

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 210611

Grade 19-19-19

Statistical Summary

Methods: 133

Labs Reporting: 88

Issue Date : 07/31/2021

Method Code	Analyte & Method Sample # 210611	# 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	4.859	1.939	4.176		0.1486	0.0758	3.56%		0.0617	3.23%
001.99	Ammoniacal N, Other (%)	22	21	4.690	1.443	4.391		0.4867	0.1327	11.08%		0.0875	3.20%
002.99	Nitrate N, Other (%)	1		0.0110									
005.00	Urea N, Urease (as N) (%)	3	3	12.98	2.629	12.98		2.629	1.897	20.25%		0.1067	2.72%
005.10	Urea N, HPLC(asN),H2Omobilephase (%)	1		15.27									
005.99	Urea N, Other (%)	14	13	15.03	0.4304	14.94		0.3167	0.1098	2.12%		0.0923	2.59%
007.00	Urea, Urease (as Urea) (%)	1		14.91									
007.99	Urea, Other (%)	3	3	14.84	0.0161	14.84		0.0161	0.0116	0.11%		0.1100	2.60%
010.11	Total N, Modified Comprehensive (19%)	4	4	19.07	0.0340	19.07	0.7160	0.0340	0.0213	0.18%	0.11	0.0950	2.29%
010.12	Total N, Salicylic (19%)	3	3	18.94	0.0549	18.94	0.7141	0.0549	0.0396	0.29%	0.18	0.1858	2.30%
010.60	Total N, Combustion (19%)	57	57	19.41	0.3013	19.41	0.7211	0.2452	0.0406	1.26%	0.79	0.1698	2.27%
010.99	Total N, Other (19%)	14	14	19.21	0.4783	19.20	0.7180	0.4763	0.1591	2.48%	1.55	0.1147	2.28%
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	4	4	18.92	0.1874	18.92		0.1874	0.1171	0.99%		0.3375	2.30%
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	16	15	20.99	8.304	18.89		0.3595	0.1160	1.90%		0.1677	2.30%
020.40	Total P2O5, Automated (%)	1		18.65									
020.50	Total P2O5, ICP (%)	18	17	18.39	1.024	18.30		0.9515	0.2885	5.20%		0.2059	2.34%
020.99	Total P2O5, Other (%)	8	7	18.71	0.4336	18.81		0.3810	0.1800	2.03%		0.0822	2.31%
030.10	Citrate Insoluble P2O5, Gravimetric Quinolinium MolybdoP (%)	1		19.06									
041.10	Direct Available P2O5, Gravimetric Quinolinium (19%)	3	3	18.37	0.3818	18.37	0.7119	0.3818	0.2755	2.08%	1.25	0.3930	2.33%
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (19%)	9	9	18.72	0.2221	18.72	0.7136	0.2519	0.1050	1.35%	0.82	0.1120	2.31%
041.20	Direct Available P2O5, Spectrophotometric (19%)	3	3	29.48	18.73	29.48	0.7474	18.73	13.52	63.53%	58.39	0.0200	1.84%
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (19%)	12	12	18.49	0.8604	18.54	0.7127	0.4971	0.1794	2.68%	1.63	0.4489	2.32%
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (19%)	4	4	18.69	0.6221	18.69	0.7134	0.6221	0.3888	3.33%	2.03	0.2225	2.31%
041.50	Direct Available P2O5, ICP (19%)	2	2	18.90	0.7071								
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (19%)	11	10	18.53	0.3539	18.54	0.7127	0.3731	0.1475	2.01%	1.22	0.1574	2.32%
041.99	Direct Available P2O5, Other (19%)	11	11	18.71	0.3453	18.71	0.7136	0.3916	0.1476	2.09%	1.28	0.1336	2.31%
048.10	Water Soluble P2O5, Gravimetric Quinolinium (%)	1		16.65									
048.20	Water Soluble P2O5, Spectrophotometric (%)	1		16.28									
048.50	Water Soluble P2O5, ICP (%)	1		17.32									
048.99	Water Soluble P2O5, Other (%)	1		16.63									
050.00	Soluble K2O, STPB Oxalate (19%)	14	14	19.07	0.5165	19.02	1.0456	0.4582	0.1531	2.41%	1.02	0.2141	2.29%
050.30	Soluble K2O, AA (Oxalate) (19%)	4	4	19.09	0.5958	19.09	1.0481	0.5958	0.3724	3.12%	1.32	0.3495	2.29%
050.31	Soluble K2O, AA (Citrate) (19%)	1		17.65									

Method Code	Analyte & Method Sample # 210611	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
050.50	Soluble K2O, ICP (Oxalate) (19%)	7	7	18.86	1.034	18.87	1.0406	1.132	0.5347	6.00%	2.53	0.7871	2.30%
050.51	Soluble K2O, ICP (Citrate) (19%)	2	2	19.28	0.9546								
050.52	Soluble K2O, ICP (Citrate-EDTA) (19%)	13	13	18.83	0.5218	18.81	1.0383	0.5421	0.1879	2.88%	1.22	0.5303	2.31%
050.60	Soluble K2O, Flame Photometric (Oxalate) (19%)	2	2	19.09	0.2227								
050.61	Soluble K2O, Flame Photometric (Citrate) (19%)	2	2	18.88	0.0354								
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (19%)	5	5	18.90	0.3140	18.90	1.0414	0.3140	0.1755	1.66%	0.70	0.5560	2.30%
050.99	Soluble K2O, Other (19%)	36	35	18.66	0.9146	18.80	1.0380	0.6244	0.1319	3.32%	1.40	0.2794	2.31%
060.20	Water (Free), Karl Fischer (%)	1		0.9250									
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	1		0.6750									
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	5	5	0.1810	0.0496	0.1810	0.2091	0.0496	0.0277	27.40%	0.55	0.0140	5.17%
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	1		0.1470									
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	4	3	0.1714	0.1524	0.2252	0.2113	0.1322	0.0954	58.70%	1.46	0.0019	5.01%
101.99	Acid Soluble Ca, Other (%)	1		0.1500									
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	1		0.0400									
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	6	6	0.6688	0.0542	0.6688	0.2334	0.0615	0.0314	9.19%	0.61	0.0035	4.25%
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	1		0.6350									
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	4	4	0.7047	0.1160	0.7047	0.2352	0.1160	0.0725	16.46%	1.15	0.0057	4.22%
121.99	Acid Soluble Mg, Other (%)	3	3	0.5625	0.0770	0.5625	0.2281	0.0770	0.0556	13.68%	0.79	0.0395	4.36%
143.00	Elemental S, Gravimetric Sulfur - carbon disulfide soluble sulfur (%)	1		0.1350									
143.99	Elemental S, Other (%)	4	4	0.5995	0.0929	0.5995		0.0929	0.0581	15.49%		0.0065	4.32%
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	3	3	0.5848	0.0507	0.5848		0.0507	0.0366	8.67%		0.0350	4.34%
145.99	Sulfate S, HCl soluble, Other (%)	3	3	0.7978	0.4682	0.7978		0.4682	0.3379	58.69%		0.0036	4.14%
148.00	Total S, Combustion (%)	1		0.5900									
148.01	Total S, Gravimetric - sulfate and elemental (%)	1		0.6150									
148.07	Total S, ICP, test portion as in 2017.02 (%)	7	5	424.0	1,121	0.6024	0.2301	0.0433	0.0242	7.18%	0.44	0.0140	4.32%
148.99	Total S, Other (%)	4	4	0.5647	0.0872	0.5647	0.2282	0.0872	0.0545	15.43%	0.89	0.0128	4.36%
149.04	S - HNO3 soluble, ICP (%)	2	2	0.5723	0.0032								
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	1		0.7640									
151.30	Acid Soluble As, ICP (ppm)	2	2	0.7158	0.1941								
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	1		1.600									
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	4	2	1.837	2.395	3.173		3.092	2.733	97.44%		0.2500	13.44%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	1		0.0000									
151.99	Acid Soluble As, Other (ppm)	5	4	0.9400	0.6363	1.155		0.4813	0.3008	41.67%		0.0400	15.65%
165.00	Acid Soluble B, Spectrophotometric (%)	1		0.0050									
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	2	1	0.0068	0.0045								
165.99	Acid Soluble B, Other (%)	5	4	0.0033	0.0015	0.0038	0.0036	0.0012	0.0008	32.49%	0.81	0.0004	9.25%
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	1		18.68									
181.30	Acid Soluble Cd, ICP (ppm)	6	6	15.14	6.248	15.46		6.332	3.231	40.96%		0.6757	10.59%
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	1		20.50									
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	5	5	21.38	0.8235	21.38		0.8235	0.4604	3.85%		0.4749	10.09%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	1		12.93									
181.99	Acid Soluble Cd, Other (ppm)	5	5	23.33	3.882	23.33		3.882	2.170	16.64%		0.7960	9.96%
190.00	Water Soluble Cl, Titrimetric (%)	2	1	7.253	10.12								
191.30	Acid Soluble Cr, ICP (ppm)	5	5	85.51	16.21	85.51		16.21	9.061	18.96%		2.698	8.19%

Method Code	Analyte & Method Sample # 210611	# 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
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	1		110.0									
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	5	5	109.1	6.014	109.1		6.014	3.362	5.51%		0.5677	7.89%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	1		119.9									
191.99	Acid Soluble Cr, Other (ppm)	5	5	105.6	8.812	105.6		8.812	4.926	8.34%		1.898	7.93%
202.30	Acid Soluble Co, ICP (ppm)	5	4	1.091	1.116	1.357	1.4070	1.091	0.6821	80.44%	1.81	0.1310	15.28%
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	1		1.400									
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	4	3	1.896	2.070	0.8610	1.2583	0.0537	0.0388	6.24%	0.10	0.0957	16.36%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	1		1.987									
202.99	Acid Soluble Co, Other (ppm)	4	4	0.8636	0.4105	0.8636	1.2591	0.4105	0.2565	47.53%	0.76	0.1153	16.35%
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	1		0.0001									
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	3	0	0.0067	0.0058	0.8636	0.0914	0.4105		47.53%	10.47	0.0000	4.09%
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	6	0	0.0005	0.0010	0.8636	0.0914	0.4105		47.53%	10.47	0.0000	4.09%
221.99	Acid Soluble Cu, Other (%)	5	3	0.0012	0.0014	0.0020	0.0052	0.0014	0.0010	70.15%	0.62	0.0006	10.22%
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	2	2	0.5850	0.1061								
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	5	5	0.5482	0.0429	0.5482	0.0598	0.0429	0.0240	7.82%	1.67	0.0108	4.38%
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	1		0.5320									
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	4	4	0.7462	0.3396	0.7462	0.0796	0.3396	0.2123	45.51%	9.94	0.0022	4.18%
241.99	Acid Soluble Fe, Other (%)	3	3	0.5582	0.0519	0.5582	0.0608	0.0519	0.0375	9.30%	1.99	0.0122	4.37%
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid (ppm)	1		2.000									
251.30	Acid Soluble Pb, ICP (ppm)	5	5	0.7856	0.9923	0.7856		0.9923	0.5547	126.31%		0.1444	16.59%
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	1		2.250									
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	5	2	0.9588	1.240	0.2619		0.0193	0.0170	7.36%		0.0166	19.57%
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	1		18.77									
251.99	Acid Soluble Pb, Other (ppm)	4	4	3.180	4.638	3.180		4.638	2.899	145.85%		0.4250	13.44%
261.11	Acid Soluble Mn, AA, total Mn (%)	1		0.0085									
261.12	Acid Soluble Mn, AA, inorganic 965.09 (%)	1		0.0043									
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	5	3	0.0100	0.0004	0.0100	0.0060	0.0006	0.0004	5.80%	0.22	0.0004	8.00%
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	1		0.0095									
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	4	4	0.0164	0.0139	0.0164	0.0066	0.0139	0.0087	84.46%	4.86	0.0002	7.42%
261.99	Acid Soluble Mn, Other (%)	3	3	0.0078	0.0022	0.0078	0.0058	0.0022	0.0016	28.04%	0.88	0.0002	8.30%
281.00	Acid Soluble Hg, AA (ppm)	1		0.0500									
281.30	Acid Soluble Hg, ICP (ppm)	3	0	0.0070	0.0113	0.0078		0.0022		28.04%		0.0000	22.00%
281.99	Acid Soluble Hg, Other (ppm)	3	1	0.0597	0.0861	0.0078		0.0022	0.0027	28.04%		0.0451	22.00%
289.30	Acid Soluble Mo, ICP (ppm)	5	5	5.066	5.757	5.066	2.5197	5.757	3.218	113.66%	5.32	0.3242	12.53%
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	1		4.050									
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	6	6	5.742	0.7134	5.742	2.7227	0.8090	0.4128	14.09%	0.69	0.4780	12.30%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	1		19.26									
289.99	Acid Soluble Mo, Other (ppm)	3	3	3.790	1.893	3.790	2.1370	1.893	1.366	49.96%	2.06	0.9133	13.09%
291.30	Acid Soluble Ni, ICP (ppm)	5	5	14.06	4.146	14.06		4.146	2.318	29.49%		0.6312	10.75%
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	1		19.75									
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	5	5	19.00	1.937	19.00		1.937	1.083	10.20%		0.3365	10.27%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	1		31.91									
291.99	Acid Soluble Ni, Other (ppm)	7	7	19.25	4.258	19.25		4.829	2.281	25.08%		0.7509	10.25%
301.30	Acid Soluble Se, ICP (ppm)	1		0.9465									

Method Code	Analyte & Method Sample # 210611	# 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
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	1		0.5000									
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	3	1	0.6746	0.5783	19.25		4.829	6.036	25.08%		0.0075	10.25%
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	1		9.520									
301.99	Acid Soluble Se, Other (ppm)	5	3	0.9418	0.6572	1.210		0.6191	0.4468	51.18%		0.6780	15.54%
311.00	Sodium, AA (%)	1		0.0050									
311.33	Sodium, ICP, test portion as in 2017.02 (%)	6	6	0.3693	0.1561	0.4202	0.0470	0.0412	0.0210	9.81%	2.04	0.0030	4.56%
311.99	Sodium, Other (%)	4	4	2.093	3.238	2.093	0.2143	3.238	2.024	154.76%	35.22	0.0310	3.58%
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	4	4	0.0318	0.0024	0.0318	0.0082	0.0024	0.0015	7.45%	0.67	0.0031	6.72%
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	7	7	0.0294	0.0057	0.0297	0.0080	0.0057	0.0027	19.35%	1.68	0.0007	6.79%
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	2	2	0.0353	0.0004								
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	8	8	0.0303	0.0087	0.0329	0.0083	0.0021	0.0009	6.48%	0.60	0.0012	6.69%
321.99	Acid Soluble Zn, Other (%)	8	7	38.71	109.4	0.0336	0.0084	0.0028	0.0013	8.22%	0.77	0.0010	6.66%

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.

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 210611

Method Precision Report

Grade 19-19-19

Issue Date : 07/31/2021

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 %rds	Reproducibility %RSD	sR/sr
001.10	Ammoniacal N, Magnesium Oxide Method (%)	7	6	4.131	0.2324	0.2294	0.0533	0.2355	5.55%	1.29%	5.70%	4.417
001.99	Ammoniacal N, Other (%)	22	21	4.396	0.4382	0.4346	0.0793	0.4418	9.89%	1.80%	10.05%	5.568
005.99	Urea N, Other (%)	14	12	14.91	0.2785	0.2710	0.0905	0.2857	1.82%	0.61%	1.92%	3.158
010.60	Total N, Combustion (19%)	57	53	19.41	0.2497	0.2285	0.1425	0.2693	1.18%	0.73%	1.39%	1.890
010.99	Total N, Other (19%)	14	14	19.21	0.4783	0.4727	0.1040	0.4840	2.46%	0.54%	2.52%	4.655
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	16	15	18.91	0.3679	0.3509	0.1565	0.3842	1.86%	0.83%	2.03%	2.454
020.50	Total P2O5, ICP (%)	18	16	18.28	0.9497	0.9418	0.1738	0.9576	5.15%	0.95%	5.24%	5.511
020.99	Total P2O5, Other (%)	8	7	18.77	0.4284	0.4245	0.0816	0.4323	2.26%	0.43%	2.30%	5.300
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (19%)	9	9	18.72	0.2221	0.2089	0.1068	0.2346	1.12%	0.57%	1.25%	2.197
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (19%)	12	12	18.49	0.8604	0.7994	0.4502	0.9174	4.32%	2.43%	4.96%	2.038
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (19%)	11	10	18.56	0.3635	0.3510	0.1336	0.3756	1.89%	0.72%	2.02%	2.811
041.99	Direct Available P2O5, Other (19%)	11	10	18.75	0.3412	0.3359	0.0846	0.3464	1.79%	0.45%	1.85%	4.095
050.00	Soluble K2O, STPB Oxalate (19%)	14	13	18.97	0.3755	0.3525	0.1832	0.3973	1.86%	0.97%	2.09%	2.168
050.50	Soluble K2O, ICP (Oxalate) (19%)	7	7	18.86	1.034	0.9065	0.7035	1.147	4.81%	3.73%	6.09%	1.631
050.52	Soluble K2O, ICP (Citrate-EDTA) (19%)	13	13	18.83	0.5218	0.4239	0.4303	0.6041	2.25%	2.29%	3.21%	1.404
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (19%)	5	5	18.90	0.3140		0.4834			2.56%		
050.99	Soluble K2O, Other (19%)	36	33	18.82	0.7194	0.6965	0.2544	0.7415	3.70%	1.35%	3.94%	2.914
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	5	5	0.1810	0.0496	0.0484	0.0156	0.0508	26.71%	8.63%	28.07%	3.252
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	6	6	0.6688	0.0542	0.0541	0.0039	0.0543	8.10%	0.59%	8.12%	13.83
148.07	Total S, ICP, test portion as in 2017.02 (%)	7	5	0.6024	0.0433	0.0421	0.0139	0.0444	7.00%	2.31%	7.37%	3.189
181.30	Acid Soluble Cd, ICP (ppm)	6	6	15.14	6.248	6.228	0.7069	6.268	41.13%	4.67%	41.39%	8.867
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	5	5	21.38	0.8235	0.7805	0.3714	0.8644	3.65%	1.74%	4.04%	2.328
181.99	Acid Soluble Cd, Other (ppm)	5	5	23.33	3.882	3.858	0.6187	3.907	16.53%	2.65%	16.75%	6.314
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	5	5	109.1	6.014	6.000	0.5932	6.029	5.50%	0.54%	5.53%	10.16
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	6	6	5.742	0.7134	0.6412	0.4421	0.7789	11.17%	7.70%	13.56%	1.762
291.30	Acid Soluble Ni, ICP (ppm)	5	5	14.06	4.146	4.121	0.6451	4.171	29.31%	4.59%	29.67%	6.466
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	5	5	19.00	1.937	1.926	0.2893	1.948	10.14%	1.52%	10.25%	6.734
291.99	Acid Soluble Ni, Other (ppm)	7	7	19.25	4.258	4.231	0.6709	4.284	21.98%	3.48%	22.25%	6.386
311.33	Sodium, ICP, test portion as in 2017.02 (%)	6	5	0.4325	0.0225	0.0224	0.0028	0.0225	5.17%	0.64%	5.21%	8.118

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
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	7	7	0.0294	0.0057	0.0057	0.0008	0.0057	19.23%	2.70%	19.42%	7.198
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	8	7	0.0334	0.0015	0.0013	0.0010	0.0016	3.87%	3.03%	4.92%	1.624
321.99	Acid Soluble Zn, Other (%)	8	7	0.0340	0.0031	0.0031	0.0009	0.0032	8.98%	2.55%	9.34%	3.667

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

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 210611

Grade 19-19-19

Lab Values

Methods: 133

Labs Reporting: 88

Issue Date : 07/31/2021

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	3.680	0.0200	4.176	0.1486	0.0617	6	-2.98	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0444	4.090	0.0600	4.176	0.1486	0.0617	6	-0.52	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0574	4.210	0.0200	4.176	0.1486	0.0617	6	0.20	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0451	4.240	0.1200	4.176	0.1486	0.0617	6	0.38	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0563	4.260	0.1200	4.176	0.1486	0.0617	6	0.50	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0389	4.305	0.0300	4.176	0.1486	0.0617	6	0.77	NA	0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0117	9.231	2.165	4.176	0.1486	0.0617	6	30.31	NA	1
001.99	Ammoniacal N, Other (%)	0423	3.790	0.2400	4.391	0.4867	0.0875	21	-1.24	NA	0
001.99	Ammoniacal N, Other (%)	0550	3.870	0.0600	4.391	0.4867	0.0875	21	-1.07	NA	0
001.99	Ammoniacal N, Other (%)	0394	3.917	0.1140	4.391	0.4867	0.0875	21	-0.97	NA	0
001.99	Ammoniacal N, Other (%)	0532	3.980	0.0800	4.391	0.4867	0.0875	21	-0.84	NA	0
001.99	Ammoniacal N, Other (%)	0231	4.070	0.0800	4.391	0.4867	0.0875	21	-0.66	NA	0
001.99	Ammoniacal N, Other (%)	0558	4.090	0.0800	4.391	0.4867	0.0875	21	-0.62	NA	0
001.99	Ammoniacal N, Other (%)	0538	4.135	0.0300	4.391	0.4867	0.0875	21	-0.53	NA	0
001.99	Ammoniacal N, Other (%)	0553	4.170	0.0400	4.391	0.4867	0.0875	21	-0.45	NA	0
001.99	Ammoniacal N, Other (%)	0565	4.200	0.1000	4.391	0.4867	0.0875	21	-0.39	NA	0
001.99	Ammoniacal N, Other (%)	0564	4.215	0.0300	4.391	0.4867	0.0875	21	-0.36	NA	0
001.99	Ammoniacal N, Other (%)	0567	4.250	0.1000	4.391	0.4867	0.0875	21	-0.29	NA	0
001.99	Ammoniacal N, Other (%)	0559	4.295	0.0100	4.391	0.4867	0.0875	21	-0.20	NA	0
001.99	Ammoniacal N, Other (%)	0549	4.470	0.0200	4.391	0.4867	0.0875	21	0.16	NA	0
001.99	Ammoniacal N, Other (%)	0562	4.475	0.1500	4.391	0.4867	0.0875	21	0.17	NA	0
001.99	Ammoniacal N, Other (%)	0569	4.490	0.0200	4.391	0.4867	0.0875	21	0.20	NA	0
001.99	Ammoniacal N, Other (%)	0027	4.555	0.0100	4.391	0.4867	0.0875	21	0.34	NA	0
001.99	Ammoniacal N, Other (%)	0506	4.875	0.2500	4.391	0.4867	0.0875	21	0.99	NA	0
001.99	Ammoniacal N, Other (%)	0535	5.050	0.1000	4.391	0.4867	0.0875	21	1.35	NA	0
001.99	Ammoniacal N, Other (%)	0220	5.075	0.0500	4.391	0.4867	0.0875	21	1.41	NA	0
001.99	Ammoniacal N, Other (%)	0529	5.156	0.2133	4.391	0.4867	0.0875	21	1.57	NA	0
001.99	Ammoniacal N, Other (%)	0255	5.190	0.0600	4.391	0.4867	0.0875	21	1.64	NA	0
001.99	Ammoniacal N, Other (%)	0419	10.86	0.0800	4.391	0.4867	0.0875	21	13.29	NA	2
002.99	Nitrate N, Other (%)	0553	0.0110	0.0000				1			0
005.00	Urea N, Urease (as N) (%)	0230	9.980	0.2400	12.98	2.629	0.1067	3	-1.14		0
005.00	Urea N, Urease (as N) (%)	0389	14.11	0.0500	12.98	2.629	0.1067	3	0.43		0
005.00	Urea N, Urease (as N) (%)	0574	14.87	0.0300	12.98	2.629	0.1067	3	0.72		0
005.10	Urea N, HPLC(asN),H2Omobilephase (%)	0394	15.27	0.3600				1			0
005.99	Urea N, Other (%)	0558	14.50	0.1300	14.94	0.3167	0.0923	13	-1.39	NA	0
005.99	Urea N, Other (%)	0029	14.66	0.2900	14.94	0.3167	0.0923	13	-0.89	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				
005.99	Urea N, Other (%)	0562	14.68	0.0500	14.94	0.3167	0.0923	13	-0.82	NA	0
005.99	Urea N, Other (%)	0538	14.83	0.0600	14.94	0.3167	0.0923	13	-0.33	NA	0
005.99	Urea N, Other (%)	0567	14.83	0.1000	14.94	0.3167	0.0923	13	-0.33	NA	0
005.99	Urea N, Other (%)	0564	14.86	0.0400	14.94	0.3167	0.0923	13	-0.24	NA	0
005.99	Urea N, Other (%)	0559	14.90	0.0100	14.94	0.3167	0.0923	13	-0.13	NA	0
005.99	Urea N, Other (%)	0506	14.90	0.2000	14.94	0.3167	0.0923	13	-0.11	NA	0
005.99	Urea N, Other (%)	0565	14.90	0.0400	14.94	0.3167	0.0923	13	-0.11	NA	0
005.99	Urea N, Other (%)	0535	15.05	0.1000	14.94	0.3167	0.0923	13	0.36	NA	0
005.99	Urea N, Other (%)	0550	15.25	0.0200	14.94	0.3167	0.0923	13	0.99	NA	0
005.99	Urea N, Other (%)	0532	15.55	0.1600	14.94	0.3167	0.0923	13	1.94	NA	0
005.99	Urea N, Other (%)	0027	16.17	0.0000	14.94	0.3167	0.0923	13	3.90	NA	0
005.99	Urea N, Other (%)	0405	15.31	0.5100	14.94	0.3167	0.0923	13	1.17	NA	1
007.00	Urea, Urease (as Urea) (%)	0444	14.91	0.0600				1			0
007.99	Urea, Other (%)	0549	14.82	0.0400	14.84	0.0161	0.1100	3	-1.14		0
007.99	Urea, Other (%)	0220	14.85	0.2300	14.84	0.0161	0.1100	3	0.41		0
007.99	Urea, Other (%)	0569	14.85	0.0600	14.84	0.0161	0.1100	3	0.73		0
010.11	Total N, Modified Comprehensive (19%)	0540	19.02	0.0600	19.07	0.0340	0.0950	4	-1.40		0
010.11	Total N, Modified Comprehensive (19%)	0531	19.07	0.0200	19.07	0.0340	0.0950	4	0.07		0
010.11	Total N, Modified Comprehensive (19%)	0536	19.08	0.1000	19.07	0.0340	0.0950	4	0.37		0
010.11	Total N, Modified Comprehensive (19%)	0535	19.10	0.2000	19.07	0.0340	0.0950	4	0.95		0
010.12	Total N, Salicylic (19%)	0568	18.90	0.4000	18.94	0.0549	0.1858	3	-0.79		0
010.12	Total N, Salicylic (19%)	0117	18.92	0.1275	18.94	0.0549	0.1858	3	-0.34		0
010.12	Total N, Salicylic (19%)	0572	19.01	0.0300	18.94	0.0549	0.1858	3	1.13		0
010.60	Total N, Combustion (19%)	0516	18.55	0.5000	19.41	0.2452	0.1698	57	-3.50	Low	0
010.60	Total N, Combustion (19%)	0389	18.76	0.1300	19.41	0.2452	0.1698	57	-2.67	OK	0
010.60	Total N, Combustion (19%)	0534	18.98	0.0500	19.41	0.2452	0.1698	57	-1.77	OK	0
010.60	Total N, Combustion (19%)	0444	19.00	0.0000	19.41	0.2452	0.1698	57	-1.67	OK	0
010.60	Total N, Combustion (19%)	0102	19.01	0.0400	19.41	0.2452	0.1698	57	-1.63	OK	0
010.60	Total N, Combustion (19%)	0157	19.10	0.0000	19.41	0.2452	0.1698	57	-1.26	OK	0
010.60	Total N, Combustion (19%)	0486	19.12	0.0100	19.41	0.2452	0.1698	57	-1.20	OK	0
010.60	Total N, Combustion (19%)	0423	19.12	0.0600	19.41	0.2452	0.1698	57	-1.18	OK	0
010.60	Total N, Combustion (19%)	0550	19.12	0.0400	19.41	0.2452	0.1698	57	-1.18	OK	0
010.60	Total N, Combustion (19%)	0072	19.17	0.1800	19.41	0.2452	0.1698	57	-0.98	OK	0
010.60	Total N, Combustion (19%)	0025	19.18	0.4100	19.41	0.2452	0.1698	57	-0.96	OK	0
010.60	Total N, Combustion (19%)	0117	19.20	0.0000	19.41	0.2452	0.1698	57	-0.85	OK	0
010.60	Total N, Combustion (19%)	0234	19.22	0.0200	19.41	0.2452	0.1698	57	-0.77	OK	0
010.60	Total N, Combustion (19%)	0028	19.23	0.7000	19.41	0.2452	0.1698	57	-0.73	OK	0
010.60	Total N, Combustion (19%)	0230	19.25	0.3000	19.41	0.2452	0.1698	57	-0.65	OK	0
010.60	Total N, Combustion (19%)	0356	19.25	0.1100	19.41	0.2452	0.1698	57	-0.64	OK	0
010.60	Total N, Combustion (19%)	0231	19.30	0.0700	19.41	0.2452	0.1698	57	-0.47	OK	0
010.60	Total N, Combustion (19%)	0354	19.30	0.2000	19.41	0.2452	0.1698	57	-0.45	OK	0
010.60	Total N, Combustion (19%)	0136	19.30	0.0000	19.41	0.2452	0.1698	57	-0.45	OK	0
010.60	Total N, Combustion (19%)	0561	19.33	0.2300	19.41	0.2452	0.1698	57	-0.34	OK	0
010.60	Total N, Combustion (19%)	0049	19.33	0.0200	19.41	0.2452	0.1698	57	-0.32	OK	0
010.60	Total N, Combustion (19%)	0029	19.34	0.1200	19.41	0.2452	0.1698	57	-0.28	OK	0
010.60	Total N, Combustion (19%)	0055	19.37	0.4200	19.41	0.2452	0.1698	57	-0.16	OK	0
010.60	Total N, Combustion (19%)	0177	19.37	0.2400	19.41	0.2452	0.1698	57	-0.16	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 (19%)	0169	19.37	0.1000	19.41	0.2452	0.1698	57	-0.16	OK	0
010.60	Total N, Combustion (19%)	0043	19.38	0.0400	19.41	0.2452	0.1698	57	-0.12	OK	0
010.60	Total N, Combustion (19%)	0260	19.38	0.2400	19.41	0.2452	0.1698	57	-0.12	OK	0
010.60	Total N, Combustion (19%)	0405	19.38	0.0200	19.41	0.2452	0.1698	57	-0.12	OK	0
010.60	Total N, Combustion (19%)	0521	19.40	0.0000	19.41	0.2452	0.1698	57	-0.05	OK	0
010.60	Total N, Combustion (19%)	0220	19.45	0.0300	19.41	0.2452	0.1698	57	0.15	OK	0
010.60	Total N, Combustion (19%)	0018	19.45	0.1000	19.41	0.2452	0.1698	57	0.17	OK	0
010.60	Total N, Combustion (19%)	0233	19.46	0.3800	19.41	0.2452	0.1698	57	0.21	OK	0
010.60	Total N, Combustion (19%)	0472	19.49	0.0100	19.41	0.2452	0.1698	57	0.31	OK	0
010.60	Total N, Combustion (19%)	0035	19.50	0.2000	19.41	0.2452	0.1698	57	0.37	OK	0
010.60	Total N, Combustion (19%)	0040	19.50	0.4000	19.41	0.2452	0.1698	57	0.37	OK	0
010.60	Total N, Combustion (19%)	0095	19.51	0.6400	19.41	0.2452	0.1698	57	0.41	OK	0
010.60	Total N, Combustion (19%)	0523	19.51	0.0200	19.41	0.2452	0.1698	57	0.41	OK	0
010.60	Total N, Combustion (19%)	0390	19.52	0.1900	19.41	0.2452	0.1698	57	0.43	OK	0
010.60	Total N, Combustion (19%)	0422	19.54	0.4000	19.41	0.2452	0.1698	57	0.53	OK	0
010.60	Total N, Combustion (19%)	0324	19.55	0.1000	19.41	0.2452	0.1698	57	0.57	OK	0
010.60	Total N, Combustion (19%)	0292	19.56	0.0100	19.41	0.2452	0.1698	57	0.59	OK	0
010.60	Total N, Combustion (19%)	0034	19.56	0.1200	19.41	0.2452	0.1698	57	0.61	OK	0
010.60	Total N, Combustion (19%)	0073	19.57	0.0800	19.41	0.2452	0.1698	57	0.66	OK	0
010.60	Total N, Combustion (19%)	0494	19.57	0.0400	19.41	0.2452	0.1698	57	0.66	OK	0
010.60	Total N, Combustion (19%)	0451	19.59	0.1600	19.41	0.2452	0.1698	57	0.74	OK	0
010.60	Total N, Combustion (19%)	0377	19.60	0.1700	19.41	0.2452	0.1698	57	0.76	OK	0
010.60	Total N, Combustion (19%)	0086	19.60	0.3900	19.41	0.2452	0.1698	57	0.79	OK	0
010.60	Total N, Combustion (19%)	0106	19.61	0.0600	19.41	0.2452	0.1698	57	0.82	OK	0
010.60	Total N, Combustion (19%)	0527	19.63	0.1973	19.41	0.2452	0.1698	57	0.89	OK	0
010.60	Total N, Combustion (19%)	0042	19.65	0.1000	19.41	0.2452	0.1698	57	0.98	OK	0
010.60	Total N, Combustion (19%)	0542	19.66	0.2600	19.41	0.2452	0.1698	57	1.02	OK	0
010.60	Total N, Combustion (19%)	0255	19.72	0.4290	19.41	0.2452	0.1698	57	1.27	OK	0
010.60	Total N, Combustion (19%)	0131	19.75	0.0870	19.41	0.2452	0.1698	57	1.38	OK	0
010.60	Total N, Combustion (19%)	0307	19.78	0.1180	19.41	0.2452	0.1698	57	1.51	OK	0
010.60	Total N, Combustion (19%)	0547	19.98	0.0900	19.41	0.2452	0.1698	57	2.31	OK	0
010.60	Total N, Combustion (19%)	0325	20.11	0.5300	19.41	0.2452	0.1698	57	2.84	OK	0
010.60	Total N, Combustion (19%)	0485	20.44	0.1200	19.41	0.2452	0.1698	57	4.20	High	0
010.99	Total N, Other (19%)	0529	18.33	0.0721	19.20	0.4763	0.1147	14	-1.82	Low	0
010.99	Total N, Other (19%)	0558	18.59	0.0500	19.20	0.4763	0.1147	14	-1.29	OK	0
010.99	Total N, Other (19%)	0538	18.97	0.0300	19.20	0.4763	0.1147	14	-0.49	OK	0
010.99	Total N, Other (19%)	0571	19.00	0.1000	19.20	0.4763	0.1147	14	-0.42	OK	0
010.99	Total N, Other (19%)	0574	19.09	0.0700	19.20	0.4763	0.1147	14	-0.24	OK	0
010.99	Total N, Other (19%)	0564	19.13	0.0300	19.20	0.4763	0.1147	14	-0.16	OK	0
010.99	Total N, Other (19%)	0562	19.15	0.2000	19.20	0.4763	0.1147	14	-0.11	OK	0
010.99	Total N, Other (19%)	0567	19.17	0.0600	19.20	0.4763	0.1147	14	-0.06	OK	0
010.99	Total N, Other (19%)	0559	19.19	0.0100	19.20	0.4763	0.1147	14	-0.03	OK	0
010.99	Total N, Other (19%)	0565	19.20	0.1000	19.20	0.4763	0.1147	14	0.00	OK	0
010.99	Total N, Other (19%)	0513	19.33	0.0900	19.20	0.4763	0.1147	14	0.26	OK	0
010.99	Total N, Other (19%)	0506	19.70	0.2000	19.20	0.4763	0.1147	14	1.05	OK	0
010.99	Total N, Other (19%)	0563	20.04	0.2900	19.20	0.4763	0.1147	14	1.75	High	0
010.99	Total N, Other (19%)	0476	20.07	0.3040	19.20	0.4763	0.1147	14	1.83	High	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0114	18.65	0.2700	18.92	0.1874	0.3375	4	-1.45		0
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0157	18.95	0.1000	18.92	0.1874	0.3375	4	0.18		0
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0444	19.00	0.9400	18.92	0.1874	0.3375	4	0.45		0
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0574	19.07	0.0400	18.92	0.1874	0.3375	4	0.82		0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0394	18.31	0.0890	18.89	0.3595	0.1677	15	-1.63	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0558	18.50	0.2000	18.89	0.3595	0.1677	15	-1.10	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0561	18.58	0.0400	18.89	0.3595	0.1677	15	-0.87	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0476	18.60	0.1766	18.89	0.3595	0.1677	15	-0.83	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0231	18.68	0.0400	18.89	0.3595	0.1677	15	-0.60	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0027	18.82	0.0800	18.89	0.3595	0.1677	15	-0.21	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0292	18.85	0.0400	18.89	0.3595	0.1677	15	-0.12	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0169	18.89	0.0500	18.89	0.3595	0.1677	15	-0.03	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0547	18.90	0.2000	18.89	0.3595	0.1677	15	0.02	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0405	19.04	0.0400	18.89	0.3595	0.1677	15	0.40	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0356	19.05	0.4500	18.89	0.3595	0.1677	15	0.44	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0571	19.16	0.0900	18.89	0.3595	0.1677	15	0.72	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0534	19.22	0.2100	18.89	0.3595	0.1677	15	0.89	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0550	19.36	0.3100	18.89	0.3595	0.1677	15	1.28	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0324	19.75	0.5000	18.89	0.3595	0.1677	15	2.38	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0419	52.10	0.2600	18.89	0.3595	0.1677	15	92.37	NA	2
020.40	Total P2O5, Automated (%)	0035	18.65	0.1000				1			0
020.50	Total P2O5, ICP (%)	0255	16.54	0.2920	18.30	0.9515	0.2059	17	-1.85	NA	0
020.50	Total P2O5, ICP (%)	0521	16.60	0.0000	18.30	0.9515	0.2059	17	-1.79	NA	0
020.50	Total P2O5, ICP (%)	0472	17.21	0.0100	18.30	0.9515	0.2059	17	-1.15	NA	0
020.50	Total P2O5, ICP (%)	0390	17.45	0.1000	18.30	0.9515	0.2059	17	-0.90	NA	0
020.50	Total P2O5, ICP (%)	0389	17.87	0.1100	18.30	0.9515	0.2059	17	-0.46	NA	0
020.50	Total P2O5, ICP (%)	0451	18.13	0.0400	18.30	0.9515	0.2059	17	-0.18	NA	0
020.50	Total P2O5, ICP (%)	0157	18.15	0.9000	18.30	0.9515	0.2059	17	-0.16	NA	0
020.50	Total P2O5, ICP (%)	0523	18.15	0.7000	18.30	0.9515	0.2059	17	-0.16	NA	0
020.50	Total P2O5, ICP (%)	0307	18.35	0.1000	18.30	0.9515	0.2059	17	0.05	NA	0
020.50	Total P2O5, ICP (%)	0444	18.55	0.4900	18.30	0.9515	0.2059	17	0.26	NA	0
020.50	Total P2O5, ICP (%)	0042	18.65	0.1000	18.30	0.9515	0.2059	17	0.37	NA	0
020.50	Total P2O5, ICP (%)	0234	18.81	0.0200	18.30	0.9515	0.2059	17	0.53	NA	0
020.50	Total P2O5, ICP (%)	0169	18.98	0.1600	18.30	0.9515	0.2059	17	0.71	NA	0
020.50	Total P2O5, ICP (%)	0527	19.00	0.0778	18.30	0.9515	0.2059	17	0.74	NA	0
020.50	Total P2O5, ICP (%)	0423	19.13	0.0500	18.30	0.9515	0.2059	17	0.86	NA	0
020.50	Total P2O5, ICP (%)	0542	19.25	0.2500	18.30	0.9515	0.2059	17	0.99	NA	0
020.50	Total P2O5, ICP (%)	0516	19.85	0.1000	18.30	0.9515	0.2059	17	1.63	NA	0
020.50	Total P2O5, ICP (%)	0422	20.40	2.600	18.30	0.9515	0.2059	17	2.20	NA	1
020.99	Total P2O5, Other (%)	0529	17.94	0.1554	18.81	0.3810	0.0822	7	-2.07	NA	0
020.99	Total P2O5, Other (%)	0562	18.58	0.2500	18.81	0.3810	0.0822	7	-0.57	NA	0
020.99	Total P2O5, Other (%)	0513	18.62	0.0500	18.81	0.3810	0.0822	7	-0.47	NA	0
020.99	Total P2O5, Other (%)	0564	19.05	0.0400	18.81	0.3810	0.0822	7	0.56	NA	0
020.99	Total P2O5, Other (%)	0559	19.06	0.0200	18.81	0.3810	0.0822	7	0.59	NA	0
020.99	Total P2O5, Other (%)	0567	19.06	0.0200	18.81	0.3810	0.0822	7	0.59	NA	0
020.99	Total P2O5, Other (%)	0565	19.09	0.0400	18.81	0.3810	0.0822	7	0.66	NA	0
020.99	Total P2O5, Other (%)	0515	18.27	2.709	18.81	0.3810	0.0822	7	-1.28	NA	1

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				
030.10	Citrate Insoluble P2O5, Gravimetric Quinolinium MolybdoP (%)	0444	19.06	0.5400				1			0
041.10	Direct Available P2O5, Gravimetric Quinolinium (19%)	0102	17.95	0.0400	18.37	0.3818	0.3930	3	-1.11		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (19%)	0494	18.48	0.8200	18.37	0.3818	0.3930	3	0.28		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (19%)	0177	18.69	0.3189	18.37	0.3818	0.3930	3	0.83		0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (19%)	0117	18.45	0.3000	18.72	0.2519	0.1120	9	-1.00	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (19%)	0513	18.51	0.0300	18.72	0.2519	0.1120	9	-0.80	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (19%)	0049	18.57	0.0600	18.72	0.2519	0.1120	9	-0.56	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (19%)	0072	18.58	0.0080	18.72	0.2519	0.1120	9	-0.53	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (19%)	0485	18.60	0.1500	18.72	0.2519	0.1120	9	-0.47	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (19%)	0405	18.94	0.0700	18.72	0.2519	0.1120	9	0.78	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (19%)	0220	18.94	0.0200	18.72	0.2519	0.1120	9	0.79	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (19%)	0073	18.96	0.2700	18.72	0.2519	0.1120	9	0.85	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (19%)	0055	18.98	0.1000	18.72	0.2519	0.1120	9	0.94	OK	0
041.20	Direct Available P2O5, Spectrophotometric (19%)	0553	18.50	0.0000	29.48	18.73	0.0200	3	-0.59		0
041.20	Direct Available P2O5, Spectrophotometric (19%)	0027	18.84	0.0200	29.48	18.73	0.0200	3	-0.57		0
041.20	Direct Available P2O5, Spectrophotometric (19%)	0419	51.11	0.0400	29.48	18.73	0.0200	3	1.15		0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (19%)	0230	16.70	0.8000	18.54	0.4971	0.4489	12	-3.70	Low	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (19%)	0106	17.35	1.060	18.54	0.4971	0.4489	12	-2.39	Low	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (19%)	0563	18.11	0.6100	18.54	0.4971	0.4489	12	-0.88	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (19%)	0231	18.54	0.1100	18.54	0.4971	0.4489	12	-0.01	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (19%)	0544	18.61	0.1100	18.54	0.4971	0.4489	12	0.13	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (19%)	0055	18.65	0.0800	18.54	0.4971	0.4489	12	0.22	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (19%)	0394	18.65	0.1270	18.54	0.4971	0.4489	12	0.23	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (19%)	0177	18.68	0.0396	18.54	0.4971	0.4489	12	0.28	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (19%)	0354	18.70	0.0000	18.54	0.4971	0.4489	12	0.32	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (19%)	0472	18.79	0.9800	18.54	0.4971	0.4489	12	0.50	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (19%)	0405	18.89	0.1700	18.54	0.4971	0.4489	12	0.69	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (19%)	0568	20.25	1.300	18.54	0.4971	0.4489	12	3.44	High	0
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (19%)	0095	18.02	0.4800	18.69	0.6221	0.2225	4	-1.07		0
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (19%)	0029	18.45	0.1500	18.69	0.6221	0.2225	4	-0.39		0
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (19%)	0028	18.80	0.0600	18.69	0.6221	0.2225	4	0.18		0
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (19%)	0034	19.49	0.2000	18.69	0.6221	0.2225	4	1.29		0
041.50	Direct Available P2O5, ICP (19%)	0070	18.40	0.0000				2			0
041.50	Direct Available P2O5, ICP (19%)	0325	19.40	0.8000				2			0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (19%)	0486	18.10	0.0600	18.54	0.3731	0.1574	10	-1.10	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (19%)	0072	18.16	0.0600	18.54	0.3731	0.1574	10	-0.95	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (19%)	0117	18.28	0.1335	18.54	0.3731	0.1574	10	-0.65	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (19%)	0136	18.40	0.2000	18.54	0.3731	0.1574	10	-0.35	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (19%)	0040	18.50	0.2000	18.54	0.3731	0.1574	10	-0.10	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (19%)	0233	18.56	0.4200	18.54	0.3731	0.1574	10	0.05	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (19%)	0025	18.60	0.2000	18.54	0.3731	0.1574	10	0.15	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (19%)	0377	18.73	0.1200	18.54	0.3731	0.1574	10	0.47	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (19%)	0423	18.98	0.1400	18.54	0.3731	0.1574	10	1.09	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (19%)	0043	19.27	0.0400	18.54	0.3731	0.1574	10	1.82	High	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (19%)	0494	18.30	1.070	18.54	0.3731	0.1574	10	-0.61	OK	1
041.99	Direct Available P2O5, Other (19%)	0549	18.19	0.0400	18.71	0.3916	0.1336	11	-1.25	OK	0
041.99	Direct Available P2O5, Other (19%)	0569	18.20	0.0300	18.71	0.3916	0.1336	11	-1.24	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				
041.99	Direct Available P2O5, Other (19%)	0506	18.35	0.5000	18.71	0.3916	0.1336	11	-0.87	OK	0
041.99	Direct Available P2O5, Other (19%)	0562	18.45	0.2000	18.71	0.3916	0.1336	11	-0.63	OK	0
041.99	Direct Available P2O5, Other (19%)	0532	18.80	0.2200	18.71	0.3916	0.1336	11	0.21	OK	0
041.99	Direct Available P2O5, Other (19%)	0535	18.85	0.1000	18.71	0.3916	0.1336	11	0.33	OK	0
041.99	Direct Available P2O5, Other (19%)	0538	18.91	0.1200	18.71	0.3916	0.1336	11	0.47	OK	0
041.99	Direct Available P2O5, Other (19%)	0536	19.00	0.0600	18.71	0.3916	0.1336	11	0.69	OK	0
041.99	Direct Available P2O5, Other (19%)	0531	19.02	0.0100	18.71	0.3916	0.1336	11	0.72	OK	0
041.99	Direct Available P2O5, Other (19%)	0405	19.03	0.0400	18.71	0.3916	0.1336	11	0.76	OK	0
041.99	Direct Available P2O5, Other (19%)	0540	19.05	0.1500	18.71	0.3916	0.1336	11	0.80	OK	0
048.10	Water Soluble P2O5, Gravimetric Quinolinium (%)	0444	16.65	1.080				1			0
048.20	Water Soluble P2O5, Spectrophotometric (%)	0394	16.28	0.1180				1			0
048.50	Water Soluble P2O5, ICP (%)	0444	17.32	0.0500				1			0
048.99	Water Soluble P2O5, Other (%)	0513	16.63	0.0500				1			0
050.00	Soluble K2O, STPB Oxalate (19%)	0055	18.48	0.0100	19.02	0.4582	0.2141	14	-1.18	OK	0
050.00	Soluble K2O, STPB Oxalate (19%)	0072	18.48	0.4179	19.02	0.4582	0.2141	14	-1.16	OK	0
050.00	Soluble K2O, STPB Oxalate (19%)	0049	18.65	0.1900	19.02	0.4582	0.2141	14	-0.81	OK	0
050.00	Soluble K2O, STPB Oxalate (19%)	0444	18.65	0.5000	19.02	0.4582	0.2141	14	-0.80	OK	0
050.00	Soluble K2O, STPB Oxalate (19%)	0231	18.83	0.0100	19.02	0.4582	0.2141	14	-0.42	OK	0
050.00	Soluble K2O, STPB Oxalate (19%)	0114	18.88	0.5900	19.02	0.4582	0.2141	14	-0.31	OK	0
050.00	Soluble K2O, STPB Oxalate (19%)	0544	18.92	0.0400	19.02	0.4582	0.2141	14	-0.21	OK	0
050.00	Soluble K2O, STPB Oxalate (19%)	0494	19.00	0.1400	19.02	0.4582	0.2141	14	-0.04	OK	0
050.00	Soluble K2O, STPB Oxalate (19%)	0561	19.04	0.0500	19.02	0.4582	0.2141	14	0.04	OK	0
050.00	Soluble K2O, STPB Oxalate (19%)	0220	19.21	0.0300	19.02	0.4582	0.2141	14	0.41	OK	0
050.00	Soluble K2O, STPB Oxalate (19%)	0405	19.33	0.0500	19.02	0.4582	0.2141	14	0.67	OK	0
050.00	Soluble K2O, STPB Oxalate (19%)	0102	19.38	0.1200	19.02	0.4582	0.2141	14	0.79	OK	0
050.00	Soluble K2O, STPB Oxalate (19%)	0550	19.76	0.1500	19.02	0.4582	0.2141	14	1.61	OK	0
050.00	Soluble K2O, STPB Oxalate (19%)	0230	20.35	0.7000	19.02	0.4582	0.2141	14	2.91	High	0
050.30	Soluble K2O, AA (Oxalate) (19%)	0040	18.30	0.6000	19.09	0.5958	0.3495	4	-1.32		0
050.30	Soluble K2O, AA (Oxalate) (19%)	0356	18.96	0.4580	19.09	0.5958	0.3495	4	-0.22		0
050.30	Soluble K2O, AA (Oxalate) (19%)	0073	19.55	0.2400	19.09	0.5958	0.3495	4	0.77		0
050.30	Soluble K2O, AA (Oxalate) (19%)	0157	19.55	0.1000	19.09	0.5958	0.3495	4	0.77		0
050.31	Soluble K2O, AA (Citrate) (19%)	0472	17.65	0.0700				1			0
050.50	Soluble K2O, ICP (Oxalate) (19%)	0390	17.05	0.3000	18.87	1.132	0.7871	7	-1.46	Low	0
050.50	Soluble K2O, ICP (Oxalate) (19%)	0106	18.47	1.410	18.87	1.132	0.7871	7	-0.33	OK	0
050.50	Soluble K2O, ICP (Oxalate) (19%)	0055	18.64	0.1000	18.87	1.132	0.7871	7	-0.19	OK	0
050.50	Soluble K2O, ICP (Oxalate) (19%)	0444	18.83	0.8600	18.87	1.132	0.7871	7	-0.03	OK	0
050.50	Soluble K2O, ICP (Oxalate) (19%)	0292	19.10	0.0400	18.87	1.132	0.7871	7	0.18	OK	0
050.50	Soluble K2O, ICP (Oxalate) (19%)	0324	19.45	1.100	18.87	1.132	0.7871	7	0.46	OK	0
050.50	Soluble K2O, ICP (Oxalate) (19%)	0422	20.45	1.700	18.87	1.132	0.7871	7	1.26	High	0
050.51	Soluble K2O, ICP (Citrate) (19%)	0070	18.60	0.2000				2			0
050.51	Soluble K2O, ICP (Citrate) (19%)	0568	19.95	0.9000				2			0
050.52	Soluble K2O, ICP (Citrate-EDTA) (19%)	0233	18.08	1.060	18.81	0.5421	0.5303	13	-1.34	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (19%)	0025	18.20	0.6000	18.81	0.5421	0.5303	13	-1.12	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (19%)	0423	18.44	0.2300	18.81	0.5421	0.5303	13	-0.69	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (19%)	0043	18.55	0.2600	18.81	0.5421	0.5303	13	-0.48	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (19%)	0117	18.60	0.2440	18.81	0.5421	0.5303	13	-0.39	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (19%)	0377	18.62	0.7300	18.81	0.5421	0.5303	13	-0.36	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
050.52	Soluble K2O, ICP (Citrate-EDTA) (19%)	0486	18.67	0.4800	18.81	0.5421	0.5303	13	-0.25	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (19%)	0072	18.86	0.4197	18.81	0.5421	0.5303	13	0.09	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (19%)	0485	18.88	0.6800	18.81	0.5421	0.5303	13	0.13	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (19%)	0494	19.24	1.120	18.81	0.5421	0.5303	13	0.80	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (19%)	0354	19.25	0.1000	18.81	0.5421	0.5303	13	0.82	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (19%)	0547	19.51	0.5700	18.81	0.5421	0.5303	13	1.29	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (19%)	0136	19.90	0.4000	18.81	0.5421	0.5303	13	2.01	High	0
050.60	Soluble K2O, Flame Photometric (Oxalate) (19%)	0574	18.93	0.0400				2			0
050.60	Soluble K2O, Flame Photometric (Oxalate) (19%)	0169	19.25	0.0700				2			0
050.61	Soluble K2O, Flame Photometric (Citrate) (19%)	0535	18.85	0.1000				2			0
050.61	Soluble K2O, Flame Photometric (Citrate) (19%)	0035	18.90	0.0000				2			0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (19%)	0095	18.62	0.5300	18.90	0.3140	0.5560	5	-0.89		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (19%)	0028	18.71	1.100	18.90	0.3140	0.5560	5	-0.59		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (19%)	0029	18.76	0.2300	18.90	0.3140	0.5560	5	-0.45		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (19%)	0513	19.01	0.0300	18.90	0.3140	0.5560	5	0.35		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (19%)	0034	19.40	0.8900	18.90	0.3140	0.5560	5	1.59		0
050.99	Soluble K2O, Other (19%)	0255	16.08	0.0610	18.80	0.6244	0.2794	35	-4.36	Low	0
050.99	Soluble K2O, Other (19%)	0476	17.02	0.1859	18.80	0.6244	0.2794	35	-2.85	Low	0
050.99	Soluble K2O, Other (19%)	0523	17.30	1.200	18.80	0.6244	0.2794	35	-2.40	Low	0
050.99	Soluble K2O, Other (19%)	0516	17.50	0.0000	18.80	0.6244	0.2794	35	-2.08	Low	0
050.99	Soluble K2O, Other (19%)	0307	17.75	0.9000	18.80	0.6244	0.2794	35	-1.68	Low	0
050.99	Soluble K2O, Other (19%)	0389	18.03	0.6000	18.80	0.6244	0.2794	35	-1.23	OK	0
050.99	Soluble K2O, Other (19%)	0325	18.20	2.200	18.80	0.6244	0.2794	35	-0.96	OK	0
050.99	Soluble K2O, Other (19%)	0558	18.35	0.3000	18.80	0.6244	0.2794	35	-0.72	OK	0
050.99	Soluble K2O, Other (19%)	0506	18.40	0.0000	18.80	0.6244	0.2794	35	-0.64	OK	0
050.99	Soluble K2O, Other (19%)	0177	18.43	0.0332	18.80	0.6244	0.2794	35	-0.60	OK	0
050.99	Soluble K2O, Other (19%)	0157	18.65	0.3000	18.80	0.6244	0.2794	35	-0.24	OK	0
050.99	Soluble K2O, Other (19%)	0553	18.65	0.5000	18.80	0.6244	0.2794	35	-0.24	OK	0
050.99	Soluble K2O, Other (19%)	0572	18.72	0.6200	18.80	0.6244	0.2794	35	-0.13	OK	0
050.99	Soluble K2O, Other (19%)	0567	18.77	0.0000	18.80	0.6244	0.2794	35	-0.05	OK	0
050.99	Soluble K2O, Other (19%)	0542	18.83	0.5100	18.80	0.6244	0.2794	35	0.04	OK	0
050.99	Soluble K2O, Other (19%)	0564	18.85	0.0500	18.80	0.6244	0.2794	35	0.07	OK	0
050.99	Soluble K2O, Other (19%)	0565	18.89	0.0300	18.80	0.6244	0.2794	35	0.14	OK	0
050.99	Soluble K2O, Other (19%)	0394	18.89	0.4820	18.80	0.6244	0.2794	35	0.14	OK	0
050.99	Soluble K2O, Other (19%)	0559	18.90	0.0200	18.80	0.6244	0.2794	35	0.16	OK	0
050.99	Soluble K2O, Other (19%)	0571	18.90	0.2400	18.80	0.6244	0.2794	35	0.16	OK	0
050.99	Soluble K2O, Other (19%)	0538	18.92	0.0800	18.80	0.6244	0.2794	35	0.19	OK	0
050.99	Soluble K2O, Other (19%)	0535	18.95	0.0900	18.80	0.6244	0.2794	35	0.23	OK	0
050.99	Soluble K2O, Other (19%)	0540	19.03	0.0800	18.80	0.6244	0.2794	35	0.37	OK	0
050.99	Soluble K2O, Other (19%)	0042	19.05	0.1000	18.80	0.6244	0.2794	35	0.40	OK	0
050.99	Soluble K2O, Other (19%)	0532	19.14	0.1200	18.80	0.6244	0.2794	35	0.54	OK	0
050.99	Soluble K2O, Other (19%)	0536	19.22	0.1700	18.80	0.6244	0.2794	35	0.66	OK	0
050.99	Soluble K2O, Other (19%)	0527	19.22	0.0630	18.80	0.6244	0.2794	35	0.68	OK	0
050.99	Soluble K2O, Other (19%)	0562	19.25	0.1000	18.80	0.6244	0.2794	35	0.72	OK	0
050.99	Soluble K2O, Other (19%)	0451	19.34	0.0500	18.80	0.6244	0.2794	35	0.86	OK	0
050.99	Soluble K2O, Other (19%)	0027	19.37	0.3500	18.80	0.6244	0.2794	35	0.90	OK	0
050.99	Soluble K2O, Other (19%)	0563	19.37	0.0652	18.80	0.6244	0.2794	35	0.92	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
050.99	Soluble K2O, Other (19%)	0549	19.46	0.0200	18.80	0.6244	0.2794	35	1.06	OK	0
050.99	Soluble K2O, Other (19%)	0569	19.52	0.0700	18.80	0.6244	0.2794	35	1.14	OK	0
050.99	Soluble K2O, Other (19%)	0234	19.70	0.1900	18.80	0.6244	0.2794	35	1.43	OK	0
050.99	Soluble K2O, Other (19%)	0521	20.72	0.0000	18.80	0.6244	0.2794	35	3.07	High	0
050.99	Soluble K2O, Other (19%)	0515	16.42	5.200	18.80	0.6244	0.2794	35	-3.81	Low	1
060.20	Water (Free), Karl Fischer (%)	0513	0.9250	0.0100				1			0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	0553	0.6750	0.0300				1			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0102	0.1400	0.0000	0.1810	0.0496	0.0140	5	-0.83		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0568	0.1435	0.0010	0.1810	0.0496	0.0140	5	-0.76		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0035	0.1515	0.0290	0.1810	0.0496	0.0140	5	-0.59		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0472	0.2300	0.0000	0.1810	0.0496	0.0140	5	0.99		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0354	0.2400	0.0400	0.1810	0.0496	0.0140	5	1.19		0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	0423	0.1470	0.0040				1			0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0563	0.1382	0.0012	0.2252	0.1322	0.0019	3	-0.66		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0494	0.1600	0.0020	0.2252	0.1322	0.0019	3	-0.49		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0419	0.3773	0.0025	0.2252	0.1322	0.0019	3	1.15		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0527	< 0.01		0.2252	0.1322	0.0019	3			5
101.99	Acid Soluble Ca, Other (%)	0389	0.1500	0.0000				1			0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	0553	0.0400	0.0000				1			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0035	0.6225	0.0090	0.6688	0.0615	0.0035	6	-0.67	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0444	0.6300	0.0000	0.6688	0.0615	0.0035	6	-0.56	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0568	0.6350	0.0020	0.6688	0.0615	0.0035	6	-0.49	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	0.6500	0.0000	0.6688	0.0615	0.0035	6	-0.27	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0472	0.7300	0.0000	0.6688	0.0615	0.0035	6	0.89	OK	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0102	0.7450	0.0100	0.6688	0.0615	0.0035	6	1.10	OK	0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0423	0.6350	0.0020				1			0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0563	0.6132	0.0015	0.7047	0.1160	0.0057	4	-0.79		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0494	0.6630	0.0040	0.7047	0.1160	0.0057	4	-0.36		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0527	0.6679	0.0133	0.7047	0.1160	0.0057	4	-0.32		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0419	0.8747	0.0039	0.7047	0.1160	0.0057	4	1.47		0
121.99	Acid Soluble Mg, Other (%)	0516	0.5000	0.0000	0.5625	0.0770	0.0395	3	-0.81		0
121.99	Acid Soluble Mg, Other (%)	0515	0.5391	0.1176	0.5625	0.0770	0.0395	3	-0.30		0
121.99	Acid Soluble Mg, Other (%)	0389	0.6485	0.0010	0.5625	0.0770	0.0395	3	1.12		0
143.00	Elemental S, Gravimetric Sulfur - carbon disulfide soluble sulfur (%)	0106	0.1350	0.0500				1			0
143.99	Elemental S, Other (%)	0255	0.4780	0.0060	0.5995	0.0929	0.0065	4	-1.31		0
143.99	Elemental S, Other (%)	0472	0.5800	0.0000	0.5995	0.0929	0.0065	4	-0.21		0
143.99	Elemental S, Other (%)	0389	0.6500	0.0000	0.5995	0.0929	0.0065	4	0.54		0
143.99	Elemental S, Other (%)	0325	0.6900	0.0200	0.5995	0.0929	0.0065	4	0.97		0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0027	0.5300	0.0600	0.5848	0.0507	0.0350	3	-1.08		0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0550	0.5945	0.0050	0.5848	0.0507	0.0350	3	0.19		0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0106	0.6300	0.0400	0.5848	0.0507	0.0350	3	0.89		0
145.99	Sulfate S, HCl soluble, Other (%)	0553	0.5200	0.0000	0.7978	0.4682	0.0036	3	-0.59		0
145.99	Sulfate S, HCl soluble, Other (%)	0444	0.5350	0.0100	0.7978	0.4682	0.0036	3	-0.56		0
145.99	Sulfate S, HCl soluble, Other (%)	0419	1.338	0.0007	0.7978	0.4682	0.0036	3	1.15		0
148.00	Total S, Combustion (%)	0136	0.5900	0.0200				1			0
148.01	Total S, Gravimetric - sulfate and elemental (%)	0534	0.6150	0.0100				1			0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0444	0.5500	0.0000	0.6024	0.0433	0.0140	5	-1.06		0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
148.07	Total S, ICP, test portion as in 2017.02 (%)	0486	0.5850	0.0100	0.6024	0.0433	0.0140	5	-0.35		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0494	0.5985	0.0250	0.6024	0.0433	0.0140	5	-0.08		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0102	0.6100	0.0000	0.6024	0.0433	0.0140	5	0.15		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0563	0.6685	0.0348	0.6024	0.0433	0.0140	5	1.33		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0394	2,965	5,929	0.6024	0.0433	0.0140	5	59799.63		2
148.07	Total S, ICP, test portion as in 2017.02 (%)	0527	< 0.01		0.6024	0.0433	0.0140	5			5
148.99	Total S, Other (%)	0515	0.4368	0.0353	0.5647	0.0872	0.0128	4	-1.47		0
148.99	Total S, Other (%)	0354	0.5900	0.0000	0.5647	0.0872	0.0128	4	0.29		0
148.99	Total S, Other (%)	0516	0.6000	0.0000	0.5647	0.0872	0.0128	4	0.41		0
148.99	Total S, Other (%)	0506	0.6320	0.0160	0.5647	0.0872	0.0128	4	0.77		0
149.04	S - HNO3 soluble, ICP (%)	0231	0.5700	0.0000				2			0
149.04	S - HNO3 soluble, ICP (%)	0423	0.5745	0.0050				2			0
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	0534	0.7640	0.0620				1			0
151.30	Acid Soluble As, ICP (ppm)	0476	0.5785	0.0230				2			0
151.30	Acid Soluble As, ICP (ppm)	0255	0.8530	0.0180				2			0
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0220	1.600	0.2000				1			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0563	0.9869	0.0199				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0494	5.360	0.4800				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0527	< 0.0001					2			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0136	< 1					2			5
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0515	0.0000	0.0000				0			4
151.99	Acid Soluble As, Other (ppm)	0572	0.7400	0.0200	1.155	0.4813	0.0400	4	-0.86		0
151.99	Acid Soluble As, Other (ppm)	0405	1.000	0.0000	1.155	0.4813	0.0400	4	-0.32		0
151.99	Acid Soluble As, Other (ppm)	0506	1.030	0.0400	1.155	0.4813	0.0400	4	-0.26		0
151.99	Acid Soluble As, Other (ppm)	0220	1.850	0.1000	1.155	0.4813	0.0400	4	1.44		0
151.99	Acid Soluble As, Other (ppm)	0550	< 0.08		1.155	0.4813	0.0400	4			5
165.00	Acid Soluble B, Spectrophotometric (%)	0553	0.0050	0.0000				1			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0389	0.0036	0.0000				1			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	< 0.01					1			5
165.99	Acid Soluble B, Other (%)	0516	0.0020	0.0000	0.0038	0.0012	0.0004	4	-1.46		0
165.99	Acid Soluble B, Other (%)	0527	0.0041	0.0001	0.0038	0.0012	0.0004	4	0.19		0
165.99	Acid Soluble B, Other (%)	0423	0.0045	0.0010	0.0038	0.0012	0.0004	4	0.56		0
165.99	Acid Soluble B, Other (%)	0563	0.0047	0.0004	0.0038	0.0012	0.0004	4	0.72		0
165.99	Acid Soluble B, Other (%)	0515	0.0014	0.0028	0.0038	0.0012	0.0004	4			4
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	0534	18.68	0.4700				1			0
181.30	Acid Soluble Cd, ICP (ppm)	0419	4.055	0.0100	15.46	6.332	0.6757	6	-1.60	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0476	13.25	0.4730	15.46	6.332	0.6757	6	-0.31	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0444	14.85	1.110	15.46	6.332	0.6757	6	-0.09	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0389	17.43	0.0000	15.46	6.332	0.6757	6	0.28	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0255	19.43	0.3610	15.46	6.332	0.6757	6	0.56	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0035	21.85	2.100	15.46	6.332	0.6757	6	0.90	NA	0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0220	20.50	1.400				1			0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0494	20.55	0.5000	21.38	0.8235	0.4749	5	-1.00		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0394	20.70	0.3040	21.38	0.8235	0.4749	5	-0.83		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0563	21.15	0.3024	21.38	0.8235	0.4749	5	-0.27		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0136	22.15	0.9000	21.38	0.8235	0.4749	5	0.94		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0527	22.33	0.3679	21.38	0.8235	0.4749	5	1.16		0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0515	12.93	16.17				1			0
181.99	Acid Soluble Cd, Other (ppm)	0220	20.35	0.5000	23.33	3.882	0.7960	5	-0.77		0
181.99	Acid Soluble Cd, Other (ppm)	0550	20.72	1.300	23.33	3.882	0.7960	5	-0.67		0
181.99	Acid Soluble Cd, Other (ppm)	0405	22.15	0.9000	23.33	3.882	0.7960	5	-0.30		0
181.99	Acid Soluble Cd, Other (ppm)	0572	23.54	0.2800	23.33	3.882	0.7960	5	0.05		0
181.99	Acid Soluble Cd, Other (ppm)	0506	29.90	1.000	23.33	3.882	0.7960	5	1.69		0
190.00	Water Soluble Cl, Titrimetric (%)	0513	14.41	0.0700				1			0
190.00	Water Soluble Cl, Titrimetric (%)	0553	< 0.1					1			5
191.30	Acid Soluble Cr, ICP (ppm)	0476	60.79	1.259	85.51	16.21	2.698	5	-1.53		0
191.30	Acid Soluble Cr, ICP (ppm)	0444	82.87	2.100	85.51	16.21	2.698	5	-0.16		0
191.30	Acid Soluble Cr, ICP (ppm)	0389	87.46	0.6700	85.51	16.21	2.698	5	0.12		0
191.30	Acid Soluble Cr, ICP (ppm)	0419	90.93	0.4600	85.51	16.21	2.698	5	0.33		0
191.30	Acid Soluble Cr, ICP (ppm)	0035	105.5	9.000	85.51	16.21	2.698	5	1.23		0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0220	110.0	2.000				1			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0394	103.8	0.8760	109.1	6.014	0.5677	5	-0.87		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0494	106.0	0.0000	109.1	6.014	0.5677	5	-0.51		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0136	107.0	0.0000	109.1	6.014	0.5677	5	-0.35		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0563	109.4	1.624	109.1	6.014	0.5677	5	0.05		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0527	119.2	0.3384	109.1	6.014	0.5677	5	1.69		0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0515	119.9	2.679				1			0
191.99	Acid Soluble Cr, Other (ppm)	0572	90.42	0.4100	105.6	8.812	1.898	5	-1.73		0
191.99	Acid Soluble Cr, Other (ppm)	0405	106.0	2.000	105.6	8.812	1.898	5	0.04		0
191.99	Acid Soluble Cr, Other (ppm)	0550	109.2	4.080	105.6	8.812	1.898	5	0.41		0
191.99	Acid Soluble Cr, Other (ppm)	0220	110.0	2.000	105.6	8.812	1.898	5	0.50		0
191.99	Acid Soluble Cr, Other (ppm)	0506	112.5	1.000	105.6	8.812	1.898	5	0.78		0
202.30	Acid Soluble Co, ICP (ppm)	0476	0.4455	0.0310	1.357	1.091	0.1310	4	-0.83		0
202.30	Acid Soluble Co, ICP (ppm)	0389	0.7865	0.0030	1.357	1.091	0.1310	4	-0.52		0
202.30	Acid Soluble Co, ICP (ppm)	0035	1.285	0.4300	1.357	1.091	0.1310	4	-0.07		0
202.30	Acid Soluble Co, ICP (ppm)	0419	2.910	0.0600	1.357	1.091	0.1310	4	1.42		0
202.30	Acid Soluble Co, ICP (ppm)	0550	< 0.03		1.357	1.091	0.1310	4			5
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0220	1.400	0.2000				1			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0563	0.8106	0.0050	0.8610	0.0537	0.0957	3	-0.94		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0527	0.8548	0.0172	0.8610	0.0537	0.0957	3	-0.11		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0494	0.9175	0.2650	0.8610	0.0537	0.0957	3	1.05		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0136	< 5		0.8610	0.0537	0.0957	3			5
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0515	1.987	3.974				0			4
202.99	Acid Soluble Co, Other (ppm)	0572	0.5000	0.1400	0.8636	0.4105	0.1153	4	-0.89		0
202.99	Acid Soluble Co, Other (ppm)	0255	0.7045	0.2210	0.8636	0.4105	0.1153	4	-0.39		0
202.99	Acid Soluble Co, Other (ppm)	0405	0.8000	0.0000	0.8636	0.4105	0.1153	4	-0.16		0
202.99	Acid Soluble Co, Other (ppm)	0220	1.450	0.1000	0.8636	0.4105	0.1153	4	1.43		0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0550	< 0.0001					0			5
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0255	0.0000	0.0000				0			4
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0102	< 0.01					0			5
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0106	0.0000	0.0000				0			4
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0394	< 0.0001					0			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0527	< 0.0001					0			5

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				
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0563	< 0.0001					0			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0494	< 0.0002					0			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0136	< 0.0025					0			5
221.99	Acid Soluble Cu, Other (%)	0389	0.0004	0.0000	0.0020	0.0014	0.0006	3	-1.14		0
221.99	Acid Soluble Cu, Other (%)	0515	0.0025	0.0018	0.0020	0.0014	0.0006	3	0.39		0
221.99	Acid Soluble Cu, Other (%)	0516	0.0030	0.0000	0.0020	0.0014	0.0006	3	0.75		0
221.99	Acid Soluble Cu, Other (%)	0405	< 0.0001		0.0020	0.0014	0.0006	3			5
221.99	Acid Soluble Cu, Other (%)	0572	< 0.0001		0.0020	0.0014	0.0006	3			5
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	0535	0.5100	0.0200				2			0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	0553	0.6600	0.0800				2			0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0102	0.5000	0.0000	0.5482	0.0429	0.0108	5	-1.12		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0035	0.5110	0.0340	0.5482	0.0429	0.0108	5	-0.87		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0472	0.5600	0.0000	0.5482	0.0429	0.0108	5	0.28		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0354	0.5650	0.0100	0.5482	0.0429	0.0108	5	0.39		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0444	0.6050	0.0100	0.5482	0.0429	0.0108	5	1.32		0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	0423	0.5320	0.0020				1			0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0563	0.5536	0.0034	0.7462	0.3396	0.0022	4	-0.57		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0494	0.5816	0.0001	0.7462	0.3396	0.0022	4	-0.48		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0527	0.5947	0.0033	0.7462	0.3396	0.0022	4	-0.45		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0419	1.255	0.0020	0.7462	0.3396	0.0022	4	1.50		0
241.99	Acid Soluble Fe, Other (%)	0516	0.5000	0.0000	0.5582	0.0519	0.0122	3	-1.12		0
241.99	Acid Soluble Fe, Other (%)	0389	0.5750	0.0003	0.5582	0.0519	0.0122	3	0.32		0
241.99	Acid Soluble Fe, Other (%)	0515	0.5997	0.0364	0.5582	0.0519	0.0122	3	0.80		0
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid (ppm)	0534	< 2					0			5
251.30	Acid Soluble Pb, ICP (ppm)	0389	0.0065	0.0010	0.7856	0.9923	0.1444	5	-0.79		0
251.30	Acid Soluble Pb, ICP (ppm)	0476	0.1740	0.0200	0.7856	0.9923	0.1444	5	-0.62		0
251.30	Acid Soluble Pb, ICP (ppm)	0255	0.2325	0.0710	0.7856	0.9923	0.1444	5	-0.56		0
251.30	Acid Soluble Pb, ICP (ppm)	0419	1.140	0.5400	0.7856	0.9923	0.1444	5	0.36		0
251.30	Acid Soluble Pb, ICP (ppm)	0035	2.375	0.0900	0.7856	0.9923	0.1444	5	1.60		0
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0220	2.250	0.1000				1			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0563	0.2483	0.0081				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0394	0.2755	0.0250				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0527	< 0.0001					2			5
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)	0515	18.77	5.713				1			0
251.99	Acid Soluble Pb, Other (ppm)	0572	0.2600	0.0000	3.180	4.638	0.4250	4	-0.63		0
251.99	Acid Soluble Pb, Other (ppm)	0405	0.3000	0.0000	3.180	4.638	0.4250	4	-0.62		0
251.99	Acid Soluble Pb, Other (ppm)	0220	2.150	0.3000	3.180	4.638	0.4250	4	-0.22		0
251.99	Acid Soluble Pb, Other (ppm)	0550	10.01	1.400	3.180	4.638	0.4250	4	1.47		0
261.11	Acid Soluble Mn, AA, total Mn (%)	0553	0.0085	0.0010				1			0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (%)	0535	0.0043	0.0005				1			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0035	0.0094	0.0001	0.0100	0.0006	0.0004	3	-1.04		0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0472	0.0100	0.0000	0.0100	0.0006	0.0004	3	0.09		0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0444	0.0105	0.0010	0.0100	0.0006	0.0004	3	0.95		0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0102	< 0.01		0.0100	0.0006	0.0004	3			5
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0354	< 0.01		0.0100	0.0006	0.0004	3			5

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	0423	0.0095	0.0010				1			0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0494	0.0091	0.0005	0.0164	0.0139	0.0002	4	-0.53		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0563	0.0096	0.0000	0.0164	0.0139	0.0002	4	-0.49		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0527	0.0098	0.0000	0.0164	0.0139	0.0002	4	-0.48		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0419	0.0372	0.0002	0.0164	0.0139	0.0002	4	1.50		0
261.99	Acid Soluble Mn, Other (%)	0515	0.0053	0.0004	0.0078	0.0022	0.0002	3	-1.15		0
261.99	Acid Soluble Mn, Other (%)	0516	0.0090	0.0000	0.0078	0.0022	0.0002	3	0.53		0
261.99	Acid Soluble Mn, Other (%)	0389	0.0092	0.0002	0.0078	0.0022	0.0002	3	0.62		0
281.00	Acid Soluble Hg, AA (ppm)	0534	< 0.05					0			5
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)	0563	< 0.02					0			5
281.99	Acid Soluble Hg, Other (ppm)	0550	0.1592	0.0451				1			0
281.99	Acid Soluble Hg, Other (ppm)	0220	< 0.01					1			5
281.99	Acid Soluble Hg, Other (ppm)	0405	< 0.01					1			5
289.30	Acid Soluble Mo, ICP (ppm)	0516	0.1000	0.0000	5.066	5.757	0.3242	5	-0.86		0
289.30	Acid Soluble Mo, ICP (ppm)	0476	3.053	0.1710	5.066	5.757	0.3242	5	-0.35		0
289.30	Acid Soluble Mo, ICP (ppm)	0255	3.095	0.6500	5.066	5.757	0.3242	5	-0.34		0
289.30	Acid Soluble Mo, ICP (ppm)	0035	4.065	0.5700	5.066	5.757	0.3242	5	-0.17		0
289.30	Acid Soluble Mo, ICP (ppm)	0419	15.02	0.2300	5.066	5.757	0.3242	5	1.73		0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0220	4.050	0.3000				1			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0563	5.005	0.0258	5.742	0.8090	0.4780	6	-0.81	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0136	5.305	0.4700	5.742	0.8090	0.4780	6	-0.48	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0423	5.380	0.3200	5.742	0.8090	0.4780	6	-0.40	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0106	5.500	1.000	5.742	0.8090	0.4780	6	-0.27	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	6.500	0.0422	5.742	0.8090	0.4780	6	0.83	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0494	6.765	1.010	5.742	0.8090	0.4780	6	1.13	OK	0
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0515	19.26	7.816				1			0
289.99	Acid Soluble Mo, Other (ppm)	0550	1.780	2.220	3.790	1.893	0.9133	3	-1.06		0
289.99	Acid Soluble Mo, Other (ppm)	0220	4.050	0.3000	3.790	1.893	0.9133	3	0.14		0
289.99	Acid Soluble Mo, Other (ppm)	0405	5.540	0.2200	3.790	1.893	0.9133	3	0.92		0
291.30	Acid Soluble Ni, ICP (ppm)	0476	8.177	0.5860	14.06	4.146	0.6312	5	-1.42		0
291.30	Acid Soluble Ni, ICP (ppm)	0444	13.49	0.7600	14.06	4.146	0.6312	5	-0.14		0
291.30	Acid Soluble Ni, ICP (ppm)	0419	13.86	0.0000	14.06	4.146	0.6312	5	-0.05		0
291.30	Acid Soluble Ni, ICP (ppm)	0389	14.98	0.0100	14.06	4.146	0.6312	5	0.22		0
291.30	Acid Soluble Ni, ICP (ppm)	0035	19.80	1.800	14.06	4.146	0.6312	5	1.38		0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0220	19.75	0.1000				1			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0563	16.09	0.4354	19.00	1.937	0.3365	5	-1.50		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0394	18.43	0.1300	19.00	1.937	0.3365	5	-0.29		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0136	19.10	0.2000	19.00	1.937	0.3365	5	0.05		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0494	20.18	0.7500	19.00	1.937	0.3365	5	0.61		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0527	21.19	0.1670	19.00	1.937	0.3365	5	1.13		0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0515	31.91	2.182				1			0
291.99	Acid Soluble Ni, Other (ppm)	0550	13.25	0.7000	19.25	4.829	0.7509	7	-1.12	NA	0
291.99	Acid Soluble Ni, Other (ppm)	0535	16.00	2.000	19.25	4.829	0.7509	7	-0.61	NA	0
291.99	Acid Soluble Ni, Other (ppm)	0572	16.01	0.2600	19.25	4.829	0.7509	7	-0.61	NA	0
291.99	Acid Soluble Ni, Other (ppm)	0405	20.50	1.000	19.25	4.829	0.7509	7	0.23	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				
291.99	Acid Soluble Ni, Other (ppm)	0220	20.75	0.5000	19.25	4.829	0.7509	7	0.28	NA	0
291.99	Acid Soluble Ni, Other (ppm)	0506	23.85	0.1000	19.25	4.829	0.7509	7	0.86	NA	0
291.99	Acid Soluble Ni, Other (ppm)	0255	24.42	0.6960	19.25	4.829	0.7509	7	0.97	NA	0
301.30	Acid Soluble Se, ICP (ppm)	0476	0.9465	0.2290				1			0
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0220	0.5000	0.0000				1			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0563	1.064	0.0075				1			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0527	< 0.01					1			5
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0494	< 0.95					1			5
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0515	9.520	4.235				1			0
301.99	Acid Soluble Se, Other (ppm)	0220	0.5000	0.2000	1.210	0.6191	0.6780	3	-1.15		0
301.99	Acid Soluble Se, Other (ppm)	0572	1.490	0.1200	1.210	0.6191	0.6780	3	0.45		0
301.99	Acid Soluble Se, Other (ppm)	0255	1.639	1.714	1.210	0.6191	0.6780	3	0.69		0
301.99	Acid Soluble Se, Other (ppm)	0550	< 0.08		1.210	0.6191	0.6780	3			5
301.99	Acid Soluble Se, Other (ppm)	0405	< 1		1.210	0.6191	0.6780	3			5
311.00	Sodium, AA (%)	0553	< 0.005					0			5
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0419	0.0534	0.0039	0.4202	0.0412	0.0030	6	-7.93	Low	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0035	0.4110	0.0080	0.4202	0.0412	0.0030	6	-0.20	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0563	0.4166	0.0003	0.4202	0.0412	0.0030	6	-0.08	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0494	0.4300	0.0011	0.4202	0.0412	0.0030	6	0.21	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0423	0.4370	0.0020	0.4202	0.0412	0.0030	6	0.36	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	0.4682	0.0028	0.4202	0.0412	0.0030	6	1.04	High	0
311.99	Sodium, Other (%)	0572	0.4500	0.0000	2.093	3.238	0.0310	4	-0.51		0
311.99	Sodium, Other (%)	0354	0.4800	0.0200	2.093	3.238	0.0310	4	-0.50		0
311.99	Sodium, Other (%)	0389	0.4900	0.0040	2.093	3.238	0.0310	4	-0.49		0
311.99	Sodium, Other (%)	0535	6.950	0.1000	2.093	3.238	0.0310	4	1.50		0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0534	0.0300	0.0000	0.0318	0.0024	0.0031	4	-0.75		0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0535	0.0300	0.0020	0.0318	0.0024	0.0031	4	-0.75		0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0550	0.0321	0.0004	0.0318	0.0024	0.0031	4	0.14		0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0553	0.0350	0.0100	0.0318	0.0024	0.0031	4	1.36		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0476	0.0190	0.0000	0.0297	0.0057	0.0007	7	-1.68	Low	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0255	0.0260	0.0020	0.0297	0.0057	0.0007	7	-0.58	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0102	0.0300	0.0000	0.0297	0.0057	0.0007	7	0.05	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0354	0.0300	0.0000	0.0297	0.0057	0.0007	7	0.05	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0472	0.0300	0.0000	0.0297	0.0057	0.0007	7	0.05	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0444	0.0350	0.0020	0.0297	0.0057	0.0007	7	0.83	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0234	0.0359	0.0009	0.0297	0.0057	0.0007	7	0.97	OK	0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0220	0.0350	0.0000				2			0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0423	0.0355	0.0010				2			0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0419	0.0091	0.0022	0.0329	0.0021	0.0012	8	-10.20	Low	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0494	0.0310	0.0027	0.0329	0.0021	0.0012	8	-0.83	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0043	0.0320	0.0000	0.0329	0.0021	0.0012	8	-0.38	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0563	0.0328	0.0004	0.0329	0.0021	0.0012	8	-0.04	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0527	0.0339	0.0007	0.0329	0.0021	0.0012	8	0.41	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0106	0.0345	0.0023	0.0329	0.0021	0.0012	8	0.67	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0136	0.0345	0.0010	0.0329	0.0021	0.0012	8	0.69	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0394	0.0349	0.0002	0.0329	0.0021	0.0012	8	0.86	OK	0
321.99	Acid Soluble Zn, Other (%)	0389	0.0305	0.0001	0.0336	0.0028	0.0010	7	-1.05	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				
321.99	Acid Soluble Zn, Other (%)	0027	0.0315	0.0010	0.0336	0.0028	0.0010	7	-0.70	OK	0
321.99	Acid Soluble Zn, Other (%)	0515	0.0333	0.0011	0.0336	0.0028	0.0010	7	-0.13	OK	0
321.99	Acid Soluble Zn, Other (%)	0506	0.0335	0.0010	0.0336	0.0028	0.0010	7	-0.05	OK	0
321.99	Acid Soluble Zn, Other (%)	0405	0.0336	0.0025	0.0336	0.0028	0.0010	7	-0.03	OK	0
321.99	Acid Soluble Zn, Other (%)	0220	0.0355	0.0010	0.0336	0.0028	0.0010	7	0.60	OK	0
321.99	Acid Soluble Zn, Other (%)	0516	0.0400	0.0000	0.0336	0.0028	0.0010	7	2.08	OK	0
321.99	Acid Soluble Zn, Other (%)	0572	309.5	4.110	0.0336	0.0028	0.0010	7	101159.62	High	2

Interpreting Z Scores: Red indicates a normally distributed Z value >3 or <-3 (requires action), Orange = Z between 2 and 3 or -2 and -3 (warning) and Green = Z < 2 and >-2 (OK at 95%). Flags indicate data usage: 0 = Used, 1 = rejected for duplicates too far apart, 2 = rejected as extreme outlier, 3 = removed from stats, 4 = rejected due to 0s submitted and 5 = LOD. A 9 flag indicates a data problem - scores not calculated. Robust statistics not used if < 6 labs used in calculations, in this case the Z Scores are grey and included for information only. IA Status describes where your result is relative to the Assigned Value ± IA. Red indicates Higher or Lower, Green indicates within the IA range. Method codes in light green indicate a guaranteed analyte. Individual lab values may be below detection limits but are reported solely for the purpose of this Proficiency Testing program.