



Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Methods: 100

Sample # 250611

Regular PT Scheme

Labs Reporting: 77

Calcium Nitrate

Statistical Summary

Issue Date : 07/31/2025

Method Code	Analyte & Method Sample # 250611	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
001.10	Ammoniacal N, Magnesium Oxide Method (%)	5	5	1.178	0.0627	1.178		0.0627	0.0351	5.32%		0.0525	3.90%
001.99	Ammoniacal N, Other (%)	23	22	1.164	0.1048	1.164		0.0977	0.0260	8.40%		0.0403	3.91%
002.99	Nitrate N, Other (%)	24	23	13.99	0.9997	14.08		0.8898	0.2319	6.32%		0.1151	2.67%
005.99	Urea N, Other (%)	1		0.0292									
010.11	Total N, Modified Comprehensive (15.5%)	1		15.18									
010.12	Total N, Salicylic (15.5%)	4	4	15.75	0.3636	15.75	0.6649	0.3636	0.2273	2.31%	1.27	0.2233	2.52%
010.60	Total N, Combustion (15.5%)	47	46	14.70	1.510	14.90	0.6479	0.5526	0.1019	3.71%	1.99	0.1697	2.59%
010.99	Total N, Other (15.5%)	14	14	15.11	0.4939	15.12	0.6525	0.5328	0.1780	3.52%	1.90	0.1506	2.57%
020.50	Total P2O5, ICP (%)	4	3	0.0285	0.0253	0.0346		0.0271	0.0196	78.31%		0.0050	6.64%
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	3	3	0.0647	0.0175	0.0647	0.6700	0.0175	0.0126	27.02%	0.06	0.0140	6.04%
048.20	Water Soluble P2O5, Spectrophotometric (%)	1		0.0100									
050.32	Soluble K2O, AA (Citrate-EDTA) (%)	1		0.0200									
050.50	Soluble K2O, ICP (Oxalate) (%)	1		0.0867									
050.51	Soluble K2O, ICP (Citrate) (%)	1		0.0800									
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	1		0.0020									
050.99	Soluble K2O, Other (%)	2	1	0.0733	0.0896								
060.00	Water (Free), Vacuum Oven (%)	1		0.6350									
101.00	Acid Soluble Ca, AA, inorganic 965.09 (19%)	3	3	18.90	0.3263	18.90	1.0000	0.3263	0.2355	1.73%	0.76	0.5167	2.30%
101.03	Acid Soluble Ca, AA, 965.09, test portion 2006.03A-C w/dual s	1		18.40									
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (19%)	15	14	19.19	0.6874	19.08	1.0000	0.6525	0.2180	3.42%	1.52	0.3197	2.29%
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (19%)	3	3	18.78	0.8134	18.78	1.0000	0.8134	0.5870	4.33%	1.90	0.3600	2.31%
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	20	20	18.83	0.7387	18.81	1.0000	0.7101	0.1985	3.78%	1.65	0.2045	2.31%
101.70	Acid Soluble Ca, Titrimetric (19%)	3	3	18.95	0.3952	18.95	1.0000	0.3952	0.2852	2.09%	0.92	0.1811	2.30%
101.99	Acid Soluble Ca, Other (19%)	14	13	18.90	0.8556	18.76	1.0000	0.7057	0.2447	3.76%	1.64	0.1332	2.31%
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	4	4	0.0291	0.0216	0.0291	0.2015	0.0216	0.0135	74.13%	0.25	0.0152	6.81%
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	1		0.0185									
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	2	1	0.0100	0.0000								
121.99	Acid Soluble Mg, Other (%)	1		0.0150									
148.07	Total S, ICP, test portion as in 2017.02 (%)	2	1	0.1150	0.0212								

Method Code	Analyte & Method Sample # 250611	# 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
148.99	Total S, Other (%)	2	2	0.0458	0.0506								
149.04	S - HNO3 soluble, ICP (%)	1		0.0021									
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid	1		0.2000									
151.30	Acid Soluble As, ICP (ppm)	4	2	1.614	3.092	0.1039		0.1387	0.1226	133.53%		0.0118	22.00%
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	2	0	1.750	1.768								
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	5	1	6.260	8.876	0.1039		0.1387	0.1734	133.53%		0.0016	22.00%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	2	2	14.23	12.62								
151.99	Acid Soluble As, Other (ppm)	3	0	0.3633	0.2367	14.23		12.62		88.73%		3.300	10.73%
165.00	Acid Soluble B, Spectrophotometric (%)	1		0.0598									
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	3	3	0.0090	0.0017	0.0090	0.0044	0.0017	0.0013	19.25%	0.93	0.0002	8.13%
165.99	Acid Soluble B, Other (%)	4	3	0.0093	0.0021	0.0091	0.0044	0.0025	0.0018	27.21%	1.32	0.0002	8.11%
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid	1		0.5000									
181.30	Acid Soluble Cd, ICP (ppm)	5	3	0.1565	0.1037	0.1442		0.1238	0.0893	85.80%		0.0487	21.41%
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	2	1	0.7000	0.4243								
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	5	1	2.251	4.350	0.1442		0.1238	0.1547	85.80%		0.0030	21.41%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	2	0	0.1165	0.0233								
181.99	Acid Soluble Cd, Other (ppm)	3	2	0.3300	0.2249	0.2450		0.2404	0.2125	98.13%		0.0200	19.77%
191.30	Acid Soluble Cr, ICP (ppm)	4	3	1.182	1.101	0.9088		1.172	0.8458	128.96%		0.2333	16.23%
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	2	1	0.6100	0.5515								
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	5	1	2.915	4.119	0.9088		1.172	1.465	128.96%		0.0059	16.23%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	2	1	1.800	2.404								
191.99	Acid Soluble Cr, Other (ppm)	2	1	0.2875	0.0530								
202.30	Acid Soluble Co, ICP (ppm)	3	2	0.7312	0.6067	0.4717	1.1415	0.5766	0.5097	122.23%	1.18	0.0184	17.91%
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	2	0	0.5500	0.6364								
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	5	2	3.521	4.173	2.553	1.7658	3.518	3.109	137.82%	4.64	0.2950	13.89%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	2	2	0.8135	0.5466								
202.99	Acid Soluble Co, Other (ppm)	2	1	2.147	2.895								
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	5	3	0.0026	0.0042	0.0010	0.0051	0.0009	0.0006	90.00%	0.41	0.0004	11.31%
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	1		0.0002									
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	8	3	0.0329	0.0918	0.0010	0.0051	0.0009	0.0006	87.98%	0.39	0.0004	11.37%
221.99	Acid Soluble Cu, Other (%)	4	3	0.0026	0.0049	0.0002	0.0050	0.0001	0.0001	45.83%	0.04	0.0001	14.81%
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	4	2	0.0031	0.0047	0.0011	0.0051	0.0011	0.0009	96.42%	0.48	0.0003	11.15%
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	1		0.0010									
241.99	Acid Soluble Fe, Other (%)	1		0.0007									
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid	1		0.1000									
251.30	Acid Soluble Pb, ICP (ppm)	5	2	1.540	2.662	0.2248		0.1864	0.1647	82.91%		0.0084	20.03%
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	2	0	2.250	2.475								
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	4	0	3.263	4.706	0.2248		0.1864		82.91%		0.0080	20.03%
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	2	1	9.075	11.56								
251.99	Acid Soluble Pb, Other (ppm)	3	2	0.3800	0.2754	0.3200		0.3606	0.3188	112.70%		0.0100	18.99%

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261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	2	1	0.0051	0.0069								
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)	1		0.0000									
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	2	2	0.0003	0.0000								
261.99	Acid Soluble Mn, Other (%)	1		0.0003									
281.00	Acid Soluble Hg, AA (ppm)	2	0	0.5000	0.0000								
281.30	Acid Soluble Hg, ICP (ppm)	4	0	0.8378	0.9601	0.0003		0.0000		10.88%		0.0001	22.00%
281.99	Acid Soluble Hg, Other (ppm)	2	0	0.0095	0.0007								
289.30	Acid Soluble Mo, ICP (ppm)	3	1	0.4021	0.5280	0.0003	1.0001	0.0000	0.0000	10.88%	0.00	0.0001	22.00%
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	2	0	0.6500	0.4950								
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	4	0	0.6375	1.242	0.0003	1.0001	0.0000		10.88%	0.00	0.0001	22.00%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	2	1	84.30	119.1								
289.99	Acid Soluble Mo, Other (ppm)	2	0	1.390	1.541								
291.30	Acid Soluble Ni, ICP (ppm)	4	2	0.9634	0.8231	0.3018		0.0159	0.0140	5.26%		0.0887	19.16%
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	2	2	1.658	1.899								
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	4	0	3.138	4.721	1.658		1.899		114.54%		0.0150	14.83%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	2	1	8.350	11.38								
291.99	Acid Soluble Ni, Other (ppm)	3	2	3.476	4.269	4.384		5.613	4.961	128.03%		0.8090	12.81%
301.30	Acid Soluble Se, ICP (ppm)	3	2	2.121	3.576	0.0567		0.0612	0.0541	107.89%		0.0259	22.00%
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	2	0	5.150	6.859								
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	3	0	3.350	5.759	0.0567		0.0612		107.89%		0.0177	22.00%
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	2	2	14.93	12.48								
301.99	Acid Soluble Se, Other (ppm)	4	0	0.8200	1.126	14.93		12.48		83.62%		3.100	10.65%
311.32	Sodium, ICP, 2006.03 test portion (%)	1		0.0223									
311.33	Sodium, ICP, test portion as in 2017.02 (%)	1		0.0284									
311.99	Sodium, Other (%)	2	2	0.0339	0.0227								
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	2	2	0.0032	0.0001								
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	5	3	0.0032	0.0042	0.0020	0.0052	0.0022	0.0016	113.09%	1.01	0.0002	10.20%
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	1		0.0003									
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	9	5	0.0239	0.0626	0.0049	0.0055	0.0080	0.0045	164.53%	3.39	0.0011	8.92%
321.99	Acid Soluble Zn, Other (%)	4	1	0.0380	0.0695	0.0049	0.0055	0.0080	0.0100	164.53%	3.39	0.0000	8.92%
325.30	Water Soluble Zn, ICP (%)	1		0.0000									

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 # 250611

Regular PT Scheme

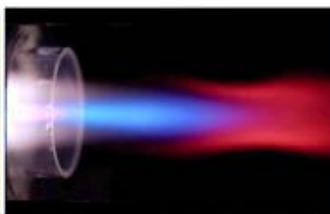
Calcium Nitrate

Method Precision Report

Issue Date : 07/31/2025

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
001.99	Ammoniacal N, Other (%)	23	20	1.150	0.0810	0.0786	0.0276	0.0833	6.83%	2.40%	7.24%	3.013
002.99	Nitrate N, Other (%)	24	21	14.17	0.8206	0.8174	0.1021	0.8238	5.77%	0.72%	5.81%	8.066
010.60	Total N, Combustion (15.5%)	47	43	14.70	0.9323	0.9264	0.1492	0.9383	6.30%	1.01%	6.38%	6.288
010.99	Total N, Other (15.5%)	14	13	15.15	0.4950	0.4897	0.1021	0.5002	3.23%	0.67%	3.30%	4.898
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (19%)	15	14	19.10	0.6178	0.5789	0.3054	0.6545	3.03%	1.60%	3.43%	2.143
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	20	19	18.85	0.7558	0.7458	0.1733	0.7657	3.96%	0.92%	4.06%	4.418
101.99	Acid Soluble Ca, Other (19%)	14	13	18.78	0.7492	0.7403	0.1632	0.7581	3.94%	0.87%	4.04%	4.645
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	9	5	0.0049	0.0080	0.0080	0.0005	0.0080	164.39%	9.78%	164.68%	16.84

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



Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Methods: 100

Sample # 250611

Regular PT Scheme

Labs Reporting: 77

Calcium Nitrate

Lab Values

Issue Date : 07/31/2025

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0389	1.075	0.0100	1.178	0.0627	0.0525	5	-1.64		0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0027	1.170	0.0100	1.178	0.0627	0.0525	5	-0.13		0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0498	1.200	0.0000	1.178	0.0627	0.0525	5	0.35		0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0452	1.205	0.0500	1.178	0.0627	0.0525	5	0.43		0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0117	1.240	0.1400	1.178	0.0627	0.0525	5	0.99		0
001.99	Ammoniacal N, Other (%)	0538	1.000	0.0200	1.164	0.0977	0.0403	22	-1.67	NA	0
001.99	Ammoniacal N, Other (%)	0602	1.035	0.0100	1.164	0.0977	0.0403	22	-1.32	NA	0
001.99	Ammoniacal N, Other (%)	0584	1.045	0.0300	1.164	0.0977	0.0403	22	-1.21	NA	0
001.99	Ammoniacal N, Other (%)	0476	1.078	0.0648	1.164	0.0977	0.0403	22	-0.88	NA	0
001.99	Ammoniacal N, Other (%)	0423	1.085	0.0300	1.164	0.0977	0.0403	22	-0.80	NA	0
001.99	Ammoniacal N, Other (%)	0371	1.100	0.0000	1.164	0.0977	0.0403	22	-0.65	NA	0
001.99	Ammoniacal N, Other (%)	0559	1.105	0.0100	1.164	0.0977	0.0403	22	-0.60	NA	0
001.99	Ammoniacal N, Other (%)	0513	1.140	0.0000	1.164	0.0977	0.0403	22	-0.24	NA	0
001.99	Ammoniacal N, Other (%)	0545	1.150	0.0200	1.164	0.0977	0.0403	22	-0.14	NA	0
001.99	Ammoniacal N, Other (%)	0394	1.155	0.0700	1.164	0.0977	0.0403	22	-0.09	NA	0
001.99	Ammoniacal N, Other (%)	0255	1.160	0.0000	1.164	0.0977	0.0403	22	-0.04	NA	0
001.99	Ammoniacal N, Other (%)	0220	1.165	0.0100	1.164	0.0977	0.0403	22	0.01	NA	0
001.99	Ammoniacal N, Other (%)	0169	1.178	0.0050	1.164	0.0977	0.0403	22	0.14	NA	0
001.99	Ammoniacal N, Other (%)	0563	1.185	0.0900	1.164	0.0977	0.0403	22	0.22	NA	0
001.99	Ammoniacal N, Other (%)	0524	1.191	0.0966	1.164	0.0977	0.0403	22	0.28	NA	0
001.99	Ammoniacal N, Other (%)	0136	1.200	0.0000	1.164	0.0977	0.0403	22	0.37	NA	0
001.99	Ammoniacal N, Other (%)	0472	1.200	0.0000	1.164	0.0977	0.0403	22	0.37	NA	0
001.99	Ammoniacal N, Other (%)	0481	1.205	0.0100	1.164	0.0977	0.0403	22	0.42	NA	0
001.99	Ammoniacal N, Other (%)	0548	1.290	0.2400	1.164	0.0977	0.0403	22	1.29	NA	0
001.99	Ammoniacal N, Other (%)	0368	1.295	0.0100	1.164	0.0977	0.0403	22	1.35	NA	0
001.99	Ammoniacal N, Other (%)	0405	1.325	0.0300	1.164	0.0977	0.0403	22	1.65	NA	0
001.99	Ammoniacal N, Other (%)	0605	1.450	0.0800	1.164	0.0977	0.0403	22	2.93	NA	0
001.99	Ammoniacal N, Other (%)	0517	1.040	0.2800	1.164	0.0977	0.0403	22	-1.26	NA	1
002.99	Nitrate N, Other (%)	0368	11.45	0.4900	14.08	0.8898	0.1151	23	-2.96	NA	0
002.99	Nitrate N, Other (%)	0452	11.85	0.1700	14.08	0.8898	0.1151	23	-2.51	NA	0
002.99	Nitrate N, Other (%)	0472	12.50	1.000	14.08	0.8898	0.1151	23	-1.77	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				
002.99	Nitrate N, Other (%)	0563	13.06	0.3200	14.08	0.8898	0.1151	23	-1.14	NA	0
002.99	Nitrate N, Other (%)	0545	13.08	0.0400	14.08	0.8898	0.1151	23	-1.12	NA	0
002.99	Nitrate N, Other (%)	0029	13.37	0.0200	14.08	0.8898	0.1151	23	-0.79	NA	0
002.99	Nitrate N, Other (%)	0513	13.80	0.0700	14.08	0.8898	0.1151	23	-0.32	NA	0
002.99	Nitrate N, Other (%)	0394	13.87	0.0700	14.08	0.8898	0.1151	23	-0.24	NA	0
002.99	Nitrate N, Other (%)	0027	14.03	0.0900	14.08	0.8898	0.1151	23	-0.06	NA	0
002.99	Nitrate N, Other (%)	0517	14.18	0.0500	14.08	0.8898	0.1151	23	0.11	NA	0
002.99	Nitrate N, Other (%)	0553	14.24	0.0300	14.08	0.8898	0.1151	23	0.18	NA	0
002.99	Nitrate N, Other (%)	0602	14.27	0.0700	14.08	0.8898	0.1151	23	0.21	NA	0
002.99	Nitrate N, Other (%)	0423	14.30	0.2000	14.08	0.8898	0.1151	23	0.25	NA	0
002.99	Nitrate N, Other (%)	0476	14.37	0.0428	14.08	0.8898	0.1151	23	0.33	NA	0
002.99	Nitrate N, Other (%)	0605	14.41	0.1400	14.08	0.8898	0.1151	23	0.37	NA	0
002.99	Nitrate N, Other (%)	0371	14.50	0.0000	14.08	0.8898	0.1151	23	0.48	NA	0
002.99	Nitrate N, Other (%)	0538	14.51	0.0300	14.08	0.8898	0.1151	23	0.48	NA	0
002.99	Nitrate N, Other (%)	0498	14.60	0.4000	14.08	0.8898	0.1151	23	0.59	NA	0
002.99	Nitrate N, Other (%)	0584	14.65	0.1200	14.08	0.8898	0.1151	23	0.64	NA	0
002.99	Nitrate N, Other (%)	0481	14.80	0.0400	14.08	0.8898	0.1151	23	0.81	NA	0
002.99	Nitrate N, Other (%)	0220	15.04	0.0100	14.08	0.8898	0.1151	23	1.08	NA	0
002.99	Nitrate N, Other (%)	0547	15.10	0.2000	14.08	0.8898	0.1151	23	1.15	NA	0
002.99	Nitrate N, Other (%)	0559	15.58	0.0100	14.08	0.8898	0.1151	23	1.68	NA	0
002.99	Nitrate N, Other (%)	0136	14.38	1.250	14.08	0.8898	0.1151	23	0.33	NA	1
005.99	Urea N, Other (%)	0524	0.0292	0.0047				1			0
010.11	Total N, Modified Comprehensive (15.5%)	0309	15.18	0.0600				1			0
010.12	Total N, Salicylic (15.5%)	0602	15.30	0.0800	15.75	0.3636	0.2233	4	-1.23		0
010.12	Total N, Salicylic (15.5%)	0568	15.70	0.0000	15.75	0.3636	0.2233	4	-0.13		0
010.12	Total N, Salicylic (15.5%)	0498	15.80	0.4000	15.75	0.3636	0.2233	4	0.15		0
010.12	Total N, Salicylic (15.5%)	0548	16.19	0.1900	15.75	0.3636	0.2233	4	1.21		0
010.60	Total N, Combustion (15.5%)	0422	8.125	0.0100	14.90	0.5526	0.1697	46	-12.25	Low	0
010.60	Total N, Combustion (15.5%)	0086	11.88	0.0210	14.90	0.5526	0.1697	46	-5.46	Low	0
010.60	Total N, Combustion (15.5%)	0472	11.94	0.3000	14.90	0.5526	0.1697	46	-5.35	Low	0
010.60	Total N, Combustion (15.5%)	0324	12.55	0.5000	14.90	0.5526	0.1697	46	-4.25	Low	0
010.60	Total N, Combustion (15.5%)	0035	13.05	0.1000	14.90	0.5526	0.1697	46	-3.34	Low	0
010.60	Total N, Combustion (15.5%)	0095	13.13	0.0200	14.90	0.5526	0.1697	46	-3.20	Low	0
010.60	Total N, Combustion (15.5%)	0234	13.62	0.2500	14.90	0.5526	0.1697	46	-2.32	Low	0
010.60	Total N, Combustion (15.5%)	0354	13.65	0.1000	14.90	0.5526	0.1697	46	-2.26	Low	0
010.60	Total N, Combustion (15.5%)	0368	14.11	0.3550	14.90	0.5526	0.1697	46	-1.43	Low	0
010.60	Total N, Combustion (15.5%)	0527	14.27	0.0760	14.90	0.5526	0.1697	46	-1.14	OK	0
010.60	Total N, Combustion (15.5%)	0106	14.62	0.4700	14.90	0.5526	0.1697	46	-0.51	OK	0
010.60	Total N, Combustion (15.5%)	0561	14.72	0.0000	14.90	0.5526	0.1697	46	-0.32	OK	0
010.60	Total N, Combustion (15.5%)	0169	14.78	0.0600	14.90	0.5526	0.1697	46	-0.21	OK	0
010.60	Total N, Combustion (15.5%)	0040	14.80	0.2000	14.90	0.5526	0.1697	46	-0.17	OK	0
010.60	Total N, Combustion (15.5%)	0389	14.85	0.0700	14.90	0.5526	0.1697	46	-0.09	OK	0
010.60	Total N, Combustion (15.5%)	0377	14.87	0.6300	14.90	0.5526	0.1697	46	-0.06	OK	0

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010.60	Total N, Combustion (15.5%)	0233	14.88	0.0500	14.90	0.5526	0.1697	46	-0.04	OK	0
010.60	Total N, Combustion (15.5%)	0543	14.88	0.4100	14.90	0.5526	0.1697	46	-0.04	OK	0
010.60	Total N, Combustion (15.5%)	0260	14.89	0.2900	14.90	0.5526	0.1697	46	-0.02	OK	0
010.60	Total N, Combustion (15.5%)	0405	14.95	0.0600	14.90	0.5526	0.1697	46	0.10	OK	0
010.60	Total N, Combustion (15.5%)	0521	14.95	0.0000	14.90	0.5526	0.1697	46	0.10	OK	0
010.60	Total N, Combustion (15.5%)	0049	15.00	0.3700	14.90	0.5526	0.1697	46	0.18	OK	0
010.60	Total N, Combustion (15.5%)	0255	15.02	0.0670	14.90	0.5526	0.1697	46	0.22	OK	0
010.60	Total N, Combustion (15.5%)	0034	15.03	0.0700	14.90	0.5526	0.1697	46	0.23	OK	0
010.60	Total N, Combustion (15.5%)	0131	15.05	0.2200	14.90	0.5526	0.1697	46	0.27	OK	0
010.60	Total N, Combustion (15.5%)	0055	15.08	0.0350	14.90	0.5526	0.1697	46	0.33	OK	0
010.60	Total N, Combustion (15.5%)	0027	15.09	0.0500	14.90	0.5526	0.1697	46	0.34	OK	0
010.60	Total N, Combustion (15.5%)	0292	15.09	0.0600	14.90	0.5526	0.1697	46	0.35	OK	0
010.60	Total N, Combustion (15.5%)	0481	15.15	0.3000	14.90	0.5526	0.1697	46	0.46	OK	0
010.60	Total N, Combustion (15.5%)	0029	15.16	0.1700	14.90	0.5526	0.1697	46	0.47	OK	0
010.60	Total N, Combustion (15.5%)	0612	15.16	0.2200	14.90	0.5526	0.1697	46	0.48	OK	0
010.60	Total N, Combustion (15.5%)	0452	15.18	0.3300	14.90	0.5526	0.1697	46	0.50	OK	0
010.60	Total N, Combustion (15.5%)	0624	15.18	0.0400	14.90	0.5526	0.1697	46	0.50	OK	0
010.60	Total N, Combustion (15.5%)	0542	15.18	0.2800	14.90	0.5526	0.1697	46	0.51	OK	0
010.60	Total N, Combustion (15.5%)	0220	15.21	0.0100	14.90	0.5526	0.1697	46	0.56	OK	0
010.60	Total N, Combustion (15.5%)	0494	15.22	0.2700	14.90	0.5526	0.1697	46	0.58	OK	0
010.60	Total N, Combustion (15.5%)	0307	15.24	0.1200	14.90	0.5526	0.1697	46	0.62	OK	0
010.60	Total N, Combustion (15.5%)	0523	15.27	0.1020	14.90	0.5526	0.1697	46	0.67	OK	0
010.60	Total N, Combustion (15.5%)	0177	15.31	0.0340	14.90	0.5526	0.1697	46	0.74	OK	0
010.60	Total N, Combustion (15.5%)	0043	15.36	0.2300	14.90	0.5526	0.1697	46	0.83	OK	0
010.60	Total N, Combustion (15.5%)	0007	15.42	0.0300	14.90	0.5526	0.1697	46	0.94	OK	0
010.60	Total N, Combustion (15.5%)	0291	15.42	0.0100	14.90	0.5526	0.1697	46	0.94	OK	0
010.60	Total N, Combustion (15.5%)	0423	15.43	0.1100	14.90	0.5526	0.1697	46	0.96	OK	0
010.60	Total N, Combustion (15.5%)	0451	15.53	0.3300	14.90	0.5526	0.1697	46	1.14	OK	0
010.60	Total N, Combustion (15.5%)	0025	16.02	0.0100	14.90	0.5526	0.1697	46	2.02	High	0
010.60	Total N, Combustion (15.5%)	0402	19.52	0.5780	14.90	0.5526	0.1697	46	8.37	High	0
010.60	Total N, Combustion (15.5%)	0136	16.05	1.100	14.90	0.5526	0.1697	46	2.09	High	1
010.99	Total N, Other (15.5%)	0545	14.23	0.0600	15.12	0.5328	0.1506	14	-1.68	Low	0
010.99	Total N, Other (15.5%)	0563	14.24	0.2400	15.12	0.5328	0.1506	14	-1.66	Low	0
010.99	Total N, Other (15.5%)	0524	14.65	0.4385	15.12	0.5328	0.1506	14	-0.89	OK	0
010.99	Total N, Other (15.5%)	0513	14.94	0.0700	15.12	0.5328	0.1506	14	-0.36	OK	0
010.99	Total N, Other (15.5%)	0615	14.95	0.1000	15.12	0.5328	0.1506	14	-0.33	OK	0
010.99	Total N, Other (15.5%)	0394	15.02	0.0000	15.12	0.5328	0.1506	14	-0.20	OK	0
010.99	Total N, Other (15.5%)	0577	15.07	0.2500	15.12	0.5328	0.1506	14	-0.11	OK	0
010.99	Total N, Other (15.5%)	0517	15.25	0.1600	15.12	0.5328	0.1506	14	0.24	OK	0
010.99	Total N, Other (15.5%)	0481	15.29	0.1100	15.12	0.5328	0.1506	14	0.30	OK	0
010.99	Total N, Other (15.5%)	0602	15.30	0.0800	15.12	0.5328	0.1506	14	0.33	OK	0
010.99	Total N, Other (15.5%)	0538	15.50	0.2000	15.12	0.5328	0.1506	14	0.71	OK	0
010.99	Total N, Other (15.5%)	0371	15.60	0.0000	15.12	0.5328	0.1506	14	0.89	OK	0

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			Value	Range	Rob Mean	Rob SD	Rob R-bar				
010.99	Total N, Other (15.5%)	0559	15.68	0.0100	15.12	0.5328	0.1506	14	1.03	OK	0
010.99	Total N, Other (15.5%)	0605	15.86	0.2200	15.12	0.5328	0.1506	14	1.38	High	0
020.50	Total P2O5, ICP (%)	0524	0.0130	0.0016	0.0346	0.0271	0.0050	3	-0.80		0
020.50	Total P2O5, ICP (%)	0422	0.0258	0.0034	0.0346	0.0271	0.0050	3	-0.32		0
020.50	Total P2O5, ICP (%)	0472	0.0650	0.0100	0.0346	0.0271	0.0050	3	1.12		0
020.50	Total P2O5, ICP (%)	0527	< 0.01		0.0346	0.0271	0.0050	3			5
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0472	0.0500	0.0000	0.0647	0.0175	0.0140	3	-0.84		0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0568	0.0600	0.0000	0.0647	0.0175	0.0140	3	-0.27		0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0354	0.0840	0.0140	0.0647	0.0175	0.0140	3	1.11		0
048.20	Water Soluble P2O5, Spectrophotometric (%)	0472	0.0100	0.0000				1			0
050.32	Soluble K2O, AA (Citrate-EDTA) (%)	0472	0.0200	0.0000				1			0
050.50	Soluble K2O, ICP (Oxalate) (%)	0422	0.0867	0.0045				1			0
050.51	Soluble K2O, ICP (Citrate) (%)	0568	0.0800	0.0000				1			0
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	0354	0.0020	0.0020				1			0
050.99	Soluble K2O, Other (%)	0524	0.1367	0.2313				1			0
050.99	Soluble K2O, Other (%)	0527	< 0.01					1			5
060.00	Water (Free), Vacuum Oven (%)	0513	0.6350	0.0100				1			0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (19%)	0553	18.64	0.5200	18.90	0.3263	0.5167	3	-0.79		0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (19%)	0029	18.79	0.2200	18.90	0.3263	0.5167	3	-0.33		0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (19%)	0615	19.27	0.8100	18.90	0.3263	0.5167	3	1.12		0
101.03	Acid Soluble Ca, AA, 965.09, test portion 2006.03A-C w/dual ac	0498	18.40	0.0000				1			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (19%)	0568	18.10	0.0000	19.08	0.6525	0.3197	14	-1.50	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (19%)	0255	18.37	0.0500	19.08	0.6525	0.3197	14	-1.09	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (19%)	0324	18.50	0.2000	19.08	0.6525	0.3197	14	-0.88	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (19%)	0377	18.71	0.7400	19.08	0.6525	0.3197	14	-0.56	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (19%)	0234	18.73	0.0600	19.08	0.6525	0.3197	14	-0.53	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (19%)	0451	18.74	0.0300	19.08	0.6525	0.3197	14	-0.52	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (19%)	0360	19.01	0.4800	19.08	0.6525	0.3197	14	-0.10	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (19%)	0422	19.11	0.0600	19.08	0.6525	0.3197	14	0.05	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (19%)	0402	19.37	0.7200	19.08	0.6525	0.3197	14	0.45	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (19%)	0524	19.55	0.1200	19.08	0.6525	0.3197	14	0.73	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (19%)	0291	19.56	0.0100	19.08	0.6525	0.3197	14	0.73	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (19%)	0354	19.60	0.0000	19.08	0.6525	0.3197	14	0.80	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (19%)	0433	19.68	1.000	19.08	0.6525	0.3197	14	0.92	OK	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (19%)	0035	20.35	0.5000	19.08	0.6525	0.3197	14	1.95	High	0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (19%)	0049	20.43	3.784	19.08	0.6525	0.3197	14	2.07	High	1
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (19%)	0095	17.90	0.9300	18.78	0.8134	0.3600	3	-1.09		0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (19%)	0405	18.95	0.1000	18.78	0.8134	0.3600	3	0.21		0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (19%)	0423	19.50	0.0500	18.78	0.8134	0.3600	3	0.88		0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0177	17.44	0.2415	18.81	0.7101	0.2045	20	-1.93	Low	0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0106	17.96	0.4341	18.81	0.7101	0.2045	20	-1.19	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0494	18.07	0.5647	18.81	0.7101	0.2045	20	-1.04	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0029	18.14	0.1600	18.81	0.7101	0.2045	20	-0.94	OK	0

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101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0292	18.26	0.0500	18.81	0.7101	0.2045	20	-0.78	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0040	18.46	0.0600	18.81	0.7101	0.2045	20	-0.49	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0043	18.46	0.0800	18.81	0.7101	0.2045	20	-0.49	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0055	18.48	0.1700	18.81	0.7101	0.2045	20	-0.47	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0612	18.55	0.8000	18.81	0.7101	0.2045	20	-0.36	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0136	18.75	0.1000	18.81	0.7101	0.2045	20	-0.08	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0527	18.86	0.1648	18.81	0.7101	0.2045	20	0.08	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0169	18.87	0.1400	18.81	0.7101	0.2045	20	0.09	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0394	19.07	0.1360	18.81	0.7101	0.2045	20	0.36	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0472	19.23	0.0900	18.81	0.7101	0.2045	20	0.59	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0624	19.25	0.4970	18.81	0.7101	0.2045	20	0.62	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0543	19.29	0.0190	18.81	0.7101	0.2045	20	0.68	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0521	19.36	0.0000	18.81	0.7101	0.2045	20	0.78	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0563	19.60	0.2000	18.81	0.7101	0.2045	20	1.12	OK	0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0027	20.30	0.3700	18.81	0.7101	0.2045	20	2.10	High	0
101.33	Acid Soluble Ca, ICP, 2017.02 (19%)	0452	20.31	0.0300	18.81	0.7101	0.2045	20	2.11	High	0
101.70	Acid Soluble Ca, Titrimetric (19%)	0517	18.68	0.3300	18.95	0.3952	0.1811	3	-0.69		0
101.70	Acid Soluble Ca, Titrimetric (19%)	0548	18.77	0.1600	18.95	0.3952	0.1811	3	-0.45		0
101.70	Acid Soluble Ca, Titrimetric (19%)	0476	19.40	0.0532	18.95	0.3952	0.1811	3	1.15		0
101.99	Acid Soluble Ca, Other (19%)	0042	17.41	0.5100	18.76	0.7057	0.1332	13	-1.92	Low	0
101.99	Acid Soluble Ca, Other (19%)	0389	17.82	0.1700	18.76	0.7057	0.1332	13	-1.34	OK	0
101.99	Acid Soluble Ca, Other (19%)	0561	18.32	0.0300	18.76	0.7057	0.1332	13	-0.63	OK	0
101.99	Acid Soluble Ca, Other (19%)	0513	18.50	0.0400	18.76	0.7057	0.1332	13	-0.37	OK	0
101.99	Acid Soluble Ca, Other (19%)	0307	18.65	0.5000	18.76	0.7057	0.1332	13	-0.16	OK	0
101.99	Acid Soluble Ca, Other (19%)	0559	18.66	0.0100	18.76	0.7057	0.1332	13	-0.15	OK	0
101.99	Acid Soluble Ca, Other (19%)	0368	18.75	0.0598	18.76	0.7057	0.1332	13	-0.02	OK	0
101.99	Acid Soluble Ca, Other (19%)	0605	18.88	0.2000	18.76	0.7057	0.1332	13	0.17	OK	0
101.99	Acid Soluble Ca, Other (19%)	0023	18.90	0.0020	18.76	0.7057	0.1332	13	0.19	OK	0
101.99	Acid Soluble Ca, Other (19%)	0538	19.01	0.0300	18.76	0.7057	0.1332	13	0.34	OK	0
101.99	Acid Soluble Ca, Other (19%)	0584	19.20	0.3000	18.76	0.7057	0.1332	13	0.62	OK	0
101.99	Acid Soluble Ca, Other (19%)	0523	19.73	0.1000	18.76	0.7057	0.1332	13	1.37	OK	0
101.99	Acid Soluble Ca, Other (19%)	0572	20.34	0.0800	18.76	0.7057	0.1332	13	2.23	High	0
101.99	Acid Soluble Ca, Other (19%)	0515	20.51	1.620	18.76	0.7057	0.1332	13	2.48	High	1
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0422	0.0071	0.0003	0.0291	0.0216	0.0152	4	-1.02		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0568	0.0143	0.0000	0.0291	0.0216	0.0152	4	-0.69		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	0.0450	0.0300	0.0291	0.0216	0.0152	4	0.74		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0371	0.0500	0.0000	0.0291	0.0216	0.0152	4	0.97		0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0423	0.0185	0.0010				1			0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0472	0.0100	0.0000				1			0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0527	< 0.01					1			5
121.99	Acid Soluble Mg, Other (%)	0524	0.0150	0.0024				1			0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0472	0.1300	0.0200				1			0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0527	< 0.1					1			5

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				
148.99	Total S, Other (%)	0354	0.0100	0.0000				2			0
148.99	Total S, Other (%)	0422	0.0816	0.0007				2			0
149.04	S - HNO3 soluble, ICP (%)	0524	0.0021	0.0000				1			0
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid	0498	< 0.2					0			5
151.30	Acid Soluble As, ICP (ppm)	0524	0.0058	0.0016				2			0
151.30	Acid Soluble As, ICP (ppm)	0523	0.2020	0.0220				2			0
151.30	Acid Soluble As, ICP (ppm)	0255	0.0000	0.0000				2			4
151.30	Acid Soluble As, ICP (ppm)	0605	< 6.25					2			5
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0220	< 0.5					0			5
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0405	< 3					0			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0515	20.25	4.500				1			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0527	< 0.0001					1			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0548	< 0.05					1			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0136	< 1					1			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0027	< 10					1			5
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0368	5.300	5.400				2			0
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0515	23.15	3.300				2			0
151.99	Acid Soluble As, Other (ppm)	0572	< 0.09					0			5
151.99	Acid Soluble As, Other (ppm)	0220	< 0.5					0			5
151.99	Acid Soluble As, Other (ppm)	0481	< 0.5					0			5
165.00	Acid Soluble B, Spectrophotometric (%)	0653	0.0598	0.0001				1			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0422	0.0070	0.0002	0.0090	0.0017	0.0002	3	-1.15		0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	0.0100	0.0000	0.0090	0.0017	0.0002	3	0.58		0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0371	0.0100	0.0000	0.0090	0.0017	0.0002	3	0.58		0
165.99	Acid Soluble B, Other (%)	0524	0.0063	0.0002	0.0091	0.0025	0.0002	3	-1.13		0
165.99	Acid Soluble B, Other (%)	0472	0.0100	0.0000	0.0091	0.0025	0.0002	3	0.36		0
165.99	Acid Soluble B, Other (%)	0563	0.0110	0.0000	0.0091	0.0025	0.0002	3	0.77		0
165.99	Acid Soluble B, Other (%)	0527	< 0.01		0.0091	0.0025	0.0002	3			5
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid	0498	< 0.5					0			5
181.30	Acid Soluble Cd, ICP (ppm)	0523	0.0675	0.0030	0.1442	0.1238	0.0487	3	-0.62		0
181.30	Acid Soluble Cd, ICP (ppm)	0524	0.0782	0.0292	0.1442	0.1238	0.0487	3	-0.53		0
181.30	Acid Soluble Cd, ICP (ppm)	0255	0.2870	0.1140	0.1442	0.1238	0.0487	3	1.15		0
181.30	Acid Soluble Cd, ICP (ppm)	0394	< 0.1		0.1442	0.1238	0.0487	3			5
181.30	Acid Soluble Cd, ICP (ppm)	0605	< 0.25		0.1442	0.1238	0.0487	3			5
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0220	0.4000	0.0200				1			0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0405	< 1					1			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0548	0.0650	0.0100				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)	0515	< 0.19					1			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0136	< 1					1			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0027	< 10					1			5
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0368	< 0.1					0			5
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0515	< 0.133					0			5

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				
181.99	Acid Soluble Cd, Other (ppm)	0572	0.0750	0.0100				2			0
181.99	Acid Soluble Cd, Other (ppm)	0220	0.4150	0.0300				2			0
181.99	Acid Soluble Cd, Other (ppm)	0481	< 0.5					2			5
191.30	Acid Soluble Cr, ICP (ppm)	0524	0.1694	0.0059	0.9088	1.172	0.2333	3	-0.63		0
191.30	Acid Soluble Cr, ICP (ppm)	0523	0.2970	0.0140	0.9088	1.172	0.2333	3	-0.52		0
191.30	Acid Soluble Cr, ICP (ppm)	0605	2.260	0.6800	0.9088	1.172	0.2333	3	1.15		0
191.30	Acid Soluble Cr, ICP (ppm)	0394	< 2		0.9088	1.172	0.2333	3			5
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0220	0.2200	0.0200				1			0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0405	< 1					1			5
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0515	2.025	2.270				1			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0527	< 0.0001					1			5
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0548	< 0.05					1			5
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0136	< 2.5					1			5
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0027	< 10					1			5
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0515	3.500	1.300				1			0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0368	< 0.1					1			5
191.99	Acid Soluble Cr, Other (ppm)	0220	0.3250	0.0100				1			0
191.99	Acid Soluble Cr, Other (ppm)	0572	< 0.25					1			5
202.30	Acid Soluble Co, ICP (ppm)	0523	0.0640	0.0100				2			0
202.30	Acid Soluble Co, ICP (ppm)	0524	0.8795	0.0267				2			0
202.30	Acid Soluble Co, ICP (ppm)	0605	< 1.25					2			5
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0220	< 0.1					0			5
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0405	< 1					0			5
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0548	0.0650	0.0100				2			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0515	5.040	0.5800				2			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0527	< 0.0001					2			5
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0136	< 2.5					2			5
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0027	< 10					2			5
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0515	0.4270	0.4940				2			0
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0368	1.200	0.6000				2			0
202.99	Acid Soluble Co, Other (ppm)	0255	4.194	1.877				1			0
202.99	Acid Soluble Co, Other (ppm)	0220	< 0.1					1			5
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0422	0.0001	0.0000	0.0010	0.0009	0.0004	3	-1.00		0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0255	0.0010	0.0000	0.0010	0.0009	0.0004	3	0.00		0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0402	0.0019	0.0004	0.0010	0.0009	0.0004	3	1.00		0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0371	0.0000	0.0000	0.0010	0.0009	0.0004	3			4
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	< 0.01		0.0010	0.0009	0.0004	3			5
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0405	< 0.0002					0			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0548	0.0001	0.0000	0.0010	0.0009	0.0004	3	-0.83		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0027	0.0010	0.0000	0.0010	0.0009	0.0004	3	0.03		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0624	0.0018	0.0004	0.0010	0.0009	0.0004	3	0.79		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0106	0.0000	0.0000	0.0010	0.0009	0.0004	3			4
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0527	< 0.0001		0.0010	0.0009	0.0004	3			5

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				
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0136	< 0.0002		0.0010	0.0009	0.0004	3			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0394	< 0.0002		0.0010	0.0009	0.0004	3			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0515	< 0.26		0.0010	0.0009	0.0004	3			5
221.99	Acid Soluble Cu, Other (%)	0515	0.0001	0.0000	0.0002	0.0001	0.0001	3	-0.87		0
221.99	Acid Soluble Cu, Other (%)	0368	0.0002	0.0001	0.0002	0.0001	0.0001	3	-0.22		0
221.99	Acid Soluble Cu, Other (%)	0524	0.0003	0.0001	0.0002	0.0001	0.0001	3	1.09		0
221.99	Acid Soluble Cu, Other (%)	0481	< 0.01		0.0002	0.0001	0.0001	3			5
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0422	0.0004	0.0001				2			0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0035	0.0019	0.0005				2			0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0371	0.0000	0.0000				2			4
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					2			5
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0527	< 0.001					0			5
241.99	Acid Soluble Fe, Other (%)	0524	0.0007	0.0001				1			0
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid	0498	< 0.1					0			5
251.30	Acid Soluble Pb, ICP (ppm)	0523	0.0930	0.0080				2			0
251.30	Acid Soluble Pb, ICP (ppm)	0524	0.3566	0.0087				2			0
251.30	Acid Soluble Pb, ICP (ppm)	0255	0.0000	0.0000				2			4
251.30	Acid Soluble Pb, ICP (ppm)	0394	< 1					2			5
251.30	Acid Soluble Pb, ICP (ppm)	0605	< 6.25					2			5
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0220	< 0.5					0			5
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0405	< 4					0			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0527	< 0.0001					0			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0548	< 0.05					0			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0136	< 3					0			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0027	< 10					0			5
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0515	17.25	2.700				1			0
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0368	< 0.9					1			5
251.99	Acid Soluble Pb, Other (ppm)	0572	0.0650	0.0100				2			0
251.99	Acid Soluble Pb, Other (ppm)	0220	0.5750	0.0100				2			0
251.99	Acid Soluble Pb, Other (ppm)	0481	< 0.5					2			5
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0422	0.0002	0.0000				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 (%)	0371	0.0000	0.0000				0			4
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0527	0.0003	0.0000				2			0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0563	0.0004	0.0001				2			0
261.99	Acid Soluble Mn, Other (%)	0524	0.0003	0.0000				1			0
281.00	Acid Soluble Hg, AA (ppm)	0481	< 0.5					0			5
281.00	Acid Soluble Hg, AA (ppm)	0498	< 0.5					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0527	< 0.001					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0515	< 0.1					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0605	< 1.25					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0405	< 2					0			5
281.99	Acid Soluble Hg, Other (ppm)	0572	< 0.009					0			5

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			Value	Range	Rob Mean	Rob SD	Rob R-bar				
281.99	Acid Soluble Hg, Other (ppm)	0220	< 0.01					0			5
289.30	Acid Soluble Mo, ICP (ppm)	0524	0.2064	0.0053				1			0
289.30	Acid Soluble Mo, ICP (ppm)	0255	0.0000	0.0000				1			4
289.30	Acid Soluble Mo, ICP (ppm)	0402	< 1					1			5
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0220	< 0.3					0			5
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0405	< 1					0			5
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0106	0.0000	0.0000				0			4
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	< 0.0001					0			5
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0548	< 0.05					0			5
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0136	< 2.5					0			5
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0515	168.5	17.00				1			0
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0368	< 0.1					1			5
289.99	Acid Soluble Mo, Other (ppm)	0220	< 0.3					0			5
289.99	Acid Soluble Mo, Other (ppm)	0572	< 2.48					0			5
291.30	Acid Soluble Ni, ICP (ppm)	0524	0.2906	0.1353				2			0
291.30	Acid Soluble Ni, ICP (ppm)	0523	0.3130	0.0420				2			0
291.30	Acid Soluble Ni, ICP (ppm)	0605	< 1.25					2			5
291.30	Acid Soluble Ni, ICP (ppm)	0394	< 2					2			5
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0220	0.3150	0.0300				2			0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0405	3.000	0.0000				2			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0527	< 0.0001					0			5
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0548	< 0.05					0			5
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0136	< 2.5					0			5
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0027	< 10					0			5
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0515	16.40	0.0000				1			0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0368	< 0.3					1			5
291.99	Acid Soluble Ni, Other (ppm)	0220	0.4150	0.0900				2			0
291.99	Acid Soluble Ni, Other (ppm)	0255	8.353	1.528				2			0
291.99	Acid Soluble Ni, Other (ppm)	0572	< 1.66					2			5
301.30	Acid Soluble Se, ICP (ppm)	0524	0.0135	0.0177				2			0
301.30	Acid Soluble Se, ICP (ppm)	0523	0.1000	0.0340				2			0
301.30	Acid Soluble Se, ICP (ppm)	0605	< 6.25					2			5
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0220	< 0.3					0			5
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0405	< 10					0			5
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0527	< 0.001					0			5
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0548	< 0.05					0			5
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0027	< 10					0			5
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0368	6.100	4.200				2			0
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0515	23.75	3.100				2			0
301.99	Acid Soluble Se, Other (ppm)	0255	0.0000	0.0000				0			4
301.99	Acid Soluble Se, Other (ppm)	0220	< 0.3					0			5
301.99	Acid Soluble Se, Other (ppm)	0481	< 0.5					0			5
301.99	Acid Soluble Se, Other (ppm)	0572	< 2.48					0			5

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			Value	Range	Rob Mean	Rob SD	Rob R-bar				
311.32	Sodium, ICP, 2006.03 test portion (%)	0422	0.0223	0.0001				1			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	0.0284	0.0007				1			0
311.99	Sodium, Other (%)	0572	0.0179	0.0035				2			0
311.99	Sodium, Other (%)	0354	0.0500	0.0000				2			0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0653	0.0032	0.0001				2			0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0652	0.0033	0.0002				2			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0422	0.0004	0.0002	0.0020	0.0022	0.0002	3	-0.71		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0255	0.0010	0.0000	0.0020	0.0022	0.0002	3	-0.44		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0402	0.0046	0.0001	0.0020	0.0022	0.0002	3	1.14		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0371	0.0000	0.0000	0.0020	0.0022	0.0002	3			4
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0354	< 0.01		0.0020	0.0022	0.0002	3			5
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0405	< 0.0003					0			5
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0548	0.0001	0.0000	0.0049	0.0080	0.0011	5	-0.52		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0027	0.0010	0.0000	0.0049	0.0080	0.0011	5	-0.42		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0563	0.0020	0.0000	0.0049	0.0080	0.0011	5	-0.31		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0106	0.0021	0.0012	0.0049	0.0080	0.0011	5	-0.30		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0624	0.0191	0.0009	0.0049	0.0080	0.0011	5	1.55		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0527	< 0.0001		0.0049	0.0080	0.0011	5			5
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0394	< 0.0002		0.0049	0.0080	0.0011	5			5
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0136	< 0.0003		0.0049	0.0080	0.0011	5			5
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0515	< 0.19		0.0049	0.0080	0.0011	5			5
321.99	Acid Soluble Zn, Other (%)	0524	0.0001	0.0000				1			0
321.99	Acid Soluble Zn, Other (%)	0368	0.0000	0.0000				1			4
321.99	Acid Soluble Zn, Other (%)	0481	< 0.01					1			5
321.99	Acid Soluble Zn, Other (%)	0515	< 0.142					1			5
325.30	Water Soluble Zn, ICP (%)	0368	0.0000	0.0000				0			4

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 $\pm$ IA. Red indicates Higher or Lower and Green indicates within the IA range about the Robust mean. Method codes in light green indicate a guaranteed analyte. Individual lab values may be below detection limits but are reported solely for