

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 210711

CaSO4-B-Zn

Statistical Summary

Methods: 110

Labs Reporting: 71

Issue Date : 08/31/2021

Method Code	Analyte & Method Sample # 210711	# 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 (%)	2	2	0.2992	0.0224								
002.99	Nitrate N, Other (%)	1		0.0100									
005.99	Urea N, Other (%)	1		0.0001									
010.12	Total N, Salicylic (%)	1		0.4710									
010.60	Total N, Combustion (%)	5	5	0.4642	0.0575	0.4642	0.4900	0.0575	0.0321	12.39%	0.27	0.0092	4.49%
010.99	Total N, Other (%)	1		0.5017									
020.50	Total P2O5, ICP (%)	5	5	0.1261	0.1553	0.1261		0.1553	0.0868	123.16%		0.0123	5.46%
041.20	Direct Available P2O5, Spectrophotometric (%)	1		0.1940									
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	3	3	0.0363	0.0342	0.0363	0.6700	0.0342	0.0247	94.16%	0.12	0.0173	6.59%
041.50	Direct Available P2O5, ICP (%)	1		0.1000									
050.31	Soluble K2O, AA (Citrate) (%)	1		0.1250									
050.51	Soluble K2O, ICP (Citrate) (%)	2	2	0.0661	0.0056								
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	1		0.0565									
050.99	Soluble K2O, Other (%)	6	5	0.0947	0.0599	0.0937	0.4100	0.0669	0.0374	71.43%	0.38	0.0012	5.71%
060.00	Water (Free), Vacuum Oven (%)	1		0.6024									
060.10	Water (Free), Vacuum Desiccation (%)	1		0.5600									
101.00	Acid Soluble Ca, AA, inorganic 965.09 (18%)	5	5	18.86	0.9224	18.86	1.0000	0.9224	0.5156	4.89%	2.15	0.3860	2.30%
101.03	Acid Soluble Ca, AA, 965.09, test portion 2006.03A-C w/dual acid (18%)	1		20.85									
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (18%)	16	16	18.18	4.637	19.08	1.0000	1.864	0.5824	9.77%	4.34	0.3675	2.29%
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (18%)	6	6	19.28	2.144	19.28	1.0000	2.431	1.241	12.61%	5.67	0.1875	2.28%
101.33	Acid Soluble Ca, ICP, 2017.02 (18%)	14	13	17.73	3.495	18.63	1.0000	1.165	0.4039	6.25%	2.71	0.2558	2.32%
101.70	Acid Soluble Ca, Titrimetric (18%)	5	5	18.24	2.390	18.24	1.0000	2.390	1.336	13.10%	5.57	0.0992	2.34%
101.99	Acid Soluble Ca, Other (18%)	15	15	18.78	2.871	19.22	1.0000	1.545	0.4985	8.04%	3.60	0.5981	2.28%
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	1		0.0955									
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	5	5	0.0800	0.0237	0.0800	0.2040	0.0237	0.0133	29.66%	0.27	0.0053	5.85%
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	1		0.0950									
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	3	3	0.1041	0.0125	0.1041	0.2052	0.0125	0.0090	12.01%	0.14	0.0040	5.62%
121.99	Acid Soluble Mg, Other (%)	5	5	0.1353	0.1147	0.1353	0.2068	0.1147	0.0641	84.82%	1.29	0.0021	5.40%
143.99	Elemental S, Other (%)	6	6	16.73	2.539	16.70		2.815	1.437	16.86%		0.2421	2.45%
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	8	8	16.23	0.5553	16.25		0.5766	0.2548	3.55%		0.0600	2.48%
145.99	Sulfate S, HCl soluble, Other (%)	4	4	16.10	0.5787	16.10		0.5787	0.3617	3.60%		0.0950	2.49%
148.00	Total S, Combustion (16%)	5	5	16.87	0.8158	16.87	1.0000	0.8158	0.4560	4.84%	1.90	0.7200	2.43%
148.01	Total S, Gravimetric - sulfate and elemental (16%)	10	9	16.26	0.3578	16.16	1.0000	0.2651	0.1105	1.64%	0.62	0.0712	2.49%

Method Code	Analyte & Method Sample # 210711	# 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
148.07	Total S, ICP, test portion as in 2017.02 (16%)	14	12	15.66	2.524	16.29	1.0000	0.4992	0.1801	3.06%	1.16	0.2238	2.48%
148.99	Total S, Other (16%)	13	12	15.27	4.211	16.45	1.0000	0.6450	0.2327	3.92%	1.50	0.2950	2.47%
149.04	S - HNO3 soluble, ICP (%)	3	3	16.87	2.031	16.87		2.031	1.466	12.04%		0.9143	2.44%
151.30	Acid Soluble As, ICP (ppm)	3	3	1.132	0.5518	1.132		0.5518	0.3982	48.73%		0.0414	15.70%
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	1		1.850									
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	5	3	3.133	3.851	1.245		0.0901	0.0650	7.24%		0.0155	15.48%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	1		2.450									
151.99	Acid Soluble As, Other (ppm)	4	3	1.245	0.5244	1.327		0.6103	0.4404	46.00%		0.1800	15.33%
165.00	Acid Soluble B, Spectrophotometric (0.5%)	9	9	0.4478	0.1298	0.4725	0.0739	0.0784	0.0327	16.60%	2.47	0.0141	4.48%
165.30	Acid Soluble B, ICP, test portion in 982.01 (0.5%)	15	15	0.4643	0.0366	0.4592	0.0719	0.0258	0.0083	5.63%	0.84	0.0171	4.50%
165.70	Acid Soluble B, Titrimetric (0.5%)	1		24.24									
165.99	Acid Soluble B, Other (0.5%)	26	25	0.4573	0.0257	0.4570	0.0715	0.0273	0.0068	5.97%	0.89	0.0102	4.50%
171.10	Water Soluble B, Spectrophotometric (%)	4	4	0.4850	0.0400	0.4850		0.0400	0.0250	8.25%		0.0250	4.46%
171.99	Water Soluble B, Other (%)	2	2	0.4550	0.0141								
181.30	Acid Soluble Cd, ICP (ppm)	6	6	0.1595	0.1873	0.0929		0.0322	0.0164	34.66%		0.0039	22.00%
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	1		0.1000									
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	5	1	1.332	2.088	0.0929		0.0322	0.0403	34.66%		0.0010	22.00%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	1		0.1375									
181.99	Acid Soluble Cd, Other (ppm)	4	1	0.4563	0.3971	0.0929		0.0322	0.0403	34.66%		0.0100	22.00%
190.00	Water Soluble Cl, Titrimetric (%)	1		0.2700									
191.30	Acid Soluble Cr, ICP (ppm)	7	7	12.78	6.760	12.78		7.666	3.622	59.99%		0.8361	10.90%
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	1		13.50									
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	4	4	17.34	6.575	17.34		6.575	4.110	37.91%		0.2465	10.41%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	1		8.248									
191.99	Acid Soluble Cr, Other (ppm)	4	3	21.11	19.35	11.48		2.336	1.686	20.35%		0.4867	11.08%
202.30	Acid Soluble Co, ICP (ppm)	5	5	1.407	0.8073	1.407	1.4220	0.8073	0.4513	57.39%	1.32	0.0939	15.20%
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	2	2	1.690	0.6223								
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	4	3	2.953	1.373	2.271	1.6813	0.1856	0.1339	8.17%	0.26	0.1855	14.14%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	1		0.1000									
202.99	Acid Soluble Co, Other (ppm)	6	5	4.487	7.617	1.385	1.4154	0.5722	0.3199	41.33%	0.94	0.2162	15.23%
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	1		0.0050									
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	3	1	0.0333	0.0493	1.385	0.1435	0.5722	0.7153	41.33%	9.29	0.0200	3.81%
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	4	3	0.0007	0.0012	0.0002	0.0050	0.0001	0.0000	33.33%	0.02	0.0000	15.05%
221.99	Acid Soluble Cu, Other (%)	6	5	0.0004	0.0003	0.0003	0.0050	0.0002	0.0001	71.18%	0.09	0.0000	13.85%
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	1		0.0580									
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	5	5	0.0982	0.0878	0.0982	0.0148	0.0878	0.0491	89.40%	13.80	0.0208	5.67%
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	2	2	0.0672	0.0010								
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	3	3	0.0645	0.0057	0.0645	0.0114	0.0057	0.0041	8.81%	1.16	0.0024	6.04%
241.99	Acid Soluble Fe, Other (%)	4	4	0.0561	0.0011	0.0561	0.0106	0.0011	0.0007	2.01%	0.25	0.0025	6.17%
251.30	Acid Soluble Pb, ICP (ppm)	5	5	0.3377	0.0700	0.3377		0.0700	0.0391	20.74%		0.0148	18.84%
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	1		3.900									
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	5	1	1.931	2.069	0.3377		0.0700	0.0875	20.74%		0.0057	18.84%
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	1		0.5000									
251.99	Acid Soluble Pb, Other (ppm)	5	4	2.133	2.081	2.416		2.289	1.430	94.72%		0.1875	14.01%

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261.00	Acid Soluble Mn, AA, Mn2+ only (%)	1		0.0050									
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	2	1	0.0075	0.0036								
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)	2	2	0.0577	0.0740								
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	2	2	0.0052	0.0003								
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	4	4	0.0052	0.0002	0.0052	0.0055	0.0002	0.0001	3.62%	0.08	0.0001	8.82%
261.99	Acid Soluble Mn, Other (%)	3	3	0.0048	0.0004	0.0048	0.0055	0.0004	0.0003	8.51%	0.17	0.0002	8.94%
281.30	Acid Soluble Hg, ICP (ppm)	2	1	0.0840	0.1186								
281.99	Acid Soluble Hg, Other (ppm)	7	5	0.2278	0.1209	0.1779		0.0123	0.0069	6.94%		0.0024	20.74%
289.30	Acid Soluble Mo, ICP (ppm)	4	4	1.509	1.470	1.509	1.4527	1.470	0.9189	97.43%	2.36	0.3276	15.04%
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	1		0.6500									
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	3	1	2.008	2.641	1.509	1.4527	1.470	1.838	97.43%	2.36	0.0139	15.04%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	1		0.1000									
289.99	Acid Soluble Mo, Other (ppm)	4	3	25.60	49.60	0.8017	1.2405	0.2771	0.2000	34.57%	0.52	0.0833	16.54%
291.30	Acid Soluble Ni, ICP (ppm)	7	7	4.337	1.300	4.337		1.474	0.6964	33.99%		0.2907	12.83%
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	1		4.800									
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	5	3	4.940	0.2292	4.900		0.3147	0.2271	6.42%		0.0860	12.59%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	1		3.183									
291.99	Acid Soluble Ni, Other (ppm)	6	5	6.884	6.550	4.260		1.418	0.7926	33.28%		0.1140	12.86%
301.30	Acid Soluble Se, ICP (ppm)	2	2	1.973	1.103								
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	1		1.150									
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	3	2	1.681	1.593	2.521		0.9176	0.8111	36.40%		0.2022	13.92%
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	1		1.000									
301.99	Acid Soluble Se, Other (ppm)	5	3	1.101	0.9484	1.668		0.7275	0.5250	43.61%		0.4100	14.81%
311.00	Sodium, AA (%)	1		0.2925									
311.33	Sodium, ICP, test portion as in 2017.02 (%)	5	5	0.3393	0.0584	0.3393	0.0389	0.0584	0.0327	17.22%	3.50	0.0085	4.71%
311.99	Sodium, Other (%)	3	3	0.3212	0.0211	0.3212	0.0371	0.0211	0.0152	6.56%	1.32	0.0236	4.75%
321.00	Acid Soluble Zn, AA, inorganic 965.09 (1.5%)	6	6	1.481	0.0191	1.481	0.1531	0.0217	0.0111	1.47%	0.33	0.0220	3.77%
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	17	16	1.465	0.1236	1.466	0.1516	0.1165	0.0364	7.95%	1.79	0.0378	3.78%
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (1.5%)	6	6	1.561	0.1357	1.543	0.1593	0.1116	0.0570	7.23%	1.63	0.0142	3.75%
321.33	Acid Soluble Zn, ICP, 2017.02 (1.5%)	15	15	1.494	0.0614	1.497	0.1547	0.0630	0.0203	4.21%	0.95	0.0285	3.76%
321.99	Acid Soluble Zn, Other (1.5%)	12	12	1.468	0.0597	1.468	0.1518	0.0637	0.0230	4.34%	0.98	0.0400	3.78%
325.30	Water Soluble Zn, ICP (%)	3	3	1.081	0.0694	1.081		0.0694	0.0501	6.42%		0.0466	3.95%
325.99	Water Soluble Zn, Other (%)	5	5	3.232	4.350	3.232		4.350	2.432	134.60%		0.0560	3.35%

The Method IA Ratio = 2.33 * Robust SD / IA at the Method Assigned Value. IA ratios of 1 and less indicate participant data dispersion is as good or less than the IA. Red indicates the IA ratio is significantly greater than 1, Orange indicates marginally greater than 1, Green indicates IA ratio is not significantly greater than 1 and Grey indicates < 6 labs reporting. The Horwitz %RSD is calculated using the Thompson Modification, Analyst,2000,125,385-386.

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 210711

Method Precision Report

CaSO4-B-Zn

Issue Date : 08/31/2021

Method Code	Analyte & Method	# Tests Submitted	# Tests Used in Precision Calcs	Mean	SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %rds	Reproducibility %RSD	sR/sr
010.60	Total N, Combustion (%)	5	5	0.4642	0.0575	0.0573	0.0075	0.0577	12.34%	1.61%	12.44%	7.744
101.00	Acid Soluble Ca, AA, inorganic 965.09 (18%)	5	5	18.86	0.9224	0.8836	0.3742	0.9596	4.68%	1.98%	5.09%	2.564
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (18%)	16	15	19.27	1.524	1.504	0.3469	1.544	7.81%	1.80%	8.01%	4.451
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (18%)	6	6	19.28	2.144	2.141	0.1704	2.147	11.10%	0.88%	11.14%	12.60
101.33	Acid Soluble Ca, ICP, 2017.02 (18%)	14	12	18.34	2.229	2.221	0.2632	2.236	12.11%	1.44%	12.19%	8.495
101.99	Acid Soluble Ca, Other (18%)	15	13	19.24	1.169	1.146	0.3234	1.191	5.96%	1.68%	6.19%	3.683
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	5	5	0.0800	0.0237	0.0235	0.0046	0.0240	29.38%	5.76%	29.94%	5.201
143.99	Elemental S, Other (%)	6	6	16.73	2.539	2.534	0.2234	2.544	15.15%	1.34%	15.21%	11.39
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	8	8	16.23	0.5553	0.5542	0.0502	0.5564	3.42%	0.31%	3.43%	11.07
148.00	Total S, Combustion (16%)	5	5	16.87	0.8158	0.6218	0.7468	0.9718	3.69%	4.43%	5.76%	1.301
148.01	Total S, Gravimetric - sulfate and elemental (16%)	10	9	16.18	0.2788	0.2757	0.0587	0.2819	1.70%	0.36%	1.74%	4.802
148.07	Total S, ICP, test portion as in 2017.02 (16%)	14	11	16.35	0.4423	0.4238	0.1794	0.4602	2.59%	1.10%	2.81%	2.565
148.99	Total S, Other (16%)	13	11	16.42	0.6363	0.6109	0.2519	0.6608	3.72%	1.53%	4.02%	2.623
165.00	Acid Soluble B, Spectrophotometric (0.5%)	9	8	0.4873	0.0569	0.0561	0.0136	0.0577	11.52%	2.79%	11.85%	4.250
165.30	Acid Soluble B, ICP, test portion in 982.01 (0.5%)	15	13	0.4546	0.0205	0.0177	0.0147	0.0230	3.89%	3.24%	5.07%	1.564
165.99	Acid Soluble B, Other (0.5%)	26	24	0.4582	0.0264	0.0257	0.0086	0.0271	5.62%	1.88%	5.92%	3.155
181.30	Acid Soluble Cd, ICP (ppm)	6	5	0.0833	0.0176	0.0175	0.0022	0.0176	21.00%	2.64%	21.16%	8.029
191.30	Acid Soluble Cr, ICP (ppm)	7	7	12.78	6.760	6.737	0.7819	6.783	52.72%	6.12%	53.08%	8.674
202.30	Acid Soluble Co, ICP (ppm)	5	5	1.407	0.8073	0.8055	0.0769	0.8092	57.26%	5.46%	57.52%	10.53
202.99	Acid Soluble Co, Other (ppm)	6	5	1.385	0.5722	0.5598	0.1681	0.5845	40.43%	12.14%	42.21%	3.477
221.99	Acid Soluble Cu, Other (%)	6	5	0.0003	0.0002	0.0002	0.0000	0.0002	70.13%	17.20%	72.21%	4.198
251.30	Acid Soluble Pb, ICP (ppm)	5	5	0.3377	0.0700	0.0692	0.0148	0.0708	20.50%	4.37%	20.96%	4.793
281.99	Acid Soluble Hg, Other (ppm)	7	5	0.1779	0.0123	0.0122	0.0024	0.0125	6.88%	1.33%	7.00%	5.265
291.30	Acid Soluble Ni, ICP (ppm)	7	6	4.593	1.215	1.209	0.1766	1.222	26.32%	3.84%	26.60%	6.918
321.00	Acid Soluble Zn, AA, inorganic 965.09 (1.5%)	6	6	1.481	0.0191	0.0129	0.0199	0.0238	0.87%	1.35%	1.61%	1.192
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	17	14	1.464	0.0958	0.0940	0.0262	0.0976	6.42%	1.79%	6.67%	3.723
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (1.5%)	6	6	1.561	0.1357	0.1353	0.0148	0.1361	8.67%	0.95%	8.72%	9.205
321.33	Acid Soluble Zn, ICP, 2017.02 (1.5%)	15	15	1.494	0.0614	0.0585	0.0262	0.0641	3.91%	1.75%	4.29%	2.450
321.99	Acid Soluble Zn, Other (1.5%)	12	11	1.476	0.0563	0.0527	0.0279	0.0596	3.57%	1.89%	4.04%	2.137

Analyte & Method	# Tests Used in Precision Calcs	# Tests Submitted	Mean	SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
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Notes: Precision data calculated when 5 or more Tests included.

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 210711

Lab Values

CaSO4-B-Zn

Methods: 110

Labs Reporting: 71

Issue Date : 08/31/2021

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
001.99	Ammoniacal N, Other (%)	0524	0.2833	0.0364				2			0
001.99	Ammoniacal N, Other (%)	0553	0.3150	0.0100				2			0
002.99	Nitrate N, Other (%)	0553	< 0.01					0			5
005.99	Urea N, Other (%)	0524	0.0001	0.0000				1			0
010.12	Total N, Salicylic (%)	0568	0.4710	0.0260				1			0
010.60	Total N, Combustion (%)	0354	0.3670	0.0160	0.4642	0.0575	0.0092	5	-1.69		0
010.60	Total N, Combustion (%)	0422	0.4640	0.0100	0.4642	0.0575	0.0092	5	0.00		0
010.60	Total N, Combustion (%)	0472	0.4800	0.0000	0.4642	0.0575	0.0092	5	0.27		0
010.60	Total N, Combustion (%)	0389	0.4950	0.0100	0.4642	0.0575	0.0092	5	0.54		0
010.60	Total N, Combustion (%)	0325	0.5150	0.0100	0.4642	0.0575	0.0092	5	0.88		0
010.99	Total N, Other (%)	0524	0.5017	0.0270				1			0
020.50	Total P2O5, ICP (%)	0389	0.0100	0.0000	0.1261	0.1553	0.0123	5	-0.75		0
020.50	Total P2O5, ICP (%)	0524	0.0132	0.0015	0.1261	0.1553	0.0123	5	-0.73		0
020.50	Total P2O5, ICP (%)	0527	0.0172	0.0001	0.1261	0.1553	0.0123	5	-0.70		0
020.50	Total P2O5, ICP (%)	0552	0.2700	0.0000	0.1261	0.1553	0.0123	5	0.93		0
020.50	Total P2O5, ICP (%)	0472	0.3200	0.0600	0.1261	0.1553	0.0123	5	1.25		0
041.20	Direct Available P2O5, Spectrophotometric (%)	0553	0.1940	0.0080				1			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	0568	0.0100	0.0000	0.0363	0.0342	0.0173	3	-0.77		0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	0354	0.0240	0.0020	0.0363	0.0342	0.0173	3	-0.36		0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	0472	0.0750	0.0500	0.0363	0.0342	0.0173	3	1.13		0
041.50	Direct Available P2O5, ICP (%)	0325	< 0.1					0			5
050.31	Soluble K2O, AA (Citrate) (%)	0472	0.1250	0.0100				1			0
050.51	Soluble K2O, ICP (Citrate) (%)	0368	0.0621	0.0022				2			0
050.51	Soluble K2O, ICP (Citrate) (%)	0568	0.0700	0.0000				2			0
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	0354	0.0565	0.0010				1			0
050.99	Soluble K2O, Other (%)	0553	0.0385	0.0010	0.0937	0.0669	0.0012	5	-0.72		0
050.99	Soluble K2O, Other (%)	0389	0.0684	0.0009	0.0937	0.0669	0.0012	5	-0.33		0
050.99	Soluble K2O, Other (%)	0527	0.0710	0.0005	0.0937	0.0669	0.0012	5	-0.30		0
050.99	Soluble K2O, Other (%)	0524	0.0806	0.0035	0.0937	0.0669	0.0012	5	-0.17		0
050.99	Soluble K2O, Other (%)	0552	0.2100	0.0000	0.0937	0.0669	0.0012	5	1.52		0
050.99	Soluble K2O, Other (%)	0325	< 0.1		0.0937	0.0669	0.0012	5			5
060.00	Water (Free), Vacuum Oven (%)	0416	0.6024	0.0747				1			0
060.10	Water (Free), Vacuum Desiccation (%)	0419	0.5600	0.0400				1			0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (18%)	0534	17.90	0.6000	18.86	0.9224	0.3860	5	-1.04		0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (18%)	0533	18.27	0.0800	18.86	0.9224	0.3860	5	-0.64		0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (18%)	0553	18.80	1.000	18.86	0.9224	0.3860	5	-0.07		0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
101.00	Acid Soluble Ca, AA, inorganic 965.09 (18%)	0513	19.03	0.0900	18.86	0.9224	0.3860	5	0.18		0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (18%)	0200	20.31	0.1600	18.86	0.9224	0.3860	5	1.57		0
101.03	Acid Soluble Ca, AA, 965.09, test portion 2006.03A-C w/dual acid (18%)	0546	20.85	0.0604				1			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (18%)	0422	1.685	0.1100	19.08	1.864	0.3675	16	-9.34	Low	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (18%)	0568	16.35	0.9000	19.08	1.864	0.3675	16	-1.47	Low	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (18%)	0472	17.00	0.2100	19.08	1.864	0.3675	16	-1.12	Low	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (18%)	0255	17.89	1.010	19.08	1.864	0.3675	16	-0.64	Low	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (18%)	0234	18.22	0.4600	19.08	1.864	0.3675	16	-0.46	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (18%)	0493	18.30	0.1100	19.08	1.864	0.3675	16	-0.42	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (18%)	0231	19.11	0.2700	19.08	1.864	0.3675	16	0.01	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (18%)	0049	19.30	0.2900	19.08	1.864	0.3675	16	0.11	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (18%)	0444	19.50	0.0300	19.08	1.864	0.3675	16	0.22	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (18%)	0324	19.70	0.0000	19.08	1.864	0.3675	16	0.33	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (18%)	0451	19.70	0.1400	19.08	1.864	0.3675	16	0.33	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (18%)	0433	19.77	0.5700	19.08	1.864	0.3675	16	0.37	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (18%)	0354	20.55	0.5000	19.08	1.864	0.3675	16	0.79	High	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (18%)	0325	20.87	0.7100	19.08	1.864	0.3675	16	0.96	High	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (18%)	0035	20.95	0.5000	19.08	1.864	0.3675	16	1.00	High	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (18%)	0452	21.95	0.0700	19.08	1.864	0.3675	16	1.54	High	0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (18%)	0073	16.28	0.3300	19.28	2.431	0.1875	6	-1.10	Low	0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (18%)	0028	17.65	0.1000	19.28	2.431	0.1875	6	-0.60	Low	0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (18%)	0521	19.27	0.0000	19.28	2.431	0.1875	6	0.00	OK	0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (18%)	0220	19.99	0.0400	19.28	2.431	0.1875	6	0.26	OK	0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (18%)	0423	20.00	0.2450	19.28	2.431	0.1875	6	0.27	OK	0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (18%)	0095	22.49	0.4100	19.28	2.431	0.1875	6	1.17	High	0
101.33	Acid Soluble Ca, ICP, 2017.02 (18%)	0117	8.046	0.2789	18.63	1.165	0.2558	13	-9.09	Low	0
101.33	Acid Soluble Ca, ICP, 2017.02 (18%)	0043	11.63	0.8300	18.63	1.165	0.2558	13	-6.02	Low	0
101.33	Acid Soluble Ca, ICP, 2017.02 (18%)	0034	18.02	0.0000	18.63	1.165	0.2558	13	-0.53	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (18%)	0177	18.15	0.3726	18.63	1.165	0.2558	13	-0.41	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (18%)	0486	18.48	0.0700	18.63	1.165	0.2558	13	-0.14	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (18%)	0055	18.50	0.0500	18.63	1.165	0.2558	13	-0.12	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (18%)	0292	18.54	0.0300	18.63	1.165	0.2558	13	-0.08	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (18%)	0169	18.72	0.1400	18.63	1.165	0.2558	13	0.08	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (18%)	0040	18.92	0.0100	18.63	1.165	0.2558	13	0.24	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (18%)	0136	19.40	0.6000	18.63	1.165	0.2558	13	0.66	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (18%)	0527	19.63	0.3353	18.63	1.165	0.2558	13	0.86	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (18%)	0419	19.76	0.0300	18.63	1.165	0.2558	13	0.96	High	0
101.33	Acid Soluble Ca, ICP, 2017.02 (18%)	0394	20.35	0.5780	18.63	1.165	0.2558	13	1.48	High	0
101.33	Acid Soluble Ca, ICP, 2017.02 (18%)	0494	20.16	1.530	18.63	1.165	0.2558	13	1.31	High	1
101.70	Acid Soluble Ca, Titrimetric (18%)	0416	14.12	0.0358	18.24	2.390	0.0992	5	-1.72		0
101.70	Acid Soluble Ca, Titrimetric (18%)	0574	18.35	0.3000	18.24	2.390	0.0992	5	0.05		0
101.70	Acid Soluble Ca, Titrimetric (18%)	0544	19.02	0.1200	18.24	2.390	0.0992	5	0.33		0
101.70	Acid Soluble Ca, Titrimetric (18%)	0564	19.86	0.0300	18.24	2.390	0.0992	5	0.67		0
101.70	Acid Soluble Ca, Titrimetric (18%)	0565	19.87	0.0100	18.24	2.390	0.0992	5	0.68		0
101.99	Acid Soluble Ca, Other (18%)	0042	9.540	2.480	19.22	1.545	0.5981	15	-6.27	Low	0
101.99	Acid Soluble Ca, Other (18%)	0540	17.96	0.1300	19.22	1.545	0.5981	15	-0.82	Low	0
101.99	Acid Soluble Ca, Other (18%)	0476	17.98	0.1795	19.22	1.545	0.5981	15	-0.80	Low	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
101.99	Acid Soluble Ca, Other (18%)	0389	18.08	0.1400	19.22	1.545	0.5981	15	-0.74	Low	0
101.99	Acid Soluble Ca, Other (18%)	0559	18.36	0.0100	19.22	1.545	0.5981	15	-0.56	OK	0
101.99	Acid Soluble Ca, Other (18%)	0481	18.63	0.0400	19.22	1.545	0.5981	15	-0.38	OK	0
101.99	Acid Soluble Ca, Other (18%)	0368	18.66	0.1216	19.22	1.545	0.5981	15	-0.36	OK	0
101.99	Acid Soluble Ca, Other (18%)	0552	19.06	0.0000	19.22	1.545	0.5981	15	-0.10	OK	0
101.99	Acid Soluble Ca, Other (18%)	0561	19.32	0.0600	19.22	1.545	0.5981	15	0.06	OK	0
101.99	Acid Soluble Ca, Other (18%)	0547	19.65	0.3000	19.22	1.545	0.5981	15	0.28	OK	0
101.99	Acid Soluble Ca, Other (18%)	0390	19.70	0.6000	19.22	1.545	0.5981	15	0.31	OK	0
101.99	Acid Soluble Ca, Other (18%)	0572	19.99	0.0300	19.22	1.545	0.5981	15	0.49	OK	0
101.99	Acid Soluble Ca, Other (18%)	0230	20.95	0.9000	19.22	1.545	0.5981	15	1.12	High	0
101.99	Acid Soluble Ca, Other (18%)	0027	21.78	1.170	19.22	1.545	0.5981	15	1.65	High	0
101.99	Acid Soluble Ca, Other (18%)	0523	22.08	2.810	19.22	1.545	0.5981	15	1.85	High	0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	0553	0.0955	0.0010				1			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0472	0.0400	0.0000	0.0800	0.0237	0.0053	5	-1.69		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0568	0.0764	0.0051	0.0800	0.0237	0.0053	5	-0.16		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0049	0.0944	0.0023	0.0800	0.0237	0.0053	5	0.60		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0035	0.0945	0.0090	0.0800	0.0237	0.0053	5	0.61		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	0.0950	0.0100	0.0800	0.0237	0.0053	5	0.63		0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0423	0.0950	0.0100				1			0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0494	0.0917	0.0091	0.1041	0.0125	0.0040	3	-1.00		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0527	0.1041	0.0019	0.1041	0.0125	0.0040	3	-0.01		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0563	0.1167	0.0011	0.1041	0.0125	0.0040	3	1.00		0
121.99	Acid Soluble Mg, Other (%)	0524	0.0707	0.0063	0.1353	0.1147	0.0021	5	-0.56		0
121.99	Acid Soluble Mg, Other (%)	0307	0.0865	0.0010	0.1353	0.1147	0.0021	5	-0.42		0
121.99	Acid Soluble Mg, Other (%)	0389	0.0877	0.0006	0.1353	0.1147	0.0021	5	-0.41		0
121.99	Acid Soluble Mg, Other (%)	0368	0.0915	0.0025	0.1353	0.1147	0.0021	5	-0.38		0
121.99	Acid Soluble Mg, Other (%)	0552	0.3400	0.0000	0.1353	0.1147	0.0021	5	1.78		0
143.99	Elemental S, Other (%)	0472	14.35	0.1100	16.70	2.815	0.2421	6	-0.75	NA	0
143.99	Elemental S, Other (%)	0255	14.69	0.4200	16.70	2.815	0.2421	6	-0.64	NA	0
143.99	Elemental S, Other (%)	0390	15.85	0.1000	16.70	2.815	0.2421	6	-0.27	NA	0
143.99	Elemental S, Other (%)	0368	16.16	0.0225	16.70	2.815	0.2421	6	-0.17	NA	0
143.99	Elemental S, Other (%)	0389	18.24	0.2000	16.70	2.815	0.2421	6	0.49	NA	0
143.99	Elemental S, Other (%)	0325	21.09	0.6000	16.70	2.815	0.2421	6	1.39	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0561	15.20	0.1000	16.25	0.5766	0.0600	8	-1.66	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0574	15.82	0.0300	16.25	0.5766	0.0600	8	-0.69	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0073	15.95	0.0600	16.25	0.5766	0.0600	8	-0.47	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0544	16.32	0.0800	16.25	0.5766	0.0600	8	0.11	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0405	16.48	0.0100	16.25	0.5766	0.0600	8	0.36	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0027	16.49	0.0700	16.25	0.5766	0.0600	8	0.37	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0029	16.56	0.0100	16.25	0.5766	0.0600	8	0.48	NA	0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0220	17.01	0.1200	16.25	0.5766	0.0600	8	1.21	NA	0
145.99	Sulfate S, HCl soluble, Other (%)	0444	15.29	0.0700	16.10	0.5787	0.0950	4	-1.40		0
145.99	Sulfate S, HCl soluble, Other (%)	0518	16.20	0.2000	16.10	0.5787	0.0950	4	0.18		0
145.99	Sulfate S, HCl soluble, Other (%)	0553	16.25	0.1000	16.10	0.5787	0.0950	4	0.26		0
145.99	Sulfate S, HCl soluble, Other (%)	0419	16.66	0.0100	16.10	0.5787	0.0950	4	0.96		0
148.00	Total S, Combustion (16%)	0049	15.84	0.0200	16.87	0.8158	0.7200	5	-1.26		0
148.00	Total S, Combustion (16%)	0157	16.40	0.0000	16.87	0.8158	0.7200	5	-0.57		0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
148.00	Total S, Combustion (16%)	0451	16.80	1.000	16.87	0.8158	0.7200	5	-0.08		0
148.00	Total S, Combustion (16%)	0136	17.35	0.5000	16.87	0.8158	0.7200	5	0.59		0
148.00	Total S, Combustion (16%)	0114	17.94	2.080	16.87	0.8158	0.7200	5	1.32		0
148.01	Total S, Gravimetric - sulfate and elemental (16%)	0564	15.86	0.0300	16.16	0.2651	0.0712	9	-1.07	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (16%)	0574	15.90	0.1000	16.16	0.2651	0.0712	9	-0.91	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (16%)	0534	15.99	0.0200	16.16	0.2651	0.0712	9	-0.60	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (16%)	0540	16.06	0.1000	16.16	0.2651	0.0712	9	-0.35	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (16%)	0231	16.15	0.1000	16.16	0.2651	0.0712	9	-0.04	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (16%)	0157	16.25	0.1000	16.16	0.2651	0.0712	9	0.31	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (16%)	0513	16.30	0.0600	16.16	0.2651	0.0712	9	0.48	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (16%)	0476	16.39	0.1309	16.16	0.2651	0.0712	9	0.78	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (16%)	0055	16.75	0.0000	16.16	0.2651	0.0712	9	2.05	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (16%)	0324	16.95	0.5000	16.16	0.2651	0.0712	9	2.75	OK	1
148.07	Total S, ICP, test portion as in 2017.02 (16%)	0394	15.72	0.1250	16.29	0.4992	0.2238	12	-1.15	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (16%)	0494	15.79	0.9087	16.29	0.4992	0.2238	12	-1.01	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (16%)	0563	15.82	0.0712	16.29	0.4992	0.2238	12	-0.96	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (16%)	0200	16.12	0.0200	16.29	0.4992	0.2238	12	-0.35	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (16%)	0040	16.15	0.5000	16.29	0.4992	0.2238	12	-0.29	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (16%)	0486	16.21	0.1000	16.29	0.4992	0.2238	12	-0.17	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (16%)	0444	16.30	0.1900	16.29	0.4992	0.2238	12	0.00	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (16%)	0169	16.33	0.0500	16.29	0.4992	0.2238	12	0.06	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (16%)	0177	16.33	0.0092	16.29	0.4992	0.2238	12	0.06	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (16%)	0546	16.75	0.6193	16.29	0.4992	0.2238	12	0.91	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (16%)	0292	17.00	0.0300	16.29	0.4992	0.2238	12	1.40	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (16%)	0527	17.11	0.0618	16.29	0.4992	0.2238	12	1.64	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (16%)	0043	16.60	1.430	16.29	0.4992	0.2238	12	0.60	OK	1
148.07	Total S, ICP, test portion as in 2017.02 (16%)	0117	7.011	0.2176	16.29	0.4992	0.2238	12	-18.60	Low	2
148.99	Total S, Other (16%)	0307	15.25	0.5000	16.45	0.6450	0.2950	12	-1.86	Low	0
148.99	Total S, Other (16%)	0481	15.84	0.0300	16.45	0.6450	0.2950	12	-0.95	OK	0
148.99	Total S, Other (16%)	0565	15.85	0.1000	16.45	0.6450	0.2950	12	-0.93	OK	0
148.99	Total S, Other (16%)	0533	16.09	0.0700	16.45	0.6450	0.2950	12	-0.56	OK	0
148.99	Total S, Other (16%)	0572	16.17	0.9900	16.45	0.6450	0.2950	12	-0.44	OK	0
148.99	Total S, Other (16%)	0433	16.48	1.140	16.45	0.6450	0.2950	12	0.05	OK	0
148.99	Total S, Other (16%)	0559	16.50	0.1100	16.45	0.6450	0.2950	12	0.07	OK	0
148.99	Total S, Other (16%)	0354	16.75	0.1000	16.45	0.6450	0.2950	12	0.47	OK	0
148.99	Total S, Other (16%)	0547	16.85	0.1000	16.45	0.6450	0.2950	12	0.62	OK	0
148.99	Total S, Other (16%)	0523	16.97	0.3400	16.45	0.6450	0.2950	12	0.81	OK	0
148.99	Total S, Other (16%)	0220	17.18	0.0100	16.45	0.6450	0.2950	12	1.13	OK	0
148.99	Total S, Other (16%)	0452	17.24	0.0500	16.45	0.6450	0.2950	12	1.22	OK	0
148.99	Total S, Other (16%)	0422	1.390	0.0800	16.45	0.6450	0.2950	12	-23.34	Low	2
149.04	S - HNO3 soluble, ICP (%)	0521	15.45	0.0000	16.87	2.031	0.9143	3	-0.70		0
149.04	S - HNO3 soluble, ICP (%)	0423	15.96	0.0900	16.87	2.031	0.9143	3	-0.45		0
149.04	S - HNO3 soluble, ICP (%)	0524	19.19	2.653	16.87	2.031	0.9143	3	1.15		0
151.30	Acid Soluble As, ICP (ppm)	0255	0.5600	0.0080	1.132	0.5518	0.0414	3	-1.04		0
151.30	Acid Soluble As, ICP (ppm)	0523	1.176	0.0555	1.132	0.5518	0.0414	3	0.08		0
151.30	Acid Soluble As, ICP (ppm)	0524	1.661	0.0608	1.132	0.5518	0.0414	3	0.96		0
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0220	1.850	0.1000				1			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0136	1.145	0.0100	1.245	0.0901	0.0155	3	-1.11		0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0563	1.269	0.0006	1.245	0.0901	0.0155	3	0.27		0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0527	1.320	0.0360	1.245	0.0901	0.0155	3	0.84		0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0494	< 1.93		1.245	0.0901	0.0155	3			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0117	< 10		1.245	0.0901	0.0155	3			5
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0368	2.450	0.2160				1			0
151.99	Acid Soluble As, Other (ppm)	0481	0.8100	0.0200	1.327	0.6103	0.1800	3	-0.85		0
151.99	Acid Soluble As, Other (ppm)	0572	1.170	0.1200	1.327	0.6103	0.1800	3	-0.26		0
151.99	Acid Soluble As, Other (ppm)	0220	2.000	0.4000	1.327	0.6103	0.1800	3	1.10		0
151.99	Acid Soluble As, Other (ppm)	0405	< 1		1.327	0.6103	0.1800	3			5
165.00	Acid Soluble B, Spectrophotometric (0.5%)	0416	0.1320	0.0032	0.4725	0.0784	0.0141	9	-4.01	Low	0
165.00	Acid Soluble B, Spectrophotometric (0.5%)	0055	0.3915	0.0070	0.4725	0.0784	0.0141	9	-0.95	Low	0
165.00	Acid Soluble B, Spectrophotometric (0.5%)	0553	0.4390	0.0080	0.4725	0.0784	0.0141	9	-0.39	OK	0
165.00	Acid Soluble B, Spectrophotometric (0.5%)	0405	0.4600	0.0000	0.4725	0.0784	0.0141	9	-0.15	OK	0
165.00	Acid Soluble B, Spectrophotometric (0.5%)	0220	0.4960	0.0100	0.4725	0.0784	0.0141	9	0.28	OK	0
165.00	Acid Soluble B, Spectrophotometric (0.5%)	0533	0.4965	0.0290	0.4725	0.0784	0.0141	9	0.28	OK	0
165.00	Acid Soluble B, Spectrophotometric (0.5%)	0518	0.5050	0.0300	0.4725	0.0784	0.0141	9	0.38	OK	0
165.00	Acid Soluble B, Spectrophotometric (0.5%)	0534	0.5350	0.0300	0.4725	0.0784	0.0141	9	0.74	OK	0
165.00	Acid Soluble B, Spectrophotometric (0.5%)	0540	0.5750	0.0100	0.4725	0.0784	0.0141	9	1.21	High	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (0.5%)	0389	0.4229	0.0010	0.4592	0.0258	0.0171	15	-1.40	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (0.5%)	0043	0.4300	0.0200	0.4592	0.0258	0.0171	15	-1.13	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (0.5%)	0234	0.4300	0.0000	0.4592	0.0258	0.0171	15	-1.13	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (0.5%)	0451	0.4388	0.0037	0.4592	0.0258	0.0171	15	-0.79	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (0.5%)	0324	0.4420	0.0580	0.4592	0.0258	0.0171	15	-0.66	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (0.5%)	0419	0.4504	0.0023	0.4592	0.0258	0.0171	15	-0.34	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (0.5%)	0493	0.4600	0.0100	0.4592	0.0258	0.0171	15	0.03	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (0.5%)	0394	0.4617	0.0028	0.4592	0.0258	0.0171	15	0.10	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (0.5%)	0200	0.4650	0.0100	0.4592	0.0258	0.0171	15	0.23	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (0.5%)	0444	0.4700	0.0000	0.4592	0.0258	0.0171	15	0.42	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (0.5%)	0169	0.4710	0.0220	0.4592	0.0258	0.0171	15	0.46	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (0.5%)	0354	0.4800	0.0800	0.4592	0.0258	0.0171	15	0.81	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (0.5%)	0546	0.4829	0.0028	0.4592	0.0258	0.0171	15	0.92	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (0.5%)	0433	0.4850	0.0340	0.4592	0.0258	0.0171	15	1.00	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (0.5%)	0292	0.5750	0.0100	0.4592	0.0258	0.0171	15	4.48	High	0
165.70	Acid Soluble B, Titrimetric (0.5%)	0574	24.24	47.53				1			0
165.99	Acid Soluble B, Other (0.5%)	0423	0.4190	0.0020	0.4570	0.0273	0.0102	25	-1.39	OK	0
165.99	Acid Soluble B, Other (0.5%)	0472	0.4200	0.0000	0.4570	0.0273	0.0102	25	-1.36	OK	0
165.99	Acid Soluble B, Other (0.5%)	0307	0.4250	0.0060	0.4570	0.0273	0.0102	25	-1.17	OK	0
165.99	Acid Soluble B, Other (0.5%)	0481	0.4250	0.0100	0.4570	0.0273	0.0102	25	-1.17	OK	0
165.99	Acid Soluble B, Other (0.5%)	0513	0.4250	0.0100	0.4570	0.0273	0.0102	25	-1.17	OK	0
165.99	Acid Soluble B, Other (0.5%)	0117	0.4404	0.0089	0.4570	0.0273	0.0102	25	-0.61	OK	0
165.99	Acid Soluble B, Other (0.5%)	0523	0.4436	0.0068	0.4570	0.0273	0.0102	25	-0.49	OK	0
165.99	Acid Soluble B, Other (0.5%)	0231	0.4450	0.0100	0.4570	0.0273	0.0102	25	-0.44	OK	0
165.99	Acid Soluble B, Other (0.5%)	0561	0.4450	0.0300	0.4570	0.0273	0.0102	25	-0.44	OK	0
165.99	Acid Soluble B, Other (0.5%)	0494	0.4484	0.0105	0.4570	0.0273	0.0102	25	-0.32	OK	0
165.99	Acid Soluble B, Other (0.5%)	0368	0.4491	0.0115	0.4570	0.0273	0.0102	25	-0.29	OK	0
165.99	Acid Soluble B, Other (0.5%)	0524	0.4509	0.0412	0.4570	0.0273	0.0102	25	-0.22	OK	0

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			Value	Range	Rob Mean	Rob SD	R-bar				
165.99	Acid Soluble B, Other (0.5%)	0255	0.4600	0.0200	0.4570	0.0273	0.0102	25	0.11	OK	0
165.99	Acid Soluble B, Other (0.5%)	0136	0.4600	0.0000	0.4570	0.0273	0.0102	25	0.11	OK	0
165.99	Acid Soluble B, Other (0.5%)	0521	0.4624	0.0000	0.4570	0.0273	0.0102	25	0.20	OK	0
165.99	Acid Soluble B, Other (0.5%)	0486	0.4650	0.0100	0.4570	0.0273	0.0102	25	0.29	OK	0
165.99	Acid Soluble B, Other (0.5%)	0559	0.4650	0.0100	0.4570	0.0273	0.0102	25	0.29	OK	0
165.99	Acid Soluble B, Other (0.5%)	0073	0.4715	0.0070	0.4570	0.0273	0.0102	25	0.53	OK	0
165.99	Acid Soluble B, Other (0.5%)	0547	0.4720	0.0100	0.4570	0.0273	0.0102	25	0.55	OK	0
165.99	Acid Soluble B, Other (0.5%)	0042	0.4750	0.0300	0.4570	0.0273	0.0102	25	0.66	OK	0
165.99	Acid Soluble B, Other (0.5%)	0390	0.4805	0.0170	0.4570	0.0273	0.0102	25	0.86	OK	0
165.99	Acid Soluble B, Other (0.5%)	0527	0.4902	0.0014	0.4570	0.0273	0.0102	25	1.22	OK	0
165.99	Acid Soluble B, Other (0.5%)	0563	0.4909	0.0018	0.4570	0.0273	0.0102	25	1.24	OK	0
165.99	Acid Soluble B, Other (0.5%)	0452	0.5100	0.0000	0.4570	0.0273	0.0102	25	1.94	OK	0
165.99	Acid Soluble B, Other (0.5%)	0552	0.5100	0.0000	0.4570	0.0273	0.0102	25	1.94	OK	0
165.99	Acid Soluble B, Other (0.5%)	0572	0.4400	0.0600	0.4570	0.0273	0.0102	25	-0.62	OK	1
171.10	Water Soluble B, Spectrophotometric (%)	0551	0.4650	0.0300	0.4850	0.0400	0.0250	4	-0.50		0
171.10	Water Soluble B, Spectrophotometric (%)	0564	0.4650	0.0100	0.4850	0.0400	0.0250	4	-0.50		0
171.10	Water Soluble B, Spectrophotometric (%)	0565	0.4650	0.0100	0.4850	0.0400	0.0250	4	-0.50		0
171.10	Water Soluble B, Spectrophotometric (%)	0540	0.5450	0.0500	0.4850	0.0400	0.0250	4	1.50		0
171.99	Water Soluble B, Other (%)	0493	0.4450	0.0100				2			0
171.99	Water Soluble B, Other (%)	0027	0.4650	0.0100				2			0
181.30	Acid Soluble Cd, ICP (ppm)	0255	0.0590	0.0020	0.0929	0.0322	0.0039	6	-0.94	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0394	0.0750	0.0060	0.0929	0.0322	0.0039	6	-0.50	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0389	0.0833	0.0015	0.0929	0.0322	0.0039	6	-0.27	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0523	0.0949	0.0008	0.0929	0.0322	0.0039	6	0.05	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0524	0.1043	0.0023	0.0929	0.0322	0.0039	6	0.31	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0419	0.5405	0.0110	0.0929	0.0322	0.0039	6	12.38	NA	0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0220	< 0.1					0			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0563	0.1214	0.0010				1			0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0527	< 0.0001					1			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0494	< 0.54					1			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0136	< 1					1			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0117	< 5					1			5
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0368	0.1375	0.0610				1			0
181.99	Acid Soluble Cd, Other (ppm)	0405	0.1250	0.0100				1			0
181.99	Acid Soluble Cd, Other (ppm)	0572	< 0.2					1			5
181.99	Acid Soluble Cd, Other (ppm)	0481	< 0.5					1			5
181.99	Acid Soluble Cd, Other (ppm)	0553	< 1					1			5
190.00	Water Soluble Cl, Titrimetric (%)	0553	0.2700	0.0200				1			0
191.30	Acid Soluble Cr, ICP (ppm)	0524	5.956	0.4019	12.78	7.666	0.8361	7	-0.80	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0389	6.651	0.0010	12.78	7.666	0.8361	7	-0.72	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0444	7.605	1.370	12.78	7.666	0.8361	7	-0.61	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0419	10.19	2.199	12.78	7.666	0.8361	7	-0.31	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0035	18.00	1.200	12.78	7.666	0.8361	7	0.62	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0394	18.37	0.2560	12.78	7.666	0.8361	7	0.66	NA	0
191.30	Acid Soluble Cr, ICP (ppm)	0523	22.68	0.4247	12.78	7.666	0.8361	7	1.17	NA	0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0220	13.50	1.000				1			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0136	7.815	0.4300	17.34	6.575	0.2465	4	-1.45		0

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			Value	Range	Rob Mean	Rob SD	R-bar				
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0527	18.50	0.1124	17.34	6.575	0.2465	4	0.18	0	
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0563	20.41	0.3437	17.34	6.575	0.2465	4	0.47	0	
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0494	22.65	0.1000	17.34	6.575	0.2465	4	0.81	0	
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0368	8.248	0.2960				1		0	
191.99	Acid Soluble Cr, Other (ppm)	0572	8.790	0.1600	11.48	2.336	0.4867	3	-1.15	0	
191.99	Acid Soluble Cr, Other (ppm)	0220	12.65	1.300	11.48	2.336	0.4867	3	0.50	0	
191.99	Acid Soluble Cr, Other (ppm)	0405	13.00	0.0000	11.48	2.336	0.4867	3	0.65	0	
191.99	Acid Soluble Cr, Other (ppm)	0481	< 50		11.48	2.336	0.4867	3		5	
202.30	Acid Soluble Co, ICP (ppm)	0389	0.3323	0.0075	1.407	0.8073	0.0939	5	-1.33	0	
202.30	Acid Soluble Co, ICP (ppm)	0419	0.9350	0.1180	1.407	0.8073	0.0939	5	-0.58	0	
202.30	Acid Soluble Co, ICP (ppm)	0035	1.420	0.1600	1.407	0.8073	0.0939	5	0.02	0	
202.30	Acid Soluble Co, ICP (ppm)	0524	2.008	0.1276	1.407	0.8073	0.0939	5	0.74	0	
202.30	Acid Soluble Co, ICP (ppm)	0523	2.339	0.0566	1.407	0.8073	0.0939	5	1.15	0	
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0220	1.250	0.3000				2		0	
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0423	2.130	0.0600				2		0	
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0527	2.113	0.0515	2.271	0.1856	0.1855	3	-0.85	0	
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0494	2.225	0.4900	2.271	0.1856	0.1855	3	-0.25	0	
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0563	2.475	0.0149	2.271	0.1856	0.1855	3	1.10	0	
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0136	< 5		2.271	0.1856	0.1855	3		5	
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0368	< 0.1					0		5	
202.99	Acid Soluble Co, Other (ppm)	0572	0.7500	0.1000	1.385	0.5722	0.2162	5	-0.97	0	
202.99	Acid Soluble Co, Other (ppm)	0255	1.068	0.1910	1.385	0.5722	0.2162	5	-0.48	0	
202.99	Acid Soluble Co, Other (ppm)	0220	1.200	0.4000	1.385	0.5722	0.2162	5	-0.28	0	
202.99	Acid Soluble Co, Other (ppm)	0405	1.700	0.2000	1.385	0.5722	0.2162	5	0.48	0	
202.99	Acid Soluble Co, Other (ppm)	0553	2.205	0.1900	1.385	0.5722	0.2162	5	1.25	0	
202.99	Acid Soluble Co, Other (ppm)	0481	< 20		1.385	0.5722	0.2162	5		5	
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0553	< 0.005					0		5	
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0552	0.0900	0.0200				1		0	
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0255	0.0000	0.0000				1		4	
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					1		5	
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0394	0.0001	0.0000	0.0002	0.0001	0.0000	3	-1.00	0	
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0563	0.0002	0.0001	0.0002	0.0001	0.0000	3	0.00	0	
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0527	0.0002	0.0000	0.0002	0.0001	0.0000	3	1.00	0	
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0136	< 0.0025		0.0002	0.0001	0.0000	3		5	
221.99	Acid Soluble Cu, Other (%)	0368	0.0001	0.0000	0.0003	0.0002	0.0000	5	-0.75	0	
221.99	Acid Soluble Cu, Other (%)	0405	0.0001	0.0000	0.0003	0.0002	0.0000	5	-0.75	0	
221.99	Acid Soluble Cu, Other (%)	0572	0.0003	0.0001	0.0003	0.0002	0.0000	5	-0.05	0	
221.99	Acid Soluble Cu, Other (%)	0524	0.0003	0.0000	0.0003	0.0002	0.0000	5	0.19	0	
221.99	Acid Soluble Cu, Other (%)	0307	0.0006	0.0001	0.0003	0.0002	0.0000	5	1.37	0	
221.99	Acid Soluble Cu, Other (%)	0481	< 0.001		0.0003	0.0002	0.0000	5		5	
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	0553	0.0580	0.0000				1		0	
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0354	0.0500	0.0000	0.0982	0.0878	0.0208	5	-0.55	0	
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0472	0.0600	0.0000	0.0982	0.0878	0.0208	5	-0.44	0	
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0035	0.0620	0.0120	0.0982	0.0878	0.0208	5	-0.41	0	
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0049	0.0641	0.0020	0.0982	0.0878	0.0208	5	-0.39	0	
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0552	0.2550	0.0900	0.0982	0.0878	0.0208	5	1.79	0	
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	0423	0.0665	0.0010				2		0	

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	0028	0.0679	0.0004				2			0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0563	0.0583	0.0004	0.0645	0.0057	0.0024	3	-1.08		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0494	0.0656	0.0057	0.0645	0.0057	0.0024	3	0.19		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0527	0.0695	0.0012	0.0645	0.0057	0.0024	3	0.89		0
241.99	Acid Soluble Fe, Other (%)	0389	0.0548	0.0000	0.0561	0.0011	0.0025	4	-1.16		0
241.99	Acid Soluble Fe, Other (%)	0524	0.0557	0.0044	0.0561	0.0011	0.0025	4	-0.36		0
241.99	Acid Soluble Fe, Other (%)	0307	0.0565	0.0030	0.0561	0.0011	0.0025	4	0.34		0
241.99	Acid Soluble Fe, Other (%)	0368	0.0575	0.0027	0.0561	0.0011	0.0025	4	1.18		0
251.30	Acid Soluble Pb, ICP (ppm)	0389	0.2265	0.0030	0.3377	0.0700	0.0148	5	-1.59		0
251.30	Acid Soluble Pb, ICP (ppm)	0394	0.3245	0.0410	0.3377	0.0700	0.0148	5	-0.19		0
251.30	Acid Soluble Pb, ICP (ppm)	0524	0.3596	0.0198	0.3377	0.0700	0.0148	5	0.31		0
251.30	Acid Soluble Pb, ICP (ppm)	0255	0.3630	0.0100	0.3377	0.0700	0.0148	5	0.36		0
251.30	Acid Soluble Pb, ICP (ppm)	0523	0.4149	0.0003	0.3377	0.0700	0.0148	5	1.10		0
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0220	3.900	0.0000				1			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0563	0.3847	0.0057				1			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0527	< 0.0001					1			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0494	< 1.27					1			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0136	< 3					1			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0117	< 5					1			5
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0368	< 0.5					0			5
251.99	Acid Soluble Pb, Other (ppm)	0572	0.4250	0.0300	2.416	2.289	0.1875	4	-0.87		0
251.99	Acid Soluble Pb, Other (ppm)	0405	0.5000	0.0000	2.416	2.289	0.1875	4	-0.84		0
251.99	Acid Soluble Pb, Other (ppm)	0220	3.900	0.4000	2.416	2.289	0.1875	4	0.65		0
251.99	Acid Soluble Pb, Other (ppm)	0553	4.840	0.3200	2.416	2.289	0.1875	4	1.06		0
251.99	Acid Soluble Pb, Other (ppm)	0481	< 1		2.416	2.289	0.1875	4			5
261.00	Acid Soluble Mn, AA, Mn2+ only (%)	0553	< 0.005					0			5
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0035	0.0050	0.0003				1			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0354	< 0.01					1			5
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)	0049	0.0054	0.0000				2			0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)	0552	0.1100	0.0000				2			0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	0423	0.0050	0.0000				2			0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	0028	0.0055	0.0001				2			0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0419	0.0050	0.0000	0.0052	0.0002	0.0001	4	-1.13		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0563	0.0052	0.0001	0.0052	0.0002	0.0001	4	-0.33		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0527	0.0053	0.0001	0.0052	0.0002	0.0001	4	0.20		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0546	0.0055	0.0001	0.0052	0.0002	0.0001	4	1.26		0
261.99	Acid Soluble Mn, Other (%)	0389	0.0045	0.0000	0.0048	0.0004	0.0002	3	-0.70		0
261.99	Acid Soluble Mn, Other (%)	0524	0.0046	0.0004	0.0048	0.0004	0.0002	3	-0.45		0
261.99	Acid Soluble Mn, Other (%)	0307	0.0053	0.0003	0.0048	0.0004	0.0002	3	1.15		0
281.30	Acid Soluble Hg, ICP (ppm)	0563	0.1679	0.0025				1			0
281.30	Acid Soluble Hg, ICP (ppm)	0527	< 0.0001					1			5
281.99	Acid Soluble Hg, Other (ppm)	0572	0.1580	0.0060	0.1779	0.0123	0.0024	5	-1.41		0
281.99	Acid Soluble Hg, Other (ppm)	0035	0.1760	0.0040	0.1779	0.0123	0.0024	5	-0.14		0
281.99	Acid Soluble Hg, Other (ppm)	0220	0.1800	0.0000	0.1779	0.0123	0.0024	5	0.15		0
281.99	Acid Soluble Hg, Other (ppm)	0368	0.1856	0.0020	0.1779	0.0123	0.0024	5	0.54		0
281.99	Acid Soluble Hg, Other (ppm)	0405	0.1900	0.0000	0.1779	0.0123	0.0024	5	0.85		0
281.99	Acid Soluble Hg, Other (ppm)	0524	0.2053	0.0191	0.1779	0.0123	0.0024	5	1.93		1

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			Value	Range	Rob Mean	Rob SD	R-bar				
281.99	Acid Soluble Hg, Other (ppm)	0481	< 0.5		0.1779	0.0123	0.0024	5			5
289.30	Acid Soluble Mo, ICP (ppm)	0255	0.1555	0.1390	1.509	1.470	0.3276	4	-0.92		0
289.30	Acid Soluble Mo, ICP (ppm)	0524	0.8257	0.0415	1.509	1.470	0.3276	4	-0.46		0
289.30	Acid Soluble Mo, ICP (ppm)	0234	1.500	1.000	1.509	1.470	0.3276	4	-0.01		0
289.30	Acid Soluble Mo, ICP (ppm)	0035	3.555	0.1300	1.509	1.470	0.3276	4	1.39		0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0220	0.6500	0.5000				1			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0563	1.024	0.0139				1			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	< 0.0001					1			5
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0136	< 5					1			5
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0368	< 0.1					0			5
289.99	Acid Soluble Mo, Other (ppm)	0220	0.5000	0.2000	0.8017	0.2771	0.0833	3	-1.09		0
289.99	Acid Soluble Mo, Other (ppm)	0572	0.8600	0.0200	0.8017	0.2771	0.0833	3	0.21		0
289.99	Acid Soluble Mo, Other (ppm)	0405	1.045	0.0300	0.8017	0.2771	0.0833	3	0.88		0
289.99	Acid Soluble Mo, Other (ppm)	0481	< 100		0.8017	0.2771	0.0833	3			5
291.30	Acid Soluble Ni, ICP (ppm)	0444	2.800	1.080	4.337	1.474	0.2907	7	-0.94	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0389	2.956	0.0100	4.337	1.474	0.2907	7	-0.85	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0524	3.441	0.1033	4.337	1.474	0.2907	7	-0.55	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0394	4.390	0.0330	4.337	1.474	0.2907	7	0.03	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0523	5.107	0.0496	4.337	1.474	0.2907	7	0.47	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0419	5.799	0.5690	4.337	1.474	0.2907	7	0.90	NA	0
291.30	Acid Soluble Ni, ICP (ppm)	0035	5.865	0.1900	4.337	1.474	0.2907	7	0.94	NA	0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0220	4.800	0.4000				1			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0527	4.618	0.0583	4.900	0.3147	0.0860	3	-0.90		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0494	4.843	0.1667	4.900	0.3147	0.0860	3	-0.18		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0563	5.239	0.0331	4.900	0.3147	0.0860	3	1.08		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0117	< 5		4.900	0.3147	0.0860	3			5
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0136	< 5		4.900	0.3147	0.0860	3			5
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0368	3.183	0.0740				1			0
291.99	Acid Soluble Ni, Other (ppm)	0255	2.352	0.0100	4.260	1.418	0.1140	5	-1.17		0
291.99	Acid Soluble Ni, Other (ppm)	0572	3.755	0.1100	4.260	1.418	0.1140	5	-0.31		0
291.99	Acid Soluble Ni, Other (ppm)	0220	4.050	0.1000	4.260	1.418	0.1140	5	-0.13		0
291.99	Acid Soluble Ni, Other (ppm)	0405	5.000	0.0000	4.260	1.418	0.1140	5	0.46		0
291.99	Acid Soluble Ni, Other (ppm)	0553	6.145	0.3500	4.260	1.418	0.1140	5	1.16		0
291.99	Acid Soluble Ni, Other (ppm)	0481	< 20		4.260	1.418	0.1140	5			5
301.30	Acid Soluble Se, ICP (ppm)	0523	1.193	0.0604				2			0
301.30	Acid Soluble Se, ICP (ppm)	0524	2.753	0.3383				2			0
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0220	1.150	0.1000				1			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0563	1.872	0.0044				2			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0494	3.170	0.4000				2			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0527	< 0.001					2			5
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0368	< 1					0			5
301.99	Acid Soluble Se, Other (ppm)	0220	1.150	0.1000	1.668	0.7275	0.4100	3	-0.71		0
301.99	Acid Soluble Se, Other (ppm)	0572	1.355	0.1300	1.668	0.7275	0.4100	3	-0.43		0
301.99	Acid Soluble Se, Other (ppm)	0405	2.500	1.000	1.668	0.7275	0.4100	3	1.14		0
301.99	Acid Soluble Se, Other (ppm)	0255	0.0000	0.0000	1.668	0.7275	0.4100	3			4
301.99	Acid Soluble Se, Other (ppm)	0481	< 0.5		1.668	0.7275	0.4100	3			5
311.00	Sodium, AA (%)	0553	0.2925	0.0050				1			0

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			Value	Range	Rob Mean	Rob SD	R-bar				
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0419	0.2703	0.0002	0.3393	0.0584	0.0085	5	-1.18		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0423	0.3200	0.0040	0.3393	0.0584	0.0085	5	-0.33		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0035	0.3225	0.0250	0.3393	0.0584	0.0085	5	-0.29		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	0.3549	0.0089	0.3393	0.0584	0.0085	5	0.27		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0563	0.4287	0.0042	0.3393	0.0584	0.0085	5	1.53		0
311.99	Sodium, Other (%)	0572	0.3050	0.0300	0.3212	0.0211	0.0236	3	-0.77		0
311.99	Sodium, Other (%)	0368	0.3136	0.0107	0.3212	0.0211	0.0236	3	-0.36		0
311.99	Sodium, Other (%)	0354	0.3450	0.0300	0.3212	0.0211	0.0236	3	1.13		0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (1.5%)	0513	1.455	0.0100	1.481	0.0217	0.0220	6	-1.05	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (1.5%)	0551	1.460	0.0200	1.481	0.0217	0.0220	6	-0.84	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (1.5%)	0040	1.481	0.0070	1.481	0.0217	0.0220	6	0.00	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (1.5%)	0534	1.490	0.0200	1.481	0.0217	0.0220	6	0.39	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (1.5%)	0553	1.498	0.0150	1.481	0.0217	0.0220	6	0.70	OK	0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (1.5%)	0533	1.500	0.0600	1.481	0.0217	0.0220	6	0.80	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	0472	1.290	0.0000	1.466	0.1165	0.0378	16	-1.51	Low	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	0324	1.340	0.1400	1.466	0.1165	0.0378	16	-1.08	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	0451	1.362	0.0570	1.466	0.1165	0.0378	16	-0.90	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	0157	1.370	0.0400	1.466	0.1165	0.0378	16	-0.82	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	0493	1.410	0.0200	1.466	0.1165	0.0378	16	-0.48	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	0255	1.413	0.0350	1.466	0.1165	0.0378	16	-0.46	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	0444	1.435	0.0100	1.466	0.1165	0.0378	16	-0.27	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	0390	1.450	0.0200	1.466	0.1165	0.0378	16	-0.14	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	0433	1.470	0.0400	1.466	0.1165	0.0378	16	0.03	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	0049	1.479	0.0130	1.466	0.1165	0.0378	16	0.11	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	0231	1.500	0.0000	1.466	0.1165	0.0378	16	0.29	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	0354	1.545	0.0100	1.466	0.1165	0.0378	16	0.68	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	0234	1.550	0.1000	1.466	0.1165	0.0378	16	0.72	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	0292	1.560	0.0200	1.466	0.1165	0.0378	16	0.81	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	0452	1.660	0.0000	1.466	0.1165	0.0378	16	1.67	High	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	0552	1.760	0.1000	1.466	0.1165	0.0378	16	2.52	High	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (1.5%)	0035	1.315	0.3100	1.466	0.1165	0.0378	16	-1.30	OK	1
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (1.5%)	0073	1.450	0.0400	1.543	0.1116	0.0142	6	-0.75	OK	0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (1.5%)	0521	1.469	0.0000	1.543	0.1116	0.0142	6	-0.59	OK	0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (1.5%)	0028	1.480	0.0000	1.543	0.1116	0.0142	6	-0.51	OK	0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (1.5%)	0220	1.565	0.0300	1.543	0.1116	0.0142	6	0.17	OK	0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (1.5%)	0095	1.585	0.0100	1.543	0.1116	0.0142	6	0.33	OK	0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (1.5%)	0423	1.815	0.0050	1.543	0.1116	0.0142	6	2.16	High	0
321.33	Acid Soluble Zn, ICP, 2017.02 (1.5%)	0117	1.361	0.0094	1.497	0.0630	0.0285	15	-2.16	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (1.5%)	0561	1.420	0.0000	1.497	0.0630	0.0285	15	-1.23	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (1.5%)	0055	1.450	0.0000	1.497	0.0630	0.0285	15	-0.75	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (1.5%)	0486	1.455	0.0300	1.497	0.0630	0.0285	15	-0.67	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (1.5%)	0494	1.465	0.0668	1.497	0.0630	0.0285	15	-0.52	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (1.5%)	0043	1.465	0.0500	1.497	0.0630	0.0285	15	-0.51	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (1.5%)	0563	1.489	0.0003	1.497	0.0630	0.0285	15	-0.13	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (1.5%)	0200	1.500	0.0200	1.497	0.0630	0.0285	15	0.04	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (1.5%)	0177	1.500	0.0709	1.497	0.0630	0.0285	15	0.05	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (1.5%)	0527	1.513	0.0262	1.497	0.0630	0.0285	15	0.25	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
321.33	Acid Soluble Zn, ICP, 2017.02 (1.5%)	0169	1.534	0.0650	1.497	0.0630	0.0285	15	0.58	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (1.5%)	0136	1.535	0.0100	1.497	0.0630	0.0285	15	0.60	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (1.5%)	0546	1.566	0.0320	1.497	0.0630	0.0285	15	1.10	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (1.5%)	0394	1.579	0.0220	1.497	0.0630	0.0285	15	1.30	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (1.5%)	0419	1.585	0.0250	1.497	0.0630	0.0285	15	1.39	OK	0
321.99	Acid Soluble Zn, Other (1.5%)	0307	1.360	0.0200	1.468	0.0637	0.0400	12	-1.70	OK	0
321.99	Acid Soluble Zn, Other (1.5%)	0042	1.385	0.1500	1.468	0.0637	0.0400	12	-1.31	OK	0
321.99	Acid Soluble Zn, Other (1.5%)	0481	1.430	0.0200	1.468	0.0637	0.0400	12	-0.60	OK	0
321.99	Acid Soluble Zn, Other (1.5%)	0027	1.450	0.0400	1.468	0.0637	0.0400	12	-0.29	OK	0
321.99	Acid Soluble Zn, Other (1.5%)	0389	1.456	0.0020	1.468	0.0637	0.0400	12	-0.19	OK	0
321.99	Acid Soluble Zn, Other (1.5%)	0559	1.460	0.0200	1.468	0.0637	0.0400	12	-0.13	OK	0
321.99	Acid Soluble Zn, Other (1.5%)	0572	1.480	0.0800	1.468	0.0637	0.0400	12	0.18	OK	0
321.99	Acid Soluble Zn, Other (1.5%)	0547	1.485	0.0300	1.468	0.0637	0.0400	12	0.26	OK	0
321.99	Acid Soluble Zn, Other (1.5%)	0574	1.490	0.0800	1.468	0.0637	0.0400	12	0.34	OK	0
321.99	Acid Soluble Zn, Other (1.5%)	0368	1.507	0.0035	1.468	0.0637	0.0400	12	0.60	OK	0
321.99	Acid Soluble Zn, Other (1.5%)	0524	1.540	0.0188	1.468	0.0637	0.0400	12	1.13	OK	0
321.99	Acid Soluble Zn, Other (1.5%)	0523	1.573	0.0160	1.468	0.0637	0.0400	12	1.64	OK	0
325.30	Water Soluble Zn, ICP (%)	0394	1.032	0.0597	1.081	0.0694	0.0466	3	-0.70		0
325.30	Water Soluble Zn, ICP (%)	0493	1.050	0.0200	1.081	0.0694	0.0466	3	-0.44		0
325.30	Water Soluble Zn, ICP (%)	0220	1.160	0.0600	1.081	0.0694	0.0466	3	1.14		0
325.99	Water Soluble Zn, Other (%)	0559	1.020	0.0200	3.232	4.350	0.0560	5	-0.51		0
325.99	Water Soluble Zn, Other (%)	0572	1.035	0.0500	3.232	4.350	0.0560	5	-0.51		0
325.99	Water Soluble Zn, Other (%)	0565	1.550	0.0000	3.232	4.350	0.0560	5	-0.39		0
325.99	Water Soluble Zn, Other (%)	0564	1.555	0.0100	3.232	4.350	0.0560	5	-0.39		0
325.99	Water Soluble Zn, Other (%)	0518	11.00	0.2000	3.232	4.350	0.0560	5	1.79		0

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