

# magruder fertilizer

## check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 180711

Micronutrients

### Statistical Summary

# Methods: 114

# Labs Reporting: 90

Issue Date : 08/31/2018

Method Code	Analyte & Method Sample # 180711	# 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)	Hornitz %RSD
001.99	Ammoniacal Nitrogen, Other (%)	1		0.9650									
010.11	Total Nitrogen, Modified Comprehensive (%)	1		1.350									
010.60	Total Nitrogen, Combustion (%)	7	6	1.410	0.0810	1.391	0.4900	0.0431	0.0220	3.10%	0.20	0.0200	3.81%
010.99	Total Nitrogen, Other (%)	1		1.406									
020.50	Total Phosphorus as P2O5, ICP (%)	9	8	4.326	1.050	4.501		0.7318	0.3234	16.26%		0.0958	3.19%
020.99	Total Phosphorus as P2O5, Other (%)	1		6.039									
041.11	Direct Available Phosphorus as P2O5, Gravimetric Q..	1		4.715									
041.50	Direct Available Phosphorus as P2O5, ICP (%)	1		4.600									
041.60	Direct Available Phosphorus as P2O5, Citrate-EDTA ..	2	2	4.850	0.5374								
050.31	Soluble Potassium as K2O, AA (Citrate) (%)	1		1.300									
050.32	Soluble Potassium as K2O, AA (Citrate-EDTA) (%)	1		1.315									
050.51	Soluble Potassium as K2O, ICP (Citrate) (%)	1		1.495									
050.52	Soluble Potassium as K2O, ICP (Citrate-EDTA) (%)	2	2	1.654	0.0375								
050.99	Soluble Potassium as K2O, Other (%)	7	6	1.291	0.1544	1.291	0.4100	0.1751	0.0894	13.56%	1.00	0.0978	3.85%
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours,...	1		7.430									
101.00	Acid Soluble Calcium, AA, inorganic 965.09 (%)	1		0.9545									
101.30	Acid Soluble Calcium, ICP, test portion inorganic ... (%)	9	8	0.9743	0.1336	0.9743	0.2487	0.1515	0.0670	15.56%	1.42	0.0224	4.02%
101.32	Acid Soluble Calcium, ICP, test portion 2006.03A-C (%)	2	2	1.047	0.0175								
101.33	Acid Soluble Calcium, ICP, 2017.02 (%)	9	9	0.9351	0.0593	0.9351	0.2468	0.0672	0.0280	7.19%	0.63	0.0309	4.04%
101.99	Acid Soluble Calcium, Other (%)	2	2	1.083	0.3642								
121.00	Acid Soluble Magnesium, AA, inorganic 965.09 (%)	1		0.2115									
121.30	Acid Soluble Magnesium, ICP, test portion inorgani... (	8	8	0.2684	0.0287	0.2662	0.2133	0.0272	0.0120	10.21%	0.30	0.0213	4.88%
121.32	Acid Soluble Magnesium, ICP, test portion 2006.03A...	2	2	0.2820	0.0050								
121.33	Acid Soluble Magnesium, ICP, 2017.02 (%)	7	7	0.2923	0.0129	0.2923	0.2146	0.0146	0.0069	5.00%	0.16	0.0170	4.81%
121.99	Acid Soluble Magnesium, Other (%)	4	4	0.2833	0.0867	0.2833	0.2142	0.0867	0.0542	30.59%	0.94	0.0196	4.84%
143.99	Elemental Sulfur, Other (%)	3	3	7.642	0.2430	7.642		0.2430	0.1754	3.18%		0.1120	2.95%
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulfur - ... (%)	9	9	6.839	0.7830	6.876		0.8026	0.3344	11.67%		0.0921	2.99%
145.99	Sulfate Sulfur, HCl soluble, Other (%)	3	3	7.428	1.013	7.428		1.013	0.7309	13.63%		0.2033	2.96%
146.00	Total Sulfur in Liquid, Gravimetric - sulfate, sul... (5%)	1		8.320									
148.00	Total Sulfur, Combustion (5%)	9	9	7.697	0.4044	7.730	0.5865	0.3787	0.1578	4.90%	1.50	0.1589	2.94%
148.01	Total Sulfur, Gravimetric - sulfate and elemental... (5%)	9	8	7.280	0.2149	7.280	0.5640	0.2437	0.1077	3.35%	1.01	0.0899	2.97%

Method Code	Analyte & Method Sample # 180711	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Howitz %RSD
148.04	Total Sulfur, ICP, w/Br digestion (5%)	1		7.732									
148.07	Total Sulfur, ICP, test portion as in 2017.02 (5%)	16	16	7.465	0.9344	7.494	0.5747	0.9409	0.2940	12.56%	3.81	0.1397	2.95%
148.99	Total Sulfur, Other (5%)	14	13	7.303	0.9271	7.343	0.5672	0.9433	0.3270	12.85%	3.88	0.1728	2.96%
149.04	Sulfur - HNO3 soluble, ICP (%)	6	6	7.191	1.390	7.191		1.576	0.8041	21.91%		0.0281	2.97%
151.00	Acid Soluble Arsenic , AA, test portion 2006.03 m... (p	2	2	8.208	5.045								
151.30	Acid Soluble Arsenic , ICP (ppm)	5	5	11.70	2.115	11.70		2.115	1.182	18.07%		0.7981	11.05%
151.33	Acid Soluble Arsenic , ICP, 2017.02 (ppm)	4	3	9.801	3.487	9.801		3.487	2.516	35.58%		0.5775	11.35%
151.34	Acid Soluble Arsenic , ICP, EPA 3050B/6010C (ppm)	3	2	10.38	6.817	10.38		6.817	6.025	65.67%		2.353	11.25%
151.99	Acid Soluble Arsenic , Other (ppm)	6	5	8.195	5.607	8.195		5.607	3.134	68.42%		0.3065	11.66%
165.00	Acid Soluble Boron , Spectrophotometric (1%)	15	15	1.186	0.1376	1.185	0.1808	0.1546	0.0499	13.05%	1.99	0.0346	3.90%
165.30	Acid Soluble Boron , ICP, test portion in 982.01 (1%)	19	19	1.275	0.1347	1.284	0.1955	0.1341	0.0385	10.45%	1.60	0.0321	3.85%
165.99	Acid Soluble Boron , Other (1%)	26	25	1.316	0.1506	1.311	0.1997	0.1441	0.0360	10.99%	1.68	0.0294	3.84%
171.00	Water Soluble Boron , AA, JAOAC 52.950 (%)	1		1.005									
171.10	Water Soluble Boron , Spectrophotometric (%)	5	5	0.9980	0.0278	0.9980		0.0277	0.0155	2.78%		0.0400	4.00%
171.99	Water Soluble Boron , Other (%)	3	3	1.152	0.3889	1.152		0.3889	0.2807	33.77%		0.0367	3.92%
181.00	Acid Soluble Cadmium , AA, test portion 2006.03 m...	2	2	419.2	343.4								
181.30	Acid Soluble Cadmium , ICP (ppm)	8	8	551.1	87.46	550.1		96.95	42.85	17.62%		9.804	6.19%
181.33	Acid Soluble Cadmium , ICP, 2017.02 (ppm)	7	7	585.6	58.66	586.7		63.93	30.21	10.90%		20.22	6.13%
181.34	Acid Soluble Cadmium , ICP, EPA 3050B/6010C (ppn	3	3	595.7	131.2	595.7		131.2	94.66	22.02%		144.4	6.11%
181.99	Acid Soluble Cadmium , Other (ppm)	7	6	517.4	37.38	515.1		37.08	18.92	7.20%		8.696	6.25%
191.00	Acid Soluble Chromium , AA, test portion 2006.03 ... (	2	2	188.3	44.73								
191.30	Acid Soluble Chromium , ICP (ppm)	6	6	206.4	40.04	206.4		45.41	23.17	22.00%		10.15	7.17%
191.33	Acid Soluble Chromium , ICP, 2017.02 (ppm)	6	6	242.8	22.03	242.8		24.98	12.75	10.29%		11.01	7.00%
191.34	Acid Soluble Chromium , ICP, EPA 3050B/6010C (ppi	3	3	191.4	32.58	191.4		32.58	23.51	17.02%		29.87	7.25%
191.99	Acid Soluble Chromium , Other (ppm)	6	5	190.7	43.83	190.7		43.83	24.50	22.99%		4.945	7.26%
202.30	Acid Soluble Cobalt , ICP (ppm)	5	5	210.6	13.84	210.6	64.1884	13.84	7.735	6.57%	0.50	3.456	7.15%
202.32	Acid Soluble Cobalt , ICP, 2006.03 (ppm)	1		213.9									
202.33	Acid Soluble Cobalt , ICP, 2017.02 (ppm)	9	9	221.6	34.83	228.2	69.4475	21.51	8.961	9.43%	0.72	10.45	7.07%
202.34	Acid Soluble Cobalt , ICP, EPA 3050B/6010C (ppm)	3	3	218.3	27.89	218.3	66.4824	27.89	20.13	12.78%	0.98	19.44	7.11%
202.99	Acid Soluble Cobalt , Other (ppm)	7	6	206.6	27.03	206.6	62.9756	30.66	15.64	14.84%	1.13	8.077	7.17%
221.00	Acid Soluble Copper , AA, inorganic 965.09 (1%)	16	15	0.9412	0.0866	0.9457	0.0996	0.0874	0.0282	9.24%	2.04	0.0241	4.03%
221.30	Acid Soluble Copper , ICP, test portion inorganic... (1%	22	21	0.8832	0.0536	0.8844	0.0934	0.0533	0.0145	6.02%	1.33	0.0299	4.07%
221.32	Acid Soluble Copper , ICP, test portion 2006.03A-... (1	4	4	0.9434	0.1442	0.9434	0.0993	0.1442	0.0901	15.29%	3.38	0.0100	4.03%
221.33	Acid Soluble Copper , ICP, 2017.02 (1%)	16	16	0.8888	0.0890	0.8772	0.0927	0.0597	0.0187	6.80%	1.50	0.0293	4.08%
221.99	Acid Soluble Copper , Other (1%)	17	16	0.8976	0.0963	0.8878	0.0938	0.0760	0.0237	8.56%	1.89	0.0219	4.07%
241.00	Acid Soluble Iron , AA, inorganic 965.09 (%)	2	2	1.957	0.1729								
241.30	Acid Soluble Iron , ICP, test portion inorganic 96... (%)	10	10	2.138	0.1206	2.136	0.2186	0.1340	0.0530	6.27%	1.43	0.0612	3.57%
241.32	Acid Soluble Iron , ICP, test portion 2006.03A-C (%)	2	2	1.864	0.1635								
241.33	Acid Soluble Iron , ICP, 2017.02 (%)	10	10	2.077	0.1702	2.082	0.2132	0.1820	0.0720	8.74%	1.99	0.1137	3.58%
241.99	Acid Soluble Iron , Other (%)	3	3	2.139	0.2570	2.139	0.2189	0.2570	0.1855	12.02%	2.74	0.1109	3.57%
251.00	Acid Soluble Lead , AA, test portion 2006.03 modi... (f	2	2	417.3	114.1								
251.30	Acid Soluble Lead , ICP (ppm)	8	8	570.6	86.28	570.6		97.84	43.24	17.15%		25.61	6.15%

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251.33	Acid Soluble Lead , ICP, 2017.02 (ppm)	7	7	623.4	40.36	623.4		45.77	21.62	7.34%		14.43	6.07%
251.34	Acid Soluble Lead , ICP, EPA 3050B/6010C (ppm)	3	3	621.9	111.8	621.9		111.8	80.65	17.97%		137.8	6.08%
251.99	Acid Soluble Lead , Other (ppm)	6	6	574.0	75.51	574.0		85.63	43.70	14.92%		7.859	6.15%
261.11	Acid Soluble Manganese , AA, total Mn (5%)	2	2	7.318	1.708								
261.12	Acid Soluble Manganese , AA, inorganic 965.09 (5%)	13	13	7.644	1.256	7.644	0.7694	1.424	0.4938	18.63%	4.31	0.1517	2.95%
261.14	Acid Soluble Manganese , AA, 965.09, test portion... (	1		8.290									
261.30	Acid Soluble Manganese , ICP, test portion 972.02... (	13	13	8.278	1.847	8.459	0.8509	1.617	0.5605	19.11%	4.43	0.3287	2.90%
261.31	Acid Soluble Manganese , ICP, test portion 972.02... (	5	5	9.089	0.4517	9.089	0.9139	0.4517	0.2525	4.97%	1.15	0.2340	2.87%
261.32	Acid Soluble Manganese , ICP, test portion inorga... (	6	6	8.845	0.2228	8.845	0.8895	0.2527	0.1289	2.86%	0.66	0.2728	2.88%
261.33	Acid Soluble Manganese , ICP, test portion organi... (	1		8.900									
261.34	Acid Soluble Manganese , ICP, test portion 2006.0... (	4	4	9.284	1.028	9.284	0.9334	1.028	0.6422	11.07%	2.56	0.1178	2.86%
261.35	Acid Soluble Manganese , ICP, 2017.02 (5%)	15	15	8.195	1.400	8.523	0.8573	0.7805	0.2519	9.16%	2.12	0.1390	2.90%
261.99	Acid Soluble Manganese , Other (5%)	14	13	8.256	1.548	8.329	0.8379	1.583	0.5486	19.00%	4.40	0.1547	2.91%
271.30	Water Soluble Manganese , ICP, Ext. 972.03 (%)	1		1.440									
281.00	Acid Soluble Mercury , AA (ppm)	3	3	5.117	8.508	5.117		8.508	6.140	166.27%		0.2800	12.51%
281.30	Acid Soluble Mercury , ICP (ppm)	4	3	9.667	12.41	9.667		12.41	8.955	128.36%		0.5733	11.37%
281.99	Acid Soluble Mercury , Other (ppm)	3	3	14.73	15.54	14.73		15.54	11.21	105.47%		0.3129	10.67%
289.30	Acid Soluble Molybdenum , ICP (ppm)	9	9	331.9	143.1	345.3	104.5937	129.4	53.91	37.47%	2.88	13.92	6.64%
289.33	Acid Soluble Molybdenum , ICP, 2017.02 (ppm)	11	11	367.1	55.26	375.1	113.5285	37.45	14.11	9.98%	0.77	11.86	6.56%
289.34	Acid Soluble Molybdenum , ICP, EPA 3050B/6010C (	3	3	379.1	7.295	379.1	114.7430	7.295	5.265	1.92%	0.15	20.19	6.55%
289.99	Acid Soluble Molybdenum , Other (ppm)	5	5	331.3	235.5	331.3	100.3883	235.5	131.6	71.07%	5.46	10.35	6.68%
291.00	Acid Soluble Nickel , AA, test portion 2006.03 mo... (p	2	2	1,632	247.2								
291.30	Acid Soluble Nickel , ICP (ppm)	8	8	1,645	190.7	1,646		214.5	94.79	13.03%		25.51	5.25%
291.33	Acid Soluble Nickel , ICP, 2017.02 (ppm)	7	7	1,879	137.6	1,879		156.1	73.74	8.30%		68.59	5.14%
291.34	Acid Soluble Nickel , ICP, EPA 3050B/6010C (ppm)	3	3	1,981	407.7	1,981		407.7	294.3	20.58%		265.7	5.10%
291.99	Acid Soluble Nickel , Other (ppm)	8	8	1,599	161.3	1,599		183.0	80.86	11.44%		70.79	5.27%
301.00	Acid Soluble Selenium , AA, test portion 2006.03 ... (p	1		3.080									
301.30	Acid Soluble Selenium , ICP (ppm)	3	3	39.74	19.47	39.74		19.47	14.05	49.00%		2.113	9.19%
301.33	Acid Soluble Selenium , ICP, 2017.02 (ppm)	5	4	37.23	29.64	37.23		29.64	18.52	79.61%		3.296	9.28%
301.34	Acid Soluble Selenium , ICP, EPA 3050B/6010C (ppr	3	3	29.26	13.95	29.26		13.95	10.07	47.68%		9.865	9.62%
301.99	Acid Soluble Selenium , Other (ppm)	7	6	8.423	12.64	5.608		7.150	3.649	127.50%		1.112	12.34%
311.32	Sodium, ICP, 2006.03 test portion (%)	1		1.055									
311.33	Sodium, ICP, test portion as in 2017.02 (%)	9	9	1.062	0.0673	1.062	0.1112	0.0758	0.0316	7.14%	1.59	0.0486	3.96%
311.99	Sodium, Other (%)	3	3	1.037	0.0247	1.037	0.1087	0.0247	0.0178	2.38%	0.53	0.0400	3.98%
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	18	17	19.80	0.5459	19.82	1.0000	0.3944	0.1196	1.99%	0.92	0.2125	2.55%
321.30	Acid Soluble Zinc , ICP, test portion inorganic 9... (20%	27	26	19.46	4.118	20.09	1.0000	2.147	0.5263	10.68%	5.00	0.4905	2.55%
321.32	Acid Soluble Zinc , ICP, test portion 2006.03A-C ... (2	4	4	20.06	4.976	20.06	1.0000	4.976	3.110	24.81%	11.60	0.3925	2.55%
321.33	Acid Soluble Zinc , ICP, 2017.02 (20%)	16	16	19.82	1.733	20.16	1.0000	1.053	0.3290	5.22%	2.45	0.4695	2.55%
321.99	Acid Soluble Zinc , Other (20%)	15	14	20.05	0.8725	20.10	1.0000	0.9005	0.3008	4.48%	2.10	0.2774	2.55%
325.30	Water Soluble Zinc , ICP (%)	2	2	12.87	9.843								
325.99	Water Soluble Zinc , Other (%)	1		8.850									

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

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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.



# magruder fertilizer

## check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

Sample # 180711

Method Precision Report

Micronutrients

Issue Date : 08/31/2018

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
101.30	Acid Soluble Calcium, ICP, test portion inorganic 965.09 (%)	9	8	0.9743	0.1336	0.1330	0.0187	0.1343	13.65%	1.92%	13.78%	7.184
101.33	Acid Soluble Calcium, ICP, 2017.02 (%)	9	9	0.9351	0.0593	0.0566	0.0247	0.0618	6.05%	2.65%	6.61%	2.497
121.30	Acid Soluble Magnesium, ICP, test portion inorganic 965.09 (%)	8	8	0.2684	0.0287	0.0258	0.0179	0.0314	9.62%	6.65%	11.69%	1.758
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulfur - sulfate form (%)	9	9	6.839	0.7830	0.7809	0.0811	0.7851	11.42%	1.19%	11.48%	9.686
148.00	Total Sulfur, Combustion (5%)	9	9	7.697	0.4044	0.3913	0.1443	0.4170	5.08%	1.87%	5.42%	2.890
148.01	Total Sulfur, Gravimetric - sulfate and elemental (5%)	9	8	7.280	0.2149	0.2049	0.0917	0.2245	2.81%	1.26%	3.08%	2.448
148.07	Total Sulfur, ICP, test portion as in 2017.02 (5%)	16	16	7.465	0.9344	0.9299	0.1292	0.9389	12.46%	1.73%	12.58%	7.267
148.99	Total Sulfur, Other (5%)	14	12	7.379	0.9250	0.9214	0.1143	0.9285	12.49%	1.55%	12.58%	8.120
165.00	Acid Soluble Boron , Spectrophotometric (1%)	15	15	1.186	0.1376	0.1354	0.0345	0.1398	11.42%	2.91%	11.79%	4.055
165.30	Acid Soluble Boron , ICP, test portion in 982.01 (1%)	19	18	1.273	0.1381	0.1368	0.0272	0.1395	10.75%	2.14%	10.96%	5.126
165.99	Acid Soluble Boron , Other (1%)	26	24	1.316	0.1538	0.1527	0.0256	0.1548	11.61%	1.95%	11.77%	6.039
181.30	Acid Soluble Cadmium , ICP (ppm)	8	8	551.1	87.46	87.24	8.678	87.67	15.83%	1.57%	15.91%	10.10
202.33	Acid Soluble Cobalt , ICP, 2017.02 (ppm)	9	8	232.2	15.61	14.32	8.792	16.81	6.17%	3.79%	7.24%	1.911
221.00	Acid Soluble Copper , AA, inorganic 965.09 (1%)	16	14	0.9328	0.0831	0.0821	0.0185	0.0841	8.80%	1.98%	9.02%	4.552
221.30	Acid Soluble Copper , ICP, test portion inorganic 965.09 (1%)	22	21	0.8832	0.0536	0.0495	0.0289	0.0573	5.61%	3.27%	6.49%	1.986
221.33	Acid Soluble Copper , ICP, 2017.02 (1%)	16	14	0.8637	0.0516	0.0494	0.0212	0.0537	5.72%	2.46%	6.22%	2.530
221.99	Acid Soluble Copper , Other (1%)	17	15	0.8792	0.0638	0.0624	0.0186	0.0651	7.10%	2.12%	7.41%	3.496
241.30	Acid Soluble Iron , ICP, test portion inorganic 965.09 (%)	10	9	2.127	0.1226	0.1196	0.0385	0.1256	5.62%	1.81%	5.91%	3.262
241.33	Acid Soluble Iron , ICP, 2017.02 (%)	10	9	2.049	0.1543	0.1449	0.0751	0.1632	7.07%	3.66%	7.97%	2.174
251.30	Acid Soluble Lead , ICP (ppm)	8	8	570.6	86.28	84.60	23.97	87.93	14.83%	4.20%	15.41%	3.669
261.12	Acid Soluble Manganese , AA, inorganic 965.09 (5%)	13	13	7.644	1.256	1.253	0.1257	1.259	16.39%	1.65%	16.47%	10.01
261.30	Acid Soluble Manganese , ICP, test portion 972.02a (5%)	13	11	8.635	1.339	1.325	0.2750	1.353	15.34%	3.18%	15.67%	4.921
261.35	Acid Soluble Manganese , ICP, 2017.02 (5%)	15	14	8.456	1.006	1.003	0.1205	1.010	11.86%	1.42%	11.94%	8.384
261.99	Acid Soluble Manganese , Other (5%)	14	13	8.256	1.548	1.544	0.1473	1.551	18.71%	1.78%	18.79%	10.53
289.30	Acid Soluble Molybdenum , ICP (ppm)	9	9	331.9	143.1	142.7	15.28	143.5	42.99%	4.60%	43.24%	9.392
289.33	Acid Soluble Molybdenum , ICP, 2017.02 (ppm)	11	10	381.4	30.11	29.35	9.479	30.84	7.70%	2.49%	8.09%	3.254
291.30	Acid Soluble Nickel , ICP (ppm)	8	8	1,645	190.7	190.0	23.23	191.4	11.55%	1.41%	11.64%	8.240
291.99	Acid Soluble Nickel , Other (ppm)	8	8	1,599	161.3	154.2	67.32	168.2	9.64%	4.21%	10.52%	2.499
311.33	Sodium, ICP, test portion as in 2017.02 (%)	9	9	1.062	0.0673	0.0591	0.0457	0.0747	5.56%	4.31%	7.04%	1.633
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	18	16	19.89	0.3951	0.3725	0.1866	0.4166	1.87%	0.94%	2.09%	2.233

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
321.30	Acid Soluble Zinc , ICP, test portion inorganic 965.09 (20%)	27	23	20.01	2.111	2.101	0.2899	2.121	10.50%	1.45%	10.60%	7.316
321.33	Acid Soluble Zinc , ICP, 2017.02 (20%)	16	15	20.11	1.316	1.276	0.4576	1.355	6.34%	2.28%	6.74%	2.962
321.99	Acid Soluble Zinc , Other (20%)	15	13	20.18	0.7546	0.7446	0.1734	0.7645	3.69%	0.86%	3.79%	4.408

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

# magruder fertilizer

## check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Method Proficiency For All Labs (Lab Values)

# Methods: 114

Sample # 180711

Lab Values

# Labs Reporting: 90

Micronutrients

Issue Date : 08/31/2018

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 Nitrogen, Other (%)	0524	0.9650	0.0500				1			0
010.11	Total Nitrogen, Modified Comprehensive (%)	0105	1.350	0.0200				1			0
010.60	Total Nitrogen, Combustion (%)	0521	1.342	0.0000	1.391	0.0431	0.0200	6	-1.03	OK	0
010.60	Total Nitrogen, Combustion (%)	0389	1.370	0.0200	1.391	0.0431	0.0200	6	-0.44	OK	0
010.60	Total Nitrogen, Combustion (%)	0105	1.385	0.0100	1.391	0.0431	0.0200	6	-0.13	OK	0
010.60	Total Nitrogen, Combustion (%)	0354	1.395	0.0100	1.391	0.0431	0.0200	6	0.08	OK	0
010.60	Total Nitrogen, Combustion (%)	0325	1.400	0.0200	1.391	0.0431	0.0200	6	0.18	OK	0
010.60	Total Nitrogen, Combustion (%)	0472	1.570	0.0600	1.391	0.0431	0.0200	6	3.70	OK	0
010.60	Total Nitrogen, Combustion (%)	0482	1.300	0.2000	1.391	0.0431	0.0200	6	-1.89	OK	1
010.99	Total Nitrogen, Other (%)	0524	1.406	0.0471				1			0
020.50	Total Phosphorus as P2O5, ICP (%)	0389	2.000	0.0000	4.501	0.7318	0.0958	8	-3.13	NA	0
020.50	Total Phosphorus as P2O5, ICP (%)	0482	3.705	0.1900	4.501	0.7318	0.0958	8	-1.00	NA	0
020.50	Total Phosphorus as P2O5, ICP (%)	0524	4.466	0.0731	4.501	0.7318	0.0958	8	-0.04	NA	0
020.50	Total Phosphorus as P2O5, ICP (%)	0521	4.525	0.0000	4.501	0.7318	0.0958	8	0.03	NA	0
020.50	Total Phosphorus as P2O5, ICP (%)	0472	4.665	0.0300	4.501	0.7318	0.0958	8	0.20	NA	0
020.50	Total Phosphorus as P2O5, ICP (%)	0025	4.925	0.2130	4.501	0.7318	0.0958	8	0.53	NA	0
020.50	Total Phosphorus as P2O5, ICP (%)	0483	5.145	0.2500	4.501	0.7318	0.0958	8	0.80	NA	0
020.50	Total Phosphorus as P2O5, ICP (%)	0527	5.175	0.0100	4.501	0.7318	0.0958	8	0.84	NA	0
020.50	Total Phosphorus as P2O5, ICP (%)	0552	0.0000	0.0000	4.501	0.7318	0.0958	8			4
020.99	Total Phosphorus as P2O5, Other (%)	0515	6.039	1.474				1			0
041.11	Direct Available Phosphorus as P2O5, Gravimet... (%)	0185	4.715	0.1300				1			0
041.50	Direct Available Phosphorus as P2O5, ICP (%)	0325	4.600	0.4000				1			0
041.60	Direct Available Phosphorus as P2O5, Citrate... (%)	0472	4.470	0.0000				2			0
041.60	Direct Available Phosphorus as P2O5, Citrate... (%)	0354	5.230	0.2400				2			0
050.31	Soluble Potassium as K2O, AA (Citrate) (%)	0472	1.300	0.0000				1			0
050.32	Soluble Potassium as K2O, AA (Citrate-EDTA) (%)	0185	1.315	0.0900				1			0
050.51	Soluble Potassium as K2O, ICP (Citrate) (%)	0483	1.495	0.1900				1			0
050.52	Soluble Potassium as K2O, ICP (Citrate-EDTA) (%)	0423	1.627	0.0180				2			0
050.52	Soluble Potassium as K2O, ICP (Citrate-EDTA) (%)	0354	1.680	0.1800				2			0
050.99	Soluble Potassium as K2O, Other (%)	0325	1.050	0.3000	1.291	0.1751	0.0978	6	-1.23	OK	0
050.99	Soluble Potassium as K2O, Other (%)	0527	1.145	0.1100	1.291	0.1751	0.0978	6	-0.74	OK	0
050.99	Soluble Potassium as K2O, Other (%)	0521	1.351	0.0000	1.291	0.1751	0.0978	6	0.30	OK	0
050.99	Soluble Potassium as K2O, Other (%)	0025	1.398	0.0920	1.291	0.1751	0.0978	6	0.54	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 Potassium as K2O, Other (%)	0482	1.400	0.0600	1.291	0.1751	0.0978	6	0.55	OK	0
050.99	Soluble Potassium as K2O, Other (%)	0524	1.405	0.0245	1.291	0.1751	0.0978	6	0.58	OK	0
050.99	Soluble Potassium as K2O, Other (%)	0552	0.0000	0.0000	1.291	0.1751	0.0978	6			4
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 h... (%))	0518	7.430	0.3400				1			0
101.00	Acid Soluble Calcium, AA, inorganic 965.09 (%)	0105	0.9545	0.0170				1			0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0472	0.8450	0.0100	0.9743	0.1515	0.0224	8	-0.78	OK	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0482	0.8650	0.0500	0.9743	0.1515	0.0224	8	-0.66	OK	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0096	0.8938	0.0165	0.9743	0.1515	0.0224	8	-0.49	OK	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0049	0.9078	0.0158	0.9743	0.1515	0.0224	8	-0.40	OK	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0035	0.9575	0.0370	0.9743	0.1515	0.0224	8	-0.10	OK	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0354	0.9650	0.0100	0.9743	0.1515	0.0224	8	-0.06	OK	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0483	1.165	0.0300	0.9743	0.1515	0.0224	8	1.15	OK	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0402	1.195	0.0100	0.9743	0.1515	0.0224	8	1.33	OK	0
101.30	Acid Soluble Calcium, ICP, test portion inorg... (%)	0041	0.9700	0.1600	0.9743	0.1515	0.0224	8	-0.03	OK	1
101.32	Acid Soluble Calcium, ICP, test portion 2006.... (%)	0423	1.035	0.0160				2			0
101.32	Acid Soluble Calcium, ICP, test portion 2006.... (%)	0521	1.060	0.0000				2			0
101.33	Acid Soluble Calcium, ICP, 2017.02 (%)	0493	0.8600	0.0200	0.9351	0.0672	0.0309	9	-1.03	OK	0
101.33	Acid Soluble Calcium, ICP, 2017.02 (%)	0106	0.8748	0.0437	0.9351	0.0672	0.0309	9	-0.83	OK	0
101.33	Acid Soluble Calcium, ICP, 2017.02 (%)	0086	0.8996	0.0664	0.9351	0.0672	0.0309	9	-0.49	OK	0
101.33	Acid Soluble Calcium, ICP, 2017.02 (%)	0494	0.9005	0.0355	0.9351	0.0672	0.0309	9	-0.48	OK	0
101.33	Acid Soluble Calcium, ICP, 2017.02 (%)	0117	0.9169	0.0262	0.9351	0.0672	0.0309	9	-0.25	OK	0
101.33	Acid Soluble Calcium, ICP, 2017.02 (%)	0055	0.9600	0.0200	0.9351	0.0672	0.0309	9	0.34	OK	0
101.33	Acid Soluble Calcium, ICP, 2017.02 (%)	0025	0.9629	0.0323	0.9351	0.0672	0.0309	9	0.38	OK	0
101.33	Acid Soluble Calcium, ICP, 2017.02 (%)	0546	1.016	0.0040	0.9351	0.0672	0.0309	9	1.11	OK	0
101.33	Acid Soluble Calcium, ICP, 2017.02 (%)	0527	1.025	0.0300	0.9351	0.0672	0.0309	9	1.24	OK	0
101.99	Acid Soluble Calcium, Other (%)	0389	0.8250	0.0100				2			0
101.99	Acid Soluble Calcium, Other (%)	0552	1.340	0.1400				2			0
121.00	Acid Soluble Magnesium, AA, inorganic 965.09 (%)	0105	0.2115	0.0090				1			0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0041	0.2400	0.0200	0.2662	0.0272	0.0213	8	-0.88	OK	0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0354	0.2450	0.0500	0.2662	0.0272	0.0213	8	-0.71	OK	0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0035	0.2470	0.0100	0.2662	0.0272	0.0213	8	-0.65	OK	0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0472	0.2600	0.0200	0.2662	0.0272	0.0213	8	-0.21	OK	0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0482	0.2600	0.0200	0.2662	0.0272	0.0213	8	-0.21	OK	0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0096	0.2800	0.0000	0.2662	0.0272	0.0213	8	0.46	OK	0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0049	0.2905	0.0300	0.2662	0.0272	0.0213	8	0.82	OK	0
121.30	Acid Soluble Magnesium, ICP, test portion ino... (%)	0483	0.3250	0.0200	0.2662	0.0272	0.0213	8	1.98	OK	0
121.32	Acid Soluble Magnesium, ICP, test portion 200... (%)	0423	0.2785	0.0010				2			0
121.32	Acid Soluble Magnesium, ICP, test portion 200... (%)	0521	0.2855	0.0000				2			0
121.33	Acid Soluble Magnesium, ICP, 2017.02 (%)	0527	0.2800	0.0200	0.2923	0.0146	0.0170	7	-0.76	OK	0
121.33	Acid Soluble Magnesium, ICP, 2017.02 (%)	0494	0.2803	0.0154	0.2923	0.0146	0.0170	7	-0.74	OK	0
121.33	Acid Soluble Magnesium, ICP, 2017.02 (%)	0086	0.2826	0.0123	0.2923	0.0146	0.0170	7	-0.60	OK	0
121.33	Acid Soluble Magnesium, ICP, 2017.02 (%)	0106	0.2889	0.0222	0.2923	0.0146	0.0170	7	-0.21	OK	0
121.33	Acid Soluble Magnesium, ICP, 2017.02 (%)	0493	0.3000	0.0200	0.2923	0.0146	0.0170	7	0.48	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				
121.33	Acid Soluble Magnesium, ICP, 2017.02 (%)	0117	0.3006	0.0229	0.2923	0.0146	0.0170	7	0.51	OK	0
121.33	Acid Soluble Magnesium, ICP, 2017.02 (%)	0515	0.3139	0.0064	0.2923	0.0146	0.0170	7	1.34	OK	0
121.99	Acid Soluble Magnesium, Other (%)	0524	0.1789	0.0001	0.2833	0.0867	0.0196	4	-1.21		0
121.99	Acid Soluble Magnesium, Other (%)	0515	0.2595	0.0081	0.2833	0.0867	0.0196	4	-0.28		0
121.99	Acid Soluble Magnesium, Other (%)	0389	0.3100	0.0200	0.2833	0.0867	0.0196	4	0.31		0
121.99	Acid Soluble Magnesium, Other (%)	0552	0.3850	0.0500	0.2833	0.0867	0.0196	4	1.17		0
143.99	Elemental Sulfur, Other (%)	0472	7.370	0.0200	7.642	0.2430	0.1120	3	-1.12		0
143.99	Elemental Sulfur, Other (%)	0255	7.717	0.0730	7.642	0.2430	0.1120	3	0.31		0
143.99	Elemental Sulfur, Other (%)	0390	7.839	0.2430	7.642	0.2430	0.1120	3	0.81		0
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulf... (%)	0498	5.340	0.2000	6.876	0.8026	0.0921	9	-1.77	NA	0
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulf... (%)	0444	6.175	0.2300	6.876	0.8026	0.0921	9	-0.81	NA	0
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulf... (%)	0405	6.445	0.0700	6.876	0.8026	0.0921	9	-0.50	NA	0
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulf... (%)	0522	6.628	0.0350	6.876	0.8026	0.0921	9	-0.29	NA	0
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulf... (%)	0544	6.965	0.0300	6.876	0.8026	0.0921	9	0.10	NA	0
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulf... (%)	0106	7.190	0.0600	6.876	0.8026	0.0921	9	0.36	NA	0
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulf... (%)	0550	7.320	0.0800	6.876	0.8026	0.0921	9	0.51	NA	0
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulf... (%)	0027	7.690	0.0800	6.876	0.8026	0.0921	9	0.94	NA	0
145.00	Sulfate Sulfur, HCl soluble, Gravimetric Sulf... (%)	0485	7.799	0.0441	6.876	0.8026	0.0921	9	1.06	NA	0
145.99	Sulfate Sulfur, HCl soluble, Other (%)	0444	6.430	0.0600	7.428	1.013	0.2033	3	-0.99		0
145.99	Sulfate Sulfur, HCl soluble, Other (%)	0518	7.400	0.4000	7.428	1.013	0.2033	3	-0.03		0
145.99	Sulfate Sulfur, HCl soluble, Other (%)	0169	8.455	0.1500	7.428	1.013	0.2033	3	1.01		0
146.00	Total Sulfur in Liquid, Gravimetric - sulfate... (5%)	0220	8.320	0.1000				1			0
148.00	Total Sulfur, Combustion (5%)	0157	6.865	0.0500	7.730	0.3787	0.1589	9	-2.11	Low	0
148.00	Total Sulfur, Combustion (5%)	0360	7.330	0.2000	7.730	0.3787	0.1589	9	-0.97	OK	0
148.00	Total Sulfur, Combustion (5%)	0114	7.620	0.2000	7.730	0.3787	0.1589	9	-0.27	OK	0
148.00	Total Sulfur, Combustion (5%)	0025	7.687	0.3920	7.730	0.3787	0.1589	9	-0.10	OK	0
148.00	Total Sulfur, Combustion (5%)	0493	7.750	0.1000	7.730	0.3787	0.1589	9	0.05	OK	0
148.00	Total Sulfur, Combustion (5%)	0451	7.756	0.0290	7.730	0.3787	0.1589	9	0.06	OK	0
148.00	Total Sulfur, Combustion (5%)	0029	8.021	0.0090	7.730	0.3787	0.1589	9	0.71	OK	0
148.00	Total Sulfur, Combustion (5%)	0049	8.090	0.3400	7.730	0.3787	0.1589	9	0.88	OK	0
148.00	Total Sulfur, Combustion (5%)	0136	8.155	0.1100	7.730	0.3787	0.1589	9	1.04	OK	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (5%)	0073	7.025	0.0100	7.280	0.2437	0.0899	8	-0.96	OK	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (5%)	0476	7.063	0.2595	7.280	0.2437	0.0899	8	-0.82	OK	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (5%)	0444	7.190	0.0200	7.280	0.2437	0.0899	8	-0.34	OK	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (5%)	0095	7.215	0.0500	7.280	0.2437	0.0899	8	-0.25	OK	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (5%)	0105	7.265	0.0500	7.280	0.2437	0.0899	8	-0.06	OK	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (5%)	0513	7.300	0.0400	7.280	0.2437	0.0899	8	0.07	OK	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (5%)	0055	7.555	0.0500	7.280	0.2437	0.0899	8	1.03	OK	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (5%)	0324	7.630	0.2400	7.280	0.2437	0.0899	8	1.31	OK	0
148.01	Total Sulfur, Gravimetric - sulfate and elem... (5%)	0230	6.705	0.9100	7.280	0.2437	0.0899	8	-2.16	Low	1
148.04	Total Sulfur, ICP, w/Br digestion (5%)	0086	7.732	0.4091				1			0
148.07	Total Sulfur, ICP, test portion as in 2017.02 (5%)	0527	5.435	0.3500	7.494	0.9409	0.1397	16	-2.19	Low	0
148.07	Total Sulfur, ICP, test portion as in 2017.02 (5%)	0486	6.295	0.0900	7.494	0.9409	0.1397	16	-1.27	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				
148.07	Total Sulfur, ICP, test portion as in 2017.02 (5%)	0515	6.667	0.1415	7.494	0.9409	0.1397	16	-0.88	Low	0
148.07	Total Sulfur, ICP, test portion as in 2017.02 (5%)	0542	6.687	0.0700	7.494	0.9409	0.1397	16	-0.86	Low	0
148.07	Total Sulfur, ICP, test portion as in 2017.02 (5%)	0444	6.830	0.0400	7.494	0.9409	0.1397	16	-0.71	Low	0
148.07	Total Sulfur, ICP, test portion as in 2017.02 (5%)	0102	6.995	0.0100	7.494	0.9409	0.1397	16	-0.53	OK	0
148.07	Total Sulfur, ICP, test portion as in 2017.02 (5%)	0402	7.655	0.0300	7.494	0.9409	0.1397	16	0.17	OK	0
148.07	Total Sulfur, ICP, test portion as in 2017.02 (5%)	0117	7.668	0.2650	7.494	0.9409	0.1397	16	0.18	OK	0
148.07	Total Sulfur, ICP, test portion as in 2017.02 (5%)	0037	7.705	0.0130	7.494	0.9409	0.1397	16	0.22	OK	0
148.07	Total Sulfur, ICP, test portion as in 2017.02 (5%)	0177	7.810	0.0925	7.494	0.9409	0.1397	16	0.34	OK	0
148.07	Total Sulfur, ICP, test portion as in 2017.02 (5%)	0292	7.825	0.0100	7.494	0.9409	0.1397	16	0.35	OK	0
148.07	Total Sulfur, ICP, test portion as in 2017.02 (5%)	0040	7.850	0.3000	7.494	0.9409	0.1397	16	0.38	OK	0
148.07	Total Sulfur, ICP, test portion as in 2017.02 (5%)	0483	7.870	0.3000	7.494	0.9409	0.1397	16	0.40	OK	0
148.07	Total Sulfur, ICP, test portion as in 2017.02 (5%)	0325	8.250	0.3000	7.494	0.9409	0.1397	16	0.80	High	0
148.07	Total Sulfur, ICP, test portion as in 2017.02 (5%)	0546	8.810	0.0800	7.494	0.9409	0.1397	16	1.40	High	0
148.07	Total Sulfur, ICP, test portion as in 2017.02 (5%)	0494	9.084	0.1433	7.494	0.9409	0.1397	16	1.69	High	0
148.99	Total Sulfur, Other (5%)	0506	5.365	0.3700	7.343	0.9433	0.1728	13	-2.10	Low	0
148.99	Total Sulfur, Other (5%)	0541	6.390	0.8200	7.343	0.9433	0.1728	13	-1.01	Low	0
148.99	Total Sulfur, Other (5%)	0307	6.475	0.0960	7.343	0.9433	0.1728	13	-0.92	Low	0
148.99	Total Sulfur, Other (5%)	0481	7.045	0.0700	7.343	0.9433	0.1728	13	-0.32	OK	0
148.99	Total Sulfur, Other (5%)	0433	7.125	0.0100	7.343	0.9433	0.1728	13	-0.23	OK	0
148.99	Total Sulfur, Other (5%)	0354	7.155	0.0500	7.343	0.9433	0.1728	13	-0.20	OK	0
148.99	Total Sulfur, Other (5%)	0096	7.180	0.0400	7.343	0.9433	0.1728	13	-0.17	OK	0
148.99	Total Sulfur, Other (5%)	0523	7.245	0.0100	7.343	0.9433	0.1728	13	-0.10	OK	0
148.99	Total Sulfur, Other (5%)	0368	7.589	0.1410	7.343	0.9433	0.1728	13	0.26	OK	0
148.99	Total Sulfur, Other (5%)	0371	7.815	0.1700	7.343	0.9433	0.1728	13	0.50	OK	0
148.99	Total Sulfur, Other (5%)	0220	8.320	0.1000	7.343	0.9433	0.1728	13	1.04	High	0
148.99	Total Sulfur, Other (5%)	0482	8.435	0.3100	7.343	0.9433	0.1728	13	1.16	High	0
148.99	Total Sulfur, Other (5%)	0452	8.800	0.0600	7.343	0.9433	0.1728	13	1.54	High	0
148.99	Total Sulfur, Other (5%)	0422	9.435	1.770	7.343	0.9433	0.1728	13	2.22	High	1
149.04	Sulfur - HNO3 soluble, ICP (%)	0519	5.005	0.0300	7.191	1.576	0.0281	6	-1.24	NA	0
149.04	Sulfur - HNO3 soluble, ICP (%)	0423	6.175	0.0500	7.191	1.576	0.0281	6	-0.57	NA	0
149.04	Sulfur - HNO3 soluble, ICP (%)	0043	7.255	0.0700	7.191	1.576	0.0281	6	0.04	NA	0
149.04	Sulfur - HNO3 soluble, ICP (%)	0521	7.824	0.0000	7.191	1.576	0.0281	6	0.36	NA	0
149.04	Sulfur - HNO3 soluble, ICP (%)	0291	8.055	0.0100	7.191	1.576	0.0281	6	0.49	NA	0
149.04	Sulfur - HNO3 soluble, ICP (%)	0524	8.832	0.0084	7.191	1.576	0.0281	6	0.93	NA	0
151.00	Acid Soluble Arsenic , AA, test portion 2006... (ppm)	0498	4.640	0.2000				2			0
151.00	Acid Soluble Arsenic , AA, test portion 2006... (ppm)	0550	11.78	4.910				2			0
151.30	Acid Soluble Arsenic , ICP (ppm)	0524	8.677	0.4195	11.70	2.115	0.7981	5	-1.43		0
151.30	Acid Soluble Arsenic , ICP (ppm)	0255	10.30	0.2910	11.70	2.115	0.7981	5	-0.66		0
151.30	Acid Soluble Arsenic , ICP (ppm)	0541	12.80	1.600	11.70	2.115	0.7981	5	0.52		0
151.30	Acid Soluble Arsenic , ICP (ppm)	0523	13.34	0.8800	11.70	2.115	0.7981	5	0.77		0
151.30	Acid Soluble Arsenic , ICP (ppm)	0096	13.40	0.8000	11.70	2.115	0.7981	5	0.80		0
151.33	Acid Soluble Arsenic , ICP, 2017.02 (ppm)	0494	5.811	1.108	9.801	3.487	0.5775	3	-1.14		0
151.33	Acid Soluble Arsenic , ICP, 2017.02 (ppm)	0527	11.33	0.2800	9.801	3.487	0.5775	3	0.44		0

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			Value	Range	Rob Mean	Rob SD	R-bar				
151.33	Acid Soluble Arsenic , ICP, 2017.02 (ppm)	0037	12.26	0.3440	9.801	3.487	0.5775	3	0.71		0
151.33	Acid Soluble Arsenic , ICP, 2017.02 (ppm)	0515	2.419	4.838	9.801	3.487	0.5775	3			4
151.34	Acid Soluble Arsenic , ICP, EPA 3050B/6010C (ppm)	0230	5.560	0.1800				2			0
151.34	Acid Soluble Arsenic , ICP, EPA 3050B/6010C (ppm)	0515	15.20	4.526				2			0
151.34	Acid Soluble Arsenic , ICP, EPA 3050B/6010C (ppm)	0368	0.0000	0.0000				2			4
151.99	Acid Soluble Arsenic , Other (ppm)	0027	0.0020	0.0000	8.195	5.607	0.3065	5	-1.28		0
151.99	Acid Soluble Arsenic , Other (ppm)	0481	7.540	0.0000	8.195	5.607	0.3065	5	-0.10		0
151.99	Acid Soluble Arsenic , Other (ppm)	0519	8.790	0.0200	8.195	5.607	0.3065	5	0.09		0
151.99	Acid Soluble Arsenic , Other (ppm)	0476	8.874	0.4524	8.195	5.607	0.3065	5	0.11		0
151.99	Acid Soluble Arsenic , Other (ppm)	0520	15.77	1.060	8.195	5.607	0.3065	5	1.18		0
151.99	Acid Soluble Arsenic , Other (ppm)	0220	19.50	5.000	8.195	5.607	0.3065	5	1.76		1
165.00	Acid Soluble Boron , Spectrophotometric (1%)	0220	0.9520	0.0100	1.185	0.1546	0.0346	15	-1.51	Low	0
165.00	Acid Soluble Boron , Spectrophotometric (1%)	0506	1.000	0.0800	1.185	0.1546	0.0346	15	-1.20	Low	0
165.00	Acid Soluble Boron , Spectrophotometric (1%)	0540	1.021	0.0190	1.185	0.1546	0.0346	15	-1.06	OK	0
165.00	Acid Soluble Boron , Spectrophotometric (1%)	0309	1.025	0.0100	1.185	0.1546	0.0346	15	-1.04	OK	0
165.00	Acid Soluble Boron , Spectrophotometric (1%)	0535	1.150	0.1000	1.185	0.1546	0.0346	15	-0.23	OK	0
165.00	Acid Soluble Boron , Spectrophotometric (1%)	0531	1.155	0.0700	1.185	0.1546	0.0346	15	-0.19	OK	0
165.00	Acid Soluble Boron , Spectrophotometric (1%)	0539	1.175	0.0100	1.185	0.1546	0.0346	15	-0.07	OK	0
165.00	Acid Soluble Boron , Spectrophotometric (1%)	0481	1.205	0.0100	1.185	0.1546	0.0346	15	0.13	OK	0
165.00	Acid Soluble Boron , Spectrophotometric (1%)	0405	1.235	0.0100	1.185	0.1546	0.0346	15	0.32	OK	0
165.00	Acid Soluble Boron , Spectrophotometric (1%)	0169	1.242	0.0340	1.185	0.1546	0.0346	15	0.37	OK	0
165.00	Acid Soluble Boron , Spectrophotometric (1%)	0550	1.250	0.1000	1.185	0.1546	0.0346	15	0.42	OK	0
165.00	Acid Soluble Boron , Spectrophotometric (1%)	0534	1.290	0.0000	1.185	0.1546	0.0346	15	0.68	OK	0
165.00	Acid Soluble Boron , Spectrophotometric (1%)	0029	1.314	0.0100	1.185	0.1546	0.0346	15	0.83	OK	0
165.00	Acid Soluble Boron , Spectrophotometric (1%)	0498	1.345	0.0100	1.185	0.1546	0.0346	15	1.03	OK	0
165.00	Acid Soluble Boron , Spectrophotometric (1%)	0055	1.426	0.0460	1.185	0.1546	0.0346	15	1.56	High	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0521	0.9788	0.0000	1.284	0.1341	0.0321	19	-2.27	Low	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0537	1.030	0.0200	1.284	0.1341	0.0321	19	-1.89	Low	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0102	1.140	0.0000	1.284	0.1341	0.0321	19	-1.07	OK	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0136	1.160	0.0800	1.284	0.1341	0.0321	19	-0.92	OK	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0307	1.170	0.0200	1.284	0.1341	0.0321	19	-0.85	OK	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0043	1.195	0.0100	1.284	0.1341	0.0321	19	-0.66	OK	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0037	1.246	0.0070	1.284	0.1341	0.0321	19	-0.28	OK	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0542	1.285	0.0100	1.284	0.1341	0.0321	19	0.01	OK	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0040	1.299	0.0400	1.284	0.1341	0.0321	19	0.12	OK	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0292	1.300	0.0000	1.284	0.1341	0.0321	19	0.12	OK	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0354	1.315	0.0300	1.284	0.1341	0.0321	19	0.23	OK	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0086	1.321	0.1113	1.284	0.1341	0.0321	19	0.28	OK	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0433	1.338	0.0040	1.284	0.1341	0.0321	19	0.41	OK	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0444	1.340	0.0000	1.284	0.1341	0.0321	19	0.42	OK	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0494	1.377	0.0714	1.284	0.1341	0.0321	19	0.70	OK	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0390	1.390	0.0460	1.284	0.1341	0.0321	19	0.79	OK	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0422	1.430	0.0600	1.284	0.1341	0.0321	19	1.09	OK	0

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			Value	Range	Rob Mean	Rob SD	R-bar				
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0324	1.435	0.0700	1.284	0.1341	0.0321	19	1.13	OK	0
165.30	Acid Soluble Boron , ICP, test portion in 98... (1%)	0106	1.481	0.0311	1.284	0.1341	0.0321	19	1.48	High	0
165.99	Acid Soluble Boron , Other (1%)	0519	1.022	0.0040	1.311	0.1441	0.0294	25	-2.01	Low	0
165.99	Acid Soluble Boron , Other (1%)	0515	1.088	0.0250	1.311	0.1441	0.0294	25	-1.55	Low	0
165.99	Acid Soluble Boron , Other (1%)	0486	1.095	0.0100	1.311	0.1441	0.0294	25	-1.50	Low	0
165.99	Acid Soluble Boron , Other (1%)	0501	1.095	0.0100	1.311	0.1441	0.0294	25	-1.50	Low	0
165.99	Acid Soluble Boron , Other (1%)	0472	1.190	0.0600	1.311	0.1441	0.0294	25	-0.84	OK	0
165.99	Acid Soluble Boron , Other (1%)	0527	1.200	0.0200	1.311	0.1441	0.0294	25	-0.77	OK	0
165.99	Acid Soluble Boron , Other (1%)	0482	1.250	0.0600	1.311	0.1441	0.0294	25	-0.43	OK	0
165.99	Acid Soluble Boron , Other (1%)	0255	1.287	0.0310	1.311	0.1441	0.0294	25	-0.17	OK	0
165.99	Acid Soluble Boron , Other (1%)	0524	1.294	0.0116	1.311	0.1441	0.0294	25	-0.12	OK	0
165.99	Acid Soluble Boron , Other (1%)	0423	1.310	0.0020	1.311	0.1441	0.0294	25	-0.01	OK	0
165.99	Acid Soluble Boron , Other (1%)	0049	1.318	0.0630	1.311	0.1441	0.0294	25	0.05	OK	0
165.99	Acid Soluble Boron , Other (1%)	0117	1.319	0.0280	1.311	0.1441	0.0294	25	0.05	OK	0
165.99	Acid Soluble Boron , Other (1%)	0368	1.337	0.1108	1.311	0.1441	0.0294	25	0.18	OK	0
165.99	Acid Soluble Boron , Other (1%)	0230	1.340	0.0000	1.311	0.1441	0.0294	25	0.20	OK	0
165.99	Acid Soluble Boron , Other (1%)	0231	1.345	0.0100	1.311	0.1441	0.0294	25	0.23	OK	0
165.99	Acid Soluble Boron , Other (1%)	0483	1.360	0.0600	1.311	0.1441	0.0294	25	0.34	OK	0
165.99	Acid Soluble Boron , Other (1%)	0360	1.360	0.0200	1.311	0.1441	0.0294	25	0.34	OK	0
165.99	Acid Soluble Boron , Other (1%)	0042	1.370	0.0000	1.311	0.1441	0.0294	25	0.41	OK	0
165.99	Acid Soluble Boron , Other (1%)	0546	1.374	0.0010	1.311	0.1441	0.0294	25	0.43	OK	0
165.99	Acid Soluble Boron , Other (1%)	0476	1.379	0.0065	1.311	0.1441	0.0294	25	0.47	OK	0
165.99	Acid Soluble Boron , Other (1%)	0025	1.394	0.0320	1.311	0.1441	0.0294	25	0.57	OK	0
165.99	Acid Soluble Boron , Other (1%)	0291	1.410	0.0600	1.311	0.1441	0.0294	25	0.69	OK	0
165.99	Acid Soluble Boron , Other (1%)	0452	1.510	0.0000	1.311	0.1441	0.0294	25	1.38	OK	0
165.99	Acid Soluble Boron , Other (1%)	0325	1.585	0.0900	1.311	0.1441	0.0294	25	1.90	High	0
165.99	Acid Soluble Boron , Other (1%)	0513	1.680	0.0200	1.311	0.1441	0.0294	25	2.56	High	0
165.99	Acid Soluble Boron , Other (1%)	0552	1.395	0.3100	1.311	0.1441	0.0294	25	0.58	OK	1
171.00	Water Soluble Boron , AA, JAOAC 52.950 (%)	0540	1.005	0.0100				1			0
171.10	Water Soluble Boron , Spectrophotometric (%)	0531	0.9650	0.0500	0.9980	0.0277	0.0400	5	-1.19		0
171.10	Water Soluble Boron , Spectrophotometric (%)	0535	0.9750	0.0500	0.9980	0.0277	0.0400	5	-0.83		0
171.10	Water Soluble Boron , Spectrophotometric (%)	0539	1.000	0.0200	0.9980	0.0277	0.0400	5	0.07		0
171.10	Water Soluble Boron , Spectrophotometric (%)	0532	1.025	0.0700	0.9980	0.0277	0.0400	5	0.97		0
171.10	Water Soluble Boron , Spectrophotometric (%)	0533	1.025	0.0100	0.9980	0.0277	0.0400	5	0.97		0
171.99	Water Soluble Boron , Other (%)	0444	0.7350	0.0900	1.152	0.3889	0.0367	3	-1.07		0
171.99	Water Soluble Boron , Other (%)	0027	1.215	0.0100	1.152	0.3889	0.0367	3	0.16		0
171.99	Water Soluble Boron , Other (%)	0402	1.505	0.0100	1.152	0.3889	0.0367	3	0.91		0
181.00	Acid Soluble Cadmium , AA, test portion 2006... (ppm)	0550	176.4	336.3				2			0
181.00	Acid Soluble Cadmium , AA, test portion 2006... (ppm)	0498	662.0	4.000				2			0
181.30	Acid Soluble Cadmium , ICP (ppm)	0444	425.0	4.000	550.1	96.95	9.804	8	-1.18	NA	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0255	448.5	26.35	550.1	96.95	9.804	8	-0.96	NA	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0523	541.1	12.10	550.1	96.95	9.804	8	-0.09	NA	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0035	542.0	6.000	550.1	96.95	9.804	8	-0.08	NA	0



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181.30	Acid Soluble Cadmium , ICP (ppm)	0524	567.6	1.578	550.1	96.95	9.804	8	0.17	NA	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0096	577.5	4.400	550.1	96.95	9.804	8	0.26	NA	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0541	603.5	11.00	550.1	96.95	9.804	8	0.50	NA	0
181.30	Acid Soluble Cadmium , ICP (ppm)	0482	703.5	13.00	550.1	96.95	9.804	8	1.45	NA	0
181.33	Acid Soluble Cadmium , ICP, 2017.02 (ppm)	0527	482.9	7.070	586.7	63.93	20.22	7	-1.47	NA	0
181.33	Acid Soluble Cadmium , ICP, 2017.02 (ppm)	0086	563.5	1.160	586.7	63.93	20.22	7	-0.33	NA	0
181.33	Acid Soluble Cadmium , ICP, 2017.02 (ppm)	0037	570.6	8.372	586.7	63.93	20.22	7	-0.23	NA	0
181.33	Acid Soluble Cadmium , ICP, 2017.02 (ppm)	0494	583.8	40.09	586.7	63.93	20.22	7	-0.04	NA	0
181.33	Acid Soluble Cadmium , ICP, 2017.02 (ppm)	0117	595.3	41.20	586.7	63.93	20.22	7	0.12	NA	0
181.33	Acid Soluble Cadmium , ICP, 2017.02 (ppm)	0233	634.0	30.70	586.7	63.93	20.22	7	0.67	NA	0
181.33	Acid Soluble Cadmium , ICP, 2017.02 (ppm)	0515	668.9	12.95	586.7	63.93	20.22	7	1.16	NA	0
181.34	Acid Soluble Cadmium , ICP, EPA 3050B/6010C (ppm)	0368	458.8	140.5	595.7	131.2	144.4	3	-1.04		0
181.34	Acid Soluble Cadmium , ICP, EPA 3050B/6010C (ppm)	0230	608.0	4.000	595.7	131.2	144.4	3	0.09		0
181.34	Acid Soluble Cadmium , ICP, EPA 3050B/6010C (ppm)	0515	720.3	288.5	595.7	131.2	144.4	3	0.95		0
181.99	Acid Soluble Cadmium , Other (ppm)	0220	480.5	3.000	515.1	37.08	8.696	6	-0.83	NA	0
181.99	Acid Soluble Cadmium , Other (ppm)	0519	494.0	0.3000	515.1	37.08	8.696	6	-0.51	NA	0
181.99	Acid Soluble Cadmium , Other (ppm)	0027	500.2	23.29	515.1	37.08	8.696	6	-0.36	NA	0
181.99	Acid Soluble Cadmium , Other (ppm)	0476	511.2	8.386	515.1	37.08	8.696	6	-0.10	NA	0
181.99	Acid Soluble Cadmium , Other (ppm)	0520	534.3	12.30	515.1	37.08	8.696	6	0.46	NA	0
181.99	Acid Soluble Cadmium , Other (ppm)	0481	584.2	4.900	515.1	37.08	8.696	6	1.66	NA	0
181.99	Acid Soluble Cadmium , Other (ppm)	0506	511.0	88.00	515.1	37.08	8.696	6	-0.10	NA	1
191.00	Acid Soluble Chromium , AA, test portion 200... (ppm)	0550	156.7	72.73				2			0
191.00	Acid Soluble Chromium , AA, test portion 200... (ppm)	0498	220.0	1.100				2			0
191.30	Acid Soluble Chromium , ICP (ppm)	0444	151.5	5.000	206.4	45.41	10.15	6	-1.08	NA	0
191.30	Acid Soluble Chromium , ICP (ppm)	0541	180.5	5.000	206.4	45.41	10.15	6	-0.51	NA	0
191.30	Acid Soluble Chromium , ICP (ppm)	0523	189.0	1.500	206.4	45.41	10.15	6	-0.34	NA	0
191.30	Acid Soluble Chromium , ICP (ppm)	0096	216.3	23.40	206.4	45.41	10.15	6	0.19	NA	0
191.30	Acid Soluble Chromium , ICP (ppm)	0035	246.0	6.000	206.4	45.41	10.15	6	0.78	NA	0
191.30	Acid Soluble Chromium , ICP (ppm)	0482	255.0	20.00	206.4	45.41	10.15	6	0.95	NA	0
191.33	Acid Soluble Chromium , ICP, 2017.02 (ppm)	0527	213.2	5.530	242.8	24.98	11.01	6	-1.06	NA	0
191.33	Acid Soluble Chromium , ICP, 2017.02 (ppm)	0037	227.0	0.9300	242.8	24.98	11.01	6	-0.56	NA	0
191.33	Acid Soluble Chromium , ICP, 2017.02 (ppm)	0494	232.7	7.922	242.8	24.98	11.01	6	-0.36	NA	0
191.33	Acid Soluble Chromium , ICP, 2017.02 (ppm)	0086	254.1	36.24	242.8	24.98	11.01	6	0.40	NA	0
191.33	Acid Soluble Chromium , ICP, 2017.02 (ppm)	0515	258.6	6.142	242.8	24.98	11.01	6	0.56	NA	0
191.33	Acid Soluble Chromium , ICP, 2017.02 (ppm)	0117	271.5	9.300	242.8	24.98	11.01	6	1.02	NA	0
191.34	Acid Soluble Chromium , ICP, EPA 3050B/6010C... (ppm)	0368	155.7	33.36	191.4	32.58	29.87	3	-1.10		0
191.34	Acid Soluble Chromium , ICP, EPA 3050B/6010C... (ppm)	0515	199.0	45.25	191.4	32.58	29.87	3	0.23		0
191.34	Acid Soluble Chromium , ICP, EPA 3050B/6010C... (ppm)	0230	219.5	11.00	191.4	32.58	29.87	3	0.86		0
191.99	Acid Soluble Chromium , Other (ppm)	0519	141.9	0.0600	190.7	43.83	4.945	5	-0.97		0
191.99	Acid Soluble Chromium , Other (ppm)	0506	148.5	3.000	190.7	43.83	4.945	5	-0.84		0
191.99	Acid Soluble Chromium , Other (ppm)	0476	204.6	3.566	190.7	43.83	4.945	5	0.28		0
191.99	Acid Soluble Chromium , Other (ppm)	0481	215.7	2.200	190.7	43.83	4.945	5	0.50		0
191.99	Acid Soluble Chromium , Other (ppm)	0520	242.8	15.90	190.7	43.83	4.945	5	1.04		0



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			Value	Range	Rob Mean	Rob SD	R-bar				
191.99	Acid Soluble Chromium , Other (ppm)	0220	196.0	52.00	190.7	43.83	4.945	5	0.11		1
202.30	Acid Soluble Cobalt , ICP (ppm)	0096	192.3	0.9000	210.6	13.84	3.456	5	-1.33		0
202.30	Acid Soluble Cobalt , ICP (ppm)	0523	204.7	3.200	210.6	13.84	3.456	5	-0.43		0
202.30	Acid Soluble Cobalt , ICP (ppm)	0482	207.5	1.000	210.6	13.84	3.456	5	-0.23		0
202.30	Acid Soluble Cobalt , ICP (ppm)	0035	222.5	3.000	210.6	13.84	3.456	5	0.86		0
202.30	Acid Soluble Cobalt , ICP (ppm)	0524	226.2	9.180	210.6	13.84	3.456	5	1.12		0
202.32	Acid Soluble Cobalt , ICP, 2006.03 (ppm)	0423	213.9	3.500				1			0
202.33	Acid Soluble Cobalt , ICP, 2017.02 (ppm)	0550	137.3	26.06	228.2	21.51	10.45	9	-3.90	Low	0
202.33	Acid Soluble Cobalt , ICP, 2017.02 (ppm)	0527	202.4	1.450	228.2	21.51	10.45	9	-1.11	OK	0
202.33	Acid Soluble Cobalt , ICP, 2017.02 (ppm)	0086	218.4	1.800	228.2	21.51	10.45	9	-0.42	OK	0
202.33	Acid Soluble Cobalt , ICP, 2017.02 (ppm)	0494	228.6	9.950	228.2	21.51	10.45	9	0.02	OK	0
202.33	Acid Soluble Cobalt , ICP, 2017.02 (ppm)	0037	236.0	0.8510	228.2	21.51	10.45	9	0.34	OK	0
202.33	Acid Soluble Cobalt , ICP, 2017.02 (ppm)	0515	237.4	20.46	228.2	21.51	10.45	9	0.40	OK	0
202.33	Acid Soluble Cobalt , ICP, 2017.02 (ppm)	0233	241.1	1.200	228.2	21.51	10.45	9	0.56	OK	0
202.33	Acid Soluble Cobalt , ICP, 2017.02 (ppm)	0117	241.1	6.400	228.2	21.51	10.45	9	0.56	OK	0
202.33	Acid Soluble Cobalt , ICP, 2017.02 (ppm)	0546	252.6	25.90	228.2	21.51	10.45	9	1.05	OK	0
202.34	Acid Soluble Cobalt , ICP, EPA 3050B/6010C (ppm)	0368	186.6	30.85	218.3	27.89	19.44	3	-1.14		0
202.34	Acid Soluble Cobalt , ICP, EPA 3050B/6010C (ppm)	0515	229.3	25.48	218.3	27.89	19.44	3	0.39		0
202.34	Acid Soluble Cobalt , ICP, EPA 3050B/6010C (ppm)	0230	239.0	2.000	218.3	27.89	19.44	3	0.74		0
202.99	Acid Soluble Cobalt , Other (ppm)	0255	172.0	8.436	206.6	30.66	8.077	6	-1.00	OK	0
202.99	Acid Soluble Cobalt , Other (ppm)	0027	183.6	9.640	206.6	30.66	8.077	6	-0.67	OK	0
202.99	Acid Soluble Cobalt , Other (ppm)	0476	194.1	7.337	206.6	30.66	8.077	6	-0.36	OK	0
202.99	Acid Soluble Cobalt , Other (ppm)	0520	222.0	10.30	206.6	30.66	8.077	6	0.45	OK	0
202.99	Acid Soluble Cobalt , Other (ppm)	0481	228.7	12.60	206.6	30.66	8.077	6	0.64	OK	0
202.99	Acid Soluble Cobalt , Other (ppm)	0519	239.0	0.1500	206.6	30.66	8.077	6	0.94	OK	0
202.99	Acid Soluble Cobalt , Other (ppm)	0220	225.0	70.00	206.6	30.66	8.077	6	0.54	OK	1
221.00	Acid Soluble Copper , AA, inorganic 965.09 (1%)	0513	0.7475	0.0150	0.9457	0.0874	0.0241	15	-2.27	Low	0
221.00	Acid Soluble Copper , AA, inorganic 965.09 (1%)	0498	0.8400	0.0600	0.9457	0.0874	0.0241	15	-1.21	Low	0
221.00	Acid Soluble Copper , AA, inorganic 965.09 (1%)	0485	0.8503	0.0082	0.9457	0.0874	0.0241	15	-1.09	OK	0
221.00	Acid Soluble Copper , AA, inorganic 965.09 (1%)	0029	0.8570	0.0179	0.9457	0.0874	0.0241	15	-1.02	OK	0
221.00	Acid Soluble Copper , AA, inorganic 965.09 (1%)	0105	0.8880	0.0040	0.9457	0.0874	0.0241	15	-0.66	OK	0
221.00	Acid Soluble Copper , AA, inorganic 965.09 (1%)	0040	0.9409	0.0061	0.9457	0.0874	0.0241	15	-0.06	OK	0
221.00	Acid Soluble Copper , AA, inorganic 965.09 (1%)	0534	0.9500	0.0000	0.9457	0.0874	0.0241	15	0.05	OK	0
221.00	Acid Soluble Copper , AA, inorganic 965.09 (1%)	0531	0.9650	0.0300	0.9457	0.0874	0.0241	15	0.22	OK	0
221.00	Acid Soluble Copper , AA, inorganic 965.09 (1%)	0533	0.9850	0.0100	0.9457	0.0874	0.0241	15	0.45	OK	0
221.00	Acid Soluble Copper , AA, inorganic 965.09 (1%)	0540	0.9900	0.0200	0.9457	0.0874	0.0241	15	0.51	OK	0
221.00	Acid Soluble Copper , AA, inorganic 965.09 (1%)	0537	1.005	0.0300	0.9457	0.0874	0.0241	15	0.68	OK	0
221.00	Acid Soluble Copper , AA, inorganic 965.09 (1%)	0539	1.005	0.0100	0.9457	0.0874	0.0241	15	0.68	OK	0
221.00	Acid Soluble Copper , AA, inorganic 965.09 (1%)	0536	1.010	0.0200	0.9457	0.0874	0.0241	15	0.74	OK	0
221.00	Acid Soluble Copper , AA, inorganic 965.09 (1%)	0535	1.025	0.0500	0.9457	0.0874	0.0241	15	0.91	OK	0
221.00	Acid Soluble Copper , AA, inorganic 965.09 (1%)	0532	1.060	0.0800	0.9457	0.0874	0.0241	15	1.31	High	0
221.00	Acid Soluble Copper , AA, inorganic 965.09 (1%)	0550	0.8450	0.2300	0.9457	0.0874	0.0241	15	-1.15	Low	1
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0035	0.7795	0.0470	0.8844	0.0533	0.0299	21	-1.97	Low	0

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			Value	Range	Rob Mean	Rob SD	R-bar				
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0102	0.7800	0.0000	0.8844	0.0533	0.0299	21	-1.96	Low	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0324	0.8250	0.0500	0.8844	0.0533	0.0299	21	-1.12	OK	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0049	0.8513	0.0198	0.8844	0.0533	0.0299	21	-0.62	OK	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0433	0.8545	0.0050	0.8844	0.0533	0.0299	21	-0.56	OK	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0307	0.8550	0.0260	0.8844	0.0533	0.0299	21	-0.55	OK	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0444	0.8550	0.0100	0.8844	0.0533	0.0299	21	-0.55	OK	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0255	0.8555	0.0250	0.8844	0.0533	0.0299	21	-0.54	OK	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0360	0.8647	0.0202	0.8844	0.0533	0.0299	21	-0.37	OK	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0472	0.8700	0.0000	0.8844	0.0533	0.0299	21	-0.27	OK	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0231	0.8950	0.0100	0.8844	0.0533	0.0299	21	0.20	OK	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0354	0.8950	0.0700	0.8844	0.0533	0.0299	21	0.20	OK	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0234	0.9000	0.0000	0.8844	0.0533	0.0299	21	0.29	OK	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0402	0.9000	0.0000	0.8844	0.0533	0.0299	21	0.29	OK	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0552	0.9000	0.0400	0.8844	0.0533	0.0299	21	0.29	OK	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0230	0.9090	0.0320	0.8844	0.0533	0.0299	21	0.46	OK	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0041	0.9150	0.0900	0.8844	0.0533	0.0299	21	0.57	OK	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0482	0.9400	0.0800	0.8844	0.0533	0.0299	21	1.04	OK	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0452	0.9500	0.0200	0.8844	0.0533	0.0299	21	1.23	OK	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0096	0.9695	0.0090	0.8844	0.0533	0.0299	21	1.60	OK	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0422	0.9830	0.0740	0.8844	0.0533	0.0299	21	1.85	High	0
221.30	Acid Soluble Copper , ICP, test portion inor... (1%)	0483	0.9705	0.1590	0.8844	0.0533	0.0299	21	1.62	OK	1
221.32	Acid Soluble Copper , ICP, test portion 2006... (1%)	0292	0.8500	0.0000	0.9434	0.1442	0.0100	4	-0.65		0
221.32	Acid Soluble Copper , ICP, test portion 2006... (1%)	0521	0.8534	0.0000	0.9434	0.1442	0.0100	4	-0.62		0
221.32	Acid Soluble Copper , ICP, test portion 2006... (1%)	0043	0.9150	0.0100	0.9434	0.1442	0.0100	4	-0.20		0
221.32	Acid Soluble Copper , ICP, test portion 2006... (1%)	0423	1.155	0.0300	0.9434	0.1442	0.0100	4	1.47		0
221.33	Acid Soluble Copper , ICP, 2017.02 (1%)	0486	0.7550	0.0100	0.8772	0.0597	0.0293	16	-2.05	Low	0
221.33	Acid Soluble Copper , ICP, 2017.02 (1%)	0025	0.8189	0.0132	0.8772	0.0597	0.0293	16	-0.98	OK	0
221.33	Acid Soluble Copper , ICP, 2017.02 (1%)	0136	0.8450	0.0100	0.8772	0.0597	0.0293	16	-0.54	OK	0
221.33	Acid Soluble Copper , ICP, 2017.02 (1%)	0233	0.8455	0.0042	0.8772	0.0597	0.0293	16	-0.53	OK	0
221.33	Acid Soluble Copper , ICP, 2017.02 (1%)	0177	0.8468	0.0075	0.8772	0.0597	0.0293	16	-0.51	OK	0
221.33	Acid Soluble Copper , ICP, 2017.02 (1%)	0055	0.8472	0.0043	0.8772	0.0597	0.0293	16	-0.50	OK	0
221.33	Acid Soluble Copper , ICP, 2017.02 (1%)	0494	0.8574	0.0083	0.8772	0.0597	0.0293	16	-0.33	OK	0
221.33	Acid Soluble Copper , ICP, 2017.02 (1%)	0086	0.8642	0.0556	0.8772	0.0597	0.0293	16	-0.22	OK	0
221.33	Acid Soluble Copper , ICP, 2017.02 (1%)	0493	0.8700	0.0200	0.8772	0.0597	0.0293	16	-0.12	OK	0
221.33	Acid Soluble Copper , ICP, 2017.02 (1%)	0037	0.8730	0.0300	0.8772	0.0597	0.0293	16	-0.07	OK	0
221.33	Acid Soluble Copper , ICP, 2017.02 (1%)	0546	0.8765	0.0470	0.8772	0.0597	0.0293	16	-0.01	OK	0
221.33	Acid Soluble Copper , ICP, 2017.02 (1%)	0106	0.8872	0.0185	0.8772	0.0597	0.0293	16	0.17	OK	0
221.33	Acid Soluble Copper , ICP, 2017.02 (1%)	0117	0.9158	0.0718	0.8772	0.0597	0.0293	16	0.65	OK	0
221.33	Acid Soluble Copper , ICP, 2017.02 (1%)	0325	0.9800	0.1200	0.8772	0.0597	0.0293	16	1.72	High	0
221.33	Acid Soluble Copper , ICP, 2017.02 (1%)	0527	0.9900	0.0000	0.8772	0.0597	0.0293	16	1.89	High	0
221.33	Acid Soluble Copper , ICP, 2017.02 (1%)	0515	1.148	0.0483	0.8772	0.0597	0.0293	16	4.53	High	0
221.99	Acid Soluble Copper , Other (1%)	0476	0.7587	0.0373	0.8878	0.0760	0.0219	16	-1.70	Low	0
221.99	Acid Soluble Copper , Other (1%)	0506	0.7900	0.0000	0.8878	0.0760	0.0219	16	-1.29	Low	0

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221.99	Acid Soluble Copper , Other (1%)	0501	0.8000	0.0000	0.8878	0.0760	0.0219	16	-1.16	OK	0
221.99	Acid Soluble Copper , Other (1%)	0368	0.8087	0.0175	0.8878	0.0760	0.0219	16	-1.04	OK	0
221.99	Acid Soluble Copper , Other (1%)	0481	0.8600	0.0200	0.8878	0.0760	0.0219	16	-0.37	OK	0
221.99	Acid Soluble Copper , Other (1%)	0405	0.8700	0.0200	0.8878	0.0760	0.0219	16	-0.23	OK	0
221.99	Acid Soluble Copper , Other (1%)	0523	0.8890	0.0280	0.8878	0.0760	0.0219	16	0.02	OK	0
221.99	Acid Soluble Copper , Other (1%)	0390	0.8923	0.0340	0.8878	0.0760	0.0219	16	0.06	OK	0
221.99	Acid Soluble Copper , Other (1%)	0515	0.8952	0.0568	0.8878	0.0760	0.0219	16	0.10	OK	0
221.99	Acid Soluble Copper , Other (1%)	0541	0.9165	0.0330	0.8878	0.0760	0.0219	16	0.38	OK	0
221.99	Acid Soluble Copper , Other (1%)	0027	0.9275	0.0330	0.8878	0.0760	0.0219	16	0.52	OK	0
221.99	Acid Soluble Copper , Other (1%)	0291	0.9300	0.0200	0.8878	0.0760	0.0219	16	0.56	OK	0
221.99	Acid Soluble Copper , Other (1%)	0524	0.9360	0.0078	0.8878	0.0760	0.0219	16	0.63	OK	0
221.99	Acid Soluble Copper , Other (1%)	0389	0.9385	0.0030	0.8878	0.0760	0.0219	16	0.67	OK	0
221.99	Acid Soluble Copper , Other (1%)	0519	0.9750	0.0100	0.8878	0.0760	0.0219	16	1.15	OK	0
221.99	Acid Soluble Copper , Other (1%)	0520	1.175	0.0300	0.8878	0.0760	0.0219	16	3.78	High	0
221.99	Acid Soluble Copper , Other (1%)	0042	0.9400	0.1200	0.8878	0.0760	0.0219	16	0.69	OK	1
241.00	Acid Soluble Iron , AA, inorganic 965.09 (%)	0513	1.835	0.0300				2			0
241.00	Acid Soluble Iron , AA, inorganic 965.09 (%)	0105	2.080	0.1990				2			0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0472	1.945	0.0300	2.136	0.1340	0.0612	10	-1.33	OK	0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0096	1.985	0.0100	2.136	0.1340	0.0612	10	-1.05	OK	0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0552	2.065	0.0700	2.136	0.1340	0.0612	10	-0.50	OK	0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0049	2.086	0.0316	2.136	0.1340	0.0612	10	-0.35	OK	0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0483	2.145	0.0900	2.136	0.1340	0.0612	10	0.06	OK	0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0041	2.180	0.0800	2.136	0.1340	0.0612	10	0.30	OK	0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0035	2.185	0.0700	2.136	0.1340	0.0612	10	0.34	OK	0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0402	2.200	0.0000	2.136	0.1340	0.0612	10	0.44	OK	0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0354	2.235	0.2100	2.136	0.1340	0.0612	10	0.68	OK	0
241.30	Acid Soluble Iron , ICP, test portion inorgan... (%)	0482	2.350	0.0200	2.136	0.1340	0.0612	10	1.48	OK	0
241.32	Acid Soluble Iron , ICP, test portion 2006.03... (%)	0521	1.749	0.0000				2			0
241.32	Acid Soluble Iron , ICP, test portion 2006.03... (%)	0423	1.980	0.0100				2			0
241.33	Acid Soluble Iron , ICP, 2017.02 (%)	0527	1.760	0.0600	2.082	0.1820	0.1137	10	-1.64	Low	0
241.33	Acid Soluble Iron , ICP, 2017.02 (%)	0494	1.903	0.0884	2.082	0.1820	0.1137	10	-0.92	OK	0
241.33	Acid Soluble Iron , ICP, 2017.02 (%)	0086	1.937	0.1301	2.082	0.1820	0.1137	10	-0.74	OK	0
241.33	Acid Soluble Iron , ICP, 2017.02 (%)	0117	2.072	0.0270	2.082	0.1820	0.1137	10	-0.05	OK	0
241.33	Acid Soluble Iron , ICP, 2017.02 (%)	0055	2.089	0.0050	2.082	0.1820	0.1137	10	0.03	OK	0
241.33	Acid Soluble Iron , ICP, 2017.02 (%)	0493	2.100	0.1000	2.082	0.1820	0.1137	10	0.09	OK	0
241.33	Acid Soluble Iron , ICP, 2017.02 (%)	0546	2.140	0.0360	2.082	0.1820	0.1137	10	0.30	OK	0
241.33	Acid Soluble Iron , ICP, 2017.02 (%)	0034	2.197	0.0940	2.082	0.1820	0.1137	10	0.59	OK	0
241.33	Acid Soluble Iron , ICP, 2017.02 (%)	0515	2.245	0.2286	2.082	0.1820	0.1137	10	0.83	OK	0
241.33	Acid Soluble Iron , ICP, 2017.02 (%)	0106	2.328	0.3683	2.082	0.1820	0.1137	10	1.26	High	0
241.99	Acid Soluble Iron , Other (%)	0524	1.928	0.1413	2.139	0.2570	0.1109	3	-0.82		0
241.99	Acid Soluble Iron , Other (%)	0515	2.062	0.1414	2.139	0.2570	0.1109	3	-0.30		0
241.99	Acid Soluble Iron , Other (%)	0389	2.425	0.0500	2.139	0.2570	0.1109	3	1.11		0
251.00	Acid Soluble Lead , AA, test portion 2006.03... (ppm)	0550	336.6	62.96				2			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
251.00	Acid Soluble Lead , AA, test portion 2006.03... (ppm)	0498	498.0	10.00				2			0
251.30	Acid Soluble Lead , ICP (ppm)	0444	429.0	20.00	570.6	97.84	25.61	8	-1.32	NA	0
251.30	Acid Soluble Lead , ICP (ppm)	0523	466.8	2.200	570.6	97.84	25.61	8	-0.97	NA	0
251.30	Acid Soluble Lead , ICP (ppm)	0482	550.5	3.000	570.6	97.84	25.61	8	-0.19	NA	0
251.30	Acid Soluble Lead , ICP (ppm)	0255	581.4	62.80	570.6	97.84	25.61	8	0.10	NA	0
251.30	Acid Soluble Lead , ICP (ppm)	0096	582.6	20.20	570.6	97.84	25.61	8	0.11	NA	0
251.30	Acid Soluble Lead , ICP (ppm)	0541	631.5	47.00	570.6	97.84	25.61	8	0.57	NA	0
251.30	Acid Soluble Lead , ICP (ppm)	0524	647.4	2.716	570.6	97.84	25.61	8	0.72	NA	0
251.30	Acid Soluble Lead , ICP (ppm)	0035	675.5	47.00	570.6	97.84	25.61	8	0.98	NA	0
251.33	Acid Soluble Lead , ICP, 2017.02 (ppm)	0086	561.4	27.78	623.4	45.77	14.43	7	-1.22	NA	0
251.33	Acid Soluble Lead , ICP, 2017.02 (ppm)	0037	600.3	14.44	623.4	45.77	14.43	7	-0.46	NA	0
251.33	Acid Soluble Lead , ICP, 2017.02 (ppm)	0117	607.2	7.500	623.4	45.77	14.43	7	-0.32	NA	0
251.33	Acid Soluble Lead , ICP, 2017.02 (ppm)	0527	609.7	8.600	623.4	45.77	14.43	7	-0.27	NA	0
251.33	Acid Soluble Lead , ICP, 2017.02 (ppm)	0494	643.6	16.98	623.4	45.77	14.43	7	0.40	NA	0
251.33	Acid Soluble Lead , ICP, 2017.02 (ppm)	0515	665.5	3.033	623.4	45.77	14.43	7	0.83	NA	0
251.33	Acid Soluble Lead , ICP, 2017.02 (ppm)	0233	676.0	22.70	623.4	45.77	14.43	7	1.04	NA	0
251.34	Acid Soluble Lead , ICP, EPA 3050B/6010C (ppm)	0368	513.0	107.0	621.9	111.8	137.8	3	-0.97		0
251.34	Acid Soluble Lead , ICP, EPA 3050B/6010C (ppm)	0230	616.5	3.000	621.9	111.8	137.8	3	-0.05		0
251.34	Acid Soluble Lead , ICP, EPA 3050B/6010C (ppm)	0515	736.3	303.4	621.9	111.8	137.8	3	1.02		0
251.99	Acid Soluble Lead , Other (ppm)	0519	486.2	3.610	574.0	85.63	7.859	6	-0.91	NA	0
251.99	Acid Soluble Lead , Other (ppm)	0520	520.8	4.600	574.0	85.63	7.859	6	-0.55	NA	0
251.99	Acid Soluble Lead , Other (ppm)	0476	528.3	11.05	574.0	85.63	7.859	6	-0.48	NA	0
251.99	Acid Soluble Lead , Other (ppm)	0506	608.5	15.00	574.0	85.63	7.859	6	0.36	NA	0
251.99	Acid Soluble Lead , Other (ppm)	0481	610.8	1.900	574.0	85.63	7.859	6	0.38	NA	0
251.99	Acid Soluble Lead , Other (ppm)	0220	689.5	11.00	574.0	85.63	7.859	6	1.20	NA	0
261.11	Acid Soluble Manganese , AA, total Mn (5%)	0537	6.110	0.0200				2			0
261.11	Acid Soluble Manganese , AA, total Mn (5%)	0498	8.525	0.3500				2			0
261.12	Acid Soluble Manganese , AA, inorganic 965.0... (5%)	0532	5.605	0.2300	7.644	1.424	0.1517	13	-1.43	Low	0
261.12	Acid Soluble Manganese , AA, inorganic 965.0... (5%)	0540	6.500	0.4000	7.644	1.424	0.1517	13	-0.80	Low	0
261.12	Acid Soluble Manganese , AA, inorganic 965.0... (5%)	0533	6.750	0.1000	7.644	1.424	0.1517	13	-0.63	Low	0
261.12	Acid Soluble Manganese , AA, inorganic 965.0... (5%)	0536	6.755	0.0500	7.644	1.424	0.1517	13	-0.62	Low	0
261.12	Acid Soluble Manganese , AA, inorganic 965.0... (5%)	0539	6.795	0.0300	7.644	1.424	0.1517	13	-0.60	Low	0
261.12	Acid Soluble Manganese , AA, inorganic 965.0... (5%)	0531	7.025	0.1500	7.644	1.424	0.1517	13	-0.43	OK	0
261.12	Acid Soluble Manganese , AA, inorganic 965.0... (5%)	0535	7.100	0.2000	7.644	1.424	0.1517	13	-0.38	OK	0
261.12	Acid Soluble Manganese , AA, inorganic 965.0... (5%)	0513	7.785	0.1100	7.644	1.424	0.1517	13	0.10	OK	0
261.12	Acid Soluble Manganese , AA, inorganic 965.0... (5%)	0040	8.347	0.0870	7.644	1.424	0.1517	13	0.49	OK	0
261.12	Acid Soluble Manganese , AA, inorganic 965.0... (5%)	0485	8.802	0.1230	7.644	1.424	0.1517	13	0.81	High	0
261.12	Acid Soluble Manganese , AA, inorganic 965.0... (5%)	0550	8.805	0.2300	7.644	1.424	0.1517	13	0.82	High	0
261.12	Acid Soluble Manganese , AA, inorganic 965.0... (5%)	0029	9.459	0.1200	7.644	1.424	0.1517	13	1.27	High	0
261.12	Acid Soluble Manganese , AA, inorganic 965.0... (5%)	0105	9.639	0.1420	7.644	1.424	0.1517	13	1.40	High	0
261.14	Acid Soluble Manganese , AA, 965.09, test po... (5%)	0292	8.290	0.0000				1			0
261.30	Acid Soluble Manganese , ICP, test portion 9... (5%)	0541	3.680	0.3600	8.459	1.617	0.3287	13	-2.96	Low	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (5%)	0102	6.265	0.0500	8.459	1.617	0.3287	13	-1.36	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				
261.30	Acid Soluble Manganese , ICP, test portion 9... (5%)	0307	6.385	0.0900	8.459	1.617	0.3287	13	-1.28	Low	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (5%)	0472	8.350	0.3000	8.459	1.617	0.3287	13	-0.07	OK	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (5%)	0073	8.455	0.0900	8.459	1.617	0.3287	13	0.00	OK	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (5%)	0433	8.471	0.0090	8.459	1.617	0.3287	13	0.01	OK	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (5%)	0096	8.713	0.0200	8.459	1.617	0.3287	13	0.16	OK	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (5%)	0041	8.950	1.300	8.459	1.617	0.3287	13	0.30	OK	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (5%)	0390	9.008	0.1040	8.459	1.617	0.3287	13	0.34	OK	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (5%)	0354	9.100	0.1600	8.459	1.617	0.3287	13	0.40	OK	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (5%)	0035	9.505	0.9900	8.459	1.617	0.3287	13	0.65	High	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (5%)	0452	10.32	0.0700	8.459	1.617	0.3287	13	1.15	High	0
261.30	Acid Soluble Manganese , ICP, test portion 9... (5%)	0422	10.42	0.7300	8.459	1.617	0.3287	13	1.21	High	0
261.31	Acid Soluble Manganese , ICP, test portion 9... (5%)	0324	8.785	0.4700	9.089	0.4517	0.2340	5	-0.67		0
261.31	Acid Soluble Manganese , ICP, test portion 9... (5%)	0234	8.850	0.1000	9.089	0.4517	0.2340	5	-0.53		0
261.31	Acid Soluble Manganese , ICP, test portion 9... (5%)	0230	8.940	0.0600	9.089	0.4517	0.2340	5	-0.33		0
261.31	Acid Soluble Manganese , ICP, test portion 9... (5%)	0360	8.985	0.1100	9.089	0.4517	0.2340	5	-0.23		0
261.31	Acid Soluble Manganese , ICP, test portion 9... (5%)	0482	9.885	0.4300	9.089	0.4517	0.2340	5	1.76		0
261.32	Acid Soluble Manganese , ICP, test portion i... (5%)	0444	8.550	0.0400	8.845	0.2527	0.2728	6	-1.04	OK	0
261.32	Acid Soluble Manganese , ICP, test portion i... (5%)	0552	8.650	0.2000	8.845	0.2527	0.2728	6	-0.69	OK	0
261.32	Acid Soluble Manganese , ICP, test portion i... (5%)	0402	8.850	0.1000	8.845	0.2527	0.2728	6	0.02	OK	0
261.32	Acid Soluble Manganese , ICP, test portion i... (5%)	0483	8.890	0.4400	8.845	0.2527	0.2728	6	0.16	OK	0
261.32	Acid Soluble Manganese , ICP, test portion i... (5%)	0049	8.956	0.7268	8.845	0.2527	0.2728	6	0.39	OK	0
261.32	Acid Soluble Manganese , ICP, test portion i... (5%)	0231	9.175	0.1300	8.845	0.2527	0.2728	6	1.16	OK	0
261.33	Acid Soluble Manganese , ICP, test portion o... (5%)	0086	8.900	0.7448				1			0
261.34	Acid Soluble Manganese , ICP, test portion 2... (5%)	0542	7.868	0.2210	9.284	1.028	0.1178	4	-1.38		0
261.34	Acid Soluble Manganese , ICP, test portion 2... (5%)	0043	9.185	0.1100	9.284	1.028	0.1178	4	-0.10		0
261.34	Acid Soluble Manganese , ICP, test portion 2... (5%)	0423	10.02	0.1400	9.284	1.028	0.1178	4	0.72		0
261.34	Acid Soluble Manganese , ICP, test portion 2... (5%)	0521	10.06	0.0000	9.284	1.028	0.1178	4	0.76		0
261.35	Acid Soluble Manganese , ICP, 2017.02 (5%)	0486	4.545	0.0900	8.523	0.7805	0.1390	15	-5.10	Low	0
261.35	Acid Soluble Manganese , ICP, 2017.02 (5%)	0515	5.667	0.0597	8.523	0.7805	0.1390	15	-3.66	Low	0
261.35	Acid Soluble Manganese , ICP, 2017.02 (5%)	0527	6.925	0.0500	8.523	0.7805	0.1390	15	-2.05	Low	0
261.35	Acid Soluble Manganese , ICP, 2017.02 (5%)	0493	8.050	0.1000	8.523	0.7805	0.1390	15	-0.61	OK	0
261.35	Acid Soluble Manganese , ICP, 2017.02 (5%)	0136	8.480	0.3000	8.523	0.7805	0.1390	15	-0.06	OK	0
261.35	Acid Soluble Manganese , ICP, 2017.02 (5%)	0034	8.504	0.1350	8.523	0.7805	0.1390	15	-0.03	OK	0
261.35	Acid Soluble Manganese , ICP, 2017.02 (5%)	0117	8.634	0.1330	8.523	0.7805	0.1390	15	0.14	OK	0
261.35	Acid Soluble Manganese , ICP, 2017.02 (5%)	0037	8.718	0.3285	8.523	0.7805	0.1390	15	0.25	OK	0
261.35	Acid Soluble Manganese , ICP, 2017.02 (5%)	0177	8.728	0.0141	8.523	0.7805	0.1390	15	0.26	OK	0
261.35	Acid Soluble Manganese , ICP, 2017.02 (5%)	0055	8.862	0.2250	8.523	0.7805	0.1390	15	0.43	OK	0
261.35	Acid Soluble Manganese , ICP, 2017.02 (5%)	0106	9.052	0.1552	8.523	0.7805	0.1390	15	0.68	OK	0
261.35	Acid Soluble Manganese , ICP, 2017.02 (5%)	0494	9.107	0.0506	8.523	0.7805	0.1390	15	0.75	OK	0
261.35	Acid Soluble Manganese , ICP, 2017.02 (5%)	0233	9.128	0.0880	8.523	0.7805	0.1390	15	0.77	OK	0
261.35	Acid Soluble Manganese , ICP, 2017.02 (5%)	0025	9.256	0.2410	8.523	0.7805	0.1390	15	0.94	OK	0
261.35	Acid Soluble Manganese , ICP, 2017.02 (5%)	0546	9.276	0.1150	8.523	0.7805	0.1390	15	0.96	OK	0
261.99	Acid Soluble Manganese , Other (5%)	0519	5.000	0.0400	8.329	1.583	0.1547	13	-2.10	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				
261.99	Acid Soluble Manganese , Other (5%)	0506	6.245	0.1100	8.329	1.583	0.1547	13	-1.32	Low	0
261.99	Acid Soluble Manganese , Other (5%)	0255	6.451	0.0260	8.329	1.583	0.1547	13	-1.19	Low	0
261.99	Acid Soluble Manganese , Other (5%)	0476	7.224	0.4894	8.329	1.583	0.1547	13	-0.70	Low	0
261.99	Acid Soluble Manganese , Other (5%)	0042	8.150	0.0800	8.329	1.583	0.1547	13	-0.11	OK	0
261.99	Acid Soluble Manganese , Other (5%)	0481	8.715	0.0500	8.329	1.583	0.1547	13	0.24	OK	0
261.99	Acid Soluble Manganese , Other (5%)	0405	8.870	0.2200	8.329	1.583	0.1547	13	0.34	OK	0
261.99	Acid Soluble Manganese , Other (5%)	0524	8.995	0.1327	8.329	1.583	0.1547	13	0.42	OK	0
261.99	Acid Soluble Manganese , Other (5%)	0368	9.192	0.2558	8.329	1.583	0.1547	13	0.55	High	0
261.99	Acid Soluble Manganese , Other (5%)	0027	9.201	0.3270	8.329	1.583	0.1547	13	0.55	High	0
261.99	Acid Soluble Manganese , Other (5%)	0291	9.570	0.0200	8.329	1.583	0.1547	13	0.78	High	0
261.99	Acid Soluble Manganese , Other (5%)	0389	9.745	0.0100	8.329	1.583	0.1547	13	0.89	High	0
261.99	Acid Soluble Manganese , Other (5%)	0523	9.965	0.2500	8.329	1.583	0.1547	13	1.03	High	0
261.99	Acid Soluble Manganese , Other (5%)	0515	5.090	1.367	8.329	1.583	0.1547	13	-2.05	Low	1
271.30	Water Soluble Manganese , ICP, Ext. 972.03 (%)	0444	1.440	0.0400				1			0
281.00	Acid Soluble Mercury , AA (ppm)	0550	0.1400	0.0000	5.117	8.508	0.2800	3	-0.58		0
281.00	Acid Soluble Mercury , AA (ppm)	0506	0.2700	0.0600	5.117	8.508	0.2800	3	-0.57		0
281.00	Acid Soluble Mercury , AA (ppm)	0117	14.94	0.7800	5.117	8.508	0.2800	3	1.15		0
281.30	Acid Soluble Mercury , ICP (ppm)	0444	2.070	0.1800	9.667	12.41	0.5733	3	-0.61		0
281.30	Acid Soluble Mercury , ICP (ppm)	0541	2.945	1.110	9.667	12.41	0.5733	3	-0.54		0
281.30	Acid Soluble Mercury , ICP (ppm)	0527	23.99	0.4300	9.667	12.41	0.5733	3	1.15		0
281.30	Acid Soluble Mercury , ICP (ppm)	0515	0.0000	0.0000	9.667	12.41	0.5733	3			4
281.99	Acid Soluble Mercury , Other (ppm)	0519	0.2200	0.0200	14.73	15.54	0.3129	3	-0.93		0
281.99	Acid Soluble Mercury , Other (ppm)	0520	12.85	0.1000	14.73	15.54	0.3129	3	-0.12		0
281.99	Acid Soluble Mercury , Other (ppm)	0476	31.13	0.8187	14.73	15.54	0.3129	3	1.06		0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0521	30.71	0.0000	345.3	129.4	13.92	9	-2.24	Low	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0519	168.6	0.8200	345.3	129.4	13.92	9	-1.26	Low	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0433	368.6	0.1000	345.3	129.4	13.92	9	0.17	OK	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0096	370.0	1.400	345.3	129.4	13.92	9	0.18	OK	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0541	377.0	6.000	345.3	129.4	13.92	9	0.23	OK	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0049	381.5	33.00	345.3	129.4	13.92	9	0.26	OK	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0035	382.5	45.00	345.3	129.4	13.92	9	0.27	OK	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0524	396.3	31.55	345.3	129.4	13.92	9	0.36	OK	0
289.30	Acid Soluble Molybdenum , ICP (ppm)	0255	512.1	7.400	345.3	129.4	13.92	9	1.19	High	0
289.33	Acid Soluble Molybdenum , ICP, 2017.02 (ppm)	0550	224.5	41.00	375.1	37.45	11.86	11	-3.76	Low	0
289.33	Acid Soluble Molybdenum , ICP, 2017.02 (ppm)	0527	328.2	8.510	375.1	37.45	11.86	11	-1.17	OK	0
289.33	Acid Soluble Molybdenum , ICP, 2017.02 (ppm)	0086	356.6	23.97	375.1	37.45	11.86	11	-0.46	OK	0
289.33	Acid Soluble Molybdenum , ICP, 2017.02 (ppm)	0423	363.0	2.000	375.1	37.45	11.86	11	-0.30	OK	0
289.33	Acid Soluble Molybdenum , ICP, 2017.02 (ppm)	0546	376.4	6.400	375.1	37.45	11.86	11	0.03	OK	0
289.33	Acid Soluble Molybdenum , ICP, 2017.02 (ppm)	0494	377.6	1.672	375.1	37.45	11.86	11	0.06	OK	0
289.33	Acid Soluble Molybdenum , ICP, 2017.02 (ppm)	0117	380.1	2.800	375.1	37.45	11.86	11	0.13	OK	0
289.33	Acid Soluble Molybdenum , ICP, 2017.02 (ppm)	0037	384.2	9.908	375.1	37.45	11.86	11	0.23	OK	0
289.33	Acid Soluble Molybdenum , ICP, 2017.02 (ppm)	0233	403.0	2.700	375.1	37.45	11.86	11	0.70	OK	0
289.33	Acid Soluble Molybdenum , ICP, 2017.02 (ppm)	0515	406.9	31.45	375.1	37.45	11.86	11	0.79	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				
289.33	Acid Soluble Molybdenum , ICP, 2017.02 (ppm)	0106	438.0	0.0000	375.1	37.45	11.86	11	1.57	OK	0
289.34	Acid Soluble Molybdenum , ICP, EPA 3050B/601... (ppm)	0368	374.0	1.232	379.1	7.295	20.19	3	-0.70		0
289.34	Acid Soluble Molybdenum , ICP, EPA 3050B/601... (ppm)	0515	375.9	50.33	379.1	7.295	20.19	3	-0.45		0
289.34	Acid Soluble Molybdenum , ICP, EPA 3050B/601... (ppm)	0230	387.5	9.000	379.1	7.295	20.19	3	1.15		0
289.99	Acid Soluble Molybdenum , Other (ppm)	0027	0.0305	0.0030	331.3	235.5	10.35	5	-1.41		0
289.99	Acid Soluble Molybdenum , Other (ppm)	0476	310.2	41.95	331.3	235.5	10.35	5	-0.09		0
289.99	Acid Soluble Molybdenum , Other (ppm)	0220	330.0	6.000	331.3	235.5	10.35	5	-0.01		0
289.99	Acid Soluble Molybdenum , Other (ppm)	0506	351.5	3.000	331.3	235.5	10.35	5	0.09		0
289.99	Acid Soluble Molybdenum , Other (ppm)	0481	664.7	0.8000	331.3	235.5	10.35	5	1.42		0
291.00	Acid Soluble Nickel , AA, test portion 2006.... (ppm)	0550	1,457	212.3				2			0
291.00	Acid Soluble Nickel , AA, test portion 2006.... (ppm)	0498	1,807	13.00				2			0
291.30	Acid Soluble Nickel , ICP (ppm)	0444	1,318	5.000	1,646	214.5	25.51	8	-1.40	NA	0
291.30	Acid Soluble Nickel , ICP (ppm)	0521	1,461	0.0000	1,646	214.5	25.51	8	-0.79	NA	0
291.30	Acid Soluble Nickel , ICP (ppm)	0523	1,550	42.90	1,646	214.5	25.51	8	-0.41	NA	0
291.30	Acid Soluble Nickel , ICP (ppm)	0482	1,610	25.00	1,646	214.5	25.51	8	-0.15	NA	0
291.30	Acid Soluble Nickel , ICP (ppm)	0096	1,798	26.00	1,646	214.5	25.51	8	0.65	NA	0
291.30	Acid Soluble Nickel , ICP (ppm)	0035	1,805	2.000	1,646	214.5	25.51	8	0.68	NA	0
291.30	Acid Soluble Nickel , ICP (ppm)	0524	1,809	43.21	1,646	214.5	25.51	8	0.70	NA	0
291.30	Acid Soluble Nickel , ICP (ppm)	0541	1,810	60.00	1,646	214.5	25.51	8	0.70	NA	0
291.33	Acid Soluble Nickel , ICP, 2017.02 (ppm)	0086	1,689	49.35	1,879	156.1	68.59	7	-1.10	NA	0
291.33	Acid Soluble Nickel , ICP, 2017.02 (ppm)	0037	1,751	44.26	1,879	156.1	68.59	7	-0.75	NA	0
291.33	Acid Soluble Nickel , ICP, 2017.02 (ppm)	0494	1,840	56.55	1,879	156.1	68.59	7	-0.23	NA	0
291.33	Acid Soluble Nickel , ICP, 2017.02 (ppm)	0233	1,888	211.0	1,879	156.1	68.59	7	0.05	NA	0
291.33	Acid Soluble Nickel , ICP, 2017.02 (ppm)	0117	1,899	6.000	1,879	156.1	68.59	7	0.11	NA	0
291.33	Acid Soluble Nickel , ICP, 2017.02 (ppm)	0527	1,998	1.000	1,879	156.1	68.59	7	0.69	NA	0
291.33	Acid Soluble Nickel , ICP, 2017.02 (ppm)	0515	2,091	112.0	1,879	156.1	68.59	7	1.23	NA	0
291.34	Acid Soluble Nickel , ICP, EPA 3050B/6010C (ppm)	0368	1,582	103.8	1,981	407.7	265.7	3	-0.98		0
291.34	Acid Soluble Nickel , ICP, EPA 3050B/6010C (ppm)	0230	1,965	250.0	1,981	407.7	265.7	3	-0.04		0
291.34	Acid Soluble Nickel , ICP, EPA 3050B/6010C (ppm)	0515	2,397	443.3	1,981	407.7	265.7	3	1.02		0
291.99	Acid Soluble Nickel , Other (ppm)	0519	1,438	0.9600	1,599	183.0	70.79	8	-0.80	NA	0
291.99	Acid Soluble Nickel , Other (ppm)	0255	1,450	124.4	1,599	183.0	70.79	8	-0.74	NA	0
291.99	Acid Soluble Nickel , Other (ppm)	0027	1,458	0.4960	1,599	183.0	70.79	8	-0.70	NA	0
291.99	Acid Soluble Nickel , Other (ppm)	0476	1,509	99.39	1,599	183.0	70.79	8	-0.45	NA	0
291.99	Acid Soluble Nickel , Other (ppm)	0220	1,584	33.00	1,599	183.0	70.79	8	-0.08	NA	0
291.99	Acid Soluble Nickel , Other (ppm)	0506	1,736	192.0	1,599	183.0	70.79	8	0.69	NA	0
291.99	Acid Soluble Nickel , Other (ppm)	0520	1,788	93.10	1,599	183.0	70.79	8	0.95	NA	0
291.99	Acid Soluble Nickel , Other (ppm)	0481	1,827	23.00	1,599	183.0	70.79	8	1.14	NA	0
301.00	Acid Soluble Selenium , AA, test portion 200... (ppm)	0550	3.080	3.020				1			0
301.30	Acid Soluble Selenium , ICP (ppm)	0541	19.75	2.500	39.74	19.47	2.113	3	-1.03		0
301.30	Acid Soluble Selenium , ICP (ppm)	0524	40.83	3.000	39.74	19.47	2.113	3	0.06		0
301.30	Acid Soluble Selenium , ICP (ppm)	0523	58.65	0.8400	39.74	19.47	2.113	3	0.97		0
301.33	Acid Soluble Selenium , ICP, 2017.02 (ppm)	0527	4.525	0.2100	37.23	29.64	3.296	4	-1.10		0
301.33	Acid Soluble Selenium , ICP, 2017.02 (ppm)	0233	20.90	9.650	37.23	29.64	3.296	4	-0.55		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				
301.33	Acid Soluble Selenium , ICP, 2017.02 (ppm)	0037	54.79	1.124	37.23	29.64	3.296	4	0.59		0
301.33	Acid Soluble Selenium , ICP, 2017.02 (ppm)	0494	68.70	2.202	37.23	29.64	3.296	4	1.06		0
301.33	Acid Soluble Selenium , ICP, 2017.02 (ppm)	0515	5.651	11.30	37.23	29.64	3.296	4			4
301.34	Acid Soluble Selenium , ICP, EPA 3050B/6010C... (ppm)	0230	14.35	0.3000	29.26	13.95	9.865	3	-1.07		0
301.34	Acid Soluble Selenium , ICP, EPA 3050B/6010C... (ppm)	0515	31.44	0.7650	29.26	13.95	9.865	3	0.16		0
301.34	Acid Soluble Selenium , ICP, EPA 3050B/6010C... (ppm)	0368	42.00	28.53	29.26	13.95	9.865	3	0.91		0
301.99	Acid Soluble Selenium , Other (ppm)	0027	0.0020	0.0000	5.608	7.150	1.112	6	-0.70	NA	0
301.99	Acid Soluble Selenium , Other (ppm)	0481	0.3750	0.0500	5.608	7.150	1.112	6	-0.65	NA	0
301.99	Acid Soluble Selenium , Other (ppm)	0476	1.703	0.1709	5.608	7.150	1.112	6	-0.49	NA	0
301.99	Acid Soluble Selenium , Other (ppm)	0255	6.721	3.459	5.608	7.150	1.112	6	0.14	NA	0
301.99	Acid Soluble Selenium , Other (ppm)	0519	8.515	0.0300	5.608	7.150	1.112	6	0.36	NA	0
301.99	Acid Soluble Selenium , Other (ppm)	0520	33.22	2.960	5.608	7.150	1.112	6	3.44	NA	0
301.99	Acid Soluble Selenium , Other (ppm)	0220	67.50	17.00	5.608	7.150	1.112	6	7.71	NA	1
311.32	Sodium, ICP, 2006.03 test portion (%)	0521	1.055	0.0000				1			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0494	0.9460	0.0065	1.062	0.0758	0.0486	9	-1.41	Low	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0035	0.9710	0.0780	1.062	0.0758	0.0486	9	-1.11	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0025	1.036	0.0590	1.062	0.0758	0.0486	9	-0.32	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0086	1.045	0.0817	1.062	0.0758	0.0486	9	-0.21	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0493	1.090	0.0200	1.062	0.0758	0.0486	9	0.34	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0546	1.103	0.0004	1.062	0.0758	0.0486	9	0.51	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	1.110	0.1400	1.062	0.0758	0.0486	9	0.59	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0423	1.115	0.0300	1.062	0.0758	0.0486	9	0.65	OK	0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0117	1.139	0.0220	1.062	0.0758	0.0486	9	0.94	OK	0
311.99	Sodium, Other (%)	0354	1.020	0.0400	1.037	0.0247	0.0400	3	-0.68		0
311.99	Sodium, Other (%)	0096	1.025	0.0100	1.037	0.0247	0.0400	3	-0.47		0
311.99	Sodium, Other (%)	0482	1.065	0.0700	1.037	0.0247	0.0400	3	1.15		0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	0485	18.29	0.4500	19.82	0.3944	0.2125	17	-3.90	Low	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	0040	19.22	0.2230	19.82	0.3944	0.2125	17	-1.54	OK	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	0498	19.28	0.5500	19.82	0.3944	0.2125	17	-1.39	OK	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	0029	19.51	0.2700	19.82	0.3944	0.2125	17	-0.81	OK	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	0513	19.57	0.0600	19.82	0.3944	0.2125	17	-0.64	OK	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	0532	19.85	0.2200	19.82	0.3944	0.2125	17	0.07	OK	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	0533	19.85	0.1000	19.82	0.3944	0.2125	17	0.07	OK	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	0539	19.87	0.0400	19.82	0.3944	0.2125	17	0.12	OK	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	0540	19.90	0.0500	19.82	0.3944	0.2125	17	0.18	OK	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	0537	19.90	0.0200	19.82	0.3944	0.2125	17	0.19	OK	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	0531	19.99	0.1200	19.82	0.3944	0.2125	17	0.42	OK	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	0535	20.00	0.2000	19.82	0.3944	0.2125	17	0.45	OK	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	0551	20.03	0.1500	19.82	0.3944	0.2125	17	0.51	OK	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	0169	20.06	0.1600	19.82	0.3944	0.2125	17	0.60	OK	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	0536	20.10	0.4000	19.82	0.3944	0.2125	17	0.70	OK	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	0105	20.24	0.6000	19.82	0.3944	0.2125	17	1.05	OK	0
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	0534	20.90	0.0000	19.82	0.3944	0.2125	17	2.73	High	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				
321.00	Acid Soluble Zinc , AA, inorganic 965.09 (20%)	0550	19.07	2.320	19.82	0.3944	0.2125	17	-1.91	OK	1
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0230	1.960	0.0000	20.09	2.147	0.4905	26	-8.45	Low	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0483	15.45	0.5000	20.09	2.147	0.4905	26	-2.16	Low	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0402	15.77	0.0700	20.09	2.147	0.4905	26	-2.02	Low	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0472	18.48	0.9500	20.09	2.147	0.4905	26	-0.75	Low	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0102	18.60	0.0000	20.09	2.147	0.4905	26	-0.70	Low	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0444	18.70	0.2600	20.09	2.147	0.4905	26	-0.65	Low	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0482	19.00	0.2000	20.09	2.147	0.4905	26	-0.51	Low	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0324	19.18	0.3300	20.09	2.147	0.4905	26	-0.43	OK	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0433	19.25	0.1000	20.09	2.147	0.4905	26	-0.39	OK	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0049	19.37	0.3581	20.09	2.147	0.4905	26	-0.34	OK	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0096	19.51	0.1568	20.09	2.147	0.4905	26	-0.27	OK	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0552	19.54	0.2200	20.09	2.147	0.4905	26	-0.26	OK	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0292	19.56	0.2000	20.09	2.147	0.4905	26	-0.25	OK	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0371	19.70	0.1800	20.09	2.147	0.4905	26	-0.18	OK	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0073	20.19	0.0200	20.09	2.147	0.4905	26	0.04	OK	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0234	20.30	0.2000	20.09	2.147	0.4905	26	0.10	OK	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0307	20.36	0.2500	20.09	2.147	0.4905	26	0.12	OK	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0354	20.80	0.4000	20.09	2.147	0.4905	26	0.33	OK	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0035	21.30	3.000	20.09	2.147	0.4905	26	0.56	High	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0360	21.61	0.3600	20.09	2.147	0.4905	26	0.71	High	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0390	22.13	0.0400	20.09	2.147	0.4905	26	0.95	High	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0325	22.40	0.0000	20.09	2.147	0.4905	26	1.07	High	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0041	22.50	3.200	20.09	2.147	0.4905	26	1.12	High	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0231	22.74	0.3900	20.09	2.147	0.4905	26	1.23	High	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0452	23.67	0.0800	20.09	2.147	0.4905	26	1.67	High	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0255	23.92	1.287	20.09	2.147	0.4905	26	1.78	High	0
321.30	Acid Soluble Zinc , ICP, test portion inorga... (20%)	0422	21.95	4.030	20.09	2.147	0.4905	26	0.86	High	1
321.32	Acid Soluble Zinc , ICP, test portion 2006.0... (20%)	0542	13.01	0.0600	20.06	4.976	0.3925	4	-1.42		0
321.32	Acid Soluble Zinc , ICP, test portion 2006.0... (20%)	0521	20.56	0.0000	20.06	4.976	0.3925	4	0.10		0
321.32	Acid Soluble Zinc , ICP, test portion 2006.0... (20%)	0043	22.11	0.8100	20.06	4.976	0.3925	4	0.41		0
321.32	Acid Soluble Zinc , ICP, test portion 2006.0... (20%)	0423	24.55	0.7000	20.06	4.976	0.3925	4	0.90		0
321.33	Acid Soluble Zinc , ICP, 2017.02 (20%)	0493	15.40	0.2000	20.16	1.053	0.4695	16	-4.52	Low	0
321.33	Acid Soluble Zinc , ICP, 2017.02 (20%)	0486	16.18	0.1700	20.16	1.053	0.4695	16	-3.78	Low	0
321.33	Acid Soluble Zinc , ICP, 2017.02 (20%)	0086	19.44	1.180	20.16	1.053	0.4695	16	-0.68	OK	0
321.33	Acid Soluble Zinc , ICP, 2017.02 (20%)	0136	19.52	0.9400	20.16	1.053	0.4695	16	-0.60	OK	0
321.33	Acid Soluble Zinc , ICP, 2017.02 (20%)	0037	19.62	0.2110	20.16	1.053	0.4695	16	-0.51	OK	0
321.33	Acid Soluble Zinc , ICP, 2017.02 (20%)	0233	19.73	0.2900	20.16	1.053	0.4695	16	-0.41	OK	0
321.33	Acid Soluble Zinc , ICP, 2017.02 (20%)	0177	19.91	0.0304	20.16	1.053	0.4695	16	-0.24	OK	0
321.33	Acid Soluble Zinc , ICP, 2017.02 (20%)	0117	19.99	0.0900	20.16	1.053	0.4695	16	-0.16	OK	0
321.33	Acid Soluble Zinc , ICP, 2017.02 (20%)	0494	20.27	0.2442	20.16	1.053	0.4695	16	0.11	OK	0
321.33	Acid Soluble Zinc , ICP, 2017.02 (20%)	0527	20.39	0.0700	20.16	1.053	0.4695	16	0.22	OK	0
321.33	Acid Soluble Zinc , ICP, 2017.02 (20%)	0034	20.59	0.6700	20.16	1.053	0.4695	16	0.41	OK	0



Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
321.33	Acid Soluble Zinc , ICP, 2017.02 (20%)	0025	20.62	0.3200	20.16	1.053	0.4695	16	0.44	OK	0
321.33	Acid Soluble Zinc , ICP, 2017.02 (20%)	0055	20.74	0.6100	20.16	1.053	0.4695	16	0.55	OK	0
321.33	Acid Soluble Zinc , ICP, 2017.02 (20%)	0546	21.27	0.1600	20.16	1.053	0.4695	16	1.06	High	0
321.33	Acid Soluble Zinc , ICP, 2017.02 (20%)	0106	21.55	0.9210	20.16	1.053	0.4695	16	1.32	High	0
321.33	Acid Soluble Zinc , ICP, 2017.02 (20%)	0515	21.88	1.406	20.16	1.053	0.4695	16	1.64	High	0
321.99	Acid Soluble Zinc , Other (20%)	0476	18.37	1.792	20.10	0.9005	0.2774	14	-1.92	Low	0
321.99	Acid Soluble Zinc , Other (20%)	0405	18.55	0.3000	20.10	0.9005	0.2774	14	-1.72	Low	0
321.99	Acid Soluble Zinc , Other (20%)	0506	19.20	0.2000	20.10	0.9005	0.2774	14	-0.99	OK	0
321.99	Acid Soluble Zinc , Other (20%)	0524	19.59	0.0259	20.10	0.9005	0.2774	14	-0.56	OK	0
321.99	Acid Soluble Zinc , Other (20%)	0481	19.85	0.0300	20.10	0.9005	0.2774	14	-0.28	OK	0
321.99	Acid Soluble Zinc , Other (20%)	0519	20.04	0.0900	20.10	0.9005	0.2774	14	-0.07	OK	0
321.99	Acid Soluble Zinc , Other (20%)	0291	20.23	0.0100	20.10	0.9005	0.2774	14	0.14	OK	0
321.99	Acid Soluble Zinc , Other (20%)	0389	20.36	0.0800	20.10	0.9005	0.2774	14	0.29	OK	0
321.99	Acid Soluble Zinc , Other (20%)	0368	20.38	0.2775	20.10	0.9005	0.2774	14	0.31	OK	0
321.99	Acid Soluble Zinc , Other (20%)	0042	20.48	0.7100	20.10	0.9005	0.2774	14	0.42	OK	0
321.99	Acid Soluble Zinc , Other (20%)	0518	20.50	0.2000	20.10	0.9005	0.2774	14	0.45	OK	0
321.99	Acid Soluble Zinc , Other (20%)	0501	20.90	0.0000	20.10	0.9005	0.2774	14	0.89	OK	0
321.99	Acid Soluble Zinc , Other (20%)	0027	21.12	0.0990	20.10	0.9005	0.2774	14	1.14	High	0
321.99	Acid Soluble Zinc , Other (20%)	0523	21.22	0.0700	20.10	0.9005	0.2774	14	1.24	High	0
321.99	Acid Soluble Zinc , Other (20%)	0515	24.38	7.523	20.10	0.9005	0.2774	14	4.76	High	1
325.30	Water Soluble Zinc , ICP (%)	0444	5.905	0.0300				2			0
325.30	Water Soluble Zinc , ICP (%)	0541	19.83	0.6500				2			0
325.99	Water Soluble Zinc , Other (%)	0518	8.850	0.1000				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.