

magruder fertilizer

check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 201112

Potash

Statistical Summary

Methods: 108

Labs Reporting: 88

Issue Date : 12/31/2020

Method Code	Analyte & Method Sample # 201112	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
001.99	Ammoniacal N, Other (%)	1		0.0008									
002.99	Nitrate N, Other (%)	1		0.0020									
005.99	Urea N, Other (%)	1		0.0148									
010.12	Total N, Salicylic (%)	1		0.0085									
010.60	Total N, Combustion (%)	4	3	20.50	35.25	20.50	0.7350	35.25	25.44	171.92%	111.73	0.0140	2.54%
010.99	Total N, Other (%)	1		0.0611									
020.50	Total P2O5, ICP (%)	2	1	0.0004									
020.99	Total P2O5, Other (%)	1		0.0018									
041.20	Direct Available P2O5, Spectrophotometric (%)	1		0.0070									
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	2	1	0.0225									
041.50	Direct Available P2O5, ICP (%)	1		0.0000									
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (%)	1		61.78									
050.00	Soluble K2O, STPB Oxalate (62%)	8	8	62.19	0.7523	62.19	1.8019	0.8531	0.3770	1.37%	1.10	0.4338	2.15%
050.30	Soluble K2O, AA (Oxalate) (62%)	4	4	61.42	0.9930	61.42	1.7942	0.9930	0.6206	1.62%	1.29	0.7090	2.15%
050.31	Soluble K2O, AA (Citrate) (62%)	1		58.93									
050.50	Soluble K2O, ICP (Oxalate) (62%)	8	8	62.29	2.536	62.59	1.8059	2.129	0.9410	3.40%	2.75	0.6622	2.15%
050.51	Soluble K2O, ICP (Citrate) (62%)	3	3	62.46	0.2329	62.46	1.8046	0.2329	0.1681	0.37%	0.30	0.4324	2.15%
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	11	10	61.16	1.308	61.18	1.7918	1.441	0.5696	2.36%	1.87	0.4329	2.15%
050.60	Soluble K2O, Flame Photometric (Oxalate) (62%)	4	4	62.86	0.6511	62.86	1.8086	0.6511	0.4070	1.04%	0.84	0.1048	2.14%
050.61	Soluble K2O, Flame Photometric (Citrate) (62%)	3	3	61.89	1.114	61.89	1.7989	1.114	0.8037	1.80%	1.44	0.2500	2.15%
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (62%)	4	4	62.01	0.7443	62.01	1.8001	0.7443	0.4652	1.20%	0.96	1.038	2.15%
050.99	Soluble K2O, Other (62%)	43	41	61.88	4.040	61.85	1.7985	1.360	0.2656	2.20%	1.76	0.3776	2.15%
060.00	Water (Free), Vacuum Oven (%)	1		0.2650									
060.10	Water (Free), Vacuum Desiccation (%)	1		0.0100									
060.20	Water (Free), Karl Fischer (%)	2	2	0.0870	0.0325								
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours, 5g sample) (%)	1		0.0275									
060.99	Water (Free), Other (%)	5	3	0.0729	0.0207	0.0729		0.0207	0.0149	28.36%		0.0233	5.93%
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	1		0.0065									
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	2	2	0.0250	0.0071								
101.99	Acid Soluble Ca, Other (%)	1		0.3200									
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	1		0.0028									
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	2	0	0.0100									
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	1		0.2443									

Method Code	Analyte & Method Sample # 201112	# 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
121.99	Acid Soluble Mg, Other (%)	3	3	0.0497	0.0451	0.0497	0.2025	0.0451	0.0325	90.78%	0.52	0.0043	6.28%
143.99	Elemental S, Other (%)	1		0.0060									
145.99	Sulfate S, HCl soluble, Other (%)	1		0.0213									
148.07	Total S, ICP, test portion as in 2017.02 (%)	1		0.0369									
148.99	Total S, Other (%)	1		0.0100									
149.04	S - HNO3 soluble, ICP (%)	1		0.0031									
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	2	0	0.0800									
151.30	Acid Soluble As, ICP (ppm)	1		0.1225									
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	3	0	0.0000		0.0497		0.0451		90.78%		0.0000	25.13%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	2	0	0.0000									
151.99	Acid Soluble As, Other (ppm)	1		0.0047									
165.00	Acid Soluble B, Spectrophotometric (%)	1		0.0021									
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	2	1	0.0003									
165.99	Acid Soluble B, Other (%)	3	2	0.0479	0.0663	0.0479	0.0102	0.0663	0.0586	138.61%	15.18	0.0225	6.32%
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	1		0.0800									
181.30	Acid Soluble Cd, ICP (ppm)	3	1	0.0305		0.0479		0.0663	0.0829	138.61%		0.0410	25.28%
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	3	1	25.30		0.0479		0.0663	0.0829	138.61%		8.508	25.28%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	2	1	25.84									
181.99	Acid Soluble Cd, Other (ppm)	1		0.0005									
190.00	Water Soluble Cl, Titrimetric (%)	18	18	46.85	0.6725	46.81	1.0000	0.6775	0.1996	1.45%	1.58	0.2269	2.24%
190.99	Water Soluble Cl, Other (%)	4	4	47.41	0.3345	47.41	1.0000	0.3345	0.2091	0.71%	0.78	0.6750	2.24%
191.00	Acid Soluble Cr, AA, test portion 2006.03 modified w/dual acid (ppm)	1		0.2500									
191.30	Acid Soluble Cr, ICP (ppm)	3	3	0.4324	0.5697	0.4324		0.5697	0.4111	131.74%		0.0508	18.15%
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	2	1	54.20									
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	2	2	5.787	8.016								
202.30	Acid Soluble Co, ICP (ppm)	2	2	0.0626	0.0037								
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	3	1	13.46		0.0626	1.0188	0.0037	0.0046	5.93%	0.01	1.259	24.27%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	2	2	9.182	12.75								
202.99	Acid Soluble Co, Other (ppm)	1		0.0385									
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	2	0	0.0001									
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	3	0	0.0000		9.182	0.9232	12.75		138.90%	32.19	0.0000	2.86%
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	1		0.0002									
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	5	2	1.531	2.157	1.531	0.1581	2.157	1.907	140.87%	31.79	0.3030	3.75%
221.99	Acid Soluble Cu, Other (%)	1		0.0062									
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	1		0.0050									
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	3	1	0.0037		1.531	0.1581	2.157	2.696	140.87%	31.79	0.0028	3.75%
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	1		0.0351									
241.99	Acid Soluble Fe, Other (%)	2	2	0.0504	0.0705								
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid (ppm)	1		1.500									
251.30	Acid Soluble Pb, ICP (ppm)	2	1	0.0690									
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	3	0	14.54		0.0504		0.0705		139.88%		29.08	25.08%
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	2	0	0.0000									
251.99	Acid Soluble Pb, Other (ppm)	1		0.0736									
261.11	Acid Soluble Mn, AA, total Mn (%)	1		0.0050									

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261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	1		0.0100									
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)	1		0.0350									
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	1		0.0875									
261.99	Acid Soluble Mn, Other (%)	1		0.0101									
281.00	Acid Soluble Hg, AA (ppm)	2	1	0.0292									
281.30	Acid Soluble Hg, ICP (ppm)	2	0	0.0000									
281.99	Acid Soluble Hg, Other (ppm)	2	1	0.2226									
289.00	Acid Soluble Mo, AA, test portion 2006.03 modified w/dual acid (ppm)	1		1.049									
289.30	Acid Soluble Mo, ICP (ppm)	1		0.0000									
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	3	0	0.0000		0.0504	1.0151	0.0705		139.88%	0.16	0.0000	25.08%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	2	1	0.4901									
289.99	Acid Soluble Mo, Other (ppm)	1		0.0105									
291.00	Acid Soluble Ni, AA, test portion 2006.03 modified w/dual acid (ppm)	1		0.6000									
291.30	Acid Soluble Ni, ICP (ppm)	1		0.4000									
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	3	1	24.56		0.0504		0.0705	0.0882	139.88%		2.446	25.08%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	2	0	0.0000									
291.99	Acid Soluble Ni, Other (ppm)	2	2	0.2176	0.0734								
301.00	Acid Soluble Se, AA, test portion 2006.03 modified w/dual acid (ppm)	1		0.0800									
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	1		0.0000									
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	2	0	0.0000									
301.99	Acid Soluble Se, Other (ppm)	2	2	1.017	1.429								
311.00	Sodium, AA (%)	6	5	0.3672	0.0416	0.3672	0.0417	0.0416	0.0232	11.33%	2.32	0.0028	4.65%
311.30	Sodium, Flame Photometric (%)	4	4	0.8340	0.5501	0.8340	0.0884	0.5501	0.3438	65.96%	14.50	0.0191	4.11%
311.32	Sodium, ICP, 2006.03 test portion (%)	1		0.3450									
311.33	Sodium, ICP, test portion as in 2017.02 (%)	9	8	0.3613	0.1557	0.3495	0.0399	0.0740	0.0327	21.17%	4.31	0.0031	4.69%
311.99	Sodium, Other (%)	2	2	0.3775	0.0389								
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	2	1	0.0003									
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	3	1	0.0250		0.3775	0.0428	0.0389	0.0486	10.30%	2.12	0.0100	4.63%
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	1		0.0003									
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	6	3	1.665	2.876	1.665	0.1715	2.876	2.076	172.78%	39.08	0.3349	3.70%
321.99	Acid Soluble Zn, Other (%)	1		0.0062									

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.

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STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 201112

Method Precision Report

Potash

Issue Date : 12/31/2020

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
050.00	Soluble K ₂ O, STPB Oxalate (62%)	8	8	62.19	0.7523	0.6881	0.4301	0.8114	1.11%	0.69%	1.30%	1.887
050.52	Soluble K ₂ O, ICP (Citrate-EDTA) (62%)	11	10	61.16	1.308	1.280	0.3777	1.335	2.09%	0.62%	2.18%	3.534
050.99	Soluble K ₂ O, Other (62%)	43	39	61.80	1.849	1.838	0.2838	1.860	2.97%	0.46%	3.01%	6.553
190.00	Water Soluble Cl, Titrimetric (%)	18	17	46.76	0.5576	0.5413	0.1890	0.5734	1.16%	0.40%	1.23%	3.034
311.33	Sodium, ICP, test portion as in 2017.02 (%)	9	8	0.3613	0.1557	0.1557	0.0032	0.1557	43.10%	0.89%	43.10%	48.60

Notes: Precision data calculated when 8 or more Tests included.

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STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 201112

Lab Values

Potash

Methods: 108

Labs Reporting: 88

Issue Date : 12/31/2020

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
001.99	Ammoniacal N, Other (%)	0553	< 0.0008					0			5
002.99	Nitrate N, Other (%)	0553	< 0.002					0			5
005.99	Urea N, Other (%)	0524	0.0148	0.0000				1			0
010.12	Total N, Salicylic (%)	0568	0.0085	0.0017				1			0
010.60	Total N, Combustion (%)	0354	0.0750	0.0420	20.50	35.25	0.0140	3	-0.58		0
010.60	Total N, Combustion (%)	0521	0.2291	0.0000	20.50	35.25	0.0140	3	-0.58		0
010.60	Total N, Combustion (%)	0042	61.20	0.0000	20.50	35.25	0.0140	3	1.15		0
010.60	Total N, Combustion (%)	0325	0.0000	0.0000	20.50	35.25	0.0140	3			4
010.99	Total N, Other (%)	0524	0.0611	0.0069				1			0
020.50	Total P2O5, ICP (%)	0524	0.0004	0.0001				1			0
020.50	Total P2O5, ICP (%)	0552	0.0000	0.0000				1			4
020.99	Total P2O5, Other (%)	0515	0.0018	0.0006				1			0
041.20	Direct Available P2O5, Spectrophotometric (%)	0553	< 0.007					0			5
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	0354	0.0225	0.0010				1			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (%)	0568	0.0050	0.0100				1			4
041.50	Direct Available P2O5, ICP (%)	0325	0.0000	0.0000				0			4
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (%)	0494	61.78	0.2800				1			0
050.00	Soluble K2O, STPB Oxalate (62%)	0494	61.23	1.190	62.19	0.8531	0.4338	8	-1.04	OK	0
050.00	Soluble K2O, STPB Oxalate (62%)	0550	61.39	0.1000	62.19	0.8531	0.4338	8	-0.86	OK	0
050.00	Soluble K2O, STPB Oxalate (62%)	0055	61.63	0.9800	62.19	0.8531	0.4338	8	-0.61	OK	0
050.00	Soluble K2O, STPB Oxalate (62%)	0231	62.22	0.1100	62.19	0.8531	0.4338	8	0.02	OK	0
050.00	Soluble K2O, STPB Oxalate (62%)	0405	62.30	0.0700	62.19	0.8531	0.4338	8	0.11	OK	0
050.00	Soluble K2O, STPB Oxalate (62%)	0444	62.52	0.2000	62.19	0.8531	0.4338	8	0.35	OK	0
050.00	Soluble K2O, STPB Oxalate (62%)	0522	62.87	0.1100	62.19	0.8531	0.4338	8	0.72	OK	0
050.00	Soluble K2O, STPB Oxalate (62%)	0114	63.42	0.7100	62.19	0.8531	0.4338	8	1.31	OK	0
050.30	Soluble K2O, AA (Oxalate) (62%)	0309	60.07	0.1900	61.42	0.9930	0.7090	4	-1.36		0
050.30	Soluble K2O, AA (Oxalate) (62%)	0073	61.29	0.9900	61.42	0.9930	0.7090	4	-0.13		0
050.30	Soluble K2O, AA (Oxalate) (62%)	0040	62.05	0.9000	61.42	0.9930	0.7090	4	0.64		0
050.30	Soluble K2O, AA (Oxalate) (62%)	0356	62.26	0.7560	61.42	0.9930	0.7090	4	0.85		0
050.31	Soluble K2O, AA (Citrate) (62%)	0472	58.93	1.950				1			0
050.50	Soluble K2O, ICP (Oxalate) (62%)	0419	57.00	0.3200	62.59	2.129	0.6622	8	-2.40	Low	0
050.50	Soluble K2O, ICP (Oxalate) (62%)	0444	61.51	0.0500	62.59	2.129	0.6622	8	-0.47	OK	0
050.50	Soluble K2O, ICP (Oxalate) (62%)	0230	61.90	0.6000	62.59	2.129	0.6622	8	-0.30	OK	0
050.50	Soluble K2O, ICP (Oxalate) (62%)	0055	62.15	0.4100	62.59	2.129	0.6622	8	-0.19	OK	0
050.50	Soluble K2O, ICP (Oxalate) (62%)	0106	62.16	2.200	62.59	2.129	0.6622	8	-0.18	OK	0
050.50	Soluble K2O, ICP (Oxalate) (62%)	0324	63.90	0.2000	62.59	2.129	0.6622	8	0.56	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				
050.50	Soluble K2O, ICP (Oxalate) (62%)	0422	64.38	0.0900	62.59	2.129	0.6622	8	0.77	OK	0
050.50	Soluble K2O, ICP (Oxalate) (62%)	0086	65.34	1.428	62.59	2.129	0.6622	8	1.18	High	0
050.51	Soluble K2O, ICP (Citrate) (62%)	0568	62.29	1.100	62.46	0.2329	0.4324	3	-0.72		0
050.51	Soluble K2O, ICP (Citrate) (62%)	0291	62.36	0.1000	62.46	0.2329	0.4324	3	-0.42		0
050.51	Soluble K2O, ICP (Citrate) (62%)	0368	62.72	0.0971	62.46	0.2329	0.4324	3	1.14		0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0486	58.83	0.6000	61.18	1.441	0.4329	10	-1.52	Low	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0025	59.50	0.2000	61.18	1.441	0.4329	10	-1.09	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0547	60.40	0.4300	61.18	1.441	0.4329	10	-0.51	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0485	60.60	0.4290	61.18	1.441	0.4329	10	-0.38	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0043	61.21	0.1000	61.18	1.441	0.4329	10	0.02	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0377	61.76	1.190	61.18	1.441	0.4329	10	0.37	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0423	61.98	0.6500	61.18	1.441	0.4329	10	0.51	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0023	62.05	0.1000	61.18	1.441	0.4329	10	0.56	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0354	62.60	0.2000	61.18	1.441	0.4329	10	0.92	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0360	62.72	0.4300	61.18	1.441	0.4329	10	0.99	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (62%)	0136	60.45	3.100	61.18	1.441	0.4329	10	-0.47	OK	1
050.60	Soluble K2O, Flame Photometric (Oxalate) (62%)	0510	62.23	0.0151	62.86	0.6511	0.1048	4	-0.97		0
050.60	Soluble K2O, Flame Photometric (Oxalate) (62%)	0200	62.42	0.1300	62.86	0.6511	0.1048	4	-0.69		0
050.60	Soluble K2O, Flame Photometric (Oxalate) (62%)	0169	63.18	0.0600	62.86	0.6511	0.1048	4	0.49		0
050.60	Soluble K2O, Flame Photometric (Oxalate) (62%)	0476	63.62	0.2142	62.86	0.6511	0.1048	4	1.16		0
050.61	Soluble K2O, Flame Photometric (Citrate) (62%)	0456	60.75	0.1000	61.89	1.114	0.2500	3	-1.03		0
050.61	Soluble K2O, Flame Photometric (Citrate) (62%)	0535	61.95	0.1000	61.89	1.114	0.2500	3	0.05		0
050.61	Soluble K2O, Flame Photometric (Citrate) (62%)	0035	62.98	0.5500	61.89	1.114	0.2500	3	0.97		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (62%)	0029	61.36	0.1800	62.01	0.7443	1.038	4	-0.88		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (62%)	0513	61.68	0.0900	62.01	0.7443	1.038	4	-0.46		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (62%)	0535	61.95	0.1000	62.01	0.7443	1.038	4	-0.09		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (62%)	0095	63.07	3.780	62.01	0.7443	1.038	4	1.42		0
050.99	Soluble K2O, Other (62%)	0450	47.37	0.5000	61.85	1.360	0.3776	41	-10.65	Low	0
050.99	Soluble K2O, Other (62%)	0402	55.40	0.6100	61.85	1.360	0.3776	41	-4.75	Low	0
050.99	Soluble K2O, Other (62%)	0451	57.63	0.4200	61.85	1.360	0.3776	41	-3.11	Low	0
050.99	Soluble K2O, Other (62%)	0524	59.59	0.8980	61.85	1.360	0.3776	41	-1.66	Low	0
050.99	Soluble K2O, Other (62%)	0521	59.81	0.0000	61.85	1.360	0.3776	41	-1.50	Low	0
050.99	Soluble K2O, Other (62%)	0325	60.40	0.0000	61.85	1.360	0.3776	41	-1.07	OK	0
050.99	Soluble K2O, Other (62%)	0538	61.00	0.5000	61.85	1.360	0.3776	41	-0.63	OK	0
050.99	Soluble K2O, Other (62%)	0562	61.00	0.3000	61.85	1.360	0.3776	41	-0.63	OK	0
050.99	Soluble K2O, Other (62%)	0537	61.03	0.5500	61.85	1.360	0.3776	41	-0.61	OK	0
050.99	Soluble K2O, Other (62%)	0551	61.15	0.3000	61.85	1.360	0.3776	41	-0.52	OK	0
050.99	Soluble K2O, Other (62%)	0421	61.26	0.0131	61.85	1.360	0.3776	41	-0.44	OK	0
050.99	Soluble K2O, Other (62%)	0389	61.28	0.5900	61.85	1.360	0.3776	41	-0.43	OK	0
050.99	Soluble K2O, Other (62%)	0564	61.42	0.0800	61.85	1.360	0.3776	41	-0.32	OK	0
050.99	Soluble K2O, Other (62%)	0394	61.46	0.3900	61.85	1.360	0.3776	41	-0.29	OK	0
050.99	Soluble K2O, Other (62%)	0532	61.50	0.2000	61.85	1.360	0.3776	41	-0.26	OK	0
050.99	Soluble K2O, Other (62%)	0539	61.52	0.1900	61.85	1.360	0.3776	41	-0.25	OK	0
050.99	Soluble K2O, Other (62%)	0536	61.55	0.3000	61.85	1.360	0.3776	41	-0.22	OK	0
050.99	Soluble K2O, Other (62%)	0535	61.60	0.2000	61.85	1.360	0.3776	41	-0.19	OK	0
050.99	Soluble K2O, Other (62%)	0549	61.68	0.0500	61.85	1.360	0.3776	41	-0.13	OK	0
050.99	Soluble K2O, Other (62%)	0371	61.75	0.3000	61.85	1.360	0.3776	41	-0.08	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				
050.99	Soluble K2O, Other (62%)	0531	61.75	0.5000	61.85	1.360	0.3776	41	-0.08	OK	0
050.99	Soluble K2O, Other (62%)	0518	61.80	0.0000	61.85	1.360	0.3776	41	-0.04	OK	0
050.99	Soluble K2O, Other (62%)	0558	61.85	0.1000	61.85	1.360	0.3776	41	0.00	OK	0
050.99	Soluble K2O, Other (62%)	0556	61.85	0.0200	61.85	1.360	0.3776	41	0.00	OK	0
050.99	Soluble K2O, Other (62%)	0552	61.99	0.0000	61.85	1.360	0.3776	41	0.10	OK	0
050.99	Soluble K2O, Other (62%)	0498	62.00	0.6000	61.85	1.360	0.3776	41	0.11	OK	0
050.99	Soluble K2O, Other (62%)	0506	62.05	0.7000	61.85	1.360	0.3776	41	0.14	OK	0
050.99	Soluble K2O, Other (62%)	0560	62.05	0.7000	61.85	1.360	0.3776	41	0.14	OK	0
050.99	Soluble K2O, Other (62%)	0540	62.22	0.3600	61.85	1.360	0.3776	41	0.27	OK	0
050.99	Soluble K2O, Other (62%)	0234	62.26	0.1200	61.85	1.360	0.3776	41	0.30	OK	0
050.99	Soluble K2O, Other (62%)	0561	62.44	0.1100	61.85	1.360	0.3776	41	0.43	OK	0
050.99	Soluble K2O, Other (62%)	0545	62.65	0.1000	61.85	1.360	0.3776	41	0.58	OK	0
050.99	Soluble K2O, Other (62%)	0533	62.66	0.3000	61.85	1.360	0.3776	41	0.59	OK	0
050.99	Soluble K2O, Other (62%)	0546	63.26	0.2889	61.85	1.360	0.3776	41	1.04	OK	0
050.99	Soluble K2O, Other (62%)	0177	63.44	0.1997	61.85	1.360	0.3776	41	1.17	OK	0
050.99	Soluble K2O, Other (62%)	0433	63.73	0.4200	61.85	1.360	0.3776	41	1.38	High	0
050.99	Soluble K2O, Other (62%)	0553	63.80	0.4000	61.85	1.360	0.3776	41	1.43	High	0
050.99	Soluble K2O, Other (62%)	0300	64.33	0.7300	61.85	1.360	0.3776	41	1.82	High	0
050.99	Soluble K2O, Other (62%)	0527	65.50	0.0049	61.85	1.360	0.3776	41	2.68	High	0
050.99	Soluble K2O, Other (62%)	0027	66.51	0.7360	61.85	1.360	0.3776	41	3.42	High	0
050.99	Soluble K2O, Other (62%)	0516	79.55	2.700	61.85	1.360	0.3776	41	13.01	High	0
050.99	Soluble K2O, Other (62%)	0255	64.59	6.752	61.85	1.360	0.3776	41	2.01	High	1
050.99	Soluble K2O, Other (62%)	0515	70.46	6.304	61.85	1.360	0.3776	41	6.33	High	1
060.00	Water (Free), Vacuum Oven (%)	0456	0.2650	0.0300				1			0
060.10	Water (Free), Vacuum Desiccation (%)	0419	0.0100	0.0000				1			0
060.20	Water (Free), Karl Fischer (%)	0394	0.0640	0.0540				2			0
060.20	Water (Free), Karl Fischer (%)	0513	0.1100	0.0200				2			0
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours, 5g sample) (%)	0394	0.0275	0.0090				1			0
060.99	Water (Free), Other (%)	0518	0.0500	0.0200	0.0729	0.0207	0.0233	3	-1.11		0
060.99	Water (Free), Other (%)	0405	0.0785	0.0030	0.0729	0.0207	0.0233	3	0.27		0
060.99	Water (Free), Other (%)	0476	0.0902	0.0470	0.0729	0.0207	0.0233	3	0.84		0
060.99	Water (Free), Other (%)	0510	0.0000	0.0000	0.0729	0.0207	0.0233	3			4
060.99	Water (Free), Other (%)	0550	< 0.1		0.0729	0.0207	0.0233	3			5
101.00	Acid Soluble Ca, AA, inorganic 965.09 (%)	0553	0.0065	0.0000				1			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0568	0.0200	0.0000				2			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0354	0.0300	0.0000				2			0
101.99	Acid Soluble Ca, Other (%)	0552	0.3200	0.0000				1			0
121.00	Acid Soluble Mg, AA, inorganic 965.09 (%)	0553	0.0028	0.0001				1			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0568	< 0.05					0			5
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0515	0.2443	0.2172				1			0
121.99	Acid Soluble Mg, Other (%)	0524	0.0022	0.0001	0.0497	0.0451	0.0043	3	-1.05		0
121.99	Acid Soluble Mg, Other (%)	0552	0.0550	0.0100	0.0497	0.0451	0.0043	3	0.12		0
121.99	Acid Soluble Mg, Other (%)	0515	0.0919	0.0029	0.0497	0.0451	0.0043	3	0.94		0
143.99	Elemental S, Other (%)	0389	0.0060	0.0020				1			0
145.99	Sulfate S, HCl soluble, Other (%)	0553	0.0213	0.0006				1			0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0515	0.0369	0.0142				1			0

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			Value	Range	Rob Mean	Rob SD	R-bar				
148.99	Total S, Other (%)	0354	< 0.01					0			5
149.04	S - HNO3 soluble, ICP (%)	0524	0.0031	0.0004				1			0
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 0.08					0			5
151.00	Acid Soluble As, AA, test portion 2006.03 modified w/dual acid (ppm)	0498	< 0.2					0			5
151.30	Acid Soluble As, ICP (ppm)	0255	0.1225	0.0150				1			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0515	0.0000	0.0000				0			4
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0136	< 1					0			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0117	< 10					0			5
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0515	0.0000	0.0000				0			4
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0368	< 0.4					0			5
151.99	Acid Soluble As, Other (ppm)	0524	0.0047	0.0002				1			0
165.00	Acid Soluble B, Spectrophotometric (%)	0553	0.0021	0.0000				1			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0389	0.0003	0.0001				1			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	< 0.01					1			5
165.99	Acid Soluble B, Other (%)	0524	0.0010	0.0001				2			0
165.99	Acid Soluble B, Other (%)	0515	0.0948	0.0449				2			0
165.99	Acid Soluble B, Other (%)	0552	0.0000	0.0000				2			4
181.00	Acid Soluble Cd, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 0.08					0			5
181.30	Acid Soluble Cd, ICP (ppm)	0255	0.0305	0.0410				1			0
181.30	Acid Soluble Cd, ICP (ppm)	0394	< 0.14					1			5
181.30	Acid Soluble Cd, ICP (ppm)	0450	< 0.5					1			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0515	25.30	8.508				1			0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0136	< 1					1			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0117	< 5					1			5
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0515	25.84	0.4480				1			0
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0368	< 0.1					1			5
181.99	Acid Soluble Cd, Other (ppm)	0524	0.0005	0.0000				1			0
190.00	Water Soluble Cl, Titrimetric (%)	0536	45.90	0.2000	46.81	0.6775	0.2269	18	-1.35	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0029	46.02	0.0800	46.81	0.6775	0.2269	18	-1.17	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0533	46.03	0.0300	46.81	0.6775	0.2269	18	-1.17	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0532	46.25	0.1400	46.81	0.6775	0.2269	18	-0.83	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0117	46.32	0.5606	46.81	0.6775	0.2269	18	-0.73	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0538	46.55	0.3000	46.81	0.6775	0.2269	18	-0.39	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0539	46.55	0.1000	46.81	0.6775	0.2269	18	-0.39	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0535	46.60	0.2000	46.81	0.6775	0.2269	18	-0.32	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0551	46.70	0.4000	46.81	0.6775	0.2269	18	-0.17	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0531	46.75	0.5000	46.81	0.6775	0.2269	18	-0.10	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0506	46.90	0.0000	46.81	0.6775	0.2269	18	0.13	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0546	47.14	0.2840	46.81	0.6775	0.2269	18	0.47	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0513	47.18	0.1900	46.81	0.6775	0.2269	18	0.53	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0550	47.25	0.1000	46.81	0.6775	0.2269	18	0.64	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0444	47.43	0.3800	46.81	0.6775	0.2269	18	0.91	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0394	47.59	0.1100	46.81	0.6775	0.2269	18	1.14	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0405	47.70	0.0100	46.81	0.6775	0.2269	18	1.30	OK	0
190.00	Water Soluble Cl, Titrimetric (%)	0498	48.45	0.5000	46.81	0.6775	0.2269	18	2.41	High	0
190.99	Water Soluble Cl, Other (%)	0029	47.05	0.6200	47.41	0.3345	0.6750	4	-1.07		0
190.99	Water Soluble Cl, Other (%)	0136	47.30	1.400	47.41	0.3345	0.6750	4	-0.32		0

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190.99	Water Soluble Cl, Other (%)	0444	47.43	0.3800	47.41	0.3345	0.6750	4	0.07		0
190.99	Water Soluble Cl, Other (%)	0553	47.85	0.3000	47.41	0.3345	0.6750	4	1.32		0
191.00	Acid Soluble Cr, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 0.25					0			5
191.30	Acid Soluble Cr, ICP (ppm)	0524	0.0873	0.0204	0.4324	0.5697	0.0508	3	-0.61		0
191.30	Acid Soluble Cr, ICP (ppm)	0394	0.1200	0.0120	0.4324	0.5697	0.0508	3	-0.55		0
191.30	Acid Soluble Cr, ICP (ppm)	0035	1.090	0.1200	0.4324	0.5697	0.0508	3	1.15		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0515	54.20	78.15				1			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0136	< 5					1			5
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0368	0.1193	0.0405				2			0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0515	11.46	13.69				2			0
202.30	Acid Soluble Co, ICP (ppm)	0389	0.0600	0.0000				2			0
202.30	Acid Soluble Co, ICP (ppm)	0524	0.0653	0.0085				2			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0515	13.46	1.259				1			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0550	< 0.09					1			5
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0136	< 5					1			5
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0368	0.1635	0.0370				2			0
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0515	18.20	13.51				2			0
202.99	Acid Soluble Co, Other (ppm)	0255	0.0385	0.0050				1			0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0550	< 0.0001					0			5
221.00	Acid Soluble Cu, AA, inorganic 965.09 (%)	0553	< 0.005					0			5
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0255	0.0000	0.0000				0			4
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0552	0.0000	0.0000				0			4
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0394	< 0.0002					0			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0515	0.0060	0.0009				2			0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0368	3.057	0.6050				2			0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0106	0.0000	0.0000				2			4
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0421	< 0.0015					2			5
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0136	< 0.0025					2			5
221.99	Acid Soluble Cu, Other (%)	0515	0.0062	0.0012				1			0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (%)	0553	< 0.005					0			5
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0035	0.0037	0.0028				1			0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0552	0.0000	0.0000				1			4
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					1			5
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0515	0.0351	0.0164				1			0
241.99	Acid Soluble Fe, Other (%)	0524	0.0006	0.0001				2			0
241.99	Acid Soluble Fe, Other (%)	0515	0.1003	0.0456				2			0
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 1.5					0			5
251.30	Acid Soluble Pb, ICP (ppm)	0255	0.0690	0.0460				1			0
251.30	Acid Soluble Pb, ICP (ppm)	0394	< 0.7					1			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0515	14.54	29.08				0			4
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0136	< 3					0			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0117	< 5					0			5
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0515	0.0000	0.0000				0			4
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0368	< 0.7					0			5
251.99	Acid Soluble Pb, Other (ppm)	0524	0.0736	0.0012				1			0
261.11	Acid Soluble Mn, AA, total Mn (%)	0553	< 0.005					0			5

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			Value	Range	Rob Mean	Rob SD	R-bar				
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0354	< 0.01					0			5
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)	0552	0.0350	0.0100				1			0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0515	0.0875	0.1501				1			0
261.99	Acid Soluble Mn, Other (%)	0515	0.0101	0.0138				1			0
281.00	Acid Soluble Hg, AA (ppm)	0550	0.0292	0.0272				1			0
281.00	Acid Soluble Hg, AA (ppm)	0117	< 0.2					1			5
281.30	Acid Soluble Hg, ICP (ppm)	0515	0.0000	0.0000				0			4
281.30	Acid Soluble Hg, ICP (ppm)	0450	< 0.5					0			5
281.99	Acid Soluble Hg, Other (ppm)	0524	0.2226	0.0043				1			0
281.99	Acid Soluble Hg, Other (ppm)	0368	< 0.01					1			5
289.00	Acid Soluble Mo, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	1.049	0.6830				1			0
289.30	Acid Soluble Mo, ICP (ppm)	0255	0.0000	0.0000				0			4
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)	0515	0.0000	0.0000				0			4
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0136	< 5					0			5
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0368	0.4901	0.0518				1			0
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0515	0.0000	0.0000				1			4
289.99	Acid Soluble Mo, Other (ppm)	0524	0.0105	0.0020				1			0
291.00	Acid Soluble Ni, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 0.6					0			5
291.30	Acid Soluble Ni, ICP (ppm)	0394	< 0.4					0			5
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0515	24.56	2.446				1			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0117	< 5					1			5
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0136	< 5					1			5
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0515	0.0000	0.0000				0			4
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0368	< 0.2					0			5
291.99	Acid Soluble Ni, Other (ppm)	0524	0.1658	0.0109				2			0
291.99	Acid Soluble Ni, Other (ppm)	0255	0.2695	0.2210				2			0
301.00	Acid Soluble Se, AA, test portion 2006.03 modified w/dual acid (ppm)	0550	< 0.08					0			5
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0515	0.0000	0.0000				0			4
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	< 1.2					0			5
301.99	Acid Soluble Se, Other (ppm)	0524	0.0065	0.0020				2			0
301.99	Acid Soluble Se, Other (ppm)	0255	2.027	0.3280				2			0
311.00	Sodium, AA (%)	0534	0.3400	0.0000	0.3672	0.0416	0.0028	5	-0.57		0
311.00	Sodium, AA (%)	0498	0.3450	0.0100	0.3672	0.0416	0.0028	5	-0.47		0
311.00	Sodium, AA (%)	0405	0.3480	0.0020	0.3672	0.0416	0.0028	5	-0.40		0
311.00	Sodium, AA (%)	0553	0.3630	0.0020	0.3672	0.0416	0.0028	5	-0.09		0
311.00	Sodium, AA (%)	0506	0.4400	0.0000	0.3672	0.0416	0.0028	5	1.53		0
311.00	Sodium, AA (%)	0550	0.4540	0.0480	0.3672	0.0416	0.0028	5	1.82		1
311.30	Sodium, Flame Photometric (%)	0476	0.3565	0.0037	0.8340	0.5501	0.0191	4	-0.87		0
311.30	Sodium, Flame Photometric (%)	0513	0.3600	0.0000	0.8340	0.5501	0.0191	4	-0.86		0
311.30	Sodium, Flame Photometric (%)	0510	1.274	0.0228	0.8340	0.5501	0.0191	4	0.80		0
311.30	Sodium, Flame Photometric (%)	0532	1.345	0.0500	0.8340	0.5501	0.0191	4	0.93		0
311.32	Sodium, ICP, 2006.03 test portion (%)	0521	0.3450	0.0000				1			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0419	0.1136	0.0065	0.3495	0.0740	0.0031	8	-2.92	Low	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0444	0.2900	0.0000	0.3495	0.0740	0.0031	8	-0.74	Low	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0231	0.3400	0.0000	0.3495	0.0740	0.0031	8	-0.12	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				
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0368	0.3556	0.0045	0.3495	0.0740	0.0031	8	0.08	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	0.3565	0.0007	0.3495	0.0740	0.0031	8	0.09	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0394	0.3590	0.0094	0.3495	0.0740	0.0031	8	0.12	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0117	0.3959	0.0036	0.3495	0.0740	0.0031	8	0.57	High	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0043	0.6800	0.0000	0.3495	0.0740	0.0031	8	4.09	High	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0136	0.3400	0.0400	0.3495	0.0740	0.0031	8	-0.12	OK	1
311.99	Sodium, Other (%)	0255	0.3500	0.0720				2			0
311.99	Sodium, Other (%)	0354	0.4050	0.0100				2			0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0550	0.0003	0.0001				1			0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0553	< 0.002					1			5
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0552	0.0250	0.0100				1			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0255	0.0000	0.0000				1			4
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					1			5
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0394	0.0003	0.0001				1			0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0043	0.0017	0.0027	1.665	2.876	0.3349	3	-0.47		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0515	0.0065	0.0021	1.665	2.876	0.3349	3	-0.47		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0368	4.986	1.000	1.665	2.876	0.3349	3	0.94		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0106	0.0000	0.0000	1.665	2.876	0.3349	3			4
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0421	< 0.0006		1.665	2.876	0.3349	3			5
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0136	< 0.0025		1.665	2.876	0.3349	3			5
321.99	Acid Soluble Zn, Other (%)	0515	0.0062	0.0012				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.