

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 211111

5-2-0 Organic

Statistical Summary

Methods: 142

Labs Reporting: 87

Issue Date : 12/31/2021

Method Code	Analyte & Method Sample # 211111	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
001.10	Ammoniacal N, Magnesium Oxide Method (%)	1		0.3300									
001.99	Ammoniacal N, Other (%)	7	6	1.010	1.526	0.6565		0.4199	0.2143	63.96%		0.0098	4.26%
002.99	Nitrate N, Other (%)	1		0.0515									
003.10	Water Insoluble N, Method I (%)	5	5	4.167	0.1173	4.167		0.1173	0.0656	2.82%		0.1077	3.23%
003.99	Water Insoluble N, Other (%)	5	5	4.522	0.0539	4.522		0.0539	0.0301	1.19%		0.0280	3.19%
005.00	Urea N, Urease (as N) (%)	1		0.1100									
005.99	Urea N, Other (%)	1		0.0050									
006.99	Biuret N, Other (%)	1		0.0050									
008.10	Biuret, Spectrophotometric (as Biuret) (%)	1		0.0000									
009.10	Ammoniacal Plus Nitrate N, Devarda (%)	1		0.4000									
009.99	Ammoniacal Plus Nitrate N, Other (%)	1		4.985									
010.11	Total N, Modified Comprehensive (5%)	9	9	5.095	0.1579	5.095	0.5109	0.1784	0.0743	3.50%	0.81	0.0696	3.13%
010.12	Total N, Salicylic (5%)	3	3	5.367	0.2675	5.367	0.5137	0.2675	0.1931	4.99%	1.21	0.0469	3.11%
010.60	Total N, Combustion (5%)	50	48	5.142	0.6129	5.219	0.5122	0.1005	0.0181	1.93%	0.46	0.0567	3.12%
010.99	Total N, Other (5%)	21	21	5.058	0.1205	5.059	0.5106	0.1267	0.0346	2.50%	0.58	0.0446	3.13%
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	2	2	4.348	0.1937								
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	13	13	4.333	0.7655	4.456		0.4899	0.1698	10.99%		0.0858	3.19%
020.40	Total P2O5, Automated (%)	1		4.650									
020.50	Total P2O5, ICP (%)	19	19	4.596	0.5963	4.675		0.3321	0.0952	7.10%		0.0833	3.17%
020.99	Total P2O5, Other (%)	9	9	3.340	1.258	3.340		1.426	0.5942	42.69%		0.0426	3.34%
030.20	Citrate Insoluble P2O5, Spectrophotometric MolybdovanadoP (%)	1		0.6300									
040.99	Indirect Available P2O5, Other (2%)	2	2	2.858	1.008								
041.10	Direct Available P2O5, Gravimetric Quinolinium (2%)	4	4	3.081	1.121	3.081	0.6700	1.121	0.7007	36.39%	3.90	0.0775	3.38%
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (2%)	8	7	3.847	0.2650	3.937	0.6700	0.0865	0.0409	2.20%	0.30	0.0216	3.25%
041.20	Direct Available P2O5, Spectrophotometric (2%)	2	2	3.513	0.1945								
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (2%)	6	6	4.202	0.3803	4.202	0.6700	0.4313	0.2201	10.26%	1.50	0.0933	3.22%
041.30	Direct Available P2O5, Alkalimetric Quinolinium MolybdoP (2%)	1		2.100									
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (2%)	1		4.105									
041.50	Direct Available P2O5, ICP (2%)	2	2	4.140	0.6223								
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (2%)	5	5	4.386	0.4311	4.386	0.6700	0.4311	0.2410	9.83%	1.50	0.0212	3.20%
041.99	Direct Available P2O5, Other (2%)	11	11	2.470	0.8353	2.176	0.6700	0.1911	0.0720	8.78%	0.66	0.0609	3.56%
048.99	Water Soluble P2O5, Other (%)	1		0.1633									
050.51	Soluble K2O, ICP (Citrate) (%)	1		0.2100									

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050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	2	2	0.1838	0.1008								
050.61	Soluble K2O, Flame Photometric (Citrate) (%)	2	2	0.1675	0.0106								
050.99	Soluble K2O, Other (%)	8	7	0.2003	0.0683	0.2146	0.4100	0.0674	0.0319	31.42%	0.38	0.0139	5.04%
060.99	Water (Free), Other (%)	2	2	6.942	2.133								
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	1		2.058									
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	3	3	2.207	0.2254	2.207	0.3103	0.2254	0.1627	10.21%	1.69	0.0600	3.55%
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	1		2.260									
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	5	5	2.001	0.0323	2.001	0.3000	0.0323	0.0180	1.61%	0.25	0.0315	3.60%
101.99	Acid Soluble Ca, Other (%)	2	2	2.239	0.1281								
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	1		0.3725									
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	3	3	0.3695	0.0309	0.3695	0.2185	0.0309	0.0223	8.35%	0.33	0.0137	4.65%
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	1		0.3965									
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	6	5	0.3642	0.0562	0.3768	0.2188	0.0524	0.0293	13.91%	0.56	0.0074	4.63%
121.99	Acid Soluble Mg, Other (%)	4	4	0.3309	0.0419	0.3309	0.2165	0.0419	0.0262	12.65%	0.45	0.0219	4.72%
131.99	Water Soluble Mg, Other (%)	1		0.0198									
143.99	Elemental S, Other (%)	1		1.350									
145.99	Sulfate S, HCl soluble, Other (%)	1		0.2840									
148.07	Total S, ICP, test portion as in 2017.02 (%)	5	5	1.172	0.3426	1.172	0.2586	0.3426	0.1915	29.23%	3.09	0.2224	3.91%
148.99	Total S, Other (%)	2	2	1.029	0.6205								
149.04	S - HNO3 soluble, ICP (%)	2	2	1.335	0.1271								
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	1		2.600									
151.30	Acid Soluble As, ICP (ppm)	2	1	2.078	2.938								
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	2	2	3.486	0.3338								
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	6	6	4.289	1.345	4.289		1.526	0.7786	35.57%		0.2415	12.85%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	2	1	0.8355	0.6159								
151.99	Acid Soluble As, Other (ppm)	5	5	3.540	1.913	3.540		1.913	1.069	54.03%		0.1793	13.23%
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	2	1	0.0066	0.0048								
165.99	Acid Soluble B, Other (%)	8	6	0.0028	0.0018	0.0036	0.0035	0.0012	0.0006	34.29%	0.82	0.0002	9.32%
171.99	Water Soluble B, Other (%)	1		0.0035									
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	1		2.060									
181.30	Acid Soluble Cd, ICP (ppm)	6	5	1.673	0.2402	1.735		0.2075	0.1160	11.96%		0.0266	14.72%
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	2	2	2.499	1.416								
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	6	6	2.127	0.3576	2.127		0.4055	0.2069	19.06%		0.0749	14.28%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	3	2	1.367	1.200	2.050		0.2828	0.2500	13.80%		0.2000	14.36%
181.99	Acid Soluble Cd, Other (ppm)	7	7	2.338	0.9710	2.338		1.101	0.5202	47.09%		0.1482	14.08%
190.00	Water Soluble Cl, Titrimetric (%)	1		0.2150									
191.00	Acid Soluble Cr, AA, test portion 2006.03 modified w/dual acid (ppm)	1		48.15									
191.30	Acid Soluble Cr, ICP (ppm)	5	5	50.65	10.78	50.65		10.78	6.028	21.29%		1.722	8.86%
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	2	2	50.97	10.65								
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	7	6	59.28	16.48	57.09		14.20	7.246	24.87%		1.039	8.70%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	3	3	49.41	2.077	49.41		2.077	1.499	4.20%		5.111	8.89%
191.99	Acid Soluble Cr, Other (ppm)	5	5	54.90	8.136	54.90		8.136	4.548	14.82%		3.067	8.75%
202.30	Acid Soluble Co, ICP (ppm)	4	4	7.808	1.717	7.808	3.3423	1.717	1.073	21.99%	1.20	0.4850	11.74%
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	3	3	7.725	1.693	7.725	3.3175	1.693	1.222	21.91%	1.19	0.0623	11.76%

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202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	6	6	10.08	3.612	10.06	4.0181	4.049	2.066	40.25%	2.35	0.2099	11.30%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	2	2	5.625	0.0354								
202.99	Acid Soluble Co, Other (ppm)	6	4	8.725	6.528	8.088	3.4264	1.652	1.032	20.42%	1.12	0.4498	11.68%
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	3	3	0.0262	0.0023	0.0262	0.0076	0.0023	0.0017	8.83%	0.71	0.0017	6.92%
221.01	Acid Soluble Cu, AA, organic 965.09 (%)	3	3	0.0266	0.0015	0.0266	0.0077	0.0015	0.0011	5.75%	0.47	0.0008	6.90%
221.03	Acid Soluble Cu, AA, 965.09, test portion 2006.03A-C w/dual acid (%)	1		0.0300									
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	7	6	0.0249	0.0034	0.0251	0.0075	0.0041	0.0021	16.39%	1.28	0.0001	6.96%
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	2	2	0.0275	0.0029								
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	9	8	0.0279	0.0046	0.0278	0.0078	0.0036	0.0016	13.04%	1.09	0.0002	6.86%
221.99	Acid Soluble Cu, Other (%)	12	12	0.0256	0.0030	0.0256	0.0076	0.0033	0.0012	12.72%	1.00	0.0006	6.94%
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	3	3	2.500	0.1323	2.500	0.2550	0.1323	0.0955	5.29%	1.21	0.0467	3.48%
241.01	Acid Soluble Fe, AA, organic 965.09 (%)	2	2	2.550	0.0000								
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	3	3	2.555	0.0436	2.555	0.2605	0.0436	0.0315	1.71%	0.39	0.0567	3.47%
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	1		2.701									
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	4	4	2.434	0.1985	2.434	0.2484	0.1985	0.1241	8.16%	1.86	0.1023	3.50%
241.99	Acid Soluble Fe, Other (%)	4	4	2.463	0.1321	2.463	0.2513	0.1321	0.0826	5.36%	1.22	0.1022	3.49%
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid (ppm)	1		25.00									
251.30	Acid Soluble Pb, ICP (ppm)	5	5	30.32	7.148	30.32		7.148	3.996	23.58%		1.397	9.57%
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	2	2	30.78	11.27								
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	7	6	44.49	8.305	41.84		6.382	3.257	15.25%		1.326	9.12%
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	3	3	31.49	8.446	31.49		8.446	6.095	26.82%		4.054	9.52%
251.99	Acid Soluble Pb, Other (ppm)	6	6	36.45	4.485	36.45		5.086	2.595	13.95%		2.124	9.31%
261.00	Acid Soluble Mn, AA, Mn2+ only (%)	1		0.1435									
261.12	Acid Soluble Mn, AA, inorganic 965.09 (%)	2	2	0.1053	0.0039								
261.13	Acid Soluble Mn, AA, organic 965.09 (%)	2	2	0.1075	0.0106								
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	3	3	0.1218	0.0028	0.1218	0.0172	0.0028	0.0020	2.26%	0.37	0.0037	5.49%
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	1		0.1285									
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	5	5	0.1093	0.0195	0.1093	0.0159	0.0195	0.0109	17.84%	2.85	0.0133	5.58%
261.99	Acid Soluble Mn, Other (%)	4	4	0.1211	0.0129	0.1211	0.0171	0.0129	0.0081	10.68%	1.76	0.0024	5.50%
281.00	Acid Soluble Hg, AA (ppm)	1		0.5000									
281.30	Acid Soluble Hg, ICP (ppm)	6	3	0.5618	0.4833	0.7899		0.3082	0.2224	39.02%		0.0277	16.57%
281.99	Acid Soluble Hg, Other (ppm)	4	4	0.8937	0.3816	0.8937		0.3816	0.2385	42.70%		0.2089	16.27%
289.30	Acid Soluble Mo, ICP (ppm)	4	4	5.245	1.670	5.245	2.5734	1.670	1.044	31.84%	1.51	0.3457	12.47%
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	2	2	7.499	1.416								
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	9	8	10.52	2.076	10.49	4.1485	1.535	0.6782	14.62%	0.86	0.2200	11.23%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	2	2	12.03	2.298								
289.99	Acid Soluble Mo, Other (ppm)	5	4	28.14	40.19	10.17	4.0522	1.477	0.9234	14.52%	0.85	0.8001	11.28%
291.00	Acid Soluble Ni, AA, test portion 2006.03 modified w/dual acid (ppm)	1		26.85									
291.30	Acid Soluble Ni, ICP (ppm)	4	4	21.32	1.305	21.32		1.305	0.8159	6.12%		0.3256	10.09%
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	2	2	21.52	4.354								
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	7	6	27.55	6.841	27.28		5.971	3.047	21.89%		0.7463	9.73%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	3	3	21.32	1.870	21.32		1.870	1.350	8.77%		3.525	10.09%
291.99	Acid Soluble Ni, Other (ppm)	8	8	25.17	2.419	25.24		2.577	1.139	10.21%		1.290	9.84%
301.30	Acid Soluble Se, ICP (ppm)	1		7.485									

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301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	2	1	7.606	10.33								
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	6	4	4.510	4.419	6.765		3.494	2.184	51.65%		0.3177	12.00%
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	2	0	0.7500	1.061								
301.99	Acid Soluble Se, Other (ppm)	5	3	62.70	130.5	104.3		166.0	119.8	159.10%		192.0	7.95%
311.00	Sodium, AA (%)	1		0.0505									
311.33	Sodium, ICP, test portion as in 2017.02 (%)	4	4	0.0714	0.0073	0.0714	0.0121	0.0073	0.0046	10.27%	1.41	0.0027	5.95%
311.99	Sodium, Other (%)	2	2	0.0712	0.0195								
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	3	3	0.1472	0.0136	0.1472	0.0197	0.0136	0.0098	9.22%	1.60	0.0110	5.34%
321.01	Acid Soluble Zn, AA, organic 965.09 (%)	3	3	0.1657	0.0190	0.1657	0.0216	0.0190	0.0137	11.47%	2.05	0.0020	5.24%
321.03	Acid Soluble Zn, AA, 965.09, test portion 2006.03A-C w/dual acid (%)	1		0.8300									
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	7	6	0.1468	0.0107	0.1488	0.0199	0.0116	0.0059	7.80%	1.36	0.0007	5.33%
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	1		0.1615									
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	11	10	0.1454	0.0199	0.1457	0.0196	0.0141	0.0056	9.69%	1.68	0.0014	5.34%
321.99	Acid Soluble Zn, Other (%)	10	9	0.1439	0.0177	0.1422	0.0192	0.0194	0.0081	13.62%	2.35	0.0031	5.36%
325.99	Water Soluble Zn, Other (%)	1		0.0005									
431.99	Soluble Si in nonliquids, Other (%)	1		0.0040									
441.00	Humic Acids, Gravimetry, Ash-free, alkali dissolved, acid precipit... (%)	3	3	25.83	30.47	25.83		30.47	21.99	117.96%		2.000	1.97%
441.10	Humic Acids, Gravimetry, alkali dissolved, acid precipitated (%)	4	4	6.735	1.682	6.735		1.682	1.051	24.98%		0.1591	3.00%
441.99	Humic Acids, Other (%)	3	3	48.12	33.98	48.12		33.98	24.53	70.62%		1.903	1.44%
451.00	Hydrophobic Fulvic Acids, Gravimetry, acid dissolved binds hydrop... (%)	1		2.660									
451.99	Hydrophobic Fulvic Acids, Other (%)	1		15.44									

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 # 211111

Method Precision Report

5-2-0 Organic

Issue Date : 12/31/2021

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
001.99	Ammoniacal N, Other (%)	7	5	0.5305	0.2288	0.2288	0.0084	0.2289	43.12%	1.58%	43.15%	27.26
003.10	Water Insoluble N, Method I (%)	5	5	4.167	0.1173	0.0925	0.1021	0.1378	2.22%	2.45%	3.31%	1.350
003.99	Water Insoluble N, Other (%)	5	5	4.522	0.0539	0.0514	0.0232	0.0564	1.14%	0.51%	1.25%	2.426
010.11	Total N, Modified Comprehensive (5%)	9	9	5.095	0.1579	0.1516	0.0624	0.1640	2.98%	1.23%	3.22%	2.626
010.60	Total N, Combustion (5%)	50	47	5.230	0.1196	0.1139	0.0519	0.1251	2.18%	0.99%	2.39%	2.412
010.99	Total N, Other (5%)	21	20	5.067	0.1149	0.1119	0.0366	0.1178	2.21%	0.72%	2.32%	3.219
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	13	11	4.493	0.3987	0.3958	0.0676	0.4016	8.81%	1.50%	8.94%	5.943
020.50	Total P2O5, ICP (%)	19	18	4.716	0.3006	0.2967	0.0677	0.3044	6.29%	1.44%	6.45%	4.497
020.99	Total P2O5, Other (%)	9	9	3.340	1.258	1.257	0.0347	1.258	37.64%	1.04%	37.65%	36.21
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (2%)	8	7	3.937	0.0763	0.0748	0.0212	0.0777	1.90%	0.54%	1.97%	3.664
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (2%)	6	6	4.202	0.3803	0.3764	0.0769	0.3842	8.96%	1.83%	9.14%	4.994
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (2%)	5	5	4.386	0.4311	0.4309	0.0185	0.4313	9.83%	0.42%	9.84%	23.27
041.99	Direct Available P2O5, Other (2%)	11	10	2.257	0.4645	0.4630	0.0539	0.4661	20.52%	2.39%	20.66%	8.648
050.99	Soluble K2O, Other (%)	8	7	0.2146	0.0595	0.0589	0.0117	0.0600	27.44%	5.45%	27.97%	5.128
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	6	5	0.3768	0.0524	0.0523	0.0057	0.0526	13.87%	1.52%	13.95%	9.169
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	6	6	4.289	1.345	1.331	0.2743	1.359	31.04%	6.39%	31.69%	4.956
151.99	Acid Soluble As, Other (ppm)	5	5	3.540	1.913	1.908	0.1902	1.917	53.89%	5.37%	54.16%	10.08
165.99	Acid Soluble B, Other (%)	8	6	0.0036	0.0011	0.0011	0.0002	0.0011	31.10%	6.65%	31.81%	4.786
181.30	Acid Soluble Cd, ICP (ppm)	6	5	1.735	0.2075	0.2069	0.0216	0.2081	11.93%	1.25%	11.99%	9.622
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	6	6	2.127	0.3576	0.3551	0.0595	0.3601	16.69%	2.80%	16.93%	6.052
181.99	Acid Soluble Cd, Other (ppm)	7	6	2.436	1.025	1.023	0.0783	1.026	42.01%	3.21%	42.13%	13.11
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	7	5	52.83	7.739	7.716	0.8405	7.762	14.60%	1.59%	14.69%	9.235
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	6	5	9.779	3.953	3.952	0.0900	3.953	40.42%	0.92%	40.43%	43.94
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	7	5	0.0256	0.0038	0.0038	0.0000	0.0038	15.03%	0.00%	15.03%	
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	9	6	0.0266	0.0026	0.0026	0.0001	0.0026	9.79%	0.45%	9.80%	21.92
221.99	Acid Soluble Cu, Other (%)	12	12	0.0256	0.0030	0.0030	0.0007	0.0030	11.57%	2.64%	11.87%	4.503
251.30	Acid Soluble Pb, ICP (ppm)	5	5	30.32	7.148	7.097	1.200	7.198	23.41%	3.96%	23.74%	5.998
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	7	5	39.92	3.478	3.465	0.4340	3.492	8.68%	1.09%	8.75%	8.046
251.99	Acid Soluble Pb, Other (ppm)	6	6	36.45	4.485	4.333	1.635	4.631	11.89%	4.49%	12.71%	2.833

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
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	9	7	10.17	1.062	1.057	0.1457	1.067	10.39%	1.43%	10.49%	7.321
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	7	5	25.48	3.254	3.240	0.4278	3.268	12.71%	1.68%	12.82%	7.639
291.99	Acid Soluble Ni, Other (ppm)	8	8	25.17	2.419	2.272	1.173	2.557	9.03%	4.66%	10.16%	2.180
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	7	6	0.1488	0.0102	0.0102	0.0007	0.0102	6.87%	0.46%	6.89%	15.00
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	11	8	0.1409	0.0135	0.0135	0.0010	0.0136	9.59%	0.74%	9.62%	13.02
321.99	Acid Soluble Zn, Other (%)	10	9	0.1419	0.0175	0.0174	0.0034	0.0177	12.24%	2.39%	12.47%	5.214

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 # 211111

5-2-0 Organic

Lab Values

Methods: 142

Labs Reporting: 87

Issue Date : 12/31/2021

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				
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0389	0.3300	0.0200				1			0
001.99	Ammoniacal N, Other (%)	0423	0.2405	0.0210	0.6565	0.4199	0.0098	6	-0.88	NA	0
001.99	Ammoniacal N, Other (%)	0524	0.3250	0.0000	0.6565	0.4199	0.0098	6	-0.70	NA	0
001.99	Ammoniacal N, Other (%)	0553	0.6670	0.0080	0.6565	0.4199	0.0098	6	0.02	NA	0
001.99	Ammoniacal N, Other (%)	0539	0.7050	0.0100	0.6565	0.4199	0.0098	6	0.10	NA	0
001.99	Ammoniacal N, Other (%)	0535	0.7150	0.0100	0.6565	0.4199	0.0098	6	0.12	NA	0
001.99	Ammoniacal N, Other (%)	0548	4.415	0.0100	0.6565	0.4199	0.0098	6	7.97	NA	0
001.99	Ammoniacal N, Other (%)	0572	0.0000	0.0000	0.6565	0.4199	0.0098	6			4
002.99	Nitrate N, Other (%)	0553	0.0515	0.0050				1			0
003.10	Water Insoluble N, Method I (%)	0029	4.045	0.2900	4.167	0.1173	0.1077	5	-1.04		0
003.10	Water Insoluble N, Method I (%)	0117	4.050	0.0086	4.167	0.1173	0.1077	5	-1.00		0
003.10	Water Insoluble N, Method I (%)	0220	4.180	0.0600	4.167	0.1173	0.1077	5	0.11		0
003.10	Water Insoluble N, Method I (%)	0451	4.260	0.1000	4.167	0.1173	0.1077	5	0.79		0
003.10	Water Insoluble N, Method I (%)	0027	4.300	0.0800	4.167	0.1173	0.1077	5	1.13		0
003.99	Water Insoluble N, Other (%)	0564	4.475	0.0500	4.522	0.0539	0.0280	5	-0.87		0
003.99	Water Insoluble N, Other (%)	0565	4.490	0.0200	4.522	0.0539	0.0280	5	-0.59		0
003.99	Water Insoluble N, Other (%)	0567	4.500	0.0000	4.522	0.0539	0.0280	5	-0.41		0
003.99	Water Insoluble N, Other (%)	0574	4.535	0.0300	4.522	0.0539	0.0280	5	0.24		0
003.99	Water Insoluble N, Other (%)	0577	4.610	0.0400	4.522	0.0539	0.0280	5	1.63		0
005.00	Urea N, Urease (as N) (%)	0574	0.1100	0.0200				1			0
005.99	Urea N, Other (%)	0524	0.0050	0.0040				1			0
006.99	Biuret N, Other (%)	0574	0.0050	0.0100				0			4
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0572	0.0000	0.0000				0			4
009.10	Ammoniacal Plus Nitrate N, Devarda (%)	0574	0.4000	0.0200				1			0
009.99	Ammoniacal Plus Nitrate N, Other (%)	0518	4.985	0.0700				1			0
010.11	Total N, Modified Comprehensive (5%)	0533	4.905	0.0500	5.095	0.1784	0.0696	9	-0.98	OK	0
010.11	Total N, Modified Comprehensive (5%)	0548	4.960	0.0200	5.095	0.1784	0.0696	9	-0.70	OK	0
010.11	Total N, Modified Comprehensive (5%)	0540	4.990	0.0400	5.095	0.1784	0.0696	9	-0.54	OK	0
010.11	Total N, Modified Comprehensive (5%)	0536	5.040	0.1200	5.095	0.1784	0.0696	9	-0.28	OK	0
010.11	Total N, Modified Comprehensive (5%)	0535	5.078	0.0450	5.095	0.1784	0.0696	9	-0.09	OK	0
010.11	Total N, Modified Comprehensive (5%)	0539	5.082	0.0560	5.095	0.1784	0.0696	9	-0.07	OK	0
010.11	Total N, Modified Comprehensive (5%)	0551	5.100	0.1000	5.095	0.1784	0.0696	9	0.03	OK	0
010.11	Total N, Modified Comprehensive (5%)	0510	5.335	0.0055	5.095	0.1784	0.0696	9	1.24	OK	0
010.11	Total N, Modified Comprehensive (5%)	0546	5.365	0.1900	5.095	0.1784	0.0696	9	1.40	OK	0
010.12	Total N, Salicylic (5%)	0572	5.075	0.0508	5.367	0.2675	0.0469	3	-1.09		0
010.12	Total N, Salicylic (5%)	0568	5.425	0.0900	5.367	0.2675	0.0469	3	0.22		0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010.12	Total N, Salicylic (5%)	0498	5.600	0.0000	5.367	0.2675	0.0469	3	0.87		0
010.60	Total N, Combustion (5%)	0325	4.930	0.2400	5.219	0.1005	0.0567	48	-2.88	OK	0
010.60	Total N, Combustion (5%)	0234	4.970	0.0200	5.219	0.1005	0.0567	48	-2.48	OK	0
010.60	Total N, Combustion (5%)	0354	5.035	0.0700	5.219	0.1005	0.0567	48	-1.83	OK	0
010.60	Total N, Combustion (5%)	0035	5.050	0.1000	5.219	0.1005	0.0567	48	-1.68	OK	0
010.60	Total N, Combustion (5%)	0444	5.060	0.0800	5.219	0.1005	0.0567	48	-1.58	OK	0
010.60	Total N, Combustion (5%)	0095	5.110	0.0800	5.219	0.1005	0.0567	48	-1.09	OK	0
010.60	Total N, Combustion (5%)	0476	5.116	0.0422	5.219	0.1005	0.0567	48	-1.02	OK	0
010.60	Total N, Combustion (5%)	0451	5.150	0.1830	5.219	0.1005	0.0567	48	-0.69	OK	0
010.60	Total N, Combustion (5%)	0049	5.155	0.0300	5.219	0.1005	0.0567	48	-0.64	OK	0
010.60	Total N, Combustion (5%)	0292	5.155	0.0100	5.219	0.1005	0.0567	48	-0.64	OK	0
010.60	Total N, Combustion (5%)	0405	5.155	0.0100	5.219	0.1005	0.0567	48	-0.64	OK	0
010.60	Total N, Combustion (5%)	0561	5.155	0.0100	5.219	0.1005	0.0567	48	-0.64	OK	0
010.60	Total N, Combustion (5%)	0220	5.160	0.0000	5.219	0.1005	0.0567	48	-0.59	OK	0
010.60	Total N, Combustion (5%)	0486	5.160	0.0200	5.219	0.1005	0.0567	48	-0.59	OK	0
010.60	Total N, Combustion (5%)	0390	5.161	0.0510	5.219	0.1005	0.0567	48	-0.58	OK	0
010.60	Total N, Combustion (5%)	0029	5.161	0.0260	5.219	0.1005	0.0567	48	-0.58	OK	0
010.60	Total N, Combustion (5%)	0043	5.175	0.0100	5.219	0.1005	0.0567	48	-0.44	OK	0
010.60	Total N, Combustion (5%)	0423	5.175	0.0700	5.219	0.1005	0.0567	48	-0.44	OK	0
010.60	Total N, Combustion (5%)	0527	5.187	0.0350	5.219	0.1005	0.0567	48	-0.33	OK	0
010.60	Total N, Combustion (5%)	0114	5.190	0.0600	5.219	0.1005	0.0567	48	-0.29	OK	0
010.60	Total N, Combustion (5%)	0501	5.195	0.0300	5.219	0.1005	0.0567	48	-0.24	OK	0
010.60	Total N, Combustion (5%)	0324	5.205	0.0700	5.219	0.1005	0.0567	48	-0.14	OK	0
010.60	Total N, Combustion (5%)	0452	5.210	0.0600	5.219	0.1005	0.0567	48	-0.09	OK	0
010.60	Total N, Combustion (5%)	0547	5.210	0.0000	5.219	0.1005	0.0567	48	-0.09	OK	0
010.60	Total N, Combustion (5%)	0037	5.220	0.1030	5.219	0.1005	0.0567	48	0.00	OK	0
010.60	Total N, Combustion (5%)	0231	5.220	0.0400	5.219	0.1005	0.0567	48	0.01	OK	0
010.60	Total N, Combustion (5%)	0472	5.222	0.0120	5.219	0.1005	0.0567	48	0.03	OK	0
010.60	Total N, Combustion (5%)	0106	5.225	0.0300	5.219	0.1005	0.0567	48	0.06	OK	0
010.60	Total N, Combustion (5%)	0307	5.240	0.0400	5.219	0.1005	0.0567	48	0.21	OK	0
010.60	Total N, Combustion (5%)	0230	5.250	0.0400	5.219	0.1005	0.0567	48	0.31	OK	0
010.60	Total N, Combustion (5%)	0260	5.250	0.1000	5.219	0.1005	0.0567	48	0.31	OK	0
010.60	Total N, Combustion (5%)	0073	5.255	0.0100	5.219	0.1005	0.0567	48	0.36	OK	0
010.60	Total N, Combustion (5%)	0136	5.255	0.0100	5.219	0.1005	0.0567	48	0.36	OK	0
010.60	Total N, Combustion (5%)	0534	5.255	0.0100	5.219	0.1005	0.0567	48	0.36	OK	0
010.60	Total N, Combustion (5%)	0485	5.261	0.1626	5.219	0.1005	0.0567	48	0.42	OK	0
010.60	Total N, Combustion (5%)	0040	5.300	0.0000	5.219	0.1005	0.0567	48	0.80	OK	0
010.60	Total N, Combustion (5%)	0450	5.300	0.0000	5.219	0.1005	0.0567	48	0.80	OK	0
010.60	Total N, Combustion (5%)	0027	5.305	0.1300	5.219	0.1005	0.0567	48	0.85	OK	0
010.60	Total N, Combustion (5%)	0055	5.305	0.1700	5.219	0.1005	0.0567	48	0.85	OK	0
010.60	Total N, Combustion (5%)	0402	5.309	0.0090	5.219	0.1005	0.0567	48	0.89	OK	0
010.60	Total N, Combustion (5%)	0255	5.313	0.0360	5.219	0.1005	0.0567	48	0.93	OK	0
010.60	Total N, Combustion (5%)	0422	5.334	0.1010	5.219	0.1005	0.0567	48	1.14	OK	0
010.60	Total N, Combustion (5%)	0042	5.350	0.1000	5.219	0.1005	0.0567	48	1.30	OK	0
010.60	Total N, Combustion (5%)	0023	5.352	0.2030	5.219	0.1005	0.0567	48	1.32	OK	0
010.60	Total N, Combustion (5%)	0177	5.382	0.0280	5.219	0.1005	0.0567	48	1.62	OK	0
010.60	Total N, Combustion (5%)	0421	5.415	0.0100	5.219	0.1005	0.0567	48	1.95	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010.60	Total N, Combustion (5%)	0102	5.540	0.0200	5.219	0.1005	0.0567	48	3.19	OK	0
010.60	Total N, Combustion (5%)	0025	5.645	0.0500	5.219	0.1005	0.0567	48	4.24	OK	0
010.60	Total N, Combustion (5%)	0368	5.393	0.8050	5.219	0.1005	0.0567	48	1.72	OK	1
010.60	Total N, Combustion (5%)	0389	0.9850	0.0100	5.219	0.1005	0.0567	48	-42.13	Low	2
010.99	Total N, Other (5%)	0537	4.810	0.0600	5.059	0.1267	0.0446	21	-1.97	OK	0
010.99	Total N, Other (5%)	0476	4.864	0.1605	5.059	0.1267	0.0446	21	-1.54	OK	0
010.99	Total N, Other (5%)	0545	4.870	0.0400	5.059	0.1267	0.0446	21	-1.49	OK	0
010.99	Total N, Other (5%)	0506	4.980	0.0400	5.059	0.1267	0.0446	21	-0.62	OK	0
010.99	Total N, Other (5%)	0576	4.980	0.0000	5.059	0.1267	0.0446	21	-0.62	OK	0
010.99	Total N, Other (5%)	0493	4.995	0.1300	5.059	0.1267	0.0446	21	-0.51	OK	0
010.99	Total N, Other (5%)	0538	4.995	0.0300	5.059	0.1267	0.0446	21	-0.51	OK	0
010.99	Total N, Other (5%)	0513	5.015	0.0300	5.059	0.1267	0.0446	21	-0.35	OK	0
010.99	Total N, Other (5%)	0574	5.045	0.0300	5.059	0.1267	0.0446	21	-0.11	OK	0
010.99	Total N, Other (5%)	0564	5.050	0.0200	5.059	0.1267	0.0446	21	-0.07	OK	0
010.99	Total N, Other (5%)	0565	5.060	0.0200	5.059	0.1267	0.0446	21	0.01	OK	0
010.99	Total N, Other (5%)	0549	5.075	0.0100	5.059	0.1267	0.0446	21	0.12	OK	0
010.99	Total N, Other (5%)	0567	5.100	0.0000	5.059	0.1267	0.0446	21	0.32	OK	0
010.99	Total N, Other (5%)	0559	5.110	0.0200	5.059	0.1267	0.0446	21	0.40	OK	0
010.99	Total N, Other (5%)	0532	5.120	0.1000	5.059	0.1267	0.0446	21	0.48	OK	0
010.99	Total N, Other (5%)	0551	5.125	0.0500	5.059	0.1267	0.0446	21	0.52	OK	0
010.99	Total N, Other (5%)	0577	5.130	0.0400	5.059	0.1267	0.0446	21	0.56	OK	0
010.99	Total N, Other (5%)	0562	5.150	0.1000	5.059	0.1267	0.0446	21	0.72	OK	0
010.99	Total N, Other (5%)	0481	5.225	0.0100	5.059	0.1267	0.0446	21	1.31	OK	0
010.99	Total N, Other (5%)	0563	5.230	0.0400	5.059	0.1267	0.0446	21	1.35	OK	0
010.99	Total N, Other (5%)	0524	5.280	0.0067	5.059	0.1267	0.0446	21	1.74	OK	0
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0177	4.211	0.0812				2			0
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0043	4.485	0.0500				2			0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0548	2.110	0.0600	4.456	0.4899	0.0858	13	-4.79	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0481	3.960	0.0400	4.456	0.4899	0.0858	13	-1.01	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0027	4.120	0.0800	4.456	0.4899	0.0858	13	-0.69	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0405	4.200	0.0000	4.456	0.4899	0.0858	13	-0.52	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0561	4.220	0.2000	4.456	0.4899	0.0858	13	-0.48	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0292	4.240	0.0200	4.456	0.4899	0.0858	13	-0.44	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0231	4.410	0.0200	4.456	0.4899	0.0858	13	-0.09	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0553	4.498	0.0360	4.456	0.4899	0.0858	13	0.09	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0493	4.720	0.2000	4.456	0.4899	0.0858	13	0.54	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0324	4.800	0.3400	4.456	0.4899	0.0858	13	0.70	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0539	4.900	0.0000	4.456	0.4899	0.0858	13	0.91	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0535	4.950	0.1000	4.456	0.4899	0.0858	13	1.01	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0510	5.207	0.0190	4.456	0.4899	0.0858	13	1.53	NA	0
020.40	Total P2O5, Automated (%)	0035	4.650	0.1000				1			0
020.50	Total P2O5, ICP (%)	0042	2.450	0.3000	4.675	0.3321	0.0833	19	-6.70	NA	0
020.50	Total P2O5, ICP (%)	0472	4.250	0.0000	4.675	0.3321	0.0833	19	-1.28	NA	0
020.50	Total P2O5, ICP (%)	0255	4.392	0.0460	4.675	0.3321	0.0833	19	-0.85	NA	0
020.50	Total P2O5, ICP (%)	0390	4.415	0.2500	4.675	0.3321	0.0833	19	-0.78	NA	0
020.50	Total P2O5, ICP (%)	0451	4.428	0.0870	4.675	0.3321	0.0833	19	-0.74	NA	0
020.50	Total P2O5, ICP (%)	0524	4.559	0.0122	4.675	0.3321	0.0833	19	-0.35	NA	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
020.50	Total P2O5, ICP (%)	0450	4.570	0.0200	4.675	0.3321	0.0833	19	-0.32	NA	0
020.50	Total P2O5, ICP (%)	0260	4.585	0.0700	4.675	0.3321	0.0833	19	-0.27	NA	0
020.50	Total P2O5, ICP (%)	0444	4.590	0.0600	4.675	0.3321	0.0833	19	-0.26	NA	0
020.50	Total P2O5, ICP (%)	0452	4.610	0.0200	4.675	0.3321	0.0833	19	-0.20	NA	0
020.50	Total P2O5, ICP (%)	0368	4.646	0.0651	4.675	0.3321	0.0833	19	-0.09	NA	0
020.50	Total P2O5, ICP (%)	0547	4.650	0.1400	4.675	0.3321	0.0833	19	-0.07	NA	0
020.50	Total P2O5, ICP (%)	0423	4.760	0.1000	4.675	0.3321	0.0833	19	0.26	NA	0
020.50	Total P2O5, ICP (%)	0231	4.820	0.0200	4.675	0.3321	0.0833	19	0.44	NA	0
020.50	Total P2O5, ICP (%)	0546	4.968	0.1616	4.675	0.3321	0.0833	19	0.88	NA	0
020.50	Total P2O5, ICP (%)	0402	5.009	0.0150	4.675	0.3321	0.0833	19	1.00	NA	0
020.50	Total P2O5, ICP (%)	0527	5.048	0.0252	4.675	0.3321	0.0833	19	1.12	NA	0
020.50	Total P2O5, ICP (%)	0433	5.250	0.1400	4.675	0.3321	0.0833	19	1.73	NA	0
020.50	Total P2O5, ICP (%)	0389	5.335	0.0500	4.675	0.3321	0.0833	19	1.99	NA	0
020.99	Total P2O5, Other (%)	0576	1.900	0.0000	3.340	1.426	0.0426	9	-0.93	NA	0
020.99	Total P2O5, Other (%)	0567	2.110	0.0200	3.340	1.426	0.0426	9	-0.80	NA	0
020.99	Total P2O5, Other (%)	0564	2.125	0.0500	3.340	1.426	0.0426	9	-0.79	NA	0
020.99	Total P2O5, Other (%)	0565	2.130	0.0200	3.340	1.426	0.0426	9	-0.78	NA	0
020.99	Total P2O5, Other (%)	0537	3.630	0.0600	3.340	1.426	0.0426	9	0.19	NA	0
020.99	Total P2O5, Other (%)	0513	4.205	0.0300	3.340	1.426	0.0426	9	0.56	NA	0
020.99	Total P2O5, Other (%)	0515	4.384	0.0630	3.340	1.426	0.0426	9	0.68	NA	0
020.99	Total P2O5, Other (%)	0572	4.774	0.0613	3.340	1.426	0.0426	9	0.93	NA	0
020.99	Total P2O5, Other (%)	0476	4.805	0.0787	3.340	1.426	0.0426	9	0.95	NA	0
030.20	Citrate Insoluble P2O5, Spectrophotometric MolybdovanadoP (%)	0405	0.6300	0.0200				1			0
040.99	Indirect Available P2O5, Other (2%)	0577	2.145	0.0500				2			0
040.99	Indirect Available P2O5, Other (2%)	0405	3.570	0.0200				2			0
041.10	Direct Available P2O5, Gravimetric Quinolinium (2%)	0536	2.020	0.0600	3.081	1.121	0.0775	4	-0.95		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (2%)	0102	2.205	0.0500	3.081	1.121	0.0775	4	-0.78		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (2%)	0009	4.050	0.1000	3.081	1.121	0.0775	4	0.86		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (2%)	0040	4.050	0.1000	3.081	1.121	0.0775	4	0.86		0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (2%)	0405	3.830	0.0000	3.937	0.0865	0.0216	7	-1.12	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (2%)	0220	3.835	0.0100	3.937	0.0865	0.0216	7	-1.07	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (2%)	0055	3.930	0.0600	3.937	0.0865	0.0216	7	-0.08	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (2%)	0073	3.975	0.0300	3.937	0.0865	0.0216	7	0.39	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (2%)	0049	3.980	0.0400	3.937	0.0865	0.0216	7	0.44	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (2%)	0485	3.997	0.0015	3.937	0.0865	0.0216	7	0.62	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (2%)	0136	4.015	0.0100	3.937	0.0865	0.0216	7	0.81	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA Ext. (2%)	0095	3.215	0.2500	3.937	0.0865	0.0216	7	-7.55	Low	1
041.20	Direct Available P2O5, Spectrophotometric (2%)	0027	3.375	0.3300				2			0
041.20	Direct Available P2O5, Spectrophotometric (2%)	0498	3.650	0.1000				2			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (2%)	0563	3.670	0.0600	4.202	0.4313	0.0933	6	-1.10	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (2%)	0405	3.865	0.0100	4.202	0.4313	0.0933	6	-0.70	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (2%)	0106	4.270	0.1400	4.202	0.4313	0.0933	6	0.14	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (2%)	0055	4.300	0.1400	4.202	0.4313	0.0933	6	0.20	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (2%)	0568	4.370	0.1600	4.202	0.4313	0.0933	6	0.35	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (2%)	0354	4.735	0.0500	4.202	0.4313	0.0933	6	1.10	OK	0
041.30	Direct Available P2O5, Alkalimetric Quinolinium MolybdoP (2%)	0574	2.100	0.0400				1			0
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (2%)	0029	4.105	0.1100				1			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
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041.50	Direct Available P2O5, ICP (2%)	0325	3.700	0.6000				2			0
041.50	Direct Available P2O5, ICP (2%)	0421	4.580	0.0200				2			0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (2%)	0423	3.745	0.0300	4.386	0.4311	0.0212	5	-1.49		0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (2%)	0025	4.320	0.0000	4.386	0.4311	0.0212	5	-0.15		0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (2%)	0023	4.445	0.0300	4.386	0.4311	0.0212	5	0.14		0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (2%)	0037	4.468	0.0060	4.386	0.4311	0.0212	5	0.19		0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (2%)	0486	4.950	0.0400	4.386	0.4311	0.0212	5	1.31		0
041.99	Direct Available P2O5, Other (2%)	0518	2.000	0.0200	2.176	0.1911	0.0609	11	-0.86	OK	0
041.99	Direct Available P2O5, Other (2%)	0538	2.005	0.0100	2.176	0.1911	0.0609	11	-0.84	OK	0
041.99	Direct Available P2O5, Other (2%)	0540	2.010	0.0400	2.176	0.1911	0.0609	11	-0.82	OK	0
041.99	Direct Available P2O5, Other (2%)	0532	2.060	0.0200	2.176	0.1911	0.0609	11	-0.57	OK	0
041.99	Direct Available P2O5, Other (2%)	0562	2.125	0.1500	2.176	0.1911	0.0609	11	-0.25	OK	0
041.99	Direct Available P2O5, Other (2%)	0559	2.155	0.0100	2.176	0.1911	0.0609	11	-0.11	OK	0
041.99	Direct Available P2O5, Other (2%)	0533	2.165	0.0700	2.176	0.1911	0.0609	11	-0.06	OK	0
041.99	Direct Available P2O5, Other (2%)	0551	2.200	0.1000	2.176	0.1911	0.0609	11	0.12	OK	0
041.99	Direct Available P2O5, Other (2%)	0549	2.295	0.0900	2.176	0.1911	0.0609	11	0.58	OK	0
041.99	Direct Available P2O5, Other (2%)	0545	3.550	0.1000	2.176	0.1911	0.0609	11	6.72	High	0
041.99	Direct Available P2O5, Other (2%)	0230	4.610	0.0600	2.176	0.1911	0.0609	11	11.91	High	0
048.99	Water Soluble P2O5, Other (%)	0572	0.1633	0.0428				1			0
050.51	Soluble K2O, ICP (Citrate) (%)	0568	0.2100	0.0000				1			0
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	0354	0.1125	0.0070				2			0
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	0423	0.2550	0.0100				2			0
050.61	Soluble K2O, Flame Photometric (Citrate) (%)	0539	0.1600	0.0200				2			0
050.61	Soluble K2O, Flame Photometric (Citrate) (%)	0535	0.1750	0.0100				2			0
050.99	Soluble K2O, Other (%)	0539	0.1400	0.0200	0.2146	0.0674	0.0139	7	-1.00	OK	0
050.99	Soluble K2O, Other (%)	0535	0.1550	0.0100	0.2146	0.0674	0.0139	7	-0.80	OK	0
050.99	Soluble K2O, Other (%)	0553	0.1910	0.0080	0.2146	0.0674	0.0139	7	-0.32	OK	0
050.99	Soluble K2O, Other (%)	0421	0.2000	0.0200	0.2146	0.0674	0.0139	7	-0.20	OK	0
050.99	Soluble K2O, Other (%)	0524	0.2426	0.0070	0.2146	0.0674	0.0139	7	0.38	OK	0
050.99	Soluble K2O, Other (%)	0527	0.2784	0.0022	0.2146	0.0674	0.0139	7	0.86	OK	0
050.99	Soluble K2O, Other (%)	0389	0.2950	0.0300	0.2146	0.0674	0.0139	7	1.08	OK	0
050.99	Soluble K2O, Other (%)	0325	< 0.1		0.2146	0.0674	0.0139	7			5
060.99	Water (Free), Other (%)	0510	5.433	0.0004				2			0
060.99	Water (Free), Other (%)	0009	8.450	0.1000				2			0
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	0553	2.058	0.0750				1			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0568	2.050	0.0400	2.207	0.2254	0.0600	3	-0.70		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0035	2.105	0.0500	2.207	0.2254	0.0600	3	-0.45		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0354	2.465	0.0900	2.207	0.2254	0.0600	3	1.15		0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	0423	2.260	0.0970				1			0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0421	1.975	0.0300	2.001	0.0323	0.0315	5	-0.80		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0527	1.977	0.0134	2.001	0.0323	0.0315	5	-0.73		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0472	1.985	0.0100	2.001	0.0323	0.0315	5	-0.49		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0563	2.017	0.0039	2.001	0.0323	0.0315	5	0.51		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0009	2.050	0.1000	2.001	0.0323	0.0315	5	1.52		0
101.99	Acid Soluble Ca, Other (%)	0572	2.149	0.0617				2			0
101.99	Acid Soluble Ca, Other (%)	0389	2.330	0.0000				2			0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	0553	0.3725	0.0110				1			0

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121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0568	0.3340	0.0040	0.3695	0.0309	0.0137	3	-1.15		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0035	0.3845	0.0170	0.3695	0.0309	0.0137	3	0.49		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	0.3900	0.0200	0.3695	0.0309	0.0137	3	0.66		0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0423	0.3965	0.0090				1			0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0472	0.3050	0.0100	0.3768	0.0524	0.0074	5	-1.20		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0009	0.3650	0.0100	0.3768	0.0524	0.0074	5	-0.20		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0563	0.3773	0.0017	0.3768	0.0524	0.0074	5	0.01		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0421	0.3850	0.0100	0.3768	0.0524	0.0074	5	0.14		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0527	0.4519	0.0051	0.3768	0.0524	0.0074	5	1.25		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0515	0.3009	0.0881	0.3768	0.0524	0.0074	5	-1.26		1
121.99	Acid Soluble Mg, Other (%)	0515	0.2722	0.0774	0.3309	0.0419	0.0219	4	-1.40		0
121.99	Acid Soluble Mg, Other (%)	0524	0.3294	0.0080	0.3309	0.0419	0.0219	4	-0.04		0
121.99	Acid Soluble Mg, Other (%)	0389	0.3600	0.0000	0.3309	0.0419	0.0219	4	0.70		0
121.99	Acid Soluble Mg, Other (%)	0572	0.3619	0.0020	0.3309	0.0419	0.0219	4	0.74		0
131.99	Water Soluble Mg, Other (%)	0572	0.0198	0.0049				1			0
143.99	Elemental S, Other (%)	0389	1.350	0.0200				1			0
145.99	Sulfate S, HCl soluble, Other (%)	0553	0.2840	0.0100				1			0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0515	0.5904	1.032	1.172	0.3426	0.2224	5	-1.70		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0563	1.179	0.0080	1.172	0.3426	0.2224	5	0.02		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0472	1.265	0.0100	1.172	0.3426	0.2224	5	0.27		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0527	1.356	0.0019	1.172	0.3426	0.2224	5	0.54		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0421	1.470	0.0600	1.172	0.3426	0.2224	5	0.87		0
148.99	Total S, Other (%)	0354	0.5900	0.0400				2			0
148.99	Total S, Other (%)	0572	1.468	0.5969				2			0
149.04	S - HNO3 soluble, ICP (%)	0524	1.245	0.0739				2			0
149.04	S - HNO3 soluble, ICP (%)	0423	1.425	0.0400				2			0
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	0498	2.600	0.4000				1			0
151.30	Acid Soluble As, ICP (ppm)	0547	4.155	0.1700				1			0
151.30	Acid Soluble As, ICP (ppm)	0255	0.0000	0.0000				1			4
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0220	3.250	0.1000				2			0
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0476	3.722	0.1720				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0527	2.752	0.0012	4.289	1.526	0.2415	6	-0.90	NA	0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0136	3.360	0.0200	4.289	1.526	0.2415	6	-0.54	NA	0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0563	3.523	0.0388	4.289	1.526	0.2415	6	-0.45	NA	0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0037	4.487	0.6390	4.289	1.526	0.2415	6	0.12	NA	0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0548	5.265	0.0500	4.289	1.526	0.2415	6	0.57	NA	0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0009	6.350	0.7000	4.289	1.526	0.2415	6	1.20	NA	0
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0515	1.271	1.430				1			0
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0368	< 0.4					1			5
151.99	Acid Soluble As, Other (ppm)	0481	0.8550	0.0700	3.540	1.913	0.1793	5	-1.40		0
151.99	Acid Soluble As, Other (ppm)	0572	2.996	0.3267	3.540	1.913	0.1793	5	-0.28		0
151.99	Acid Soluble As, Other (ppm)	0220	3.300	0.0000	3.540	1.913	0.1793	5	-0.13		0
151.99	Acid Soluble As, Other (ppm)	0009	4.550	0.5000	3.540	1.913	0.1793	5	0.53		0
151.99	Acid Soluble As, Other (ppm)	0405	6.000	0.0000	3.540	1.913	0.1793	5	1.29		0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0389	0.0032	0.0003				1			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	< 0.01					1			5
165.99	Acid Soluble B, Other (%)	0515	0.0017	0.0007	0.0036	0.0012	0.0002	6	-1.42	OK	0

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			Value	Range	Rob Mean	Rob SD	R-bar				
165.99	Acid Soluble B, Other (%)	0009	0.0033	0.0000	0.0036	0.0012	0.0002	6	-0.23	OK	0
165.99	Acid Soluble B, Other (%)	0563	0.0035	0.0002	0.0036	0.0012	0.0002	6	-0.09	OK	0
165.99	Acid Soluble B, Other (%)	0524	0.0039	0.0000	0.0036	0.0012	0.0002	6	0.20	OK	0
165.99	Acid Soluble B, Other (%)	0572	0.0043	0.0004	0.0036	0.0012	0.0002	6	0.48	OK	0
165.99	Acid Soluble B, Other (%)	0423	0.0050	0.0000	0.0036	0.0012	0.0002	6	0.98	OK	0
165.99	Acid Soluble B, Other (%)	0421	0.0000	0.0000	0.0036	0.0012	0.0002	6			4
165.99	Acid Soluble B, Other (%)	0527	< 0.001		0.0036	0.0012	0.0002	6			5
171.99	Water Soluble B, Other (%)	0572	< 0.0035					0			5
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	0498	2.060	0.0200				1			0
181.30	Acid Soluble Cd, ICP (ppm)	0444	1.550	0.0400	1.735	0.2075	0.0266	5	-0.78		0
181.30	Acid Soluble Cd, ICP (ppm)	0389	1.580	0.0200	1.735	0.2075	0.0266	5	-0.65		0
181.30	Acid Soluble Cd, ICP (ppm)	0035	1.630	0.0400	1.735	0.2075	0.0266	5	-0.44		0
181.30	Acid Soluble Cd, ICP (ppm)	0524	1.916	0.0328	1.735	0.2075	0.0266	5	0.76		0
181.30	Acid Soluble Cd, ICP (ppm)	0450	2.000	0.0000	1.735	0.2075	0.0266	5	1.11		0
181.30	Acid Soluble Cd, ICP (ppm)	0255	1.362	0.2190	1.735	0.2075	0.0266	5	-1.57		1
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0476	1.498	0.0800				2			0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0220	3.500	0.0000				2			0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0563	1.574	0.0205	2.127	0.4055	0.0749	6	-1.21	NA	0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0136	1.935	0.0300	2.127	0.4055	0.0749	6	-0.42	NA	0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0527	2.047	0.0698	2.127	0.4055	0.0749	6	-0.18	NA	0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0037	2.259	0.1090	2.127	0.4055	0.0749	6	0.29	NA	0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0009	2.350	0.1000	2.127	0.4055	0.0749	6	0.49	NA	0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0548	2.600	0.1200	2.127	0.4055	0.0749	6	1.04	NA	0
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0368	1.850	0.3000				2			0
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0547	2.250	0.1000				2			0
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0515	0.0000	0.0000				2			4
181.99	Acid Soluble Cd, Other (ppm)	0481	1.315	0.2100	2.338	1.101	0.1482	7	-0.84	NA	0
181.99	Acid Soluble Cd, Other (ppm)	0405	1.695	0.0900	2.338	1.101	0.1482	7	-0.53	NA	0
181.99	Acid Soluble Cd, Other (ppm)	0535	1.750	0.5000	2.338	1.101	0.1482	7	-0.48	NA	0
181.99	Acid Soluble Cd, Other (ppm)	0009	2.050	0.1000	2.338	1.101	0.1482	7	-0.24	NA	0
181.99	Acid Soluble Cd, Other (ppm)	0539	2.150	0.1000	2.338	1.101	0.1482	7	-0.15	NA	0
181.99	Acid Soluble Cd, Other (ppm)	0220	3.700	0.0000	2.338	1.101	0.1482	7	1.12	NA	0
181.99	Acid Soluble Cd, Other (ppm)	0572	3.708	0.0376	2.338	1.101	0.1482	7	1.12	NA	0
190.00	Water Soluble Cl, Titrimetric (%)	0553	0.2150	0.0100				1			0
191.00	Acid Soluble Cr, AA, test portion 2006.03 modified w/dual acid (ppm)	0498	48.15	0.5000				1			0
191.30	Acid Soluble Cr, ICP (ppm)	0389	38.52	0.7400	50.65	10.78	1.722	5	-1.13		0
191.30	Acid Soluble Cr, ICP (ppm)	0444	44.87	0.2000	50.65	10.78	1.722	5	-0.54		0
191.30	Acid Soluble Cr, ICP (ppm)	0524	51.18	1.668	50.65	10.78	1.722	5	0.05		0
191.30	Acid Soluble Cr, ICP (ppm)	0035	51.20	1.000	50.65	10.78	1.722	5	0.05		0
191.30	Acid Soluble Cr, ICP (ppm)	0450	67.50	5.000	50.65	10.78	1.722	5	1.56		0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0476	43.44	0.4330				2			0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0220	58.50	0.2000				2			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0563	43.91	0.4173	57.09	14.20	1.039	6	-0.83	NA	0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0136	44.95	0.9000	57.09	14.20	1.039	6	-0.76	NA	0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0527	57.61	0.0983	57.09	14.20	1.039	6	0.03	NA	0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0037	57.70	1.439	57.09	14.20	1.039	6	0.04	NA	0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0009	60.00	2.000	57.09	14.20	1.039	6	0.18	NA	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0548	93.61	1.380	57.09	14.20	1.039	6	2.29	NA	0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0515	57.17	8.798	57.09	14.20	1.039	6	0.00	NA	1
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0515	47.09	11.43	49.41	2.077	5.111	3	-1.12		0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0368	50.05	3.300	49.41	2.077	5.111	3	0.31		0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0547	51.10	0.6000	49.41	2.077	5.111	3	0.81		0
191.99	Acid Soluble Cr, Other (ppm)	0481	43.30	0.6000	54.90	8.136	3.067	5	-1.43		0
191.99	Acid Soluble Cr, Other (ppm)	0572	49.65	1.236	54.90	8.136	3.067	5	-0.65		0
191.99	Acid Soluble Cr, Other (ppm)	0405	58.50	1.000	54.90	8.136	3.067	5	0.44		0
191.99	Acid Soluble Cr, Other (ppm)	0220	60.55	3.500	54.90	8.136	3.067	5	0.69		0
191.99	Acid Soluble Cr, Other (ppm)	0009	62.50	9.000	54.90	8.136	3.067	5	0.93		0
202.30	Acid Soluble Co, ICP (ppm)	0389	5.920	0.0200	7.808	1.717	0.4850	4	-1.10		0
202.30	Acid Soluble Co, ICP (ppm)	0035	7.025	0.1900	7.808	1.717	0.4850	4	-0.46		0
202.30	Acid Soluble Co, ICP (ppm)	0450	8.400	1.000	7.808	1.717	0.4850	4	0.34		0
202.30	Acid Soluble Co, ICP (ppm)	0524	9.886	0.7300	7.808	1.717	0.4850	4	1.21		0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0220	6.550	0.1000	7.725	1.693	0.0623	3	-0.69		0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0476	6.960	0.0170	7.725	1.693	0.0623	3	-0.45		0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0423	9.665	0.0700	7.725	1.693	0.0623	3	1.15		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0136	5.695	0.0900	10.06	4.049	0.2099	6	-0.96	Low	0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0563	7.931	0.1769	10.06	4.049	0.2099	6	-0.47	OK	0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0527	9.112	0.0382	10.06	4.049	0.2099	6	-0.21	OK	0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0009	9.900	0.2000	10.06	4.049	0.2099	6	-0.04	OK	0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0037	11.59	0.7440	10.06	4.049	0.2099	6	0.34	OK	0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0548	16.26	0.0100	10.06	4.049	0.2099	6	1.36	High	0
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0547	5.600	0.2000				2			0
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0368	5.650	2.500				2			0
202.99	Acid Soluble Co, Other (ppm)	0572	6.753	0.1993	8.088	1.652	0.4498	4	-0.69		0
202.99	Acid Soluble Co, Other (ppm)	0405	7.500	0.6000	8.088	1.652	0.4498	4	-0.30		0
202.99	Acid Soluble Co, Other (ppm)	0220	7.600	0.0000	8.088	1.652	0.4498	4	-0.25		0
202.99	Acid Soluble Co, Other (ppm)	0009	10.50	1.000	8.088	1.652	0.4498	4	1.24		0
202.99	Acid Soluble Co, Other (ppm)	0255	0.0000	0.0000	8.088	1.652	0.4498	4			4
202.99	Acid Soluble Co, Other (ppm)	0481	< 20		8.088	1.652	0.4498	4			5
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0553	0.0235	0.0010	0.0262	0.0023	0.0017	3	-1.15		0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0535	0.0275	0.0010	0.0262	0.0023	0.0017	3	0.58		0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0539	0.0275	0.0030	0.0262	0.0023	0.0017	3	0.58		0
221.01	Acid Soluble Cu, AA, organic 965.09 (%)	0577	0.0249	0.0005	0.0266	0.0015	0.0008	3	-1.15		0
221.01	Acid Soluble Cu, AA, organic 965.09 (%)	0535	0.0275	0.0010	0.0266	0.0015	0.0008	3	0.58		0
221.01	Acid Soluble Cu, AA, organic 965.09 (%)	0539	0.0275	0.0010	0.0266	0.0015	0.0008	3	0.58		0
221.03	Acid Soluble Cu, AA, 965.09, test portion 2006.03A-C w/dual acid (%)	0498	0.0300	0.0000				1			0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	0.0200	0.0000	0.0251	0.0041	0.0001	6	-1.11	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0402	0.0228	0.0003	0.0251	0.0041	0.0001	6	-0.51	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0255	0.0240	0.0000	0.0251	0.0041	0.0001	6	-0.24	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0444	0.0260	0.0000	0.0251	0.0041	0.0001	6	0.19	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0035	0.0280	0.0000	0.0251	0.0041	0.0001	6	0.62	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0231	0.0300	0.0000	0.0251	0.0041	0.0001	6	1.05	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0234	0.0234	0.0009	0.0251	0.0041	0.0001	6	-0.38	OK	1
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0220	0.0255	0.0001				2			0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0423	0.0295	0.0010				2			0

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			Value	Range	Rob Mean	Rob SD	R-bar				
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0563	0.0224	0.0003	0.0278	0.0036	0.0002	8	-1.37	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0009	0.0260	0.0000	0.0278	0.0036	0.0002	8	-0.45	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0106	0.0260	0.0002	0.0278	0.0036	0.0002	8	-0.45	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0037	0.0268	0.0000	0.0278	0.0036	0.0002	8	-0.25	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0527	0.0285	0.0002	0.0278	0.0036	0.0002	8	0.18	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0043	0.0294	0.0008	0.0278	0.0036	0.0002	8	0.41	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0472	0.0300	0.0000	0.0278	0.0036	0.0002	8	0.56	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0548	0.0380	0.0000	0.0278	0.0036	0.0002	8	2.58	High	0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0515	0.0237	0.0018	0.0278	0.0036	0.0002	8	-1.03	OK	1
221.99	Acid Soluble Cu, Other (%)	0476	0.0200	0.0000	0.0256	0.0033	0.0006	12	-1.73	OK	0
221.99	Acid Soluble Cu, Other (%)	0515	0.0222	0.0014	0.0256	0.0033	0.0006	12	-1.05	OK	0
221.99	Acid Soluble Cu, Other (%)	0481	0.0225	0.0010	0.0256	0.0033	0.0006	12	-0.96	OK	0
221.99	Acid Soluble Cu, Other (%)	0524	0.0244	0.0002	0.0256	0.0033	0.0006	12	-0.38	OK	0
221.99	Acid Soluble Cu, Other (%)	0220	0.0254	0.0001	0.0256	0.0033	0.0006	12	-0.09	OK	0
221.99	Acid Soluble Cu, Other (%)	0506	0.0260	0.0000	0.0256	0.0033	0.0006	12	0.11	OK	0
221.99	Acid Soluble Cu, Other (%)	0009	0.0260	0.0020	0.0256	0.0033	0.0006	12	0.11	OK	0
221.99	Acid Soluble Cu, Other (%)	0368	0.0262	0.0005	0.0256	0.0033	0.0006	12	0.16	OK	0
221.99	Acid Soluble Cu, Other (%)	0572	0.0267	0.0019	0.0256	0.0033	0.0006	12	0.31	OK	0
221.99	Acid Soluble Cu, Other (%)	0405	0.0277	0.0002	0.0256	0.0033	0.0006	12	0.63	OK	0
221.99	Acid Soluble Cu, Other (%)	0389	0.0300	0.0000	0.0256	0.0033	0.0006	12	1.34	OK	0
221.99	Acid Soluble Cu, Other (%)	0547	0.0300	0.0000	0.0256	0.0033	0.0006	12	1.34	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	0553	2.350	0.0400	2.500	0.1323	0.0467	3	-1.13		0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	0535	2.550	0.1000	2.500	0.1323	0.0467	3	0.38		0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	0539	2.600	0.0000	2.500	0.1323	0.0467	3	0.76		0
241.01	Acid Soluble Fe, AA, organic 965.09 (%)	0535	2.550	0.1000				2			0
241.01	Acid Soluble Fe, AA, organic 965.09 (%)	0539	2.550	0.3000				2			0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0035	2.525	0.0300	2.555	0.0436	0.0567	3	-0.69		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0444	2.535	0.0900	2.555	0.0436	0.0567	3	-0.46		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0354	2.605	0.0500	2.555	0.0436	0.0567	3	1.15		0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	0423	2.701	0.0210				1			0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0472	2.265	0.0500	2.434	0.1985	0.1023	4	-0.85		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0563	2.357	0.0715	2.434	0.1985	0.1023	4	-0.39		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0515	2.392	0.2680	2.434	0.1985	0.1023	4	-0.21		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0527	2.720	0.0196	2.434	0.1985	0.1023	4	1.44		0
241.99	Acid Soluble Fe, Other (%)	0515	2.294	0.1630	2.463	0.1321	0.1022	4	-1.28		0
241.99	Acid Soluble Fe, Other (%)	0572	2.446	0.2113	2.463	0.1321	0.1022	4	-0.13		0
241.99	Acid Soluble Fe, Other (%)	0389	2.500	0.0200	2.463	0.1321	0.1022	4	0.28		0
241.99	Acid Soluble Fe, Other (%)	0524	2.611	0.0143	2.463	0.1321	0.1022	4	1.12		0
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid (ppm)	0498	25.00	0.4000				1			0
251.30	Acid Soluble Pb, ICP (ppm)	0255	19.51	1.890	30.32	7.148	1.397	5	-1.51		0
251.30	Acid Soluble Pb, ICP (ppm)	0444	29.30	0.3500	30.32	7.148	1.397	5	-0.14		0
251.30	Acid Soluble Pb, ICP (ppm)	0389	30.24	0.1900	30.32	7.148	1.397	5	-0.01		0
251.30	Acid Soluble Pb, ICP (ppm)	0524	33.50	2.657	30.32	7.148	1.397	5	0.45		0
251.30	Acid Soluble Pb, ICP (ppm)	0035	39.05	1.900	30.32	7.148	1.397	5	1.22		0
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0476	22.81	0.3090				2			0
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0220	38.75	0.5000				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0009	35.50	1.000	41.84	6.382	1.326	6	-0.88	NA	0

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			Value	Range	Rob Mean	Rob SD	R-bar				
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0037	37.79	0.2330	41.84	6.382	1.326	6	-0.56	NA	0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0563	40.78	0.8427	41.84	6.382	1.326	6	-0.15	NA	0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0136	40.85	0.1000	41.84	6.382	1.326	6	-0.14	NA	0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0527	44.69	0.3300	41.84	6.382	1.326	6	0.40	NA	0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0548	56.52	5.450	41.84	6.382	1.326	6	2.05	NA	0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0515	55.28	15.74	41.84	6.382	1.326	6	1.88	NA	1
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0368	21.75	3.700	31.49	8.446	4.054	3	-1.15		0
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0515	35.98	7.361	31.49	8.446	4.054	3	0.53		0
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0547	36.75	1.100	31.49	8.446	4.054	3	0.62		0
251.99	Acid Soluble Pb, Other (ppm)	0481	29.10	3.000	36.45	5.086	2.124	6	-1.29	NA	0
251.99	Acid Soluble Pb, Other (ppm)	0539	34.50	3.000	36.45	5.086	2.124	6	-0.34	NA	0
251.99	Acid Soluble Pb, Other (ppm)	0535	35.50	3.000	36.45	5.086	2.124	6	-0.17	NA	0
251.99	Acid Soluble Pb, Other (ppm)	0405	38.60	1.600	36.45	5.086	2.124	6	0.38	NA	0
251.99	Acid Soluble Pb, Other (ppm)	0220	39.00	1.400	36.45	5.086	2.124	6	0.45	NA	0
251.99	Acid Soluble Pb, Other (ppm)	0572	41.99	0.7427	36.45	5.086	2.124	6	0.97	NA	0
261.00	Acid Soluble Mn, AA, Mn2+ only (%)	0553	0.1435	0.0070				1			0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (%)	0535	0.1025	0.0050				2			0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (%)	0539	0.1080	0.0040				2			0
261.13	Acid Soluble Mn, AA, organic 965.09 (%)	0535	0.1000	0.0000				2			0
261.13	Acid Soluble Mn, AA, organic 965.09 (%)	0539	0.1150	0.0100				2			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0354	0.1200	0.0000	0.1218	0.0028	0.0037	3	-0.67		0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0035	0.1205	0.0010	0.1218	0.0028	0.0037	3	-0.48		0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0444	0.1250	0.0100	0.1218	0.0028	0.0037	3	1.15		0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	0423	0.1285	0.0010				1			0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0515	0.0788	0.0648	0.1093	0.0195	0.0133	5	-1.56		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0563	0.1011	0.0014	0.1093	0.0195	0.0133	5	-0.42		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0009	0.1200	0.0000	0.1093	0.0195	0.0133	5	0.55		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0472	0.1200	0.0000	0.1093	0.0195	0.0133	5	0.55		0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0527	0.1265	0.0005	0.1093	0.0195	0.0133	5	0.88		0
261.99	Acid Soluble Mn, Other (%)	0515	0.1110	0.0011	0.1211	0.0129	0.0024	4	-0.78		0
261.99	Acid Soluble Mn, Other (%)	0524	0.1156	0.0015	0.1211	0.0129	0.0024	4	-0.43		0
261.99	Acid Soluble Mn, Other (%)	0572	0.1178	0.0070	0.1211	0.0129	0.0024	4	-0.25		0
261.99	Acid Soluble Mn, Other (%)	0389	0.1400	0.0000	0.1211	0.0129	0.0024	4	1.46		0
281.00	Acid Soluble Hg, AA (ppm)	0481	< 0.5					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0476	0.4340	0.0020	0.7899	0.3082	0.0277	3	-0.94		0
281.30	Acid Soluble Hg, ICP (ppm)	0450	0.9650	0.0700	0.7899	0.3082	0.0277	3	0.46		0
281.30	Acid Soluble Hg, ICP (ppm)	0563	0.9706	0.0111	0.7899	0.3082	0.0277	3	0.48		0
281.30	Acid Soluble Hg, ICP (ppm)	0515	0.0000	0.0000	0.7899	0.3082	0.0277	3			4
281.30	Acid Soluble Hg, ICP (ppm)	0527	< 0.001		0.7899	0.3082	0.0277	3			5
281.30	Acid Soluble Hg, ICP (ppm)	0009	< 1		0.7899	0.3082	0.0277	3			5
281.99	Acid Soluble Hg, Other (ppm)	0547	0.3650	0.0500	0.8937	0.3816	0.2089	4	-1.39		0
281.99	Acid Soluble Hg, Other (ppm)	0405	0.8750	0.0500	0.8937	0.3816	0.2089	4	-0.05		0
281.99	Acid Soluble Hg, Other (ppm)	0572	1.108	0.2595	0.8937	0.3816	0.2089	4	0.56		0
281.99	Acid Soluble Hg, Other (ppm)	0368	1.227	0.4760	0.8937	0.3816	0.2089	4	0.87		0
289.30	Acid Soluble Mo, ICP (ppm)	0402	4.200	0.8000	5.245	1.670	0.3457	4	-0.63		0
289.30	Acid Soluble Mo, ICP (ppm)	0450	4.200	0.4000	5.245	1.670	0.3457	4	-0.63		0
289.30	Acid Soluble Mo, ICP (ppm)	0524	4.876	0.1159	5.245	1.670	0.3457	4	-0.22		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				
289.30	Acid Soluble Mo, ICP (ppm)	0255	7.704	0.0670	5.245	1.670	0.3457	4	1.47		0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0476	6.498	0.0670				2			0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0220	8.500	0.4000				2			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0563	8.737	0.0724	10.49	1.535	0.2200	8	-1.05	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0423	9.495	0.1100	10.49	1.535	0.2200	8	-0.60	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0136	9.705	0.1100	10.49	1.535	0.2200	8	-0.47	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0009	9.850	0.3000	10.49	1.535	0.2200	8	-0.38	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	10.53	0.0373	10.49	1.535	0.2200	8	0.02	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0037	10.85	0.4200	10.49	1.535	0.2200	8	0.21	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0106	12.00	0.0000	10.49	1.535	0.2200	8	0.90	OK	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0548	15.20	0.7100	10.49	1.535	0.2200	8	2.80	High	0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0515	8.290	7.721	10.49	1.535	0.2200	8	-1.31	OK	1
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0547	10.40	0.0000				2			0
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0368	13.65	2.100				2			0
289.99	Acid Soluble Mo, Other (ppm)	0405	8.890	0.3800	10.17	1.477	0.8001	4	-0.87		0
289.99	Acid Soluble Mo, Other (ppm)	0220	8.900	0.2000	10.17	1.477	0.8001	4	-0.86		0
289.99	Acid Soluble Mo, Other (ppm)	0572	11.41	1.620	10.17	1.477	0.8001	4	0.83		0
289.99	Acid Soluble Mo, Other (ppm)	0009	11.50	1.000	10.17	1.477	0.8001	4	0.90		0
289.99	Acid Soluble Mo, Other (ppm)	0481	< 100		10.17	1.477	0.8001	4			5
291.00	Acid Soluble Ni, AA, test portion 2006.03 modified w/dual acid (ppm)	0498	26.85	1.700				1			0
291.30	Acid Soluble Ni, ICP (ppm)	0444	19.44	0.0900	21.32	1.305	0.3256	4	-1.45		0
291.30	Acid Soluble Ni, ICP (ppm)	0524	21.51	0.7122	21.32	1.305	0.3256	4	0.14		0
291.30	Acid Soluble Ni, ICP (ppm)	0450	22.00	0.0000	21.32	1.305	0.3256	4	0.52		0
291.30	Acid Soluble Ni, ICP (ppm)	0035	22.35	0.5000	21.32	1.305	0.3256	4	0.79		0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0476	18.44	0.2260				2			0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0220	24.60	0.4000				2			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0136	20.20	0.2000	27.28	5.971	0.7463	6	-1.06	NA	0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0563	24.87	0.5479	27.28	5.971	0.7463	6	-0.36	NA	0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0527	26.30	0.6668	27.28	5.971	0.7463	6	-0.15	NA	0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0037	27.56	0.2130	27.28	5.971	0.7463	6	0.04	NA	0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0009	28.50	1.000	27.28	5.971	0.7463	6	0.18	NA	0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0548	41.77	1.850	27.28	5.971	0.7463	6	2.16	NA	0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0515	23.68	7.896	27.28	5.971	0.7463	6	-0.54	NA	1
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0515	19.17	8.775	21.32	1.870	3.525	3	-1.15		0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0368	22.25	1.500	21.32	1.870	3.525	3	0.50		0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0547	22.55	0.3000	21.32	1.870	3.525	3	0.66		0
291.99	Acid Soluble Ni, Other (ppm)	0481	20.80	0.1500	25.24	2.577	1.290	8	-1.58	NA	0
291.99	Acid Soluble Ni, Other (ppm)	0572	23.82	0.5975	25.24	2.577	1.290	8	-0.51	NA	0
291.99	Acid Soluble Ni, Other (ppm)	0535	24.00	2.000	25.24	2.577	1.290	8	-0.44	NA	0
291.99	Acid Soluble Ni, Other (ppm)	0539	25.00	2.000	25.24	2.577	1.290	8	-0.09	NA	0
291.99	Acid Soluble Ni, Other (ppm)	0220	25.05	2.100	25.24	2.577	1.290	8	-0.07	NA	0
291.99	Acid Soluble Ni, Other (ppm)	0405	27.00	0.0000	25.24	2.577	1.290	8	0.62	NA	0
291.99	Acid Soluble Ni, Other (ppm)	0255	27.21	0.4700	25.24	2.577	1.290	8	0.70	NA	0
291.99	Acid Soluble Ni, Other (ppm)	0009	28.50	3.000	25.24	2.577	1.290	8	1.16	NA	0
301.30	Acid Soluble Se, ICP (ppm)	0547	7.485	0.2100				1			0
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0476	14.91	0.8430				1			0
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0220	< 0.3					1			5

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0037	3.709	0.2300	6.765	3.494	0.3177	4	-0.74		0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0043	3.770	0.5000	6.765	3.494	0.3177	4	-0.73		0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0563	9.705	0.2109	6.765	3.494	0.3177	4	0.71		0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0548	9.875	0.3300	6.765	3.494	0.3177	4	0.75		0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0515	0.0000	0.0000	6.765	3.494	0.3177	4			4
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0527	< 0.001		6.765	3.494	0.3177	4			5
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0515	0.0000	0.0000				0			4
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0368	< 1.5					0			5
301.99	Acid Soluble Se, Other (ppm)	0405	6.500	1.000	104.3	166.0	192.0	3	-0.59		0
301.99	Acid Soluble Se, Other (ppm)	0009	10.50	1.000	104.3	166.0	192.0	3	-0.57		0
301.99	Acid Soluble Se, Other (ppm)	0572	296.0	574.1	104.3	166.0	192.0	3	1.15		0
301.99	Acid Soluble Se, Other (ppm)	0255	0.0000	0.0000	104.3	166.0	192.0	3			4
301.99	Acid Soluble Se, Other (ppm)	0481	< 0.5		104.3	166.0	192.0	3			5
311.00	Sodium, AA (%)	0553	0.0505	0.0030				1			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0423	0.0630	0.0020	0.0714	0.0073	0.0027	4	-1.14		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0035	0.0675	0.0050	0.0714	0.0073	0.0027	4	-0.53		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	0.0771	0.0037	0.0714	0.0073	0.0027	4	0.77		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0009	0.0780	0.0000	0.0714	0.0073	0.0027	4	0.90		0
311.99	Sodium, Other (%)	0572	0.0574	0.0018				2			0
311.99	Sodium, Other (%)	0354	0.0850	0.0100				2			0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0553	0.1315	0.0130	0.1472	0.0136	0.0110	3	-1.15		0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0535	0.1550	0.0100	0.1472	0.0136	0.0110	3	0.58		0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0539	0.1550	0.0100	0.1472	0.0136	0.0110	3	0.58		0
321.01	Acid Soluble Zn, AA, organic 965.09 (%)	0535	0.1540	0.0020	0.1657	0.0190	0.0020	3	-0.62		0
321.01	Acid Soluble Zn, AA, organic 965.09 (%)	0539	0.1555	0.0030	0.1657	0.0190	0.0020	3	-0.54		0
321.01	Acid Soluble Zn, AA, organic 965.09 (%)	0577	0.1877	0.0009	0.1657	0.0190	0.0020	3	1.15		0
321.03	Acid Soluble Zn, AA, 965.09, test portion 2006.03A-C w/dual acid (%)	0498	0.8300	0.0400				1			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0255	0.1345	0.0010	0.1488	0.0116	0.0007	6	-1.09	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0231	0.1400	0.0000	0.1488	0.0116	0.0007	6	-0.67	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0402	0.1487	0.0018	0.1488	0.0116	0.0007	6	-0.01	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0354	0.1500	0.0000	0.1488	0.0116	0.0007	6	0.09	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0035	0.1585	0.0010	0.1488	0.0116	0.0007	6	0.75	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0234	0.1609	0.0006	0.1488	0.0116	0.0007	6	0.93	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0444	0.1350	0.0100	0.1488	0.0116	0.0007	6	-1.06	OK	1
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0423	0.1615	0.0010				1			0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0563	0.1140	0.0034	0.1457	0.0141	0.0014	10	-2.09	Low	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0472	0.1300	0.0000	0.1457	0.0141	0.0014	10	-1.04	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0009	0.1400	0.0000	0.1457	0.0141	0.0014	10	-0.38	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0136	0.1400	0.0000	0.1457	0.0141	0.0014	10	-0.38	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0106	0.1467	0.0021	0.1457	0.0141	0.0014	10	0.06	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0421	0.1500	0.0000	0.1457	0.0141	0.0014	10	0.28	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0037	0.1512	0.0010	0.1457	0.0141	0.0014	10	0.36	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0043	0.1524	0.0070	0.1457	0.0141	0.0014	10	0.44	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0527	0.1556	0.0006	0.1457	0.0141	0.0014	10	0.65	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0548	0.1920	0.0000	0.1457	0.0141	0.0014	10	3.05	High	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0515	0.1281	0.0437	0.1457	0.0141	0.0014	10	-1.16	OK	1
321.99	Acid Soluble Zn, Other (%)	0476	0.1110	0.0020	0.1422	0.0194	0.0031	9	-1.49	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				
321.99	Acid Soluble Zn, Other (%)	0481	0.1250	0.0100	0.1422	0.0194	0.0031	9	-0.82	OK	0
321.99	Acid Soluble Zn, Other (%)	0506	0.1380	0.0020	0.1422	0.0194	0.0031	9	-0.20	OK	0
321.99	Acid Soluble Zn, Other (%)	0572	0.1389	0.0042	0.1422	0.0194	0.0031	9	-0.16	OK	0
321.99	Acid Soluble Zn, Other (%)	0547	0.1400	0.0000	0.1422	0.0194	0.0031	9	-0.10	OK	0
321.99	Acid Soluble Zn, Other (%)	0524	0.1457	0.0004	0.1422	0.0194	0.0031	9	0.17	OK	0
321.99	Acid Soluble Zn, Other (%)	0368	0.1483	0.0007	0.1422	0.0194	0.0031	9	0.29	OK	0
321.99	Acid Soluble Zn, Other (%)	0405	0.1605	0.0090	0.1422	0.0194	0.0031	9	0.87	OK	0
321.99	Acid Soluble Zn, Other (%)	0389	0.1700	0.0000	0.1422	0.0194	0.0031	9	1.33	High	0
321.99	Acid Soluble Zn, Other (%)	0515	0.1616	0.0303	0.1422	0.0194	0.0031	9	0.92	High	1
325.99	Water Soluble Zn, Other (%)	0572	0.0005	0.0002				1			0
431.99	Soluble Si in nonliquids, Other (%)	0572	< 0.004					0			5
441.00	Humic Acids, Gravimetry,Ash-free, alkali dissolved, acid precipit... (%)	0136	6.825	0.2500	25.83	30.47	2.000	3	-0.62		0
441.00	Humic Acids, Gravimetry,Ash-free, alkali dissolved, acid precipit... (%)	0220	9.690	0.2000	25.83	30.47	2.000	3	-0.53		0
441.00	Humic Acids, Gravimetry,Ash-free, alkali dissolved, acid precipit... (%)	0444	60.98	5.550	25.83	30.47	2.000	3	1.15		0
441.10	Humic Acids, Gravimetry, alkali dissolved, acid precipitated (%)	0572	4.885	0.0700	6.735	1.682	0.1591	4	-1.10		0
441.10	Humic Acids, Gravimetry, alkali dissolved, acid precipitated (%)	0368	5.873	0.0120	6.735	1.682	0.1591	4	-0.51		0
441.10	Humic Acids, Gravimetry, alkali dissolved, acid precipitated (%)	0527	7.521	0.1942	6.735	1.682	0.1591	4	0.47		0
441.10	Humic Acids, Gravimetry, alkali dissolved, acid precipitated (%)	0547	8.660	0.3600	6.735	1.682	0.1591	4	1.14		0
441.99	Humic Acids, Other (%)	0220	9.585	0.1300	48.12	33.98	1.903	3	-1.13		0
441.99	Humic Acids, Other (%)	0444	60.98	5.550	48.12	33.98	1.903	3	0.38		0
441.99	Humic Acids, Other (%)	0481	73.81	0.0300	48.12	33.98	1.903	3	0.76		0
451.00	Hydrophobic Fulvic Acids, Gravimetry, acid dissolved binds hydrop... (%)	0220	2.660	0.1000				1			0
451.99	Hydrophobic Fulvic Acids, Other (%)	0481	15.44	0.0200				1			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.