4	-1.49		0
143.99	Elemental S, Other (%)	0472	2.920	0.0200	2.763	0.3971	0.0635	4	0.40		0
143.99	Elemental S, Other (%)	0255	2.953	0.0550	2.763	0.3971	0.0635	4	0.48		0
143.99	Elemental S, Other (%)	0390	3.010	0.1590	2.763	0.3971	0.0635	4	0.62		0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0561	2.255	0.0500				1			0
145.99	Sulfate S, HCl soluble, Other (%)	0444	2.435	0.0100				1			0
148.00	Total S, Combustion (1%)	0136	2.920	0.0400	3.190	0.2127	0.0426	5	-1.27		0
148.00	Total S, Combustion (1%)	0157	3.060	0.0200	3.190	0.2127	0.0426	5	-0.61		0
148.00	Total S, Combustion (1%)	0029	3.166	0.0030	3.190	0.2127	0.0426	5	-0.12		0
148.00	Total S, Combustion (1%)	0451	3.390	0.1400	3.190	0.2127	0.0426	5	0.94		0
148.00	Total S, Combustion (1%)	0049	3.415	0.0100	3.190	0.2127	0.0426	5	1.06		0
148.01	Total S, Gravimetric - sulfate and elemental (1%)	0055	2.300	0.0000	2.476	0.1630	0.0640	5	-1.08		0
148.01	Total S, Gravimetric - sulfate and elemental (1%)	0073	2.325	0.0900	2.476	0.1630	0.0640	5	-0.93		0
148.01	Total S, Gravimetric - sulfate and elemental (1%)	0324	2.505	0.0700	2.476	0.1630	0.0640	5	0.18		0
148.01	Total S, Gravimetric - sulfate and elemental (1%)	0513	2.565	0.0300	2.476	0.1630	0.0640	5	0.55		0
148.01	Total S, Gravimetric - sulfate and elemental (1%)	0230	2.685	0.1300	2.476	0.1630	0.0640	5	1.28		0
148.07	Total S, ICP, test portion as in 2017.02 (1%)	0444	2.570	0.1000	3.058	0.2804	0.0524	11	-1.63	Low	0
148.07	Total S, ICP, test portion as in 2017.02 (1%)	0515	2.728	0.0789	3.058	0.2804	0.0524	11	-1.10	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1%)	0543	2.888	0.1240	3.058	0.2804	0.0524	11	-0.57	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1%)	0117	2.973	0.0412	3.058	0.2804	0.0524	11	-0.28	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1%)	0402	3.045	0.0100	3.058	0.2804	0.0524	11	-0.04	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1%)	0023	3.060	0.0200	3.058	0.2804	0.0524	11	0.01	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1%)	0546	3.121	0.0691	3.058	0.2804	0.0524	11	0.21	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1%)	0177	3.172	0.0245	3.058	0.2804	0.0524	11	0.38	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1%)	0040	3.200	0.0000	3.058	0.2804	0.0524	11	0.47	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1%)	0292	3.335	0.0300	3.058	0.2804	0.0524	11	0.92	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (1%)	0527	3.836	0.0789	3.058	0.2804	0.0524	11	2.59	High	0
148.99	Total S, Other (1%)	0560	1.350	0.0800	2.368	0.6943	0.0536	14	-1.47	Low	0
148.99	Total S, Other (1%)	0220	1.470	0.0200	2.368	0.6943	0.0536	14	-1.29	Low	0
148.99	Total S, Other (1%)	0553	1.830	0.1200	2.368	0.6943	0.0536	14	-0.77	Low	0
148.99	Total S, Other (1%)	0562	2.000	0.2000	2.368	0.6943	0.0536	14	-0.53	Low	0
148.99	Total S, Other (1%)	0567	2.040	0.0600	2.368	0.6943	0.0536	14	-0.47	Low	0
148.99	Total S, Other (1%)	0564	2.055	0.0300	2.368	0.6943	0.0536	14	-0.45	OK	0
148.99	Total S, Other (1%)	0565	2.080	0.0200	2.368	0.6943	0.0536	14	-0.41	OK	0
148.99	Total S, Other (1%)	0523	2.555	0.0100	2.368	0.6943	0.0536	14	0.27	OK	0
148.99	Total S, Other (1%)	0516	2.753	0.1040	2.368	0.6943	0.0536	14	0.55	High	0
148.99	Total S, Other (1%)	0501	2.865	0.0500	2.368	0.6943	0.0536	14	0.72	High	0
148.99	Total S, Other (1%)	0433	2.910	0.0130	2.368	0.6943	0.0536	14	0.78	High	0
148.99	Total S, Other (1%)	0096	2.950	0.0200	2.368	0.6943	0.0536	14	0.84	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 (1%)	0354	3.000	0.0200	2.368	0.6943	0.0536	14	0.91	High	0
148.99	Total S, Other (1%)	0072	3.293	0.0038	2.368	0.6943	0.0536	14	1.33	High	0
149.04	S - HNO3 soluble, ICP (%)	0524	3.027	0.0405	3.106	0.1293	0.0535	3	-0.61		0
149.04	S - HNO3 soluble, ICP (%)	0423	3.035	0.0700	3.106	0.1293	0.0535	3	-0.55		0
149.04	S - HNO3 soluble, ICP (%)	0231	3.255	0.0500	3.106	0.1293	0.0535	3	1.15		0
151.30	Acid Soluble As, ICP (ppm)	0389	0.0830	0.0020	0.3180	0.3433	0.1180	3	-0.68		0
151.30	Acid Soluble As, ICP (ppm)	0255	0.1590	0.1060	0.3180	0.3433	0.1180	3	-0.46		0
151.30	Acid Soluble As, ICP (ppm)	0524	0.7120	0.2460	0.3180	0.3433	0.1180	3	1.15		0
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0220	1.700	0.2000				1			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0515	0.0000	0.0000				0			4
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0527	< 0.0001					0			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0117	< 10					0			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)	0220	1.600	0.0000				1			0
151.99	Acid Soluble As, Other (ppm)	0405	< 1					1			5
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	< 0.01					0			5
165.99	Acid Soluble B, Other (%)	0524	0.0001	0.0000	0.0004	0.0004	0.0001	4	-0.68		0
165.99	Acid Soluble B, Other (%)	0523	0.0002	0.0000	0.0004	0.0004	0.0001	4	-0.47		0
165.99	Acid Soluble B, Other (%)	0515	0.0004	0.0002	0.0004	0.0004	0.0001	4	-0.05		0
165.99	Acid Soluble B, Other (%)	0516	0.0010	0.0000	0.0004	0.0004	0.0001	4	1.21		0
165.99	Acid Soluble B, Other (%)	0552	0.0000	0.0000	0.0004	0.0004	0.0001	4			4
165.99	Acid Soluble B, Other (%)	0527	< 0.001		0.0004	0.0004	0.0001	4			5
181.30	Acid Soluble Cd, ICP (ppm)	0255	0.0100	0.0020	0.0222	0.0129	0.0025	3	-0.94		0
181.30	Acid Soluble Cd, ICP (ppm)	0523	0.0208	0.0024	0.0222	0.0129	0.0025	3	-0.11		0
181.30	Acid Soluble Cd, ICP (ppm)	0524	0.0357	0.0032	0.0222	0.0129	0.0025	3	1.05		0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0220	< 0.1					0			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0515	1.038	0.4206				1			0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0527	< 0.0001					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	0.4320	0.4643				1			0
181.99	Acid Soluble Cd, Other (ppm)	0405	0.0250	0.0100				1			0
181.99	Acid Soluble Cd, Other (ppm)	0220	< 0.1					1			5
191.30	Acid Soluble Cr, ICP (ppm)	0389	0.7100	0.1200	4.169	2.284	0.8377	5	-1.51		0
191.30	Acid Soluble Cr, ICP (ppm)	0524	3.073	0.1684	4.169	2.284	0.8377	5	-0.48		0
191.30	Acid Soluble Cr, ICP (ppm)	0523	5.059	1.010	4.169	2.284	0.8377	5	0.39		0
191.30	Acid Soluble Cr, ICP (ppm)	0096	5.700	0.0000	4.169	2.284	0.8377	5	0.67		0
191.30	Acid Soluble Cr, ICP (ppm)	0035	6.305	2.890	4.169	2.284	0.8377	5	0.94		0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0220	5.350	0.3000				1			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0117	5.822	0.4260	9.205	5.606	5.473	3	-0.60		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0527	6.118	0.3225	9.205	5.606	5.473	3	-0.55		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0515	15.68	15.67	9.205	5.606	5.473	3	1.15		0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0515	10.62	2.552				1			0
191.99	Acid Soluble Cr, Other (ppm)	0220	5.400	0.0000				2			0
191.99	Acid Soluble Cr, Other (ppm)	0405	10.00	2.000				2			0
202.30	Acid Soluble Co, ICP (ppm)	0389	0.1315	0.0050	1.529	0.8677	0.1471	5	-1.61		0
202.30	Acid Soluble Co, ICP (ppm)	0523	1.459	0.2360	1.529	0.8677	0.1471	5	-0.08		0
202.30	Acid Soluble Co, ICP (ppm)	0035	1.550	0.3400	1.529	0.8677	0.1471	5	0.02		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				
202.30	Acid Soluble Co, ICP (ppm)	0524	2.206	0.1143	1.529	0.8677	0.1471	5	0.78		0
202.30	Acid Soluble Co, ICP (ppm)	0096	2.300	0.0400	1.529	0.8677	0.1471	5	0.89		0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0220	0.9750	0.0500				2			0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0423	2.015	0.1500				2			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0527	2.591	0.0859	3.075	0.5557	1.101	3	-0.87		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0515	2.952	0.5679	3.075	0.5557	1.101	3	-0.22		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0546	3.682	2.650	3.075	0.5557	1.101	3	1.09		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0117	< 5		3.075	0.5557	1.101	3			5
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0515	4.558	1.564				1			0
202.99	Acid Soluble Co, Other (ppm)	0405	1.500	0.0000	1.774	0.3178	0.0777	3	-0.86		0
202.99	Acid Soluble Co, Other (ppm)	0220	1.700	0.2000	1.774	0.3178	0.0777	3	-0.23		0
202.99	Acid Soluble Co, Other (ppm)	0255	2.123	0.0330	1.774	0.3178	0.0777	3	1.10		0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0255	0.0010	0.0000	0.0049	0.0082	0.0071	5	-0.41		0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0402	0.0010	0.0000	0.0049	0.0082	0.0071	5	-0.41		0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0096	0.0011	0.0000	0.0049	0.0082	0.0071	5	-0.40		0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0035	0.0017	0.0004	0.0049	0.0082	0.0071	5	-0.34		0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0041	0.0195	0.0350	0.0049	0.0082	0.0071	5	1.56		0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0552	0.0000	0.0000	0.0049	0.0082	0.0071	5			4
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	< 0.01		0.0049	0.0082	0.0071	5			5
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0095	0.0014	0.0002				1			0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0136	0.0014	0.0000	2.633	5.885	0.6562	5	-0.39		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0527	0.0016	0.0001	2.633	5.885	0.6562	5	-0.39		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0515	0.0016	0.0002	2.633	5.885	0.6562	5	-0.39		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0546	0.0016	0.0008	2.633	5.885	0.6562	5	-0.39		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0043	13.16	3.280	2.633	5.885	0.6562	5	1.56		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0117	< 0.0025		2.633	5.885	0.6562	5			5
221.99	Acid Soluble Cu, Other (%)	0405	0.0010	0.0000	0.0015	0.0008	0.0002	6	-0.54	OK	0
221.99	Acid Soluble Cu, Other (%)	0516	0.0010	0.0000	0.0015	0.0008	0.0002	6	-0.54	OK	0
221.99	Acid Soluble Cu, Other (%)	0523	0.0010	0.0000	0.0015	0.0008	0.0002	6	-0.54	OK	0
221.99	Acid Soluble Cu, Other (%)	0389	0.0013	0.0001	0.0015	0.0008	0.0002	6	-0.28	OK	0
221.99	Acid Soluble Cu, Other (%)	0515	0.0021	0.0009	0.0015	0.0008	0.0002	6	0.58	OK	0
221.99	Acid Soluble Cu, Other (%)	0524	0.0048	0.0004	0.0015	0.0008	0.0002	6	3.51	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0096	0.0300	0.0000	0.0375	0.0042	0.0002	5	-1.54		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0035	0.0385	0.0010	0.0375	0.0042	0.0002	5	0.21		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0444	0.0390	0.0000	0.0375	0.0042	0.0002	5	0.31		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0354	0.0400	0.0000	0.0375	0.0042	0.0002	5	0.51		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0472	0.0400	0.0000	0.0375	0.0042	0.0002	5	0.51		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0552	0.0500	0.0400	0.0375	0.0042	0.0002	5	2.57		1
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0041	< 0.01		0.0375	0.0042	0.0002	5			5
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0136	0.0360	0.0000	0.0555	0.0158	0.0249	4	-1.24		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0527	0.0507	0.0003	0.0555	0.0158	0.0249	4	-0.31		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0546	0.0632	0.0575	0.0555	0.0158	0.0249	4	0.48		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0515	0.0723	0.0418	0.0555	0.0158	0.0249	4	1.06		0
241.99	Acid Soluble Fe, Other (%)	0524	0.0324	0.0023	0.0444	0.0135	0.0056	5	-0.90		0
241.99	Acid Soluble Fe, Other (%)	0389	0.0398	0.0053	0.0444	0.0135	0.0056	5	-0.35		0
241.99	Acid Soluble Fe, Other (%)	0523	0.0400	0.0040	0.0444	0.0135	0.0056	5	-0.33		0
241.99	Acid Soluble Fe, Other (%)	0515	0.0424	0.0034	0.0444	0.0135	0.0056	5	-0.15		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				
241.99	Acid Soluble Fe, Other (%)	0516	0.0675	0.0130	0.0444	0.0135	0.0056	5	1.72		0
251.30	Acid Soluble Pb, ICP (ppm)	0389	0.5700	0.4000	2.966	1.748	0.6590	6	-1.22	NA	0
251.30	Acid Soluble Pb, ICP (ppm)	0524	2.481	0.0182	2.966	1.748	0.6590	6	-0.25	NA	0
251.30	Acid Soluble Pb, ICP (ppm)	0523	2.834	0.2210	2.966	1.748	0.6590	6	-0.07	NA	0
251.30	Acid Soluble Pb, ICP (ppm)	0255	3.228	0.0650	2.966	1.748	0.6590	6	0.13	NA	0
251.30	Acid Soluble Pb, ICP (ppm)	0035	3.335	2.350	2.966	1.748	0.6590	6	0.19	NA	0
251.30	Acid Soluble Pb, ICP (ppm)	0096	5.350	0.9000	2.966	1.748	0.6590	6	1.21	NA	0
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0220	3.300	0.0000				1			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0136	2.960	0.1800	7.699	7.409	2.115	3	-0.64		0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0527	3.900	0.0108	7.699	7.409	2.115	3	-0.51		0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0515	16.24	6.155	7.699	7.409	2.115	3	1.15		0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0117	< 5		7.699	7.409	2.115	3			5
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0515	7.441	3.481				1			0
251.99	Acid Soluble Pb, Other (ppm)	0405	2.750	0.1000				2			0
251.99	Acid Soluble Pb, Other (ppm)	0220	3.950	1.300				2			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0096	0.0014	0.0000	0.0017	0.0003	0.0002	3	-1.05		0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0035	0.0018	0.0005	0.0017	0.0003	0.0002	3	0.11		0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0041	0.0020	0.0000	0.0017	0.0003	0.0002	3	0.94		0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0354	< 0.01		0.0017	0.0003	0.0002	3			5
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)	0552	0.0150	0.0100				1			0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0136	0.0013	0.0000	0.0019	0.0008	0.0003	4	-0.77		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0546	0.0016	0.0005	0.0019	0.0008	0.0003	4	-0.44		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0527	0.0017	0.0000	0.0019	0.0008	0.0003	4	-0.25		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0515	0.0030	0.0008	0.0019	0.0008	0.0003	4	1.46		0
261.99	Acid Soluble Mn, Other (%)	0523	0.0010	0.0000	0.0021	0.0012	0.0005	5	-0.86		0
261.99	Acid Soluble Mn, Other (%)	0389	0.0014	0.0000	0.0021	0.0012	0.0005	5	-0.53		0
261.99	Acid Soluble Mn, Other (%)	0515	0.0014	0.0002	0.0021	0.0012	0.0005	5	-0.53		0
261.99	Acid Soluble Mn, Other (%)	0524	0.0025	0.0001	0.0021	0.0012	0.0005	5	0.33		0
261.99	Acid Soluble Mn, Other (%)	0516	0.0040	0.0020	0.0021	0.0012	0.0005	5	1.60		0
281.30	Acid Soluble Hg, ICP (ppm)	0515	0.0000	0.0000				0			4
281.30	Acid Soluble Hg, ICP (ppm)	0527	< 0.0001					0			5
281.99	Acid Soluble Hg, Other (ppm)	0220	< 0.01					0			5
281.99	Acid Soluble Hg, Other (ppm)	0405	< 0.01					0			5
289.30	Acid Soluble Mo, ICP (ppm)	0524	0.4530	0.0002	2.490	4.202	0.0734	5	-0.48		0
289.30	Acid Soluble Mo, ICP (ppm)	0255	0.4990	0.0360	2.490	4.202	0.0734	5	-0.47		0
289.30	Acid Soluble Mo, ICP (ppm)	0523	0.5638	0.1008	2.490	4.202	0.0734	5	-0.46		0
289.30	Acid Soluble Mo, ICP (ppm)	0035	0.9350	0.2300	2.490	4.202	0.0734	5	-0.37		0
289.30	Acid Soluble Mo, ICP (ppm)	0516	10.00	0.0000	2.490	4.202	0.0734	5	1.79		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0546	0.5394	0.0350	17.48	29.26	2.237	3	-0.58		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	0.6415	0.0081	17.48	29.26	2.237	3	-0.58		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0515	51.27	6.668	17.48	29.26	2.237	3	1.15		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0117	< 5		17.48	29.26	2.237	3			5
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0515	39.15	7.866				1			0
289.99	Acid Soluble Mo, Other (ppm)	0405	0.6600	0.1400				1			0
289.99	Acid Soluble Mo, Other (ppm)	0220	< 0.3					1			5
291.30	Acid Soluble Ni, ICP (ppm)	0524	1.991	0.4148	2.679	0.8006	0.4360	4	-0.86		0
291.30	Acid Soluble Ni, ICP (ppm)	0523	2.304	0.2290	2.679	0.8006	0.4360	4	-0.47		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				
291.30	Acid Soluble Ni, ICP (ppm)	0096	2.600	0.0000	2.679	0.8006	0.4360	4	-0.10		0
291.30	Acid Soluble Ni, ICP (ppm)	0035	3.820	1.100	2.679	0.8006	0.4360	4	1.43		0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0220	2.650	0.1000				1			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0527	2.780	0.2133				2			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0515	3.479	2.041				2			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0117	< 5					2			5
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0515	4.532	0.5950				1			0
291.99	Acid Soluble Ni, Other (ppm)	0255	1.753	0.5820	2.518	0.8936	1.194	3	-0.86		0
291.99	Acid Soluble Ni, Other (ppm)	0220	2.300	0.0000	2.518	0.8936	1.194	3	-0.24		0
291.99	Acid Soluble Ni, Other (ppm)	0405	3.500	3.000	2.518	0.8936	1.194	3	1.10		0
301.30	Acid Soluble Se, ICP (ppm)	0524	0.5550	0.0500				1			0
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0220	0.3600	0.0200				1			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0515	3.955	1.891				1			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0527	< 0.001					1			5
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0515	11.95	0.7900				1			0
301.99	Acid Soluble Se, Other (ppm)	0220	0.3500	0.0200	1.294	0.8503	0.0430	3	-1.11		0
301.99	Acid Soluble Se, Other (ppm)	0255	1.532	0.1090	1.294	0.8503	0.0430	3	0.28		0
301.99	Acid Soluble Se, Other (ppm)	0405	2.000	0.0000	1.294	0.8503	0.0430	3	0.83		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0136	0.6700	0.0000	0.7395	0.0914	0.0084	3	-0.76		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0035	0.7055	0.0190	0.7395	0.0914	0.0084	3	-0.37		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	0.8431	0.0061	0.7395	0.0914	0.0084	3	1.13		0
311.99	Sodium, Other (%)	0096	0.6850	0.0100				2			0
311.99	Sodium, Other (%)	0354	0.7250	0.0100				2			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0402	0.0090	0.0000	0.0097	0.0006	0.0009	7	-1.03	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0035	0.0093	0.0000	0.0097	0.0006	0.0009	7	-0.59	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0255	0.0095	0.0010	0.0097	0.0006	0.0009	7	-0.30	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0444	0.0095	0.0010	0.0097	0.0006	0.0009	7	-0.30	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0354	0.0100	0.0000	0.0097	0.0006	0.0009	7	0.43	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0472	0.0100	0.0000	0.0097	0.0006	0.0009	7	0.43	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0041	0.0110	0.0040	0.0097	0.0006	0.0009	7	1.90	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0096	116.9	1.900	0.0097	0.0006	0.0009	7	171516.88	High	2
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0552	0.0000	0.0000	0.0097	0.0006	0.0009	7			4
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0220	0.0092	0.0003	0.0097	0.0005	0.0001	3	-1.15		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0095	0.0100	0.0000	0.0097	0.0005	0.0001	3	0.58		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0423	0.0100	0.0000	0.0097	0.0005	0.0001	3	0.58		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0136	0.0082	0.0000	0.0093	0.0011	0.0003	4	-1.02		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0546	0.0087	0.0004	0.0093	0.0011	0.0003	4	-0.54		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0515	0.0096	0.0004	0.0093	0.0011	0.0003	4	0.31		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0527	0.0106	0.0004	0.0093	0.0011	0.0003	4	1.25		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0117	< 0.01		0.0093	0.0011	0.0003	4			5
321.99	Acid Soluble Zn, Other (%)	0516	0.0075	0.0010	0.0093	0.0013	0.0010	7	-1.23	OK	0
321.99	Acid Soluble Zn, Other (%)	0405	0.0085	0.0010	0.0093	0.0013	0.0010	7	-0.55	OK	0
321.99	Acid Soluble Zn, Other (%)	0389	0.0090	0.0005	0.0093	0.0013	0.0010	7	-0.24	OK	0
321.99	Acid Soluble Zn, Other (%)	0220	0.0093	0.0005	0.0093	0.0013	0.0010	7	-0.03	OK	0
321.99	Acid Soluble Zn, Other (%)	0523	0.0095	0.0010	0.0093	0.0013	0.0010	7	0.14	OK	0
321.99	Acid Soluble Zn, Other (%)	0515	0.0104	0.0019	0.0093	0.0013	0.0010	7	0.72	OK	0
321.99	Acid Soluble Zn, Other (%)	0524	0.0111	0.0011	0.0093	0.0013	0.0010	7	1.19	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				

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.