

Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

# Methods: 141

Sample # 240311

Regular PT Scheme

# Labs Reporting: 71

Grade 8-30-4

Statistical Summary

Issue Date : 04/30/2024

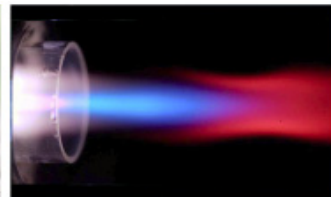
Method Code	Analyte & Method Sample # 240311	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
001.10	Ammoniacal N, Magnesium Oxide Method (%)	1		7.990									
001.99	Ammoniacal N, Other (%)	4	4	7.297	0.6114	7.297		0.6114	0.3821	8.38%		0.0638	2.97%
005.99	Urea N, Other (%)	1		0.2117									
010.12	Total N, Salicylic (8%)	3	3	8.248	0.0500	8.248	0.5550	0.0500	0.0361	0.61%	0.21	0.1745	2.91%
010.17	Total N, Comprehensive (8%)	1		8.075									
010.60	Total N, Combustion (8%)	42	41	8.274	0.1295	8.286	0.5557	0.1135	0.0222	1.37%	0.48	0.0626	2.91%
010.99	Total N, Other (8%)	10	9	8.117	0.1891	8.136	0.5527	0.2162	0.0901	2.66%	0.91	0.0442	2.92%
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	2	2	31.36	0.3422								
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	5	5	30.78	0.7805	30.78		0.7805	0.4363	2.54%		0.2620	1.80%
020.40	Total P2O5, Automated (%)	1		32.00									
020.50	Total P2O5, ICP (%)	22	22	30.79	1.260	30.78		1.366	0.3641	4.44%		0.2733	1.80%
020.99	Total P2O5, Other (%)	5	5	34.53	8.077	34.53		8.077	4.515	23.39%		6.335	1.70%
040.50	Indirect Available P2O5, ICP (30%)	1		31.00									
040.99	Indirect Available P2O5, Other (30%)	1		13.15									
041.10	Direct Available P2O5, Gravimetric Quinolinium (30%)	5	5	30.84	0.4733	30.84	0.7542	0.4733	0.2646	1.53%	1.46	0.2374	1.80%
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA	9	9	30.60	0.4945	30.57	0.7528	0.4865	0.2027	1.59%	1.51	0.3600	1.81%
041.20	Direct Available P2O5, Spectrophotometric (30%)	2	2	30.85	0.5551								
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	6	6	30.02	1.726	29.84	0.7492	1.524	0.7779	5.11%	4.74	0.3020	1.83%
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (30%)	3	3	31.46	0.5353	31.46	0.7573	0.5353	0.3863	1.70%	1.65	0.3400	1.78%
041.50	Direct Available P2O5, ICP (30%)	2	2	36.78	8.673								
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (30%)	5	5	30.48	0.7771	30.48	0.7524	0.7771	0.4344	2.55%	2.41	0.4154	1.81%
041.99	Direct Available P2O5, Other (30%)	6	5	25.01	7.787	26.64	0.7332	7.489	4.186	28.12%	23.80	0.1038	1.94%
048.10	Water Soluble P2O5, Gravimetric Quinolinium (%)	1		27.35									
048.20	Water Soluble P2O5, Spectrophotometric (%)	1		23.03									
048.50	Water Soluble P2O5, ICP (%)	1		27.54									
048.99	Water Soluble P2O5, Other (%)	4	4	26.44	0.6087	26.44		0.6087	0.3804	2.30%		0.2842	1.94%
050.00	Soluble K2O, STPB Oxalate (4%)	9	9	4.551	0.1843	4.561	0.4212	0.1842	0.0767	4.04%	1.02	0.0948	3.18%
050.30	Soluble K2O, AA (Oxalate) (4%)	2	2	4.275	0.4596								
050.32	Soluble K2O, AA (Citrate-EDTA) (4%)	2	2	5.678	1.580								

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050.50	Soluble K2O, ICP (Oxalate) (4%)	6	5	4.395	0.3009	4.315	0.4163	0.2555	0.1428	5.92%	1.43	0.0298	3.21%
050.51	Soluble K2O, ICP (Citrate) (4%)	4	4	5.438	0.9189	5.438	0.4475	0.9189	0.5743	16.90%	4.78	0.5897	3.10%
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	10	10	4.448	0.2845	4.448	0.4190	0.3226	0.1275	7.25%	1.79	0.0856	3.20%
050.61	Soluble K2O, Flame Photometric (Citrate) (4%)	1		4.500									
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (4%)	4	4	4.641	0.1152	4.641	0.4228	0.1152	0.0720	2.48%	0.63	0.0500	3.17%
050.99	Soluble K2O, Other (4%)	33	32	4.359	0.3070	4.359	0.4172	0.3408	0.0753	7.82%	1.90	0.0846	3.20%
060.00	Water (Free), Vacuum Oven (%)	1		0.9000									
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	1		1.865									
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	3	3	1.480	0.2979	1.480	0.2740	0.2979	0.2150	20.13%	2.53	0.0200	3.77%
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	2	2	1.580	0.0134								
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	5	5	1.477	0.0737	1.477	0.2738	0.0737	0.0412	4.99%	0.63	0.0409	3.77%
101.99	Acid Soluble Ca, Other (%)	3	3	1.626	0.4213	1.626	0.2813	0.4213	0.3040	25.90%	3.49	0.0271	3.72%
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	1		1.415									
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	3	3	1.333	0.1025	1.333	0.2667	0.1025	0.0740	7.69%	0.90	0.0200	3.83%
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	3	3	1.333	0.0979	1.333	0.2666	0.0978	0.0706	7.34%	0.86	0.0290	3.83%
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	6	6	1.296	0.1235	1.296	0.2648	0.1401	0.0715	10.81%	1.23	0.0312	3.85%
121.99	Acid Soluble Mg, Other (%)	4	4	1.242	0.2325	1.242	0.2621	0.2325	0.1453	18.71%	2.07	0.0225	3.87%
131.99	Water Soluble Mg, Other (%)	1		0.6262									
143.00	Elemental S, Gravimetric Sulfur - carbon disulfide soluble sulfu	1		4.770									
143.99	Elemental S, Other (%)	4	4	6.516	0.5433	6.516		0.5433	0.3396	8.34%		0.0926	3.02%
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	6	6	4.022	1.328	4.022		1.507	0.7688	37.46%		0.1100	3.24%
145.99	Sulfate S, HCl soluble, Other (%)	3	3	3.687	0.8031	3.687		0.8031	0.5796	21.78%		0.1267	3.29%
148.00	Total S, Combustion (3%)	5	5	6.284	0.6649	6.284	0.5142	0.6649	0.3717	10.58%	3.01	0.0904	3.03%
148.01	Total S, Gravimetric - sulfate and elemental (3%)	6	6	5.109	1.309	5.109	0.4554	1.484	0.7575	29.06%	7.59	0.1842	3.13%
148.07	Total S, ICP, test portion as in 2017.02 (3%)	12	12	6.374	1.163	6.210	0.5105	0.8539	0.3081	13.75%	3.90	0.1227	3.04%
148.99	Total S, Other (3%)	11	10	5.818	1.152	6.027	0.5014	0.9623	0.3804	15.97%	4.47	0.0374	3.05%
149.04	S - HNO3 soluble, ICP (%)	2	2	5.890	0.5876								
151.30	Acid Soluble As, ICP (ppm)	3	2	6.524	5.653	9.786		0.2351	0.2078	2.40%		0.2363	11.35%
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	2	2	10.35	1.626								
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	4	4	11.59	1.656	11.59		1.656	1.035	14.29%		0.9943	11.06%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	2	2	8.573	2.791								
151.99	Acid Soluble As, Other (ppm)	3	3	8.878	0.9905	8.878		0.9905	0.7148	11.16%		0.3720	11.52%
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	2	2	0.1075	0.0106								
165.99	Acid Soluble B, Other (%)	9	8	0.0913	0.0352	0.1039	0.0186	0.0071	0.0031	6.83%	0.89	0.0020	5.62%
171.99	Water Soluble B, Other (%)	1		0.0880									
181.30	Acid Soluble Cd, ICP (ppm)	4	4	4.087	1.673	4.087		1.673	1.046	40.94%		1.321	12.94%
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	2	2	3.150	0.2121								
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	5	3	3.162	1.798	3.540		0.3807	0.2748	10.76%		0.2999	13.23%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	2	1	1.442	1.850								
181.99	Acid Soluble Cd, Other (ppm)	3	3	3.194	0.3117	3.194		0.3117	0.2249	9.76%		0.1765	13.43%

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191.30	Acid Soluble Cr, ICP (ppm)	4	4	61.76	11.84	61.76		11.84	7.397	19.16%		1.821	8.60%
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	2	2	69.88	0.5303								
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	5	5	69.07	4.121	69.07		4.121	2.304	5.97%		2.494	8.46%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	2	2	64.11	4.681								
191.99	Acid Soluble Cr, Other (ppm)	3	3	67.76	14.58	67.76		14.58	10.53	21.52%		1.580	8.48%
202.30	Acid Soluble Co, ICP (ppm)	3	3	4.605	0.3341	4.605	2.3814	0.3341	0.2411	7.26%	0.33	0.3058	12.71%
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	2	2	4.350	0.9192								
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	5	4	3.516	1.909	4.330	2.2990	0.6666	0.4166	15.40%	0.68	0.1918	12.83%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	2	1	1.595	2.058								
202.99	Acid Soluble Co, Other (ppm)	3	2	5.810	4.030	3.505	2.0514	0.7712	0.6816	22.00%	0.88	0.0823	13.25%
221.00	Acid Soluble Cu, AA, inorganic 965.09 (0.6%)	5	5	0.1307	0.1154	0.1307	0.0181	0.1154	0.0645	88.34%	14.89	0.0043	5.43%
221.03	Acid Soluble Cu, AA, 965.09, test portion 2006.03A-C w/dual ε	1		0.0900									
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (0.6%)	13	12	0.2079	0.2631	0.0903	0.0140	0.0233	0.0084	25.80%	3.87	0.0044	5.74%
221.31	Acid Soluble Cu, ICP, test portion organic 965.09 (0.6%)	1		0.0830									
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (0.6%)	4	4	0.0795	0.0029	0.0795	0.0130	0.0029	0.0018	3.63%	0.52	0.0000	5.85%
221.33	Acid Soluble Cu, ICP, 2017.02 (0.6%)	11	11	0.0788	0.0083	0.0795	0.0130	0.0075	0.0028	9.48%	1.36	0.0046	5.85%
221.99	Acid Soluble Cu, Other (0.6%)	16	15	0.1919	0.2442	0.0905	0.0141	0.0273	0.0088	30.11%	4.52	0.0029	5.74%
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	4	4	0.8613	0.1900	0.8613	0.0911	0.1900	0.1187	22.06%	4.86	0.0327	4.09%
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	3	3	0.7502	0.0178	0.7502	0.0800	0.0178	0.0128	2.37%	0.52	0.0063	4.18%
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	5	5	0.7521	0.0434	0.7521	0.0802	0.0434	0.0242	5.77%	1.26	0.0246	4.17%
241.99	Acid Soluble Fe, Other (%)	3	3	0.7178	0.0264	0.7178	0.0768	0.0264	0.0190	3.67%	0.80	0.0562	4.20%
251.30	Acid Soluble Pb, ICP (ppm)	4	2	1.995	2.138	1.491		0.4443	0.3927	29.80%		0.0197	15.06%
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	2	1	4.025	0.0354								
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	5	2	3.206	2.299	3.910		2.814	2.487	71.97%		1.006	13.03%
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	2	2	3.212	0.6191								
251.99	Acid Soluble Pb, Other (ppm)	3	3	2.642	1.315	2.642		1.315	0.9491	49.78%		0.0750	13.82%
261.11	Acid Soluble Mn, AA, total Mn (0.5%)	1		0.1390									
261.12	Acid Soluble Mn, AA, inorganic 965.09 (0.5%)	4	4	0.2251	0.2042	0.2251	0.0275	0.2042	0.1276	90.74%	17.30	0.0051	5.01%
261.15	Acid Soluble Mn, AA, 965.09, test portion 2006.03A-C w/dual ε	1		0.1000									
261.30	Acid Soluble Mn, ICP, test portion 972.02a (0.5%)	5	5	0.1371	0.0053	0.1371	0.0187	0.0053	0.0029	3.85%	0.66	0.0057	5.39%
261.31	Acid Soluble Mn, ICP, test portion 972.02b (0.5%)	1		0.1395									
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (0.5%)	7	6	0.3420	0.4379	0.1376	0.0188	0.0128	0.0065	9.27%	1.58	0.0174	5.39%
261.33	Acid Soluble Mn, ICP, test portion organic 965.09 (0.5%)	1		0.1445									
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (0.5%)	3	3	0.1323	0.0024	0.1323	0.0182	0.0024	0.0017	1.82%	0.31	0.0040	5.42%
261.35	Acid Soluble Mn, ICP, 2017.02 (0.5%)	11	10	0.1304	0.0126	0.1316	0.0182	0.0141	0.0056	10.74%	1.81	0.0040	5.43%
261.50	Acid Soluble Mn, Spectrometric (0.5%)	1		0.5005									
261.99	Acid Soluble Mn, Other (0.5%)	13	12	0.1208	0.0206	0.1223	0.0172	0.0163	0.0059	13.29%	2.20	0.0034	5.49%
271.30	Water Soluble Mn, ICP, Ext. 972.03 (%)	1		0.0670									
271.99	Water Soluble Mn, Other (%)	3	3	0.2243	0.2437	0.2243		0.2437	0.1758	108.61%		0.0030	5.01%
281.00	Acid Soluble Hg, AA (ppm)	1		0.5000									

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281.30	Acid Soluble Hg, ICP (ppm)	3	0	0.7003	1.127	0.2243		0.2437		108.61%		0.0010	20.03%
281.99	Acid Soluble Hg, Other (ppm)	3	3	0.0089	0.0014	0.0089		0.0014	0.0010	15.46%		0.0004	22.00%
289.30	Acid Soluble Mo, ICP (ppm)	6	5	8.569	4.693	10.28	4.0841	2.359	1.318	22.94%	1.35	0.6449	11.26%
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	2	2	12.58	0.6010								
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	7	7	13.21	2.305	12.97	4.8915	2.030	0.9593	15.65%	0.97	1.605	10.88%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	2	2	12.28	0.7361								
289.99	Acid Soluble Mo, Other (ppm)	2	2	12.41	0.3617								
291.30	Acid Soluble Ni, ICP (ppm)	4	4	13.76	1.322	13.76		1.322	0.8261	9.61%		0.5397	10.78%
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	2	2	14.08	0.6010								
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	5	5	14.02	2.242	14.02		2.242	1.253	15.99%		2.017	10.75%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	2	2	12.37	0.2546								
291.99	Acid Soluble Ni, Other (ppm)	3	3	23.74	20.41	23.74		20.41	14.73	85.97%		9.691	9.93%
301.30	Acid Soluble Se, ICP (ppm)	3	3	1.533	0.8473	1.533		0.8473	0.6115	55.27%		0.0735	15.00%
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	2	0	5.150	6.859								
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	3	0	1.757	2.812	1.533		0.8473		55.27%		0.0300	15.00%
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	2	1	1.174	0.2461								
301.99	Acid Soluble Se, Other (ppm)	4	2	3.652	5.563	6.904		7.107	6.282	102.95%		5.611	11.96%
311.00	Sodium, AA (%)	1		0.2735									
311.33	Sodium, ICP, test portion as in 2017.02 (%)	4	4	0.3582	0.0253	0.3582	0.0408	0.0253	0.0158	7.05%	1.44	0.0072	4.67%
311.99	Sodium, Other (%)	2	2	0.3664	0.1041								
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.1%)	4	4	0.1601	0.0654	0.1601	0.0210	0.0654	0.0409	40.85%	7.25	0.0062	5.27%
321.03	Acid Soluble Zn, AA, 965.09, test portion 2006.03A-C w/dual a	1		0.2450									
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.1%)	13	12	0.4077	0.5396	0.2372	0.0287	0.0226	0.0082	9.53%	1.83	0.0052	4.97%
321.31	Acid Soluble Zn, ICP, test portion organic 965.09 (0.1%)	1		0.2670									
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (0.1%)	4	4	0.2311	0.0079	0.2311	0.0281	0.0079	0.0050	3.43%	0.66	0.0050	4.99%
321.33	Acid Soluble Zn, ICP, 2017.02 (0.1%)	13	12	0.2239	0.0155	0.2234	0.0273	0.0134	0.0048	6.00%	1.14	0.0059	5.01%
321.99	Acid Soluble Zn, Other (0.1%)	16	15	0.2177	0.0569	0.2185	0.0269	0.0382	0.0123	17.50%	3.32	0.0074	5.03%
325.30	Water Soluble Zn, ICP (%)	1		0.0480									
325.99	Water Soluble Zn, Other (%)	4	4	0.0907	0.0711	0.0907		0.0711	0.0445	78.44%		0.0105	5.74%
431.99	Soluble Si in nonliquids, Other (%)	1		0.0070									
441.00	Humic Acids, Gravimetry, Ash-free, alkali dissolved, acid precip	1		0.1000									
441.10	Humic Acids, Gravimetry, alkali dissolved, acid precipitated (%)	1		4.998									

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.



Method PT For All Labs

### Magruder Fertilizer Proficiency Testing Program

Sample # 240311

Regular PT Scheme

Grade 8-30-4

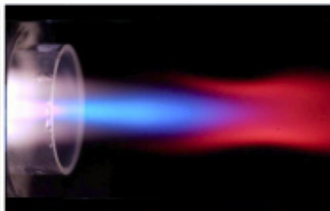
### Method Precision Report

Issue Date : 04/30/2024

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
010.60	Total N, Combustion (8%)	42	41	8.282	0.1207	0.1123	0.0625	0.1285	1.36%	0.75%	1.55%	2.056
010.99	Total N, Other (8%)	10	8	8.122	0.1990	0.1978	0.0305	0.2002	2.44%	0.38%	2.46%	6.571
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	5	5	30.78	0.7805	0.7606	0.2481	0.8000	2.47%	0.81%	2.60%	3.224
020.50	Total P2O5, ICP (%)	22	22	30.79	1.260	1.249	0.2337	1.271	4.06%	0.76%	4.13%	5.438
041.10	Direct Available P2O5, Gravimetric Quinolinium (30%)	5	5	30.84	0.4733	0.4458	0.2245	0.4992	1.45%	0.73%	1.62%	2.223
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA E	9	9	30.60	0.4945	0.4355	0.3312	0.5472	1.42%	1.08%	1.79%	1.652
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (:	6	6	30.02	1.726	1.716	0.2543	1.735	5.72%	0.85%	5.78%	6.821
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (30%)	5	5	30.48	0.7771	0.7121	0.4401	0.8371	2.34%	1.44%	2.75%	1.902
041.99	Direct Available P2O5, Other (30%)	6	5	26.64	7.489	7.489	0.0835	7.489	28.12%	0.31%	28.12%	89.65
050.00	Soluble K2O, STPB Oxalate (4%)	9	9	4.551	0.1843	0.1743	0.0844	0.1937	3.83%	1.86%	4.26%	2.294
050.50	Soluble K2O, ICP (Oxalate) (4%)	6	5	4.315	0.2555	0.2549	0.0242	0.2561	5.91%	0.56%	5.93%	10.58
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	10	10	4.448	0.2845	0.2794	0.0759	0.2895	6.28%	1.71%	6.51%	3.813
050.99	Soluble K2O, Other (4%)	33	31	4.373	0.3120	0.3074	0.0754	0.3165	7.03%	1.73%	7.24%	4.195
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	6	5	1.335	0.0891	0.0881	0.0189	0.0900	6.60%	1.41%	6.75%	4.776
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	6	6	4.022	1.328	1.327	0.1002	1.330	32.99%	2.49%	33.08%	13.27
148.00	Total S, Combustion (3%)	5	5	6.284	0.6649	0.6629	0.0728	0.6669	10.55%	1.16%	10.61%	9.155
148.01	Total S, Gravimetric - sulfate and elemental (3%)	6	6	5.109	1.309	1.304	0.1575	1.314	25.53%	3.08%	25.71%	8.343
148.07	Total S, ICP, test portion as in 2017.02 (3%)	12	11	6.093	0.6669	0.6638	0.0907	0.6699	10.89%	1.49%	10.99%	7.384
148.99	Total S, Other (3%)	11	8	6.320	0.6445	0.6443	0.0253	0.6448	10.19%	0.40%	10.20%	25.46
165.99	Acid Soluble B, Other (%)	9	8	0.1027	0.0089	0.0089	0.0014	0.0090	8.62%	1.38%	8.73%	6.318
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	5	5	69.07	4.121	3.808	2.227	4.411	5.51%	3.22%	6.39%	1.981
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (0.6%)	13	11	0.1034	0.0681	0.0681	0.0033	0.0682	65.81%	3.17%	65.89%	20.80
221.33	Acid Soluble Cu, ICP, 2017.02 (0.6%)	11	10	0.0807	0.0058	0.0051	0.0039	0.0064	6.32%	4.80%	7.93%	1.654
221.99	Acid Soluble Cu, Other (0.6%)	16	13	0.1203	0.1447	0.1447	0.0017	0.1447	120.29%	1.45%	120.30%	83.11
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	5	5	0.7521	0.0434	0.0414	0.0182	0.0452	5.51%	2.42%	6.02%	2.481
261.30	Acid Soluble Mn, ICP, test portion 972.02a (0.5%)	5	5	0.1371	0.0053	0.0046	0.0036	0.0059	3.37%	2.62%	4.27%	1.629

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
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (0.5%)	7	5	0.1338	0.0070	0.0068	0.0023	0.0071	5.06%	1.70%	5.34%	3.135
261.35	Acid Soluble Mn, ICP, 2017.02 (0.5%)	11	10	0.1315	0.0127	0.0124	0.0035	0.0129	9.46%	2.63%	9.82%	3.739
261.99	Acid Soluble Mn, Other (0.5%)	13	11	0.1245	0.0127	0.0126	0.0021	0.0128	10.12%	1.70%	10.27%	6.031
289.30	Acid Soluble Mo, ICP (ppm)	6	5	10.28	2.359	2.343	0.3793	2.374	22.79%	3.69%	23.09%	6.257
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	7	7	13.21	2.305	1.941	1.758	2.618	14.69%	13.30%	19.82%	1.490
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	5	5	14.02	2.242	1.867	1.754	2.562	13.32%	12.51%	18.27%	1.460
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.1%)	13	12	0.2600	0.0913	0.0913	0.0041	0.0913	35.09%	1.58%	35.13%	22.27
321.33	Acid Soluble Zn, ICP, 2017.02 (0.1%)	13	11	0.2254	0.0107	0.0101	0.0048	0.0112	4.48%	2.15%	4.97%	2.309
321.99	Acid Soluble Zn, Other (0.1%)	16	15	0.2119	0.0538	0.0536	0.0069	0.0540	25.27%	3.25%	25.48%	7.842

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



Method PT For All Labs

### Magruder Fertilizer Proficiency Testing Program

# Methods: 141

Sample # 240311

Regular PT Scheme

# Labs Reporting: 71

Grade 8-30-4

Lab Values

Issue Date : 04/30/2024

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0444	7.990	0.0200				1			0
001.99	Ammoniacal N, Other (%)	0423	6.790	0.1000	7.297	0.6114	0.0638	4	-0.83		0
001.99	Ammoniacal N, Other (%)	0553	6.900	0.0200	7.297	0.6114	0.0638	4	-0.65		0
001.99	Ammoniacal N, Other (%)	0524	7.365	0.0450	7.297	0.6114	0.0638	4	0.11		0
001.99	Ammoniacal N, Other (%)	0549	8.135	0.0900	7.297	0.6114	0.0638	4	1.37		0
005.99	Urea N, Other (%)	0524	0.2117	0.0214				1			0
010.12	Total N, Salicylic (8%)	0572	8.193	0.2180	8.248	0.0500	0.1745	3	-1.10		0
010.12	Total N, Salicylic (8%)	0568	8.260	0.0000	8.248	0.0500	0.1745	3	0.25		0
010.12	Total N, Salicylic (8%)	0117	8.290	0.1309	8.248	0.0500	0.1745	3	0.85		0
010.17	Total N, Comprehensive (8%)	0635	8.075	0.0300				1			0
010.60	Total N, Combustion (8%)	0255	7.964	0.1390	8.286	0.1135	0.0626	41	-2.85	OK	0
010.60	Total N, Combustion (8%)	0472	8.053	0.0080	8.286	0.1135	0.0626	41	-2.06	OK	0
010.60	Total N, Combustion (8%)	0534	8.065	0.0100	8.286	0.1135	0.0626	41	-1.95	OK	0
010.60	Total N, Combustion (8%)	0423	8.090	0.0200	8.286	0.1135	0.0626	41	-1.73	OK	0
010.60	Total N, Combustion (8%)	0095	8.125	0.1100	8.286	0.1135	0.0626	41	-1.42	OK	0
010.60	Total N, Combustion (8%)	0527	8.142	0.0110	8.286	0.1135	0.0626	41	-1.28	OK	0
010.60	Total N, Combustion (8%)	0368	8.165	0.0490	8.286	0.1135	0.0626	41	-1.07	OK	0
010.60	Total N, Combustion (8%)	0402	8.211	0.0460	8.286	0.1135	0.0626	41	-0.66	OK	0
010.60	Total N, Combustion (8%)	0543	8.216	0.0050	8.286	0.1135	0.0626	41	-0.63	OK	0
010.60	Total N, Combustion (8%)	0561	8.220	0.0200	8.286	0.1135	0.0626	41	-0.59	OK	0
010.60	Total N, Combustion (8%)	0027	8.225	0.2100	8.286	0.1135	0.0626	41	-0.54	OK	0
010.60	Total N, Combustion (8%)	0523	8.227	0.0500	8.286	0.1135	0.0626	41	-0.52	OK	0
010.60	Total N, Combustion (8%)	0055	8.233	0.0650	8.286	0.1135	0.0626	41	-0.48	OK	0
010.60	Total N, Combustion (8%)	0494	8.240	0.1600	8.286	0.1135	0.0626	41	-0.41	OK	0
010.60	Total N, Combustion (8%)	0177	8.250	0.0290	8.286	0.1135	0.0626	41	-0.33	OK	0
010.60	Total N, Combustion (8%)	0521	8.253	0.0000	8.286	0.1135	0.0626	41	-0.30	OK	0
010.60	Total N, Combustion (8%)	0136	8.255	0.1300	8.286	0.1135	0.0626	41	-0.28	OK	0
010.60	Total N, Combustion (8%)	0354	8.255	0.1100	8.286	0.1135	0.0626	41	-0.28	OK	0
010.60	Total N, Combustion (8%)	0451	8.271	0.0230	8.286	0.1135	0.0626	41	-0.14	OK	0
010.60	Total N, Combustion (8%)	0307	8.280	0.2000	8.286	0.1135	0.0626	41	-0.06	OK	0
010.60	Total N, Combustion (8%)	0040	8.300	0.2000	8.286	0.1135	0.0626	41	0.12	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
010.60	Total N, Combustion (8%)	0073	8.305	0.0300	8.286	0.1135	0.0626	41	0.16	OK	0
010.60	Total N, Combustion (8%)	0619	8.310	0.0600	8.286	0.1135	0.0626	41	0.21	OK	0
010.60	Total N, Combustion (8%)	0106	8.315	0.0500	8.286	0.1135	0.0626	41	0.25	OK	0
010.60	Total N, Combustion (8%)	0324	8.315	0.0300	8.286	0.1135	0.0626	41	0.25	OK	0
010.60	Total N, Combustion (8%)	0029	8.319	0.0550	8.286	0.1135	0.0626	41	0.28	OK	0
010.60	Total N, Combustion (8%)	0086	8.329	0.0084	8.286	0.1135	0.0626	41	0.37	OK	0
010.60	Total N, Combustion (8%)	0102	8.350	0.0200	8.286	0.1135	0.0626	41	0.56	OK	0
010.60	Total N, Combustion (8%)	0035	8.350	0.1000	8.286	0.1135	0.0626	41	0.56	OK	0
010.60	Total N, Combustion (8%)	0220	8.350	0.0800	8.286	0.1135	0.0626	41	0.56	OK	0
010.60	Total N, Combustion (8%)	0291	8.365	0.0100	8.286	0.1135	0.0626	41	0.69	OK	0
010.60	Total N, Combustion (8%)	0131	8.370	0.0286	8.286	0.1135	0.0626	41	0.74	OK	0
010.60	Total N, Combustion (8%)	0234	8.375	0.0300	8.286	0.1135	0.0626	41	0.78	OK	0
010.60	Total N, Combustion (8%)	0405	8.385	0.0300	8.286	0.1135	0.0626	41	0.87	OK	0
010.60	Total N, Combustion (8%)	0588	8.385	0.0900	8.286	0.1135	0.0626	41	0.87	OK	0
010.60	Total N, Combustion (8%)	0049	8.390	0.0600	8.286	0.1135	0.0626	41	0.91	OK	0
010.60	Total N, Combustion (8%)	0114	8.395	0.1590	8.286	0.1135	0.0626	41	0.95	OK	0
010.60	Total N, Combustion (8%)	0422	8.440	0.0200	8.286	0.1135	0.0626	41	1.35	OK	0
010.60	Total N, Combustion (8%)	0377	8.455	0.0100	8.286	0.1135	0.0626	41	1.48	OK	0
010.60	Total N, Combustion (8%)	0542	8.458	0.1480	8.286	0.1135	0.0626	41	1.51	OK	0
010.60	Total N, Combustion (8%)	0421	8.570	0.0800	8.286	0.1135	0.0626	41	2.50	OK	0
010.60	Total N, Combustion (8%)	0023	7.954	0.3090	8.286	0.1135	0.0626	41	-2.93	OK	1
010.99	Total N, Other (8%)	0517	7.845	0.0500	8.136	0.2162	0.0442	9	-1.24	OK	0
010.99	Total N, Other (8%)	0560	7.970	0.0200	8.136	0.2162	0.0442	9	-0.71	OK	0
010.99	Total N, Other (8%)	0444	7.990	0.0200	8.136	0.2162	0.0442	9	-0.62	OK	0
010.99	Total N, Other (8%)	0600	8.050	0.0600	8.136	0.2162	0.0442	9	-0.37	OK	0
010.99	Total N, Other (8%)	0513	8.160	0.0200	8.136	0.2162	0.0442	9	0.10	OK	0
010.99	Total N, Other (8%)	0564	8.195	0.0300	8.136	0.2162	0.0442	9	0.25	OK	0
010.99	Total N, Other (8%)	0537	8.245	0.1500	8.136	0.2162	0.0442	9	0.47	OK	0
010.99	Total N, Other (8%)	0619	8.310	0.0600	8.136	0.2162	0.0442	9	0.74	OK	0
010.99	Total N, Other (8%)	0524	8.458	0.0552	8.136	0.2162	0.0442	9	1.37	OK	0
010.99	Total N, Other (8%)	0518	7.950	0.3000	8.136	0.2162	0.0442	9	-0.79	OK	1
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0114	31.12	0.1911				2			0
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0619	31.60	0.2000				2			0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0534	29.53	0.0200	30.78	0.7805	0.2620	5	-1.60		0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0481	30.51	0.5700	30.78	0.7805	0.2620	5	-0.35		0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0561	31.22	0.0200	30.78	0.7805	0.2620	5	0.56		0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0324	31.25	0.5000	30.78	0.7805	0.2620	5	0.60		0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0498	31.40	0.2000	30.78	0.7805	0.2620	5	0.79		0
020.40	Total P2O5, Automated (%)	0035	32.00	0.0000				1			0
020.50	Total P2O5, ICP (%)	0389	28.56	0.1200	30.78	1.366	0.2733	22	-1.62	NA	0
020.50	Total P2O5, ICP (%)	0552	28.97	0.2100	30.78	1.366	0.2733	22	-1.33	NA	0
020.50	Total P2O5, ICP (%)	0543	29.11	0.1150	30.78	1.366	0.2733	22	-1.22	NA	0
020.50	Total P2O5, ICP (%)	0423	29.62	0.3100	30.78	1.366	0.2733	22	-0.85	NA	0



Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
020.50	Total P2O5, ICP (%)	0472	29.68	0.0200	30.78	1.366	0.2733	22	-0.80	NA	0
020.50	Total P2O5, ICP (%)	0588	29.81	0.3780	30.78	1.366	0.2733	22	-0.71	NA	0
020.50	Total P2O5, ICP (%)	0524	29.85	0.4876	30.78	1.366	0.2733	22	-0.68	NA	0
020.50	Total P2O5, ICP (%)	0637	30.28	0.2830	30.78	1.366	0.2733	22	-0.37	NA	0
020.50	Total P2O5, ICP (%)	0521	30.38	0.0000	30.78	1.366	0.2733	22	-0.29	NA	0
020.50	Total P2O5, ICP (%)	0433	30.71	0.5500	30.78	1.366	0.2733	22	-0.05	NA	0
020.50	Total P2O5, ICP (%)	0451	30.75	0.1700	30.78	1.366	0.2733	22	-0.02	NA	0
020.50	Total P2O5, ICP (%)	0527	30.84	0.0845	30.78	1.366	0.2733	22	0.04	NA	0
020.50	Total P2O5, ICP (%)	0444	30.94	0.2700	30.78	1.366	0.2733	22	0.12	NA	0
020.50	Total P2O5, ICP (%)	0291	31.13	0.0100	30.78	1.366	0.2733	22	0.25	NA	0
020.50	Total P2O5, ICP (%)	0402	31.21	0.1860	30.78	1.366	0.2733	22	0.31	NA	0
020.50	Total P2O5, ICP (%)	0255	31.37	0.0460	30.78	1.366	0.2733	22	0.44	NA	0
020.50	Total P2O5, ICP (%)	0501	31.62	0.3800	30.78	1.366	0.2733	22	0.62	NA	0
020.50	Total P2O5, ICP (%)	0542	31.96	0.7040	30.78	1.366	0.2733	22	0.87	NA	0
020.50	Total P2O5, ICP (%)	0368	32.28	0.2514	30.78	1.366	0.2733	22	1.10	NA	0
020.50	Total P2O5, ICP (%)	0234	32.38	0.5500	30.78	1.366	0.2733	22	1.17	NA	0
020.50	Total P2O5, ICP (%)	0422	32.69	0.5300	30.78	1.366	0.2733	22	1.40	NA	0
020.50	Total P2O5, ICP (%)	0523	33.30	0.2000	30.78	1.366	0.2733	22	1.85	NA	0
020.99	Total P2O5, Other (%)	0513	30.54	0.1000	34.53	8.077	6.335	5	-0.49		0
020.99	Total P2O5, Other (%)	0572	30.67	1.203	34.53	8.077	6.335	5	-0.48		0
020.99	Total P2O5, Other (%)	0564	30.88	0.0500	34.53	8.077	6.335	5	-0.45		0
020.99	Total P2O5, Other (%)	0619	31.60	0.2000	34.53	8.077	6.335	5	-0.36		0
020.99	Total P2O5, Other (%)	0515	48.96	30.12	34.53	8.077	6.335	5	1.79		0
040.50	Indirect Available P2O5, ICP (30%)	0547	31.00	0.2000				1			0
040.99	Indirect Available P2O5, Other (30%)	0572	13.15	0.4900				1			0
041.10	Direct Available P2O5, Gravimetric Quinolinium (30%)	0635	30.05	0.0400	30.84	0.4733	0.2374	5	-1.66		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (30%)	0177	30.86	0.0868	30.84	0.4733	0.2374	5	0.05		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (30%)	0040	30.95	0.5000	30.84	0.4733	0.2374	5	0.24		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (30%)	0102	31.00	0.4900	30.84	0.4733	0.2374	5	0.33		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (30%)	0494	31.33	0.0700	30.84	0.4733	0.2374	5	1.03		0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0185	30.01	0.7800	30.57	0.4865	0.3600	9	-1.06	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0405	30.14	0.0200	30.57	0.4865	0.3600	9	-0.81	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0517	30.22	0.0500	30.57	0.4865	0.3600	9	-0.67	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0513	30.39	0.0500	30.57	0.4865	0.3600	9	-0.35	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0485	30.60	0.8000	30.57	0.4865	0.3600	9	0.06	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0073	30.62	0.5800	30.57	0.4865	0.3600	9	0.10	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0220	30.79	0.1100	30.57	0.4865	0.3600	9	0.41	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0055	31.06	0.3500	30.57	0.4865	0.3600	9	0.93	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0049	31.58	0.5000	30.57	0.4865	0.3600	9	1.92	High	0
041.20	Direct Available P2O5, Spectrophotometric (30%)	0553	30.46	0.0400				2			0
041.20	Direct Available P2O5, Spectrophotometric (30%)	0027	31.25	0.4900				2			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0106	28.49	0.1000	29.84	1.524	0.3020	6	-0.79	Low	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0095	29.14	0.7100	29.84	1.524	0.3020	6	-0.41	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0055	29.21	0.1100	29.84	1.524	0.3020	6	-0.37	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0472	29.35	0.4900	29.84	1.524	0.3020	6	-0.29	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0354	30.75	0.1000	29.84	1.524	0.3020	6	0.53	High	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0568	33.20	0.0000	29.84	1.524	0.3020	6	1.96	High	0
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (30%)	0029	30.88	0.1400	31.46	0.5353	0.3400	3	-1.08		0
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (30%)	0028	31.57	0.8500	31.46	0.5353	0.3400	3	0.20		0
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (30%)	0034	31.94	0.0300	31.46	0.5353	0.3400	3	0.89		0
041.50	Direct Available P2O5, ICP (30%)	0421	30.65	0.5000				2			0
041.50	Direct Available P2O5, ICP (30%)	0131	42.92	0.0700				2			0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (30%)	0423	29.44	0.0050	30.48	0.7771	0.4154	5	-1.34		0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (30%)	0377	29.89	1.270	30.48	0.7771	0.4154	5	-0.76		0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (30%)	0136	30.85	0.5000	30.48	0.7771	0.4154	5	0.48		0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (30%)	0494	30.93	0.2700	30.48	0.7771	0.4154	5	0.58		0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (30%)	0023	31.28	0.0320	30.48	0.7771	0.4154	5	1.04		0
041.99	Direct Available P2O5, Other (30%)	0572	13.25	0.0300	26.64	7.489	0.1038	5	-1.56		0
041.99	Direct Available P2O5, Other (30%)	0518	29.60	0.2000	26.64	7.489	0.1038	5	0.35		0
041.99	Direct Available P2O5, Other (30%)	0560	30.03	0.1090	26.64	7.489	0.1038	5	0.40		0
041.99	Direct Available P2O5, Other (30%)	0600	30.10	0.1100	26.64	7.489	0.1038	5	0.40		0
041.99	Direct Available P2O5, Other (30%)	0549	30.21	0.0700	26.64	7.489	0.1038	5	0.42		0
041.99	Direct Available P2O5, Other (30%)	0537	16.91	26.68	26.64	7.489	0.1038	5	-1.13		1
048.10	Water Soluble P2O5, Gravimetric Quinolinium (%)	0619	27.35	0.5000				1			0
048.20	Water Soluble P2O5, Spectrophotometric (%)	0472	23.03	0.4700				1			0
048.50	Water Soluble P2O5, ICP (%)	0444	27.54	0.1000				1			0
048.99	Water Soluble P2O5, Other (%)	0517	26.08	0.1900	26.44	0.6087	0.2842	4	-0.60		0
048.99	Water Soluble P2O5, Other (%)	0513	26.14	0.0800	26.44	0.6087	0.2842	4	-0.49		0
048.99	Water Soluble P2O5, Other (%)	0572	26.19	0.3669	26.44	0.6087	0.2842	4	-0.40		0
048.99	Water Soluble P2O5, Other (%)	0619	27.35	0.5000	26.44	0.6087	0.2842	4	1.50		0
050.00	Soluble K2O, STPB Oxalate (4%)	0405	4.190	0.0200	4.561	0.1842	0.0948	9	-1.86	OK	0
050.00	Soluble K2O, STPB Oxalate (4%)	0619	4.390	0.0200	4.561	0.1842	0.0948	9	-0.86	OK	0
050.00	Soluble K2O, STPB Oxalate (4%)	0102	4.440	0.0600	4.561	0.1842	0.0948	9	-0.61	OK	0
050.00	Soluble K2O, STPB Oxalate (4%)	0220	4.565	0.0100	4.561	0.1842	0.0948	9	0.02	OK	0
050.00	Soluble K2O, STPB Oxalate (4%)	0049	4.570	0.1400	4.561	0.1842	0.0948	9	0.04	OK	0
050.00	Soluble K2O, STPB Oxalate (4%)	0494	4.625	0.2300	4.561	0.1842	0.0948	9	0.32	OK	0
050.00	Soluble K2O, STPB Oxalate (4%)	0561	4.680	0.1000	4.561	0.1842	0.0948	9	0.59	OK	0
050.00	Soluble K2O, STPB Oxalate (4%)	0055	4.718	0.1250	4.561	0.1842	0.0948	9	0.78	OK	0
050.00	Soluble K2O, STPB Oxalate (4%)	0114	4.781	0.1603	4.561	0.1842	0.0948	9	1.10	OK	0
050.30	Soluble K2O, AA (Oxalate) (4%)	0498	3.950	0.1000				2			0
050.30	Soluble K2O, AA (Oxalate) (4%)	0073	4.600	0.0400				2			0
050.32	Soluble K2O, AA (Citrate-EDTA) (4%)	0472	4.560	0.1400				2			0
050.32	Soluble K2O, AA (Citrate-EDTA) (4%)	0185	6.795	0.8500				2			0
050.50	Soluble K2O, ICP (Oxalate) (4%)	0422	4.065	0.0100	4.315	0.2555	0.0298	5	-0.86		0
050.50	Soluble K2O, ICP (Oxalate) (4%)	0619	4.165	0.0300	4.315	0.2555	0.0298	5	-0.51		0
050.50	Soluble K2O, ICP (Oxalate) (4%)	0055	4.182	0.0690	4.315	0.2555	0.0298	5	-0.46		0

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050.50	Soluble K2O, ICP (Oxalate) (4%)	0106	4.495	0.0100	4.315	0.2555	0.0298	5	0.61		0
050.50	Soluble K2O, ICP (Oxalate) (4%)	0324	4.670	0.0000	4.315	0.2555	0.0298	5	1.21		0
050.50	Soluble K2O, ICP (Oxalate) (4%)	0444	4.795	0.5100	4.315	0.2555	0.0298	5	1.64		1
050.51	Soluble K2O, ICP (Citrate) (4%)	0568	4.880	0.0000	5.438	0.9189	0.5897	4	-0.61		0
050.51	Soluble K2O, ICP (Citrate) (4%)	0291	4.920	0.0000	5.438	0.9189	0.5897	4	-0.56		0
050.51	Soluble K2O, ICP (Citrate) (4%)	0368	5.147	0.1713	5.438	0.9189	0.5897	4	-0.32		0
050.51	Soluble K2O, ICP (Citrate) (4%)	0131	6.805	1.008	5.438	0.9189	0.5897	4	1.49		0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0547	3.970	0.1200	4.448	0.3226	0.0856	10	-1.38	Low	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0543	4.111	0.0010	4.448	0.3226	0.0856	10	-0.97	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0354	4.180	0.0200	4.448	0.3226	0.0856	10	-0.77	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0023	4.428	0.0010	4.448	0.3226	0.0856	10	-0.06	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0377	4.495	0.1500	4.448	0.3226	0.0856	10	0.14	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0423	4.498	0.0740	4.448	0.3226	0.0856	10	0.15	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0494	4.560	0.0600	4.448	0.3226	0.0856	10	0.32	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0040	4.600	0.2000	4.448	0.3226	0.0856	10	0.44	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0136	4.805	0.1500	4.448	0.3226	0.0856	10	1.03	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (4%)	0485	4.830	0.0800	4.448	0.3226	0.0856	10	1.10	OK	0
050.61	Soluble K2O, Flame Photometric (Citrate) (4%)	0035	4.500	0.0000				1			0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (4%)	0034	4.485	0.0100	4.641	0.1152	0.0500	4	-1.36		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (4%)	0028	4.630	0.1000	4.641	0.1152	0.0500	4	-0.10		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (4%)	0029	4.700	0.0400	4.641	0.1152	0.0500	4	0.51		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (4%)	0095	4.750	0.0000	4.641	0.1152	0.0500	4	0.94		0
050.99	Soluble K2O, Other (4%)	0517	3.900	0.0800	4.359	0.3408	0.0846	32	-1.35	Low	0
050.99	Soluble K2O, Other (4%)	0600	3.960	0.0800	4.359	0.3408	0.0846	32	-1.17	OK	0
050.99	Soluble K2O, Other (4%)	0534	3.975	0.0700	4.359	0.3408	0.0846	32	-1.13	OK	0
050.99	Soluble K2O, Other (4%)	0537	4.010	0.0600	4.359	0.3408	0.0846	32	-1.02	OK	0
050.99	Soluble K2O, Other (4%)	0255	4.037	0.0260	4.359	0.3408	0.0846	32	-0.94	OK	0
050.99	Soluble K2O, Other (4%)	0560	4.042	0.1210	4.359	0.3408	0.0846	32	-0.93	OK	0
050.99	Soluble K2O, Other (4%)	0635	4.045	0.0100	4.359	0.3408	0.0846	32	-0.92	OK	0
050.99	Soluble K2O, Other (4%)	0549	4.070	0.0400	4.359	0.3408	0.0846	32	-0.85	OK	0
050.99	Soluble K2O, Other (4%)	0588	4.084	0.1640	4.359	0.3408	0.0846	32	-0.81	OK	0
050.99	Soluble K2O, Other (4%)	0564	4.090	0.0200	4.359	0.3408	0.0846	32	-0.79	OK	0
050.99	Soluble K2O, Other (4%)	0518	4.100	0.4000	4.359	0.3408	0.0846	32	-0.76	OK	0
050.99	Soluble K2O, Other (4%)	0619	4.165	0.0300	4.359	0.3408	0.0846	32	-0.57	OK	0
050.99	Soluble K2O, Other (4%)	0451	4.237	0.0030	4.359	0.3408	0.0846	32	-0.36	OK	0
050.99	Soluble K2O, Other (4%)	0524	4.242	0.2087	4.359	0.3408	0.0846	32	-0.34	OK	0
050.99	Soluble K2O, Other (4%)	0553	4.275	0.0300	4.359	0.3408	0.0846	32	-0.25	OK	0
050.99	Soluble K2O, Other (4%)	0637	4.381	0.2820	4.359	0.3408	0.0846	32	0.06	OK	0
050.99	Soluble K2O, Other (4%)	0572	4.403	0.1088	4.359	0.3408	0.0846	32	0.13	OK	0
050.99	Soluble K2O, Other (4%)	0481	4.420	0.1600	4.359	0.3408	0.0846	32	0.18	OK	0
050.99	Soluble K2O, Other (4%)	0389	4.440	0.1200	4.359	0.3408	0.0846	32	0.24	OK	0
050.99	Soluble K2O, Other (4%)	0234	4.450	0.0200	4.359	0.3408	0.0846	32	0.27	OK	0
050.99	Soluble K2O, Other (4%)	0527	4.458	0.0738	4.359	0.3408	0.0846	32	0.29	OK	0

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050.99	Soluble K2O, Other (4%)	0513	4.475	0.0300	4.359	0.3408	0.0846	32	0.34	OK	0
050.99	Soluble K2O, Other (4%)	0177	4.536	0.0130	4.359	0.3408	0.0846	32	0.52	OK	0
050.99	Soluble K2O, Other (4%)	0027	4.540	0.1000	4.359	0.3408	0.0846	32	0.53	OK	0
050.99	Soluble K2O, Other (4%)	0521	4.694	0.0000	4.359	0.3408	0.0846	32	0.98	OK	0
050.99	Soluble K2O, Other (4%)	0523	4.700	0.0000	4.359	0.3408	0.0846	32	1.00	OK	0
050.99	Soluble K2O, Other (4%)	0402	4.734	0.1580	4.359	0.3408	0.0846	32	1.10	OK	0
050.99	Soluble K2O, Other (4%)	0421	4.750	0.0800	4.359	0.3408	0.0846	32	1.15	OK	0
050.99	Soluble K2O, Other (4%)	0501	4.760	0.2200	4.359	0.3408	0.0846	32	1.18	OK	0
050.99	Soluble K2O, Other (4%)	0515	4.786	0.0370	4.359	0.3408	0.0846	32	1.25	High	0
050.99	Soluble K2O, Other (4%)	0552	4.860	0.0400	4.359	0.3408	0.0846	32	1.47	High	0
050.99	Soluble K2O, Other (4%)	0542	5.033	0.1040	4.359	0.3408	0.0846	32	1.98	High	0
050.99	Soluble K2O, Other (4%)	0433	4.205	0.6500	4.359	0.3408	0.0846	32	-0.45	OK	1
060.00	Water (Free), Vacuum Oven (%)	0513	0.9000	0.0200				1			0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	0553	1.865	0.1500				1			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0568	1.140	0.0000	1.480	0.2979	0.0200	3	-1.14		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0035	1.605	0.0100	1.480	0.2979	0.0200	3	0.42		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0354	1.695	0.0300	1.480	0.2979	0.0200	3	0.72		0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	0095	1.570	0.0000				2			0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	0423	1.589	0.0340				2			0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0527	1.347	0.0227	1.477	0.0737	0.0409	5	-1.76		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0472	1.490	0.0200	1.477	0.0737	0.0409	5	0.18		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0494	1.510	0.1080	1.477	0.0737	0.0409	5	0.45		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0117	1.510	0.0179	1.477	0.0737	0.0409	5	0.46		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0421	1.526	0.0360	1.477	0.0737	0.0409	5	0.67		0
101.99	Acid Soluble Ca, Other (%)	0572	1.239	0.0014	1.626	0.4213	0.0271	3	-0.92		0
101.99	Acid Soluble Ca, Other (%)	0389	1.565	0.0700	1.626	0.4213	0.0271	3	-0.15		0
101.99	Acid Soluble Ca, Other (%)	0552	2.075	0.0100	1.626	0.4213	0.0271	3	1.06		0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	0553	1.415	0.1100				1			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0568	1.230	0.0000	1.333	0.1025	0.0200	3	-1.01		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	1.335	0.0300	1.333	0.1025	0.0200	3	0.02		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0035	1.435	0.0100	1.333	0.1025	0.0200	3	0.99		0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0095	1.265	0.0500	1.333	0.0978	0.0290	3	-0.69		0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0423	1.289	0.0070	1.333	0.0978	0.0290	3	-0.45		0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0220	1.445	0.0300	1.333	0.0978	0.0290	3	1.15		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0515	1.104	0.1110	1.296	0.1401	0.0312	6	-1.23	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0494	1.269	0.0030	1.296	0.1401	0.0312	6	-0.18	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0421	1.285	0.0370	1.296	0.1401	0.0312	6	-0.07	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0527	1.289	0.0030	1.296	0.1401	0.0312	6	-0.05	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0117	1.347	0.0356	1.296	0.1401	0.0312	6	0.32	OK	0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0472	1.485	0.0300	1.296	0.1401	0.0312	6	1.20	OK	0
121.99	Acid Soluble Mg, Other (%)	0515	1.057	0.0570	1.242	0.2325	0.0225	4	-0.80		0
121.99	Acid Soluble Mg, Other (%)	0572	1.058	0.0048	1.242	0.2325	0.0225	4	-0.79		0
121.99	Acid Soluble Mg, Other (%)	0524	1.314	0.0056	1.242	0.2325	0.0225	4	0.31		0

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121.99	Acid Soluble Mg, Other (%)	0552	1.540	0.0000	1.242	0.2325	0.0225	4	1.28		0
131.99	Water Soluble Mg, Other (%)	0572	0.6262	0.0081				1			0
143.00	Elemental S, Gravimetric Sulfur - carbon disulfide soluble sulfur	0485	4.770	0.1400				1			0
143.99	Elemental S, Other (%)	0255	5.703	0.0090	6.516	0.5433	0.0926	4	-1.50		0
143.99	Elemental S, Other (%)	0368	6.752	0.2812	6.516	0.5433	0.0926	4	0.43		0
143.99	Elemental S, Other (%)	0389	6.785	0.0700	6.516	0.5433	0.0926	4	0.49		0
143.99	Elemental S, Other (%)	0291	6.825	0.0100	6.516	0.5433	0.0926	4	0.57		0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0485	1.770	0.1200	4.022	1.507	0.1100	6	-1.33	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0537	3.020	0.0600	4.022	1.507	0.1100	6	-0.59	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0106	4.625	0.2700	4.022	1.507	0.1100	6	0.36	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0494	4.740	0.0200	4.022	1.507	0.1100	6	0.42	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0027	4.935	0.1700	4.022	1.507	0.1100	6	0.54	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0561	5.040	0.0200	4.022	1.507	0.1100	6	0.60	NA	0
145.99	Sulfate S, HCl soluble, Other (%)	0600	3.150	0.1000	3.687	0.8031	0.1267	3	-0.67		0
145.99	Sulfate S, HCl soluble, Other (%)	0518	3.300	0.2000	3.687	0.8031	0.1267	3	-0.48		0
145.99	Sulfate S, HCl soluble, Other (%)	0481	4.610	0.0800	3.687	0.8031	0.1267	3	1.15		0
148.00	Total S, Combustion (3%)	0073	5.370	0.0200	6.284	0.6649	0.0904	5	-1.38		0
148.00	Total S, Combustion (3%)	0136	5.795	0.1500	6.284	0.6649	0.0904	5	-0.74		0
148.00	Total S, Combustion (3%)	0049	6.600	0.0600	6.284	0.6649	0.0904	5	0.47		0
148.00	Total S, Combustion (3%)	0029	6.807	0.1420	6.284	0.6649	0.0904	5	0.79		0
148.00	Total S, Combustion (3%)	0451	6.850	0.0800	6.284	0.6649	0.0904	5	0.85		0
148.01	Total S, Gravimetric - sulfate and elemental (3%)	0635	3.030	0.0400	5.109	1.484	0.1842	6	-1.25	Low	0
148.01	Total S, Gravimetric - sulfate and elemental (3%)	0564	4.370	0.0400	5.109	1.484	0.1842	6	-0.44	Low	0
148.01	Total S, Gravimetric - sulfate and elemental (3%)	0324	5.035	0.1900	5.109	1.484	0.1842	6	-0.04	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (3%)	0498	5.300	0.4000	5.109	1.484	0.1842	6	0.11	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (3%)	0055	6.378	0.1750	5.109	1.484	0.1842	6	0.76	High	0
148.01	Total S, Gravimetric - sulfate and elemental (3%)	0485	6.540	0.2600	5.109	1.484	0.1842	6	0.86	High	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0402	5.035	0.0650	6.210	0.8539	0.1227	12	-1.38	Low	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0543	5.045	0.0190	6.210	0.8539	0.1227	12	-1.36	Low	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0515	5.360	0.3160	6.210	0.8539	0.1227	12	-1.00	Low	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0472	6.005	0.0300	6.210	0.8539	0.1227	12	-0.24	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0177	6.119	0.1058	6.210	0.8539	0.1227	12	-0.11	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0521	6.305	0.0000	6.210	0.8539	0.1227	12	0.11	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0117	6.427	0.1731	6.210	0.8539	0.1227	12	0.25	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0040	6.450	0.1000	6.210	0.8539	0.1227	12	0.28	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0494	6.605	0.1304	6.210	0.8539	0.1227	12	0.46	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0527	6.727	0.0872	6.210	0.8539	0.1227	12	0.61	High	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0513	6.950	0.0000	6.210	0.8539	0.1227	12	0.87	High	0
148.07	Total S, ICP, test portion as in 2017.02 (3%)	0421	9.465	0.2500	6.210	0.8539	0.1227	12	3.81	High	0
148.99	Total S, Other (3%)	0560	3.072	0.0320	6.027	0.9623	0.0374	10	-2.86	Low	0
148.99	Total S, Other (3%)	0354	5.130	0.2800	6.027	0.9623	0.0374	10	-0.87	Low	0
148.99	Total S, Other (3%)	0572	5.138	0.0163	6.027	0.9623	0.0374	10	-0.86	Low	0
148.99	Total S, Other (3%)	0501	5.880	0.0600	6.027	0.9623	0.0374	10	-0.14	OK	0

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148.99	Total S, Other (3%)	0637	6.090	0.0160	6.027	0.9623	0.0374	10	0.06	OK	0
148.99	Total S, Other (3%)	0023	6.225	0.0210	6.027	0.9623	0.0374	10	0.19	OK	0
148.99	Total S, Other (3%)	0433	6.420	0.0200	6.027	0.9623	0.0374	10	0.38	OK	0
148.99	Total S, Other (3%)	0422	6.780	0.0200	6.027	0.9623	0.0374	10	0.73	High	0
148.99	Total S, Other (3%)	0523	6.820	0.0000	6.027	0.9623	0.0374	10	0.77	High	0
148.99	Total S, Other (3%)	0220	7.205	0.0700	6.027	0.9623	0.0374	10	1.14	High	0
148.99	Total S, Other (3%)	0377	5.235	0.4300	6.027	0.9623	0.0374	10	-0.77	Low	1
149.04	S - HNO3 soluble, ICP (%)	0524	5.475	0.2323				2			0
149.04	S - HNO3 soluble, ICP (%)	0423	6.306	0.0280				2			0
151.30	Acid Soluble As, ICP (ppm)	0523	9.620	0.3000				2			0
151.30	Acid Soluble As, ICP (ppm)	0524	9.953	0.1726				2			0
151.30	Acid Soluble As, ICP (ppm)	0255	0.0000	0.0000				2			4
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0220	9.200	0.0000				2			0
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0405	11.50	1.000				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0136	9.600	0.2000	11.59	1.656	0.9943	4	-1.20		0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0117	10.89	0.4890	11.59	1.656	0.9943	4	-0.42		0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0527	12.61	0.5983	11.59	1.656	0.9943	4	0.62		0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0515	13.25	2.690	11.59	1.656	0.9943	4	1.00		0
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0368	6.600	0.4000				2			0
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0515	10.55	2.687				2			0
151.99	Acid Soluble As, Other (ppm)	0481	7.780	0.6600	8.878	0.9905	0.3720	3	-1.11		0
151.99	Acid Soluble As, Other (ppm)	0220	9.150	0.3000	8.878	0.9905	0.3720	3	0.27		0
151.99	Acid Soluble As, Other (ppm)	0572	9.704	0.1561	8.878	0.9905	0.3720	3	0.83		0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0513	0.1000	0.0020				2			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	0.1150	0.0100				2			0
165.99	Acid Soluble B, Other (%)	0572	0.0838	0.0015	0.1039	0.0071	0.0020	8	-2.60	Low	0
165.99	Acid Soluble B, Other (%)	0515	0.1001	0.0034	0.1039	0.0071	0.0020	8	-0.49	OK	0
165.99	Acid Soluble B, Other (%)	0524	0.1013	0.0016	0.1039	0.0071	0.0020	8	-0.33	OK	0
165.99	Acid Soluble B, Other (%)	0423	0.1015	0.0010	0.1039	0.0071	0.0020	8	-0.31	OK	0
165.99	Acid Soluble B, Other (%)	0421	0.1035	0.0030	0.1039	0.0071	0.0020	8	-0.05	OK	0
165.99	Acid Soluble B, Other (%)	0117	0.1098	0.0021	0.1039	0.0071	0.0020	8	0.75	OK	0
165.99	Acid Soluble B, Other (%)	0472	0.1100	0.0000	0.1039	0.0071	0.0020	8	0.79	OK	0
165.99	Acid Soluble B, Other (%)	0527	0.1118	0.0012	0.1039	0.0071	0.0020	8	1.02	OK	0
165.99	Acid Soluble B, Other (%)	0552	0.0000	0.0000	0.1039	0.0071	0.0020	8			4
171.99	Water Soluble B, Other (%)	0572	0.0880	0.0027				1			0
181.30	Acid Soluble Cd, ICP (ppm)	0524	2.908	0.2079	4.087	1.673	1.321	4	-0.70		0
181.30	Acid Soluble Cd, ICP (ppm)	0035	3.325	0.1900	4.087	1.673	1.321	4	-0.46		0
181.30	Acid Soluble Cd, ICP (ppm)	0523	3.550	0.2600	4.087	1.673	1.321	4	-0.32		0
181.30	Acid Soluble Cd, ICP (ppm)	0255	6.565	4.628	4.087	1.673	1.321	4	1.48		0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0405	3.000	0.0000				2			0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0220	3.300	0.0000				2			0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0136	3.300	0.0000	3.540	0.3807	0.2999	3	-0.63		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0494	3.340	0.2200	3.540	0.3807	0.2999	3	-0.52		0

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181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0527	3.979	0.3797	3.540	0.3807	0.2999	3	1.15		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0515	< 0.19		3.540	0.3807	0.2999	3			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0117	< 5		3.540	0.3807	0.2999	3			5
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0368	2.750	0.1000				1			0
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0515	< 0.133					1			5
181.99	Acid Soluble Cd, Other (ppm)	0481	2.835	0.1900	3.194	0.3117	0.1765	3	-1.15		0
181.99	Acid Soluble Cd, Other (ppm)	0220	3.350	0.1000	3.194	0.3117	0.1765	3	0.50		0
181.99	Acid Soluble Cd, Other (ppm)	0572	3.397	0.2395	3.194	0.3117	0.1765	3	0.65		0
191.30	Acid Soluble Cr, ICP (ppm)	0524	45.39	0.8882	61.76	11.84	1.821	4	-1.38		0
191.30	Acid Soluble Cr, ICP (ppm)	0035	60.75	2.500	61.76	11.84	1.821	4	-0.09		0
191.30	Acid Soluble Cr, ICP (ppm)	0523	69.99	2.526	61.76	11.84	1.821	4	0.70		0
191.30	Acid Soluble Cr, ICP (ppm)	0027	70.91	1.370	61.76	11.84	1.821	4	0.77		0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0405	69.50	1.000				2			0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0220	70.25	0.1000				2			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0515	64.16	3.550	69.07	4.121	2.494	5	-1.19		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0136	65.35	0.9000	69.07	4.121	2.494	5	-0.90		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0527	70.50	0.9315	69.07	4.121	2.494	5	0.35		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0494	71.70	5.800	69.07	4.121	2.494	5	0.64		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0117	73.65	1.288	69.07	4.121	2.494	5	1.11		0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0368	60.80	2.400				2			0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0515	67.42	7.700				2			0
191.99	Acid Soluble Cr, Other (ppm)	0572	51.78	1.141	67.76	14.58	1.580	3	-1.10		0
191.99	Acid Soluble Cr, Other (ppm)	0220	71.15	1.700	67.76	14.58	1.580	3	0.23		0
191.99	Acid Soluble Cr, Other (ppm)	0481	80.35	1.900	67.76	14.58	1.580	3	0.86		0
202.30	Acid Soluble Co, ICP (ppm)	0035	4.275	0.5500	4.605	0.3341	0.3058	3	-0.99		0
202.30	Acid Soluble Co, ICP (ppm)	0524	4.596	0.2573	4.605	0.3341	0.3058	3	-0.03		0
202.30	Acid Soluble Co, ICP (ppm)	0523	4.943	0.1100	4.605	0.3341	0.3058	3	1.01		0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0220	3.700	0.0000				2			0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0405	5.000	0.0000				2			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0136	3.700	0.2000	4.330	0.6666	0.1918	4	-0.94		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0527	3.947	0.0273	4.330	0.6666	0.1918	4	-0.58		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0494	4.465	0.1900	4.330	0.6666	0.1918	4	0.20		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0117	5.208	0.3500	4.330	0.6666	0.1918	4	1.32		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0515	< 0.26		4.330	0.6666	0.1918	4			5
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0368	3.050	0.1000				1			0
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0515	< 0.139					1			5
202.99	Acid Soluble Co, Other (ppm)	0572	2.959	0.0646				2			0
202.99	Acid Soluble Co, Other (ppm)	0220	4.050	0.1000				2			0
202.99	Acid Soluble Co, Other (ppm)	0255	10.42	20.84				2			4
221.00	Acid Soluble Cu, AA, inorganic 965.09 (0.6%)	0029	0.0717	0.0028	0.1307	0.1154	0.0043	5	-0.51		0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (0.6%)	0485	0.0799	0.0032	0.1307	0.1154	0.0043	5	-0.44		0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (0.6%)	0537	0.0802	0.0002	0.1307	0.1154	0.0043	5	-0.44		0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (0.6%)	0501	0.0846	0.0035	0.1307	0.1154	0.0043	5	-0.40		0

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221.00	Acid Soluble Cu, AA, inorganic 965.09 (0.6%)	0073	0.3370	0.0120	0.1307	0.1154	0.0043	5	1.79		0
221.03	Acid Soluble Cu, AA, 965.09, test portion 2006.03A-C w/dual ar	0498	0.0900	0.0020				1			0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (0.6%)	0451	0.0692	0.0013	0.0903	0.0233	0.0044	12	-0.91	Low	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (0.6%)	0255	0.0755	0.0010	0.0903	0.0233	0.0044	12	-0.63	Low	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (0.6%)	0402	0.0768	0.0007	0.0903	0.0233	0.0044	12	-0.58	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (0.6%)	0513	0.0770	0.0000	0.0903	0.0233	0.0044	12	-0.57	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (0.6%)	0324	0.0800	0.0020	0.0903	0.0233	0.0044	12	-0.44	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (0.6%)	0049	0.0810	0.0040	0.0903	0.0233	0.0044	12	-0.40	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (0.6%)	0433	0.0840	0.0020	0.0903	0.0233	0.0044	12	-0.27	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (0.6%)	0035	0.0845	0.0030	0.0903	0.0233	0.0044	12	-0.25	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (0.6%)	0354	0.0850	0.0100	0.0903	0.0233	0.0044	12	-0.23	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (0.6%)	0291	0.1200	0.0000	0.0903	0.0233	0.0044	12	1.28	High	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (0.6%)	0552	0.3050	0.0100	0.0903	0.0233	0.0044	12	9.22	High	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (0.6%)	0234	0.8250	0.0100	0.0903	0.0233	0.0044	12	31.54	High	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (0.6%)	0377	0.7400	0.1400	0.0903	0.0233	0.0044	12	27.89	High	1
221.31	Acid Soluble Cu, ICP, test portion organic 965.09 (0.6%)	0619	0.0830	0.0000				1			0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (0.6%)	0521	0.0760	0.0000	0.0795	0.0029	0.0000	4	-1.21		0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (0.6%)	0423	0.0790	0.0000	0.0795	0.0029	0.0000	4	-0.17		0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (0.6%)	0095	0.0800	0.0000	0.0795	0.0029	0.0000	4	0.17		0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (0.6%)	0220	0.0830	0.0000	0.0795	0.0029	0.0000	4	1.21		0
221.33	Acid Soluble Cu, ICP, 2017.02 (0.6%)	0055	0.0600	0.0000	0.0795	0.0075	0.0046	11	-2.42	Low	0
221.33	Acid Soluble Cu, ICP, 2017.02 (0.6%)	0177	0.0691	0.0079	0.0795	0.0075	0.0046	11	-1.30	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (0.6%)	0543	0.0725	0.0010	0.0795	0.0075	0.0046	11	-0.87	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (0.6%)	0040	0.0791	0.0064	0.0795	0.0075	0.0046	11	-0.05	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (0.6%)	0472	0.0800	0.0000	0.0795	0.0075	0.0046	11	0.06	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (0.6%)	0515	0.0808	0.0091	0.0795	0.0075	0.0046	11	0.15	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (0.6%)	0106	0.0844	0.0021	0.0795	0.0075	0.0046	11	0.60	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (0.6%)	0494	0.0848	0.0018	0.0795	0.0075	0.0046	11	0.65	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (0.6%)	0136	0.0850	0.0100	0.0795	0.0075	0.0046	11	0.68	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (0.6%)	0527	0.0854	0.0007	0.0795	0.0075	0.0046	11	0.72	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (0.6%)	0117	0.0857	0.0020	0.0795	0.0075	0.0046	11	0.77	OK	0
221.99	Acid Soluble Cu, Other (0.6%)	0572	0.0651	0.0024	0.0905	0.0273	0.0029	15	-0.93	Low	0
221.99	Acid Soluble Cu, Other (0.6%)	0524	0.0706	0.0028	0.0905	0.0273	0.0029	15	-0.73	Low	0
221.99	Acid Soluble Cu, Other (0.6%)	0023	0.0711	0.0009	0.0905	0.0273	0.0029	15	-0.71	Low	0
221.99	Acid Soluble Cu, Other (0.6%)	0368	0.0778	0.0024	0.0905	0.0273	0.0029	15	-0.47	OK	0
221.99	Acid Soluble Cu, Other (0.6%)	0637	0.0780	0.0040	0.0905	0.0273	0.0029	15	-0.46	OK	0
221.99	Acid Soluble Cu, Other (0.6%)	0027	0.0785	0.0010	0.0905	0.0273	0.0029	15	-0.44	OK	0
221.99	Acid Soluble Cu, Other (0.6%)	0481	0.0800	0.0000	0.0905	0.0273	0.0029	15	-0.39	OK	0
221.99	Acid Soluble Cu, Other (0.6%)	0523	0.0800	0.0000	0.0905	0.0273	0.0029	15	-0.39	OK	0
221.99	Acid Soluble Cu, Other (0.6%)	0564	0.0800	0.0000	0.0905	0.0273	0.0029	15	-0.39	OK	0
221.99	Acid Soluble Cu, Other (0.6%)	0600	0.0820	0.0040	0.0905	0.0273	0.0029	15	-0.31	OK	0
221.99	Acid Soluble Cu, Other (0.6%)	0619	0.0830	0.0000	0.0905	0.0273	0.0029	15	-0.28	OK	0
221.99	Acid Soluble Cu, Other (0.6%)	0042	0.1175	0.0050	0.0905	0.0273	0.0029	15	0.99	High	0



Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
221.99	Acid Soluble Cu, Other (0.6%)	0560	0.5895	0.0150	0.0905	0.0273	0.0029	15	18.31	High	0
221.99	Acid Soluble Cu, Other (0.6%)	0635	0.6001	0.0008	0.0905	0.0273	0.0029	15	18.70	High	0
221.99	Acid Soluble Cu, Other (0.6%)	0389	0.8300	0.0000	0.0905	0.0273	0.0029	15	27.13	High	0
221.99	Acid Soluble Cu, Other (0.6%)	0515	0.0871	0.0220	0.0905	0.0273	0.0029	15	-0.13	OK	1
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0513	0.7480	0.0100	0.8613	0.1900	0.0327	4	-0.60		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0035	0.7620	0.0180	0.8613	0.1900	0.0327	4	-0.52		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0354	0.7900	0.0000	0.8613	0.1900	0.0327	4	-0.38		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0552	1.145	0.0700	0.8613	0.1900	0.0327	4	1.49		0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	0423	0.7305	0.0070	0.7502	0.0178	0.0063	3	-1.11		0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	0095	0.7550	0.0100	0.7502	0.0178	0.0063	3	0.27		0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	0220	0.7650	0.0020	0.7502	0.0178	0.0063	3	0.84		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0515	0.6870	0.0369	0.7521	0.0434	0.0246	5	-1.50		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0472	0.7300	0.0000	0.7521	0.0434	0.0246	5	-0.51		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0117	0.7702	0.0070	0.7521	0.0434	0.0246	5	0.42		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0494	0.7810	0.0420	0.7521	0.0434	0.0246	5	0.67		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0527	0.7925	0.0123	0.7521	0.0434	0.0246	5	0.93		0
241.99	Acid Soluble Fe, Other (%)	0524	0.6880	0.0026	0.7178	0.0264	0.0562	3	-1.13		0
241.99	Acid Soluble Fe, Other (%)	0572	0.7273	0.0054	0.7178	0.0264	0.0562	3	0.36		0
241.99	Acid Soluble Fe, Other (%)	0515	0.7381	0.1606	0.7178	0.0264	0.0562	3	0.77		0
251.30	Acid Soluble Pb, ICP (ppm)	0524	1.177	0.0313				2			0
251.30	Acid Soluble Pb, ICP (ppm)	0523	1.805	0.0080				2			0
251.30	Acid Soluble Pb, ICP (ppm)	0255	0.0000	0.0000				2			4
251.30	Acid Soluble Pb, ICP (ppm)	0035	< 5					2			5
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0220	4.050	0.3000				1			0
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0405	< 4					1			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0527	1.920	0.0113				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0494	5.900	2.000				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0515	< 0.21					2			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0136	< 3					2			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0117	< 5					2			5
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0515	2.775	0.9610				2			0
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0368	3.650	0.1000				2			0
251.99	Acid Soluble Pb, Other (ppm)	0572	1.735	0.0651	2.642	1.315	0.0750	3	-0.69		0
251.99	Acid Soluble Pb, Other (ppm)	0481	2.040	0.0600	2.642	1.315	0.0750	3	-0.46		0
251.99	Acid Soluble Pb, Other (ppm)	0220	4.150	0.1000	2.642	1.315	0.0750	3	1.15		0
261.11	Acid Soluble Mn, AA, total Mn (0.5%)	0501	0.1390	0.0046				1			0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (0.5%)	0537	0.0975	0.0010	0.2251	0.2042	0.0051	4	-0.62		0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (0.5%)	0029	0.1283	0.0045	0.2251	0.2042	0.0051	4	-0.47		0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (0.5%)	0485	0.1445	0.0030	0.2251	0.2042	0.0051	4	-0.39		0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (0.5%)	0073	0.5300	0.0120	0.2251	0.2042	0.0051	4	1.49		0
261.15	Acid Soluble Mn, AA, 965.09, test portion 2006.03A-C w/dual a	0498	0.1000	0.0000				1			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (0.5%)	0234	0.1300	0.0000	0.1371	0.0053	0.0057	5	-1.35		0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (0.5%)	0354	0.1350	0.0100	0.1371	0.0053	0.0057	5	-0.40		0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
261.30	Acid Soluble Mn, ICP, test portion 972.02a (0.5%)	0035	0.1365	0.0050	0.1371	0.0053	0.0057	5	-0.11		0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (0.5%)	0291	0.1400	0.0000	0.1371	0.0053	0.0057	5	0.55		0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (0.5%)	0433	0.1440	0.0020	0.1371	0.0053	0.0057	5	1.31		0
261.31	Acid Soluble Mn, ICP, test portion 972.02b (0.5%)	0324	0.1395	0.0010				1			0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (0.5%)	0049	0.1288	0.0069	0.1376	0.0128	0.0174	6	-0.62	OK	0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (0.5%)	0402	0.1295	0.0010	0.1376	0.0128	0.0174	6	-0.57	OK	0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (0.5%)	0220	0.1310	0.0000	0.1376	0.0128	0.0174	6	-0.46	OK	0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (0.5%)	0513	0.1340	0.0000	0.1376	0.0128	0.0174	6	-0.25	OK	0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (0.5%)	0451	0.1457	0.0018	0.1376	0.0128	0.0174	6	0.56	OK	0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (0.5%)	0552	0.4200	0.0600	0.1376	0.0128	0.0174	6	19.71	High	0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (0.5%)	0377	1.305	0.2900	0.1376	0.0128	0.0174	6	81.49	High	1
261.33	Acid Soluble Mn, ICP, test portion organic 965.09 (0.5%)	0619	0.1445	0.0070				1			0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (0.5%)	0095	0.1300	0.0000	0.1323	0.0024	0.0040	3	-0.94		0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (0.5%)	0423	0.1320	0.0040	0.1323	0.0024	0.0040	3	-0.11		0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (0.5%)	0521	0.1348	0.0000	0.1323	0.0024	0.0040	3	1.05		0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.5%)	0177	0.1093	0.0028	0.1316	0.0141	0.0040	10	-1.47	Low	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.5%)	0055	0.1125	0.0050	0.1316	0.0141	0.0040	10	-1.26	Low	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.5%)	0136	0.1250	0.0100	0.1316	0.0141	0.0040	10	-0.43	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.5%)	0040	0.1295	0.0030	0.1316	0.0141	0.0040	10	-0.14	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.5%)	0494	0.1315	0.0090	0.1316	0.0141	0.0040	10	-0.01	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.5%)	0117	0.1364	0.0026	0.1316	0.0141	0.0040	10	0.32	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.5%)	0472	0.1400	0.0000	0.1316	0.0141	0.0040	10	0.55	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.5%)	0527	0.1419	0.0007	0.1316	0.0141	0.0040	10	0.67	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.5%)	0106	0.1424	0.0027	0.1316	0.0141	0.0040	10	0.71	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.5%)	0543	0.1465	0.0010	0.1316	0.0141	0.0040	10	0.98	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (0.5%)	0515	0.1195	0.0357	0.1316	0.0141	0.0040	10	-0.80	OK	1
261.50	Acid Soluble Mn, Spectrometric (0.5%)	0635	0.5005	0.0030				1			0
261.99	Acid Soluble Mn, Other (0.5%)	0481	0.0650	0.0100	0.1223	0.0163	0.0034	12	-3.53	Low	0
261.99	Acid Soluble Mn, Other (0.5%)	0600	0.0989	0.0007	0.1223	0.0163	0.0034	12	-1.44	Low	0
261.99	Acid Soluble Mn, Other (0.5%)	0572	0.1075	0.0009	0.1223	0.0163	0.0034	12	-0.91	OK	0
261.99	Acid Soluble Mn, Other (0.5%)	0042	0.1200	0.0000	0.1223	0.0163	0.0034	12	-0.14	OK	0
261.99	Acid Soluble Mn, Other (0.5%)	0524	0.1203	0.0039	0.1223	0.0163	0.0034	12	-0.13	OK	0
261.99	Acid Soluble Mn, Other (0.5%)	0255	0.1240	0.0020	0.1223	0.0163	0.0034	12	0.10	OK	0
261.99	Acid Soluble Mn, Other (0.5%)	0368	0.1289	0.0044	0.1223	0.0163	0.0034	12	0.40	OK	0
261.99	Acid Soluble Mn, Other (0.5%)	0023	0.1300	0.0000	0.1223	0.0163	0.0034	12	0.47	OK	0
261.99	Acid Soluble Mn, Other (0.5%)	0389	0.1300	0.0000	0.1223	0.0163	0.0034	12	0.47	OK	0
261.99	Acid Soluble Mn, Other (0.5%)	0637	0.1325	0.0030	0.1223	0.0163	0.0034	12	0.63	OK	0
261.99	Acid Soluble Mn, Other (0.5%)	0027	0.1335	0.0010	0.1223	0.0163	0.0034	12	0.69	OK	0
261.99	Acid Soluble Mn, Other (0.5%)	0619	0.1445	0.0070	0.1223	0.0163	0.0034	12	1.36	High	0
261.99	Acid Soluble Mn, Other (0.5%)	0515	0.1354	0.0598	0.1223	0.0163	0.0034	12	0.80	OK	1
271.30	Water Soluble Mn, ICP, Ext. 972.03 (%)	0619	0.0670	0.0000				1			0
271.99	Water Soluble Mn, Other (%)	0619	0.0670	0.0000	0.2243	0.2437	0.0030	3	-0.65		0
271.99	Water Soluble Mn, Other (%)	0564	0.1010	0.0020	0.2243	0.2437	0.0030	3	-0.51		0

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			Value	Range	Rob Mean	Rob SD	Rob R-bar				
271.99	Water Soluble Mn, Other (%)	0560	0.5050	0.0040	0.2243	0.2437	0.0030	3	1.15		0
281.00	Acid Soluble Hg, AA (ppm)	0481	< 0.5					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0527	< 0.001					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0515	< 0.1					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0405	< 2					0			5
281.99	Acid Soluble Hg, Other (ppm)	0524	0.0074	0.0001	0.0089	0.0014	0.0004	3	-1.12		0
281.99	Acid Soluble Hg, Other (ppm)	0572	0.0093	0.0006	0.0089	0.0014	0.0004	3	0.30		0
281.99	Acid Soluble Hg, Other (ppm)	0220	0.0100	0.0000	0.0089	0.0014	0.0004	3	0.81		0
289.30	Acid Soluble Mo, ICP (ppm)	0524	7.462	0.4348	10.28	2.359	0.6449	5	-1.04		0
289.30	Acid Soluble Mo, ICP (ppm)	0234	8.000	0.0000	10.28	2.359	0.6449	5	-0.84		0
289.30	Acid Soluble Mo, ICP (ppm)	0255	11.59	0.0000	10.28	2.359	0.6449	5	0.48		0
289.30	Acid Soluble Mo, ICP (ppm)	0035	11.85	0.5000	10.28	2.359	0.6449	5	0.58		0
289.30	Acid Soluble Mo, ICP (ppm)	0402	12.50	1.000	10.28	2.359	0.6449	5	0.82		0
289.30	Acid Soluble Mo, ICP (ppm)	0637	< 0.012		10.28	2.359	0.6449	5			5
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0220	12.15	0.1000				2			0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0405	13.00	0.0000				2			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0515	10.06	5.439	12.97	2.030	1.605	7	-1.30	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0136	12.20	0.4000	12.97	2.030	1.605	7	-0.34	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0117	12.41	1.209	12.97	2.030	1.605	7	-0.25	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	13.11	0.4063	12.97	2.030	1.605	7	0.06	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0106	13.50	1.000	12.97	2.030	1.605	7	0.24	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0494	13.50	3.000	12.97	2.030	1.605	7	0.24	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0423	17.70	1.370	12.97	2.030	1.605	7	2.10	OK	0
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0515	11.76	6.802				2			0
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0368	12.80	0.4000				2			0
289.99	Acid Soluble Mo, Other (ppm)	0220	12.15	0.5000				2			0
289.99	Acid Soluble Mo, Other (ppm)	0572	12.66	0.1484				2			0
291.30	Acid Soluble Ni, ICP (ppm)	0524	12.53	0.3167	13.76	1.322	0.5397	4	-0.93		0
291.30	Acid Soluble Ni, ICP (ppm)	0035	12.85	1.700	13.76	1.322	0.5397	4	-0.69		0
291.30	Acid Soluble Ni, ICP (ppm)	0027	14.28	0.1270	13.76	1.322	0.5397	4	0.39		0
291.30	Acid Soluble Ni, ICP (ppm)	0523	15.38	0.0150	13.76	1.322	0.5397	4	1.23		0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0220	13.65	0.1000				2			0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0405	14.50	1.000				2			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0515	11.61	4.127	14.02	2.242	2.017	5	-1.08		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0136	12.80	2.000	14.02	2.242	2.017	5	-0.54		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0527	12.95	0.0714	14.02	2.242	2.017	5	-0.48		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0494	15.85	0.9000	14.02	2.242	2.017	5	0.82		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0117	16.90	2.987	14.02	2.242	2.017	5	1.28		0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0515	12.19	6.820				2			0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0368	12.55	0.7000				2			0
291.99	Acid Soluble Ni, Other (ppm)	0572	10.16	0.4534	23.74	20.41	9.691	3	-0.67		0
291.99	Acid Soluble Ni, Other (ppm)	0220	13.85	0.5000	23.74	20.41	9.691	3	-0.48		0
291.99	Acid Soluble Ni, Other (ppm)	0255	47.21	28.12	23.74	20.41	9.691	3	1.15		0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
301.30	Acid Soluble Se, ICP (ppm)	0524	0.6095	0.0735	1.533	0.8473	0.0735	3	-1.09		0
301.30	Acid Soluble Se, ICP (ppm)	0501	1.715	0.0300	1.533	0.8473	0.0735	3	0.21		0
301.30	Acid Soluble Se, ICP (ppm)	0523	2.275	0.1170	1.533	0.8473	0.0735	3	0.88		0
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0220	< 0.3					0			5
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0405	< 10					0			5
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0527	< 0.001					0			5
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0515	< 0.27					0			5
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0117	< 5					0			5
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0515	1.348	0.2320				1			0
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0368	< 1					1			5
301.99	Acid Soluble Se, Other (ppm)	0572	1.878	0.1201				2			0
301.99	Acid Soluble Se, Other (ppm)	0255	11.93	11.10				2			0
301.99	Acid Soluble Se, Other (ppm)	0220	< 0.3					2			5
301.99	Acid Soluble Se, Other (ppm)	0481	< 0.5					2			5
311.00	Sodium, AA (%)	0553	0.2735	0.0110				1			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0423	0.3235	0.0030	0.3582	0.0253	0.0072	4	-1.37		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0494	0.3560	0.0228	0.3582	0.0253	0.0072	4	-0.09		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0035	0.3735	0.0010	0.3582	0.0253	0.0072	4	0.60		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	0.3800	0.0019	0.3582	0.0253	0.0072	4	0.86		0
311.99	Sodium, Other (%)	0572	0.2928	0.0044				2			0
311.99	Sodium, Other (%)	0354	0.4400	0.0200				2			0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.1%)	0073	0.0806	0.0023	0.1601	0.0654	0.0062	4	-1.22		0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.1%)	0537	0.1325	0.0130	0.1601	0.0654	0.0062	4	-0.42		0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.1%)	0485	0.2125	0.0030	0.1601	0.0654	0.0062	4	0.80		0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (0.1%)	0029	0.2148	0.0064	0.1601	0.0654	0.0062	4	0.84		0
321.03	Acid Soluble Zn, AA, 965.09, test portion 2006.03A-C w/dual ac	0498	0.2450	0.0100				1			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.1%)	0255	0.2085	0.0030	0.2372	0.0226	0.0052	12	-1.27	Low	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.1%)	0354	0.2150	0.0100	0.2372	0.0226	0.0052	12	-0.98	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.1%)	0402	0.2217	0.0010	0.2372	0.0226	0.0052	12	-0.69	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.1%)	0049	0.2220	0.0020	0.2372	0.0226	0.0052	12	-0.67	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.1%)	0513	0.2290	0.0040	0.2372	0.0226	0.0052	12	-0.36	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.1%)	0324	0.2355	0.0010	0.2372	0.0226	0.0052	12	-0.08	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.1%)	0433	0.2360	0.0080	0.2372	0.0226	0.0052	12	-0.05	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.1%)	0234	0.2400	0.0000	0.2372	0.0226	0.0052	12	0.12	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.1%)	0451	0.2479	0.0026	0.2372	0.0226	0.0052	12	0.47	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.1%)	0035	0.2500	0.0101	0.2372	0.0226	0.0052	12	0.56	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.1%)	0291	0.2700	0.0000	0.2372	0.0226	0.0052	12	1.45	High	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.1%)	0552	0.5450	0.0100	0.2372	0.0226	0.0052	12	13.61	High	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (0.1%)	0377	2.180	0.4600	0.2372	0.0226	0.0052	12	85.94	High	1
321.31	Acid Soluble Zn, ICP, test portion organic 965.09 (0.1%)	0619	0.2670	0.0040				1			0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (0.1%)	0423	0.2195	0.0010	0.2311	0.0079	0.0050	4	-1.47		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (0.1%)	0220	0.2330	0.0040	0.2311	0.0079	0.0050	4	0.24		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (0.1%)	0095	0.2350	0.0100	0.2311	0.0079	0.0050	4	0.49		0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (0.1%)	0521	0.2370	0.0000	0.2311	0.0079	0.0050	4	0.74		0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.1%)	0055	0.1875	0.0050	0.2234	0.0134	0.0059	12	-2.68	Low	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.1%)	0136	0.2100	0.0000	0.2234	0.0134	0.0059	12	-1.00	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.1%)	0177	0.2141	0.0145	0.2234	0.0134	0.0059	12	-0.70	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.1%)	0561	0.2150	0.0100	0.2234	0.0134	0.0059	12	-0.63	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.1%)	0472	0.2200	0.0000	0.2234	0.0134	0.0059	12	-0.26	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.1%)	0494	0.2220	0.0080	0.2234	0.0134	0.0059	12	-0.11	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.1%)	0040	0.2225	0.0010	0.2234	0.0134	0.0059	12	-0.07	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.1%)	0543	0.2285	0.0030	0.2234	0.0134	0.0059	12	0.38	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.1%)	0106	0.2330	0.0022	0.2234	0.0134	0.0059	12	0.71	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.1%)	0527	0.2345	0.0013	0.2234	0.0134	0.0059	12	0.82	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.1%)	0421	0.2350	0.0100	0.2234	0.0134	0.0059	12	0.86	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.1%)	0117	0.2447	0.0051	0.2234	0.0134	0.0059	12	1.58	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (0.1%)	0515	0.2436	0.0377	0.2234	0.0134	0.0059	12	1.50	OK	1
321.99	Acid Soluble Zn, Other (0.1%)	0635	0.0985	0.0010	0.2185	0.0382	0.0074	15	-3.14	Low	0
321.99	Acid Soluble Zn, Other (0.1%)	0042	0.1000	0.0000	0.2185	0.0382	0.0074	15	-3.10	Low	0
321.99	Acid Soluble Zn, Other (0.1%)	0572	0.1813	0.0078	0.2185	0.0382	0.0074	15	-0.97	Low	0
321.99	Acid Soluble Zn, Other (0.1%)	0600	0.1900	0.0200	0.2185	0.0382	0.0074	15	-0.75	Low	0
321.99	Acid Soluble Zn, Other (0.1%)	0368	0.2057	0.0026	0.2185	0.0382	0.0074	15	-0.34	OK	0
321.99	Acid Soluble Zn, Other (0.1%)	0524	0.2165	0.0066	0.2185	0.0382	0.0074	15	-0.05	OK	0
321.99	Acid Soluble Zn, Other (0.1%)	0023	0.2230	0.0040	0.2185	0.0382	0.0074	15	0.12	OK	0
321.99	Acid Soluble Zn, Other (0.1%)	0027	0.2255	0.0010	0.2185	0.0382	0.0074	15	0.18	OK	0
321.99	Acid Soluble Zn, Other (0.1%)	0523	0.2290	0.0060	0.2185	0.0382	0.0074	15	0.27	OK	0
321.99	Acid Soluble Zn, Other (0.1%)	0501	0.2344	0.0100	0.2185	0.0382	0.0074	15	0.41	OK	0
321.99	Acid Soluble Zn, Other (0.1%)	0389	0.2350	0.0100	0.2185	0.0382	0.0074	15	0.43	OK	0
321.99	Acid Soluble Zn, Other (0.1%)	0481	0.2350	0.0100	0.2185	0.0382	0.0074	15	0.43	OK	0
321.99	Acid Soluble Zn, Other (0.1%)	0637	0.2375	0.0210	0.2185	0.0382	0.0074	15	0.50	OK	0
321.99	Acid Soluble Zn, Other (0.1%)	0619	0.2670	0.0040	0.2185	0.0382	0.0074	15	1.27	High	0
321.99	Acid Soluble Zn, Other (0.1%)	0517	0.3000	0.0100	0.2185	0.0382	0.0074	15	2.13	High	0
321.99	Acid Soluble Zn, Other (0.1%)	0515	0.3043	0.1624	0.2185	0.0382	0.0074	15	2.24	High	1
325.30	Water Soluble Zn, ICP (%)	0619	0.0480	0.0000				1			0
325.99	Water Soluble Zn, Other (%)	0572	0.0253	0.0046	0.0907	0.0711	0.0105	4	-0.92		0
325.99	Water Soluble Zn, Other (%)	0619	0.0480	0.0000	0.0907	0.0711	0.0105	4	-0.60		0
325.99	Water Soluble Zn, Other (%)	0560	0.1045	0.0170	0.0907	0.0711	0.0105	4	0.19		0
325.99	Water Soluble Zn, Other (%)	0564	0.1850	0.0100	0.0907	0.0711	0.0105	4	1.33		0
431.99	Soluble Si in nonliquids, Other (%)	0572	< 0.007					0			5
441.00	Humic Acids, Gravimetry,Ash-free, alkali dissolved, acid precipi	0501	< 0.1					0			5
441.10	Humic Acids, Gravimetry, alkali dissolved, acid precipitated (%)	0527	4.998	0.1399				1			0

### Interpreting Z Scores and Flags:

Interpreting Z Scores: Red indicates a normally distributed Z value >3 or <-3 (requires action), Orange = Z between 2 and 3 or -2 and -3 (warning) and Green = Z < 2 and >-2 (OK at 95%). Flags indicate data usage: 0 = Used, 1 = rejected for duplicates too far apart, 2 = rejected as extreme outlier, 3 = removed from stats, 4 = rejected due to 0s submitted and 5 = LOD. A 9 flag indicates a data problem - scores not calculated.

### Notes:

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				

\*Robust statistics not used if < 6 labs used in calculations, in this case Values and Z Scores are grayed out and should be interpreted with extreme caution. Identical duplicates not included in calculation of Rob R-bar. IA Status describes where your result is relative to the Assigned Value  $\pm$  IA. Red indicates Higher or Lower and Green indicates within the IA range about the Robust mean. Method codes in light green indicate a guaranteed analyte. Individual lab values may be below detection limits but are reported solely for