

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Methods: 113

Sample # 151112

Statistical Summary

Labs Reporting: 87

MAP

Issue Date : 12/31/2015

Method Code	Analyte & Method	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Analyte Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	IA %RSD	Average Range (R-bar)	Horwitz %RSD
001.10	Ammoniacal Nitrogen, Magnesium Oxide Method (%)	9	9	10.75	0.9180	10.99		0.3097	0.0730	2.82%		0.1109	2.79%
001.99	Ammoniacal Nitrogen, Other (%)	13	12	11.13	0.1714	11.16		0.1494	0.0305	1.34%		0.0825	2.78%
009.10	Ammoniacal Plus Nitrate Nitrogen, Devarda (%)	3	3	11.10	0.3753	11.10		0.3753	0.1532	3.38%		0.0667	2.78%
010.11	Total Nitrogen, Modified Comprehensive (11%)	7	7	11.12	0.2012	11.13	0.5979	0.2074	0.0554	1.86%	2.69%	0.0600	2.78%
010.12	Total Nitrogen, Salicylic (11%)	1		10.47									
010.60	Total Nitrogen, Combustion (11%)	61	59	11.21	0.1872	11.20	0.5979	0.1697	0.0156	1.51%	2.67%	0.1053	2.78%
010.99	Total Nitrogen, Other (11%)	6	6	11.12	0.2977	11.18	0.5979	0.1201	0.0347	1.07%	2.67%	0.1717	2.78%
020.10	Total Phosphorus as P2O5, Gravimetric Quinolinium ... (%)	5	5	52.69	0.4076	52.69		0.4076	0.1289	0.77%		0.1700	2.20%
020.20	Total Phosphorus as P2O5, Spectrophotometric Molyb... (%)	20	18	52.46	0.7870	52.44		0.5620	0.0937	1.07%		0.3055	2.20%
020.40	Total Phosphorus as P2O5, Automated (%)	3	3	50.98	1.825	50.98		1.825	0.7449	3.58%		0.1467	2.21%
020.50	Total Phosphorus as P2O5, ICP (%)	15	15	53.51	4.077	52.37		2.141	0.3908	4.09%		0.6552	2.20%
020.99	Total Phosphorus as P2O5, Other (%)	2	2	53.27	0.2121								
030.20	Citrate Insoluble Phosphorus as P2O5, Spectrophoto... (%)	1		0.0100									
030.40	Citrate Insoluble Phosphorus as P2O5, Automated, t... (%)	1		0.0300									
040.20	Indirect Available Phosphorus as P2O5, Spectrophot... (52%)	1		52.29									
040.40	Indirect Available Phosphorus as P2O5, Automated (52%)	1		52.33									
040.50	Indirect Available Phosphorus as P2O5, ICP (52%)	1		51.67									
041.10	Direct Available Phosphorus as P2O5, Gravimetric Q... (52%)	9	9	52.34	0.1627	52.35	1.1048	0.1657	0.0391	0.32%	1.06%	0.2691	2.20%
041.11	Direct Available Phosphorus as P2O5, Gravimetric Q... (52%)	4	4	52.61	0.3193	52.61	1.1048	0.3193	0.1129	0.61%	1.05%	0.2300	2.20%
041.20	Direct Available Phosphorus as P2O5, Spectrophotom... (52%)	1		50.69									
041.21	Direct Available Phosphorus as P2O5, Spectrophotom... (52%)	2	2	51.81	0.5480								
041.40	Direct Available Phosphorus as P2O5, Automated (52%)	2	2	52.98	3.461								
041.50	Direct Available Phosphorus as P2O5, ICP (52%)	5	5	51.74	1.173	51.74	1.1048	1.173	0.3711	2.27%	1.07%	0.6980	2.21%
041.51	Direct Available Phosphorus as P2O5, ICP, Citrate-... (52%)	5	5	52.10	0.4085	52.10	1.1048	0.4085	0.1292	0.78%	1.06%	0.3260	2.21%
041.60	Direct Available Phosphorus as P2O5, Citrate-EDTA ... (52%)	14	13	52.11	0.8566	52.20	1.1048	0.6840	0.1342	1.31%	1.06%	0.3553	2.21%
041.99	Direct Available Phosphorus as P2O5, Other (52%)	4	4	52.81	0.9238	52.81	1.1048	0.9237	0.3266	1.75%	1.05%	0.7325	2.20%
048.10	Water Soluble Phosphorus as P2O5, Gravimetric Quin... (%)	1		47.56									
048.20	Water Soluble Phosphorus as P2O5, Spectrophotometr... (%)	3	3	47.66	0.9506	47.66		0.9506	0.3881	1.99%		0.1133	2.24%
048.40	Water Soluble Phosphorus as P2O5, Automated (%)	1		48.54									
048.99	Water Soluble Phosphorus as P2O5, Other (%)	1		52.96									
050.00	Soluble Potassium as K2O, STPB Oxalate (%)	2	1	61.42									

Method Code	Analyte & Method	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Analyte Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	IA %RSD	Average Range (R-bar)	Horwitz %RSD
050.31	Soluble Potassium as K2O, AA (Citrate) (%)	1		0.0750									
050.50	Soluble Potassium as K2O, ICP (Oxalate) (%)	2	2	0.2882	0.0097								
050.51	Soluble Potassium as K2O, ICP (Citrate) (%)	1		0.0000									
050.52	Soluble Potassium as K2O, ICP (Citrate-EDTA) (%)	2	2	0.3463	0.0053								
050.60	Soluble Potassium as K2O, Flame Photometric (Oxala... (%)	1		51.16									
050.99	Soluble Potassium as K2O, Other (%)	6	5	0.2965	0.0408	0.2965		0.0408	0.0129	13.77%		0.0022	4.80%
060.00	Water (Free), Vacuum Oven (%)	3	3	1.735	0.2427	1.735		0.2427	0.0991	13.99%		0.1367	3.68%
060.20	Water (Free), Karl Fischer (%)	1		0.8800									
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours,... (%)	2	2	2.623	0.2440								
060.99	Water (Free), Other (%)	2	2	1.443	0.2793								
101.00	Acid Soluble Calcium, AA, inorganic 965.09 (%)	2	2	0.1983	0.0449								
101.03	Acid Soluble Calcium, AA, 965.09, test portion 200... (%)	1		0.1763									
101.30	Acid Soluble Calcium, ICP, test portion inorganic ... (%)	9	8	0.2128	0.0216	0.2148		0.0209	0.0052	9.75%		0.0060	5.04%
101.99	Acid Soluble Calcium, Other (%)	1		0.2300									
121.00	Acid Soluble Magnesium, AA, inorganic 965.09 (%)	2	2	1.250	0.0064								
121.03	Acid Soluble Magnesium, AA, 965.09, test portion 2... (%)	1		1.186									
121.30	Acid Soluble Magnesium, ICP, test portion inorgani... (%)	10	10	1.050	0.3447	1.113		0.1226	0.0274	11.01%		0.0275	3.94%
121.99	Acid Soluble Magnesium, Other (%)	1		0.1250									
143.99	Elemental Sulfur, Other (%)	1		1.905									
148.00	Total Sulfur, Combustion (%)	1		1.965									
148.07	Total Sulfur, ICP, test portion as in 2006.03 modi... (%)	2	2	2.027	0.0676								
148.99	Total Sulfur, Other (%)	4	3	1.903	0.1566	1.903		0.1566	0.0639	8.23%		0.0477	3.63%
151.30	Acid Soluble Arsenic , ICP (ppm)	7	5	1.753	0.8923	1.753		0.8923	0.2822	50.90%		0.1553	14.70%
151.33	Acid Soluble Arsenic , ICP, 2006.03 modified w/9:... (ppm)	1		2.219									
151.34	Acid Soluble Arsenic , ICP, EPA 3050B/6010C (ppm)	1		1.525									
151.99	Acid Soluble Arsenic , Other (ppm)	1		4.450									
165.30	Acid Soluble Boron , ICP, test portion in 982.01 (%)	2	2	0.0151	0.0005								
165.99	Acid Soluble Boron , Other (%)	3	3	0.0118	0.0028	0.0118		0.0028	0.0011	23.27%		0.0034	7.80%
181.30	Acid Soluble Cadmium , ICP (ppm)	10	9	38.20	3.481	38.35		3.676	0.8665	9.59%		0.9090	9.24%
181.33	Acid Soluble Cadmium , ICP, 2006.03 modified w/9:... (ppm)	2	2	32.53	7.786								
181.34	Acid Soluble Cadmium , ICP, EPA 3050B/6010C (ppm)	1		34.91									
181.99	Acid Soluble Cadmium , Other (ppm)	3	3	35.98	4.539	35.98		4.539	1.853	12.62%		0.3667	9.33%
191.30	Acid Soluble Chromium , ICP (ppm)	11	11	335.8	60.50	345.4		41.56	8.860	12.03%		6.850	6.64%
191.32	Acid Soluble Chromium , ICP, 2006.03 (ppm)	1		391.0									
191.33	Acid Soluble Chromium , ICP, 2006.03 modified w/9... (ppm)	2	2	341.8	18.59								
191.34	Acid Soluble Chromium , ICP, EPA 3050B/6010C (ppm)	1		333.5									
191.99	Acid Soluble Chromium , Other (ppm)	3	3	359.0	49.07	359.0		49.07	20.03	13.67%		20.00	6.60%
202.30	Acid Soluble Cobalt , ICP (ppm)	8	6	1.738	0.7201	1.668		0.6589	0.1902	39.49%		0.1100	14.81%
202.33	Acid Soluble Cobalt , ICP, 2006.03 modified w/9:3... (ppm)	1		0.4305									
202.34	Acid Soluble Cobalt , ICP, EPA 3050B/6010C (ppm)	1		0.5050									
202.99	Acid Soluble Cobalt , Other (ppm)	2	2	1.113	0.6541								
221.00	Acid Soluble Copper , AA, inorganic 965.09 (%)	1		0.0006									

Method Code	Analyte & Method	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Analyte Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	IA %RSD	Average Range (R-bar)	Horwitz %RSD
221.30	Acid Soluble Copper , ICP, test portion inorganic... (%)	6	2	0.0029	0.0037	0.0029		0.0037	0.0018	126.79%		0.0006	9.64%
221.31	Acid Soluble Copper , ICP, test portion organic 9... (%)	1		0.0015									
221.32	Acid Soluble Copper , ICP, test portion 2006.03A-... (%)	2	2	0.2001	0.2828								
221.33	Acid Soluble Copper , ICP, test portion 2006.03A-... (%)	1		0.0003									
221.99	Acid Soluble Copper , Other (%)	2	2	0.0004	0.0003								
241.00	Acid Soluble Iron , AA, inorganic 965.09 (%)	2	2	1.112	0.0311								
241.03	Acid Soluble Iron , AA, 965.09, test portion 2006.... (%)	1		1.129									
241.30	Acid Soluble Iron , ICP, test portion inorganic 96... (%)	10	9	1.074	0.0943	1.083		0.0882	0.0208	8.14%		0.0150	3.95%
241.99	Acid Soluble Iron , Other (%)	1		1.095									
251.00	Acid Soluble Lead , AA, test portion as in 2006.0... (ppm)	1		0.0000									
251.30	Acid Soluble Lead , ICP (ppm)	6	5	1.974	1.659	1.974		1.659	0.5246	84.05%		0.1640	14.44%
251.33	Acid Soluble Lead , ICP, 2006.03 modified w/9:3 H... (ppm)	1		2.622									
251.34	Acid Soluble Lead , ICP, EPA 3050B/6010C (ppm)	1		0.0000									
251.99	Acid Soluble Lead , Other (ppm)	1		2.400									
261.12	Acid Soluble Manganese , AA, inorganic 965.09 (%)	1		0.0070									
261.15	Acid Soluble Manganese , AA, 965.09, test portion... (%)	1		0.0084									
261.30	Acid Soluble Manganese , ICP, test portion 972.02a (%)	9	9	0.0086	0.0010	0.0085		0.0010	0.0002	12.35%		0.0001	8.20%
261.31	Acid Soluble Manganese , ICP, test portion 972.02b (%)	1		0.0100									
261.99	Acid Soluble Manganese , Other (%)	1		0.0081									
281.00	Acid Soluble Mercury , AA (ppm)	1		0.0051									
281.30	Acid Soluble Mercury , ICP (ppm)	2	1	0.0015									
289.30	Acid Soluble Molybdenum , ICP (ppm)	10	10	9.729	3.661	10.55		1.762	0.3939	16.70%		0.4600	11.22%
289.33	Acid Soluble Molybdenum , ICP, 2006.03 modified w... (ppm)	2	2	10.25	1.745								
289.34	Acid Soluble Molybdenum , ICP, EPA 3050B/6010C (ppm)	1		8.450									
289.99	Acid Soluble Molybdenum , Other (ppm)	2	2	10.15	4.384								
291.30	Acid Soluble Nickel , ICP (ppm)	11	11	35.70	3.816	35.28		3.114	0.6639	8.82%		1.853	9.36%
291.33	Acid Soluble Nickel , ICP, 2006.03 modified w/9:3... (ppm)	2	2	32.99	2.203								
291.34	Acid Soluble Nickel , ICP, EPA 3050B/6010C (ppm)	1		32.58									
291.99	Acid Soluble Nickel , Other (ppm)	3	3	32.28	2.023	32.28		2.023	0.8257	6.27%		1.700	9.48%
301.30	Acid Soluble Selenium , ICP (ppm)	3	1	0.0019		32.28		2.023	1.430	6.27%		0.0000	9.48%
301.33	Acid Soluble Selenium , ICP, 2006.03 modified w/9... (ppm)	1		0.0000									
301.34	Acid Soluble Selenium , ICP, EPA 3050B/6010C (ppm)	1		0.2027									
311.33	Sodium, ICP, 2006.03 modified w/9:3 HNO3:HCl test ... (%)	3	3	0.2326	0.0274	0.2326		0.0274	0.0112	11.79%		0.0050	4.98%
311.99	Sodium, Other (%)	3	3	0.2457	0.0140	0.2457		0.0140	0.0057	5.70%		0.0053	4.94%
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (%)	5	5	0.0593	0.0039	0.0593		0.0039	0.0012	6.51%		0.0005	6.12%
321.03	Acid Soluble Zinc , AA, 965.09, test portion 2006... (%)	1		0.0592									
321.30	Acid Soluble Zinc , ICP, test portion inorganic 9... (%)	22	20	0.0552	0.0153	0.0590		0.0058	0.0009	9.82%		0.0016	6.12%
321.32	Acid Soluble Zinc , ICP, test portion 2006.03A-C (%)	1		0.0575									
321.33	Acid Soluble Zinc , ICP, test portion 2006.03A-C,... (%)	2	2	293.0	414.2								
321.99	Acid Soluble Zinc , Other (%)	4	4	0.0594	0.0018	0.0594		0.0018	0.0006	3.04%		0.0031	6.12%

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Method Proficiency For All Labs (Lab Values)

Sample # 151112

Method Precision Report

Issue Date : 12/31/2015

MAP

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 Nitrogen, Magnesium Oxide Method (%)	9	8	11.04	0.2447	0.2353	0.0953	0.2538	2.13%	0.86%	2.30%	2.663
001.99	Ammoniacal Nitrogen, Other (%)	13	11	11.13	0.1796	0.1757	0.0531	0.1835	1.58%	0.48%	1.65%	3.454
010.11	Total Nitrogen, Modified Comprehensive (11%)	7	7	11.12	0.2012	0.1968	0.0593	0.2055	1.77%	0.53%	1.85%	3.467
010.60	Total Nitrogen, Combustion (11%)	61	55	11.22	0.1754	0.1651	0.0837	0.1851	1.47%	0.75%	1.65%	2.212
010.99	Total Nitrogen, Other (11%)	6	5	11.24	0.1260	0.0495	0.1639	0.1712	0.44%	1.46%	1.52%	1.045
020.20	Total Phosphorus as P2O5, Spectrophotometric MolybdovanadoP (%)	20	16	52.59	0.6357	0.6116	0.2456	0.6590	1.16%	0.47%	1.25%	2.684
020.50	Total Phosphorus as P2O5, ICP (%)	15	14	52.78	3.055	3.027	0.5861	3.083	5.74%	1.11%	5.84%	5.261
041.10	Direct Available Phosphorus as P2O5, Gravimetric Quinolinium (52%)	9	9	52.34	0.1627		0.2776			0.53%		
041.60	Direct Available Phosphorus as P2O5, Citrate-EDTA Ext. (52%)	14	12	52.20	0.8177	0.8035	0.2150	0.8318	1.54%	0.41%	1.59%	3.869
050.99	Soluble Potassium as K2O, Other (%)	6	4	0.2794	0.0164	0.0164	0.0004	0.0164	5.86%	0.13%	5.86%	46.33
101.30	Acid Soluble Calcium, ICP, test portion inorganic 965.09 (%)	9	8	0.2128	0.0216	0.0210	0.0074	0.0222	9.85%	3.48%	10.45%	3.005
121.30	Acid Soluble Magnesium, ICP, test portion inorganic 965.09 (%)	10	8	1.146	0.1413	0.1407	0.0189	0.1419	12.27%	1.65%	12.38%	7.521
151.30	Acid Soluble Arsenic , ICP (ppm)	7	5	1.753	0.8923	0.8881	0.1212	0.8964	50.67%	6.92%	51.14%	7.393
181.30	Acid Soluble Cadmium , ICP (ppm)	10	9	38.20	3.481	3.423	0.8945	3.538	8.96%	2.34%	9.26%	3.955
191.30	Acid Soluble Chromium , ICP (ppm)	11	10	351.6	31.98	31.74	5.523	32.22	9.03%	1.57%	9.16%	5.834
202.30	Acid Soluble Cobalt , ICP (ppm)	8	6	1.738	0.7201	0.7155	0.1145	0.7246	41.18%	6.59%	41.70%	6.327
221.30	Acid Soluble Copper , ICP, test portion inorganic 965.09 (%)	6	0									
241.30	Acid Soluble Iron , ICP, test portion inorganic 965.09 (%)	10	8	1.070	0.1001	0.1000	0.0060	0.1002	9.34%	0.56%	9.36%	16.67
251.30	Acid Soluble Lead , ICP (ppm)	6	4	1.388	1.177	1.177	0.0326	1.177	84.75%	2.35%	84.79%	36.11
261.30	Acid Soluble Manganese , ICP, test portion 972.02a (%)	9	9	0.0086	0.0010	0.0010	0.0002	0.0010	12.11%	1.80%	12.25%	6.792
289.30	Acid Soluble Molybdenum , ICP (ppm)	10	9	10.81	1.391	1.339	0.5300	1.440	12.39%	4.90%	13.32%	2.718
291.30	Acid Soluble Nickel , ICP (ppm)	11	10	35.55	3.986	3.829	1.568	4.137	10.77%	4.41%	11.64%	2.639
321.30	Acid Soluble Zinc , ICP, test portion inorganic 965.09 (%)	22	18	0.0578	0.0106	0.0105	0.0016	0.0106	18.19%	2.74%	18.39%	6.714

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STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Methods: 113

Sample # 151112

Lab Values

Labs Reporting: 87

MAP

Issue Date : 12/31/2015

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Threshold %RSD	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
001.10	Ammoniacal Nitrogen, Magnesium Oxide Method (%)	0230	8.375	0.1700	10.99	0.3097	0.1109	9	-8.44	12%	0
001.10	Ammoniacal Nitrogen, Magnesium Oxide Method (%)	0456	10.61	0.2600	10.99	0.3097	0.1109	9	-1.22	2%	0
001.10	Ammoniacal Nitrogen, Magnesium Oxide Method (%)	0481	10.86	0.0800	10.99	0.3097	0.1109	9	-0.42	1%	0
001.10	Ammoniacal Nitrogen, Magnesium Oxide Method (%)	0486	10.95	0.2100	10.99	0.3097	0.1109	9	-0.14	0%	0
001.10	Ammoniacal Nitrogen, Magnesium Oxide Method (%)	0177	10.98	0.0519	10.99	0.3097	0.1109	9	-0.02	0%	0
001.10	Ammoniacal Nitrogen, Magnesium Oxide Method (%)	0444	11.16	0.1500	10.99	0.3097	0.1109	9	0.54	1%	0
001.10	Ammoniacal Nitrogen, Magnesium Oxide Method (%)	0405	11.17	0.0300	10.99	0.3097	0.1109	9	0.57	1%	0
001.10	Ammoniacal Nitrogen, Magnesium Oxide Method (%)	0169	11.22	0.0300	10.99	0.3097	0.1109	9	0.73	1%	0
001.10	Ammoniacal Nitrogen, Magnesium Oxide Method (%)	0117	11.40	0.0160	10.99	0.3097	0.1109	9	1.33	2%	0
001.99	Ammoniacal Nitrogen, Other (%)	0397	10.79	0.0700	11.16	0.1494	0.0825	12	-2.48	2%	0
001.99	Ammoniacal Nitrogen, Other (%)	0394	10.90	0.0000	11.16	0.1494	0.0825	12	-1.71	1%	0
001.99	Ammoniacal Nitrogen, Other (%)	0513	10.97	0.0500	11.16	0.1494	0.0825	12	-1.27	1%	0
001.99	Ammoniacal Nitrogen, Other (%)	0420	11.08	0.1000	11.16	0.1494	0.0825	12	-0.50	0%	0
001.99	Ammoniacal Nitrogen, Other (%)	0506	11.15	0.3000	11.16	0.1494	0.0825	12	-0.03	0%	0
001.99	Ammoniacal Nitrogen, Other (%)	0510	11.17	0.1100	11.16	0.1494	0.0825	12	0.07	0%	0
001.99	Ammoniacal Nitrogen, Other (%)	0508	11.18	0.0400	11.16	0.1494	0.0825	12	0.17	0%	0
001.99	Ammoniacal Nitrogen, Other (%)	0493	11.20	0.1000	11.16	0.1494	0.0825	12	0.30	0%	0
001.99	Ammoniacal Nitrogen, Other (%)	0027	11.25	0.1300	11.16	0.1494	0.0825	12	0.60	0%	0
001.99	Ammoniacal Nitrogen, Other (%)	0371	11.26	0.0200	11.16	0.1494	0.0825	12	0.70	0%	0
001.99	Ammoniacal Nitrogen, Other (%)	0096	11.32	0.0600	11.16	0.1494	0.0825	12	1.10	1%	0
001.99	Ammoniacal Nitrogen, Other (%)	0200	11.35	0.0100	11.16	0.1494	0.0825	12	1.27	1%	0
001.99	Ammoniacal Nitrogen, Other (%)	0501	10.55	0.5000	11.16	0.1494	0.0825	12	-4.05	3%	1
009.10	Ammoniacal Plus Nitrate Nitrogen, Devarda (%)	0309	10.67	0.1400	11.10	0.3753	0.0667	3	-1.15	2%	0
009.10	Ammoniacal Plus Nitrate Nitrogen, Devarda (%)	0200	11.32	0.0100	11.10	0.3753	0.0667	3	0.56	1%	0
009.10	Ammoniacal Plus Nitrate Nitrogen, Devarda (%)	0090	11.33	0.0500	11.10	0.3753	0.0667	3	0.59	1%	0
010.11	Total Nitrogen, Modified Comprehensive (11%)	0211	10.79	0.0700	11.13	0.2074	0.0600	7	-1.67	2%	0
010.11	Total Nitrogen, Modified Comprehensive (11%)	0456	10.94	0.1700	11.13	0.2074	0.0600	7	-0.95	1%	0
010.11	Total Nitrogen, Modified Comprehensive (11%)	0309	11.08	0.1200	11.13	0.2074	0.0600	7	-0.25	0%	0
010.11	Total Nitrogen, Modified Comprehensive (11%)	0510	11.17	0.0100	11.13	0.2074	0.0600	7	0.16	0%	0
010.11	Total Nitrogen, Modified Comprehensive (11%)	0114	11.27	0.0200	11.13	0.2074	0.0600	7	0.67	1%	0
010.11	Total Nitrogen, Modified Comprehensive (11%)	0105	11.31	0.0100	11.13	0.2074	0.0600	7	0.84	1%	0
010.11	Total Nitrogen, Modified Comprehensive (11%)	0474	11.31	0.0200	11.13	0.2074	0.0600	7	0.86	1%	0
010.12	Total Nitrogen, Salicylic (11%)	0481	10.47*	0.1400			0.1400	1			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Threshold %RSD	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010.60	Total Nitrogen, Combustion (11%)	0489	10.69	0.0500	11.20	0.1697	0.1053	59	-3.06	2%	0
010.60	Total Nitrogen, Combustion (11%)	0356	10.85	0.2000	11.20	0.1697	0.1053	59	-2.09	2%	0
010.60	Total Nitrogen, Combustion (11%)	0406	10.88	0.0200	11.20	0.1697	0.1053	59	-1.91	1%	0
010.60	Total Nitrogen, Combustion (11%)	0307	10.92	0.3950	11.20	0.1697	0.1053	59	-1.67	1%	0
010.60	Total Nitrogen, Combustion (11%)	0481	10.93	0.1000	11.20	0.1697	0.1053	59	-1.62	1%	0
010.60	Total Nitrogen, Combustion (11%)	0102	10.94	0.0800	11.20	0.1697	0.1053	59	-1.56	1%	0
010.60	Total Nitrogen, Combustion (11%)	0451	10.97	0.2000	11.20	0.1697	0.1053	59	-1.38	1%	0
010.60	Total Nitrogen, Combustion (11%)	0486	11.01	0.0900	11.20	0.1697	0.1053	59	-1.18	1%	0
010.60	Total Nitrogen, Combustion (11%)	0275	11.03	0.2800	11.20	0.1697	0.1053	59	-1.03	1%	0
010.60	Total Nitrogen, Combustion (11%)	0377	11.04	0.1300	11.20	0.1697	0.1053	59	-1.00	1%	0
010.60	Total Nitrogen, Combustion (11%)	0072	11.04	0.0400	11.20	0.1697	0.1053	59	-0.97	1%	0
010.60	Total Nitrogen, Combustion (11%)	0389	11.05	0.0700	11.20	0.1697	0.1053	59	-0.94	1%	0
010.60	Total Nitrogen, Combustion (11%)	0324	11.05	0.1000	11.20	0.1697	0.1053	59	-0.91	1%	0
010.60	Total Nitrogen, Combustion (11%)	0041	11.08	0.0000	11.20	0.1697	0.1053	59	-0.73	1%	0
010.60	Total Nitrogen, Combustion (11%)	0234	11.09	0.0600	11.20	0.1697	0.1053	59	-0.68	1%	0
010.60	Total Nitrogen, Combustion (11%)	0485	11.09	0.1400	11.20	0.1697	0.1053	59	-0.68	1%	0
010.60	Total Nitrogen, Combustion (11%)	0037	11.10	0.0800	11.20	0.1697	0.1053	59	-0.62	0%	0
010.60	Total Nitrogen, Combustion (11%)	0421	11.14	0.4800	11.20	0.1697	0.1053	59	-0.38	0%	0
010.60	Total Nitrogen, Combustion (11%)	0007	11.15	0.1000	11.20	0.1697	0.1053	59	-0.32	0%	0
010.60	Total Nitrogen, Combustion (11%)	0443	11.15	0.1000	11.20	0.1697	0.1053	59	-0.32	0%	0
010.60	Total Nitrogen, Combustion (11%)	0483	11.15	0.0000	11.20	0.1697	0.1053	59	-0.32	0%	0
010.60	Total Nitrogen, Combustion (11%)	0177	11.16	0.1000	11.20	0.1697	0.1053	59	-0.26	0%	0
010.60	Total Nitrogen, Combustion (11%)	0422	11.17	0.2600	11.20	0.1697	0.1053	59	-0.20	0%	0
010.60	Total Nitrogen, Combustion (11%)	0260	11.18	0.1200	11.20	0.1697	0.1053	59	-0.15	0%	0
010.60	Total Nitrogen, Combustion (11%)	0162	11.18	0.1440	11.20	0.1697	0.1053	59	-0.12	0%	0
010.60	Total Nitrogen, Combustion (11%)	0157	11.20	0.0000	11.20	0.1697	0.1053	59	-0.03	0%	0
010.60	Total Nitrogen, Combustion (11%)	0325	11.20	0.4000	11.20	0.1697	0.1053	59	-0.03	0%	0
010.60	Total Nitrogen, Combustion (11%)	0405	11.21	0.0100	11.20	0.1697	0.1053	59	0.00	0%	0
010.60	Total Nitrogen, Combustion (11%)	0136	11.22	0.0500	11.20	0.1697	0.1053	59	0.06	0%	0
010.60	Total Nitrogen, Combustion (11%)	0095	11.22	0.2400	11.20	0.1697	0.1053	59	0.09	0%	0
010.60	Total Nitrogen, Combustion (11%)	0043	11.23	0.0100	11.20	0.1697	0.1053	59	0.12	0%	0
010.60	Total Nitrogen, Combustion (11%)	0292	11.23	0.0100	11.20	0.1697	0.1053	59	0.12	0%	0
010.60	Total Nitrogen, Combustion (11%)	0023	11.23	0.0440	11.20	0.1697	0.1053	59	0.14	0%	0
010.60	Total Nitrogen, Combustion (11%)	0394	11.24	0.1600	11.20	0.1697	0.1053	59	0.21	0%	0
010.60	Total Nitrogen, Combustion (11%)	0035	11.25	0.0500	11.20	0.1697	0.1053	59	0.24	0%	0
010.60	Total Nitrogen, Combustion (11%)	0034	11.25	0.0800	11.20	0.1697	0.1053	59	0.27	0%	0
010.60	Total Nitrogen, Combustion (11%)	0040	11.25	0.1000	11.20	0.1697	0.1053	59	0.27	0%	0
010.60	Total Nitrogen, Combustion (11%)	0516	11.25	0.3000	11.20	0.1697	0.1053	59	0.27	0%	0
010.60	Total Nitrogen, Combustion (11%)	0049	11.27	0.0300	11.20	0.1697	0.1053	59	0.36	0%	0
010.60	Total Nitrogen, Combustion (11%)	0086	11.27	0.0560	11.20	0.1697	0.1053	59	0.36	0%	0
010.60	Total Nitrogen, Combustion (11%)	0390	11.27	0.0100	11.20	0.1697	0.1053	59	0.36	0%	0
010.60	Total Nitrogen, Combustion (11%)	0131	11.28	0.0150	11.20	0.1697	0.1053	59	0.44	0%	0
010.60	Total Nitrogen, Combustion (11%)	0291	11.29	0.0100	11.20	0.1697	0.1053	59	0.47	0%	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Threshold %RSD	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010.60	Total Nitrogen, Combustion (11%)	0233	11.31	0.1300	11.20	0.1697	0.1053	59	0.59	0%	0
010.60	Total Nitrogen, Combustion (11%)	0073	11.32	0.0500	11.20	0.1697	0.1053	59	0.65	0%	0
010.60	Total Nitrogen, Combustion (11%)	0106	11.34	0.1200	11.20	0.1697	0.1053	59	0.80	1%	0
010.60	Total Nitrogen, Combustion (11%)	0025	11.35	0.0300	11.20	0.1697	0.1053	59	0.83	1%	0
010.60	Total Nitrogen, Combustion (11%)	0482	11.35	0.1000	11.20	0.1697	0.1053	59	0.86	1%	0
010.60	Total Nitrogen, Combustion (11%)	0105	11.36	0.0210	11.20	0.1697	0.1053	59	0.90	1%	0
010.60	Total Nitrogen, Combustion (11%)	0096	11.37	0.0900	11.20	0.1697	0.1053	59	0.94	1%	0
010.60	Total Nitrogen, Combustion (11%)	0444	11.39	0.0700	11.20	0.1697	0.1053	59	1.06	1%	0
010.60	Total Nitrogen, Combustion (11%)	0452	11.40	0.0100	11.20	0.1697	0.1053	59	1.12	1%	0
010.60	Total Nitrogen, Combustion (11%)	0029	11.41	0.2500	11.20	0.1697	0.1053	59	1.18	1%	0
010.60	Total Nitrogen, Combustion (11%)	0055	11.41	0.0100	11.20	0.1697	0.1053	59	1.18	1%	0
010.60	Total Nitrogen, Combustion (11%)	0360	11.42	0.2200	11.20	0.1697	0.1053	59	1.27	1%	0
010.60	Total Nitrogen, Combustion (11%)	0402	11.57	0.0760	11.20	0.1697	0.1053	59	2.15	2%	0
010.60	Total Nitrogen, Combustion (11%)	0117	11.60	0.0000	11.20	0.1697	0.1053	59	2.33	2%	0
010.60	Total Nitrogen, Combustion (11%)	0230	11.60	0.0000	11.20	0.1697	0.1053	59	2.33	2%	0
010.60	Total Nitrogen, Combustion (11%)	0042	11.65	0.1200	11.20	0.1697	0.1053	59	2.62	2%	0
010.60	Total Nitrogen, Combustion (11%)	0472	10.51*	0.5700	11.20	0.1697	0.1053	59	-4.12	3%	1
010.60	Total Nitrogen, Combustion (11%)	0354	11.43	0.5280	11.20	0.1697	0.1053	59	1.35	1%	1
010.99	Total Nitrogen, Other (11%)	0518	10.56*	0.1200	11.18	0.1201	0.1717	6	-5.18	3%	0
010.99	Total Nitrogen, Other (11%)	0513	11.12	0.0400	11.18	0.1201	0.1717	6	-0.52	0%	0
010.99	Total Nitrogen, Other (11%)	0506	11.15	0.3000	11.18	0.1201	0.1717	6	-0.27	0%	0
010.99	Total Nitrogen, Other (11%)	0394	11.21	0.1800	11.18	0.1201	0.1717	6	0.23	0%	0
010.99	Total Nitrogen, Other (11%)	0220	11.26	0.0100	11.18	0.1201	0.1717	6	0.60	0%	0
010.99	Total Nitrogen, Other (11%)	0420	11.44	0.3800	11.18	0.1201	0.1717	6	2.14	1%	0
020.10	Total Phosphorus as P2O5, Gravimetric Quinoli... (%)	0444	52.03	0.2400	52.69	0.4076	0.1700	5	-1.62	1%	0
020.10	Total Phosphorus as P2O5, Gravimetric Quinoli... (%)	0211	52.71	0.0100	52.69	0.4076	0.1700	5	0.04	0%	0
020.10	Total Phosphorus as P2O5, Gravimetric Quinoli... (%)	0090	52.76	0.1000	52.69	0.4076	0.1700	5	0.17	0%	0
020.10	Total Phosphorus as P2O5, Gravimetric Quinoli... (%)	0513	52.80	0.2000	52.69	0.4076	0.1700	5	0.27	0%	0
020.10	Total Phosphorus as P2O5, Gravimetric Quinoli... (%)	0157	53.15	0.3000	52.69	0.4076	0.1700	5	1.13	0%	0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0420	50.42	0.3400	52.44	0.5620	0.3055	18	-3.59	2%	0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0027	51.62	0.2670	52.44	0.5620	0.3055	18	-1.45	1%	0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0220	51.97	0.0700	52.44	0.5620	0.3055	18	-0.84	0%	0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0169	52.00	0.0400	52.44	0.5620	0.3055	18	-0.78	0%	0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0371	52.06	0.1600	52.44	0.5620	0.3055	18	-0.67	0%	0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0356	52.10	0.0800	52.44	0.5620	0.3055	18	-0.60	0%	0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0474	52.26	0.2100	52.44	0.5620	0.3055	18	-0.33	0%	0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0405	52.30	0.0800	52.44	0.5620	0.3055	18	-0.25	0%	0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0516	52.32	1.320	52.44	0.5620	0.3055	18	-0.21	0%	0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0231	52.40	0.0000	52.44	0.5620	0.3055	18	-0.07	0%	0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0324	52.65	0.5000	52.44	0.5620	0.3055	18	0.38	0%	0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0510	52.65	0.0600	52.44	0.5620	0.3055	18	0.38	0%	0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0292	52.67	0.0400	52.44	0.5620	0.3055	18	0.41	0%	0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0394	52.85	0.1000	52.44	0.5620	0.3055	18	0.73	0%	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Threshold %RSD	Flag
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020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0506	53.15	0.7000	52.44	0.5620	0.3055	18	1.27	1%	0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0406	53.34	0.2700	52.44	0.5620	0.3055	18	1.60	1%	0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0428	53.65	0.3623	52.44	0.5620	0.3055	18	2.16	1%	0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0481	53.84	0.9000	52.44	0.5620	0.3055	18	2.50	1%	0
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0457	52.01	1.970	52.44	0.5620	0.3055	18	-0.77	0%	1
020.20	Total Phosphorus as P2O5, Spectrophotometric ... (%)	0230	21.45	0.1000	52.44	0.5620	0.3055	18	-55.14	30%	2
020.40	Total Phosphorus as P2O5, Automated (%)	0035	48.91	0.1000	50.98	1.825	0.1467	3	-1.13	2%	0
020.40	Total Phosphorus as P2O5, Automated (%)	0456	51.68	0.2100	50.98	1.825	0.1467	3	0.38	1%	0
020.40	Total Phosphorus as P2O5, Automated (%)	0096	52.36	0.1300	50.98	1.825	0.1467	3	0.75	1%	0
020.50	Total Phosphorus as P2O5, ICP (%)	0472	49.08	0.3400	52.37	2.141	0.6552	15	-1.54	3%	0
020.50	Total Phosphorus as P2O5, ICP (%)	0157	49.45	0.3000	52.37	2.141	0.6552	15	-1.37	3%	0
020.50	Total Phosphorus as P2O5, ICP (%)	0390	50.50	1.600	52.37	2.141	0.6552	15	-0.88	2%	0
020.50	Total Phosphorus as P2O5, ICP (%)	0307	50.92	2.170	52.37	2.141	0.6552	15	-0.68	1%	0
020.50	Total Phosphorus as P2O5, ICP (%)	0389	51.49	0.5800	52.37	2.141	0.6552	15	-0.41	1%	0
020.50	Total Phosphorus as P2O5, ICP (%)	0402	52.02	1.000	52.37	2.141	0.6552	15	-0.17	0%	0
020.50	Total Phosphorus as P2O5, ICP (%)	0501	52.03	0.0600	52.37	2.141	0.6552	15	-0.16	0%	0
020.50	Total Phosphorus as P2O5, ICP (%)	0234	52.12	0.2400	52.37	2.141	0.6552	15	-0.12	0%	0
020.50	Total Phosphorus as P2O5, ICP (%)	0508	52.25	0.1100	52.37	2.141	0.6552	15	-0.06	0%	0
020.50	Total Phosphorus as P2O5, ICP (%)	0025	52.66	0.4380	52.37	2.141	0.6552	15	0.14	0%	0
020.50	Total Phosphorus as P2O5, ICP (%)	0482	53.35	0.5000	52.37	2.141	0.6552	15	0.46	1%	0
020.50	Total Phosphorus as P2O5, ICP (%)	0451	55.47	0.4300	52.37	2.141	0.6552	15	1.44	3%	0
020.50	Total Phosphorus as P2O5, ICP (%)	0483	57.18	0.2300	52.37	2.141	0.6552	15	2.24	5%	0
020.50	Total Phosphorus as P2O5, ICP (%)	0260	60.37	0.2300	52.37	2.141	0.6552	15	3.73	8%	0
020.50	Total Phosphorus as P2O5, ICP (%)	0422	63.70	1.600	52.37	2.141	0.6552	15	5.29	11%	0
020.99	Total Phosphorus as P2O5, Other (%)	0513	53.12	0.0900	53.27	0.2121	0.0500	2	-0.71	0%	0
020.99	Total Phosphorus as P2O5, Other (%)	0443	53.42	0.0100	53.27	0.2121	0.0500	2	0.71	0%	0
030.20	Citrate Insoluble Phosphorus as P2O5, Spectro... (%)	0405	0.0100	0.0000			0.0000	1			0
030.40	Citrate Insoluble Phosphorus as P2O5, Automat... (%)	0096	0.0300	0.0000			0.0000	1			0
040.20	Indirect Available Phosphorus as P2O5, Spectr... (52%)	0405	52.29	0.0800			0.0800	1			0
040.40	Indirect Available Phosphorus as P2O5, Automa... (52%)	0096	52.33	0.1300			0.1300	1			0
040.50	Indirect Available Phosphorus as P2O5, ICP (52%)	0072	51.67	0.6700			0.6700	1			0
041.10	Direct Available Phosphorus as P2O5, Gravimet... (52%)	0072	52.03	0.0500	52.35	0.1657	0.2691	9	-1.94	0%	0
041.10	Direct Available Phosphorus as P2O5, Gravimet... (52%)	0102	52.20	0.0000	52.35	0.1657	0.2691	9	-0.88	0%	0
041.10	Direct Available Phosphorus as P2O5, Gravimet... (52%)	0049	52.24	0.4800	52.35	0.1657	0.2691	9	-0.64	0%	0
041.10	Direct Available Phosphorus as P2O5, Gravimet... (52%)	0041	52.33	0.8800	52.35	0.1657	0.2691	9	-0.10	0%	0
041.10	Direct Available Phosphorus as P2O5, Gravimet... (52%)	0086	52.36	0.0049	52.35	0.1657	0.2691	9	0.06	0%	0
041.10	Direct Available Phosphorus as P2O5, Gravimet... (52%)	0040	52.40	0.2000	52.35	0.1657	0.2691	9	0.33	0%	0
041.10	Direct Available Phosphorus as P2O5, Gravimet... (52%)	0009	52.45	0.3000	52.35	0.1657	0.2691	9	0.63	0%	0
041.10	Direct Available Phosphorus as P2O5, Gravimet... (52%)	0177	52.49	0.0066	52.35	0.1657	0.2691	9	0.87	0%	0
041.10	Direct Available Phosphorus as P2O5, Gravimet... (52%)	0493	52.55	0.5000	52.35	0.1657	0.2691	9	1.23	0%	0
041.11	Direct Available Phosphorus as P2O5, Gravimet... (52%)	0220	52.20	0.0400	52.61	0.3193	0.2300	4	-1.28	0%	0
041.11	Direct Available Phosphorus as P2O5, Gravimet... (52%)	0485	52.53	0.6000	52.61	0.3193	0.2300	4	-0.24	0%	0
041.11	Direct Available Phosphorus as P2O5, Gravimet... (52%)	0105	52.76	0.2600	52.61	0.3193	0.2300	4	0.48	0%	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Threshold %RSD	Flag
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041.11	Direct Available Phosphorus as P2O5, Gravimet... (52%)	0055	52.94	0.0200	52.61	0.3193	0.2300	4	1.04	0%	0
041.20	Direct Available Phosphorus as P2O5, Spectrop... (52%)	0027	50.69*	0.3100			0.3100	1			0
041.21	Direct Available Phosphorus as P2O5, Spectrop... (52%)	0055	51.42	0.3400	51.81	0.5480	0.1850	2	-0.71	0%	0
041.21	Direct Available Phosphorus as P2O5, Spectrop... (52%)	0200	52.20	0.0300	51.81	0.5480	0.1850	2	0.71	0%	0
041.40	Direct Available Phosphorus as P2O5, Automate... (52%)	0095	50.54*	2.270	52.98	3.461	1.345	2	-0.71	2%	0
041.40	Direct Available Phosphorus as P2O5, Automate... (52%)	0131	55.43	0.4200	52.98	3.461	1.345	2	0.71	2%	0
041.50	Direct Available Phosphorus as P2O5, ICP (52%)	0325	49.95*	0.7000	51.74	1.173	0.6980	5	-1.53	2%	0
041.50	Direct Available Phosphorus as P2O5, ICP (52%)	0007	51.15*	2.700	51.74	1.173	0.6980	5	-0.50	1%	0
041.50	Direct Available Phosphorus as P2O5, ICP (52%)	0291	52.35	0.0100	51.74	1.173	0.6980	5	0.51	1%	0
041.50	Direct Available Phosphorus as P2O5, ICP (52%)	0452	52.58	0.0800	51.74	1.173	0.6980	5	0.72	1%	0
041.50	Direct Available Phosphorus as P2O5, ICP (52%)	0043	52.68	0.0000	51.74	1.173	0.6980	5	0.80	1%	0
041.51	Direct Available Phosphorus as P2O5, ICP, Cit... (52%)	0025	51.65	0.0500	52.10	0.4085	0.3260	5	-1.11	0%	0
041.51	Direct Available Phosphorus as P2O5, ICP, Cit... (52%)	0360	51.70	0.5900	52.10	0.4085	0.3260	5	-0.99	0%	0
041.51	Direct Available Phosphorus as P2O5, ICP, Cit... (52%)	0377	52.20	0.1000	52.10	0.4085	0.3260	5	0.25	0%	0
041.51	Direct Available Phosphorus as P2O5, ICP, Cit... (52%)	0421	52.45	0.7000	52.10	0.4085	0.3260	5	0.86	0%	0
041.51	Direct Available Phosphorus as P2O5, ICP, Cit... (52%)	0023	52.51	0.1900	52.10	0.4085	0.3260	5	0.99	0%	0
041.60	Direct Available Phosphorus as P2O5, Citrate-... (52%)	0354	50.26*	0.2280	52.20	0.6840	0.3553	13	-2.84	2%	0
041.60	Direct Available Phosphorus as P2O5, Citrate-... (52%)	0472	50.95*	1.620	52.20	0.6840	0.3553	13	-1.83	1%	0
041.60	Direct Available Phosphorus as P2O5, Citrate-... (52%)	0177	51.42	0.0757	52.20	0.6840	0.3553	13	-1.14	1%	0
041.60	Direct Available Phosphorus as P2O5, Citrate-... (52%)	0397	51.54	0.4700	52.20	0.6840	0.3553	13	-0.98	1%	0
041.60	Direct Available Phosphorus as P2O5, Citrate-... (52%)	0037	52.16	0.1800	52.20	0.6840	0.3553	13	-0.06	0%	0
041.60	Direct Available Phosphorus as P2O5, Citrate-... (52%)	0105	52.23	0.3400	52.20	0.6840	0.3553	13	0.04	0%	0
041.60	Direct Available Phosphorus as P2O5, Citrate-... (52%)	0073	52.26	0.5500	52.20	0.6840	0.3553	13	0.08	0%	0
041.60	Direct Available Phosphorus as P2O5, Citrate-... (52%)	0029	52.38	0.3600	52.20	0.6840	0.3553	13	0.26	0%	0
041.60	Direct Available Phosphorus as P2O5, Citrate-... (52%)	0136	52.62	0.0600	52.20	0.6840	0.3553	13	0.61	0%	0
041.60	Direct Available Phosphorus as P2O5, Citrate-... (52%)	0043	52.65	0.0400	52.20	0.6840	0.3553	13	0.65	0%	0
041.60	Direct Available Phosphorus as P2O5, Citrate-... (52%)	0486	52.66	0.2700	52.20	0.6840	0.3553	13	0.66	0%	0
041.60	Direct Available Phosphorus as P2O5, Citrate-... (52%)	0034	52.84	0.4150	52.20	0.6840	0.3553	13	0.93	1%	0
041.60	Direct Available Phosphorus as P2O5, Citrate-... (52%)	0513	53.43	0.0100	52.20	0.6840	0.3553	13	1.79	1%	0
041.60	Direct Available Phosphorus as P2O5, Citrate-... (52%)	0106	50.51*	2.460	52.20	0.6840	0.3553	13	-2.47	2%	1
041.99	Direct Available Phosphorus as P2O5, Other (52%)	0518	52.04	0.2500	52.81	0.9237	0.7325	4	-0.84	1%	0
041.99	Direct Available Phosphorus as P2O5, Other (52%)	0506	52.50	0.0000	52.81	0.9237	0.7325	4	-0.33	0%	0
041.99	Direct Available Phosphorus as P2O5, Other (52%)	0105	52.55	0.3800	52.81	0.9237	0.7325	4	-0.28	0%	0
041.99	Direct Available Phosphorus as P2O5, Other (52%)	0230	54.15	2.300	52.81	0.9237	0.7325	4	1.45	1%	0
048.10	Water Soluble Phosphorus as P2O5, Gravimetric... (%)	0444	47.56	0.5600			0.5600	1			0
048.20	Water Soluble Phosphorus as P2O5, Spectrophot... (%)	0420	46.61	0.2300	47.66	0.9506	0.1133	3	-1.11	1%	0
048.20	Water Soluble Phosphorus as P2O5, Spectrophot... (%)	0405	47.93	0.0100	47.66	0.9506	0.1133	3	0.28	0%	0
048.20	Water Soluble Phosphorus as P2O5, Spectrophot... (%)	0394	48.45	0.1000	47.66	0.9506	0.1133	3	0.83	1%	0
048.40	Water Soluble Phosphorus as P2O5, Automated (%)	0096	48.54	0.0600			0.0600	1			0
048.99	Water Soluble Phosphorus as P2O5, Other (%)	0513	52.96	0.0900			0.0900	1			0
050.00	Soluble Potassium as K2O, STPB Oxalate (%)	0211	61.42	0.1300	47.66	0.9506	0.1300	1	14.47	14%	0
050.00	Soluble Potassium as K2O, STPB Oxalate (%)	0072	0.0000	0.0000	47.66	0.9506	0.1300	1	-50.14	50%	4
050.31	Soluble Potassium as K2O, AA (Citrate) (%)	0472	0.0750	0.0500			0.0500	1			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Threshold %RSD	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
050.50	Soluble Potassium as K2O, ICP (Oxalate) (%)	0420	0.2814	0.0055	0.2882	0.0097	0.0078	2	-0.71	1%	0
050.50	Soluble Potassium as K2O, ICP (Oxalate) (%)	0292	0.2950	0.0100	0.2882	0.0097	0.0078	2	0.71	1%	0
050.51	Soluble Potassium as K2O, ICP (Citrate) (%)	0072	0.0000	0.0000			0.0000	0			4
050.52	Soluble Potassium as K2O, ICP (Citrate-EDTA) (%)	0354	0.3425	0.0050	0.3463	0.0053	0.0525	2	-0.71	1%	0
050.52	Soluble Potassium as K2O, ICP (Citrate-EDTA) (%)	0421	0.3500	0.1000	0.3463	0.0053	0.0525	2	0.71	1%	0
050.60	Soluble Potassium as K2O, Flame Photometric (... (%)	0309	51.16	0.6700			0.6700	1			0
050.99	Soluble Potassium as K2O, Other (%)	0096	0.2600	0.0000	0.2965	0.0408	0.0022	5	-0.89	6%	0
050.99	Soluble Potassium as K2O, Other (%)	0389	0.2775	0.0010	0.2965	0.0408	0.0022	5	-0.47	3%	0
050.99	Soluble Potassium as K2O, Other (%)	0474	0.2800	0.0000	0.2965	0.0408	0.0022	5	-0.40	3%	0
050.99	Soluble Potassium as K2O, Other (%)	0482	0.3000	0.0000	0.2965	0.0408	0.0022	5	0.09	1%	0
050.99	Soluble Potassium as K2O, Other (%)	0325	0.3650	0.0100	0.2965	0.0408	0.0022	5	1.68	12%	0
050.99	Soluble Potassium as K2O, Other (%)	0493	59.00	1.000	0.2965	0.0408	0.0022	5	1437.58	9899%	2
060.00	Water (Free), Vacuum Oven (%)	0456	1.535	0.2300	1.735	0.2427	0.1367	3	-0.82	6%	0
060.00	Water (Free), Vacuum Oven (%)	0007	1.665	0.0100	1.735	0.2427	0.1367	3	-0.29	2%	0
060.00	Water (Free), Vacuum Oven (%)	0096	2.005	0.1700	1.735	0.2427	0.1367	3	1.11	8%	0
060.20	Water (Free), Karl Fischer (%)	0394	0.8800	0.0200			0.0200	1			0
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 h... (%)	0055	2.450	0.3000	2.623	0.2440	0.2150	2	-0.71	3%	0
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 h... (%)	0394	2.795	0.1300	2.623	0.2440	0.2150	2	0.71	3%	0
060.99	Water (Free), Other (%)	0513	1.245	0.0100	1.443	0.2793	0.0050	2	-0.71	7%	0
060.99	Water (Free), Other (%)	0510	1.640	0.0000	1.443	0.2793	0.0050	2	0.71	7%	0
101.00	Acid Soluble Calcium, AA, inorganic 965.09 (%)	0105	0.1665	0.0050	0.1983	0.0449	0.0025	2	-0.71	8%	0
101.00	Acid Soluble Calcium, AA, inorganic 965.09 (%)	0457	0.2300	0.0000	0.1983	0.0449	0.0025	2	0.71	8%	0
101.03	Acid Soluble Calcium, AA, 965.09, test portio... (%)	0105	0.1763	0.0195			0.0195	1			0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0472	0.1800	0.0200	0.2148	0.0209	0.0060	8	-1.66	8%	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0035	0.1845	0.0210	0.2148	0.0209	0.0060	8	-1.45	7%	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0354	0.2010	0.0000	0.2148	0.0209	0.0060	8	-0.66	3%	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0096	0.2200	0.0000	0.2148	0.0209	0.0060	8	0.25	1%	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0474	0.2200	0.0000	0.2148	0.0209	0.0060	8	0.25	1%	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0482	0.2300	0.0000	0.2148	0.0209	0.0060	8	0.73	4%	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0102	0.2330	0.0009	0.2148	0.0209	0.0060	8	0.87	4%	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0420	0.2339	0.0058	0.2148	0.0209	0.0060	8	0.91	4%	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0041	0.2100	0.0800	0.2148	0.0209	0.0060	8	-0.23	1%	1
101.99	Acid Soluble Calcium, Other (%)	0389	0.2300	0.0000			0.0000	1			0
121.00	Acid Soluble Magnesium, AA, inorganic 965.09 (%)	0457	1.245	0.0700	1.250	0.0064	0.0500	2	-0.71	0%	0
121.00	Acid Soluble Magnesium, AA, inorganic 965.09 (%)	0105	1.254	0.0300	1.250	0.0064	0.0500	2	0.71	0%	0
121.03	Acid Soluble Magnesium, AA, 965.09, test port... (%)	0105	1.186	0.0140			0.0140	1			0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0131	0.1365	0.0050	1.113	0.1226	0.0275	10	-7.97	44%	0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0354	0.9960	0.0140	1.113	0.1226	0.0275	10	-0.95	5%	0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0035	1.035	0.0500	1.113	0.1226	0.0275	10	-0.64	4%	0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0420	1.082	0.0220	1.113	0.1226	0.0275	10	-0.25	1%	0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0096	1.105	0.0100	1.113	0.1226	0.0275	10	-0.06	0%	0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0474	1.110	0.0200	1.113	0.1226	0.0275	10	-0.02	0%	0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0482	1.180	0.0400	1.113	0.1226	0.0275	10	0.55	3%	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Threshold %RSD	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0041	1.195	0.0900	1.113	0.1226	0.0275	10	0.67	4%	0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0102	1.212	0.0042	1.113	0.1226	0.0275	10	0.80	4%	0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0472	1.450	0.0200	1.113	0.1226	0.0275	10	2.75	15%	0
121.99	Acid Soluble Magnesium, Other (%)	0389	0.1250	0.0040			0.0040	1			0
143.99	Elemental Sulfur, Other (%)	0389	1.905	0.0100			0.0100	1			0
148.00	Total Sulfur, Combustion (%)	0474	1.965	0.0300			0.0300	1			0
148.07	Total Sulfur, ICP, test portion as in 2006.03... (%)	0102	1.979	0.0124	2.027	0.0676	0.0212	2	-0.71	1%	0
148.07	Total Sulfur, ICP, test portion as in 2006.03... (%)	0292	2.075	0.0300	2.027	0.0676	0.0212	2	0.71	1%	0
148.99	Total Sulfur, Other (%)	0354	1.753	0.0130	1.903	0.1566	0.0477	3	-0.96	4%	0
148.99	Total Sulfur, Other (%)	0096	1.890	0.0800	1.903	0.1566	0.0477	3	-0.08	0%	0
148.99	Total Sulfur, Other (%)	0482	2.065	0.0500	1.903	0.1566	0.0477	3	1.04	4%	0
148.99	Total Sulfur, Other (%)	0072	0.0000	0.0000	1.903	0.1566	0.0477	3	-12.15	50%	4
151.30	Acid Soluble Arsenic , ICP (ppm)	0102	0.8785	0.1630	1.753	0.8923	0.1553	5	-0.98	25%	0
151.30	Acid Soluble Arsenic , ICP (ppm)	0474	0.9000	0.2000	1.753	0.8923	0.1553	5	-0.96	24%	0
151.30	Acid Soluble Arsenic , ICP (ppm)	0096	1.650	0.1000	1.753	0.8923	0.1553	5	-0.12	3%	0
151.30	Acid Soluble Arsenic , ICP (ppm)	0086	2.606	0.0533	1.753	0.8923	0.1553	5	0.96	24%	0
151.30	Acid Soluble Arsenic , ICP (ppm)	0230	2.730	0.2600	1.753	0.8923	0.1553	5	1.10	28%	0
151.30	Acid Soluble Arsenic , ICP (ppm)	0394	2.600	0.8000	1.753	0.8923	0.1553	5	0.95	24%	1
151.30	Acid Soluble Arsenic , ICP (ppm)	0009	0.0000	0.0000	1.753	0.8923	0.1553	5	-1.96	50%	4
151.33	Acid Soluble Arsenic , ICP, 2006.03 modified... (ppm)	0515	2.219	1.652			1.652	1			0
151.34	Acid Soluble Arsenic , ICP, EPA 3050B/6010C (ppm)	0515	1.525	0.2500			0.2500	1			0
151.99	Acid Soluble Arsenic , Other (ppm)	0220	4.450	0.3000			0.3000	1			0
165.30	Acid Soluble Boron , ICP, test portion in 98... (%)	0389	0.0148	0.0011	0.0151	0.0005	0.0021	2	-0.71	1%	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (%)	0354	0.0155	0.0030	0.0151	0.0005	0.0021	2	0.71	1%	0
165.99	Acid Soluble Boron , Other (%)	0472	0.0100	0.0000	0.0118	0.0028	0.0034	3	-0.67	8%	0
165.99	Acid Soluble Boron , Other (%)	0009	0.0105	0.0002	0.0118	0.0028	0.0034	3	-0.48	6%	0
165.99	Acid Soluble Boron , Other (%)	0482	0.0150	0.0100	0.0118	0.0028	0.0034	3	1.15	13%	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0444	32.93	1.590	38.35	3.676	0.9090	9	-1.48	7%	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0230	33.25	0.9000	38.35	3.676	0.9090	9	-1.39	7%	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0035	36.50	0.2000	38.35	3.676	0.9090	9	-0.50	2%	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0474	38.55	0.1000	38.35	3.676	0.9090	9	0.05	0%	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0096	38.75	0.3000	38.35	3.676	0.9090	9	0.11	1%	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0095	39.00	2.000	38.35	3.676	0.9090	9	0.18	1%	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0394	39.70	2.600	38.35	3.676	0.9090	9	0.37	2%	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0102	42.51	0.3910	38.35	3.676	0.9090	9	1.13	5%	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0482	42.65	0.1000	38.35	3.676	0.9090	9	1.17	6%	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0009	33.00	6.000	38.35	3.676	0.9090	9	-1.46	7%	1
181.33	Acid Soluble Cadmium , ICP, 2006.03 modified... (ppm)	0515	27.02	2.027	32.52	7.786	1.134	2	-0.71	8%	0
181.33	Acid Soluble Cadmium , ICP, 2006.03 modified... (ppm)	0037	38.03	0.2400	32.52	7.786	1.134	2	0.71	8%	0
181.34	Acid Soluble Cadmium , ICP, EPA 3050B/6010C (ppm)	0515	34.91	1.434			1.434	1			0
181.99	Acid Soluble Cadmium , Other (ppm)	0481	30.80	0.2000	35.98	4.539	0.3667	3	-1.14	7%	0
181.99	Acid Soluble Cadmium , Other (ppm)	0220	37.90	0.4000	35.98	4.539	0.3667	3	0.42	3%	0
181.99	Acid Soluble Cadmium , Other (ppm)	0506	39.25	0.5000	35.98	4.539	0.3667	3	0.72	5%	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Threshold %RSD	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
191.30	Acid Soluble Chromium , ICP (ppm)	0027	178.0	16.00	345.4	41.56	6.850	11	-4.03	24%	0
191.30	Acid Soluble Chromium , ICP (ppm)	0444	300.0	10.00	345.4	41.56	6.850	11	-1.09	7%	0
191.30	Acid Soluble Chromium , ICP (ppm)	0230	309.0	6.000	345.4	41.56	6.850	11	-0.88	5%	0
191.30	Acid Soluble Chromium , ICP (ppm)	0009	331.5	13.00	345.4	41.56	6.850	11	-0.33	2%	0
191.30	Acid Soluble Chromium , ICP (ppm)	0394	339.5	15.00	345.4	41.56	6.850	11	-0.14	1%	0
191.30	Acid Soluble Chromium , ICP (ppm)	0035	351.0	8.000	345.4	41.56	6.850	11	0.13	1%	0
191.30	Acid Soluble Chromium , ICP (ppm)	0096	354.0	2.300	345.4	41.56	6.850	11	0.21	1%	0
191.30	Acid Soluble Chromium , ICP (ppm)	0474	369.5	1.000	345.4	41.56	6.850	11	0.58	3%	0
191.30	Acid Soluble Chromium , ICP (ppm)	0102	381.4	0.1530	345.4	41.56	6.850	11	0.87	5%	0
191.30	Acid Soluble Chromium , ICP (ppm)	0482	388.5	3.000	345.4	41.56	6.850	11	1.04	6%	0
191.30	Acid Soluble Chromium , ICP (ppm)	0105	391.7	0.9000	345.4	41.56	6.850	11	1.11	7%	0
191.32	Acid Soluble Chromium , ICP, 2006.03 (ppm)	0371	391.0	6.000			6.000	1			0
191.33	Acid Soluble Chromium , ICP, 2006.03 modifie... (ppm)	0515	328.6	1.994	341.8	18.59	1.562	2	-0.71	2%	0
191.33	Acid Soluble Chromium , ICP, 2006.03 modifie... (ppm)	0037	354.9	1.130	341.8	18.59	1.562	2	0.71	2%	0
191.34	Acid Soluble Chromium , ICP, EPA 3050B/6010C... (ppm)	0515	333.5	3.312			3.312	1			0
191.99	Acid Soluble Chromium , Other (ppm)	0506	313.5	43.00	359.0	49.07	20.00	3	-0.93	6%	0
191.99	Acid Soluble Chromium , Other (ppm)	0220	352.5	1.000	359.0	49.07	20.00	3	-0.13	1%	0
191.99	Acid Soluble Chromium , Other (ppm)	0481	411.0	16.00	359.0	49.07	20.00	3	1.06	7%	0
202.30	Acid Soluble Cobalt , ICP (ppm)	0230	0.9810	0.0300	1.668	0.6589	0.1100	6	-1.04	21%	0
202.30	Acid Soluble Cobalt , ICP (ppm)	0096	1.155	0.2100	1.668	0.6589	0.1100	6	-0.78	15%	0
202.30	Acid Soluble Cobalt , ICP (ppm)	0482	1.620	0.1000	1.668	0.6589	0.1100	6	-0.07	1%	0
202.30	Acid Soluble Cobalt , ICP (ppm)	0035	1.670	0.3200	1.668	0.6589	0.1100	6	0.00	0%	0
202.30	Acid Soluble Cobalt , ICP (ppm)	0095	2.000	0.0000	1.668	0.6589	0.1100	6	0.50	10%	0
202.30	Acid Soluble Cobalt , ICP (ppm)	0474	3.000	0.0000	1.668	0.6589	0.1100	6	2.02	40%	0
202.30	Acid Soluble Cobalt , ICP (ppm)	0102	3.858	1.339	1.668	0.6589	0.1100	6	3.32	66%	1
202.30	Acid Soluble Cobalt , ICP (ppm)	0009	0.0000	0.0000	1.668	0.6589	0.1100	6	-2.53	50%	4
202.33	Acid Soluble Cobalt , ICP, 2006.03 modified ... (ppm)	0515	0.4305	0.8610			0.8610	0			4
202.34	Acid Soluble Cobalt , ICP, EPA 3050B/6010C (ppm)	0515	0.5050	1.010			1.010	0			4
202.99	Acid Soluble Cobalt , Other (ppm)	0220	0.6500	0.1000	1.113	0.6541	0.2250	2	-0.71	21%	0
202.99	Acid Soluble Cobalt , Other (ppm)	0506	1.575	0.3500	1.113	0.6541	0.2250	2	0.71	21%	0
221.00	Acid Soluble Copper , AA, inorganic 965.09 (%)	0043	0.0006	0.0001			0.0001	1			0
221.30	Acid Soluble Copper , ICP, test portion inor... (%)	0433	0.0003	0.0002	0.0029	0.0037	0.0006	2	-0.71	45%	0
221.30	Acid Soluble Copper , ICP, test portion inor... (%)	0354	0.0055	0.0010	0.0029	0.0037	0.0006	2	0.71	45%	0
221.30	Acid Soluble Copper , ICP, test portion inor... (%)	0009	0.0000	0.0000	0.0029	0.0037	0.0006	2	-0.79	50%	4
221.30	Acid Soluble Copper , ICP, test portion inor... (%)	0230	0.0000	0.0000	0.0029	0.0037	0.0006	2	-0.79	50%	4
221.30	Acid Soluble Copper , ICP, test portion inor... (%)	0472	0.0000	0.0000	0.0029	0.0037	0.0006	2	-0.79	50%	4
221.30	Acid Soluble Copper , ICP, test portion inor... (%)	0483	0.0000	0.0000	0.0029	0.0037	0.0006	2	-0.79	50%	4
221.31	Acid Soluble Copper , ICP, test portion orga... (%)	0402	0.0015	0.0010			0.0010	1			0
221.32	Acid Soluble Copper , ICP, test portion 2006... (%)	0474	0.0001	0.0000	0.2001	0.2828	0.0000	2	-0.71	50%	0
221.32	Acid Soluble Copper , ICP, test portion 2006... (%)	0394	0.4000	0.0000	0.2001	0.2828	0.0000	2	0.71	50%	0
221.33	Acid Soluble Copper , ICP, test portion 2006... (%)	0515	0.0003	0.0002			0.0002	1			0
221.99	Acid Soluble Copper , Other (%)	0389	0.0002	0.0000	0.0004	0.0003	0.0002	2	-0.71	26%	0
221.99	Acid Soluble Copper , Other (%)	0515	0.0007	0.0003	0.0004	0.0003	0.0002	2	0.71	26%	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Threshold %RSD	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
241.00	Acid Soluble Iron , AA, inorganic 965.09 (%)	0457	1.090	0.0200	1.112	0.0311	0.0270	2	-0.71	1%	0
241.00	Acid Soluble Iron , AA, inorganic 965.09 (%)	0105	1.134	0.0340	1.112	0.0311	0.0270	2	0.71	1%	0
241.03	Acid Soluble Iron , AA, 965.09, test portion ... (%)	0105	1.129	0.0110			0.0110	1			0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0354	0.8935	0.0030	1.083	0.0882	0.0150	9	-2.15	9%	0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0096	1.000	0.0000	1.083	0.0882	0.0150	9	-0.94	4%	0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0402	1.010	0.0000	1.083	0.0882	0.0150	9	-0.83	3%	0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0474	1.050	0.0200	1.083	0.0882	0.0150	9	-0.37	2%	0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0041	1.105	0.0900	1.083	0.0882	0.0150	9	0.25	1%	0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0472	1.110	0.0000	1.083	0.0882	0.0150	9	0.31	1%	0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0420	1.150	0.0060	1.083	0.0882	0.0150	9	0.76	3%	0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0482	1.165	0.0100	1.083	0.0882	0.0150	9	0.93	4%	0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0102	1.184	0.0057	1.083	0.0882	0.0150	9	1.15	5%	0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0035	1.040	0.2010	1.083	0.0882	0.0150	9	-0.49	2%	1
241.99	Acid Soluble Iron , Other (%)	0389	1.095	0.0070			0.0070	1			0
251.00	Acid Soluble Lead , AA, test portion as in 2... (ppm)	0009	0.0000	0.0000			0.0000	0			4
251.30	Acid Soluble Lead , ICP (ppm)	0394	0.2030	0.0900	1.974	1.659	0.1640	5	-1.07	45%	0
251.30	Acid Soluble Lead , ICP (ppm)	0474	1.000	0.0000	1.974	1.659	0.1640	5	-0.59	25%	0
251.30	Acid Soluble Lead , ICP (ppm)	0230	1.350	0.0200	1.974	1.659	0.1640	5	-0.38	16%	0
251.30	Acid Soluble Lead , ICP (ppm)	0095	3.000	0.0000	1.974	1.659	0.1640	5	0.62	26%	0
251.30	Acid Soluble Lead , ICP (ppm)	0482	4.315	0.7100	1.974	1.659	0.1640	5	1.41	59%	0
251.30	Acid Soluble Lead , ICP (ppm)	0009	0.0000	0.0000	1.974	1.659	0.1640	5	-1.19	50%	4
251.33	Acid Soluble Lead , ICP, 2006.03 modified w/... (ppm)	0515	2.622	0.7140			0.7140	1			0
251.34	Acid Soluble Lead , ICP, EPA 3050B/6010C (ppm)	0515	0.0000	0.0000			0.0000	0			4
251.99	Acid Soluble Lead , Other (ppm)	0220	2.400	0.0000			0.0000	1			0
261.12	Acid Soluble Manganese , AA, inorganic 965.09 (%)	0105	0.0070	0.0027			0.0027	1			0
261.15	Acid Soluble Manganese , AA, 965.09, test po... (%)	0105	0.0084	0.0004			0.0004	1			0
261.30	Acid Soluble Manganese , ICP, test portion 9... (%)	0354	0.0070	0.0000	0.0085	0.0010	0.0001	9	-1.42	9%	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (%)	0009	0.0077	0.0004	0.0085	0.0010	0.0001	9	-0.75	5%	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (%)	0096	0.0080	0.0001	0.0085	0.0010	0.0001	9	-0.52	3%	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (%)	0474	0.0082	0.0001	0.0085	0.0010	0.0001	9	-0.33	2%	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (%)	0035	0.0083	0.0004	0.0085	0.0010	0.0001	9	-0.18	1%	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (%)	0102	0.0086	0.0000	0.0085	0.0010	0.0001	9	0.10	1%	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (%)	0420	0.0095	0.0003	0.0085	0.0010	0.0001	9	0.91	6%	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (%)	0041	0.0100	0.0000	0.0085	0.0010	0.0001	9	1.44	9%	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (%)	0472	0.0100	0.0000	0.0085	0.0010	0.0001	9	1.44	9%	0
261.31	Acid Soluble Manganese , ICP, test portion 9... (%)	0482	0.0100	0.0000			0.0000	1			0
261.99	Acid Soluble Manganese , Other (%)	0389	0.0081	0.0001			0.0001	1			0
281.00	Acid Soluble Mercury , AA (ppm)	0230	0.0051	0.0007			0.0007	1			0
281.30	Acid Soluble Mercury , ICP (ppm)	0394	0.0015	0.0002	0.0085	0.0010	0.0002	1	-6.67	41%	0
281.30	Acid Soluble Mercury , ICP (ppm)	0515	0.0000	0.0000	0.0085	0.0010	0.0002	1	-8.10	50%	4
289.30	Acid Soluble Molybdenum , ICP (ppm)	0394	0.0010	0.0000	10.55	1.762	0.4600	10	-5.99	50%	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0230	8.220	0.1000	10.55	1.762	0.4600	10	-1.32	11%	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0009	9.350	0.5000	10.55	1.762	0.4600	10	-0.68	6%	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Threshold %RSD	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
289.30	Acid Soluble Molybdenum , ICP (ppm)	0096	10.30	0.2000	10.55	1.762	0.4600	10	-0.14	1%	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0474	10.50	0.2000	10.55	1.762	0.4600	10	-0.03	0%	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0095	11.00	0.0000	10.55	1.762	0.4600	10	0.26	2%	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0105	11.48	1.310	10.55	1.762	0.4600	10	0.53	4%	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0433	11.71	0.0265	10.55	1.762	0.4600	10	0.66	6%	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0035	12.10	1.600	10.55	1.762	0.4600	10	0.88	7%	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0102	12.63	0.6630	10.55	1.762	0.4600	10	1.18	10%	0
289.33	Acid Soluble Molybdenum , ICP, 2006.03 modif... (ppm)	0515	9.017	1.070	10.25	1.745	0.5900	2	-0.71	6%	0
289.33	Acid Soluble Molybdenum , ICP, 2006.03 modif... (ppm)	0037	11.49	0.1100	10.25	1.745	0.5900	2	0.71	6%	0
289.34	Acid Soluble Molybdenum , ICP, EPA 3050B/601... (ppm)	0515	8.450	2.890			2.890	1			0
289.99	Acid Soluble Molybdenum , Other (ppm)	0220	7.050	0.1000	10.15	4.384	0.3000	2	-0.71	15%	0
289.99	Acid Soluble Molybdenum , Other (ppm)	0506	13.25	0.5000	10.15	4.384	0.3000	2	0.71	15%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0230	29.45	0.9000	35.28	3.114	1.853	11	-1.87	8%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0009	32.35	0.7000	35.28	3.114	1.853	11	-0.94	4%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0096	33.60	0.2000	35.28	3.114	1.853	11	-0.54	2%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0474	34.00	0.0000	35.28	3.114	1.853	11	-0.41	2%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0482	34.10	0.2000	35.28	3.114	1.853	11	-0.38	2%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0394	34.30	0.4000	35.28	3.114	1.853	11	-0.32	1%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0095	36.00	0.0000	35.28	3.114	1.853	11	0.23	1%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0035	37.25	7.700	35.28	3.114	1.853	11	0.63	3%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0102	39.11	1.918	35.28	3.114	1.853	11	1.23	5%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0444	39.39	2.060	35.28	3.114	1.853	11	1.32	6%	0
291.30	Acid Soluble Nickel , ICP (ppm)	0105	43.17	6.300	35.28	3.114	1.853	11	2.53	11%	0
291.33	Acid Soluble Nickel , ICP, 2006.03 modified ... (ppm)	0515	31.43	2.194	32.99	2.203	1.112	2	-0.71	2%	0
291.33	Acid Soluble Nickel , ICP, 2006.03 modified ... (ppm)	0037	34.55	0.0300	32.99	2.203	1.112	2	0.71	2%	0
291.34	Acid Soluble Nickel , ICP, EPA 3050B/6010C (ppm)	0515	32.58	3.440			3.440	1			0
291.99	Acid Soluble Nickel , Other (ppm)	0481	30.00	0.0000	32.28	2.023	1.700	3	-1.13	4%	0
291.99	Acid Soluble Nickel , Other (ppm)	0506	33.00	5.000	32.28	2.023	1.700	3	0.35	1%	0
291.99	Acid Soluble Nickel , Other (ppm)	0220	33.85	0.1000	32.28	2.023	1.700	3	0.77	2%	0
301.30	Acid Soluble Selenium , ICP (ppm)	0394	0.0019	0.0000	32.28	2.023	0.0000	1	-15.96	50%	0
301.30	Acid Soluble Selenium , ICP (ppm)	0009	0.0000	0.0000	32.28	2.023	0.0000	1	-15.96	50%	4
301.30	Acid Soluble Selenium , ICP (ppm)	0230	0.0000	0.0000	32.28	2.023	0.0000	1	-15.96	50%	4
301.33	Acid Soluble Selenium , ICP, 2006.03 modifie... (ppm)	0515	0.0000	0.0000			0.0000	0			4
301.34	Acid Soluble Selenium , ICP, EPA 3050B/6010C... (ppm)	0515	0.2027	0.4053			0.4053	0			4
311.33	Sodium, ICP, 2006.03 modified w/9:3 HNO3:HCl ... (%)	0035	0.2040	0.0020	0.2326	0.0274	0.0050	3	-1.04	6%	0
311.33	Sodium, ICP, 2006.03 modified w/9:3 HNO3:HCl ... (%)	0474	0.2350	0.0100	0.2326	0.0274	0.0050	3	0.09	1%	0
311.33	Sodium, ICP, 2006.03 modified w/9:3 HNO3:HCl ... (%)	0102	0.2587	0.0029	0.2326	0.0274	0.0050	3	0.95	6%	0
311.99	Sodium, Other (%)	0096	0.2300	0.0000	0.2457	0.0140	0.0053	3	-1.12	3%	0
311.99	Sodium, Other (%)	0482	0.2500	0.0000	0.2457	0.0140	0.0053	3	0.31	1%	0
311.99	Sodium, Other (%)	0354	0.2570	0.0160	0.2457	0.0140	0.0053	3	0.81	2%	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (%)	0428	0.0530	0.0001	0.0593	0.0039	0.0005	5	-1.65	5%	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (%)	0043	0.0600	0.0008	0.0593	0.0039	0.0005	5	0.18	1%	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (%)	0457	0.0600	0.0000	0.0593	0.0039	0.0005	5	0.18	1%	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Threshold %RSD	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (%)	0105	0.0601	0.0004	0.0593	0.0039	0.0005	5	0.20	1%	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (%)	0481	0.0635	0.0010	0.0593	0.0039	0.0005	5	1.09	4%	0
321.03	Acid Soluble Zinc , AA, 965.09, test portion... (%)	0105	0.0592	0.0005			0.0005	1			0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0131	0.0060	0.0000	0.0590	0.0058	0.0016	20	-9.15	45%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0027	0.0242	0.0013	0.0590	0.0058	0.0016	20	-6.02	30%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0444	0.0463	0.0057	0.0590	0.0058	0.0016	20	-2.20	11%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0354	0.0510	0.0020	0.0590	0.0058	0.0016	20	-1.38	7%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0230	0.0512	0.0018	0.0590	0.0058	0.0016	20	-1.35	7%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0009	0.0530	0.0025	0.0590	0.0058	0.0016	20	-1.05	5%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0420	0.0586	0.0027	0.0590	0.0058	0.0016	20	-0.08	0%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0035	0.0586	0.0080	0.0590	0.0058	0.0016	20	-0.07	0%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0096	0.0596	0.0004	0.0590	0.0058	0.0016	20	0.10	0%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0095	0.0600	0.0000	0.0590	0.0058	0.0016	20	0.17	1%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0292	0.0600	0.0000	0.0590	0.0058	0.0016	20	0.17	1%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0472	0.0600	0.0000	0.0590	0.0058	0.0016	20	0.17	1%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0474	0.0600	0.0000	0.0590	0.0058	0.0016	20	0.17	1%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0482	0.0600	0.0000	0.0590	0.0058	0.0016	20	0.17	1%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0105	0.0628	0.0057	0.0590	0.0058	0.0016	20	0.64	3%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0102	0.0629	0.0006	0.0590	0.0058	0.0016	20	0.67	3%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0371	0.0640	0.0000	0.0590	0.0058	0.0016	20	0.86	4%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0433	0.0642	0.0011	0.0590	0.0058	0.0016	20	0.88	4%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0041	0.0700	0.0000	0.0590	0.0058	0.0016	20	1.89	9%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0483	0.0724	0.0010	0.0590	0.0058	0.0016	20	2.31	11%	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0402	0.0650	0.0100	0.0590	0.0058	0.0016	20	1.03	5%	1
321.30	Acid Soluble Zinc , ICP, test portion inorga... (%)	0072	0.0000	0.0000	0.0590	0.0058	0.0016	20	-10.18	50%	4
321.32	Acid Soluble Zinc , ICP, test portion 2006.0... (%)	0394	0.0575	0.0010			0.0010	1			0
321.33	Acid Soluble Zinc , ICP, test portion 2006.0... (%)	0515	0.0563	0.0013	293.0	414.2	4.356	2	-0.71	50%	0
321.33	Acid Soluble Zinc , ICP, test portion 2006.0... (%)	0037	585.9	8.710	293.0	414.2	4.356	2	0.71	50%	0
321.99	Acid Soluble Zinc , Other (%)	0220	0.0570	0.0000	0.0594	0.0018	0.0031	4	-1.31	2%	0
321.99	Acid Soluble Zinc , Other (%)	0389	0.0592	0.0001	0.0594	0.0018	0.0031	4	-0.12	0%	0
321.99	Acid Soluble Zinc , Other (%)	0506	0.0600	0.0000	0.0594	0.0018	0.0031	4	0.35	1%	0
321.99	Acid Soluble Zinc , Other (%)	0515	0.0613	0.0124	0.0594	0.0018	0.0031	4	1.07	2%	0

Interpreting Z Scores: Red indicates a normally distributed Z value >3 or <-3 (requires action), Orange = Z between 2 and 3 or -2 and -3 (warning) and Green = Z < 2 and >-2 (OK at 95%). Flags indicate data usage: 0 = Used, 1 = rejected for duplicates too far apart, 2 = rejected as extreme outlier and a 4 flag indicates rejected due to 0 value submitted. Robust statistics not used if < 6 labs used in calculations, in this case the Z Scores are included for information only (Grey). An offset lab value with an asterix indicates that the value is lower than the Analyte value less the IA. Method or Analyte codes in light green indicate a guaranteed analyte. Individual lab values may be below detection limits but are reported solely for the purpose of this Proficiency Testing program.