

Method Proficiency For All Labs

Sample # 220411

Grade 24-25-4

Magruder Fertilizer PT Program

Regular PT Scheme

Statistical Summary

Methods: 143

Labs Reporting: 93

Issue Date : 05/31/2022

Method Code	Analyte & Method Sample # 220411	# 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 (%)	7	6	5.396	0.2014	5.343		0.1789	0.0913	3.35%		0.0250	3.11%
001.99	Ammoniacal N, Other (%)	21	20	5.597	0.9518	5.694		0.7487	0.2093	13.15%		0.0786	3.08%
002.99	Nitrate N, Other (%)	1		0.2800									
003.10	Water Insoluble N, Method I (%)	6	6	0.6311	0.2891	0.6001		0.2527	0.1290	42.11%		0.0952	4.32%
003.99	Water Insoluble N, Other (%)	3	3	0.3233	0.0202	0.3233		0.0202	0.0146	6.25%		0.0200	4.74%
005.00	Urea N, Urease (as N) (%)	2	2	5.331	6.758								
005.10	Urea N, HPLC(asN),H2Omobilephase (%)	1		11.00									
005.20	Urea N, HPLC(asN),85%acetonitrilemobilephase (%)	1		10.70									
005.99	Urea N, Other (%)	8	8	13.43	2.853	13.43		3.236	1.430	24.09%		0.0588	2.71%
007.00	Urea, Urease (as Urea) (%)	2	2	13.79	9.001								
007.99	Urea, Other (%)	2	2	10.23	0.2369								
008.10	Biuret, Spectrophotometric (as Biuret) (%)	1		0.5150									
010.11	Total N, Modified Comprehensive (24%)	3	3	24.19	0.3416	24.19	0.7828	0.3416	0.2465	1.41%	1.02	0.1182	2.03%
010.12	Total N, Salicylic (24%)	4	4	24.47	0.1346	24.47	0.7871	0.1346	0.0841	0.55%	0.40	0.1690	2.02%
010.16	Total N, Raney (24%)	1		24.84									
010.60	Total N, Combustion (24%)	60	58	24.77	0.3930	24.75	0.7913	0.2898	0.0476	1.17%	0.85	0.1379	2.01%
010.99	Total N, Other (24%)	15	15	23.92	0.9502	23.90	0.7785	0.9740	0.3144	4.08%	2.92	0.1663	2.05%
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	1		25.45									
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	17	17	25.39	0.5972	25.33		0.5287	0.1603	2.09%		0.1818	1.99%
020.40	Total P2O5, Automated (%)	1		25.55									
020.50	Total P2O5, ICP (%)	21	21	24.83	1.461	24.77		1.217	0.3320	4.91%		0.4094	2.01%
020.99	Total P2O5, Other (%)	7	6	26.01	1.658	25.78		0.7527	0.3841	2.92%		0.2905	1.97%
030.20	Citrate Insoluble P2O5, Spectrophotometric MolybdovanadoP	1		0.0800									
030.99	Citrate Insoluble P2O5, Other (%)	1		24.86									
040.20	Indirect Available P2O5, Spectrophotometric (25%)	1		26.54									
040.99	Indirect Available P2O5, Other (25%)	1		25.36									
041.10	Direct Available P2O5, Gravimetric Quinolinium (25%)	4	4	25.57	0.6371	25.57	0.7300	0.6371	0.3982	2.49%	2.03	0.1751	1.98%
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA	9	9	25.20	0.1600	25.20	0.7300	0.1814	0.0756	0.72%	0.58	0.1142	1.99%
041.20	Direct Available P2O5, Spectrophotometric (25%)	3	3	25.09	0.4549	25.09	0.7300	0.4549	0.3283	1.81%	1.45	0.2167	2.00%

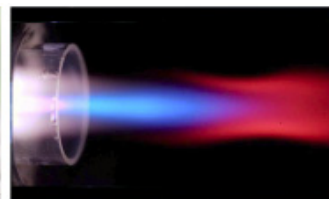
Method Code	Analyte & Method Sample # 220411	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Howitz %RSD
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	9	8	24.78	0.3033	24.79	0.7300	0.3674	0.1624	1.48%	1.17	0.1893	2.01%
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (25%)	2	2	25.37	0.0672								
041.50	Direct Available P2O5, ICP (25%)	4	4	24.87	0.6633	24.87	0.7300	0.6633	0.4146	2.67%	2.12	0.5725	2.01%
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (25%)	13	13	24.95	0.8916	25.01	0.7300	0.8402	0.2913	3.36%	2.68	0.2979	2.00%
041.99	Direct Available P2O5, Other (25%)	8	8	24.90	0.3042	24.96	0.7300	0.1945	0.0860	0.78%	0.62	0.2470	2.00%
048.20	Water Soluble P2O5, Spectrophotometric (%)	1		22.24									
048.50	Water Soluble P2O5, ICP (%)	3	3	24.34	1.292	24.34		1.292	0.9321	5.31%		0.5200	2.03%
048.99	Water Soluble P2O5, Other (%)	2	2	21.72	0.7325								
050.00	Soluble K2O, STPB Oxalate (4%)	8	7	4.308	0.1264	4.315	0.4163	0.1526	0.0721	3.54%	0.85	0.0257	3.21%
050.30	Soluble K2O, AA (Oxalate) (4%)	4	4	4.156	0.3636	4.156	0.4131	0.3636	0.2272	8.75%	2.05	0.1295	3.23%
050.32	Soluble K2O, AA (Citrate-EDTA) (4%)	1		3.940									
050.50	Soluble K2O, ICP (Oxalate) (4%)	10	10	4.054	0.1768	4.081	0.4116	0.1275	0.0504	3.12%	0.72	0.1702	3.24%
050.51	Soluble K2O, ICP (Citrate) (4%)	5	5	4.182	0.0302	4.182	0.4136	0.0302	0.0169	0.72%	0.17	0.0458	3.22%
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	14	13	4.171	0.1968	4.183	0.4137	0.1579	0.0547	3.77%	0.89	0.0669	3.22%
050.60	Soluble K2O, Flame Photometric (Oxalate) (4%)	4	4	4.077	0.1284	4.077	0.4115	0.1284	0.0803	3.15%	0.73	0.1914	3.24%
050.61	Soluble K2O, Flame Photometric (Citrate) (4%)	1		4.350									
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (4%)	5	5	4.342	0.3292	4.342	0.4168	0.3292	0.1840	7.58%	1.84	0.1012	3.21%
050.99	Soluble K2O, Other (4%)	34	33	4.150	0.3639	4.073	0.4115	0.2486	0.0541	6.10%	1.41	0.0966	3.24%
060.00	Water (Free), Vacuum Oven (%)	1		0.9850									
060.10	Water (Free), Vacuum Desiccation (%)	1		1.235									
060.99	Water (Free), Other (%)	1		2.378									
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	1		0.0450									
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	3	3	0.2520	0.0340	0.2520	0.2126	0.0340	0.0246	13.51%	0.37	0.0073	4.92%
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	2	2	0.2374	0.0072								
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	4	4	0.2090	0.0506	0.2090	0.2104	0.0506	0.0316	24.21%	0.56	0.0076	5.06%
101.99	Acid Soluble Ca, Other (%)	3	3	0.7964	1.003	0.7964	0.2398	1.003	0.7242	126.00%	9.75	0.7007	4.14%
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	1		0.4990									
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	3	3	0.4587	0.0210	0.4587	0.2229	0.0210	0.0152	4.59%	0.22	0.0040	4.50%
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	2	2	0.4450	0.0021								
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	5	5	0.4496	0.0393	0.4496	0.2225	0.0393	0.0219	8.73%	0.41	0.0110	4.51%
121.99	Acid Soluble Mg, Other (%)	5	5	0.4855	0.1843	0.4855	0.2243	0.1843	0.1030	37.97%	1.91	0.0976	4.46%
131.99	Water Soluble Mg, Other (%)	1		0.0893									
143.99	Elemental S, Other (%)	1		0.6920									
145.99	Sulfate S, HCl soluble, Other (%)	2	2	0.6049	0.0621								
148.07	Total S, ICP, test portion as in 2017.02 (%)	5	4	0.5179	0.3278	0.6449	0.2322	0.1891	0.1182	29.33%	1.90	0.0269	4.27%
148.99	Total S, Other (%)	3	3	0.5761	0.1247	0.5761	0.2288	0.1247	0.0900	21.65%	1.27	0.0148	4.35%
149.04	S - HNO3 soluble, ICP (%)	2	2	0.6107	0.0221								
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid	1		7.214									
151.30	Acid Soluble As, ICP (ppm)	5	4	6.761	3.842	8.452		0.7980	0.4987	9.44%		0.4149	11.60%
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	2	2	7.015	1.435								

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151.33	Acid Soluble As, ICP, 2017.02 (ppm)	6	6	9.317	3.484	8.604		2.145	1.095	24.93%		0.5455	11.57%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	1		5.200									
151.99	Acid Soluble As, Other (ppm)	2	2	5.593	3.454								
165.00	Acid Soluble B, Spectrophotometric (%)	1		0.0020									
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	3	2	0.0198	0.0195	0.0246	0.0067	0.0248	0.0219	100.65%	8.63	0.0254	6.98%
165.99	Acid Soluble B, Other (%)	8	5	0.0118	0.0144	0.0089	0.0043	0.0111	0.0062	125.61%	5.99	0.0005	8.14%
171.99	Water Soluble B, Other (%)	1		0.0100									
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acic	1		1.310									
181.30	Acid Soluble Cd, ICP (ppm)	11	11	1.705	0.2619	1.685		0.2475	0.0933	14.69%		0.1114	14.79%
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	2	2	1.888	0.1584								
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	4	4	1.837	0.1391	1.837		0.1391	0.0869	7.57%		0.0649	14.60%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	1		1.650									
181.99	Acid Soluble Cd, Other (ppm)	3	3	1.785	0.1505	1.785		0.1505	0.1086	8.43%		0.1483	14.66%
190.00	Water Soluble Cl, Titrimetric (%)	2	2	3.285	0.3253								
191.30	Acid Soluble Cr, ICP (ppm)	7	6	46.29	6.951	47.24		8.055	4.111	17.05%		0.5060	8.95%
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	2	2	46.41	2.956								
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	6	5	47.75	5.680	45.80		3.414	1.908	7.45%		1.331	9.00%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	2	2	49.62	3.771								
191.99	Acid Soluble Cr, Other (ppm)	3	3	45.01	5.735	45.01		5.735	4.139	12.74%		2.500	9.02%
202.30	Acid Soluble Co, ICP (ppm)	6	6	1.659	0.4025	1.659	1.4977	0.4564	0.2329	27.51%	0.71	0.0855	14.82%
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	2	2	1.819	0.2556								
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	5	4	2.053	0.7715	1.816	1.5447	0.6477	0.4048	35.67%	0.98	0.0215	14.62%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	2	2	1.780	0.0990								
202.99	Acid Soluble Co, Other (ppm)	4	3	14.30	16.04	12.40	4.7210	19.09	13.77	153.87%	9.42	3.605	10.95%
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	2	1	0.0027	0.0033								
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	4	2	0.0101	0.0141	0.0152	0.0065	0.0210	0.0186	138.62%	7.51	0.0200	7.51%
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	4	1	0.0003	0.0004	0.0152	0.0065	0.0210	0.0263	138.62%	7.51	0.0001	7.51%
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	6	1	0.0003	0.0005	0.0152	0.0065	0.0210	0.0263	138.62%	7.51	0.0000	7.51%
221.99	Acid Soluble Cu, Other (%)	6	4	0.1439	0.3484	0.2156	0.0266	0.4263	0.2664	197.67%	37.39	0.0529	5.04%
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	1		0.5975									
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	4	4	0.6420	0.1021	0.6420	0.0692	0.1021	0.0638	15.91%	3.44	0.0111	4.28%
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	2	2	0.5589	0.0037								
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	5	5	0.5674	0.0260	0.5674	0.0617	0.0260	0.0145	4.59%	0.98	0.0261	4.36%
241.99	Acid Soluble Fe, Other (%)	4	4	0.5783	0.0146	0.5783	0.0628	0.0146	0.0091	2.53%	0.54	0.0301	4.34%
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid	1		1.840									
251.30	Acid Soluble Pb, ICP (ppm)	8	5	1.078	1.628	0.7255		0.2370	0.1325	32.67%		0.0389	16.79%
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	2	1	4.750	0.3536								
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	4	2	1.510	1.011	0.8851		0.0900	0.0796	10.17%		0.0388	16.29%
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	1		0.6000									
251.99	Acid Soluble Pb, Other (ppm)	3	3	0.9390	0.2820	0.9390		0.2820	0.2035	30.03%		0.0640	16.15%

Method Code	Analyte & Method Sample # 220411	# 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
261.00	Acid Soluble Mn, AA, Mn2+ only (%)	1		0.0175									
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	2	1	0.0153	0.0075								
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)	2	2	0.0601	0.0565								
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	2	2	0.0637	0.0648								
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	4	4	0.0185	0.0012	0.0185	0.0068	0.0012	0.0008	6.70%	0.42	0.0012	7.29%
261.99	Acid Soluble Mn, Other (%)	4	4	0.0173	0.0018	0.0173	0.0067	0.0018	0.0011	10.16%	0.61	0.0007	7.37%
281.30	Acid Soluble Hg, ICP (ppm)	5	0	0.6522	0.9268	0.0173		0.0018		10.16%		0.0000	22.00%
281.99	Acid Soluble Hg, Other (ppm)	5	2	0.1088	0.2187	0.0136		0.0079	0.0070	58.23%		0.0151	22.00%
289.30	Acid Soluble Mo, ICP (ppm)	5	4	5.063	4.501	6.328	2.8985	4.042	2.526	63.87%	3.25	0.1596	12.12%
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	2	2	6.514	0.6873								
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	7	6	6.404	0.6254	6.271	2.8812	0.6428	0.3280	10.25%	0.52	0.0456	12.13%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	2	2	7.013	0.5834								
289.99	Acid Soluble Mo, Other (ppm)	3	2	36.99	54.57	5.479	2.6436	0.3235	0.2859	5.90%	0.29	1.078	12.38%
291.30	Acid Soluble Ni, ICP (ppm)	9	9	7.130	2.496	6.771		1.890	0.7874	27.91%		0.8118	12.00%
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	2	2	7.220	1.103								
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	5	5	6.496	0.8072	6.496		0.8072	0.4512	12.43%		0.2979	12.07%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	2	2	7.403	0.1450								
291.99	Acid Soluble Ni, Other (ppm)	4	3	21.92	28.09	25.89		33.00	23.82	127.45%		1.823	9.80%
301.30	Acid Soluble Se, ICP (ppm)	4	3	1.629	0.7999	1.622		0.9796	0.7069	60.39%		0.0984	14.87%
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	1		10.00									
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	5	3	1.531	1.457	2.232		1.478	1.067	66.24%		0.4696	14.18%
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	1		1.000									
301.99	Acid Soluble Se, Other (ppm)	4	2	0.6438	0.5109	1.038		0.1945	0.1719	18.74%		0.2050	15.91%
311.00	Sodium, AA (%)	1		0.1280									
311.33	Sodium, ICP, test portion as in 2017.02 (%)	4	4	0.5437	0.7740	0.5437	0.0594	0.7740	0.4837	142.36%	30.38	0.0244	4.38%
311.99	Sodium, Other (%)	2	2	0.1530	0.0453								
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	2	2	0.0053	0.0004								
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	6	5	0.0393	0.0812	0.0452	0.0095	0.0893	0.0499	197.59%	21.86	0.0666	6.37%
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	5	5	0.0054	0.0006	0.0054	0.0055	0.0006	0.0004	11.60%	0.27	0.0006	8.77%
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	9	8	0.0079	0.0114	0.0045	0.0054	0.0010	0.0004	21.96%	0.42	0.0005	9.03%
321.99	Acid Soluble Zn, Other (%)	10	9	4.249	13.42	0.0050	0.0055	0.0011	0.0004	21.35%	0.45	0.0003	8.89%
325.30	Water Soluble Zn, ICP (%)	1		0.0001									
325.99	Water Soluble Zn, Other (%)	1		0.0003									
431.99	Soluble Si in nonliquids, Other (%)	1		0.0060									

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. The Horwitz %RSD is calculated using the Thompson Modification, Analyst,2000,125,385-386.

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 # 220411
Method Code



Method Proficiency For All Labs

Magruder Fertilizer PT Program

Sample # 220411

Regular PT Scheme

Grade 24-25-4

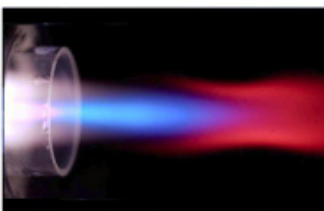
Method Precision Report

Issue Date : 05/31/2022

Method Code	Analyte & Method	# Tests Submitted	# Tests Used in Precision Calcs	Mean	SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
001.10	Ammoniacal N, Magnesium Oxide Method (%)	7	6	5.343	0.1578	0.1570	0.0225	0.1586	2.94%	0.42%	2.97%	7.034
001.99	Ammoniacal N, Other (%)	21	18	5.782	0.6441	0.6430	0.0537	0.6452	11.12%	0.93%	11.16%	12.01
003.10	Water Insoluble N, Method I (%)	6	6	0.6311	0.2891	0.2821	0.0894	0.2960	44.71%	14.16%	46.90%	3.312
005.99	Urea N, Other (%)	8	8	13.43	2.853	2.853	0.0539	2.854	21.24%	0.40%	21.24%	52.93
010.60	Total N, Combustion (24%)	60	56	24.76	0.3176	0.3063	0.1186	0.3285	1.24%	0.48%	1.33%	2.770
010.99	Total N, Other (24%)	15	14	23.84	0.9280	0.9240	0.1213	0.9319	3.88%	0.51%	3.91%	7.685
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	17	15	25.33	0.4774	0.4625	0.1672	0.4918	1.83%	0.66%	1.94%	2.941
020.50	Total P2O5, ICP (%)	21	19	24.66	1.154	1.133	0.3065	1.174	4.60%	1.24%	4.76%	3.831
020.99	Total P2O5, Other (%)	7	5	25.56	0.4102	0.3942	0.1605	0.4256	1.54%	0.63%	1.67%	2.652
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA E	9	8	25.19	0.1621	0.1554	0.0653	0.1686	0.62%	0.26%	0.67%	2.581
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (:	9	8	24.79	0.3240	0.3047	0.1559	0.3422	1.23%	0.63%	1.38%	2.195
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (25%)	13	12	25.12	0.6652	0.6399	0.2570	0.6895	2.55%	1.02%	2.75%	2.684
041.99	Direct Available P2O5, Other (25%)	8	7	25.00	0.1346		0.2307			0.92%		
050.00	Soluble K2O, STPB Oxalate (4%)	8	7	4.315	0.1346	0.1335	0.0233	0.1356	3.09%	0.54%	3.14%	5.818
050.50	Soluble K2O, ICP (Oxalate) (4%)	10	8	4.107	0.1008	0.0483	0.1251	0.1341	1.18%	3.05%	3.27%	1.072
050.51	Soluble K2O, ICP (Citrate) (4%)	5	5	4.182	0.0302	0.0117	0.0393	0.0410	0.28%	0.94%	0.98%	1.044
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	14	12	4.202	0.1251	0.1161	0.0659	0.1335	2.76%	1.57%	3.18%	2.025
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (4%)	5	5	4.342	0.3292	0.3242	0.0809	0.3341	7.47%	1.86%	7.69%	4.128
050.99	Soluble K2O, Other (4%)	34	31	4.076	0.2711	0.2647	0.0831	0.2774	6.49%	2.04%	6.81%	3.338
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	6	5	7.960	1.169	1.150	0.2980	1.188	14.45%	3.74%	14.92%	3.986
165.99	Acid Soluble B, Other (%)	8	5	0.0089	0.0111	0.0111	0.0005	0.0111	125.55%	5.65%	125.67%	22.25
181.30	Acid Soluble Cd, ICP (ppm)	11	11	1.705	0.2619	0.2495	0.1125	0.2737	14.63%	6.60%	16.05%	2.433
191.30	Acid Soluble Cr, ICP (ppm)	7	5	49.31	5.547	5.546	0.1696	5.548	11.25%	0.34%	11.25%	32.71
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	6	5	45.80	3.414	3.312	1.172	3.513	7.23%	2.56%	7.67%	2.996
202.30	Acid Soluble Co, ICP (ppm)	6	6	1.659	0.4025	0.3979	0.0852	0.4069	23.99%	5.14%	24.53%	4.777
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	5	5	0.5674	0.0260	0.0174	0.0274	0.0324	3.06%	4.83%	5.72%	1.185

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
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	7	6	6.271	0.5668	0.5659	0.0449	0.5677	9.02%	0.72%	9.05%	12.64
291.30	Acid Soluble Ni, ICP (ppm)	9	8	6.417	1.372	1.320	0.5274	1.422	20.58%	8.22%	22.16%	2.696
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	5	5	6.496	0.8072	0.7849	0.2666	0.8289	12.08%	4.10%	12.76%	3.110
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	5	5	0.0054	0.0006	0.0004	0.0007	0.0008	7.07%	13.00%	14.80%	1.138
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	9	8	0.0042	0.0015	0.0015	0.0004	0.0015	35.23%	10.13%	36.65%	3.619
321.99	Acid Soluble Zn, Other (%)	10	8	0.0050	0.0024	0.0024	0.0002	0.0024	47.45%	3.71%	47.59%	12.82

Notes: Precision data calculated when 5 or more Tests included.



Method Proficiency For All Labs

Magruder Fertilizer PT Program

Methods: 143

Sample # 220411

Regular PT Scheme

Labs Reporting: 93

Grade 24-25-4

Lab Values

Issue Date : 05/31/2022

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	5.180	0.0400	5.343	0.1789	0.0250	6	-0.81	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0547	5.250	0.0400	5.343	0.1789	0.0250	6	-0.46	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0580	5.250	0.0000	5.343	0.1789	0.0250	6	-0.46	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0452	5.320	0.0000	5.343	0.1789	0.0250	6	-0.11	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0389	5.450	0.0200	5.343	0.1789	0.0250	6	0.54	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0451	5.605	0.0500	5.343	0.1789	0.0250	6	1.31	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0444	5.715	0.1900	5.343	0.1789	0.0250	6	1.85	NA	1
001.99	Ammoniacal N, Other (%)	0220	2.375	0.1700	5.694	0.7487	0.0786	20	-4.43	NA	0
001.99	Ammoniacal N, Other (%)	0605	4.870	0.0400	5.694	0.7487	0.0786	20	-1.10	NA	0
001.99	Ammoniacal N, Other (%)	0423	4.900	0.1200	5.694	0.7487	0.0786	20	-1.06	NA	0
001.99	Ammoniacal N, Other (%)	0394	5.023	0.1310	5.694	0.7487	0.0786	20	-0.90	NA	0
001.99	Ammoniacal N, Other (%)	0538	5.250	0.1000	5.694	0.7487	0.0786	20	-0.59	NA	0
001.99	Ammoniacal N, Other (%)	0368	5.253	0.0600	5.694	0.7487	0.0786	20	-0.59	NA	0
001.99	Ammoniacal N, Other (%)	0027	5.345	0.1300	5.694	0.7487	0.0786	20	-0.47	NA	0
001.99	Ammoniacal N, Other (%)	0524	5.365	0.2900	5.694	0.7487	0.0786	20	-0.44	NA	0
001.99	Ammoniacal N, Other (%)	0563	5.500	0.0000	5.694	0.7487	0.0786	20	-0.26	NA	0
001.99	Ammoniacal N, Other (%)	0419	5.605	0.1300	5.694	0.7487	0.0786	20	-0.12	NA	0
001.99	Ammoniacal N, Other (%)	0300	5.635	0.0500	5.694	0.7487	0.0786	20	-0.08	NA	0
001.99	Ammoniacal N, Other (%)	0562	5.850	0.1000	5.694	0.7487	0.0786	20	0.21	NA	0
001.99	Ammoniacal N, Other (%)	0564	5.875	0.0500	5.694	0.7487	0.0786	20	0.24	NA	0
001.99	Ammoniacal N, Other (%)	0572	5.890	0.0273	5.694	0.7487	0.0786	20	0.26	NA	0
001.99	Ammoniacal N, Other (%)	0567	5.950	0.0000	5.694	0.7487	0.0786	20	0.34	NA	0
001.99	Ammoniacal N, Other (%)	0510	6.201	0.0372	5.694	0.7487	0.0786	20	0.68	NA	0
001.99	Ammoniacal N, Other (%)	0558	6.414	0.0567	5.694	0.7487	0.0786	20	0.96	NA	0
001.99	Ammoniacal N, Other (%)	0255	6.765	0.0100	5.694	0.7487	0.0786	20	1.43	NA	0
001.99	Ammoniacal N, Other (%)	0559	6.810	0.0200	5.694	0.7487	0.0786	20	1.49	NA	0
001.99	Ammoniacal N, Other (%)	0533	6.935	0.0500	5.694	0.7487	0.0786	20	1.66	NA	0
001.99	Ammoniacal N, Other (%)	0553	5.725	0.5100	5.694	0.7487	0.0786	20	0.04	NA	1
002.99	Nitrate N, Other (%)	0452	0.2800	0.0000				1			0
003.10	Water Insoluble N, Method I (%)	0220	0.3350	0.0500	0.6001	0.2527	0.0952	6	-0.93	NA	0
003.10	Water Insoluble N, Method I (%)	0494	0.4364	0.0290	0.6001	0.2527	0.0952	6	-0.58	NA	0
003.10	Water Insoluble N, Method I (%)	0027	0.5550	0.1500	0.6001	0.2527	0.0952	6	-0.16	NA	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
003.10	Water Insoluble N, Method I (%)	0029	0.6250	0.2520	0.6001	0.2527	0.0952	6	0.09	NA	0
003.10	Water Insoluble N, Method I (%)	0451	0.6700	0.0800	0.6001	0.2527	0.0952	6	0.25	NA	0
003.10	Water Insoluble N, Method I (%)	0547	1.165	0.0100	0.6001	0.2527	0.0952	6	1.99	NA	0
003.99	Water Insoluble N, Other (%)	0559	0.3050	0.0100	0.3233	0.0202	0.0200	3	-0.91		0
003.99	Water Insoluble N, Other (%)	0564	0.3200	0.0400	0.3233	0.0202	0.0200	3	-0.16		0
003.99	Water Insoluble N, Other (%)	0567	0.3450	0.0100	0.3233	0.0202	0.0200	3	1.07		0
005.00	Urea N, Urease (as N) (%)	0368	0.5530	0.1005				2			0
005.00	Urea N, Urease (as N) (%)	0389	10.11	0.1000				2			0
005.10	Urea N, HPLC(asN),H2Omobilephase (%)	0394	11.00	0.0400				1			0
005.20	Urea N, HPLC(asN),85%acetonitrilemobilephase (%)	0451	10.70	0.1000				1			0
005.99	Urea N, Other (%)	0027	10.30	0.1200	13.43	3.236	0.0588	8	-0.89	NA	0
005.99	Urea N, Other (%)	0547	10.55	0.1000	13.43	3.236	0.0588	8	-0.81	NA	0
005.99	Urea N, Other (%)	0029	10.59	0.0300	13.43	3.236	0.0588	8	-0.81	NA	0
005.99	Urea N, Other (%)	0524	11.78	0.0200	13.43	3.236	0.0588	8	-0.47	NA	0
005.99	Urea N, Other (%)	0605	15.66	0.1400	13.43	3.236	0.0588	8	0.63	NA	0
005.99	Urea N, Other (%)	0567	15.89	0.0200	13.43	3.236	0.0588	8	0.69	NA	0
005.99	Urea N, Other (%)	0559	16.29	0.0200	13.43	3.236	0.0588	8	0.81	NA	0
005.99	Urea N, Other (%)	0564	16.41	0.0200	13.43	3.236	0.0588	8	0.84	NA	0
007.00	Urea, Urease (as Urea) (%)	0230	7.420	0.2000				2			0
007.00	Urea, Urease (as Urea) (%)	0444	20.15	0.1000				2			0
007.99	Urea, Other (%)	0538	10.06	0.2800				2			0
007.99	Urea, Other (%)	0220	10.40	0.0100				2			0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0444	0.5150	0.0100				1			0
010.11	Total N, Modified Comprehensive (24%)	0600	23.90	0.1000	24.19	0.3416	0.1182	3	-0.84		0
010.11	Total N, Modified Comprehensive (24%)	0533	24.10	0.1900	24.19	0.3416	0.1182	3	-0.27		0
010.11	Total N, Modified Comprehensive (24%)	0510	24.56	0.0646	24.19	0.3416	0.1182	3	1.11		0
010.12	Total N, Salicylic (24%)	0117	24.33	0.0459	24.47	0.1346	0.1690	4	-1.07		0
010.12	Total N, Salicylic (24%)	0568	24.40	0.0000	24.47	0.1346	0.1690	4	-0.55		0
010.12	Total N, Salicylic (24%)	0481	24.54	0.6300	24.47	0.1346	0.1690	4	0.46		0
010.12	Total N, Salicylic (24%)	0580	24.63	0.0000	24.47	0.1346	0.1690	4	1.16		0
010.16	Total N, Raney (24%)	0300	24.84	0.2100				1			0
010.60	Total N, Combustion (24%)	0034	24.00	0.0200	24.75	0.2898	0.1379	58	-2.59	OK	0
010.60	Total N, Combustion (24%)	0023	24.21	0.0200	24.75	0.2898	0.1379	58	-1.86	OK	0
010.60	Total N, Combustion (24%)	0521	24.25	0.0000	24.75	0.2898	0.1379	58	-1.73	OK	0
010.60	Total N, Combustion (24%)	0423	24.26	0.0600	24.75	0.2898	0.1379	58	-1.69	OK	0
010.60	Total N, Combustion (24%)	0527	24.27	0.0540	24.75	0.2898	0.1379	58	-1.65	OK	0
010.60	Total N, Combustion (24%)	0185	24.38	0.0800	24.75	0.2898	0.1379	58	-1.28	OK	0
010.60	Total N, Combustion (24%)	0443	24.42	0.0300	24.75	0.2898	0.1379	58	-1.16	OK	0
010.60	Total N, Combustion (24%)	0042	24.45	0.3000	24.75	0.2898	0.1379	58	-1.04	OK	0
010.60	Total N, Combustion (24%)	0292	24.46	0.0100	24.75	0.2898	0.1379	58	-1.02	OK	0
010.60	Total N, Combustion (24%)	0481	24.46	0.3300	24.75	0.2898	0.1379	58	-1.02	OK	0
010.60	Total N, Combustion (24%)	0169	24.46	0.0040	24.75	0.2898	0.1379	58	-1.02	OK	0
010.60	Total N, Combustion (24%)	0377	24.48	0.1900	24.75	0.2898	0.1379	58	-0.95	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 (24%)	0234	24.52	0.1700	24.75	0.2898	0.1379	58	-0.81	OK	0
010.60	Total N, Combustion (24%)	0028	24.54	0.6600	24.75	0.2898	0.1379	58	-0.73	OK	0
010.60	Total N, Combustion (24%)	0356	24.55	0.0620	24.75	0.2898	0.1379	58	-0.69	OK	0
010.60	Total N, Combustion (24%)	0055	24.60	0.0500	24.75	0.2898	0.1379	58	-0.54	OK	0
010.60	Total N, Combustion (24%)	0452	24.64	0.0500	24.75	0.2898	0.1379	58	-0.40	OK	0
010.60	Total N, Combustion (24%)	0472	24.65	0.0300	24.75	0.2898	0.1379	58	-0.36	OK	0
010.60	Total N, Combustion (24%)	0307	24.65	0.5000	24.75	0.2898	0.1379	58	-0.35	OK	0
010.60	Total N, Combustion (24%)	0421	24.65	0.3800	24.75	0.2898	0.1379	58	-0.35	OK	0
010.60	Total N, Combustion (24%)	0451	24.68	0.0100	24.75	0.2898	0.1379	58	-0.26	OK	0
010.60	Total N, Combustion (24%)	0422	24.68	0.2400	24.75	0.2898	0.1379	58	-0.24	OK	0
010.60	Total N, Combustion (24%)	0131	24.69	0.1150	24.75	0.2898	0.1379	58	-0.21	OK	0
010.60	Total N, Combustion (24%)	0523	24.69	0.0200	24.75	0.2898	0.1379	58	-0.21	OK	0
010.60	Total N, Combustion (24%)	0231	24.70	0.0500	24.75	0.2898	0.1379	58	-0.19	OK	0
010.60	Total N, Combustion (24%)	0291	24.71	0.0100	24.75	0.2898	0.1379	58	-0.16	OK	0
010.60	Total N, Combustion (24%)	0501	24.71	0.5300	24.75	0.2898	0.1379	58	-0.16	OK	0
010.60	Total N, Combustion (24%)	0389	24.71	0.0400	24.75	0.2898	0.1379	58	-0.14	OK	0
010.60	Total N, Combustion (24%)	0095	24.72	0.0500	24.75	0.2898	0.1379	58	-0.12	OK	0
010.60	Total N, Combustion (24%)	0402	24.76	0.0690	24.75	0.2898	0.1379	58	0.05	OK	0
010.60	Total N, Combustion (24%)	0043	24.78	0.1700	24.75	0.2898	0.1379	58	0.08	OK	0
010.60	Total N, Combustion (24%)	0534	24.78	0.1500	24.75	0.2898	0.1379	58	0.08	OK	0
010.60	Total N, Combustion (24%)	0027	24.80	0.4000	24.75	0.2898	0.1379	58	0.17	OK	0
010.60	Total N, Combustion (24%)	0040	24.80	0.0000	24.75	0.2898	0.1379	58	0.17	OK	0
010.60	Total N, Combustion (24%)	0561	24.81	0.1000	24.75	0.2898	0.1379	58	0.21	OK	0
010.60	Total N, Combustion (24%)	0368	24.81	0.2300	24.75	0.2898	0.1379	58	0.21	OK	0
010.60	Total N, Combustion (24%)	0360	24.83	0.1000	24.75	0.2898	0.1379	58	0.27	OK	0
010.60	Total N, Combustion (24%)	0102	24.84	0.1500	24.75	0.2898	0.1379	58	0.29	OK	0
010.60	Total N, Combustion (24%)	0086	24.85	0.1630	24.75	0.2898	0.1379	58	0.34	OK	0
010.60	Total N, Combustion (24%)	0324	24.85	0.1000	24.75	0.2898	0.1379	58	0.34	OK	0
010.60	Total N, Combustion (24%)	0136	24.89	0.1400	24.75	0.2898	0.1379	58	0.48	OK	0
010.60	Total N, Combustion (24%)	0260	24.90	0.0000	24.75	0.2898	0.1379	58	0.52	OK	0
010.60	Total N, Combustion (24%)	0405	24.94	0.0200	24.75	0.2898	0.1379	58	0.65	OK	0
010.60	Total N, Combustion (24%)	0494	24.94	0.2000	24.75	0.2898	0.1379	58	0.65	OK	0
010.60	Total N, Combustion (24%)	0035	24.95	0.3000	24.75	0.2898	0.1379	58	0.69	OK	0
010.60	Total N, Combustion (24%)	0106	24.96	0.1100	24.75	0.2898	0.1379	58	0.71	OK	0
010.60	Total N, Combustion (24%)	0041	24.99	0.0300	24.75	0.2898	0.1379	58	0.81	OK	0
010.60	Total N, Combustion (24%)	0220	25.03	0.2500	24.75	0.2898	0.1379	58	0.95	OK	0
010.60	Total N, Combustion (24%)	0037	25.07	0.1390	24.75	0.2898	0.1379	58	1.09	OK	0
010.60	Total N, Combustion (24%)	0547	25.07	0.3000	24.75	0.2898	0.1379	58	1.10	OK	0
010.60	Total N, Combustion (24%)	0230	25.10	0.0000	24.75	0.2898	0.1379	58	1.21	OK	0
010.60	Total N, Combustion (24%)	0233	25.10	0.0200	24.75	0.2898	0.1379	58	1.21	OK	0
010.60	Total N, Combustion (24%)	0588	25.10	0.2000	24.75	0.2898	0.1379	58	1.21	OK	0
010.60	Total N, Combustion (24%)	0073	25.16	0.0400	24.75	0.2898	0.1379	58	1.41	OK	0
010.60	Total N, Combustion (24%)	0354	25.25	0.1000	24.75	0.2898	0.1379	58	1.72	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 (24%)	0029	25.47	0.0600	24.75	0.2898	0.1379	58	2.48	OK	0
010.60	Total N, Combustion (24%)	0007	25.50	0.2000	24.75	0.2898	0.1379	58	2.59	OK	0
010.60	Total N, Combustion (24%)	0177	25.58	0.1900	24.75	0.2898	0.1379	58	2.84	High	0
010.60	Total N, Combustion (24%)	0325	23.82	0.9300	24.75	0.2898	0.1379	58	-3.23	Low	1
010.60	Total N, Combustion (24%)	0255	26.38	0.8540	24.75	0.2898	0.1379	58	5.62	High	1
010.99	Total N, Other (24%)	0553	22.25	0.3000	23.90	0.9740	0.1663	15	-1.69	Low	0
010.99	Total N, Other (24%)	0564	22.54	0.0300	23.90	0.9740	0.1663	15	-1.40	Low	0
010.99	Total N, Other (24%)	0567	23.05	0.1000	23.90	0.9740	0.1663	15	-0.87	Low	0
010.99	Total N, Other (24%)	0559	23.38	0.0100	23.90	0.9740	0.1663	15	-0.54	OK	0
010.99	Total N, Other (24%)	0569	23.38	0.1700	23.90	0.9740	0.1663	15	-0.54	OK	0
010.99	Total N, Other (24%)	0549	23.69	0.1800	23.90	0.9740	0.1663	15	-0.21	OK	0
010.99	Total N, Other (24%)	0600	23.88	0.1100	23.90	0.9740	0.1663	15	-0.02	OK	0
010.99	Total N, Other (24%)	0538	23.90	0.0300	23.90	0.9740	0.1663	15	0.00	OK	0
010.99	Total N, Other (24%)	0558	24.00	0.2081	23.90	0.9740	0.1663	15	0.11	OK	0
010.99	Total N, Other (24%)	0518	24.05	0.2600	23.90	0.9740	0.1663	15	0.16	OK	0
010.99	Total N, Other (24%)	0524	24.37	0.0376	23.90	0.9740	0.1663	15	0.48	OK	0
010.99	Total N, Other (24%)	0563	24.63	0.3400	23.90	0.9740	0.1663	15	0.75	OK	0
010.99	Total N, Other (24%)	0513	24.74	0.0200	23.90	0.9740	0.1663	15	0.87	High	0
010.99	Total N, Other (24%)	0394	25.08	0.6090	23.90	0.9740	0.1663	15	1.21	High	0
010.99	Total N, Other (24%)	0444	25.87	0.0900	23.90	0.9740	0.1663	15	2.02	High	0
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0157	25.45	0.1000				1			0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0481	24.76	0.1400	25.33	0.5287	0.1818	17	-1.07	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0510	24.77	0.6858	25.33	0.5287	0.1818	17	-1.05	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0534	24.88	0.0200	25.33	0.5287	0.1818	17	-0.85	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0563	24.90	0.1600	25.33	0.5287	0.1818	17	-0.81	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0027	24.99	0.3400	25.33	0.5287	0.1818	17	-0.64	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0324	25.01	0.4900	25.33	0.5287	0.1818	17	-0.61	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0419	25.08	0.0900	25.33	0.5287	0.1818	17	-0.48	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0292	25.14	0.1100	25.33	0.5287	0.1818	17	-0.37	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0169	25.15	0.0100	25.33	0.5287	0.1818	17	-0.35	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0561	25.36	0.1100	25.33	0.5287	0.1818	17	0.05	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0231	25.42	0.0000	25.33	0.5287	0.1818	17	0.17	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0405	25.44	0.0700	25.33	0.5287	0.1818	17	0.20	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0547	25.60	0.6000	25.33	0.5287	0.1818	17	0.51	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0394	25.82	0.0150	25.33	0.5287	0.1818	17	0.93	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0356	26.05	0.2000	25.33	0.5287	0.1818	17	1.36	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0580	26.46	0.0000	25.33	0.5287	0.1818	17	2.14	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0300	26.84	0.0500	25.33	0.5287	0.1818	17	2.85	NA	0
020.40	Total P2O5, Automated (%)	0035	25.55	0.1000				1			0
020.50	Total P2O5, ICP (%)	0255	22.27	0.1470	24.77	1.217	0.4094	21	-2.06	NA	0
020.50	Total P2O5, ICP (%)	0389	22.41	0.1300	24.77	1.217	0.4094	21	-1.95	NA	0
020.50	Total P2O5, ICP (%)	0588	23.25	0.1700	24.77	1.217	0.4094	21	-1.26	NA	0
020.50	Total P2O5, ICP (%)	0472	23.50	0.0100	24.77	1.217	0.4094	21	-1.05	NA	0

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			Value	Range	Rob Mean	Rob SD	R-bar				
020.50	Total P2O5, ICP (%)	0307	23.83	0.5400	24.77	1.217	0.4094	21	-0.78	NA	0
020.50	Total P2O5, ICP (%)	0552	23.95	1.580	24.77	1.217	0.4094	21	-0.68	NA	0
020.50	Total P2O5, ICP (%)	0300	24.15	0.1833	24.77	1.217	0.4094	21	-0.51	NA	0
020.50	Total P2O5, ICP (%)	0524	24.61	0.4910	24.77	1.217	0.4094	21	-0.14	NA	0
020.50	Total P2O5, ICP (%)	0605	24.68	0.6000	24.77	1.217	0.4094	21	-0.08	NA	0
020.50	Total P2O5, ICP (%)	0423	24.83	0.9900	24.77	1.217	0.4094	21	0.04	NA	0
020.50	Total P2O5, ICP (%)	0451	24.86	0.0200	24.77	1.217	0.4094	21	0.07	NA	0
020.50	Total P2O5, ICP (%)	0260	25.00	0.2000	24.77	1.217	0.4094	21	0.19	NA	0
020.50	Total P2O5, ICP (%)	0521	25.09	0.0000	24.77	1.217	0.4094	21	0.26	NA	0
020.50	Total P2O5, ICP (%)	0527	25.25	0.1963	24.77	1.217	0.4094	21	0.39	NA	0
020.50	Total P2O5, ICP (%)	0291	25.46	0.0800	24.77	1.217	0.4094	21	0.56	NA	0
020.50	Total P2O5, ICP (%)	0368	25.50	0.3340	24.77	1.217	0.4094	21	0.60	NA	0
020.50	Total P2O5, ICP (%)	0234	25.70	0.2000	24.77	1.217	0.4094	21	0.76	NA	0
020.50	Total P2O5, ICP (%)	0402	25.81	0.0760	24.77	1.217	0.4094	21	0.85	NA	0
020.50	Total P2O5, ICP (%)	0433	26.11	0.0900	24.77	1.217	0.4094	21	1.09	NA	0
020.50	Total P2O5, ICP (%)	0422	26.18	1.160	24.77	1.217	0.4094	21	1.16	NA	0
020.50	Total P2O5, ICP (%)	0523	29.00	1.400	24.77	1.217	0.4094	21	3.47	NA	0
020.99	Total P2O5, Other (%)	0513	25.08	0.0400	25.78	0.7527	0.2905	6	-0.83	NA	0
020.99	Total P2O5, Other (%)	0564	25.43	0.0500	25.78	0.7527	0.2905	6	-0.42	NA	0
020.99	Total P2O5, Other (%)	0572	25.52	0.4931	25.78	0.7527	0.2905	6	-0.32	NA	0
020.99	Total P2O5, Other (%)	0567	25.55	0.1000	25.78	0.7527	0.2905	6	-0.27	NA	0
020.99	Total P2O5, Other (%)	0559	26.21	0.0200	25.78	0.7527	0.2905	6	0.51	NA	0
020.99	Total P2O5, Other (%)	0443	29.62	1.040	25.78	0.7527	0.2905	6	4.54	NA	0
020.99	Total P2O5, Other (%)	0515	24.69	3.750	25.78	0.7527	0.2905	6	-1.30	NA	1
030.20	Citrate Insoluble P2O5, Spectrophotometric MolybdovanadoP (	0405	0.0800	0.0000				1			0
030.99	Citrate Insoluble P2O5, Other (%)	0444	24.86	0.1000				1			0
040.20	Indirect Available P2O5, Spectrophotometric (25%)	0300	26.54	0.0000				1			0
040.99	Indirect Available P2O5, Other (25%)	0405	25.36	0.0700				1			0
041.10	Direct Available P2O5, Gravimetric Quinolinium (25%)	0494	25.12	0.0900	25.57	0.6371	0.1751	4	-0.72		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (25%)	0177	25.20	0.1373	25.57	0.6371	0.1751	4	-0.58		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (25%)	0086	25.47	0.0730	25.57	0.6371	0.1751	4	-0.17		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (25%)	0102	26.50	0.4000	25.57	0.6371	0.1751	4	1.46		0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA	0513	24.98	0.0600	25.20	0.1814	0.1142	9	-1.14	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA	0095	24.99	0.1200	25.20	0.1814	0.1142	9	-1.09	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA	0055	25.05	0.1400	25.20	0.1814	0.1142	9	-0.78	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA	0405	25.18	0.0400	25.20	0.1814	0.1142	9	-0.12	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA	0220	25.27	0.1200	25.20	0.1814	0.1142	9	0.34	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA	0072	25.29	0.0580	25.20	0.1814	0.1142	9	0.44	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA	0073	25.34	0.3400	25.20	0.1814	0.1142	9	0.69	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA	0185	25.35	0.0800	25.20	0.1814	0.1142	9	0.74	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA	0049	25.39	0.0700	25.20	0.1814	0.1142	9	0.92	OK	0
041.20	Direct Available P2O5, Spectrophotometric (25%)	0452	24.60	0.0400	25.09	0.4549	0.2167	3	-1.07		0
041.20	Direct Available P2O5, Spectrophotometric (25%)	0027	25.17	0.4100	25.09	0.4549	0.2167	3	0.17		0

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041.20	Direct Available P2O5, Spectrophotometric (25%)	0553	25.50	0.2000	25.09	0.4549	0.2167	3	0.91		0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	0106	24.31	0.2200	24.79	0.3674	0.1893	8	-1.18	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	0055	24.35	0.4100	24.79	0.3674	0.1893	8	-1.10	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	0472	24.58	0.1700	24.79	0.3674	0.1893	8	-0.52	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	0405	24.95	0.0100	24.79	0.3674	0.1893	8	0.40	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	0177	24.95	0.1155	24.79	0.3674	0.1893	8	0.41	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	0394	25.01	0.2790	24.79	0.3674	0.1893	8	0.57	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	0231	25.05	0.1100	24.79	0.3674	0.1893	8	0.65	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	0354	25.10	0.2000	24.79	0.3674	0.1893	8	0.78	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	0568	24.75	1.100	24.79	0.3674	0.1893	8	-0.09	OK	1
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (25%)	0029	25.33	0.2100				2			0
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (25%)	0028	25.42	0.0600				2			0
041.50	Direct Available P2O5, ICP (25%)	0325	24.00	0.6000	24.87	0.6633	0.5725	4	-1.32		0
041.50	Direct Available P2O5, ICP (25%)	0421	24.76	0.3800	24.87	0.6633	0.5725	4	-0.17		0
041.50	Direct Available P2O5, ICP (25%)	0007	25.20	1.000	24.87	0.6633	0.5725	4	0.49		0
041.50	Direct Available P2O5, ICP (25%)	0131	25.54	0.3100	24.87	0.6633	0.5725	4	1.00		0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (25%)	0423	22.87	0.2600	25.01	0.8402	0.2979	13	-2.55	Low	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (25%)	0230	23.95	0.1000	25.01	0.8402	0.2979	13	-1.27	Low	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (25%)	0025	24.20	0.4000	25.01	0.8402	0.2979	13	-0.97	Low	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (25%)	0360	24.59	0.1900	25.01	0.8402	0.2979	13	-0.51	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (25%)	0377	24.61	0.2500	25.01	0.8402	0.2979	13	-0.49	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (25%)	0040	24.95	0.5000	25.01	0.8402	0.2979	13	-0.08	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (25%)	0023	25.25	0.1000	25.01	0.8402	0.2979	13	0.28	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (25%)	0037	25.28	0.5240	25.01	0.8402	0.2979	13	0.31	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (25%)	0494	25.50	0.5400	25.01	0.8402	0.2979	13	0.58	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (25%)	0117	25.51	0.6456	25.01	0.8402	0.2979	13	0.58	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (25%)	0136	25.71	0.2600	25.01	0.8402	0.2979	13	0.83	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (25%)	0072	25.89	0.0431	25.01	0.8402	0.2979	13	1.04	High	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (25%)	0043	26.01	0.0600	25.01	0.8402	0.2979	13	1.18	High	0
041.99	Direct Available P2O5, Other (25%)	0558	24.21	0.2156	24.96	0.1945	0.2470	8	-3.49	Low	0
041.99	Direct Available P2O5, Other (25%)	0549	24.80	0.4700	24.96	0.1945	0.2470	8	-0.76	OK	0
041.99	Direct Available P2O5, Other (25%)	0569	24.89	0.0400	24.96	0.1945	0.2470	8	-0.31	OK	0
041.99	Direct Available P2O5, Other (25%)	0538	25.00	0.2300	24.96	0.1945	0.2470	8	0.18	OK	0
041.99	Direct Available P2O5, Other (25%)	0518	25.00	0.6400	24.96	0.1945	0.2470	8	0.20	OK	0
041.99	Direct Available P2O5, Other (25%)	0600	25.03	0.0400	24.96	0.1945	0.2470	8	0.34	OK	0
041.99	Direct Available P2O5, Other (25%)	0533	25.06	0.1900	24.96	0.1945	0.2470	8	0.46	OK	0
041.99	Direct Available P2O5, Other (25%)	0562	25.23	0.1500	24.96	0.1945	0.2470	8	1.26	OK	0
048.20	Water Soluble P2O5, Spectrophotometric (%)	0472	22.24	0.0200				1			0
048.50	Water Soluble P2O5, ICP (%)	0605	22.89	0.2400	24.34	1.292	0.5200	3	-1.13		0
048.50	Water Soluble P2O5, ICP (%)	0444	24.78	0.2600	24.34	1.292	0.5200	3	0.34		0
048.50	Water Soluble P2O5, ICP (%)	0501	25.36	1.060	24.34	1.292	0.5200	3	0.79		0
048.99	Water Soluble P2O5, Other (%)	0572	21.20	0.9695				2			0
048.99	Water Soluble P2O5, Other (%)	0513	22.24	0.0500				2			0

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050.00	Soluble K2O, STPB Oxalate (4%)	0055	4.115	0.0700	4.315	0.1526	0.0257	7	-1.19	OK	0
050.00	Soluble K2O, STPB Oxalate (4%)	0220	4.160	0.0200	4.315	0.1526	0.0257	7	-0.92	OK	0
050.00	Soluble K2O, STPB Oxalate (4%)	0494	4.305	0.0100	4.315	0.1526	0.0257	7	-0.06	OK	0
050.00	Soluble K2O, STPB Oxalate (4%)	0561	4.355	0.0300	4.315	0.1526	0.0257	7	0.24	OK	0
050.00	Soluble K2O, STPB Oxalate (4%)	0072	4.372	0.0300	4.315	0.1526	0.0257	7	0.34	OK	0
050.00	Soluble K2O, STPB Oxalate (4%)	0405	4.410	0.0000	4.315	0.1526	0.0257	7	0.56	OK	0
050.00	Soluble K2O, STPB Oxalate (4%)	0102	4.490	0.0200	4.315	0.1526	0.0257	7	1.04	OK	0
050.00	Soluble K2O, STPB Oxalate (4%)	0049	4.255	0.1900	4.315	0.1526	0.0257	7	-0.36	OK	1
050.30	Soluble K2O, AA (Oxalate) (4%)	0040	3.750	0.1000	4.156	0.3636	0.1295	4	-1.12		0
050.30	Soluble K2O, AA (Oxalate) (4%)	0356	4.073	0.1580	4.156	0.3636	0.1295	4	-0.23		0
050.30	Soluble K2O, AA (Oxalate) (4%)	0157	4.170	0.1000	4.156	0.3636	0.1295	4	0.04		0
050.30	Soluble K2O, AA (Oxalate) (4%)	0073	4.630	0.1600	4.156	0.3636	0.1295	4	1.30		0
050.32	Soluble K2O, AA (Citrate-EDTA) (4%)	0472	3.940	0.0200				1			0
050.50	Soluble K2O, ICP (Oxalate) (4%)	0055	3.621	0.0040	4.081	0.1275	0.1702	10	-3.35	Low	0
050.50	Soluble K2O, ICP (Oxalate) (4%)	0422	3.895	0.0700	4.081	0.1275	0.1702	10	-1.35	OK	0
050.50	Soluble K2O, ICP (Oxalate) (4%)	0230	4.040	0.0800	4.081	0.1275	0.1702	10	-0.30	OK	0
050.50	Soluble K2O, ICP (Oxalate) (4%)	0324	4.060	0.7600	4.081	0.1275	0.1702	10	-0.15	OK	0
050.50	Soluble K2O, ICP (Oxalate) (4%)	0419	4.093	0.0679	4.081	0.1275	0.1702	10	0.09	OK	0
050.50	Soluble K2O, ICP (Oxalate) (4%)	0231	4.135	0.0100	4.081	0.1275	0.1702	10	0.40	OK	0
050.50	Soluble K2O, ICP (Oxalate) (4%)	0307	4.140	0.4000	4.081	0.1275	0.1702	10	0.43	OK	0
050.50	Soluble K2O, ICP (Oxalate) (4%)	0106	4.155	0.2700	4.081	0.1275	0.1702	10	0.54	OK	0
050.50	Soluble K2O, ICP (Oxalate) (4%)	0444	4.200	0.0400	4.081	0.1275	0.1702	10	0.87	OK	0
050.50	Soluble K2O, ICP (Oxalate) (4%)	0292	4.200	0.0000	4.081	0.1275	0.1702	10	0.87	OK	0
050.51	Soluble K2O, ICP (Citrate) (4%)	0007	4.150	0.1000	4.182	0.0302	0.0458	5	-1.07		0
050.51	Soluble K2O, ICP (Citrate) (4%)	0368	4.162	0.0292	4.182	0.0302	0.0458	5	-0.67		0
050.51	Soluble K2O, ICP (Citrate) (4%)	0452	4.175	0.0100	4.182	0.0302	0.0458	5	-0.25		0
050.51	Soluble K2O, ICP (Citrate) (4%)	0568	4.200	0.0600	4.182	0.0302	0.0458	5	0.58		0
050.51	Soluble K2O, ICP (Citrate) (4%)	0291	4.225	0.0300	4.182	0.0302	0.0458	5	1.41		0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0547	3.630	0.0600	4.183	0.1579	0.0669	13	-3.50	Low	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0423	4.050	0.0200	4.183	0.1579	0.0669	13	-0.84	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0377	4.080	0.1000	4.183	0.1579	0.0669	13	-0.65	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0485	4.089	0.0450	4.183	0.1579	0.0669	13	-0.60	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0136	4.095	0.0300	4.183	0.1579	0.0669	13	-0.56	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0023	4.100	0.0800	4.183	0.1579	0.0669	13	-0.52	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0025	4.145	0.2100	4.183	0.1579	0.0669	13	-0.24	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0037	4.235	0.0540	4.183	0.1579	0.0669	13	0.33	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0360	4.255	0.0100	4.183	0.1579	0.0669	13	0.46	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0043	4.295	0.0100	4.183	0.1579	0.0669	13	0.71	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0117	4.303	0.0704	4.183	0.1579	0.0669	13	0.76	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0072	4.363	0.0009	4.183	0.1579	0.0669	13	1.14	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0354	4.420	0.1800	4.183	0.1579	0.0669	13	1.50	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0494	4.335	0.7300	4.183	0.1579	0.0669	13	0.96	OK	1
050.60	Soluble K2O, Flame Photometric (Oxalate) (4%)	0443	3.930	0.0400	4.077	0.1284	0.1914	4	-1.14		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				
050.60	Soluble K2O, Flame Photometric (Oxalate) (4%)	0510	4.013	0.6154	4.077	0.1284	0.1914	4	-0.50		0
050.60	Soluble K2O, Flame Photometric (Oxalate) (4%)	0169	4.155	0.1100	4.077	0.1284	0.1914	4	0.61		0
050.60	Soluble K2O, Flame Photometric (Oxalate) (4%)	0580	4.210	0.0000	4.077	0.1284	0.1914	4	1.04		0
050.61	Soluble K2O, Flame Photometric (Citrate) (4%)	0035	4.350	0.1000				1			0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (4%)	0029	4.055	0.1100	4.342	0.3292	0.1012	5	-0.87		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (4%)	0394	4.170	0.1460	4.342	0.3292	0.1012	5	-0.52		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (4%)	0028	4.220	0.1600	4.342	0.3292	0.1012	5	-0.37		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (4%)	0513	4.370	0.0800	4.342	0.3292	0.1012	5	0.09		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (4%)	0095	4.895	0.0100	4.342	0.3292	0.1012	5	1.68		0
050.99	Soluble K2O, Other (4%)	0564	3.690	0.0200	4.073	0.2486	0.0966	33	-1.54	OK	0
050.99	Soluble K2O, Other (4%)	0559	3.760	0.0200	4.073	0.2486	0.0966	33	-1.26	OK	0
050.99	Soluble K2O, Other (4%)	0481	3.765	0.0900	4.073	0.2486	0.0966	33	-1.24	OK	0
050.99	Soluble K2O, Other (4%)	0451	3.768	0.2280	4.073	0.2486	0.0966	33	-1.23	OK	0
050.99	Soluble K2O, Other (4%)	0515	3.842	0.0730	4.073	0.2486	0.0966	33	-0.93	OK	0
050.99	Soluble K2O, Other (4%)	0567	3.865	0.0300	4.073	0.2486	0.0966	33	-0.84	OK	0
050.99	Soluble K2O, Other (4%)	0563	3.893	0.0479	4.073	0.2486	0.0966	33	-0.73	OK	0
050.99	Soluble K2O, Other (4%)	0562	3.900	0.1000	4.073	0.2486	0.0966	33	-0.70	OK	0
050.99	Soluble K2O, Other (4%)	0549	3.915	0.2700	4.073	0.2486	0.0966	33	-0.64	OK	0
050.99	Soluble K2O, Other (4%)	0533	3.935	0.0700	4.073	0.2486	0.0966	33	-0.56	OK	0
050.99	Soluble K2O, Other (4%)	0600	3.935	0.0700	4.073	0.2486	0.0966	33	-0.56	OK	0
050.99	Soluble K2O, Other (4%)	0553	3.970	0.1200	4.073	0.2486	0.0966	33	-0.42	OK	0
050.99	Soluble K2O, Other (4%)	0260	3.975	0.0700	4.073	0.2486	0.0966	33	-0.40	OK	0
050.99	Soluble K2O, Other (4%)	0538	4.030	0.1000	4.073	0.2486	0.0966	33	-0.17	OK	0
050.99	Soluble K2O, Other (4%)	0255	4.031	0.2250	4.073	0.2486	0.0966	33	-0.17	OK	0
050.99	Soluble K2O, Other (4%)	0518	4.045	0.1100	4.073	0.2486	0.0966	33	-0.11	OK	0
050.99	Soluble K2O, Other (4%)	0569	4.050	0.1400	4.073	0.2486	0.0966	33	-0.09	OK	0
050.99	Soluble K2O, Other (4%)	0027	4.060	0.0000	4.073	0.2486	0.0966	33	-0.05	OK	0
050.99	Soluble K2O, Other (4%)	0524	4.063	0.0289	4.073	0.2486	0.0966	33	-0.04	OK	0
050.99	Soluble K2O, Other (4%)	0421	4.080	0.1200	4.073	0.2486	0.0966	33	0.03	OK	0
050.99	Soluble K2O, Other (4%)	0605	4.110	0.0400	4.073	0.2486	0.0966	33	0.15	OK	0
050.99	Soluble K2O, Other (4%)	0389	4.125	0.0060	4.073	0.2486	0.0966	33	0.21	OK	0
050.99	Soluble K2O, Other (4%)	0234	4.165	0.0500	4.073	0.2486	0.0966	33	0.37	OK	0
050.99	Soluble K2O, Other (4%)	0521	4.174	0.0000	4.073	0.2486	0.0966	33	0.40	OK	0
050.99	Soluble K2O, Other (4%)	0527	4.210	0.0722	4.073	0.2486	0.0966	33	0.55	OK	0
050.99	Soluble K2O, Other (4%)	0177	4.228	0.0063	4.073	0.2486	0.0966	33	0.62	OK	0
050.99	Soluble K2O, Other (4%)	0501	4.295	0.1500	4.073	0.2486	0.0966	33	0.89	OK	0
050.99	Soluble K2O, Other (4%)	0433	4.305	0.1100	4.073	0.2486	0.0966	33	0.93	OK	0
050.99	Soluble K2O, Other (4%)	0523	4.550	0.3000	4.073	0.2486	0.0966	33	1.92	High	0
050.99	Soluble K2O, Other (4%)	0300	4.695	0.0700	4.073	0.2486	0.0966	33	2.50	High	0
050.99	Soluble K2O, Other (4%)	0402	4.935	0.0170	4.073	0.2486	0.0966	33	3.46	High	0
050.99	Soluble K2O, Other (4%)	0552	5.050	0.3200	4.073	0.2486	0.0966	33	3.93	High	0
050.99	Soluble K2O, Other (4%)	0558	5.181	0.1124	4.073	0.2486	0.0966	33	4.45	High	0
050.99	Soluble K2O, Other (4%)	0325	4.500	0.6000	4.073	0.2486	0.0966	33	1.72	High	1

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			Value	Range	Rob Mean	Rob SD	R-bar				
060.00	Water (Free), Vacuum Oven (%)	0513	0.9850	0.0300				1			0
060.10	Water (Free), Vacuum Desiccation (%)	0419	1.235	0.0500				1			0
060.99	Water (Free), Other (%)	0510	2.378	0.1246				1			0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	0553	0.0450	0.0100				1			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0568	0.2190	0.0020	0.2520	0.0340	0.0073	3	-0.97		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0354	0.2500	0.0000	0.2520	0.0340	0.0073	3	-0.06		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0035	0.2870	0.0200	0.2520	0.0340	0.0073	3	1.03		0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	0300	0.2323	0.0032				2			0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	0423	0.2425	0.0010				2			0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0472	0.1650	0.0100	0.2090	0.0506	0.0076	4	-0.87		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0527	0.1655	0.0024	0.2090	0.0506	0.0076	4	-0.86		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0494	0.2483	0.0087	0.2090	0.0506	0.0076	4	0.78		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0419	0.2571	0.0091	0.2090	0.0506	0.0076	4	0.95		0
101.99	Acid Soluble Ca, Other (%)	0572	0.2042	0.0121	0.7964	1.003	0.7007	3	-0.59		0
101.99	Acid Soluble Ca, Other (%)	0389	0.2300	0.0000	0.7964	1.003	0.7007	3	-0.56		0
101.99	Acid Soluble Ca, Other (%)	0552	1.955	2.090	0.7964	1.003	0.7007	3	1.15		0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	0553	0.4990	0.0720				1			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0568	0.4370	0.0040	0.4587	0.0210	0.0040	3	-1.03		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	0.4600	0.0000	0.4587	0.0210	0.0040	3	0.06		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0035	0.4790	0.0080	0.4587	0.0210	0.0040	3	0.97		0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0300	0.4435	0.0036				2			0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0423	0.4465	0.0030				2			0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0494	0.4044	0.0357	0.4496	0.0393	0.0110	5	-1.15		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0515	0.4112	0.0008	0.4496	0.0393	0.0110	5	-0.98		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0472	0.4650	0.0100	0.4496	0.0393	0.0110	5	0.39		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0419	0.4770	0.0020	0.4496	0.0393	0.0110	5	0.70		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0527	0.4903	0.0065	0.4496	0.0393	0.0110	5	1.04		0
121.99	Acid Soluble Mg, Other (%)	0572	0.3683	0.0043	0.4855	0.1843	0.0976	5	-0.64		0
121.99	Acid Soluble Mg, Other (%)	0524	0.3840	0.0238	0.4855	0.1843	0.0976	5	-0.55		0
121.99	Acid Soluble Mg, Other (%)	0515	0.4108	0.0567	0.4855	0.1843	0.0976	5	-0.41		0
121.99	Acid Soluble Mg, Other (%)	0389	0.4545	0.0030	0.4855	0.1843	0.0976	5	-0.17		0
121.99	Acid Soluble Mg, Other (%)	0552	0.8100	0.4000	0.4855	0.1843	0.0976	5	1.76		0
131.99	Water Soluble Mg, Other (%)	0572	0.0893	0.0035				1			0
143.99	Elemental S, Other (%)	0389	0.6920	0.0080				1			0
145.99	Sulfate S, HCl soluble, Other (%)	0553	0.5610	0.0060				2			0
145.99	Sulfate S, HCl soluble, Other (%)	0419	0.6488	0.0110				2			0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0515	0.4144	0.0144	0.6449	0.1891	0.0269	4	-1.22		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0472	0.6400	0.0000	0.6449	0.1891	0.0269	4	-0.03		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0494	0.6474	0.0567	0.6449	0.1891	0.0269	4	0.01		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0402	0.8777	0.0365	0.6449	0.1891	0.0269	4	1.23		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0527	< 0.01		0.6449	0.1891	0.0269	4			5
148.99	Total S, Other (%)	0572	0.4346	0.0229	0.5761	0.1247	0.0148	3	-1.13		0
148.99	Total S, Other (%)	0300	0.6237	0.0016	0.5761	0.1247	0.0148	3	0.38		0

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148.99	Total S, Other (%)	0354	0.6700	0.0200	0.5761	0.1247	0.0148	3	0.75		0
149.04	S - HNO3 soluble, ICP (%)	0423	0.5950	0.0020				2			0
149.04	S - HNO3 soluble, ICP (%)	0524	0.6263	0.0262				2			0
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid	0534	7.214	0.1330				1			0
151.30	Acid Soluble As, ICP (ppm)	0605	7.790	0.3600	8.452	0.7980	0.4149	4	-0.83		0
151.30	Acid Soluble As, ICP (ppm)	0501	7.840	0.2800	8.452	0.7980	0.4149	4	-0.77		0
151.30	Acid Soluble As, ICP (ppm)	0523	8.710	0.0200	8.452	0.7980	0.4149	4	0.32		0
151.30	Acid Soluble As, ICP (ppm)	0524	9.467	0.9996	8.452	0.7980	0.4149	4	1.27		0
151.30	Acid Soluble As, ICP (ppm)	0255	0.0000	0.0000	8.452	0.7980	0.4149	4			4
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0405	6.000	0.0000				2			0
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0300	8.029	0.0420				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0515	6.428	0.0510	8.604	2.145	0.5455	6	-0.90	NA	0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0037	7.374	0.0650	8.604	2.145	0.5455	6	-0.51	NA	0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0136	7.745	0.0300	8.604	2.145	0.5455	6	-0.36	NA	0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0527	9.118	0.6708	8.604	2.145	0.5455	6	0.21	NA	0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0563	9.138	0.6559	8.604	2.145	0.5455	6	0.22	NA	0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0494	16.10	1.800	8.604	2.145	0.5455	6	3.11	NA	0
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0368	5.200	1.200				1			0
151.99	Acid Soluble As, Other (ppm)	0220	3.150	0.7000				2			0
151.99	Acid Soluble As, Other (ppm)	0481	8.035	0.2900				2			0
165.00	Acid Soluble B, Spectrophotometric (%)	0553	0.0020	0.0000				1			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0389	0.0071	0.0000				2			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0494	0.0422	0.0507				2			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	< 0.01					2			5
165.99	Acid Soluble B, Other (%)	0515	0.0020	0.0009	0.0089	0.0111	0.0005	5	-0.54		0
165.99	Acid Soluble B, Other (%)	0423	0.0020	0.0000	0.0089	0.0111	0.0005	5	-0.54		0
165.99	Acid Soluble B, Other (%)	0524	0.0026	0.0001	0.0089	0.0111	0.0005	5	-0.50		0
165.99	Acid Soluble B, Other (%)	0472	0.0100	0.0000	0.0089	0.0111	0.0005	5	0.09		0
165.99	Acid Soluble B, Other (%)	0300	0.0279	0.0013	0.0089	0.0111	0.0005	5	1.49		0
165.99	Acid Soluble B, Other (%)	0552	0.0400	0.0600	0.0089	0.0111	0.0005	5	2.44		1
165.99	Acid Soluble B, Other (%)	0527	< 0.001		0.0089	0.0111	0.0005	5			5
165.99	Acid Soluble B, Other (%)	0572	< 0.009		0.0089	0.0111	0.0005	5			5
171.99	Water Soluble B, Other (%)	0572	< 0.01					0			5
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid	0534	1.310	0.0400				1			0
181.30	Acid Soluble Cd, ICP (ppm)	0485	1.385	0.0140	1.685	0.2475	0.1114	11	-1.13	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0524	1.464	0.0125	1.685	0.2475	0.1114	11	-0.83	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0501	1.505	0.1100	1.685	0.2475	0.1114	11	-0.68	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0444	1.595	0.0500	1.685	0.2475	0.1114	11	-0.34	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0255	1.601	0.2310	1.685	0.2475	0.1114	11	-0.32	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0389	1.650	0.0200	1.685	0.2475	0.1114	11	-0.13	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0394	1.707	0.0130	1.685	0.2475	0.1114	11	0.08	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0419	1.718	0.2550	1.685	0.2475	0.1114	11	0.12	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0523	1.795	0.0100	1.685	0.2475	0.1114	11	0.42	NA	0

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181.30	Acid Soluble Cd, ICP (ppm)	0605	2.060	0.3400	1.685	0.2475	0.1114	11	1.42	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0035	2.275	0.1700	1.685	0.2475	0.1114	11	2.23	NA	0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0300	1.776	0.0480				2			0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0405	2.000	0.0000				2			0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0136	1.640	0.0000	1.837	0.1391	0.0649	4	-1.42		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0563	1.849	0.0298	1.837	0.1391	0.0649	4	0.08		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0527	1.900	0.0097	1.837	0.1391	0.0649	4	0.45		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0494	1.960	0.2200	1.837	0.1391	0.0649	4	0.88		0
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0368	1.650	0.1000				1			0
181.99	Acid Soluble Cd, Other (ppm)	0481	1.655	0.2700	1.785	0.1505	0.1483	3	-0.86		0
181.99	Acid Soluble Cd, Other (ppm)	0572	1.751	0.0750	1.785	0.1505	0.1483	3	-0.23		0
181.99	Acid Soluble Cd, Other (ppm)	0220	1.950	0.1000	1.785	0.1505	0.1483	3	1.10		0
190.00	Water Soluble Cl, Titrimetric (%)	0494	3.055	0.0500				2			0
190.00	Water Soluble Cl, Titrimetric (%)	0553	3.515	0.7500				2			0
191.30	Acid Soluble Cr, ICP (ppm)	0524	36.86	2.011	47.24	8.055	0.5060	6	-1.15	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0394	43.28	0.1150	47.24	8.055	0.5060	6	-0.44	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0389	45.99	0.0700	47.24	8.055	0.5060	6	-0.14	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0035	47.60	0.4000	47.24	8.055	0.5060	6	0.04	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0523	52.45	0.3000	47.24	8.055	0.5060	6	0.58	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0605	57.24	0.1400	47.24	8.055	0.5060	6	1.11	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0419	40.61	7.926	47.24	8.055	0.5060	6	-0.73	NA	1
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0300	44.32	0.1600				2			0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0405	48.50	1.000				2			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0563	41.24	0.8824	45.80	3.414	1.331	5	-1.17		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0136	44.26	0.8700	45.80	3.414	1.331	5	-0.39		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0494	46.35	3.100	45.80	3.414	1.331	5	0.14		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0037	46.61	1.600	45.80	3.414	1.331	5	0.21		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0527	50.54	0.2020	45.80	3.414	1.331	5	1.21		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0515	57.53	16.06	45.80	3.414	1.331	5	3.00		1
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0368	46.95	0.5000				2			0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0515	52.28	7.867				2			0
191.99	Acid Soluble Cr, Other (ppm)	0572	39.06	2.001	45.01	5.735	2.500	3	-1.04		0
191.99	Acid Soluble Cr, Other (ppm)	0481	45.46	2.500	45.01	5.735	2.500	3	0.08		0
191.99	Acid Soluble Cr, Other (ppm)	0220	50.50	3.000	45.01	5.735	2.500	3	0.96		0
202.30	Acid Soluble Co, ICP (ppm)	0389	1.023	0.0020	1.659	0.4564	0.0855	6	-1.24	OK	0
202.30	Acid Soluble Co, ICP (ppm)	0419	1.447	0.2150	1.659	0.4564	0.0855	6	-0.41	OK	0
202.30	Acid Soluble Co, ICP (ppm)	0523	1.605	0.0100	1.659	0.4564	0.0855	6	-0.11	OK	0
202.30	Acid Soluble Co, ICP (ppm)	0035	1.725	0.0900	1.659	0.4564	0.0855	6	0.13	OK	0
202.30	Acid Soluble Co, ICP (ppm)	0524	2.034	0.0161	1.659	0.4564	0.0855	6	0.73	OK	0
202.30	Acid Soluble Co, ICP (ppm)	0605	2.120	0.1800	1.659	0.4564	0.0855	6	0.90	OK	0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0300	1.639	0.0270				2			0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0405	2.000	0.0000				2			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0563	1.402	0.0100	1.816	0.6477	0.0215	4	-0.64		0

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			Value	Range	Rob Mean	Rob SD	R-bar				
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0527	1.486	0.0261	1.816	0.6477	0.0215	4	-0.51		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0423	1.595	0.0100	1.816	0.6477	0.0215	4	-0.34		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0494	2.780	0.0400	1.816	0.6477	0.0215	4	1.49		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0136	< 3		1.816	0.6477	0.0215	4			5
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0501	1.710	0.0800				2			0
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0368	1.850	0.1000				2			0
202.99	Acid Soluble Co, Other (ppm)	0572	1.220	0.0550	12.40	19.09	3.605	3	-0.59		0
202.99	Acid Soluble Co, Other (ppm)	0220	1.550	0.1000	12.40	19.09	3.605	3	-0.57		0
202.99	Acid Soluble Co, Other (ppm)	0255	34.44	10.66	12.40	19.09	3.605	3	1.15		0
202.99	Acid Soluble Co, Other (ppm)	0481	< 20		12.40	19.09	3.605	3			5
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0485	0.0003	0.0000				1			0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0553	< 0.005					1			5
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0402	0.0003	0.0000				2			0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0552	0.0300	0.0400				2			0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0255	0.0000	0.0000				2			4
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					2			5
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0394	0.0002	0.0001				1			0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0095	0.0000	0.0000				1			4
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0405	< 0.0002					1			5
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0300	< 0.001					1			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0515	0.0013	0.0000				1			0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0106	0.0000	0.0000				1			4
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0419	0.0000	0.0000				1			4
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0527	< 0.0001					1			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0136	< 0.0002					1			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0494	< 0.0002					1			5
221.99	Acid Soluble Cu, Other (%)	0368	0.0002	0.0001	0.2156	0.4263	0.0529	4	-0.43		0
221.99	Acid Soluble Cu, Other (%)	0515	0.0009	0.0008	0.2156	0.4263	0.0529	4	-0.43		0
221.99	Acid Soluble Cu, Other (%)	0605	0.0065	0.0006	0.2156	0.4263	0.0529	4	-0.42		0
221.99	Acid Soluble Cu, Other (%)	0501	0.8550	0.2100	0.2156	0.4263	0.0529	4	1.27		0
221.99	Acid Soluble Cu, Other (%)	0572	< 0.0001		0.2156	0.4263	0.0529	4			5
221.99	Acid Soluble Cu, Other (%)	0481	< 0.001		0.2156	0.4263	0.0529	4			5
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	0553	0.5975	0.0050				1			0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0402	0.5854	0.0015	0.6420	0.1021	0.0111	4	-0.55		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0354	0.5900	0.0000	0.6420	0.1021	0.0111	4	-0.51		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0035	0.5975	0.0130	0.6420	0.1021	0.0111	4	-0.44		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0552	0.7950	0.0300	0.6420	0.1021	0.0111	4	1.50		0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	0300	0.5562	0.0008				2			0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	0423	0.5615	0.0090				2			0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0515	0.5342	0.0600	0.5674	0.0260	0.0261	5	-1.27		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0494	0.5496	0.0621	0.5674	0.0260	0.0261	5	-0.68		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0419	0.5725	0.0050	0.5674	0.0260	0.0261	5	0.20		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0472	0.5800	0.0000	0.5674	0.0260	0.0261	5	0.49		0

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			Value	Range	Rob Mean	Rob SD	R-bar				
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0527	0.6006	0.0036	0.5674	0.0260	0.0261	5	1.28		0
241.99	Acid Soluble Fe, Other (%)	0524	0.5598	0.0255	0.5783	0.0146	0.0301	4	-1.27		0
241.99	Acid Soluble Fe, Other (%)	0572	0.5768	0.0120	0.5783	0.0146	0.0301	4	-0.10		0
241.99	Acid Soluble Fe, Other (%)	0389	0.5815	0.0130	0.5783	0.0146	0.0301	4	0.22		0
241.99	Acid Soluble Fe, Other (%)	0515	0.5952	0.0700	0.5783	0.0146	0.0301	4	1.15		0
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid	0534	1.840	0.1000				1			0
251.30	Acid Soluble Pb, ICP (ppm)	0389	0.3410	0.1540	0.7255	0.2370	0.0389	5	-1.42		0
251.30	Acid Soluble Pb, ICP (ppm)	0524	0.6989	0.0156	0.7255	0.2370	0.0389	5	-0.10		0
251.30	Acid Soluble Pb, ICP (ppm)	0394	0.7475	0.0050	0.7255	0.2370	0.0389	5	0.08		0
251.30	Acid Soluble Pb, ICP (ppm)	0501	0.9200	0.0200	0.7255	0.2370	0.0389	5	0.72		0
251.30	Acid Soluble Pb, ICP (ppm)	0523	0.9200	0.0000	0.7255	0.2370	0.0389	5	0.72		0
251.30	Acid Soluble Pb, ICP (ppm)	0255	0.0000	0.0000	0.7255	0.2370	0.0389	5			4
251.30	Acid Soluble Pb, ICP (ppm)	0419	0.0000	0.0000	0.7255	0.2370	0.0389	5			4
251.30	Acid Soluble Pb, ICP (ppm)	0605	< 5		0.7255	0.2370	0.0389	5			5
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0405	4.500	1.000				1			0
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0300	< 5					1			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0563	0.8215	0.0585				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0527	0.9488	0.0191				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0494	< 1.27					2			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0136	< 3					2			5
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0368	< 0.6					0			5
251.99	Acid Soluble Pb, Other (ppm)	0481	0.7000	0.0600	0.9390	0.2820	0.0640	3	-0.85		0
251.99	Acid Soluble Pb, Other (ppm)	0572	0.8670	0.0320	0.9390	0.2820	0.0640	3	-0.26		0
251.99	Acid Soluble Pb, Other (ppm)	0220	1.250	0.1000	0.9390	0.2820	0.0640	3	1.10		0
261.00	Acid Soluble Mn, AA, Mn2+ only (%)	0553	0.0175	0.0010				1			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0035	0.0206	0.0005				1			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0354	< 0.01					1			5
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)	0402	0.0202	0.0001				2			0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)	0552	0.1000	0.0600				2			0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	0300	0.0179	0.0000				2			0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	0423	0.1095	0.1790				2			0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0494	0.0175	0.0013	0.0185	0.0012	0.0012	4	-0.84		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0419	0.0175	0.0030	0.0185	0.0012	0.0012	4	-0.80		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0527	0.0190	0.0004	0.0185	0.0012	0.0012	4	0.41		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0472	0.0200	0.0000	0.0185	0.0012	0.0012	4	1.22		0
261.99	Acid Soluble Mn, Other (%)	0572	0.0150	0.0005	0.0173	0.0018	0.0007	4	-1.33		0
261.99	Acid Soluble Mn, Other (%)	0524	0.0172	0.0014	0.0173	0.0018	0.0007	4	-0.05		0
261.99	Acid Soluble Mn, Other (%)	0515	0.0179	0.0007	0.0173	0.0018	0.0007	4	0.32		0
261.99	Acid Soluble Mn, Other (%)	0389	0.0192	0.0001	0.0173	0.0018	0.0007	4	1.06		0
281.30	Acid Soluble Hg, ICP (ppm)	0515	0.0000	0.0000				0			4
281.30	Acid Soluble Hg, ICP (ppm)	0527	< 0.001					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0501	< 0.01					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0605	< 1.25					0			5

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281.30	Acid Soluble Hg, ICP (ppm)	0405	< 2					0			5
281.99	Acid Soluble Hg, Other (ppm)	0035	0.0080	0.0000				2			0
281.99	Acid Soluble Hg, Other (ppm)	0368	0.0192	0.0302				2			0
281.99	Acid Soluble Hg, Other (ppm)	0572	< 0.007					2			5
281.99	Acid Soluble Hg, Other (ppm)	0220	< 0.01					2			5
281.99	Acid Soluble Hg, Other (ppm)	0481	< 0.5					2			5
289.30	Acid Soluble Mo, ICP (ppm)	0485	1.577	0.0890	6.328	4.042	0.1596	4	-1.18		0
289.30	Acid Soluble Mo, ICP (ppm)	0524	5.712	0.2392	6.328	4.042	0.1596	4	-0.15		0
289.30	Acid Soluble Mo, ICP (ppm)	0402	6.600	0.2000	6.328	4.042	0.1596	4	0.07		0
289.30	Acid Soluble Mo, ICP (ppm)	0255	11.43	0.1100	6.328	4.042	0.1596	4	1.26		0
289.30	Acid Soluble Mo, ICP (ppm)	0419	0.0000	0.0000	6.328	4.042	0.1596	4			4
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0300	6.028	0.1440				2			0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0405	7.000	0.0000				2			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0563	5.466	0.0199	6.271	0.6428	0.0456	6	-1.12	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0423	6.000	0.0400	6.271	0.6428	0.0456	6	-0.38	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0136	6.050	0.0180	6.271	0.6428	0.0456	6	-0.31	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0037	6.287	0.0610	6.271	0.6428	0.0456	6	0.02	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	6.823	0.1348	6.271	0.6428	0.0456	6	0.76	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0106	7.000	0.0000	6.271	0.6428	0.0456	6	1.01	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0494	7.200	0.5200	6.271	0.6428	0.0456	6	1.29	OK	1
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0368	6.600	0.6000				2			0
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0501	7.425	0.4100				2			0
289.99	Acid Soluble Mo, Other (ppm)	0220	5.250	0.7000				2			0
289.99	Acid Soluble Mo, Other (ppm)	0572	5.708	1.455				2			0
289.99	Acid Soluble Mo, Other (ppm)	0481	< 100					2			5
291.30	Acid Soluble Ni, ICP (ppm)	0485	4.003	0.1270	6.771	1.890	0.8118	9	-1.35	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0444	5.435	0.5100	6.771	1.890	0.8118	9	-0.65	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0524	5.644	0.0362	6.771	1.890	0.8118	9	-0.55	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0389	6.045	0.0590	6.771	1.890	0.8118	9	-0.35	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0035	7.145	0.1500	6.771	1.890	0.8118	9	0.18	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0523	7.315	0.0700	6.771	1.890	0.8118	9	0.27	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0419	7.699	1.725	6.771	1.890	0.8118	9	0.45	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0605	8.050	1.080	6.771	1.890	0.8118	9	0.62	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0394	12.84	3.549	6.771	1.890	0.8118	9	2.96	NA	0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0300	6.441	0.0190				2			0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0405	8.000	0.0000				2			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0563	5.200	0.0602	6.496	0.8072	0.2979	5	-1.61		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0136	6.374	0.1110	6.496	0.8072	0.2979	5	-0.15		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0494	6.640	0.7000	6.496	0.8072	0.2979	5	0.18		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0037	6.934	0.2270	6.496	0.8072	0.2979	5	0.54		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0527	7.333	0.3912	6.496	0.8072	0.2979	5	1.04		0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0368	7.300	0.2000				2			0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0501	7.505	0.3500				2			0

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			Value	Range	Rob Mean	Rob SD	R-bar				
291.99	Acid Soluble Ni, Other (ppm)	0572	5.607	0.2380	25.89	33.00	1.823	3	-0.61		0
291.99	Acid Soluble Ni, Other (ppm)	0220	8.100	2.200	25.89	33.00	1.823	3	-0.54		0
291.99	Acid Soluble Ni, Other (ppm)	0255	63.98	3.030	25.89	33.00	1.823	3	1.15		0
291.99	Acid Soluble Ni, Other (ppm)	0481	< 10		25.89	33.00	1.823	3			5
301.30	Acid Soluble Se, ICP (ppm)	0524	0.7558	0.0952	1.622	0.9796	0.0984	3	-0.88		0
301.30	Acid Soluble Se, ICP (ppm)	0523	1.425	0.0500	1.622	0.9796	0.0984	3	-0.20		0
301.30	Acid Soluble Se, ICP (ppm)	0501	2.685	0.1500	1.622	0.9796	0.0984	3	1.09		0
301.30	Acid Soluble Se, ICP (ppm)	0605	< 1.65		1.622	0.9796	0.0984	3			5
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0405	< 10					0			5
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0043	1.115	0.3500	2.232	1.478	0.4696	3	-0.76		0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0563	1.672	0.0347	2.232	1.478	0.4696	3	-0.38		0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0515	3.908	1.024	2.232	1.478	0.4696	3	1.13		0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0527	< 0.01		2.232	1.478	0.4696	3			5
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0494	< 0.95		2.232	1.478	0.4696	3			5
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0368	< 1					0			5
301.99	Acid Soluble Se, Other (ppm)	0220	0.9000	0.2000				2			0
301.99	Acid Soluble Se, Other (ppm)	0572	1.175	0.2100				2			0
301.99	Acid Soluble Se, Other (ppm)	0255	0.0000	0.0000				2			4
301.99	Acid Soluble Se, Other (ppm)	0481	< 0.5					2			5
311.00	Sodium, AA (%)	0553	0.1280	0.0040				1			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0423	0.1465	0.0010	0.5437	0.7740	0.0244	4	-0.51		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0035	0.1605	0.0010	0.5437	0.7740	0.0244	4	-0.50		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	0.1631	0.0028	0.5437	0.7740	0.0244	4	-0.49		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0419	1.705	0.0929	0.5437	0.7740	0.0244	4	1.50		0
311.99	Sodium, Other (%)	0572	0.1210	0.0029				2			0
311.99	Sodium, Other (%)	0354	0.1850	0.0300				2			0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0553	0.0050	0.0000				2			0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0485	0.0056	0.0001				2			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0402	0.0038	0.0006	0.0452	0.0893	0.0666	5	-0.40		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0485	0.0053	0.0005	0.0452	0.0893	0.0666	5	-0.39		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0255	0.0055	0.0010	0.0452	0.0893	0.0666	5	-0.39		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0035	0.0065	0.0010	0.0452	0.0893	0.0666	5	-0.38		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0552	0.2050	0.3300	0.0452	0.0893	0.0666	5	1.56		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0354	< 0.01		0.0452	0.0893	0.0666	5			5
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0300	0.0049	0.0000	0.0054	0.0006	0.0006	5	-0.86		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0405	0.0051	0.0000	0.0054	0.0006	0.0006	5	-0.54		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0394	0.0052	0.0000	0.0054	0.0006	0.0006	5	-0.38		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0423	0.0055	0.0010	0.0054	0.0006	0.0006	5	0.10		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0095	0.0065	0.0020	0.0054	0.0006	0.0006	5	1.68		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0106	0.0008	0.0008	0.0045	0.0010	0.0005	8	-3.42	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0527	0.0040	0.0001	0.0045	0.0010	0.0005	8	-0.47	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0419	0.0040	0.0000	0.0045	0.0010	0.0005	8	-0.43	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0515	0.0041	0.0002	0.0045	0.0010	0.0005	8	-0.33	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				
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0136	0.0047	0.0003	0.0045	0.0010	0.0005	8	0.18	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0563	0.0050	0.0003	0.0045	0.0010	0.0005	8	0.46	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0037	0.0055	0.0010	0.0045	0.0010	0.0005	8	0.98	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0043	0.0055	0.0010	0.0045	0.0010	0.0005	8	0.98	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0494	0.0381	0.0473	0.0045	0.0010	0.0005	8	31.42	High	1
321.99	Acid Soluble Zn, Other (%)	0220	0.0001	0.0000	0.0050	0.0011	0.0003	9	-4.24	OK	0
321.99	Acid Soluble Zn, Other (%)	0572	0.0038	0.0013	0.0050	0.0011	0.0003	9	-1.06	OK	0
321.99	Acid Soluble Zn, Other (%)	0027	0.0049	0.0003	0.0050	0.0011	0.0003	9	-0.10	OK	0
321.99	Acid Soluble Zn, Other (%)	0481	0.0050	0.0000	0.0050	0.0011	0.0003	9	0.03	OK	0
321.99	Acid Soluble Zn, Other (%)	0524	0.0051	0.0002	0.0050	0.0011	0.0003	9	0.12	OK	0
321.99	Acid Soluble Zn, Other (%)	0368	0.0052	0.0001	0.0050	0.0011	0.0003	9	0.16	OK	0
321.99	Acid Soluble Zn, Other (%)	0389	0.0052	0.0000	0.0050	0.0011	0.0003	9	0.21	OK	0
321.99	Acid Soluble Zn, Other (%)	0515	0.0057	0.0004	0.0050	0.0011	0.0003	9	0.64	OK	0
321.99	Acid Soluble Zn, Other (%)	0605	0.0089	0.0005	0.0050	0.0011	0.0003	9	3.38	OK	0
321.99	Acid Soluble Zn, Other (%)	0501	42.45	3.150	0.0050	0.0011	0.0003	9	36959.94	High	2
325.30	Water Soluble Zn, ICP (%)	0444	0.0001	0.0000				1			0
325.99	Water Soluble Zn, Other (%)	0572	< 0.0003					0			5
431.99	Soluble Si in nonliquids, Other (%)	0572	< 0.006					0			5

Interpreting Z Scores and Flags:

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.

Notes:

Robust statistics not used if < 6 labs used in calculations, in this case Values and Z Scores are grayed out and should be interpreted with extreme caution. IA Status describes where your result is relative to the Assigned Value $\pm$ IA. Red indicates Higher or Lower and Green indicates within the IA range about the Robust mean. 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.