

Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Methods: 122

Sample # 240411

Regular PT Scheme

Labs Reporting: 65

Macro-Micro-Humic

Statistical Summary

Issue Date : 05/31/2024

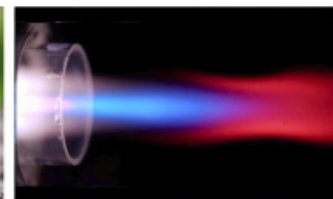
Method Code	Analyte & Method Sample # 240411	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
001.99	Ammoniacal N, Other (%)	1		1.149									
005.99	Urea N, Other (%)	1		0.0777									
010.12	Total N, Salicylic (%)	1		2.140									
010.60	Total N, Combustion (%)	6	5	4.263	5.363	2.074	0.4900	0.0427	0.0239	2.06%	0.20	0.0268	3.58%
010.99	Total N, Other (%)	1		1.981									
020.50	Total P2O5, ICP (%)	6	6	1.636	0.2804	1.688		0.1872	0.0955	11.09%		0.0344	3.70%
020.99	Total P2O5, Other (%)	1		1.812									
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	3	3	1.773	0.2641	1.773	0.6700	0.2641	0.1906	14.89%	0.92	0.0400	3.67%
041.50	Direct Available P2O5, ICP (%)	1		1.790									
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (%)	1		1.055									
048.20	Water Soluble P2O5, Spectrophotometric (%)	1		0.0100									
050.32	Soluble K2O, AA (Citrate-EDTA) (%)	1		0.5400									
050.50	Soluble K2O, ICP (Oxalate) (%)	1		0.7295									
050.51	Soluble K2O, ICP (Citrate) (%)	1		0.9000									
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	2	2	0.7373	0.0018								
050.99	Soluble K2O, Other (%)	4	4	0.7890	0.0376	0.7890	0.4100	0.0376	0.0235	4.77%	0.21	0.0183	4.14%
060.99	Water (Free), Other (%)	1		2.938									
101.00	Acid Soluble Ca, AA, inorganic 965.09 (9%)	5	5	8.279	0.3281	8.279	0.6139	0.3281	0.1834	3.96%	1.25	0.2338	2.91%
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (9%)	16	15	8.409	0.3875	8.431	0.6215	0.4429	0.1429	5.25%	1.66	0.0902	2.90%
101.31	Acid Soluble Ca, ICP, test portion organic 965.09 (9%)	1		9.105									
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (9%)	4	4	8.156	0.3652	8.156	0.6078	0.3652	0.2282	4.48%	1.40	0.1750	2.92%
101.33	Acid Soluble Ca, ICP, 2017.02 (9%)	15	14	8.122	0.4461	8.158	0.6079	0.3340	0.1116	4.09%	1.28	0.1090	2.92%
101.70	Acid Soluble Ca, Titrimetric (9%)	1		4.691									
101.99	Acid Soluble Ca, Other (9%)	13	13	8.645	0.6125	8.625	0.6312	0.6474	0.2245	7.51%	2.39	0.1697	2.89%
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	3	3	0.5555	0.0170	0.5555	0.2278	0.0170	0.0123	3.06%	0.17	0.0165	4.37%
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	2	2	0.5270	0.0184								
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	5	5	0.5198	0.0424	0.5198	0.2260	0.0424	0.0237	8.16%	0.44	0.0268	4.41%
121.99	Acid Soluble Mg, Other (%)	3	3	0.5077	0.0345	0.5077	0.2254	0.0345	0.0249	6.80%	0.36	0.0104	4.43%
143.00	Elemental S, Gravimetric Sulfur - carbon disulfide soluble sulfu	1		0.4285									

Method Code	Analyte & Method Sample # 240411	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Howitz %RSD
143.99	Elemental S, Other (%)	4	4	10.01	0.4086	10.01		0.4086	0.2554	4.08%		0.0130	2.83%
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	7	7	9.322	0.4482	9.322		0.5082	0.2401	5.45%		0.1386	2.86%
145.99	Sulfate S, HCl soluble, Other (%)	8	8	9.411	0.3959	9.411		0.4490	0.1984	4.77%		0.1875	2.85%
148.00	Total S, Combustion (9%)	7	7	9.975	0.2685	9.916	0.6958	0.1507	0.0712	1.52%	0.50	0.2275	2.83%
148.01	Total S, Gravimetric - sulfate and elemental (9%)	7	7	9.685	0.4172	9.685	0.6843	0.4732	0.2235	4.89%	1.61	0.1193	2.84%
148.07	Total S, ICP, test portion as in 2017.02 (9%)	12	12	10.49	1.559	10.26	0.7130	0.6783	0.2447	6.61%	2.22	0.2174	2.82%
148.99	Total S, Other (9%)	8	8	10.05	0.7477	10.26	0.7128	0.2440	0.1078	2.38%	0.80	0.1115	2.82%
149.04	S - HNO3 soluble, ICP (%)	4	4	9.991	0.1838	9.991		0.1838	0.1149	1.84%		0.1691	2.83%
149.99	S - HNO3 soluble, Other (%)	1		9.935									
151.30	Acid Soluble As, ICP (ppm)	5	3	2.271	2.486	1.718		1.268	0.9149	73.81%		0.0184	14.75%
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	2	2	3.951	4.311								
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	4	2	7.586	7.621	9.673		10.79	9.534	111.51%		0.2507	11.37%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	2	1	2.268	2.944								
151.99	Acid Soluble As, Other (ppm)	2	2	0.6331	0.4897								
165.00	Acid Soluble B, Spectrophotometric (1.5%)	6	5	3.271	3.617	1.799	0.2728	0.3004	0.1679	16.70%	2.57	0.0580	3.66%
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	19	19	1.978	0.0886	1.979	0.2999	0.0976	0.0280	4.93%	0.76	0.0531	3.61%
165.99	Acid Soluble B, Other (1.5%)	21	20	1.979	0.2496	1.992	0.3018	0.1648	0.0461	8.27%	1.27	0.0383	3.61%
171.10	Water Soluble B, Spectrophotometric (%)	1		1.600									
171.99	Water Soluble B, Other (%)	8	8	1.739	0.2850	1.740		0.3209	0.1418	18.45%		0.0721	3.68%
181.30	Acid Soluble Cd, ICP (ppm)	6	5	1.471	0.3487	1.418		0.3621	0.2024	25.53%		0.0529	15.18%
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	1		1.500									
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	5	4	2.251	1.630	1.564		0.6266	0.3917	40.08%		0.3909	14.96%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	2	1	0.6665	0.7545								
181.99	Acid Soluble Cd, Other (ppm)	2	1	4.400	4.384								
191.30	Acid Soluble Cr, ICP (ppm)	5	5	17.45	4.213	17.45		4.213	2.355	24.14%		1.031	10.40%
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	1		21.50									
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	3	3	15.10	7.124	15.10		7.124	5.141	47.19%		2.330	10.63%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	2	2	30.02	29.02								
191.99	Acid Soluble Cr, Other (ppm)	2	2	14.56	8.576								
202.30	Acid Soluble Co, ICP (ppm)	4	4	13.68	1.982	13.68	5.1048	1.982	1.239	14.49%	0.90	0.8325	10.79%
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	2	2	14.61	1.962								
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	3	3	13.13	2.224	13.13	4.9382	2.224	1.605	16.94%	1.05	0.5675	10.86%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	2	2	12.99	3.378								
202.99	Acid Soluble Co, Other (ppm)	2	2	9.172	3.371								
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	6	5	0.0972	0.0036	0.0964	0.0146	0.0035	0.0020	3.64%	0.56	0.0000	5.69%
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	4	4	0.0990	0.0074	0.0990	0.0149	0.0074	0.0046	7.46%	1.15	0.0010	5.66%
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	6	6	0.0976	0.0037	0.0986	0.0149	0.0015	0.0008	1.57%	0.24	0.0039	5.67%
221.99	Acid Soluble Cu, Other (%)	7	6	0.2172	0.3431	0.0937	0.0144	0.0084	0.0043	8.99%	1.37	0.0029	5.71%
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	4	4	1.298	0.1673	1.298	0.1348	0.1673	0.1045	12.89%	2.89	0.0420	3.85%
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	16	16	1.355	0.0679	1.359	0.1409	0.0668	0.0209	4.91%	1.10	0.0341	3.82%

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241.31	Acid Soluble Fe, ICP, test portion organic 965.09 (1%)	1		1.335									
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (1%)	6	5	1.318	0.0286	1.324	0.1374	0.0264	0.0148	2.00%	0.45	0.0120	3.83%
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	13	13	1.307	0.0836	1.309	0.1359	0.0907	0.0314	6.93%	1.56	0.0418	3.84%
241.99	Acid Soluble Fe, Other (1%)	17	16	1.391	0.1373	1.397	0.1447	0.1253	0.0392	8.97%	2.02	0.0210	3.80%
251.30	Acid Soluble Pb, ICP (ppm)	5	3	3.840	3.066	4.734		3.092	2.231	65.31%		0.6226	12.66%
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	1		8.500									
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	5	3	5.721	2.395	6.868		2.353	1.698	34.27%		0.7673	11.97%
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	2	2	3.939	0.0159								
251.99	Acid Soluble Pb, Other (ppm)	2	1	7.409	7.199								
261.00	Acid Soluble Mn, AA, Mn2+ only (1.5%)	1		2.005									
261.12	Acid Soluble Mn, AA, inorganic 965.09 (1.5%)	3	3	1.835	0.2304	1.835	0.1885	0.2304	0.1663	12.56%	2.85	0.0420	3.65%
261.14	Acid Soluble Mn, AA, 965.09, test portion 2006.03A-C (1.5%)	1		2.550									
261.30	Acid Soluble Mn, ICP, test portion 972.02a (1.5%)	8	7	1.919	0.1045	1.900	0.1950	0.1104	0.0522	5.81%	1.32	0.0305	3.63%
261.31	Acid Soluble Mn, ICP, test portion 972.02b (1.5%)	1		1.830									
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (1.5%)	7	7	1.976	0.1163	1.987	0.2037	0.1056	0.0499	5.32%	1.21	0.0935	3.61%
261.33	Acid Soluble Mn, ICP, test portion organic 965.09 (1.5%)	1		1.875									
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (1.5%)	4	4	1.837	0.0544	1.837	0.1887	0.0544	0.0340	2.96%	0.67	0.0503	3.65%
261.35	Acid Soluble Mn, ICP, 2017.02 (1.5%)	13	13	1.877	0.1474	1.879	0.1929	0.1301	0.0451	6.93%	1.57	0.0541	3.64%
261.99	Acid Soluble Mn, Other (1.5%)	18	17	1.850	0.1891	1.847	0.1897	0.1997	0.0605	10.81%	2.45	0.0335	3.65%
271.30	Water Soluble Mn, ICP, Ext. 972.03 (%)	1		1.435									
271.99	Water Soluble Mn, Other (%)	2	2	1.533	0.1379								
281.00	Acid Soluble Hg, AA (ppm)	1		0.1890									
281.30	Acid Soluble Hg, ICP (ppm)	5	1	0.7042	0.8834	1.533		0.1379	0.1724	9.00%		0.0200	15.00%
281.99	Acid Soluble Hg, Other (ppm)	4	4	0.1131	0.0221	0.1131		0.0221	0.0138	19.53%		0.0033	22.00%
289.30	Acid Soluble Mo, ICP (ppm)	6	5	4.193	2.720	4.032	2.2097	3.009	1.682	74.62%	3.17	0.7826	12.97%
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	1		8.000									
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	5	5	8.221	3.158	8.221	3.4664	3.158	1.765	38.41%	2.12	0.7149	11.65%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	2	1	3.639	4.895								
289.99	Acid Soluble Mo, Other (ppm)	1		6.337									
291.30	Acid Soluble Ni, ICP (ppm)	5	5	15.87	2.471	15.87		2.471	1.381	15.57%		0.2902	10.55%
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	1		19.00									
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	5	5	17.97	3.575	17.97		3.575	1.998	19.89%		1.566	10.36%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	2	2	24.61	14.79								
291.99	Acid Soluble Ni, Other (ppm)	3	3	18.39	6.822	18.39		6.822	4.923	37.10%		1.609	10.32%
301.30	Acid Soluble Se, ICP (ppm)	3	2	2.106	0.4349	2.333		0.2586	0.2286	11.08%		0.0789	14.08%
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	2	2	9.755	10.95								
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	3	2	5.968	5.434	8.947		2.408	2.129	26.92%		1.270	11.50%
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	2	1	2.892	2.251								
301.99	Acid Soluble Se, Other (ppm)	2	2	5.752	5.347								
311.33	Sodium, ICP, test portion as in 2017.02 (%)	4	4	2.412	0.1300	2.412	0.2462	0.1300	0.0812	5.39%	1.23	0.0180	3.50%

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311.99	Sodium, Other (%)	2	2	2.433	0.0174								
321.00	Acid Soluble Zn, AA, inorganic 965.09 (2%)	4	4	2.705	0.3124	2.705	0.2755	0.3124	0.1953	11.55%	2.64	0.0588	3.44%
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	17	17	2.859	0.1848	2.859	0.2909	0.2095	0.0635	7.33%	1.68	0.0682	3.41%
321.31	Acid Soluble Zn, ICP, test portion organic 965.09 (2%)	1		2.715									
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (2%)	5	5	2.752	0.0992	2.752	0.2802	0.0992	0.0555	3.61%	0.82	0.0636	3.43%
321.33	Acid Soluble Zn, ICP, 2017.02 (2%)	14	13	2.834	0.3040	2.830	0.2880	0.2143	0.0743	7.57%	1.73	0.0542	3.42%
321.99	Acid Soluble Zn, Other (2%)	17	16	3.145	1.602	2.755	0.2805	0.2340	0.0731	8.49%	1.94	0.0426	3.43%
325.00	Water Soluble Zn, AA (%)	1		2.500									
325.30	Water Soluble Zn, ICP (%)	2	2	0.5843	0.0767								
325.99	Water Soluble Zn, Other (%)	1		0.6385									
441.00	Humic Acids, Gravimetry,Ash-free, alkali dissolved, acid precip	2	1	12.65	17.18								
441.10	Humic Acids, Gravimetry, alkali dissolved, acid precipitated (5°	5	5	3.836	2.444	3.836		2.444	1.366	63.71%		0.1679	3.27%
441.99	Humic Acids, Other (5%)	8	8	7.410	7.046	5.135		0.1590	0.0703	3.10%		0.0703	3.13%

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 # 240411

Regular PT Scheme

Macro-Micro-Humic

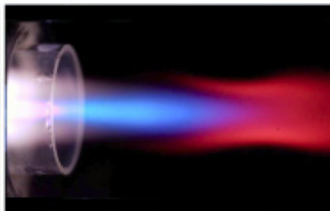
Method Precision Report

Issue Date : 05/31/2024

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 (%)	6	5	2.074	0.0427	0.0402	0.0204	0.0451	1.94%	0.98%	2.17%	2.210
020.50	Total P2O5, ICP (%)	6	5	1.744	0.1020	0.0992	0.0336	0.1047	5.69%	1.92%	6.01%	3.122
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (9%)	16	15	8.431	0.3906	0.3862	0.0822	0.3949	4.58%	0.97%	4.68%	4.804
101.33	Acid Soluble Ca, ICP, 2017.02 (9%)	15	13	8.106	0.2930	0.2819	0.1129	0.3036	3.48%	1.39%	3.75%	2.689
101.99	Acid Soluble Ca, Other (9%)	13	12	8.675	0.6299	0.6086	0.2293	0.6504	7.02%	2.64%	7.50%	2.836
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	5	5	0.5198	0.0424	0.0395	0.0217	0.0451	7.60%	4.18%	8.68%	2.077
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	7	7	9.322	0.4482	0.4383	0.1321	0.4578	4.70%	1.42%	4.91%	3.466
145.99	Sulfate S, HCl soluble, Other (%)	8	7	9.323	0.3315	0.3175	0.1349	0.3450	3.41%	1.45%	3.70%	2.556
148.00	Total S, Combustion (9%)	7	6	9.879	0.0963		0.1595			1.61%		
148.01	Total S, Gravimetric - sulfate and elemental (9%)	7	7	9.685	0.4172	0.4116	0.0967	0.4228	4.25%	1.00%	4.37%	4.371
148.07	Total S, ICP, test portion as in 2017.02 (9%)	12	10	10.26	0.4555	0.4486	0.1113	0.4622	4.37%	1.08%	4.51%	4.154
148.99	Total S, Other (9%)	8	6	10.33	0.1735	0.1643	0.0788	0.1822	1.59%	0.76%	1.76%	2.313
165.00	Acid Soluble B, Spectrophotometric (1.5%)	6	5	1.799	0.3004	0.2989	0.0419	0.3019	16.62%	2.33%	16.78%	7.204
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	19	18	1.983	0.0888	0.0831	0.0442	0.0941	4.19%	2.23%	4.75%	2.130
165.99	Acid Soluble B, Other (1.5%)	21	18	1.949	0.2072	0.2059	0.0324	0.2085	10.56%	1.66%	10.69%	6.434
171.99	Water Soluble B, Other (%)	8	8	1.739	0.2850	0.2816	0.0630	0.2885	16.19%	3.62%	16.59%	4.582
181.30	Acid Soluble Cd, ICP (ppm)	6	5	1.418	0.3621	0.3606	0.0452	0.3635	25.43%	3.19%	25.62%	8.035
191.30	Acid Soluble Cr, ICP (ppm)	5	5	17.45	4.213	4.154	0.9900	4.271	23.80%	5.67%	24.47%	4.314
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	6	5	0.0990	0.0008		0.0015			1.47%		
221.99	Acid Soluble Cu, Other (%)	7	5	0.0912	0.0046	0.0044	0.0018	0.0048	4.84%	1.96%	5.22%	2.668
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	16	16	1.355	0.0679	0.0635	0.0342	0.0721	4.68%	2.53%	5.32%	2.107
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (1%)	6	5	1.324	0.0264	0.0260	0.0068	0.0269	1.96%	0.51%	2.03%	3.979
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	13	12	1.317	0.0801	0.0752	0.0391	0.0847	5.71%	2.97%	6.44%	2.166
241.99	Acid Soluble Fe, Other (1%)	17	14	1.409	0.1057	0.1050	0.0174	0.1064	7.45%	1.23%	7.55%	6.125
261.30	Acid Soluble Mn, ICP, test portion 972.02a (1.5%)	8	7	1.900	0.0974	0.0959	0.0240	0.0988	5.04%	1.26%	5.20%	4.116
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (1.5%)	7	7	1.976	0.1163	0.1024	0.0779	0.1287	5.18%	3.94%	6.51%	1.651

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
261.35	Acid Soluble Mn, ICP, 2017.02 (1.5%)	13	12	1.887	0.1488	0.1444	0.0505	0.1530	7.65%	2.68%	8.11%	3.030
261.99	Acid Soluble Mn, Other (1.5%)	18	16	1.840	0.1963	0.1954	0.0273	0.1973	10.62%	1.48%	10.72%	7.222
289.30	Acid Soluble Mo, ICP (ppm)	6	5	4.032	3.009	2.967	0.7035	3.050	73.59%	17.45%	75.63%	4.335
291.30	Acid Soluble Ni, ICP (ppm)	5	5	15.87	2.471	2.463	0.2789	2.479	15.52%	1.76%	15.62%	8.888
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	5	5	17.97	3.575	3.441	1.369	3.703	19.15%	7.62%	20.60%	2.705
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	17	16	2.851	0.1871	0.1818	0.0624	0.1922	6.38%	2.19%	6.74%	3.081
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (2%)	5	5	2.752	0.0992	0.0884	0.0637	0.1090	3.21%	2.31%	3.96%	1.711
321.33	Acid Soluble Zn, ICP, 2017.02 (2%)	14	12	2.801	0.1731	0.1692	0.0516	0.1769	6.04%	1.84%	6.32%	3.427
321.99	Acid Soluble Zn, Other (2%)	17	15	2.769	0.2355	0.2337	0.0419	0.2374	8.44%	1.51%	8.57%	5.666
441.99	Humic Acids, Other (5%)	8	7	4.925	0.5579	0.5562	0.0612	0.5596	11.29%	1.24%	11.36%	9.143

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



Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Methods: 122

Sample # 240411

Regular PT Scheme

Labs Reporting: 65

Macro-Micro-Humic

Lab Values

Issue Date : 05/31/2024

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				
001.99	Ammoniacal N, Other (%)	0524	1.149	0.0064				1			0
005.99	Urea N, Other (%)	0524	0.0777	0.0196				1			0
010.12	Total N, Salicylic (%)	0568	2.140	0.0000				1			0
010.60	Total N, Combustion (%)	0422	2.030	0.0400	2.074	0.0427	0.0268	5	-0.89		0
010.60	Total N, Combustion (%)	0588	2.060	0.0200	2.074	0.0427	0.0268	5	-0.28		0
010.60	Total N, Combustion (%)	0354	2.065	0.0100	2.074	0.0427	0.0268	5	-0.18		0
010.60	Total N, Combustion (%)	0527	2.068	0.0340	2.074	0.0427	0.0268	5	-0.11		0
010.60	Total N, Combustion (%)	0472	2.145	0.0300	2.074	0.0427	0.0268	5	1.46		0
010.60	Total N, Combustion (%)	0034	15.21	0.0400	2.074	0.0427	0.0268	5	268.61		2
010.99	Total N, Other (%)	0524	1.981	0.0395				1			0
020.50	Total P2O5, ICP (%)	0423	1.095	0.0300	1.688	0.1872	0.0344	6	-2.82	NA	0
020.50	Total P2O5, ICP (%)	0524	1.633	0.0458	1.688	0.1872	0.0344	6	-0.26	NA	0
020.50	Total P2O5, ICP (%)	0422	1.719	0.0290	1.688	0.1872	0.0344	6	0.14	NA	0
020.50	Total P2O5, ICP (%)	0472	1.720	0.0200	1.688	0.1872	0.0344	6	0.15	NA	0
020.50	Total P2O5, ICP (%)	0588	1.739	0.0880	1.688	0.1872	0.0344	6	0.24	NA	0
020.50	Total P2O5, ICP (%)	0527	1.911	0.0132	1.688	0.1872	0.0344	6	1.06	NA	0
020.99	Total P2O5, Other (%)	0572	1.812	0.0409				1			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0472	1.540	0.0000	1.773	0.2641	0.0400	3	-0.88		0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0354	1.720	0.0400	1.773	0.2641	0.0400	3	-0.20		0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0568	2.060	0.0000	1.773	0.2641	0.0400	3	1.09		0
041.50	Direct Available P2O5, ICP (%)	0421	1.790	0.0200				1			0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (%)	0423	1.055	0.0100				1			0
048.20	Water Soluble P2O5, Spectrophotometric (%)	0472	0.0100	0.0000				1			0
050.32	Soluble K2O, AA (Citrate-EDTA) (%)	0472	0.5400	0.0400				1			0
050.50	Soluble K2O, ICP (Oxalate) (%)	0422	0.7295	0.0030				1			0
050.51	Soluble K2O, ICP (Citrate) (%)	0568	0.9000	0.0000				1			0
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	0423	0.7360	0.0120				2			0
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	0354	0.7385	0.0170				2			0
050.99	Soluble K2O, Other (%)	0524	0.7364	0.0099	0.7890	0.0376	0.0183	4	-1.40		0
050.99	Soluble K2O, Other (%)	0421	0.7900	0.0200	0.7890	0.0376	0.0183	4	0.03		0
050.99	Soluble K2O, Other (%)	0588	0.8065	0.0310	0.7890	0.0376	0.0183	4	0.47		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				
050.99	Soluble K2O, Other (%)	0527	0.8231	0.0122	0.7890	0.0376	0.0183	4	0.91		0
060.99	Water (Free), Other (%)	0510	2.938	0.0795				1			0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (9%)	0485	7.890	0.0000	8.279	0.3281	0.2338	5	-1.18		0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (9%)	0157	8.145	0.0900	8.279	0.3281	0.2338	5	-0.41		0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (9%)	0553	8.280	0.0400	8.279	0.3281	0.2338	5	0.00		0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (9%)	0029	8.289	0.1850	8.279	0.3281	0.2338	5	0.03		0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (9%)	0073	8.790	0.6200	8.279	0.3281	0.2338	5	1.56		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (9%)	0513	7.960	0.0600	8.431	0.4429	0.0902	15	-1.06	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (9%)	0255	8.042	0.0150	8.431	0.4429	0.0902	15	-0.88	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (9%)	0377	8.055	0.2100	8.431	0.4429	0.0902	15	-0.85	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (9%)	0568	8.120	0.0000	8.431	0.4429	0.0902	15	-0.70	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (9%)	0422	8.129	0.0240	8.431	0.4429	0.0902	15	-0.68	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (9%)	0324	8.135	0.0900	8.431	0.4429	0.0902	15	-0.67	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (9%)	0231	8.175	0.1900	8.431	0.4429	0.0902	15	-0.58	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (9%)	0444	8.345	0.0900	8.431	0.4429	0.0902	15	-0.19	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (9%)	0354	8.420	0.1400	8.431	0.4429	0.0902	15	-0.02	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (9%)	0049	8.445	0.2500	8.431	0.4429	0.0902	15	0.03	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (9%)	0402	8.771	0.0160	8.431	0.4429	0.0902	15	0.77	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (9%)	0234	8.900	0.1200	8.431	0.4429	0.0902	15	1.06	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (9%)	0291	8.935	0.0100	8.431	0.4429	0.0902	15	1.14	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (9%)	0433	9.005	0.0100	8.431	0.4429	0.0902	15	1.30	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (9%)	0035	9.025	0.0700	8.431	0.4429	0.0902	15	1.34	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (9%)	0451	8.078	0.5590	8.431	0.4429	0.0902	15	-0.80	OK	1
101.31	Acid Soluble Ca, ICP, test portion organic 965.09 (9%)	0619	9.105	0.2100				1			0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (9%)	0095	7.795	0.4300	8.156	0.3652	0.1750	4	-0.99		0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (9%)	0028	7.890	0.1400	8.156	0.3652	0.1750	4	-0.73		0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (9%)	0423	8.440	0.0500	8.156	0.3652	0.1750	4	0.78		0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (9%)	0405	8.500	0.0800	8.156	0.3652	0.1750	4	0.94		0
101.33	Acid Soluble Ca, ICP, 2017.02 (9%)	0494	7.552	0.3507	8.158	0.3340	0.1090	14	-1.81	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (9%)	0102	7.590	0.3400	8.158	0.3340	0.1090	14	-1.70	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (9%)	0177	7.934	0.1360	8.158	0.3340	0.1090	14	-0.67	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (9%)	0040	7.970	0.1800	8.158	0.3340	0.1090	14	-0.56	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (9%)	0106	8.025	0.0625	8.158	0.3340	0.1090	14	-0.40	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (9%)	0292	8.130	0.0200	8.158	0.3340	0.1090	14	-0.08	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (9%)	0421	8.185	0.0710	8.158	0.3340	0.1090	14	0.08	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (9%)	0117	8.185	0.0256	8.158	0.3340	0.1090	14	0.08	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (9%)	0136	8.250	0.1000	8.158	0.3340	0.1090	14	0.28	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (9%)	0527	8.251	0.0768	8.158	0.3340	0.1090	14	0.28	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (9%)	0472	8.320	0.0000	8.158	0.3340	0.1090	14	0.49	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (9%)	0561	8.480	0.0200	8.158	0.3340	0.1090	14	0.96	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (9%)	0055	8.508	0.1250	8.158	0.3340	0.1090	14	1.05	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (9%)	0521	9.155	0.0000	8.158	0.3340	0.1090	14	2.99	High	0
101.33	Acid Soluble Ca, ICP, 2017.02 (9%)	0515	7.294	0.6260	8.158	0.3340	0.1090	14	-2.59	Low	1

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				
101.70	Acid Soluble Ca, Titrimetric (9%)	0510	4.691	0.3419				1			0
101.99	Acid Soluble Ca, Other (9%)	0307	7.815	0.1900	8.625	0.6474	0.1697	13	-1.25	Low	0
101.99	Acid Soluble Ca, Other (9%)	0042	7.965	0.9900	8.625	0.6474	0.1697	13	-1.02	Low	0
101.99	Acid Soluble Ca, Other (9%)	0027	8.155	0.2300	8.625	0.6474	0.1697	13	-0.73	OK	0
101.99	Acid Soluble Ca, Other (9%)	0389	8.250	0.0400	8.625	0.6474	0.1697	13	-0.58	OK	0
101.99	Acid Soluble Ca, Other (9%)	0368	8.289	1.110	8.625	0.6474	0.1697	13	-0.52	OK	0
101.99	Acid Soluble Ca, Other (9%)	0572	8.322	0.3194	8.625	0.6474	0.1697	13	-0.47	OK	0
101.99	Acid Soluble Ca, Other (9%)	0523	8.405	0.1900	8.625	0.6474	0.1697	13	-0.34	OK	0
101.99	Acid Soluble Ca, Other (9%)	0023	8.756	0.0410	8.625	0.6474	0.1697	13	0.20	OK	0
101.99	Acid Soluble Ca, Other (9%)	0558	8.910	0.0103	8.625	0.6474	0.1697	13	0.44	OK	0
101.99	Acid Soluble Ca, Other (9%)	0560	9.067	0.0110	8.625	0.6474	0.1697	13	0.68	OK	0
101.99	Acid Soluble Ca, Other (9%)	0619	9.105	0.2100	8.625	0.6474	0.1697	13	0.74	OK	0
101.99	Acid Soluble Ca, Other (9%)	0564	9.485	0.0700	8.625	0.6474	0.1697	13	1.33	High	0
101.99	Acid Soluble Ca, Other (9%)	0537	9.865	0.0500	8.625	0.6474	0.1697	13	1.92	High	0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0568	0.5440	0.0000	0.5555	0.0170	0.0165	3	-0.68		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0035	0.5475	0.0230	0.5555	0.0170	0.0165	3	-0.47		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	0.5750	0.0100	0.5555	0.0170	0.0165	3	1.15		0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0423	0.5140	0.0020				2			0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0095	0.5400	0.0000				2			0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0472	0.4700	0.0000	0.5198	0.0424	0.0268	5	-1.17		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0421	0.5040	0.0180	0.5198	0.0424	0.0268	5	-0.37		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0515	0.5148	0.0624	0.5198	0.0424	0.0268	5	-0.12		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0494	0.5237	0.0217	0.5198	0.0424	0.0268	5	0.09		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0527	0.5863	0.0050	0.5198	0.0424	0.0268	5	1.57		0
121.99	Acid Soluble Mg, Other (%)	0524	0.4678	0.0072	0.5077	0.0345	0.0104	3	-1.15		0
121.99	Acid Soluble Mg, Other (%)	0307	0.5265	0.0170	0.5077	0.0345	0.0104	3	0.55		0
121.99	Acid Soluble Mg, Other (%)	0572	0.5287	0.0069	0.5077	0.0345	0.0104	3	0.61		0
143.00	Elemental S, Gravimetric Sulfur - carbon disulfide soluble sulfur	0405	0.4285	0.0010				1			0
143.99	Elemental S, Other (%)	0368	9.476	0.0110	10.01	0.4086	0.0130	4	-1.29		0
143.99	Elemental S, Other (%)	0255	9.979	0.0180	10.01	0.4086	0.0130	4	-0.06		0
143.99	Elemental S, Other (%)	0389	10.10	0.0000	10.01	0.4086	0.0130	4	0.23		0
143.99	Elemental S, Other (%)	0291	10.47	0.0100	10.01	0.4086	0.0130	4	1.13		0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0518	8.650	0.3000	9.322	0.5082	0.1386	7	-1.20	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0564	9.085	0.0700	9.322	0.5082	0.1386	7	-0.42	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0106	9.090	0.3600	9.322	0.5082	0.1386	7	-0.41	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0537	9.300	0.0400	9.322	0.5082	0.1386	7	-0.04	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0494	9.370	0.1000	9.322	0.5082	0.1386	7	0.09	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0405	9.785	0.0100	9.322	0.5082	0.1386	7	0.82	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0561	9.975	0.0900	9.322	0.5082	0.1386	7	1.16	NA	0
145.99	Sulfate S, HCl soluble, Other (%)	0600	9.020	0.2400	9.411	0.4490	0.1875	8	-0.80	NA	0
145.99	Sulfate S, HCl soluble, Other (%)	0560	9.069	0.0270	9.411	0.4490	0.1875	8	-0.70	NA	0
145.99	Sulfate S, HCl soluble, Other (%)	0562	9.180	0.1400	9.411	0.4490	0.1875	8	-0.47	NA	0
145.99	Sulfate S, HCl soluble, Other (%)	0559	9.185	0.0100	9.411	0.4490	0.1875	8	-0.46	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				
145.99	Sulfate S, HCl soluble, Other (%)	0553	9.230	0.3800	9.411	0.4490	0.1875	8	-0.37	NA	0
145.99	Sulfate S, HCl soluble, Other (%)	0444	9.680	0.0600	9.411	0.4490	0.1875	8	0.55	NA	0
145.99	Sulfate S, HCl soluble, Other (%)	0619	9.895	0.1700	9.411	0.4490	0.1875	8	0.99	NA	0
145.99	Sulfate S, HCl soluble, Other (%)	0136	10.03	0.7800	9.411	0.4490	0.1875	8	1.26	NA	0
148.00	Total S, Combustion (9%)	0136	9.745	0.4100	9.916	0.1507	0.2275	7	-1.03	OK	0
148.00	Total S, Combustion (9%)	0029	9.845	0.3050	9.916	0.1507	0.2275	7	-0.43	OK	0
148.00	Total S, Combustion (9%)	0049	9.845	0.0700	9.916	0.1507	0.2275	7	-0.43	OK	0
148.00	Total S, Combustion (9%)	0073	9.855	0.1300	9.916	0.1507	0.2275	7	-0.37	OK	0
148.00	Total S, Combustion (9%)	0025	9.983	0.1500	9.916	0.1507	0.2275	7	0.40	OK	0
148.00	Total S, Combustion (9%)	0405	10.00	0.0000	9.916	0.1507	0.2275	7	0.50	OK	0
148.00	Total S, Combustion (9%)	0451	10.55	0.3000	9.916	0.1507	0.2275	7	3.80	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (9%)	0564	9.140	0.0200	9.685	0.4732	0.1193	7	-1.04	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (9%)	0549	9.160	0.1000	9.685	0.4732	0.1193	7	-1.00	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (9%)	0324	9.690	0.0800	9.685	0.4732	0.1193	7	0.01	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (9%)	0095	9.695	0.2300	9.685	0.4732	0.1193	7	0.02	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (9%)	0485	9.815	0.0900	9.685	0.4732	0.1193	7	0.25	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (9%)	0055	10.04	0.1150	9.685	0.4732	0.1193	7	0.67	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (9%)	0102	10.26	0.2000	9.685	0.4732	0.1193	7	1.10	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (9%)	0515	8.384	0.6970	10.26	0.6783	0.2174	12	-2.77	Low	0
148.07	Total S, ICP, test portion as in 2017.02 (9%)	0177	9.777	0.1535	10.26	0.6783	0.2174	12	-0.71	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (9%)	0472	9.830	0.0400	10.26	0.6783	0.2174	12	-0.63	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (9%)	0117	9.846	0.1859	10.26	0.6783	0.2174	12	-0.61	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (9%)	0402	9.984	0.1390	10.26	0.6783	0.2174	12	-0.41	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (9%)	0292	10.19	0.0700	10.26	0.6783	0.2174	12	-0.11	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (9%)	0040	10.20	0.0000	10.26	0.6783	0.2174	12	-0.09	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (9%)	0619	10.30	0.0000	10.26	0.6783	0.2174	12	0.06	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (9%)	0494	10.48	0.3695	10.26	0.6783	0.2174	12	0.33	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (9%)	0513	10.82	0.0200	10.26	0.6783	0.2174	12	0.83	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (9%)	0527	11.17	0.1634	10.26	0.6783	0.2174	12	1.34	High	0
148.07	Total S, ICP, test portion as in 2017.02 (9%)	0421	14.95	0.5000	10.26	0.6783	0.2174	12	6.92	High	0
148.99	Total S, Other (9%)	0558	8.241	0.0111	10.26	0.2440	0.1115	8	-7.56	Low	0
148.99	Total S, Other (9%)	0377	10.10	0.2400	10.26	0.2440	0.1115	8	-0.59	OK	0
148.99	Total S, Other (9%)	0572	10.18	0.4303	10.26	0.2440	0.1115	8	-0.30	OK	0
148.99	Total S, Other (9%)	0405	10.21	0.0200	10.26	0.2440	0.1115	8	-0.17	OK	0
148.99	Total S, Other (9%)	0619	10.30	0.0000	10.26	0.2440	0.1115	8	0.16	OK	0
148.99	Total S, Other (9%)	0354	10.35	0.1000	10.26	0.2440	0.1115	8	0.35	OK	0
148.99	Total S, Other (9%)	0422	10.43	0.0100	10.26	0.2440	0.1115	8	0.63	OK	0
148.99	Total S, Other (9%)	0523	10.60	0.0800	10.26	0.2440	0.1115	8	1.29	OK	0
149.04	S - HNO3 soluble, ICP (%)	0524	9.785	0.0043	9.991	0.1838	0.1691	4	-1.12		0
149.04	S - HNO3 soluble, ICP (%)	0423	9.910	0.1630	9.991	0.1838	0.1691	4	-0.44		0
149.04	S - HNO3 soluble, ICP (%)	0231	10.06	0.3400	9.991	0.1838	0.1691	4	0.38		0
149.04	S - HNO3 soluble, ICP (%)	0521	10.21	0.0000	9.991	0.1838	0.1691	4	1.19		0
149.99	S - HNO3 soluble, Other (%)	0023	9.935	0.0700				1			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				
151.30	Acid Soluble As, ICP (ppm)	0524	0.9267	0.0318	1.718	1.268	0.0184	3	-0.62		0
151.30	Acid Soluble As, ICP (ppm)	0523	1.047	0.0050	1.718	1.268	0.0184	3	-0.53		0
151.30	Acid Soluble As, ICP (ppm)	0444	3.180	0.0000	1.718	1.268	0.0184	3	1.15		0
151.30	Acid Soluble As, ICP (ppm)	0255	0.0000	0.0000	1.718	1.268	0.0184	3			4
151.30	Acid Soluble As, ICP (ppm)	0605	< 6.2		1.718	1.268	0.0184	3			5
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0086	0.9027	0.0877				2			0
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0405	7.000	2.000				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0527	2.046	0.0414				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0515	17.30	0.4600				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0136	< 1					2			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0117	< 10					2			5
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0368	4.350	0.7000				1			0
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0515	< 0.186					1			5
151.99	Acid Soluble As, Other (ppm)	0558	0.2868	0.0246				2			0
151.99	Acid Soluble As, Other (ppm)	0572	0.9793	0.0232				2			0
165.00	Acid Soluble B, Spectrophotometric (1.5%)	0549	1.520	0.0000	1.799	0.3004	0.0580	5	-0.81		0
165.00	Acid Soluble B, Spectrophotometric (1.5%)	0537	1.595	0.0300	1.799	0.3004	0.0580	5	-0.59		0
165.00	Acid Soluble B, Spectrophotometric (1.5%)	0553	1.755	0.0300	1.799	0.3004	0.0580	5	-0.13		0
165.00	Acid Soluble B, Spectrophotometric (1.5%)	0028	1.837	0.1080	1.799	0.3004	0.0580	5	0.11		0
165.00	Acid Soluble B, Spectrophotometric (1.5%)	0029	2.287	0.0640	1.799	0.3004	0.0580	5	1.42		0
165.00	Acid Soluble B, Spectrophotometric (1.5%)	0055	10.63	17.38	1.799	0.3004	0.0580	5	25.67		1
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0402	1.808	0.0303	1.979	0.0976	0.0531	19	-1.75	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0485	1.835	0.0700	1.979	0.0976	0.0531	19	-1.48	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0389	1.875	0.0100	1.979	0.0976	0.0531	19	-1.07	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0324	1.895	0.2100	1.979	0.0976	0.0531	19	-0.86	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0234	1.910	0.1200	1.979	0.0976	0.0531	19	-0.71	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0451	1.923	0.0800	1.979	0.0976	0.0531	19	-0.58	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0292	1.955	0.0100	1.979	0.0976	0.0531	19	-0.25	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0405	1.960	0.0400	1.979	0.0976	0.0531	19	-0.20	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0040	1.975	0.0770	1.979	0.0976	0.0531	19	-0.05	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0354	1.985	0.0500	1.979	0.0976	0.0531	19	0.06	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0073	1.990	0.0200	1.979	0.0976	0.0531	19	0.11	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0377	2.000	0.0000	1.979	0.0976	0.0531	19	0.21	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0619	2.000	0.0000	1.979	0.0976	0.0531	19	0.21	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0049	2.032	0.0790	1.979	0.0976	0.0531	19	0.54	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0422	2.066	0.0030	1.979	0.0976	0.0531	19	0.88	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0444	2.080	0.0200	1.979	0.0976	0.0531	19	1.03	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0106	2.086	0.1574	1.979	0.0976	0.0531	19	1.09	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0433	2.088	0.0010	1.979	0.0976	0.0531	19	1.11	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (1.5%)	0513	2.120	0.0400	1.979	0.0976	0.0531	19	1.44	OK	0
165.99	Acid Soluble B, Other (1.5%)	0042	1.425	0.0500	1.992	0.1648	0.0383	20	-3.44	Low	0
165.99	Acid Soluble B, Other (1.5%)	0558	1.519	0.0130	1.992	0.1648	0.0383	20	-2.87	Low	0
165.99	Acid Soluble B, Other (1.5%)	0561	1.795	0.0100	1.992	0.1648	0.0383	20	-1.20	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				
165.99	Acid Soluble B, Other (1.5%)	0231	1.805	0.0900	1.992	0.1648	0.0383	20	-1.14	OK	0
165.99	Acid Soluble B, Other (1.5%)	0572	1.889	0.1301	1.992	0.1648	0.0383	20	-0.62	OK	0
165.99	Acid Soluble B, Other (1.5%)	0136	1.940	0.0000	1.992	0.1648	0.0383	20	-0.32	OK	0
165.99	Acid Soluble B, Other (1.5%)	0472	1.955	0.0100	1.992	0.1648	0.0383	20	-0.22	OK	0
165.99	Acid Soluble B, Other (1.5%)	0423	1.962	0.0280	1.992	0.1648	0.0383	20	-0.18	OK	0
165.99	Acid Soluble B, Other (1.5%)	0368	1.968	0.1487	1.992	0.1648	0.0383	20	-0.15	OK	0
165.99	Acid Soluble B, Other (1.5%)	0527	1.999	0.0279	1.992	0.1648	0.0383	20	0.04	OK	0
165.99	Acid Soluble B, Other (1.5%)	0619	2.000	0.0000	1.992	0.1648	0.0383	20	0.05	OK	0
165.99	Acid Soluble B, Other (1.5%)	0521	2.010	0.0000	1.992	0.1648	0.0383	20	0.11	OK	0
165.99	Acid Soluble B, Other (1.5%)	0421	2.040	0.0600	1.992	0.1648	0.0383	20	0.29	OK	0
165.99	Acid Soluble B, Other (1.5%)	0291	2.045	0.0100	1.992	0.1648	0.0383	20	0.32	OK	0
165.99	Acid Soluble B, Other (1.5%)	0117	2.058	0.0485	1.992	0.1648	0.0383	20	0.40	OK	0
165.99	Acid Soluble B, Other (1.5%)	0559	2.115	0.0100	1.992	0.1648	0.0383	20	0.75	OK	0
165.99	Acid Soluble B, Other (1.5%)	0605	2.160	0.0400	1.992	0.1648	0.0383	20	1.02	OK	0
165.99	Acid Soluble B, Other (1.5%)	0095	2.185	0.0100	1.992	0.1648	0.0383	20	1.17	OK	0
165.99	Acid Soluble B, Other (1.5%)	0524	2.186	0.0220	1.992	0.1648	0.0383	20	1.18	OK	0
165.99	Acid Soluble B, Other (1.5%)	0255	2.671	0.0510	1.992	0.1648	0.0383	20	4.12	High	0
165.99	Acid Soluble B, Other (1.5%)	0515	1.832	0.2210	1.992	0.1648	0.0383	20	-0.97	OK	1
171.10	Water Soluble B, Spectrophotometric (%)	0564	1.600	0.0400				1			0
171.99	Water Soluble B, Other (%)	0518	1.250	0.1000	1.740	0.3209	0.0721	8	-1.40	NA	0
171.99	Water Soluble B, Other (%)	0600	1.540	0.1200	1.740	0.3209	0.0721	8	-0.57	NA	0
171.99	Water Soluble B, Other (%)	0560	1.584	0.0050	1.740	0.3209	0.0721	8	-0.45	NA	0
171.99	Water Soluble B, Other (%)	0562	1.610	0.0800	1.740	0.3209	0.0721	8	-0.37	NA	0
171.99	Water Soluble B, Other (%)	0619	1.885	0.0100	1.740	0.3209	0.0721	8	0.41	NA	0
171.99	Water Soluble B, Other (%)	0027	1.984	0.1800	1.740	0.3209	0.0721	8	0.70	NA	0
171.99	Water Soluble B, Other (%)	0023	2.017	0.0100	1.740	0.3209	0.0721	8	0.79	NA	0
171.99	Water Soluble B, Other (%)	0513	2.040	0.0000	1.740	0.3209	0.0721	8	0.86	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0444	1.035	0.0700	1.418	0.3621	0.0529	5	-0.92		0
181.30	Acid Soluble Cd, ICP (ppm)	0524	1.224	0.0216	1.418	0.3621	0.0529	5	-0.47		0
181.30	Acid Soluble Cd, ICP (ppm)	0523	1.293	0.0090	1.418	0.3621	0.0529	5	-0.30		0
181.30	Acid Soluble Cd, ICP (ppm)	0255	1.576	0.0540	1.418	0.3621	0.0529	5	0.38		0
181.30	Acid Soluble Cd, ICP (ppm)	0605	1.965	0.1100	1.418	0.3621	0.0529	5	1.32		0
181.30	Acid Soluble Cd, ICP (ppm)	0035	1.735	0.7100	1.418	0.3621	0.0529	5	0.76		1
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0405	1.500	1.000				1			0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0136	1.150	0.1000	1.564	0.6266	0.3909	4	-0.66		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0527	1.259	0.0847	1.564	0.6266	0.3909	4	-0.49		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0494	1.350	0.0800	1.564	0.6266	0.3909	4	-0.34		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0515	2.496	1.299	1.564	0.6266	0.3909	4	1.49		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0117	< 5		1.564	0.6266	0.3909	4			5
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0368	1.200	0.0000				1			0
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0515	< 0.133					1			5
181.99	Acid Soluble Cd, Other (ppm)	0572	1.300	0.0364				1			0
181.99	Acid Soluble Cd, Other (ppm)	0558	< 7.5					1			5

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191.30	Acid Soluble Cr, ICP (ppm)	0524	12.10	0.2474	17.45	4.213	1.031	5	-1.27		0
191.30	Acid Soluble Cr, ICP (ppm)	0444	14.54	0.4300	17.45	4.213	1.031	5	-0.69		0
191.30	Acid Soluble Cr, ICP (ppm)	0605	18.13	1.810	17.45	4.213	1.031	5	0.16		0
191.30	Acid Soluble Cr, ICP (ppm)	0035	19.75	2.500	17.45	4.213	1.031	5	0.54		0
191.30	Acid Soluble Cr, ICP (ppm)	0523	22.76	0.1680	17.45	4.213	1.031	5	1.26		0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0405	21.50	1.000				1			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0136	10.84	3.130	15.10	7.124	2.330	3	-0.60		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0527	11.13	0.0409	15.10	7.124	2.330	3	-0.56		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0515	23.32	3.820	15.10	7.124	2.330	3	1.15		0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0368	9.500	1.000				2			0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0515	50.54	76.74				2			0
191.99	Acid Soluble Cr, Other (ppm)	0572	8.500	1.599				2			0
191.99	Acid Soluble Cr, Other (ppm)	0558	20.63	0.0931				2			0
202.30	Acid Soluble Co, ICP (ppm)	0524	12.23	0.0649	13.68	1.982	0.8325	4	-0.73		0
202.30	Acid Soluble Co, ICP (ppm)	0035	12.55	0.7000	13.68	1.982	0.8325	4	-0.57		0
202.30	Acid Soluble Co, ICP (ppm)	0605	13.39	1.520	13.68	1.982	0.8325	4	-0.15		0
202.30	Acid Soluble Co, ICP (ppm)	0523	16.56	1.045	13.68	1.982	0.8325	4	1.45		0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0423	13.23	0.8700				2			0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0405	16.00	0.0000				2			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0136	11.20	1.000	13.13	2.224	0.5675	3	-0.87		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0527	12.62	0.0425	13.13	2.224	0.5675	3	-0.23		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0515	15.56	0.6600	13.13	2.224	0.5675	3	1.09		0
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0368	10.60	0.2000				2			0
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0515	15.38	22.87				2			0
202.99	Acid Soluble Co, Other (ppm)	0255	6.788	4.054				2			0
202.99	Acid Soluble Co, Other (ppm)	0572	11.56	0.0592				2			0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0255	0.0920	0.0000	0.0964	0.0035	0.0000	5	-1.10		0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0035	0.0950	0.0000	0.0964	0.0035	0.0000	5	-0.35		0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0422	0.0950	0.0000	0.0964	0.0035	0.0000	5	-0.35		0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0234	0.1000	0.0000	0.0964	0.0035	0.0000	5	0.90		0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	0.1000	0.0000	0.0964	0.0035	0.0000	5	0.90		0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0402	0.1009	0.0020	0.0964	0.0035	0.0000	5	1.12		1
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0028	0.0942	0.0002	0.0990	0.0074	0.0010	4	-0.65		0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0405	0.0958	0.0009	0.0990	0.0074	0.0010	4	-0.44		0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0423	0.0960	0.0020	0.0990	0.0074	0.0010	4	-0.40		0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0095	0.1100	0.0000	0.0990	0.0074	0.0010	4	1.49		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0515	0.0902	0.0086	0.0986	0.0015	0.0039	6	-4.83	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0106	0.0980	0.0036	0.0986	0.0015	0.0039	6	-0.33	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0494	0.0986	0.0028	0.0986	0.0015	0.0039	6	0.01	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0527	0.0988	0.0006	0.0986	0.0015	0.0039	6	0.13	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0521	0.0998	0.0000	0.0986	0.0015	0.0039	6	0.71	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0472	0.1000	0.0000	0.0986	0.0015	0.0039	6	0.82	OK	0
221.99	Acid Soluble Cu, Other (%)	0524	0.0848	0.0018	0.0937	0.0084	0.0029	6	-0.94	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				
221.99	Acid Soluble Cu, Other (%)	0368	0.0898	0.0051	0.0937	0.0084	0.0029	6	-0.42	OK	0
221.99	Acid Soluble Cu, Other (%)	0558	0.0902	0.0008	0.0937	0.0084	0.0029	6	-0.37	OK	0
221.99	Acid Soluble Cu, Other (%)	0572	0.0947	0.0010	0.0937	0.0084	0.0029	6	0.10	OK	0
221.99	Acid Soluble Cu, Other (%)	0523	0.0965	0.0010	0.0937	0.0084	0.0029	6	0.29	OK	0
221.99	Acid Soluble Cu, Other (%)	0389	0.9950	0.0100	0.0937	0.0084	0.0029	6	95.26	High	0
221.99	Acid Soluble Cu, Other (%)	0515	0.0693	0.0571	0.0937	0.0084	0.0029	6	-2.59	Low	1
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0537	1.070	0.0600	1.298	0.1673	0.0420	4	-1.36		0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0553	1.315	0.0100	1.298	0.1673	0.0420	4	0.10		0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0485	1.335	0.0700	1.298	0.1673	0.0420	4	0.22		0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (1%)	0029	1.472	0.0280	1.298	0.1673	0.0420	4	1.04		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0049	1.220	0.0680	1.359	0.0668	0.0341	16	-2.09	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0402	1.224	0.0064	1.359	0.0668	0.0341	16	-2.02	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0234	1.300	0.0200	1.359	0.0668	0.0341	16	-0.89	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0433	1.320	0.0200	1.359	0.0668	0.0341	16	-0.59	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0255	1.322	0.0010	1.359	0.0668	0.0341	16	-0.57	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0157	1.335	0.0900	1.359	0.0668	0.0341	16	-0.36	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0377	1.345	0.0500	1.359	0.0668	0.0341	16	-0.21	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0422	1.354	0.0210	1.359	0.0668	0.0341	16	-0.09	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0324	1.360	0.0200	1.359	0.0668	0.0341	16	0.01	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0035	1.370	0.0800	1.359	0.0668	0.0341	16	0.16	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0354	1.400	0.0200	1.359	0.0668	0.0341	16	0.61	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0513	1.405	0.0100	1.359	0.0668	0.0341	16	0.69	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0231	1.415	0.0100	1.359	0.0668	0.0341	16	0.83	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0451	1.420	0.1160	1.359	0.0668	0.0341	16	0.91	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0291	1.435	0.0100	1.359	0.0668	0.0341	16	1.13	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (1%)	0444	1.450	0.0000	1.359	0.0668	0.0341	16	1.36	OK	0
241.31	Acid Soluble Fe, ICP, test portion organic 965.09 (1%)	0619	1.335	0.0100				1			0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (1%)	0405	1.280	0.0000	1.324	0.0264	0.0120	5	-1.47		0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (1%)	0028	1.325	0.0100	1.324	0.0264	0.0120	5	0.02		0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (1%)	0423	1.332	0.0160	1.324	0.0264	0.0120	5	0.25		0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (1%)	0292	1.335	0.0100	1.324	0.0264	0.0120	5	0.35		0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (1%)	0073	1.350	0.0000	1.324	0.0264	0.0120	5	0.85		0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (1%)	0095	1.285	0.0700	1.324	0.0264	0.0120	5	-1.30		1
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0521	1.149	0.0000	1.309	0.0907	0.0418	13	-1.77	Low	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0055	1.197	0.1770	1.309	0.0907	0.0418	13	-1.24	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0177	1.198	0.0348	1.309	0.0907	0.0418	13	-1.22	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0515	1.286	0.1510	1.309	0.0907	0.0418	13	-0.26	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0040	1.290	0.0400	1.309	0.0907	0.0418	13	-0.21	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0472	1.295	0.0100	1.309	0.0907	0.0418	13	-0.16	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0136	1.310	0.0400	1.309	0.0907	0.0418	13	0.01	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0106	1.341	0.0106	1.309	0.0907	0.0418	13	0.35	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0494	1.357	0.0149	1.309	0.0907	0.0418	13	0.53	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0561	1.375	0.0500	1.309	0.0907	0.0418	13	0.73	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				
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0117	1.390	0.0035	1.309	0.0907	0.0418	13	0.90	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0102	1.400	0.0800	1.309	0.0907	0.0418	13	1.00	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (1%)	0527	1.407	0.0128	1.309	0.0907	0.0418	13	1.08	OK	0
241.99	Acid Soluble Fe, Other (1%)	0042	1.015	0.0300	1.397	0.1253	0.0210	16	-3.05	Low	0
241.99	Acid Soluble Fe, Other (1%)	0559	1.225	0.0100	1.397	0.1253	0.0210	16	-1.37	Low	0
241.99	Acid Soluble Fe, Other (1%)	0558	1.281	0.0067	1.397	0.1253	0.0210	16	-0.93	OK	0
241.99	Acid Soluble Fe, Other (1%)	0389	1.315	0.0100	1.397	0.1253	0.0210	16	-0.66	OK	0
241.99	Acid Soluble Fe, Other (1%)	0605	1.330	0.0400	1.397	0.1253	0.0210	16	-0.54	OK	0
241.99	Acid Soluble Fe, Other (1%)	0572	1.343	0.0053	1.397	0.1253	0.0210	16	-0.43	OK	0
241.99	Acid Soluble Fe, Other (1%)	0619	1.345	0.0100	1.397	0.1253	0.0210	16	-0.42	OK	0
241.99	Acid Soluble Fe, Other (1%)	0523	1.383	0.0340	1.397	0.1253	0.0210	16	-0.11	OK	0
241.99	Acid Soluble Fe, Other (1%)	0562	1.425	0.1500	1.397	0.1253	0.0210	16	0.22	OK	0
241.99	Acid Soluble Fe, Other (1%)	0027	1.427	0.0520	1.397	0.1253	0.0210	16	0.24	OK	0
241.99	Acid Soluble Fe, Other (1%)	0023	1.447	0.0010	1.397	0.1253	0.0210	16	0.39	OK	0
241.99	Acid Soluble Fe, Other (1%)	0368	1.507	0.0018	1.397	0.1253	0.0210	16	0.88	OK	0
241.99	Acid Soluble Fe, Other (1%)	0560	1.511	0.0030	1.397	0.1253	0.0210	16	0.90	OK	0
241.99	Acid Soluble Fe, Other (1%)	0600	1.520	0.0400	1.397	0.1253	0.0210	16	0.98	OK	0
241.99	Acid Soluble Fe, Other (1%)	0564	1.525	0.0300	1.397	0.1253	0.0210	16	1.02	OK	0
241.99	Acid Soluble Fe, Other (1%)	0524	1.562	0.0103	1.397	0.1253	0.0210	16	1.31	High	0
241.99	Acid Soluble Fe, Other (1%)	0515	1.490	0.3310	1.397	0.1253	0.0210	16	0.74	OK	1
251.30	Acid Soluble Pb, ICP (ppm)	0523	2.308	0.0140	4.734	3.092	0.6226	3	-0.78		0
251.30	Acid Soluble Pb, ICP (ppm)	0524	3.679	0.3839	4.734	3.092	0.6226	3	-0.34		0
251.30	Acid Soluble Pb, ICP (ppm)	0035	8.215	1.470	4.734	3.092	0.6226	3	1.13		0
251.30	Acid Soluble Pb, ICP (ppm)	0255	0.0000	0.0000	4.734	3.092	0.6226	3			4
251.30	Acid Soluble Pb, ICP (ppm)	0605	< 5		4.734	3.092	0.6226	3			5
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0405	8.500	1.000				1			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0515	5.057	2.065	6.868	2.353	0.7673	3	-0.77		0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0494	6.020	0.1400	6.868	2.353	0.7673	3	-0.36		0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0527	9.528	0.0969	6.868	2.353	0.7673	3	1.13		0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0136	< 3		6.868	2.353	0.7673	3			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0117	< 5		6.868	2.353	0.7673	3			5
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0515	3.928	2.873				2			0
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0368	3.950	0.7000				2			0
251.99	Acid Soluble Pb, Other (ppm)	0572	2.318	0.0339				1			0
251.99	Acid Soluble Pb, Other (ppm)	0558	< 12.5					1			5
261.00	Acid Soluble Mn, AA, Mn2+ only (1.5%)	0553	2.005	0.0500				1			0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (1.5%)	0537	1.585	0.0700	1.835	0.2304	0.0420	3	-1.08		0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (1.5%)	0485	1.880	0.0400	1.835	0.2304	0.0420	3	0.20		0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (1.5%)	0029	2.039	0.0160	1.835	0.2304	0.0420	3	0.89		0
261.14	Acid Soluble Mn, AA, 965.09, test portion 2006.03A-C (1.5%)	0292	2.550	0.0000				1			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (1.5%)	0234	1.740	0.0400	1.900	0.1104	0.0305	7	-1.31	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (1.5%)	0433	1.805	0.0100	1.900	0.1104	0.0305	7	-0.78	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (1.5%)	0157	1.870	0.0600	1.900	0.1104	0.0305	7	-0.25	OK	0

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			Value	Range	Rob Mean	Rob SD	Rob R-bar				
261.30	Acid Soluble Mn, ICP, test portion 972.02a (1.5%)	0422	1.957	0.0130	1.900	0.1104	0.0305	7	0.46	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (1.5%)	0291	1.965	0.0100	1.900	0.1104	0.0305	7	0.53	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (1.5%)	0444	1.970	0.0000	1.900	0.1104	0.0305	7	0.57	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (1.5%)	0354	1.995	0.0500	1.900	0.1104	0.0305	7	0.78	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (1.5%)	0035	2.050	0.1800	1.900	0.1104	0.0305	7	1.23	OK	1
261.31	Acid Soluble Mn, ICP, test portion 972.02b (1.5%)	0324	1.830	0.0800				1			0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (1.5%)	0402	1.753	0.0130	1.987	0.1056	0.0935	7	-2.01	Low	0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (1.5%)	0405	1.900	0.0600	1.987	0.1056	0.0935	7	-0.75	OK	0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (1.5%)	0049	1.966	0.2090	1.987	0.1056	0.0935	7	-0.18	OK	0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (1.5%)	0231	2.035	0.0100	1.987	0.1056	0.0935	7	0.41	OK	0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (1.5%)	0377	2.050	0.1600	1.987	0.1056	0.0935	7	0.54	OK	0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (1.5%)	0451	2.051	0.1090	1.987	0.1056	0.0935	7	0.54	OK	0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (1.5%)	0513	2.080	0.0000	1.987	0.1056	0.0935	7	0.80	OK	0
261.33	Acid Soluble Mn, ICP, test portion organic 965.09 (1.5%)	0619	1.875	0.0300				1			0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (1.5%)	0095	1.780	0.1200	1.837	0.0544	0.0503	4	-1.05		0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (1.5%)	0028	1.820	0.0000	1.837	0.0544	0.0503	4	-0.31		0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (1.5%)	0423	1.839	0.0110	1.837	0.0544	0.0503	4	0.03		0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (1.5%)	0073	1.910	0.0200	1.837	0.0544	0.0503	4	1.34		0
261.35	Acid Soluble Mn, ICP, 2017.02 (1.5%)	0040	1.567	0.1200	1.879	0.1301	0.0541	13	-2.39	Low	0
261.35	Acid Soluble Mn, ICP, 2017.02 (1.5%)	0515	1.744	0.1880	1.879	0.1301	0.0541	13	-1.03	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (1.5%)	0055	1.750	0.2200	1.879	0.1301	0.0541	13	-0.99	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (1.5%)	0177	1.815	0.0067	1.879	0.1301	0.0541	13	-0.49	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (1.5%)	0494	1.817	0.0050	1.879	0.1301	0.0541	13	-0.47	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (1.5%)	0561	1.830	0.0200	1.879	0.1301	0.0541	13	-0.37	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (1.5%)	0117	1.913	0.0419	1.879	0.1301	0.0541	13	0.26	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (1.5%)	0527	1.927	0.0106	1.879	0.1301	0.0541	13	0.37	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (1.5%)	0106	1.934	0.0037	1.879	0.1301	0.0541	13	0.43	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (1.5%)	0102	1.965	0.0900	1.879	0.1301	0.0541	13	0.66	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (1.5%)	0472	1.975	0.0100	1.879	0.1301	0.0541	13	0.74	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (1.5%)	0136	1.995	0.0300	1.879	0.1301	0.0541	13	0.89	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (1.5%)	0521	2.165	0.0000	1.879	0.1301	0.0541	13	2.20	High	0
261.99	Acid Soluble Mn, Other (1.5%)	0558	1.460	0.0025	1.847	0.1997	0.0335	17	-1.94	Low	0
261.99	Acid Soluble Mn, Other (1.5%)	0042	1.515	0.0300	1.847	0.1997	0.0335	17	-1.66	Low	0
261.99	Acid Soluble Mn, Other (1.5%)	0559	1.605	0.0100	1.847	0.1997	0.0335	17	-1.21	Low	0
261.99	Acid Soluble Mn, Other (1.5%)	0600	1.740	0.0800	1.847	0.1997	0.0335	17	-0.54	OK	0
261.99	Acid Soluble Mn, Other (1.5%)	0560	1.757	0.0310	1.847	0.1997	0.0335	17	-0.45	OK	0
261.99	Acid Soluble Mn, Other (1.5%)	0368	1.783	0.0093	1.847	0.1997	0.0335	17	-0.32	OK	0
261.99	Acid Soluble Mn, Other (1.5%)	0564	1.790	0.0200	1.847	0.1997	0.0335	17	-0.29	OK	0
261.99	Acid Soluble Mn, Other (1.5%)	0562	1.840	0.1200	1.847	0.1997	0.0335	17	-0.04	OK	0
261.99	Acid Soluble Mn, Other (1.5%)	0389	1.855	0.0500	1.847	0.1997	0.0335	17	0.04	OK	0
261.99	Acid Soluble Mn, Other (1.5%)	0619	1.875	0.0300	1.847	0.1997	0.0335	17	0.14	OK	0
261.99	Acid Soluble Mn, Other (1.5%)	0523	1.900	0.0210	1.847	0.1997	0.0335	17	0.26	OK	0
261.99	Acid Soluble Mn, Other (1.5%)	0255	1.916	0.0070	1.847	0.1997	0.0335	17	0.34	OK	0

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			Value	Range	Rob Mean	Rob SD	Rob R-bar				
261.99	Acid Soluble Mn, Other (1.5%)	0572	1.973	0.0653	1.847	0.1997	0.0335	17	0.63	OK	0
261.99	Acid Soluble Mn, Other (1.5%)	0023	2.014	0.0170	1.847	0.1997	0.0335	17	0.83	OK	0
261.99	Acid Soluble Mn, Other (1.5%)	0027	2.029	0.0630	1.847	0.1997	0.0335	17	0.91	OK	0
261.99	Acid Soluble Mn, Other (1.5%)	0605	2.085	0.0500	1.847	0.1997	0.0335	17	1.19	High	0
261.99	Acid Soluble Mn, Other (1.5%)	0524	2.150	0.0107	1.847	0.1997	0.0335	17	1.52	High	0
261.99	Acid Soluble Mn, Other (1.5%)	0515	2.017	0.5700	1.847	0.1997	0.0335	17	0.85	OK	1
271.30	Water Soluble Mn, ICP, Ext. 972.03 (%)	0619	1.435	0.0300				1			0
271.99	Water Soluble Mn, Other (%)	0619	1.435	0.0300				2			0
271.99	Water Soluble Mn, Other (%)	0513	1.630	0.0200				2			0
281.00	Acid Soluble Hg, AA (ppm)	0558	0.1890	0.0026				1			0
281.30	Acid Soluble Hg, ICP (ppm)	0444	0.1700	0.0000				1			0
281.30	Acid Soluble Hg, ICP (ppm)	0527	< 0.001					1			5
281.30	Acid Soluble Hg, ICP (ppm)	0515	< 0.1					1			5
281.30	Acid Soluble Hg, ICP (ppm)	0605	< 1.25					1			5
281.30	Acid Soluble Hg, ICP (ppm)	0405	< 2					1			5
281.99	Acid Soluble Hg, Other (ppm)	0524	0.0889	0.0010	0.1131	0.0221	0.0033	4	-1.10		0
281.99	Acid Soluble Hg, Other (ppm)	0572	0.1102	0.0011	0.1131	0.0221	0.0033	4	-0.13		0
281.99	Acid Soluble Hg, Other (ppm)	0086	0.1109	0.0101	0.1131	0.0221	0.0033	4	-0.10		0
281.99	Acid Soluble Hg, Other (ppm)	0035	0.1425	0.0010	0.1131	0.0221	0.0033	4	1.33		0
289.30	Acid Soluble Mo, ICP (ppm)	0523	0.8280	0.6440	4.032	3.009	0.7826	5	-0.93		0
289.30	Acid Soluble Mo, ICP (ppm)	0234	2.500	1.000	4.032	3.009	0.7826	5	-0.44		0
289.30	Acid Soluble Mo, ICP (ppm)	0524	2.690	0.0991	4.032	3.009	0.7826	5	-0.39		0
289.30	Acid Soluble Mo, ICP (ppm)	0255	5.783	1.850	4.032	3.009	0.7826	5	0.51		0
289.30	Acid Soluble Mo, ICP (ppm)	0035	8.360	0.3200	4.032	3.009	0.7826	5	1.26		0
289.30	Acid Soluble Mo, ICP (ppm)	0402	< 5		4.032	3.009	0.7826	5			5
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0405	8.000	0.0000				1			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0106	6.000	0.0000	8.221	3.158	0.7149	5	-0.70		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0136	6.550	0.1000	8.221	3.158	0.7149	5	-0.53		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	6.971	0.2847	8.221	3.158	0.7149	5	-0.40		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0515	7.847	2.435	8.221	3.158	0.7149	5	-0.12		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0423	13.74	0.0400	8.221	3.158	0.7149	5	1.75		0
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0368	7.100	0.2000				1			0
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0515	< 0.178					1			5
289.99	Acid Soluble Mo, Other (ppm)	0572	6.337	0.1538				1			0
291.30	Acid Soluble Ni, ICP (ppm)	0444	12.15	0.2800	15.87	2.471	0.2902	5	-1.51		0
291.30	Acid Soluble Ni, ICP (ppm)	0524	15.39	0.1620	15.87	2.471	0.2902	5	-0.20		0
291.30	Acid Soluble Ni, ICP (ppm)	0605	16.07	0.1800	15.87	2.471	0.2902	5	0.08		0
291.30	Acid Soluble Ni, ICP (ppm)	0035	16.80	0.8000	15.87	2.471	0.2902	5	0.38		0
291.30	Acid Soluble Ni, ICP (ppm)	0523	18.94	0.0290	15.87	2.471	0.2902	5	1.24		0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0405	19.00	0.0000				1			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0136	14.05	2.100	17.97	3.575	1.566	5	-1.10		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0527	14.45	0.2983	17.97	3.575	1.566	5	-0.99		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0494	18.70	1.800	17.97	3.575	1.566	5	0.20		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				
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0117	21.03	0.3330	17.97	3.575	1.566	5	0.85		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0515	21.64	3.300	17.97	3.575	1.566	5	1.03		0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0368	14.15	0.5000				2			0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0515	35.07	53.27				2			0
291.99	Acid Soluble Ni, Other (ppm)	0572	12.90	1.171	18.39	6.822	1.609	3	-0.80		0
291.99	Acid Soluble Ni, Other (ppm)	0558	16.24	0.0250	18.39	6.822	1.609	3	-0.32		0
291.99	Acid Soluble Ni, Other (ppm)	0255	26.03	3.630	18.39	6.822	1.609	3	1.12		0
301.30	Acid Soluble Se, ICP (ppm)	0523	2.151	0.1030				2			0
301.30	Acid Soluble Se, ICP (ppm)	0524	2.516	0.0547				2			0
301.30	Acid Soluble Se, ICP (ppm)	0605	< 1.65					2			5
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0086	2.011	0.0488				2			0
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0405	17.50	1.000				2			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0515	7.244	1.440				2			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0494	10.65	1.100				2			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0527	< 0.01					2			5
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0515	4.484	6.829				1			0
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0368	< 1.3					1			5
301.99	Acid Soluble Se, Other (ppm)	0572	1.971	0.0563				2			0
301.99	Acid Soluble Se, Other (ppm)	0255	9.533	5.594				2			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0494	2.277	0.0102	2.412	0.1300	0.0180	4	-1.04		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0035	2.390	0.0400	2.412	0.1300	0.0180	4	-0.17		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0423	2.393	0.0190	2.412	0.1300	0.0180	4	-0.15		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	2.590	0.0028	2.412	0.1300	0.0180	4	1.37		0
311.99	Sodium, Other (%)	0572	2.420	0.0172				2			0
311.99	Sodium, Other (%)	0354	2.445	0.0500				2			0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (2%)	0537	2.305	0.0100	2.705	0.3124	0.0588	4	-1.28		0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (2%)	0485	2.610	0.0400	2.705	0.3124	0.0588	4	-0.30		0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (2%)	0553	2.920	0.1000	2.705	0.3124	0.0588	4	0.69		0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (2%)	0029	2.984	0.0850	2.705	0.3124	0.0588	4	0.89		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	0402	2.547	0.0347	2.859	0.2095	0.0682	17	-1.49	Low	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	0324	2.590	0.1800	2.859	0.2095	0.0682	17	-1.29	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	0255	2.661	0.0080	2.859	0.2095	0.0682	17	-0.95	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	0433	2.695	0.0500	2.859	0.2095	0.0682	17	-0.78	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	0292	2.710	0.0000	2.859	0.2095	0.0682	17	-0.71	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	0444	2.735	0.0100	2.859	0.2095	0.0682	17	-0.59	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	0157	2.800	0.0200	2.859	0.2095	0.0682	17	-0.28	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	0354	2.805	0.0500	2.859	0.2095	0.0682	17	-0.26	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	0234	2.830	0.0400	2.859	0.2095	0.0682	17	-0.14	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	0422	2.923	0.0290	2.859	0.2095	0.0682	17	0.30	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	0291	2.980	0.0200	2.859	0.2095	0.0682	17	0.58	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	0049	2.982	0.0570	2.859	0.2095	0.0682	17	0.58	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	0377	3.000	0.3200	2.859	0.2095	0.0682	17	0.67	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	0451	3.047	0.1470	2.859	0.2095	0.0682	17	0.89	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				
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	0035	3.090	0.2400	2.859	0.2095	0.0682	17	1.10	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	0513	3.100	0.0000	2.859	0.2095	0.0682	17	1.15	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (2%)	0231	3.115	0.0100	2.859	0.2095	0.0682	17	1.22	OK	0
321.31	Acid Soluble Zn, ICP, test portion organic 965.09 (2%)	0619	2.715	0.0100				1			0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (2%)	0405	2.625	0.0100	2.752	0.0992	0.0636	5	-1.28		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (2%)	0095	2.690	0.1800	2.752	0.0992	0.0636	5	-0.63		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (2%)	0073	2.750	0.0400	2.752	0.0992	0.0636	5	-0.02		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (2%)	0423	2.826	0.0080	2.752	0.0992	0.0636	5	0.74		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (2%)	0028	2.870	0.0800	2.752	0.0992	0.0636	5	1.19		0
321.33	Acid Soluble Zn, ICP, 2017.02 (2%)	0177	2.488	0.0477	2.830	0.2143	0.0542	13	-1.60	Low	0
321.33	Acid Soluble Zn, ICP, 2017.02 (2%)	0561	2.675	0.0300	2.830	0.2143	0.0542	13	-0.72	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (2%)	0515	2.700	0.1610	2.830	0.2143	0.0542	13	-0.61	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (2%)	0136	2.705	0.0500	2.830	0.2143	0.0542	13	-0.58	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (2%)	0527	2.731	0.0002	2.830	0.2143	0.0542	13	-0.46	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (2%)	0040	2.736	0.0030	2.830	0.2143	0.0542	13	-0.44	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (2%)	0472	2.770	0.0000	2.830	0.2143	0.0542	13	-0.28	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (2%)	0102	2.860	0.1400	2.830	0.2143	0.0542	13	0.14	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (2%)	0494	2.882	0.0687	2.830	0.2143	0.0542	13	0.24	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (2%)	0117	2.888	0.0070	2.830	0.2143	0.0542	13	0.27	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (2%)	0106	3.071	0.0399	2.830	0.2143	0.0542	13	1.12	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (2%)	0421	3.110	0.0800	2.830	0.2143	0.0542	13	1.31	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (2%)	0521	3.658	0.0000	2.830	0.2143	0.0542	13	3.86	High	0
321.33	Acid Soluble Zn, ICP, 2017.02 (2%)	0055	2.410	0.3600	2.830	0.2143	0.0542	13	-1.96	Low	1
321.99	Acid Soluble Zn, Other (2%)	0042	2.375	0.1300	2.755	0.2340	0.0426	16	-1.62	Low	0
321.99	Acid Soluble Zn, Other (2%)	0559	2.385	0.0100	2.755	0.2340	0.0426	16	-1.58	Low	0
321.99	Acid Soluble Zn, Other (2%)	0560	2.562	0.0390	2.755	0.2340	0.0426	16	-0.83	OK	0
321.99	Acid Soluble Zn, Other (2%)	0564	2.600	0.0200	2.755	0.2340	0.0426	16	-0.66	OK	0
321.99	Acid Soluble Zn, Other (2%)	0562	2.640	0.1800	2.755	0.2340	0.0426	16	-0.49	OK	0
321.99	Acid Soluble Zn, Other (2%)	0600	2.670	0.1400	2.755	0.2340	0.0426	16	-0.36	OK	0
321.99	Acid Soluble Zn, Other (2%)	0368	2.698	0.0416	2.755	0.2340	0.0426	16	-0.24	OK	0
321.99	Acid Soluble Zn, Other (2%)	0619	2.715	0.0100	2.755	0.2340	0.0426	16	-0.17	OK	0
321.99	Acid Soluble Zn, Other (2%)	0389	2.765	0.0100	2.755	0.2340	0.0426	16	0.04	OK	0
321.99	Acid Soluble Zn, Other (2%)	0523	2.835	0.0030	2.755	0.2340	0.0426	16	0.34	OK	0
321.99	Acid Soluble Zn, Other (2%)	0558	2.869	0.0189	2.755	0.2340	0.0426	16	0.49	OK	0
321.99	Acid Soluble Zn, Other (2%)	0572	2.891	0.0647	2.755	0.2340	0.0426	16	0.58	OK	0
321.99	Acid Soluble Zn, Other (2%)	0023	2.955	0.0070	2.755	0.2340	0.0426	16	0.85	OK	0
321.99	Acid Soluble Zn, Other (2%)	0027	2.966	0.0440	2.755	0.2340	0.0426	16	0.90	OK	0
321.99	Acid Soluble Zn, Other (2%)	0605	3.000	0.0400	2.755	0.2340	0.0426	16	1.05	OK	0
321.99	Acid Soluble Zn, Other (2%)	0524	3.247	0.0638	2.755	0.2340	0.0426	16	2.10	High	0
321.99	Acid Soluble Zn, Other (2%)	0307	9.300	0.1000	2.755	0.2340	0.0426	16	27.97	High	2
325.00	Water Soluble Zn, AA (%)	0518	2.500	0.2000				1			0
325.30	Water Soluble Zn, ICP (%)	0513	0.5300	0.0000				2			0
325.30	Water Soluble Zn, ICP (%)	0619	0.6385	0.0010				2			0

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325.99	Water Soluble Zn, Other (%)	0619	0.6385	0.0010				1			0
441.00	Humic Acids, Gravimetry,Ash-free, alkali dissolved, acid precipi	0619	24.80	0.0000				1			0
441.00	Humic Acids, Gravimetry,Ash-free, alkali dissolved, acid precipi	0136	< 0.5					1			5
441.10	Humic Acids, Gravimetry, alkali dissolved, acid precipitated (5%	0518	0.9500	0.1000	3.836	2.444	0.1679	5	-1.18		0
441.10	Humic Acids, Gravimetry, alkali dissolved, acid precipitated (5%	0368	1.416	0.5175	3.836	2.444	0.1679	5	-0.99		0
441.10	Humic Acids, Gravimetry, alkali dissolved, acid precipitated (5%	0549	5.145	0.1300	3.836	2.444	0.1679	5	0.54		0
441.10	Humic Acids, Gravimetry, alkali dissolved, acid precipitated (5%	0527	5.810	0.0119	3.836	2.444	0.1679	5	0.81		0
441.10	Humic Acids, Gravimetry, alkali dissolved, acid precipitated (5%	0619	5.860	0.0800	3.836	2.444	0.1679	5	0.83		0
441.99	Humic Acids, Other (5%)	0521	3.669	0.0000	5.135	0.1590	0.0703	8	-8.43	NA	0
441.99	Humic Acids, Other (5%)	0600	5.025	0.1500	5.135	0.1590	0.0703	8	-0.63	NA	0
441.99	Humic Acids, Other (5%)	0560	5.104	0.0120	5.135	0.1590	0.0703	8	-0.18	NA	0
441.99	Humic Acids, Other (5%)	0564	5.115	0.0500	5.135	0.1590	0.0703	8	-0.11	NA	0
441.99	Humic Acids, Other (5%)	0537	5.140	0.0400	5.135	0.1590	0.0703	8	0.03	NA	0
441.99	Humic Acids, Other (5%)	0562	5.200	0.1600	5.135	0.1590	0.0703	8	0.37	NA	0
441.99	Humic Acids, Other (5%)	0559	5.225	0.0100	5.135	0.1590	0.0703	8	0.52	NA	0
441.99	Humic Acids, Other (5%)	0619	24.80	0.0000	5.135	0.1590	0.0703	8	113.10	NA	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:

*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 ± 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