

# magruder fertilizer

## check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 211211

Grade 16-28-12

### Statistical Summary

# Methods: 140

# Labs Reporting: 93

Issue Date : 01/31/2022

Method Code	Analyte & Method Sample # 211211	# 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 (%)	5	5	5.201	2.061	5.201		2.061	1.152	39.64%		0.1115	3.12%
001.99	Ammoniacal N, Other (%)	28	27	4.777	1.058	4.858		0.7525	0.1810	15.49%		0.0602	3.15%
002.99	Nitrate N, Other (%)	1		0.0056									
005.00	Urea N, Urease (as N) (%)	1		11.24									
005.20	Urea N, HPLC(asN),85%acetonitrilemobilephase (%)	1		8.675									
005.99	Urea N, Other (%)	16	16	10.33	1.268	10.00		0.5436	0.1699	5.43%		0.1163	2.83%
007.99	Urea, Other (%)	5	5	10.42	0.7860	10.42		0.7860	0.4394	7.55%		0.1100	2.81%
010.11	Total N, Modified Comprehensive (16%)	8	8	16.18	1.434	16.18	0.6728	1.626	0.7187	10.05%	5.63	0.1582	2.49%
010.12	Total N, Salicylic (16%)	4	4	14.24	0.9291	14.24	0.6347	0.9291	0.5807	6.53%	3.41	0.0589	2.65%
010.60	Total N, Combustion (16%)	55	54	14.45	2.510	14.10	0.6320	0.2311	0.0393	1.64%	0.85	0.1271	2.66%
010.99	Total N, Other (16%)	17	17	15.01	0.8648	15.02	0.6505	0.9513	0.2884	6.33%	3.41	0.1375	2.58%
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	3	3	19.55	0.1677	19.55		0.1677	0.1210	0.86%		0.0900	2.26%
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	12	12	20.26	2.369	19.68		0.2742	0.0989	1.39%		0.1317	2.25%
020.40	Total P2O5, Automated (%)	1		20.20									
020.50	Total P2O5, ICP (%)	22	22	19.36	2.396	19.67		1.494	0.3983	7.60%		0.3676	2.25%
020.99	Total P2O5, Other (%)	6	5	21.17	2.675	20.22		1.474	0.8237	7.29%		0.2839	2.22%
030.20	Citrate Insoluble P2O5, Spectrophotometric MolybdovanadoP (%)	2	2	0.0750	0.0071								
030.99	Citrate Insoluble P2O5, Other (%)	1		19.98									
040.20	Indirect Available P2O5, Spectrophotometric (28%)	1		19.67									
040.99	Indirect Available P2O5, Other (28%)	2	2	23.81	5.979								
041.10	Direct Available P2O5, Gravimetric Quinolinium (28%)	4	4	21.73	4.007	21.73	0.7200	4.007	2.504	18.44%	12.97	0.0440	2.15%
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (28%)	8	8	19.55	0.3320	19.54	0.7177	0.3543	0.1566	1.81%	1.15	0.1571	2.26%
041.20	Direct Available P2O5, Spectrophotometric (28%)	2	2	19.66	0.0389								
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (28%)	10	8	17.67	4.752	19.17	0.7158	0.4051	0.1791	2.11%	1.32	0.0635	2.28%
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (28%)	1		19.61									
041.50	Direct Available P2O5, ICP (28%)	1		20.70									
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (28%)	11	11	19.12	1.503	19.45	0.7173	0.6169	0.2325	3.17%	2.00	0.2254	2.27%
041.99	Direct Available P2O5, Other (28%)	15	14	23.41	3.863	23.48	0.7274	4.534	1.515	19.31%	14.52	0.1129	2.06%
048.10	Water Soluble P2O5, Gravimetric Quinolinium (%)	1		17.36									
048.20	Water Soluble P2O5, Spectrophotometric (%)	1		15.70									
048.50	Water Soluble P2O5, ICP (%)	1		18.11									
048.99	Water Soluble P2O5, Other (%)	2	2	17.22	0.0793								
050.00	Soluble K2O, STPB Oxalate (12%)	8	8	22.32	1.571	22.32	1.1595	1.781	0.7871	7.98%	3.58	0.1388	2.12%

Method Code	Analyte & Method Sample # 211211	# 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
050.30	Soluble K2O, AA (Oxalate) (12%)	3	3	22.40	0.3680	22.40	1.1621	0.3680	0.2656	1.64%	0.74	0.5420	2.11%
050.32	Soluble K2O, AA (Citrate-EDTA) (12%)	1		11.20									
050.50	Soluble K2O, ICP (Oxalate) (12%)	10	9	134.1	351.6	22.95	1.1786	1.322	0.5508	5.76%	2.61	0.3764	2.09%
050.51	Soluble K2O, ICP (Citrate) (12%)	4	4	23.46	0.4642	23.46	1.1939	0.4642	0.2901	1.98%	0.91	0.6960	2.06%
050.52	Soluble K2O, ICP (Citrate-EDTA) (12%)	13	13	22.19	1.728	22.29	1.1586	1.717	0.5952	7.70%	3.45	0.3500	2.12%
050.60	Soluble K2O, Flame Photometric (Oxalate) (12%)	4	4	18.21	5.056	18.21	1.0175	5.056	3.160	27.76%	11.58	0.1331	2.34%
050.61	Soluble K2O, Flame Photometric (Citrate) (12%)	3	3	22.67	0.8949	22.67	1.1700	0.8949	0.6458	3.95%	1.78	0.3333	2.10%
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (12%)	3	3	23.42	0.7618	23.42	1.1927	0.7618	0.5498	3.25%	1.49	0.2567	2.07%
050.99	Soluble K2O, Other (12%)	42	40	21.03	5.610	21.25	1.1239	3.152	0.6229	14.83%	6.53	0.3582	2.17%
060.00	Water (Free), Vacuum Oven (%)	1		0.9350									
060.99	Water (Free), Other (%)	1		2.142									
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	1		0.1710									
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	3	3	0.3988	0.0140	0.3988	0.2199	0.0140	0.0101	3.51%	0.15	0.0137	4.59%
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	1		0.4085									
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	5	5	0.3951	0.0298	0.3951	0.2198	0.0298	0.0166	7.53%	0.32	0.0131	4.60%
101.99	Acid Soluble Ca, Other (%)	2	2	0.3453	0.0004								
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	1		0.8950									
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	4	4	0.8376	0.0407	0.8376	0.2419	0.0407	0.0254	4.86%	0.39	0.0143	4.11%
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	1		0.8380									
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	6	6	0.8447	0.1026	0.8447	0.2422	0.1163	0.0594	13.77%	1.12	0.0389	4.10%
121.99	Acid Soluble Mg, Other (%)	4	4	0.7380	0.1106	0.7380	0.2369	0.1106	0.0691	14.99%	1.09	0.0367	4.19%
131.99	Water Soluble Mg, Other (%)	1		0.4490									
143.00	Elemental S, Gravimetric Sulfur - carbon disulfide soluble sulfur (%)	1		0.5865									
143.99	Elemental S, Other (%)	4	4	1.298	0.1523	1.298		0.1523	0.0952	11.74%		0.0398	3.85%
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	1		0.7095									
145.99	Sulfate S, HCl soluble, Other (%)	3	3	1.007	0.2657	1.007		0.2657	0.1918	26.39%		0.0483	4.00%
148.00	Total S, Combustion (%)	2	2	1.300	0.0149								
148.01	Total S, Gravimetric - sulfate and elemental (%)	1		1.275									
148.07	Total S, ICP, test portion as in 2017.02 (%)	5	5	1.160	0.2070	1.160	0.2580	0.2070	0.1157	17.84%	1.87	0.0384	3.91%
148.99	Total S, Other (%)	4	4	0.9529	0.1766	0.9529	0.2476	0.1766	0.1104	18.53%	1.66	0.0388	4.03%
149.04	S - HNO3 soluble, ICP (%)	5	5	1.178	0.1583	1.178		0.1583	0.0885	13.44%		0.0143	3.90%
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	1		1.250									
151.30	Acid Soluble As, ICP (ppm)	2	1	0.5413	0.7655								
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	2	2	1.400	0.0714								
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	4	4	1.323	0.3029	1.323		0.3029	0.1893	22.90%		0.0418	15.34%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	1		0.3000									
151.99	Acid Soluble As, Other (ppm)	5	5	1.856	1.759	1.856		1.759	0.9834	94.79%		0.0436	14.58%
165.00	Acid Soluble B, Spectrophotometric (%)	1		0.0060									
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	2	1	0.0073	0.0039								
165.99	Acid Soluble B, Other (%)	6	4	0.0029	0.0020	0.0039	0.0036	0.0017	0.0010	43.32%	1.09	0.0008	9.23%
171.99	Water Soluble B, Other (%)	2	2	0.0029	0.0020								
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	1		22.35									
181.30	Acid Soluble Cd, ICP (ppm)	5	5	17.93	2.150	17.93		2.150	1.202	11.99%		0.6398	10.36%
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	2	2	15.93	6.255								

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181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	6	5	25.59	13.27	27.71		13.65	7.630	49.26%		0.2349	9.70%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	2	2	14.35	10.96								
181.99	Acid Soluble Cd, Other (ppm)	5	5	19.15	3.209	19.15		3.209	1.794	16.76%		0.7596	10.26%
190.00	Water Soluble Cl, Titrimetric (%)	1		17.35									
191.30	Acid Soluble Cr, ICP (ppm)	4	4	81.57	18.73	81.57		18.73	11.70	22.96%		1.654	8.25%
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	2	2	102.9	7.164								
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	6	5	98.64	13.42	103.2		8.236	4.604	7.98%		2.219	7.96%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	2	2	100.8	12.29								
191.99	Acid Soluble Cr, Other (ppm)	5	5	101.7	7.958	101.7		7.958	4.449	7.83%		1.497	7.98%
202.30	Acid Soluble Co, ICP (ppm)	3	3	1.249	0.3330	1.249	1.3746	0.3330	0.2403	26.67%	0.56	0.1511	15.47%
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	3	3	1.241	0.4014	1.241	1.3723	0.4014	0.2897	32.35%	0.68	0.0337	15.49%
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	4	3	2.020	1.989	1.027	1.3080	0.1064	0.0768	10.36%	0.19	0.0149	15.93%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	1		0.6500									
202.99	Acid Soluble Co, Other (ppm)	6	5	5.737	7.923	2.884	1.8653	4.175	2.334	144.74%	5.21	1.069	13.64%
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	2	2	0.0002	0.0000								
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	3	1	0.0034	0.0057	0.0002	0.0050	0.0000	0.0000	20.20%	0.02	0.0000	14.70%
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	5	1	0.1006	0.2233	0.0002	0.0050	0.0000	0.0000	20.20%	0.02	0.0009	14.70%
221.99	Acid Soluble Cu, Other (%)	6	4	0.0004	0.0003	0.0003	0.0050	0.0002	0.0001	81.37%	0.10	0.0001	13.83%
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	3	3	0.4297	0.0081	0.4297	0.0480	0.0081	0.0058	1.88%	0.39	0.0133	4.54%
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	3	3	0.4762	0.0034	0.4762	0.0526	0.0034	0.0025	0.71%	0.15	0.0077	4.47%
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	1		0.4595									
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	5	5	0.4439	0.0581	0.4439	0.0494	0.0581	0.0325	13.09%	2.74	0.0113	4.52%
241.99	Acid Soluble Fe, Other (%)	4	4	0.4619	0.0399	0.4619	0.0512	0.0399	0.0249	8.63%	1.82	0.0104	4.49%
251.30	Acid Soluble Pb, ICP (ppm)	3	2	0.1246	0.1297	0.1869		0.1017	0.0899	54.40%		0.0242	20.59%
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	2	2	0.5403	0.5088								
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	5	3	1.650	2.192	1.750		2.705	1.952	154.57%		2.099	14.70%
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	1		0.6000									
251.99	Acid Soluble Pb, Other (ppm)	5	4	0.3150	0.1494	0.2688		0.1245	0.0778	46.33%		0.0610	19.49%
261.00	Acid Soluble Mn, AA, Mn2+ only (%)	1		0.0090									
261.12	Acid Soluble Mn, AA, inorganic 965.09 (%)	2	2	0.0025	0.0003								
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	3	2	0.0072	0.0025	0.0057	0.0056	0.0003	0.0003	5.56%	0.13	0.0009	8.70%
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	1		0.0065									
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	2	2	0.0059	0.0000								
261.99	Acid Soluble Mn, Other (%)	4	3	0.0050	0.0040	0.0066	0.0057	0.0030	0.0021	44.96%	1.22	0.0000	8.52%
271.30	Water Soluble Mn, ICP, Ext. 972.03 (%)	1		0.0020									
281.00	Acid Soluble Hg, AA (ppm)	1		0.5000									
281.30	Acid Soluble Hg, ICP (ppm)	3	0	0.0334	0.0577	0.0066		0.0030		44.96%		0.0000	22.00%
281.99	Acid Soluble Hg, Other (ppm)	7	4	0.0116	0.0152	0.0050		0.0067	0.0042	134.53%		0.0026	22.00%
289.30	Acid Soluble Mo, ICP (ppm)	4	4	4.271	2.166	4.271	2.2812	2.166	1.354	50.71%	2.21	0.7196	12.86%
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	2	2	4.968	0.0460								
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	7	7	5.815	1.250	5.504	2.6511	0.5736	0.2710	10.42%	0.50	0.1107	12.38%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	1		6.850									
289.99	Acid Soluble Mo, Other (ppm)	4	3	29.04	47.31	5.389	2.6166	0.1642	0.1185	3.05%	0.15	0.2623	12.41%
291.30	Acid Soluble Ni, ICP (ppm)	3	3	30.10	28.71	30.10		28.71	20.72	95.38%		34.40	9.58%

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291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	2	2	11.30	6.083								
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	6	5	14.11	3.068	15.21		1.635	0.9139	10.75%		0.3211	10.62%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	2	1	10.64	8.140								
291.99	Acid Soluble Ni, Other (ppm)	6	5	17.47	8.350	14.17		2.319	1.296	16.37%		0.1012	10.73%
301.30	Acid Soluble Se, ICP (ppm)	1		0.2710									
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	1		0.7000									
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	4	2	0.9270	0.8281	0.8785		0.3853	0.3406	43.86%		0.0546	16.31%
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	1		1.100									
301.99	Acid Soluble Se, Other (ppm)	6	2	0.5508	0.3468	0.4875		0.0884	0.0781	18.13%		0.0650	17.82%
311.00	Sodium, AA (%)	1		0.4380									
311.33	Sodium, ICP, test portion as in 2017.02 (%)	4	4	0.5174	0.0131	0.5174	0.0567	0.0131	0.0082	2.54%	0.54	0.0135	4.42%
311.99	Sodium, Other (%)	2	2	0.5468	0.0096								
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	4	4	0.0298	0.0006	0.0298	0.0080	0.0006	0.0004	2.17%	0.19	0.0008	6.79%
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	5	5	0.0275	0.0047	0.0275	0.0078	0.0047	0.0026	16.90%	1.40	0.0009	6.87%
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	3	3	0.0295	0.0023	0.0295	0.0079	0.0023	0.0017	7.86%	0.68	0.0006	6.80%
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	11	11	0.0282	0.0022	0.0283	0.0078	0.0021	0.0008	7.47%	0.63	0.0007	6.84%
321.99	Acid Soluble Zn, Other (%)	10	9	0.0263	0.0046	0.0276	0.0078	0.0015	0.0006	5.32%	0.44	0.0007	6.87%
325.99	Water Soluble Zn, Other (%)	1		0.0007									
431.99	Soluble Si in nonliquids, Other (%)	1		0.0041									

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 # 211211

### Method Precision Report

Grade 16-28-12

Issue Date : 01/31/2022

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 %rds	Reproducibility %RSD	sR/sr
001.99	Ammoniacal N, Other (%)	28	26	4.891	0.6634	0.6626	0.0481	0.6643	13.55%	0.98%	13.58%	13.80
005.99	Urea N, Other (%)	16	14	9.888	0.3850	0.3792	0.0942	0.3907	3.84%	0.95%	3.95%	4.150
010.11	Total N, Modified Comprehensive (16%)	8	8	16.18	1.434	1.430	0.1444	1.438	8.84%	0.89%	8.88%	9.954
010.60	Total N, Combustion (16%)	55	53	14.11	0.4300	0.4224	0.1135	0.4374	2.99%	0.80%	3.10%	3.855
010.99	Total N, Other (16%)	17	16	14.94	0.8346	0.8308	0.1130	0.8385	5.56%	0.76%	5.61%	7.423
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	12	11	19.58	0.3706	0.3598	0.1254	0.3810	1.84%	0.64%	1.95%	3.038
020.50	Total P2O5, ICP (%)	22	20	19.79	1.333	1.317	0.2973	1.350	6.65%	1.50%	6.82%	4.540
020.99	Total P2O5, Other (%)	6	5	20.22	1.474	1.462	0.2647	1.485	7.23%	1.31%	7.34%	5.611
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (28%)	8	8	19.55	0.3320	0.3162	0.1433	0.3472	1.62%	0.73%	1.78%	2.422
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (28%)	10	7	19.13	0.4393	0.4383	0.0410	0.4403	2.29%	0.21%	2.30%	10.73
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (28%)	11	9	19.50	0.4783	0.4655	0.1550	0.4907	2.39%	0.80%	2.52%	3.165
041.99	Direct Available P2O5, Other (28%)	15	14	23.48	3.998	3.998	0.0984	3.999	17.02%	0.42%	17.03%	40.63
050.00	Soluble K2O, STPB Oxalate (12%)	8	8	22.32	1.571	1.568	0.1324	1.573	7.02%	0.59%	7.05%	11.88
050.50	Soluble K2O, ICP (Oxalate) (12%)	10	9	22.95	1.166	1.126	0.4292	1.205	4.90%	1.87%	5.25%	2.806
050.52	Soluble K2O, ICP (Citrate-EDTA) (12%)	13	12	22.01	1.673	1.663	0.2543	1.682	7.56%	1.16%	7.64%	6.614
050.99	Soluble K2O, Other (12%)	42	38	20.34	4.336	4.329	0.3394	4.343	21.28%	1.67%	21.35%	12.80
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	5	5	0.3951	0.0298	0.0285	0.0122	0.0310	7.21%	3.09%	7.84%	2.542
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	6	6	0.8447	0.1026	0.0990	0.0380	0.1061	11.72%	4.50%	12.56%	2.788
149.04	S - HNO3 soluble, ICP (%)	5	5	1.178	0.1583	0.1581	0.0125	0.1586	13.42%	1.06%	13.46%	12.67
191.99	Acid Soluble Cr, Other (ppm)	5	5	101.7	7.958	7.892	1.451	8.024	7.76%	1.43%	7.89%	5.531
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	7	6	5.360	0.3664	0.3582	0.1093	0.3745	6.68%	2.04%	6.99%	3.425
291.99	Acid Soluble Ni, Other (ppm)	6	5	14.17	2.319	2.317	0.1057	2.320	16.36%	0.75%	16.37%	21.94
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	5	5	0.0275	0.0047	0.0046	0.0009	0.0047	16.76%	3.14%	17.05%	5.423
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	11	11	0.0282	0.0022	0.0021	0.0006	0.0022	7.61%	2.19%	7.92%	3.624
321.99	Acid Soluble Zn, Other (%)	10	9	0.0276	0.0024	0.0024	0.0007	0.0025	8.68%	2.51%	9.03%	3.601

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 # 211211

Grade 16-28-12

Lab Values

# Methods: 140

# Labs Reporting: 93

Issue Date : 01/31/2022

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 (%)	0498	4.050	0.1000	5.201	2.061	0.1115	5	-0.56		0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0451	4.290	0.0400	5.201	2.061	0.1115	5	-0.44		0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0444	4.300	0.2000	5.201	2.061	0.1115	5	-0.44		0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0481	4.485	0.1700	5.201	2.061	0.1115	5	-0.35		0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0117	8.878	0.0476	5.201	2.061	0.1115	5	1.78		0
001.99	Ammoniacal N, Other (%)	0524	0.6050	0.2360	4.858	0.7525	0.0602	27	-5.65	NA	0
001.99	Ammoniacal N, Other (%)	0368	3.491	0.0980	4.858	0.7525	0.0602	27	-1.82	NA	0
001.99	Ammoniacal N, Other (%)	0553	3.651	0.0770	4.858	0.7525	0.0602	27	-1.61	NA	0
001.99	Ammoniacal N, Other (%)	0231	3.990	0.0200	4.858	0.7525	0.0602	27	-1.15	NA	0
001.99	Ammoniacal N, Other (%)	0423	4.160	0.0400	4.858	0.7525	0.0602	27	-0.93	NA	0
001.99	Ammoniacal N, Other (%)	0563	4.235	0.0300	4.858	0.7525	0.0602	27	-0.83	NA	0
001.99	Ammoniacal N, Other (%)	0027	4.310	0.0400	4.858	0.7525	0.0602	27	-0.73	NA	0
001.99	Ammoniacal N, Other (%)	0549	4.365	0.0300	4.858	0.7525	0.0602	27	-0.66	NA	0
001.99	Ammoniacal N, Other (%)	0510	4.551	0.0218	4.858	0.7525	0.0602	27	-0.41	NA	0
001.99	Ammoniacal N, Other (%)	0546	4.620	0.1600	4.858	0.7525	0.0602	27	-0.32	NA	0
001.99	Ammoniacal N, Other (%)	0535	4.750	0.1000	4.858	0.7525	0.0602	27	-0.14	NA	0
001.99	Ammoniacal N, Other (%)	0539	4.785	0.0700	4.858	0.7525	0.0602	27	-0.10	NA	0
001.99	Ammoniacal N, Other (%)	0506	4.855	0.0100	4.858	0.7525	0.0602	27	0.00	NA	0
001.99	Ammoniacal N, Other (%)	0405	5.020	0.0000	4.858	0.7525	0.0602	27	0.21	NA	0
001.99	Ammoniacal N, Other (%)	0567	5.110	0.0200	4.858	0.7525	0.0602	27	0.33	NA	0
001.99	Ammoniacal N, Other (%)	0565	5.120	0.0400	4.858	0.7525	0.0602	27	0.35	NA	0
001.99	Ammoniacal N, Other (%)	0533	5.135	0.0700	4.858	0.7525	0.0602	27	0.37	NA	0
001.99	Ammoniacal N, Other (%)	0562	5.150	0.1000	4.858	0.7525	0.0602	27	0.39	NA	0
001.99	Ammoniacal N, Other (%)	0572	5.247	0.0831	4.858	0.7525	0.0602	27	0.52	NA	0
001.99	Ammoniacal N, Other (%)	0255	5.250	0.0400	4.858	0.7525	0.0602	27	0.52	NA	0
001.99	Ammoniacal N, Other (%)	0559	5.260	0.0200	4.858	0.7525	0.0602	27	0.53	NA	0
001.99	Ammoniacal N, Other (%)	0574	5.290	0.0200	4.858	0.7525	0.0602	27	0.57	NA	0
001.99	Ammoniacal N, Other (%)	0220	5.315	0.0100	4.858	0.7525	0.0602	27	0.61	NA	0
001.99	Ammoniacal N, Other (%)	0519	5.775	0.0500	4.858	0.7525	0.0602	27	1.22	NA	0
001.99	Ammoniacal N, Other (%)	0532	5.810	0.1600	4.858	0.7525	0.0602	27	1.26	NA	0
001.99	Ammoniacal N, Other (%)	0540	5.900	0.0200	4.858	0.7525	0.0602	27	1.38	NA	0
001.99	Ammoniacal N, Other (%)	0548	6.020	0.0600	4.858	0.7525	0.0602	27	1.54	NA	0
001.99	Ammoniacal N, Other (%)	0577	6.000	0.3000	4.858	0.7525	0.0602	27	1.52	NA	1
002.99	Nitrate N, Other (%)	0553	0.0056	0.0008				1			0
005.00	Urea N, Urease (as N) (%)	0368	11.24	0.0477				1			0
005.20	Urea N, HPLC(asN),85%acetoneitrilemobilephase (%)	0451	8.675	0.0900				1			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
005.99	Urea N, Other (%)	0029	9.325	0.0500	10.00	0.5436	0.1163	16	-1.25	NA	0
005.99	Urea N, Other (%)	0524	9.400	0.1600	10.00	0.5436	0.1163	16	-1.11	NA	0
005.99	Urea N, Other (%)	0027	9.450	0.2200	10.00	0.5436	0.1163	16	-1.02	NA	0
005.99	Urea N, Other (%)	0506	9.680	0.3000	10.00	0.5436	0.1163	16	-0.60	NA	0
005.99	Urea N, Other (%)	0574	9.730	0.0200	10.00	0.5436	0.1163	16	-0.50	NA	0
005.99	Urea N, Other (%)	0546	9.760	0.1600	10.00	0.5436	0.1163	16	-0.45	NA	0
005.99	Urea N, Other (%)	0567	9.850	0.1000	10.00	0.5436	0.1163	16	-0.28	NA	0
005.99	Urea N, Other (%)	0559	9.915	0.0100	10.00	0.5436	0.1163	16	-0.16	NA	0
005.99	Urea N, Other (%)	0565	10.02	0.0600	10.00	0.5436	0.1163	16	0.03	NA	0
005.99	Urea N, Other (%)	0562	10.08	0.0500	10.00	0.5436	0.1163	16	0.13	NA	0
005.99	Urea N, Other (%)	0540	10.10	0.0300	10.00	0.5436	0.1163	16	0.17	NA	0
005.99	Urea N, Other (%)	0532	10.11	0.1700	10.00	0.5436	0.1163	16	0.19	NA	0
005.99	Urea N, Other (%)	0405	10.22	0.0400	10.00	0.5436	0.1163	16	0.40	NA	0
005.99	Urea N, Other (%)	0533	10.81	0.0900	10.00	0.5436	0.1163	16	1.47	NA	0
005.99	Urea N, Other (%)	0535	13.45	0.1000	10.00	0.5436	0.1163	16	6.34	NA	0
005.99	Urea N, Other (%)	0539	13.45	0.3000	10.00	0.5436	0.1163	16	6.34	NA	0
007.99	Urea, Other (%)	0519	9.625	0.0100	10.42	0.7860	0.1100	5	-1.01		0
007.99	Urea, Other (%)	0220	10.04	0.0200	10.42	0.7860	0.1100	5	-0.48		0
007.99	Urea, Other (%)	0444	10.20	0.4000	10.42	0.7860	0.1100	5	-0.27		0
007.99	Urea, Other (%)	0577	10.51	0.0800	10.42	0.7860	0.1100	5	0.12		0
007.99	Urea, Other (%)	0549	11.70	0.0400	10.42	0.7860	0.1100	5	1.63		0
010.11	Total N, Modified Comprehensive (16%)	0546	14.38	0.3200	16.18	1.626	0.1582	8	-1.01	Low	0
010.11	Total N, Modified Comprehensive (16%)	0510	14.66	0.0159	16.18	1.626	0.1582	8	-0.85	Low	0
010.11	Total N, Modified Comprehensive (16%)	0548	15.79	0.2300	16.18	1.626	0.1582	8	-0.22	OK	0
010.11	Total N, Modified Comprehensive (16%)	0531	15.95	0.1000	16.18	1.626	0.1582	8	-0.13	OK	0
010.11	Total N, Modified Comprehensive (16%)	0540	16.00	0.0500	16.18	1.626	0.1582	8	-0.11	OK	0
010.11	Total N, Modified Comprehensive (16%)	0536	16.19	0.3900	16.18	1.626	0.1582	8	0.00	OK	0
010.11	Total N, Modified Comprehensive (16%)	0535	18.25	0.1000	16.18	1.626	0.1582	8	1.16	High	0
010.11	Total N, Modified Comprehensive (16%)	0539	18.26	0.0600	16.18	1.626	0.1582	8	1.17	High	0
010.12	Total N, Salicylic (16%)	0481	13.60	0.0200	14.24	0.9291	0.0589	4	-0.68		0
010.12	Total N, Salicylic (16%)	0498	13.70	0.0000	14.24	0.9291	0.0589	4	-0.58		0
010.12	Total N, Salicylic (16%)	0572	14.04	0.0154	14.24	0.9291	0.0589	4	-0.21		0
010.12	Total N, Salicylic (16%)	0568	15.60	0.2000	14.24	0.9291	0.0589	4	1.47		0
010.60	Total N, Combustion (16%)	0476	13.14	0.0710	14.10	0.2311	0.1271	54	-4.16	Low	0
010.60	Total N, Combustion (16%)	0450	13.20	0.2000	14.10	0.2311	0.1271	54	-3.90	Low	0
010.60	Total N, Combustion (16%)	0042	13.24	0.2400	14.10	0.2311	0.1271	54	-3.73	Low	0
010.60	Total N, Combustion (16%)	0102	13.69	0.1000	14.10	0.2311	0.1271	54	-1.78	OK	0
010.60	Total N, Combustion (16%)	0035	13.70	0.2000	14.10	0.2311	0.1271	54	-1.74	OK	0
010.60	Total N, Combustion (16%)	0023	13.82	0.3730	14.10	0.2311	0.1271	54	-1.24	OK	0
010.60	Total N, Combustion (16%)	0390	13.89	0.0370	14.10	0.2311	0.1271	54	-0.92	OK	0
010.60	Total N, Combustion (16%)	0234	13.89	0.0200	14.10	0.2311	0.1271	54	-0.91	OK	0
010.60	Total N, Combustion (16%)	0423	13.89	0.1000	14.10	0.2311	0.1271	54	-0.91	OK	0
010.60	Total N, Combustion (16%)	0136	13.90	0.0000	14.10	0.2311	0.1271	54	-0.87	OK	0
010.60	Total N, Combustion (16%)	0106	13.91	0.2700	14.10	0.2311	0.1271	54	-0.85	OK	0
010.60	Total N, Combustion (16%)	0451	13.92	0.0800	14.10	0.2311	0.1271	54	-0.78	OK	0
010.60	Total N, Combustion (16%)	0073	13.93	0.0000	14.10	0.2311	0.1271	54	-0.74	OK	0
010.60	Total N, Combustion (16%)	0231	13.93	0.0400	14.10	0.2311	0.1271	54	-0.74	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 (16%)	0389	13.94	0.0500	14.10	0.2311	0.1271	54	-0.72	OK	0
010.60	Total N, Combustion (16%)	0421	13.94	0.1000	14.10	0.2311	0.1271	54	-0.70	OK	0
010.60	Total N, Combustion (16%)	0095	13.97	0.1800	14.10	0.2311	0.1271	54	-0.57	OK	0
010.60	Total N, Combustion (16%)	0086	13.98	0.0370	14.10	0.2311	0.1271	54	-0.51	OK	0
010.60	Total N, Combustion (16%)	0324	14.00	0.0000	14.10	0.2311	0.1271	54	-0.44	OK	0
010.60	Total N, Combustion (16%)	0055	14.03	0.0700	14.10	0.2311	0.1271	54	-0.33	OK	0
010.60	Total N, Combustion (16%)	0377	14.03	0.2400	14.10	0.2311	0.1271	54	-0.31	OK	0
010.60	Total N, Combustion (16%)	0230	14.05	0.1000	14.10	0.2311	0.1271	54	-0.22	OK	0
010.60	Total N, Combustion (16%)	0114	14.10	0.0480	14.10	0.2311	0.1271	54	-0.02	OK	0
010.60	Total N, Combustion (16%)	0354	14.10	0.2000	14.10	0.2311	0.1271	54	0.00	OK	0
010.60	Total N, Combustion (16%)	0356	14.10	0.0740	14.10	0.2311	0.1271	54	0.00	OK	0
010.60	Total N, Combustion (16%)	0521	14.12	0.0000	14.10	0.2311	0.1271	54	0.08	OK	0
010.60	Total N, Combustion (16%)	0034	14.14	0.0900	14.10	0.2311	0.1271	54	0.15	OK	0
010.60	Total N, Combustion (16%)	0131	14.14	0.0690	14.10	0.2311	0.1271	54	0.17	OK	0
010.60	Total N, Combustion (16%)	0360	14.15	0.1300	14.10	0.2311	0.1271	54	0.19	OK	0
010.60	Total N, Combustion (16%)	0040	14.15	0.1000	14.10	0.2311	0.1271	54	0.21	OK	0
010.60	Total N, Combustion (16%)	0260	14.15	0.1000	14.10	0.2311	0.1271	54	0.21	OK	0
010.60	Total N, Combustion (16%)	0292	14.15	0.0200	14.10	0.2311	0.1271	54	0.21	OK	0
010.60	Total N, Combustion (16%)	0220	14.16	0.0200	14.10	0.2311	0.1271	54	0.26	OK	0
010.60	Total N, Combustion (16%)	0405	14.16	0.0000	14.10	0.2311	0.1271	54	0.26	OK	0
010.60	Total N, Combustion (16%)	0291	14.17	0.0100	14.10	0.2311	0.1271	54	0.28	OK	0
010.60	Total N, Combustion (16%)	0472	14.17	0.0300	14.10	0.2311	0.1271	54	0.28	OK	0
010.60	Total N, Combustion (16%)	0037	14.17	0.0400	14.10	0.2311	0.1271	54	0.28	OK	0
010.60	Total N, Combustion (16%)	0422	14.18	0.0350	14.10	0.2311	0.1271	54	0.32	OK	0
010.60	Total N, Combustion (16%)	0527	14.18	0.2380	14.10	0.2311	0.1271	54	0.33	OK	0
010.60	Total N, Combustion (16%)	0443	14.18	0.0600	14.10	0.2311	0.1271	54	0.34	OK	0
010.60	Total N, Combustion (16%)	0043	14.20	0.0600	14.10	0.2311	0.1271	54	0.43	OK	0
010.60	Total N, Combustion (16%)	0561	14.23	0.0900	14.10	0.2311	0.1271	54	0.54	OK	0
010.60	Total N, Combustion (16%)	0325	14.25	0.5000	14.10	0.2311	0.1271	54	0.65	OK	0
010.60	Total N, Combustion (16%)	0177	14.28	0.1210	14.10	0.2311	0.1271	54	0.78	OK	0
010.60	Total N, Combustion (16%)	0029	14.29	0.1400	14.10	0.2311	0.1271	54	0.82	OK	0
010.60	Total N, Combustion (16%)	0547	14.33	0.2100	14.10	0.2311	0.1271	54	0.97	OK	0
010.60	Total N, Combustion (16%)	0523	14.39	0.0800	14.10	0.2311	0.1271	54	1.25	OK	0
010.60	Total N, Combustion (16%)	0485	14.41	0.3000	14.10	0.2311	0.1271	54	1.34	OK	0
010.60	Total N, Combustion (16%)	0169	14.44	0.0900	14.10	0.2311	0.1271	54	1.45	OK	0
010.60	Total N, Combustion (16%)	0444	14.50	0.4000	14.10	0.2311	0.1271	54	1.73	OK	0
010.60	Total N, Combustion (16%)	0255	14.66	0.3420	14.10	0.2311	0.1271	54	2.43	OK	0
010.60	Total N, Combustion (16%)	0368	14.70	0.4060	14.10	0.2311	0.1271	54	2.61	OK	0
010.60	Total N, Combustion (16%)	0501	14.80	0.2000	14.10	0.2311	0.1271	54	3.03	High	0
010.60	Total N, Combustion (16%)	0534	16.23	0.1500	14.10	0.2311	0.1271	54	9.19	High	0
010.60	Total N, Combustion (16%)	0452	32.47	0.0500	14.10	0.2311	0.1271	54	79.47	High	2
010.99	Total N, Other (16%)	0476	13.37	0.0748	15.02	0.9513	0.1375	17	-1.74	Low	0
010.99	Total N, Other (16%)	0524	13.78	0.1735	15.02	0.9513	0.1375	17	-1.31	Low	0
010.99	Total N, Other (16%)	0493	14.06	0.1700	15.02	0.9513	0.1375	17	-1.02	Low	0
010.99	Total N, Other (16%)	0513	14.17	0.0300	15.02	0.9513	0.1375	17	-0.90	Low	0
010.99	Total N, Other (16%)	0563	14.33	0.0100	15.02	0.9513	0.1375	17	-0.73	Low	0
010.99	Total N, Other (16%)	0506	14.55	0.3000	15.02	0.9513	0.1375	17	-0.50	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				
010.99	Total N, Other (16%)	0574	15.02	0.0400	15.02	0.9513	0.1375	17	0.00	OK	0
010.99	Total N, Other (16%)	0567	15.05	0.1000	15.02	0.9513	0.1375	17	0.03	OK	0
010.99	Total N, Other (16%)	0565	15.13	0.0600	15.02	0.9513	0.1375	17	0.11	OK	0
010.99	Total N, Other (16%)	0559	15.15	0.0200	15.02	0.9513	0.1375	17	0.13	OK	0
010.99	Total N, Other (16%)	0537	15.19	0.0500	15.02	0.9513	0.1375	17	0.17	OK	0
010.99	Total N, Other (16%)	0562	15.23	0.1500	15.02	0.9513	0.1375	17	0.21	OK	0
010.99	Total N, Other (16%)	0532	15.92	0.3300	15.02	0.9513	0.1375	17	0.94	High	0
010.99	Total N, Other (16%)	0533	15.94	0.0200	15.02	0.9513	0.1375	17	0.96	High	0
010.99	Total N, Other (16%)	0518	15.99	0.3200	15.02	0.9513	0.1375	17	1.02	High	0
010.99	Total N, Other (16%)	0538	16.13	0.0200	15.02	0.9513	0.1375	17	1.16	High	0
010.99	Total N, Other (16%)	0577	16.21	0.4700	15.02	0.9513	0.1375	17	1.24	High	0
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0444	19.38	0.0400	19.55	0.1677	0.0900	3	-1.02		0
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0114	19.56	0.1600	19.55	0.1677	0.0900	3	0.05		0
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0493	19.72	0.0700	19.55	0.1677	0.0900	3	0.97		0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0510	18.60	0.1375	19.68	0.2742	0.1317	12	-3.95	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0547	19.30	0.4000	19.68	0.2742	0.1317	12	-1.40	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0324	19.55	0.1000	19.68	0.2742	0.1317	12	-0.49	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0481	19.63	0.0300	19.68	0.2742	0.1317	12	-0.21	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0231	19.64	0.1100	19.68	0.2742	0.1317	12	-0.18	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0405	19.67	0.0100	19.68	0.2742	0.1317	12	-0.07	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0493	19.67	0.1600	19.68	0.2742	0.1317	12	-0.05	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0220	19.74	0.2700	19.68	0.2742	0.1317	12	0.19	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0356	19.84	0.0830	19.68	0.2742	0.1317	12	0.59	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0561	19.85	0.0500	19.68	0.2742	0.1317	12	0.59	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0292	19.97	0.1900	19.68	0.2742	0.1317	12	1.03	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0548	27.70	0.0400	19.68	0.2742	0.1317	12	29.24	NA	0
020.40	Total P2O5, Automated (%)	0035	20.20	0.8000				1			0
020.50	Total P2O5, ICP (%)	0433	10.26	0.1300	19.67	1.494	0.3676	22	-6.30	NA	0
020.50	Total P2O5, ICP (%)	0255	17.32	0.4420	19.67	1.494	0.3676	22	-1.57	NA	0
020.50	Total P2O5, ICP (%)	0472	17.69	0.1800	19.67	1.494	0.3676	22	-1.32	NA	0
020.50	Total P2O5, ICP (%)	0451	18.22	0.6900	19.67	1.494	0.3676	22	-0.97	NA	0
020.50	Total P2O5, ICP (%)	0389	18.36	0.0400	19.67	1.494	0.3676	22	-0.88	NA	0
020.50	Total P2O5, ICP (%)	0390	18.45	0.7000	19.67	1.494	0.3676	22	-0.82	NA	0
020.50	Total P2O5, ICP (%)	0524	19.16	0.9184	19.67	1.494	0.3676	22	-0.34	NA	0
020.50	Total P2O5, ICP (%)	0444	19.21	0.3000	19.67	1.494	0.3676	22	-0.31	NA	0
020.50	Total P2O5, ICP (%)	0450	19.24	0.5500	19.67	1.494	0.3676	22	-0.29	NA	0
020.50	Total P2O5, ICP (%)	0169	19.84	0.0100	19.67	1.494	0.3676	22	0.11	NA	0
020.50	Total P2O5, ICP (%)	0546	19.88	0.1938	19.67	1.494	0.3676	22	0.14	NA	0
020.50	Total P2O5, ICP (%)	0260	19.90	1.400	19.67	1.494	0.3676	22	0.16	NA	0
020.50	Total P2O5, ICP (%)	0423	19.95	0.1700	19.67	1.494	0.3676	22	0.19	NA	0
020.50	Total P2O5, ICP (%)	0452	20.19	0.0500	19.67	1.494	0.3676	22	0.35	NA	0
020.50	Total P2O5, ICP (%)	0422	20.30	0.2470	19.67	1.494	0.3676	22	0.43	NA	0
020.50	Total P2O5, ICP (%)	0234	20.38	0.1600	19.67	1.494	0.3676	22	0.48	NA	0
020.50	Total P2O5, ICP (%)	0042	20.39	0.4900	19.67	1.494	0.3676	22	0.48	NA	0
020.50	Total P2O5, ICP (%)	0368	20.87	0.4075	19.67	1.494	0.3676	22	0.81	NA	0
020.50	Total P2O5, ICP (%)	0291	21.11	0.2000	19.67	1.494	0.3676	22	0.96	NA	0
020.50	Total P2O5, ICP (%)	0527	21.34	0.1077	19.67	1.494	0.3676	22	1.12	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				
020.50	Total P2O5, ICP (%)	0521	21.49	0.0000	19.67	1.494	0.3676	22	1.22	NA	0
020.50	Total P2O5, ICP (%)	0523	22.35	0.7000	19.67	1.494	0.3676	22	1.79	NA	0
020.99	Total P2O5, Other (%)	0476	18.60	0.2742	20.22	1.474	0.2839	5	-0.96		0
020.99	Total P2O5, Other (%)	0513	19.55	0.0700	20.22	1.474	0.2839	5	-0.40		0
020.99	Total P2O5, Other (%)	0572	19.72	0.7055	20.22	1.474	0.2839	5	-0.30		0
020.99	Total P2O5, Other (%)	0443	20.78	0.3500	20.22	1.474	0.2839	5	0.33		0
020.99	Total P2O5, Other (%)	0559	22.47	0.0200	20.22	1.474	0.2839	5	1.33		0
020.99	Total P2O5, Other (%)	0515	25.93	14.91	20.22	1.474	0.2839	5	3.38		1
030.20	Citrate Insoluble P2O5, Spectrophotometric MolybdovanadoP (%)	0220	0.0700	0.0200				2			0
030.20	Citrate Insoluble P2O5, Spectrophotometric MolybdovanadoP (%)	0405	0.0800	0.0000				2			0
030.99	Citrate Insoluble P2O5, Other (%)	0537	19.98	2.070				1			0
040.20	Indirect Available P2O5, Spectrophotometric (28%)	0220	19.67	0.2500				1			0
040.99	Indirect Available P2O5, Other (28%)	0405	19.59	0.0100				2			0
040.99	Indirect Available P2O5, Other (28%)	0577	28.04	0.3600				2			0
041.10	Direct Available P2O5, Gravimetric Quinolinium (28%)	0177	19.58	0.0561	21.73	4.007	0.0440	4	-0.54		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (28%)	0049	19.60	0.0200	21.73	4.007	0.0440	4	-0.53		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (28%)	0009	20.00	0.0000	21.73	4.007	0.0440	4	-0.43		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (28%)	0536	27.73	0.1000	21.73	4.007	0.0440	4	1.50		0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (28%)	0095	19.06	0.4400	19.54	0.3543	0.1571	8	-1.24	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (28%)	0405	19.23	0.0600	19.54	0.3543	0.1571	8	-0.80	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (28%)	0513	19.41	0.0800	19.54	0.3543	0.1571	8	-0.34	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (28%)	0073	19.55	0.2100	19.54	0.3543	0.1571	8	0.01	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (28%)	0055	19.61	0.0700	19.54	0.3543	0.1571	8	0.17	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (28%)	0220	19.67	0.0600	19.54	0.3543	0.1571	8	0.34	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (28%)	0485	19.73	0.0800	19.54	0.3543	0.1571	8	0.49	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext.... (28%)	0117	20.15	0.2569	19.54	0.3543	0.1571	8	1.57	OK	0
041.20	Direct Available P2O5, Spectrophotometric (28%)	0027	19.64	0.0900				2			0
041.20	Direct Available P2O5, Spectrophotometric (28%)	0553	19.69	0.1800				2			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (28%)	0230	18.36	0.0600	19.17	0.4051	0.0635	8	-1.82	Low	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (28%)	0106	18.87	0.1300	19.17	0.4051	0.0635	8	-0.68	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (28%)	0563	19.02	0.0100	19.17	0.4051	0.0635	8	-0.34	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (28%)	0405	19.18	0.0200	19.17	0.4051	0.0635	8	0.03	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (28%)	0055	19.25	0.2300	19.17	0.4051	0.0635	8	0.18	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (28%)	0177	19.27	0.0076	19.17	0.4051	0.0635	8	0.24	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (28%)	0231	19.50	0.0500	19.17	0.4051	0.0635	8	0.74	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (28%)	0354	19.70	0.0000	19.17	0.4051	0.0635	8	1.20	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (28%)	0568	19.40	2.000	19.17	0.4051	0.0635	8	0.53	OK	1
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (28%)	0472	4.190	0.3600	19.17	0.4051	0.0635	8	-33.81	Low	2
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (28%)	0029	19.61	0.0400				1			0
041.50	Direct Available P2O5, ICP (28%)	0325	20.70	1.800				1			0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (28%)	0421	14.80	0.1100	19.45	0.6169	0.2254	11	-7.07	Low	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (28%)	0423	18.69	0.4700	19.45	0.6169	0.2254	11	-1.17	Low	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (28%)	0025	19.25	0.1000	19.45	0.6169	0.2254	11	-0.31	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (28%)	0040	19.25	0.3000	19.45	0.6169	0.2254	11	-0.31	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (28%)	0377	19.35	0.1700	19.45	0.6169	0.2254	11	-0.16	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (28%)	0117	19.45	0.1116	19.45	0.6169	0.2254	11	-0.01	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (28%)	0360	19.52	0.1700	19.45	0.6169	0.2254	11	0.09	OK	0

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			Value	Range	Rob Mean	Rob SD	R-bar				
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (28%)	0037	19.68	0.0380	19.45	0.6169	0.2254	11	0.34	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (28%)	0043	19.92	0.0100	19.45	0.6169	0.2254	11	0.70	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (28%)	0023	20.00	0.8000	19.45	0.6169	0.2254	11	0.83	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (28%)	0136	20.40	0.2000	19.45	0.6169	0.2254	11	1.44	High	0
041.99	Direct Available P2O5, Other (28%)	0567	19.80	0.0000	23.48	4.534	0.1129	14	-0.81	Low	0
041.99	Direct Available P2O5, Other (28%)	0535	19.95	0.1000	23.48	4.534	0.1129	14	-0.78	Low	0
041.99	Direct Available P2O5, Other (28%)	0562	19.95	0.2000	23.48	4.534	0.1129	14	-0.78	Low	0
041.99	Direct Available P2O5, Other (28%)	0539	19.97	0.0600	23.48	4.534	0.1129	14	-0.77	Low	0
041.99	Direct Available P2O5, Other (28%)	0565	20.10	0.2100	23.48	4.534	0.1129	14	-0.75	Low	0
041.99	Direct Available P2O5, Other (28%)	0574	20.10	0.0400	23.48	4.534	0.1129	14	-0.75	Low	0
041.99	Direct Available P2O5, Other (28%)	0549	20.61	0.1800	23.48	4.534	0.1129	14	-0.63	Low	0
041.99	Direct Available P2O5, Other (28%)	0519	20.76	0.0900	23.48	4.534	0.1129	14	-0.60	Low	0
041.99	Direct Available P2O5, Other (28%)	0532	27.81	0.0900	23.48	4.534	0.1129	14	0.95	High	0
041.99	Direct Available P2O5, Other (28%)	0533	27.87	0.1400	23.48	4.534	0.1129	14	0.97	High	0
041.99	Direct Available P2O5, Other (28%)	0538	27.88	0.0600	23.48	4.534	0.1129	14	0.97	High	0
041.99	Direct Available P2O5, Other (28%)	0518	27.95	0.3000	23.48	4.534	0.1129	14	0.99	High	0
041.99	Direct Available P2O5, Other (28%)	0531	28.02	0.0100	23.48	4.534	0.1129	14	1.00	High	0
041.99	Direct Available P2O5, Other (28%)	0540	28.02	0.1000	23.48	4.534	0.1129	14	1.00	High	0
041.99	Direct Available P2O5, Other (28%)	0506	22.40	0.6000	23.48	4.534	0.1129	14	-0.24	Low	1
048.10	Water Soluble P2O5, Gravimetric Quinolinium (%)	0444	17.36	0.2900				1			0
048.20	Water Soluble P2O5, Spectrophotometric (%)	0472	15.70	0.1400				1			0
048.50	Water Soluble P2O5, ICP (%)	0444	18.11	0.1300				1			0
048.99	Water Soluble P2O5, Other (%)	0513	17.16	0.0200				2			0
048.99	Water Soluble P2O5, Other (%)	0572	17.27	0.8996				2			0
050.00	Soluble K2O, STPB Oxalate (12%)	0049	19.79	0.0600	22.32	1.781	0.1388	8	-1.30	Low	0
050.00	Soluble K2O, STPB Oxalate (12%)	0561	20.15	0.0000	22.32	1.781	0.1388	8	-1.11	Low	0
050.00	Soluble K2O, STPB Oxalate (12%)	0405	22.32	0.1400	22.32	1.781	0.1388	8	0.00	OK	0
050.00	Soluble K2O, STPB Oxalate (12%)	0231	22.81	0.1600	22.32	1.781	0.1388	8	0.25	OK	0
050.00	Soluble K2O, STPB Oxalate (12%)	0055	22.85	0.4000	22.32	1.781	0.1388	8	0.27	OK	0
050.00	Soluble K2O, STPB Oxalate (12%)	0444	23.07	0.0400	22.32	1.781	0.1388	8	0.39	OK	0
050.00	Soluble K2O, STPB Oxalate (12%)	0220	23.14	0.0500	22.32	1.781	0.1388	8	0.42	OK	0
050.00	Soluble K2O, STPB Oxalate (12%)	0114	24.42	0.2600	22.32	1.781	0.1388	8	1.08	High	0
050.30	Soluble K2O, AA (Oxalate) (12%)	0073	21.99	0.6900	22.40	0.3680	0.5420	3	-1.14		0
050.30	Soluble K2O, AA (Oxalate) (12%)	0040	22.55	0.9000	22.40	0.3680	0.5420	3	0.40		0
050.30	Soluble K2O, AA (Oxalate) (12%)	0356	22.68	0.0360	22.40	0.3680	0.5420	3	0.74		0
050.32	Soluble K2O, AA (Citrate-EDTA) (12%)	0472	11.20	0.0000				1			0
050.50	Soluble K2O, ICP (Oxalate) (12%)	0055	21.17	0.0300	22.95	1.322	0.3764	9	-1.25	Low	0
050.50	Soluble K2O, ICP (Oxalate) (12%)	0390	21.80	0.2000	22.95	1.322	0.3764	9	-0.80	OK	0
050.50	Soluble K2O, ICP (Oxalate) (12%)	0324	22.40	0.6000	22.95	1.322	0.3764	9	-0.39	OK	0
050.50	Soluble K2O, ICP (Oxalate) (12%)	0231	22.59	0.0000	22.95	1.322	0.3764	9	-0.25	OK	0
050.50	Soluble K2O, ICP (Oxalate) (12%)	0106	22.84	1.380	22.95	1.322	0.3764	9	-0.08	OK	0
050.50	Soluble K2O, ICP (Oxalate) (12%)	0117	23.05	0.0712	22.95	1.322	0.3764	9	0.07	OK	0
050.50	Soluble K2O, ICP (Oxalate) (12%)	0292	23.56	0.0700	22.95	1.322	0.3764	9	0.42	OK	0
050.50	Soluble K2O, ICP (Oxalate) (12%)	0422	24.27	0.0360	22.95	1.322	0.3764	9	0.92	High	0
050.50	Soluble K2O, ICP (Oxalate) (12%)	0230	24.90	1.000	22.95	1.322	0.3764	9	1.36	High	0
050.50	Soluble K2O, ICP (Oxalate) (12%)	0444	1,135	2,224	22.95	1.322	0.3764	9	776.43	High	2
050.51	Soluble K2O, ICP (Citrate) (12%)	0568	23.00	0.8000	23.46	0.4642	0.6960	4	-1.00		0

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			Value	Range	Rob Mean	Rob SD	R-bar				
050.51	Soluble K2O, ICP (Citrate) (12%)	0368	23.27	1.664	23.46	0.4642	0.6960	4	-0.42		0
050.51	Soluble K2O, ICP (Citrate) (12%)	0452	23.50	0.3000	23.46	0.4642	0.6960	4	0.08		0
050.51	Soluble K2O, ICP (Citrate) (12%)	0291	24.09	0.0200	23.46	0.4642	0.6960	4	1.35		0
050.52	Soluble K2O, ICP (Citrate-EDTA) (12%)	0423	18.40	0.2600	22.29	1.717	0.3500	13	-2.26	Low	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (12%)	0547	19.93	0.1200	22.29	1.717	0.3500	13	-1.37	Low	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (12%)	0421	20.38	0.1400	22.29	1.717	0.3500	13	-1.11	Low	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (12%)	0043	21.45	0.2700	22.29	1.717	0.3500	13	-0.49	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (12%)	0377	22.19	0.3300	22.29	1.717	0.3500	13	-0.06	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (12%)	0354	22.55	0.1000	22.29	1.717	0.3500	13	0.15	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (12%)	0025	22.70	0.8000	22.29	1.717	0.3500	13	0.24	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (12%)	0360	22.76	0.1400	22.29	1.717	0.3500	13	0.28	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (12%)	0037	23.02	0.1490	22.29	1.717	0.3500	13	0.43	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (12%)	0136	23.10	0.0000	22.29	1.717	0.3500	13	0.47	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (12%)	0485	23.31	0.7300	22.29	1.717	0.3500	13	0.59	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (12%)	0117	24.29	0.2105	22.29	1.717	0.3500	13	1.17	High	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (12%)	0023	24.35	1.300	22.29	1.717	0.3500	13	1.20	High	0
050.60	Soluble K2O, Flame Photometric (Oxalate) (12%)	0548	12.34	0.0900	18.21	5.056	0.1331	4	-1.16		0
050.60	Soluble K2O, Flame Photometric (Oxalate) (12%)	0443	15.96	0.2800	18.21	5.056	0.1331	4	-0.45		0
050.60	Soluble K2O, Flame Photometric (Oxalate) (12%)	0510	20.88	0.0324	18.21	5.056	0.1331	4	0.53		0
050.60	Soluble K2O, Flame Photometric (Oxalate) (12%)	0169	23.69	0.1300	18.21	5.056	0.1331	4	1.08		0
050.61	Soluble K2O, Flame Photometric (Citrate) (12%)	0535	22.15	0.3000	22.67	0.8949	0.3333	3	-0.58		0
050.61	Soluble K2O, Flame Photometric (Citrate) (12%)	0539	22.15	0.1000	22.67	0.8949	0.3333	3	-0.58		0
050.61	Soluble K2O, Flame Photometric (Citrate) (12%)	0035	23.70	0.6000	22.67	0.8949	0.3333	3	1.15		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (12%)	0095	22.81	0.4400	23.42	0.7618	0.2567	3	-0.80		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (12%)	0029	23.18	0.2400	23.42	0.7618	0.2567	3	-0.32		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (12%)	0513	24.28	0.0900	23.42	0.7618	0.2567	3	1.12		0
050.99	Soluble K2O, Other (12%)	0538	11.79	0.3100	21.25	3.152	0.3582	40	-3.00	Low	0
050.99	Soluble K2O, Other (12%)	0518	12.00	0.4000	21.25	3.152	0.3582	40	-2.94	Low	0
050.99	Soluble K2O, Other (12%)	0531	12.01	0.0100	21.25	3.152	0.3582	40	-2.93	Low	0
050.99	Soluble K2O, Other (12%)	0540	12.01	0.0700	21.25	3.152	0.3582	40	-2.93	Low	0
050.99	Soluble K2O, Other (12%)	0577	12.27	0.1200	21.25	3.152	0.3582	40	-2.85	Low	0
050.99	Soluble K2O, Other (12%)	0533	12.41	0.3000	21.25	3.152	0.3582	40	-2.81	Low	0
050.99	Soluble K2O, Other (12%)	0532	12.51	0.2900	21.25	3.152	0.3582	40	-2.78	Low	0
050.99	Soluble K2O, Other (12%)	0519	17.40	0.7600	21.25	3.152	0.3582	40	-1.22	Low	0
050.99	Soluble K2O, Other (12%)	0521	18.95	0.0000	21.25	3.152	0.3582	40	-0.73	Low	0
050.99	Soluble K2O, Other (12%)	0536	19.78	0.0400	21.25	3.152	0.3582	40	-0.47	Low	0
050.99	Soluble K2O, Other (12%)	0255	19.82	1.204	21.25	3.152	0.3582	40	-0.46	Low	0
050.99	Soluble K2O, Other (12%)	0553	20.03	0.3000	21.25	3.152	0.3582	40	-0.39	Low	0
050.99	Soluble K2O, Other (12%)	0506	20.70	0.0000	21.25	3.152	0.3582	40	-0.18	OK	0
050.99	Soluble K2O, Other (12%)	0451	21.48	0.5800	21.25	3.152	0.3582	40	0.07	OK	0
050.99	Soluble K2O, Other (12%)	0481	21.49	0.5600	21.25	3.152	0.3582	40	0.07	OK	0
050.99	Soluble K2O, Other (12%)	0535	21.65	0.3000	21.25	3.152	0.3582	40	0.13	OK	0
050.99	Soluble K2O, Other (12%)	0539	21.70	0.0000	21.25	3.152	0.3582	40	0.14	OK	0
050.99	Soluble K2O, Other (12%)	0574	21.80	0.0400	21.25	3.152	0.3582	40	0.17	OK	0
050.99	Soluble K2O, Other (12%)	0546	21.83	0.1721	21.25	3.152	0.3582	40	0.18	OK	0
050.99	Soluble K2O, Other (12%)	0476	21.87	0.1585	21.25	3.152	0.3582	40	0.20	OK	0
050.99	Soluble K2O, Other (12%)	0450	21.98	0.2000	21.25	3.152	0.3582	40	0.23	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 (12%)	0559	22.11	0.0100	21.25	3.152	0.3582	40	0.27	OK	0
050.99	Soluble K2O, Other (12%)	0565	22.12	0.0300	21.25	3.152	0.3582	40	0.27	OK	0
050.99	Soluble K2O, Other (12%)	0549	22.18	1.250	21.25	3.152	0.3582	40	0.29	OK	0
050.99	Soluble K2O, Other (12%)	0567	22.20	0.0000	21.25	3.152	0.3582	40	0.30	OK	0
050.99	Soluble K2O, Other (12%)	0562	22.20	0.2000	21.25	3.152	0.3582	40	0.30	OK	0
050.99	Soluble K2O, Other (12%)	0493	22.53	0.6400	21.25	3.152	0.3582	40	0.40	High	0
050.99	Soluble K2O, Other (12%)	0498	22.60	0.4000	21.25	3.152	0.3582	40	0.43	High	0
050.99	Soluble K2O, Other (12%)	0524	22.75	1.583	21.25	3.152	0.3582	40	0.47	High	0
050.99	Soluble K2O, Other (12%)	0260	22.80	0.8000	21.25	3.152	0.3582	40	0.49	High	0
050.99	Soluble K2O, Other (12%)	0523	23.05	1.300	21.25	3.152	0.3582	40	0.57	High	0
050.99	Soluble K2O, Other (12%)	0027	23.14	0.7000	21.25	3.152	0.3582	40	0.60	High	0
050.99	Soluble K2O, Other (12%)	0177	23.16	0.1057	21.25	3.152	0.3582	40	0.61	High	0
050.99	Soluble K2O, Other (12%)	0234	23.45	0.1000	21.25	3.152	0.3582	40	0.70	High	0
050.99	Soluble K2O, Other (12%)	0527	23.51	0.0344	21.25	3.152	0.3582	40	0.72	High	0
050.99	Soluble K2O, Other (12%)	0389	23.65	0.3500	21.25	3.152	0.3582	40	0.76	High	0
050.99	Soluble K2O, Other (12%)	0042	24.62	0.0300	21.25	3.152	0.3582	40	1.07	High	0
050.99	Soluble K2O, Other (12%)	0563	26.31	0.2811	21.25	3.152	0.3582	40	1.60	High	0
050.99	Soluble K2O, Other (12%)	0537	27.91	0.3600	21.25	3.152	0.3582	40	2.11	High	0
050.99	Soluble K2O, Other (12%)	0433	44.70	0.3400	21.25	3.152	0.3582	40	7.44	High	0
050.99	Soluble K2O, Other (12%)	0515	18.89	2.583	21.25	3.152	0.3582	40	-0.75	Low	1
050.99	Soluble K2O, Other (12%)	0325	24.05	3.300	21.25	3.152	0.3582	40	0.89	High	1
060.00	Water (Free), Vacuum Oven (%)	0513	0.9350	0.0100				1			0
060.99	Water (Free), Other (%)	0510	2.142	0.0057				1			0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	0553	0.1710	0.0000				1			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0354	0.3850	0.0100	0.3988	0.0140	0.0137	3	-0.99		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0568	0.3985	0.0170	0.3988	0.0140	0.0137	3	-0.02		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0035	0.4130	0.0140	0.3988	0.0140	0.0137	3	1.01		0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	0423	0.4085	0.0110				1			0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0563	0.3500	0.0015	0.3951	0.0298	0.0131	5	-1.52		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0421	0.3800	0.0000	0.3951	0.0298	0.0131	5	-0.51		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0527	0.4096	0.0181	0.3951	0.0298	0.0131	5	0.49		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0472	0.4150	0.0300	0.3951	0.0298	0.0131	5	0.67		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0260	0.4210	0.0160	0.3951	0.0298	0.0131	5	0.87		0
101.99	Acid Soluble Ca, Other (%)	0389	0.3450	0.0100				2			0
101.99	Acid Soluble Ca, Other (%)	0572	0.3456	0.0124				2			0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	0553	0.8950	0.0000				1			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0568	0.7785	0.0050	0.8376	0.0407	0.0143	4	-1.45		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0444	0.8450	0.0100	0.8376	0.0407	0.0143	4	0.18		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0035	0.8570	0.0420	0.8376	0.0407	0.0143	4	0.48		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	0.8700	0.0000	0.8376	0.0407	0.0143	4	0.80		0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0423	0.8380	0.0400				1			0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0515	0.6900	0.1080	0.8447	0.1163	0.0389	6	-1.18	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0563	0.7960	0.0176	0.8447	0.1163	0.0389	6	-0.37	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0260	0.8280	0.0140	0.8447	0.1163	0.0389	6	-0.13	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0421	0.8550	0.0100	0.8447	0.1163	0.0389	6	0.08	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0472	0.9050	0.0700	0.8447	0.1163	0.0389	6	0.46	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0527	0.9941	0.0139	0.8447	0.1163	0.0389	6	1.14	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				
121.99	Acid Soluble Mg, Other (%)	0515	0.6176	0.1109	0.7380	0.1106	0.0367	4	-1.09		0
121.99	Acid Soluble Mg, Other (%)	0572	0.7139	0.0228	0.7380	0.1106	0.0367	4	-0.22		0
121.99	Acid Soluble Mg, Other (%)	0524	0.7357	0.0030	0.7380	0.1106	0.0367	4	-0.02		0
121.99	Acid Soluble Mg, Other (%)	0389	0.8850	0.0100	0.7380	0.1106	0.0367	4	1.33		0
131.99	Water Soluble Mg, Other (%)	0572	0.4490	0.0148				1			0
143.00	Elemental S, Gravimetric Sulfur - carbon disulfide soluble sulfur (%)	0485	0.5865	0.1670				1			0
143.99	Elemental S, Other (%)	0255	1.151	0.0440	1.298	0.1523	0.0398	4	-0.97		0
143.99	Elemental S, Other (%)	0389	1.210	0.1000	1.298	0.1523	0.0398	4	-0.58		0
143.99	Elemental S, Other (%)	0368	1.336	0.0052	1.298	0.1523	0.0398	4	0.25		0
143.99	Elemental S, Other (%)	0325	1.495	0.0100	1.298	0.1523	0.0398	4	1.29		0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0485	0.7095	0.0830				1			0
145.99	Sulfate S, HCl soluble, Other (%)	0553	0.7005	0.0050	1.007	0.2657	0.0483	3	-1.15		0
145.99	Sulfate S, HCl soluble, Other (%)	0539	1.145	0.0900	1.007	0.2657	0.0483	3	0.52		0
145.99	Sulfate S, HCl soluble, Other (%)	0535	1.175	0.0500	1.007	0.2657	0.0483	3	0.63		0
148.00	Total S, Combustion (%)	0451	1.289	0.0640				2			0
148.00	Total S, Combustion (%)	0136	1.310	0.0000				2			0
148.01	Total S, Gravimetric - sulfate and elemental (%)	0485	1.275	0.1300				1			0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0515	0.8046	0.0125	1.160	0.2070	0.0384	5	-1.72		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0472	1.160	0.0200	1.160	0.2070	0.0384	5	0.00		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0421	1.240	0.0800	1.160	0.2070	0.0384	5	0.38		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0527	1.286	0.0150	1.160	0.2070	0.0384	5	0.61		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0563	1.311	0.0643	1.160	0.2070	0.0384	5	0.73		0
148.99	Total S, Other (%)	0354	0.7600	0.0200	0.9529	0.1766	0.0388	4	-1.09		0
148.99	Total S, Other (%)	0572	0.8591	0.0713	0.9529	0.1766	0.0388	4	-0.53		0
148.99	Total S, Other (%)	0422	1.040	0.0640	0.9529	0.1766	0.0388	4	0.49		0
148.99	Total S, Other (%)	0521	1.153	0.0000	0.9529	0.1766	0.0388	4	1.13		0
149.04	S - HNO3 soluble, ICP (%)	0524	0.9141	0.0216	1.178	0.1583	0.0143	5	-1.67		0
149.04	S - HNO3 soluble, ICP (%)	0519	1.155	0.0100	1.178	0.1583	0.0143	5	-0.14		0
149.04	S - HNO3 soluble, ICP (%)	0423	1.235	0.0300	1.178	0.1583	0.0143	5	0.36		0
149.04	S - HNO3 soluble, ICP (%)	0260	1.275	0.0100	1.178	0.1583	0.0143	5	0.61		0
149.04	S - HNO3 soluble, ICP (%)	0231	1.310	0.0000	1.178	0.1583	0.0143	5	0.83		0
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	0498	1.250	0.1000				1			0
151.30	Acid Soluble As, ICP (ppm)	0524	1.083	0.0211				1			0
151.30	Acid Soluble As, ICP (ppm)	0255	0.0000	0.0000				1			4
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0476	1.349	0.0320				2			0
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0220	1.450	0.1000				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0548	1.014	0.0030	1.323	0.3029	0.0418	4	-1.02		0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0136	1.190	0.0200	1.323	0.3029	0.0418	4	-0.44		0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0563	1.366	0.0559	1.323	0.3029	0.0418	4	0.14		0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0527	1.723	0.0883	1.323	0.3029	0.0418	4	1.32		0
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0368	< 0.3					0			5
151.99	Acid Soluble As, Other (ppm)	0481	0.9600	0.0200	1.856	1.759	0.0436	5	-0.51		0
151.99	Acid Soluble As, Other (ppm)	0519	1.050	0.0800	1.856	1.759	0.0436	5	-0.46		0
151.99	Acid Soluble As, Other (ppm)	0572	1.119	0.0180	1.856	1.759	0.0436	5	-0.42		0
151.99	Acid Soluble As, Other (ppm)	0220	1.150	0.1000	1.856	1.759	0.0436	5	-0.40		0
151.99	Acid Soluble As, Other (ppm)	0405	5.000	0.0000	1.856	1.759	0.0436	5	1.79		0
165.00	Acid Soluble B, Spectrophotometric (%)	0553	0.0060	0.0000				1			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0444	0.0045	0.0010				1			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	< 0.01					1			5
165.99	Acid Soluble B, Other (%)	0515	0.0019	0.0015	0.0039	0.0017	0.0008	4	-1.02		0
165.99	Acid Soluble B, Other (%)	0524	0.0037	0.0002	0.0039	0.0017	0.0008	4	-0.09		0
165.99	Acid Soluble B, Other (%)	0423	0.0040	0.0000	0.0039	0.0017	0.0008	4	0.06		0
165.99	Acid Soluble B, Other (%)	0572	0.0060	0.0013	0.0039	0.0017	0.0008	4	1.05		0
165.99	Acid Soluble B, Other (%)	0421	< 0.001		0.0039	0.0017	0.0008	4			5
165.99	Acid Soluble B, Other (%)	0527	< 0.001		0.0039	0.0017	0.0008	4			5
171.99	Water Soluble B, Other (%)	0444	0.0015	0.0010				2			0
171.99	Water Soluble B, Other (%)	0572	0.0044	0.0003				2			0
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	0498	22.35	1.100				1			0
181.30	Acid Soluble Cd, ICP (ppm)	0444	16.01	0.4500	17.93	2.150	0.6398	5	-0.90		0
181.30	Acid Soluble Cd, ICP (ppm)	0524	16.49	0.0389	17.93	2.150	0.6398	5	-0.67		0
181.30	Acid Soluble Cd, ICP (ppm)	0389	16.65	0.0300	17.93	2.150	0.6398	5	-0.60		0
181.30	Acid Soluble Cd, ICP (ppm)	0035	19.90	0.0000	17.93	2.150	0.6398	5	0.92		0
181.30	Acid Soluble Cd, ICP (ppm)	0255	20.61	2.680	17.93	2.150	0.6398	5	1.25		0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0476	11.50	0.5410				2			0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0220	20.35	0.3000				2			0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0563	20.89	0.0811	27.71	13.65	0.2349	5	-0.44		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0136	21.25	0.7000	27.71	13.65	0.2349	5	-0.41		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0037	21.43	0.2260	27.71	13.65	0.2349	5	-0.40		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0527	22.88	0.1372	27.71	13.65	0.2349	5	-0.31		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0548	52.09	0.0300	27.71	13.65	0.2349	5	1.56		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0515	14.98	12.27	27.71	13.65	0.2349	5	-0.81		1
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0515	6.605	10.67				2			0
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0368	22.10	0.4000				2			0
181.99	Acid Soluble Cd, Other (ppm)	0519	14.25	0.7700	19.15	3.209	0.7596	5	-1.53		0
181.99	Acid Soluble Cd, Other (ppm)	0405	18.40	0.2000	19.15	3.209	0.7596	5	-0.24		0
181.99	Acid Soluble Cd, Other (ppm)	0481	19.71	2.400	19.15	3.209	0.7596	5	0.17		0
181.99	Acid Soluble Cd, Other (ppm)	0220	20.45	0.3000	19.15	3.209	0.7596	5	0.40		0
181.99	Acid Soluble Cd, Other (ppm)	0572	22.97	0.1280	19.15	3.209	0.7596	5	1.19		0
190.00	Water Soluble Cl, Titrimetric (%)	0553	17.35	0.1000				1			0
191.30	Acid Soluble Cr, ICP (ppm)	0389	54.68	2.620	81.57	18.73	1.654	4	-1.44		0
191.30	Acid Soluble Cr, ICP (ppm)	0524	85.79	1.187	81.57	18.73	1.654	4	0.23		0
191.30	Acid Soluble Cr, ICP (ppm)	0444	87.72	1.210	81.57	18.73	1.654	4	0.33		0
191.30	Acid Soluble Cr, ICP (ppm)	0035	98.10	1.600	81.57	18.73	1.654	4	0.88		0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0476	97.87	3.239				2			0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0220	108.0	2.000				2			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0563	92.81	2.471	103.2	8.236	2.219	5	-1.10		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0548	99.25	0.0110	103.2	8.236	2.219	5	-0.42		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0136	101.5	7.100	103.2	8.236	2.219	5	-0.19		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0037	108.7	1.316	103.2	8.236	2.219	5	0.58		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0527	113.9	0.1961	103.2	8.236	2.219	5	1.13		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0515	75.74	62.89	103.2	8.236	2.219	5	-2.91		1
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0515	92.11	16.19				2			0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0368	109.5	1.000				2			0
191.99	Acid Soluble Cr, Other (ppm)	0572	92.26	0.1540	101.7	7.958	1.497	5	-1.18		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				
191.99	Acid Soluble Cr, Other (ppm)	0519	95.22	0.9300	101.7	7.958	1.497	5	-0.81	0	
191.99	Acid Soluble Cr, Other (ppm)	0481	101.9	0.4000	101.7	7.958	1.497	5	0.03	0	
191.99	Acid Soluble Cr, Other (ppm)	0220	109.0	2.000	101.7	7.958	1.497	5	0.92	0	
191.99	Acid Soluble Cr, Other (ppm)	0405	110.0	4.000	101.7	7.958	1.497	5	1.05	0	
202.30	Acid Soluble Co, ICP (ppm)	0389	0.8700	0.0200	1.249	0.3330	0.1511	3	-1.14	0	
202.30	Acid Soluble Co, ICP (ppm)	0035	1.380	0.1200	1.249	0.3330	0.1511	3	0.39	0	
202.30	Acid Soluble Co, ICP (ppm)	0524	1.496	0.3132	1.249	0.3330	0.1511	3	0.74	0	
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0476	0.8075	0.0910	1.241	0.4014	0.0337	3	-1.08	0	
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0423	1.315	0.0100	1.241	0.4014	0.0337	3	0.18	0	
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0220	1.600	0.0000	1.241	0.4014	0.0337	3	0.89	0	
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0548	0.9045	0.0010	1.027	0.1064	0.0149	3	-1.15	0	
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0527	1.077	0.0274	1.027	0.1064	0.0149	3	0.47	0	
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0563	1.099	0.0164	1.027	0.1064	0.0149	3	0.67	0	
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0136	< 5		1.027	0.1064	0.0149	3		5	
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0368	0.6500	0.1000				1		0	
202.99	Acid Soluble Co, Other (ppm)	0572	0.7880	0.0320	2.884	4.175	1.069	5	-0.44	0	
202.99	Acid Soluble Co, Other (ppm)	0519	0.9400	0.3600	2.884	4.175	1.069	5	-0.41	0	
202.99	Acid Soluble Co, Other (ppm)	0405	1.000	0.0000	2.884	4.175	1.069	5	-0.39	0	
202.99	Acid Soluble Co, Other (ppm)	0220	1.350	0.1000	2.884	4.175	1.069	5	-0.32	0	
202.99	Acid Soluble Co, Other (ppm)	0255	10.34	4.854	2.884	4.175	1.069	5	1.56	0	
202.99	Acid Soluble Co, Other (ppm)	0481	< 20		2.884	4.175	1.069	5		5	
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0535	0.0002	0.0001				2		0	
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0539	0.0002	0.0000				2		0	
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0035	0.0002	0.0000				1		0	
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0255	0.0000	0.0000				1		4	
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					1		5	
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0515	0.0006	0.0009				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 (%)	0527	< 0.0001					1		5	
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0136	< 0.0025					1		5	
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0548	< 0.5					1		5	
221.99	Acid Soluble Cu, Other (%)	0405	0.0001	0.0000	0.0003	0.0002	0.0001	4	-0.65	0	
221.99	Acid Soluble Cu, Other (%)	0519	0.0001	0.0000	0.0003	0.0002	0.0001	4	-0.65	0	
221.99	Acid Soluble Cu, Other (%)	0368	0.0003	0.0000	0.0003	0.0002	0.0001	4	0.15	0	
221.99	Acid Soluble Cu, Other (%)	0572	0.0006	0.0003	0.0003	0.0002	0.0001	4	1.14	0	
221.99	Acid Soluble Cu, Other (%)	0515	0.0005	0.0009	0.0003	0.0002	0.0001	4		4	
221.99	Acid Soluble Cu, Other (%)	0481	< 0.001		0.0003	0.0002	0.0001	4		5	
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	0535	0.4250	0.0300	0.4297	0.0081	0.0133	3	-0.58	0	
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	0539	0.4250	0.0100	0.4297	0.0081	0.0133	3	-0.58	0	
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	0553	0.4390	0.0000	0.4297	0.0081	0.0133	3	1.15	0	
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0035	0.4735	0.0130	0.4762	0.0034	0.0077	3	-0.78	0	
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0444	0.4750	0.0100	0.4762	0.0034	0.0077	3	-0.34	0	
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0354	0.4800	0.0000	0.4762	0.0034	0.0077	3	1.13	0	
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	0423	0.4595	0.0010				1		0	
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0563	0.3428	0.0026	0.4439	0.0581	0.0113	5	-1.74	0	
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0515	0.4498	0.0495	0.4439	0.0581	0.0113	5	0.10	0	
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0260	0.4690	0.0040	0.4439	0.0581	0.0113	5	0.43	0	



Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0472	0.4700	0.0000	0.4439	0.0581	0.0113	5	0.45		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0527	0.4879	0.0003	0.4439	0.0581	0.0113	5	0.76		0
241.99	Acid Soluble Fe, Other (%)	0524	0.4186	0.0152	0.4619	0.0399	0.0104	4	-1.09		0
241.99	Acid Soluble Fe, Other (%)	0515	0.4380	0.0032	0.4619	0.0399	0.0104	4	-0.60		0
241.99	Acid Soluble Fe, Other (%)	0389	0.4900	0.0000	0.4619	0.0399	0.0104	4	0.70		0
241.99	Acid Soluble Fe, Other (%)	0572	0.5011	0.0232	0.4619	0.0399	0.0104	4	0.98		0
251.30	Acid Soluble Pb, ICP (ppm)	0389	0.1150	0.0100				2			0
251.30	Acid Soluble Pb, ICP (ppm)	0524	0.2588	0.0384				2			0
251.30	Acid Soluble Pb, ICP (ppm)	0255	0.0000	0.0000				2			4
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0476	0.1805	0.0190				2			0
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0220	0.9000	0.0000				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0548	0.1570	0.0020	1.750	2.705	2.099	3	-0.59		0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0563	0.2198	0.0132	1.750	2.705	2.099	3	-0.57		0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0515	4.874	6.281	1.750	2.705	2.099	3	1.15		0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0527	< 0.0001		1.750	2.705	2.099	3			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0136	< 3		1.750	2.705	2.099	3			5
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0368	< 0.6					0			5
251.99	Acid Soluble Pb, Other (ppm)	0519	0.1800	0.0400	0.2688	0.1245	0.0610	4	-0.71		0
251.99	Acid Soluble Pb, Other (ppm)	0572	0.1950	0.0040	0.2688	0.1245	0.0610	4	-0.59		0
251.99	Acid Soluble Pb, Other (ppm)	0405	0.2500	0.1000	0.2688	0.1245	0.0610	4	-0.15		0
251.99	Acid Soluble Pb, Other (ppm)	0220	0.4500	0.1000	0.2688	0.1245	0.0610	4	1.46		0
251.99	Acid Soluble Pb, Other (ppm)	0481	< 0.5		0.2688	0.1245	0.0610	4			5
261.00	Acid Soluble Mn, AA, Mn2+ only (%)	0553	0.0090	0.0000				1			0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (%)	0535	0.0023	0.0005				2			0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (%)	0539	0.0027	0.0004				2			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0444	0.0055	0.0010				2			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0035	0.0060	0.0007				2			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0354	< 0.01					2			5
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	0423	0.0065	0.0010				1			0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0527	0.0059	0.0001				2			0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0563	0.0059	0.0001				2			0
261.99	Acid Soluble Mn, Other (%)	0572	0.0048	0.0000	0.0066	0.0030	0.0000	3	-0.60		0
261.99	Acid Soluble Mn, Other (%)	0524	0.0050	0.0001	0.0066	0.0030	0.0000	3	-0.55		0
261.99	Acid Soluble Mn, Other (%)	0389	0.0100	0.0000	0.0066	0.0030	0.0000	3	1.15		0
261.99	Acid Soluble Mn, Other (%)	0515	0.0003	0.0006	0.0066	0.0030	0.0000	3			4
271.30	Water Soluble Mn, ICP, Ext. 972.03 (%)	0444	0.0020	0.0020				1			0
281.00	Acid Soluble Hg, AA (ppm)	0481	< 0.5					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0515	0.0000	0.0000				0			4
281.30	Acid Soluble Hg, ICP (ppm)	0527	< 0.0001					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0476	< 0.1					0			5
281.99	Acid Soluble Hg, Other (ppm)	0524	0.0012	0.0001	0.0050	0.0067	0.0026	4	-0.48		0
281.99	Acid Soluble Hg, Other (ppm)	0368	0.0018	0.0001	0.0050	0.0067	0.0026	4	-0.41		0
281.99	Acid Soluble Hg, Other (ppm)	0035	0.0020	0.0000	0.0050	0.0067	0.0026	4	-0.38		0
281.99	Acid Soluble Hg, Other (ppm)	0519	0.0150	0.0100	0.0050	0.0067	0.0026	4	1.27		0
281.99	Acid Soluble Hg, Other (ppm)	0572	< 0.007		0.0050	0.0067	0.0026	4			5
281.99	Acid Soluble Hg, Other (ppm)	0405	< 0.01		0.0050	0.0067	0.0026	4			5
281.99	Acid Soluble Hg, Other (ppm)	0009	< 0.044		0.0050	0.0067	0.0026	4			5

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			Value	Range	Rob Mean	Rob SD	R-bar				
289.30	Acid Soluble Mo, ICP (ppm)	0519	2.045	0.0700	4.271	2.166	0.7196	4	-1.03		0
289.30	Acid Soluble Mo, ICP (ppm)	0035	3.485	0.1500	4.271	2.166	0.7196	4	-0.36		0
289.30	Acid Soluble Mo, ICP (ppm)	0524	4.368	0.0282	4.271	2.166	0.7196	4	0.05		0
289.30	Acid Soluble Mo, ICP (ppm)	0255	7.185	2.630	4.271	2.166	0.7196	4	1.35		0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0476	4.935	0.5400				2			0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0220	5.000	0.4000				2			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0037	5.112	0.1260	5.504	0.5736	0.1107	7	-0.62	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0136	5.115	0.1900	5.504	0.5736	0.1107	7	-0.61	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0423	5.155	0.0900	5.504	0.5736	0.1107	7	-0.55	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0563	5.170	0.0942	5.504	0.5736	0.1107	7	-0.53	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	5.610	0.2730	5.504	0.5736	0.1107	7	0.17	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0106	6.000	0.0000	5.504	0.5736	0.1107	7	0.78	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0548	8.546	0.0020	5.504	0.5736	0.1107	7	4.80	High	0
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0368	6.850	0.7000				1			0
289.99	Acid Soluble Mo, Other (ppm)	0220	5.200	0.2000	5.389	0.1642	0.2623	3	-1.15		0
289.99	Acid Soluble Mo, Other (ppm)	0572	5.466	0.3070	5.389	0.1642	0.2623	3	0.47		0
289.99	Acid Soluble Mo, Other (ppm)	0405	5.500	0.2800	5.389	0.1642	0.2623	3	0.68		0
289.99	Acid Soluble Mo, Other (ppm)	0481	< 100		5.389	0.1642	0.2623	3			5
291.30	Acid Soluble Ni, ICP (ppm)	0524	11.95	0.1856	30.10	28.71	34.40	3	-0.63		0
291.30	Acid Soluble Ni, ICP (ppm)	0035	15.15	0.5000	30.10	28.71	34.40	3	-0.52		0
291.30	Acid Soluble Ni, ICP (ppm)	0444	63.20	102.5	30.10	28.71	34.40	3	1.15		0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0476	6.998	0.8560				2			0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0220	15.60	0.4000				2			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0563	13.39	0.0092	15.21	1.635	0.3211	5	-0.97		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0548	14.13	0.0040	15.21	1.635	0.3211	5	-0.58		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0136	14.80	1.200	15.21	1.635	0.3211	5	-0.22		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0037	16.35	0.2820	15.21	1.635	0.3211	5	0.61		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0527	17.39	0.1103	15.21	1.635	0.3211	5	1.16		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0515	8.607	9.895	15.21	1.635	0.3211	5	-3.53		1
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0368	16.40	0.6000				1			0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0515	4.889	9.777				1			4
291.99	Acid Soluble Ni, Other (ppm)	0519	11.16	0.0100	14.17	2.319	0.1012	5	-1.13		0
291.99	Acid Soluble Ni, Other (ppm)	0481	12.74	0.0300	14.17	2.319	0.1012	5	-0.54		0
291.99	Acid Soluble Ni, Other (ppm)	0572	14.25	0.2660	14.17	2.319	0.1012	5	0.03		0
291.99	Acid Soluble Ni, Other (ppm)	0220	15.70	0.2000	14.17	2.319	0.1012	5	0.58		0
291.99	Acid Soluble Ni, Other (ppm)	0405	17.00	0.0000	14.17	2.319	0.1012	5	1.07		0
291.99	Acid Soluble Ni, Other (ppm)	0255	33.98	4.220	14.17	2.319	0.1012	5	7.46		1
301.30	Acid Soluble Se, ICP (ppm)	0524	0.2710	0.0111				1			0
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0220	0.7000	0.0000				1			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0548	0.6060	0.0020				2			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0563	1.151	0.1072				2			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0515	1.950	3.900				2			4
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0527	< 0.001					2			5
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0368	< 1.1					0			5
301.99	Acid Soluble Se, Other (ppm)	0519	0.4250	0.0300				2			0
301.99	Acid Soluble Se, Other (ppm)	0220	0.5500	0.1000				2			0
301.99	Acid Soluble Se, Other (ppm)	0255	0.0000	0.0000				2			4

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				
301.99	Acid Soluble Se, Other (ppm)	0481	< 0.5					2			5
301.99	Acid Soluble Se, Other (ppm)	0572	< 0.83					2			5
301.99	Acid Soluble Se, Other (ppm)	0405	< 1					2			5
311.00	Sodium, AA (%)	0553	0.4380	0.0000				1			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0035	0.4980	0.0300	0.5174	0.0131	0.0135	4	-1.48		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0260	0.5215	0.0050	0.5174	0.0131	0.0135	4	0.31		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	0.5231	0.0129	0.5174	0.0131	0.0135	4	0.43		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0423	0.5270	0.0060	0.5174	0.0131	0.0135	4	0.73		0
311.99	Sodium, Other (%)	0354	0.5400	0.0000				2			0
311.99	Sodium, Other (%)	0572	0.5536	0.0396				2			0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0553	0.0290	0.0000	0.0298	0.0006	0.0008	4	-1.16		0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0535	0.0295	0.0010	0.0298	0.0006	0.0008	4	-0.39		0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0539	0.0300	0.0010	0.0298	0.0006	0.0008	4	0.39		0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0498	0.0305	0.0010	0.0298	0.0006	0.0008	4	1.16		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0234	0.0197	0.0005	0.0275	0.0047	0.0009	5	-1.69		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0255	0.0270	0.0020	0.0275	0.0047	0.0009	5	-0.11		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0354	0.0300	0.0000	0.0275	0.0047	0.0009	5	0.53		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0444	0.0300	0.0000	0.0275	0.0047	0.0009	5	0.53		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0035	0.0310	0.0018	0.0275	0.0047	0.0009	5	0.75		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0220	0.0270	0.0007	0.0295	0.0023	0.0006	3	-1.09		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0095	0.0300	0.0000	0.0295	0.0023	0.0006	3	0.22		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0423	0.0315	0.0010	0.0295	0.0023	0.0006	3	0.87		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0548	0.0235	0.0010	0.0283	0.0021	0.0007	11	-2.14	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0421	0.0260	0.0000	0.0283	0.0021	0.0007	11	-1.03	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0515	0.0272	0.0001	0.0283	0.0021	0.0007	11	-0.52	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0106	0.0272	0.0008	0.0283	0.0021	0.0007	11	-0.50	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0136	0.0280	0.0020	0.0283	0.0021	0.0007	11	-0.15	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0043	0.0285	0.0010	0.0283	0.0021	0.0007	11	0.07	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0527	0.0291	0.0005	0.0283	0.0021	0.0007	11	0.31	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0260	0.0293	0.0006	0.0283	0.0021	0.0007	11	0.43	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0037	0.0299	0.0003	0.0283	0.0021	0.0007	11	0.67	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0472	0.0300	0.0000	0.0283	0.0021	0.0007	11	0.73	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0563	0.0315	0.0010	0.0283	0.0021	0.0007	11	1.40	OK	0
321.99	Acid Soluble Zn, Other (%)	0476	0.0230	0.0000	0.0276	0.0015	0.0007	9	-2.87	OK	0
321.99	Acid Soluble Zn, Other (%)	0481	0.0260	0.0020	0.0276	0.0015	0.0007	9	-0.98	OK	0
321.99	Acid Soluble Zn, Other (%)	0220	0.0270	0.0002	0.0276	0.0015	0.0007	9	-0.36	OK	0
321.99	Acid Soluble Zn, Other (%)	0515	0.0277	0.0010	0.0276	0.0015	0.0007	9	0.09	OK	0
321.99	Acid Soluble Zn, Other (%)	0524	0.0277	0.0016	0.0276	0.0015	0.0007	9	0.09	OK	0
321.99	Acid Soluble Zn, Other (%)	0389	0.0280	0.0000	0.0276	0.0015	0.0007	9	0.27	OK	0
321.99	Acid Soluble Zn, Other (%)	0572	0.0282	0.0007	0.0276	0.0015	0.0007	9	0.37	OK	0
321.99	Acid Soluble Zn, Other (%)	0368	0.0284	0.0002	0.0276	0.0015	0.0007	9	0.53	OK	0
321.99	Acid Soluble Zn, Other (%)	0405	0.0324	0.0007	0.0276	0.0015	0.0007	9	3.01	OK	0
321.99	Acid Soluble Zn, Other (%)	0519	0.0150	0.0100	0.0276	0.0015	0.0007	9	-7.91	Low	1
325.99	Water Soluble Zn, Other (%)	0572	0.0007	0.0000				1			0
431.99	Soluble Si in nonliquids, Other (%)	0572	< 0.0041					0			5

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

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				

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.