

Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Methods: 106

Sample # 231111

Regular PT Scheme

Labs Reporting: 66

High Micros

Statistical Summary

Issue Date : 12/31/2023

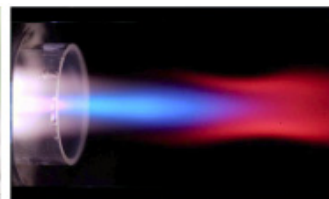
Method Code	Analyte & Method Sample # 231111	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
010.60	Total N, Combustion (%)	5	4	0.0641	0.0580	0.0799	0.4900	0.0532	0.0332	66.55%	0.25	0.0075	5.85%
020.50	Total P2O5, ICP (%)	3	0	0.0067	0.0058	0.0799		0.0532		66.55%		0.0000	5.85%
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	1		0.0255									
041.50	Direct Available P2O5, ICP (%)	1		13.37									
050.50	Soluble K2O, ICP (Oxalate) (%)	1		0.0150									
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	1		0.0335									
050.99	Soluble K2O, Other (%)	2	0	0.0100	0.0000								
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	1		0.1440									
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	5	4	0.1557	0.0851	0.1921	0.2096	0.0284	0.0178	14.80%	0.32	0.0132	5.13%
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	1		0.2200									
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	2	2	0.1593	0.0025								
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	6	5	0.1317	0.0719	0.1578	0.2079	0.0371	0.0208	23.54%	0.42	0.0055	5.28%
121.99	Acid Soluble Mg, Other (%)	1		0.0016									
148.00	Total S, Combustion (%)	1		12.50									
148.07	Total S, ICP, test portion as in 2017.02 (%)	6	5	9.605	5.594	11.51	0.7753	3.465	1.937	30.11%	10.41	0.3241	2.77%
148.99	Total S, Other (%)	3	3	12.24	0.5242	12.24	0.8122	0.5242	0.3783	4.28%	1.50	0.2837	2.74%
149.04	S - HNO3 soluble, ICP (%)	1		10.82									
151.30	Acid Soluble As, ICP (ppm)	5	2	3.899	3.805	1.967		0.3348	0.2959	17.02%		0.2185	14.45%
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	3	2	3.255	2.414	4.633		0.5197	0.4593	11.22%		1.241	12.70%
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	4	2	2.551	3.953	4.978		4.826	4.266	96.96%		0.5150	12.56%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	2	1	2.168	2.803								
151.99	Acid Soluble As, Other (ppm)	2	0	0.5000	0.0000								
165.00	Acid Soluble B, Spectrophotometric (2.5%)	8	8	2.407	0.3148	2.468	0.3732	0.1922	0.0850	7.79%	1.20	0.0314	3.49%
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	21	21	2.491	0.1568	2.492	0.3768	0.1625	0.0443	6.52%	1.01	0.1080	3.49%
165.70	Acid Soluble B, Titrimetric (2.5%)	2	2	2.300	0.2828								
165.99	Acid Soluble B, Other (2.5%)	25	25	2.513	0.2194	2.504	0.3787	0.1314	0.0328	5.25%	0.81	0.0562	3.48%
171.00	Water Soluble B, AA, JAOAC 52.950 (%)	3	3	2.432	0.2117	2.432		0.2117	0.1528	8.71%		0.0367	3.50%
171.10	Water Soluble B, Spectrophotometric (%)	3	3	2.612	0.1934	2.612		0.1934	0.1396	7.41%		0.0233	3.46%
171.99	Water Soluble B, Other (%)	3	3	2.451	0.1394	2.451		0.1394	0.1006	5.69%		0.0980	3.49%

Method Code	Analyte & Method Sample # 231111	# 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
181.30	Acid Soluble Cd, ICP (ppm)	7	7	27.24	2.286	26.89		1.715	0.8101	6.38%		1.336	9.75%
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	3	3	29.17	1.776	29.17		1.776	1.282	6.09%		0.7833	9.63%
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	4	4	37.02	10.54	37.02		10.54	6.587	28.47%		1.901	9.29%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	2	1	13.67	19.14								
181.99	Acid Soluble Cd, Other (ppm)	1		29.95									
191.30	Acid Soluble Cr, ICP (ppm)	5	5	30.57	5.625	30.57		5.625	3.144	18.40%		4.116	9.56%
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	3	3	27.09	6.280	27.09		6.280	4.532	23.18%		1.490	9.74%
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	4	3	46.06	58.95	61.41		61.63	44.48	100.36%		28.98	8.61%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	2	1	12.50	17.47								
191.99	Acid Soluble Cr, Other (ppm)	1		25.95									
202.30	Acid Soluble Co, ICP (ppm)	5	5	79.69	6.117	79.69	24.9072	6.117	3.419	7.68%	0.57	7.123	8.28%
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	4	4	81.06	7.140	81.06	25.3193	7.140	4.463	8.81%	0.66	1.421	8.26%
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	4	4	74.20	26.01	74.20	23.2586	26.01	16.26	35.06%	2.61	2.814	8.37%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	2	2	64.44	26.46								
202.99	Acid Soluble Co, Other (ppm)	3	3	75.87	5.939	75.87	23.7600	5.939	4.286	7.83%	0.58	4.387	8.34%
221.00	Acid Soluble Cu, AA, inorganic 965.09 (10%)	8	7	9.834	0.5570	9.797	0.9847	0.6239	0.2948	6.37%	1.48	0.0519	2.84%
221.01	Acid Soluble Cu, AA, organic 965.09 (10%)	1		9.800									
221.10	Acid Soluble Cu, Titrimetric (10%)	1		9.850									
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (10%)	15	15	10.20	0.5042	10.11	1.0000	0.3102	0.1001	3.07%	0.72	0.1471	2.82%
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (10%)	9	9	9.894	0.5302	10.01	1.0000	0.2109	0.0879	2.11%	0.49	0.1706	2.83%
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	17	17	10.34	0.4267	10.33	1.0000	0.4580	0.1389	4.43%	1.07	0.1465	2.81%
221.99	Acid Soluble Cu, Other (10%)	13	12	10.17	0.4221	10.24	1.0000	0.3019	0.1089	2.95%	0.70	0.1618	2.82%
241.00	Acid Soluble Fe, AA, inorganic 965.09 (9%)	10	10	8.321	1.464	8.630	0.8680	0.9464	0.3741	10.97%	2.54	0.1351	2.89%
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (9%)	15	15	8.317	1.447	8.662	0.8712	0.6641	0.2143	7.67%	1.78	0.1549	2.89%
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (9%)	8	8	8.505	0.8122	8.504	0.8554	0.9187	0.4060	10.80%	2.50	0.1229	2.90%
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	18	18	8.376	0.7222	8.405	0.8455	0.7546	0.2223	8.98%	2.08	0.1863	2.90%
241.70	Acid Soluble Fe, Titrimetric (9%)	1		8.900									
241.99	Acid Soluble Fe, Other (9%)	13	13	8.095	0.9152	8.120	0.8170	0.9827	0.3407	12.10%	2.80	0.1565	2.92%
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid	1		327.6									
251.30	Acid Soluble Pb, ICP (ppm)	8	8	321.0	55.52	324.0		55.76	24.64	17.21%		28.08	6.70%
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	3	3	333.1	35.41	333.1		35.41	25.56	10.63%		14.40	6.67%
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	4	4	340.6	81.95	340.6		81.95	51.22	24.06%		18.64	6.65%
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	2	2	305.8	75.91								
251.99	Acid Soluble Pb, Other (ppm)	1		296.0									
261.00	Acid Soluble Mn, AA, Mn2+ only (8%)	1		7.695									
261.11	Acid Soluble Mn, AA, total Mn (8%)	1		7.885									
261.12	Acid Soluble Mn, AA, inorganic 965.09 (8%)	5	5	8.025	0.4749	8.025	0.8075	0.4749	0.2655	5.92%	1.37	0.1176	2.92%
261.14	Acid Soluble Mn, AA, 965.09, test portion 2006.03A-C (8%)	1		7.420									
261.30	Acid Soluble Mn, ICP, test portion 972.02a (8%)	7	6	8.075	0.7837	8.213	0.8263	0.2697	0.1376	3.28%	0.76	0.0762	2.91%
261.31	Acid Soluble Mn, ICP, test portion 972.02b (8%)	2	2	8.313	0.2298								

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261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (8%)	6	6	8.283	0.3713	8.283	0.8333	0.4210	0.2148	5.08%	1.18	0.0995	2.91%
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (8%)	8	8	8.014	0.4820	7.900	0.7950	0.2247	0.0993	2.84%	0.66	0.0830	2.93%
261.35	Acid Soluble Mn, ICP, 2017.02 (8%)	16	15	8.185	0.4682	8.191	0.8241	0.3918	0.1265	4.78%	1.11	0.1296	2.91%
261.99	Acid Soluble Mn, Other (8%)	14	14	8.086	0.5432	8.152	0.8202	0.4295	0.1435	5.27%	1.22	0.1041	2.92%
271.00	Water Soluble Mn, AA (%)	2	2	8.078	0.1237								
271.30	Water Soluble Mn, ICP, Ext. 972.03 (%)	1		8.300									
271.99	Water Soluble Mn, Other (%)	1		8.355									
281.00	Acid Soluble Hg, AA (ppm)	1		0.0500									
281.30	Acid Soluble Hg, ICP (ppm)	5	1	0.6888	0.8957	8.078		0.1237	0.1547	1.53%		0.0300	11.68%
281.99	Acid Soluble Hg, Other (ppm)	2	2	0.0645	0.0064								
289.30	Acid Soluble Mo, ICP (ppm)	4	3	3.872	1.321	4.382	2.3147	1.026	0.7407	23.42%	1.03	1.113	12.81%
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	3	3	6.549	1.476	6.549	2.9647	1.476	1.065	22.54%	1.16	0.7180	12.06%
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	6	4	8.504	10.37	10.26	4.0767	12.26	7.663	119.55%	7.01	3.652	11.27%
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	2	1	2.390	3.055								
289.99	Acid Soluble Mo, Other (ppm)	1		4.800									
291.00	Acid Soluble Ni, AA, test portion 2006.03 modified w/dual acid	1		143.6									
291.30	Acid Soluble Ni, ICP (ppm)	6	5	131.7	66.18	121.9		69.02	38.59	56.61%		3.106	7.76%
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	3	3	148.2	8.329	148.2		8.329	6.011	5.62%		5.650	7.54%
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	3	3	138.4	20.50	138.4		20.50	14.80	14.81%		4.620	7.62%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	3	3	137.4	32.11	137.4		32.11	23.17	23.37%		8.230	7.63%
291.99	Acid Soluble Ni, Other (ppm)	2	2	160.5	6.505								
301.00	Acid Soluble Se, AA, test portion 2006.03 modified w/dual acid	1		0.5000									
301.30	Acid Soluble Se, ICP (ppm)	4	2	11.34	11.27	11.80		14.48	12.80	122.73%		1.367	11.03%
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	2	2	47.65	2.333								
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	2	0	0.1400	0.1838								
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	2	0	0.8850	0.8697								
301.99	Acid Soluble Se, Other (ppm)	2	1	24.45	34.58								
311.33	Sodium, ICP, test portion as in 2017.02 (%)	3	3	1.398	0.1176	1.398	0.1448	0.1176	0.0849	8.42%	1.89	0.0824	3.80%
311.99	Sodium, Other (%)	1		1.460									
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	1		4.085									
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	6	6	4.128	0.4661	4.128	0.4178	0.5285	0.2697	12.80%	2.95	0.0822	3.23%
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	5	5	3.875	0.4969	3.875	0.3925	0.4969	0.2778	12.82%	2.95	0.0586	3.26%
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	13	12	4.249	0.8324	4.024	0.4074	0.2122	0.0766	5.27%	1.21	0.1065	3.24%
321.99	Acid Soluble Zn, Other (%)	10	9	4.019	0.4712	4.102	0.4152	0.4699	0.1958	11.46%	2.64	0.0804	3.23%
325.00	Water Soluble Zn, AA (%)	1		0.6050									
325.30	Water Soluble Zn, ICP (%)	1		2.705									
325.99	Water Soluble Zn, Other (%)	1		2.705									

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

Horwitz %RSD
Average Range (R-bar)
Method IA Ratio
Robust % RSD
Robust Uncertainty (U)
Robust sd
IA at Method Value
Assigned Value Robust Mean
Raw SD
Raw Mean
Tests in Robust Calculations
Tests Submitted
Analyte & Method Sample # 231111
Method Code



Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Sample # 231111

Regular PT Scheme

High Micros

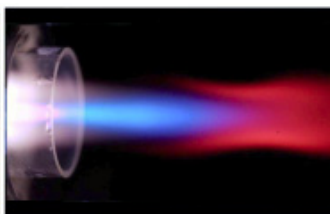
Method Precision Report

Issue Date : 12/31/2023

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
165.00	Acid Soluble B, Spectrophotometric (2.5%)	8	7	2.509	0.1330	0.1319	0.0238	0.1341	5.26%	0.95%	5.34%	5.624
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	21	21	2.491	0.1568	0.1403	0.0990	0.1717	5.63%	3.98%	6.89%	1.734
165.99	Acid Soluble B, Other (2.5%)	25	22	2.513	0.1437	0.1385	0.0544	0.1488	5.51%	2.16%	5.92%	2.736
181.30	Acid Soluble Cd, ICP (ppm)	7	6	26.47	1.096	0.9074	0.8681	1.256	3.43%	3.28%	4.74%	1.447
221.00	Acid Soluble Cu, AA, inorganic 965.09 (10%)	8	7	9.782	0.5800	0.5790	0.0485	0.5810	5.92%	0.50%	5.94%	11.98
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (10%)	15	13	10.08	0.2910	0.2707	0.1510	0.3100	2.69%	1.50%	3.08%	2.053
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (10%)	9	8	10.06	0.1763	0.1364	0.1580	0.2087	1.36%	1.57%	2.07%	1.321
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	17	17	10.34	0.4267	0.4169	0.1286	0.4363	4.03%	1.24%	4.22%	3.393
221.99	Acid Soluble Cu, Other (10%)	13	12	10.25	0.3301	0.3137	0.1454	0.3458	3.06%	1.42%	3.37%	2.378
241.00	Acid Soluble Fe, AA, inorganic 965.09 (9%)	10	10	8.321	1.464	1.461	0.1195	1.466	17.56%	1.44%	17.62%	12.27
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (9%)	15	13	8.563	0.8174	0.8132	0.1169	0.8216	9.50%	1.36%	9.59%	7.031
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (9%)	8	8	8.505	0.8122	0.8077	0.1205	0.8166	9.50%	1.42%	9.60%	6.777
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	18	17	8.412	0.7278	0.7124	0.2109	0.7429	8.47%	2.51%	8.83%	3.524
241.99	Acid Soluble Fe, Other (9%)	13	12	8.242	0.7780	0.7739	0.1127	0.7821	9.39%	1.37%	9.49%	6.940
251.30	Acid Soluble Pb, ICP (ppm)	8	8	321.0	55.52	52.55	25.35	58.34	16.37%	7.90%	18.18%	2.302
261.12	Acid Soluble Mn, AA, inorganic 965.09 (8%)	5	5	8.025	0.4749	0.4688	0.1073	0.4809	5.84%	1.34%	5.99%	4.481
261.30	Acid Soluble Mn, ICP, test portion 972.02a (8%)	7	6	8.320	0.4793	0.4774	0.0591	0.4811	5.74%	0.71%	5.78%	8.141
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (8%)	6	6	8.283	0.3713	0.3648	0.0976	0.3776	4.40%	1.18%	4.56%	3.868
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (8%)	8	6	7.867	0.1681	0.1631	0.0574	0.1729	2.07%	0.73%	2.20%	3.013
261.35	Acid Soluble Mn, ICP, 2017.02 (8%)	16	13	8.208	0.3265	0.3193	0.0964	0.3335	3.89%	1.17%	4.06%	3.459
261.99	Acid Soluble Mn, Other (8%)	14	13	8.201	0.3437	0.3384	0.0856	0.3490	4.13%	1.04%	4.26%	4.077
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	6	6	4.128	0.4661	0.4623	0.0829	0.4697	11.20%	2.01%	11.38%	5.665
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	5	5	3.875	0.4969	0.4958	0.0480	0.4981	12.79%	1.24%	12.85%	10.37
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	13	11	4.018	0.1952	0.1687	0.1388	0.2185	4.20%	3.46%	5.44%	1.574
321.99	Acid Soluble Zn, Other (%)	10	9	4.102	0.4149	0.4119	0.0709	0.4179	10.04%	1.73%	10.19%	5.895

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

sR/sr
Reproducibility %RSD
Within Labs %rsd
Between Labs %RSD
Reproducibility sR
Within Labs sr
Between Labs sL
SD
Mean
Tests Used in Precision Calcs
Tests Submitted
Analyte & Method
Method Code



Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Methods: 106

Sample # 231111

Regular PT Scheme

Labs Reporting: 66

High Micros

Lab Values

Issue Date : 12/31/2023

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
010.60	Total N, Combustion (%)	0422	0.0500	0.0000	0.0799	0.0532	0.0075	4	-0.56		0
010.60	Total N, Combustion (%)	0472	0.0530	0.0000	0.0799	0.0532	0.0075	4	-0.51		0
010.60	Total N, Combustion (%)	0354	0.0570	0.0040	0.0799	0.0532	0.0075	4	-0.43		0
010.60	Total N, Combustion (%)	0588	0.1595	0.0110	0.0799	0.0532	0.0075	4	1.50		0
010.60	Total N, Combustion (%)	0527	< 0.001		0.0799	0.0532	0.0075	4			5
020.50	Total P2O5, ICP (%)	0422	0.0000	0.0000				0			4
020.50	Total P2O5, ICP (%)	0527	< 0.01					0			5
020.50	Total P2O5, ICP (%)	0588	< 0.01					0			5
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0354	0.0255	0.0010				1			0
041.50	Direct Available P2O5, ICP (%)	0421	13.37	0.2200				1			0
050.50	Soluble K2O, ICP (Oxalate) (%)	0422	0.0150	0.0100				1			0
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	0354	0.0335	0.0030				1			0
050.99	Soluble K2O, Other (%)	0527	< 0.01					0			5
050.99	Soluble K2O, Other (%)	0588	< 0.01					0			5
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0354	0.1440	0.2320				1			0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0472	0.1500	0.0200	0.1921	0.0284	0.0132	4	-1.48		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0421	0.2000	0.0000	0.1921	0.0284	0.0132	4	0.28		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0494	0.2089	0.0013	0.1921	0.0284	0.0132	4	0.59		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0630	0.2097	0.0182	0.1921	0.0284	0.0132	4	0.62		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0527	< 0.01		0.1921	0.0284	0.0132	4			5
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	0.2200	0.1200				1			0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0300	0.1575	0.0010				2			0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0423	0.1610	0.0020				2			0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0421	0.1020	0.0040	0.1578	0.0371	0.0055	5	-1.31		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0472	0.1400	0.0000	0.1578	0.0371	0.0055	5	-0.42		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0630	0.1715	0.0018	0.1578	0.0371	0.0055	5	0.32		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0494	0.1800	0.0143	0.1578	0.0371	0.0055	5	0.52		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0527	0.1954	0.0019	0.1578	0.0371	0.0055	5	0.88		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0515	< 0.0016		0.1578	0.0371	0.0055	5			5
121.99	Acid Soluble Mg, Other (%)	0515	< 0.0016					0			5
148.00	Total S, Combustion (%)	0451	12.50	0.8000				1			0

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			Value	Range	Rob Mean	Rob SD	Rob R-bar				
148.07	Total S, ICP, test portion as in 2017.02 (%)	0515	6.128	0.0690	11.51	3.465	0.3241	5	-1.35		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0472	11.04	0.0500	11.51	3.465	0.3241	5	-0.12		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0513	12.15	0.1500	11.51	3.465	0.3241	5	0.16		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0494	12.55	1.022	11.51	3.465	0.3241	5	0.26		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0421	15.68	0.3300	11.51	3.465	0.3241	5	1.05		0
148.07	Total S, ICP, test portion as in 2017.02 (%)	0527	< 0.1		11.51	3.465	0.3241	5			5
148.99	Total S, Other (%)	0300	11.77	0.0510	12.24	0.5242	0.2837	3	-0.90		0
148.99	Total S, Other (%)	0354	12.15	0.1000	12.24	0.5242	0.2837	3	-0.18		0
148.99	Total S, Other (%)	0422	12.81	0.7000	12.24	0.5242	0.2837	3	1.08		0
149.04	S - HNO3 soluble, ICP (%)	0423	10.82	0.1400				1			0
151.30	Acid Soluble As, ICP (ppm)	0627	1.730	0.0800				2			0
151.30	Acid Soluble As, ICP (ppm)	0630	2.204	0.3570				2			0
151.30	Acid Soluble As, ICP (ppm)	0255	0.0000	0.0000				2			4
151.30	Acid Soluble As, ICP (ppm)	0605	< 6.2					2			5
151.30	Acid Soluble As, ICP (ppm)	0035	< 9.36					2			5
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0300	4.265	0.4819				2			0
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0405	5.000	2.000				2			0
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0220	< 0.5					2			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0136	1.565	0.0700				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0494	8.390	0.9600				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0527	< 0.0001					2			5
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0515	< 0.25					2			5
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0368	4.150	0.7000				1			0
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0515	< 0.186					1			5
151.99	Acid Soluble As, Other (ppm)	0220	< 0.5					0			5
151.99	Acid Soluble As, Other (ppm)	0626	< 0.5					0			5
165.00	Acid Soluble B, Spectrophotometric (2.5%)	0309	1.690	0.0400	2.468	0.1922	0.0314	8	-3.70	Low	0
165.00	Acid Soluble B, Spectrophotometric (2.5%)	0577	2.295	0.0300	2.468	0.1922	0.0314	8	-0.82	OK	0
165.00	Acid Soluble B, Spectrophotometric (2.5%)	0405	2.370	0.0400	2.468	0.1922	0.0314	8	-0.47	OK	0
165.00	Acid Soluble B, Spectrophotometric (2.5%)	0558	2.536	0.0075	2.468	0.1922	0.0314	8	0.32	OK	0
165.00	Acid Soluble B, Spectrophotometric (2.5%)	0055	2.548	0.0290	2.468	0.1922	0.0314	8	0.38	OK	0
165.00	Acid Soluble B, Spectrophotometric (2.5%)	0028	2.552	0.0440	2.468	0.1922	0.0314	8	0.40	OK	0
165.00	Acid Soluble B, Spectrophotometric (2.5%)	0626	2.575	0.0500	2.468	0.1922	0.0314	8	0.51	OK	0
165.00	Acid Soluble B, Spectrophotometric (2.5%)	0029	2.690	0.0110	2.468	0.1922	0.0314	8	1.05	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0389	2.165	0.0300	2.492	0.1625	0.1080	21	-2.01	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0521	2.280	0.0000	2.492	0.1625	0.1080	21	-1.30	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0485	2.290	0.1000	2.492	0.1625	0.1080	21	-1.24	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0354	2.315	0.2700	2.492	0.1625	0.1080	21	-1.09	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0043	2.381	0.0110	2.492	0.1625	0.1080	21	-0.69	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0394	2.383	0.0233	2.492	0.1625	0.1080	21	-0.67	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0451	2.405	0.0960	2.492	0.1625	0.1080	21	-0.54	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0513	2.440	0.0000	2.492	0.1625	0.1080	21	-0.32	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0234	2.480	0.0800	2.492	0.1625	0.1080	21	-0.07	OK	0

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165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0260	2.485	0.3100	2.492	0.1625	0.1080	21	-0.04	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0626	2.510	0.0400	2.492	0.1625	0.1080	21	0.11	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0292	2.515	0.0100	2.492	0.1625	0.1080	21	0.14	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0627	2.520	0.0000	2.492	0.1625	0.1080	21	0.17	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0444	2.535	0.0700	2.492	0.1625	0.1080	21	0.26	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0433	2.581	0.0010	2.492	0.1625	0.1080	21	0.54	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0630	2.589	0.1024	2.492	0.1625	0.1080	21	0.59	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0619	2.620	0.2000	2.492	0.1625	0.1080	21	0.79	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0324	2.625	0.3100	2.492	0.1625	0.1080	21	0.82	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0422	2.690	0.0390	2.492	0.1625	0.1080	21	1.21	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0049	2.707	0.1059	2.492	0.1625	0.1080	21	1.32	OK	0
165.30	Acid Soluble B, ICP, test portion in 982.01 (2.5%)	0106	2.797	0.2229	2.492	0.1625	0.1080	21	1.88	OK	0
165.70	Acid Soluble B, Titrimetric (2.5%)	0220	2.100	0.0000				2			0
165.70	Acid Soluble B, Titrimetric (2.5%)	0626	2.500	0.0000				2			0
165.99	Acid Soluble B, Other (2.5%)	0515	1.904	0.0290	2.504	0.1314	0.0562	25	-4.57	Low	0
165.99	Acid Soluble B, Other (2.5%)	0035	2.265	0.0700	2.504	0.1314	0.0562	25	-1.82	OK	0
165.99	Acid Soluble B, Other (2.5%)	0231	2.315	0.0100	2.504	0.1314	0.0562	25	-1.44	OK	0
165.99	Acid Soluble B, Other (2.5%)	0472	2.345	0.0100	2.504	0.1314	0.0562	25	-1.21	OK	0
165.99	Acid Soluble B, Other (2.5%)	0518	2.350	0.1000	2.504	0.1314	0.0562	25	-1.18	OK	0
165.99	Acid Soluble B, Other (2.5%)	0136	2.405	0.0100	2.504	0.1314	0.0562	25	-0.76	OK	0
165.99	Acid Soluble B, Other (2.5%)	0605	2.440	0.0800	2.504	0.1314	0.0562	25	-0.49	OK	0
165.99	Acid Soluble B, Other (2.5%)	0559	2.485	0.0100	2.504	0.1314	0.0562	25	-0.15	OK	0
165.99	Acid Soluble B, Other (2.5%)	0423	2.486	0.0040	2.504	0.1314	0.0562	25	-0.14	OK	0
165.99	Acid Soluble B, Other (2.5%)	0073	2.495	0.0900	2.504	0.1314	0.0562	25	-0.07	OK	0
165.99	Acid Soluble B, Other (2.5%)	0023	2.497	0.0040	2.504	0.1314	0.0562	25	-0.06	OK	0
165.99	Acid Soluble B, Other (2.5%)	0600	2.500	0.1000	2.504	0.1314	0.0562	25	-0.03	OK	0
165.99	Acid Soluble B, Other (2.5%)	0307	2.505	0.1500	2.504	0.1314	0.0562	25	0.00	OK	0
165.99	Acid Soluble B, Other (2.5%)	0300	2.510	0.0000	2.504	0.1314	0.0562	25	0.04	OK	0
165.99	Acid Soluble B, Other (2.5%)	0368	2.536	0.2623	2.504	0.1314	0.0562	25	0.24	OK	0
165.99	Acid Soluble B, Other (2.5%)	0543	2.536	0.0600	2.504	0.1314	0.0562	25	0.24	OK	0
165.99	Acid Soluble B, Other (2.5%)	0527	2.560	0.0313	2.504	0.1314	0.0562	25	0.42	OK	0
165.99	Acid Soluble B, Other (2.5%)	0291	2.585	0.0100	2.504	0.1314	0.0562	25	0.61	OK	0
165.99	Acid Soluble B, Other (2.5%)	0360	2.585	0.1300	2.504	0.1314	0.0562	25	0.61	OK	0
165.99	Acid Soluble B, Other (2.5%)	0421	2.610	0.0340	2.504	0.1314	0.0562	25	0.80	OK	0
165.99	Acid Soluble B, Other (2.5%)	0452	2.615	0.0010	2.504	0.1314	0.0562	25	0.84	OK	0
165.99	Acid Soluble B, Other (2.5%)	0095	2.615	0.0100	2.504	0.1314	0.0562	25	0.84	OK	0
165.99	Acid Soluble B, Other (2.5%)	0619	2.620	0.2000	2.504	0.1314	0.0562	25	0.88	OK	0
165.99	Acid Soluble B, Other (2.5%)	0220	2.965	0.0700	2.504	0.1314	0.0562	25	3.51	High	0
165.99	Acid Soluble B, Other (2.5%)	0255	3.104	0.0660	2.504	0.1314	0.0562	25	4.56	High	0
171.00	Water Soluble B, AA, JAOAC 52.950 (%)	0619	2.290	0.0400	2.432	0.2117	0.0367	3	-0.67		0
171.00	Water Soluble B, AA, JAOAC 52.950 (%)	0536	2.330	0.0400	2.432	0.2117	0.0367	3	-0.48		0
171.00	Water Soluble B, AA, JAOAC 52.950 (%)	0533	2.675	0.0300	2.432	0.2117	0.0367	3	1.15		0
171.10	Water Soluble B, Spectrophotometric (%)	0538	2.500	0.0200	2.612	0.1934	0.0233	3	-0.58		0

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171.10	Water Soluble B, Spectrophotometric (%)	0584	2.500	0.0200	2.612	0.1934	0.0233	3	-0.58		0
171.10	Water Soluble B, Spectrophotometric (%)	0580	2.835	0.0300	2.612	0.1934	0.0233	3	1.15		0
171.99	Water Soluble B, Other (%)	0619	2.290	0.0400	2.451	0.1394	0.0980	3	-1.15		0
171.99	Water Soluble B, Other (%)	0027	2.522	0.1340	2.451	0.1394	0.0980	3	0.51		0
171.99	Water Soluble B, Other (%)	0600	2.540	0.1200	2.451	0.1394	0.0980	3	0.64		0
181.30	Acid Soluble Cd, ICP (ppm)	0626	24.84	1.610	26.89	1.715	1.336	7	-1.09	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0605	26.04	1.770	26.89	1.715	1.336	7	-0.45	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0035	26.10	1.000	26.89	1.715	1.336	7	-0.42	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0394	26.70	0.5000	26.89	1.715	1.336	7	-0.10	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0627	27.04	0.6300	26.89	1.715	1.336	7	0.07	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0630	28.09	1.293	26.89	1.715	1.336	7	0.63	NA	0
181.30	Acid Soluble Cd, ICP (ppm)	0255	31.91	5.210	26.89	1.715	1.336	7	2.64	NA	0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0300	27.25	1.050	29.17	1.776	0.7833	3	-1.08		0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0405	29.50	1.000	29.17	1.776	0.7833	3	0.19		0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0220	30.75	0.3000	29.17	1.776	0.7833	3	0.89		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0136	27.85	0.0400	37.02	10.54	1.901	4	-0.87		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0527	31.40	0.4831	37.02	10.54	1.901	4	-0.53		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0494	37.05	1.700	37.02	10.54	1.901	4	0.00		0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0515	51.77	5.380	37.02	10.54	1.901	4	1.40		0
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0368	27.20	0.4000				1			0
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0515	< 0.133					1			5
181.99	Acid Soluble Cd, Other (ppm)	0220	29.95	0.1000				1			0
191.30	Acid Soluble Cr, ICP (ppm)	0394	25.63	2.700	30.57	5.625	4.116	5	-0.88		0
191.30	Acid Soluble Cr, ICP (ppm)	0605	26.60	0.1900	30.57	5.625	4.116	5	-0.71		0
191.30	Acid Soluble Cr, ICP (ppm)	0630	27.62	13.31	30.57	5.625	4.116	5	-0.52		0
191.30	Acid Soluble Cr, ICP (ppm)	0627	34.62	0.2700	30.57	5.625	4.116	5	0.72		0
191.30	Acid Soluble Cr, ICP (ppm)	0035	38.40	0.0000	30.57	5.625	4.116	5	1.39		0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0220	20.95	1.300	27.09	6.280	1.490	3	-0.98		0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0300	26.81	0.1687	27.09	6.280	1.490	3	-0.04		0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0405	33.50	3.000	27.09	6.280	1.490	3	1.02		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0136	14.96	0.4900	61.41	61.63	28.98	3	-0.75		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0494	37.95	0.1000	61.41	61.63	28.98	3	-0.38		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0515	131.3	86.35	61.41	61.63	28.98	3	1.13		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0527	< 0.0001		61.41	61.63	28.98	3			5
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0368	24.85	1.900				1			0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0515	< 0.141					1			5
191.99	Acid Soluble Cr, Other (ppm)	0220	25.95	2.700				1			0
202.30	Acid Soluble Co, ICP (ppm)	0626	73.51	2.520	79.69	6.117	7.123	5	-1.01		0
202.30	Acid Soluble Co, ICP (ppm)	0605	75.39	0.0000	79.69	6.117	7.123	5	-0.70		0
202.30	Acid Soluble Co, ICP (ppm)	0027	78.14	6.688	79.69	6.117	7.123	5	-0.25		0
202.30	Acid Soluble Co, ICP (ppm)	0035	82.70	0.6000	79.69	6.117	7.123	5	0.49		0
202.30	Acid Soluble Co, ICP (ppm)	0630	88.72	18.68	79.69	6.117	7.123	5	1.48		0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0423	70.86	0.8500	81.06	7.140	1.421	4	-1.43		0

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202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0220	82.65	0.7000	81.06	7.140	1.421	4	0.22		0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0300	83.25	3.132	81.06	7.140	1.421	4	0.31		0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0405	87.50	1.000	81.06	7.140	1.421	4	0.90		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0515	36.28	1.170	74.20	26.01	2.814	4	-1.46		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0136	80.05	3.510	74.20	26.01	2.814	4	0.22		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0494	85.55	4.300	74.20	26.01	2.814	4	0.44		0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0527	94.91	2.275	74.20	26.01	2.814	4	0.80		0
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0515	45.73	10.21				2			0
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0368	83.15	0.9000				2			0
202.99	Acid Soluble Co, Other (ppm)	0626	70.28	1.510	75.87	5.939	4.387	3	-0.94		0
202.99	Acid Soluble Co, Other (ppm)	0255	75.23	11.25	75.87	5.939	4.387	3	-0.11		0
202.99	Acid Soluble Co, Other (ppm)	0220	82.10	0.4000	75.87	5.939	4.387	3	1.05		0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (10%)	0029	8.758	0.1350	9.797	0.6239	0.0519	7	-1.51	Low	0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (10%)	0580	9.315	0.0300	9.797	0.6239	0.0519	7	-0.70	OK	0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (10%)	0533	9.775	0.0300	9.797	0.6239	0.0519	7	-0.03	OK	0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (10%)	0536	9.920	0.1000	9.797	0.6239	0.0519	7	0.18	OK	0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (10%)	0538	10.00	0.0200	9.797	0.6239	0.0519	7	0.29	OK	0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (10%)	0626	10.23	0.0500	9.797	0.6239	0.0519	7	0.62	OK	0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (10%)	0558	10.48	0.0016	9.797	0.6239	0.0519	7	0.99	OK	0
221.00	Acid Soluble Cu, AA, inorganic 965.09 (10%)	0485	10.20	0.6000	9.797	0.6239	0.0519	7	0.58	OK	1
221.01	Acid Soluble Cu, AA, organic 965.09 (10%)	0498	9.800	0.2000				1			0
221.10	Acid Soluble Cu, Titrimetric (10%)	0626	9.850	0.0600				1			0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (10%)	0513	9.645	0.0500	10.11	0.3102	0.1471	15	-1.49	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (10%)	0433	9.841	0.0350	10.11	0.3102	0.1471	15	-0.86	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (10%)	0035	9.850	0.1000	10.11	0.3102	0.1471	15	-0.83	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (10%)	0255	9.920	0.1590	10.11	0.3102	0.1471	15	-0.60	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (10%)	0049	9.920	0.6600	10.11	0.3102	0.1471	15	-0.60	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (10%)	0444	9.985	0.2100	10.11	0.3102	0.1471	15	-0.39	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (10%)	0619	10.03	0.1500	10.11	0.3102	0.1471	15	-0.26	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (10%)	0360	10.09	0.1100	10.11	0.3102	0.1471	15	-0.07	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (10%)	0451	10.11	0.0800	10.11	0.3102	0.1471	15	0.01	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (10%)	0234	10.13	0.0100	10.11	0.3102	0.1471	15	0.06	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (10%)	0324	10.16	0.9000	10.11	0.3102	0.1471	15	0.17	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (10%)	0231	10.40	0.1500	10.11	0.3102	0.1471	15	0.93	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (10%)	0291	10.40	0.0200	10.11	0.3102	0.1471	15	0.94	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (10%)	0354	10.75	0.1000	10.11	0.3102	0.1471	15	2.07	OK	0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (10%)	0422	11.74	0.4900	10.11	0.3102	0.1471	15	5.25	High	0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (10%)	0521	8.550	0.0000	10.01	0.2109	0.1706	9	-6.40	Low	0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (10%)	0073	9.810	0.4400	10.01	0.2109	0.1706	9	-0.89	OK	0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (10%)	0423	9.995	0.3500	10.01	0.2109	0.1706	9	-0.08	OK	0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (10%)	0405	10.01	0.1900	10.01	0.2109	0.1706	9	-0.03	OK	0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (10%)	0028	10.01	0.1800	10.01	0.2109	0.1706	9	-0.01	OK	0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (10%)	0220	10.02	0.0800	10.01	0.2109	0.1706	9	0.03	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (10%)	0300	10.03	0.0289	10.01	0.2109	0.1706	9	0.10	OK	0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (10%)	0095	10.22	0.0700	10.01	0.2109	0.1706	9	0.88	OK	0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (10%)	0292	10.41	0.0500	10.01	0.2109	0.1706	9	1.72	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	0543	9.630	0.0400	10.33	0.4580	0.1465	17	-1.54	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	0627	9.765	0.1100	10.33	0.4580	0.1465	17	-1.24	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	0472	9.980	0.0000	10.33	0.4580	0.1465	17	-0.77	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	0177	9.986	0.2641	10.33	0.4580	0.1465	17	-0.76	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	0260	10.02	0.2000	10.33	0.4580	0.1465	17	-0.69	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	0527	10.07	0.0633	10.33	0.4580	0.1465	17	-0.58	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	0494	10.12	0.1377	10.33	0.4580	0.1465	17	-0.47	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	0040	10.19	0.0078	10.33	0.4580	0.1465	17	-0.31	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	0515	10.28	0.2100	10.33	0.4580	0.1465	17	-0.13	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	0630	10.45	0.3879	10.33	0.4580	0.1465	17	0.26	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	0452	10.58	0.0600	10.33	0.4580	0.1465	17	0.54	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	0394	10.59	0.1330	10.33	0.4580	0.1465	17	0.56	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	0102	10.69	0.1000	10.33	0.4580	0.1465	17	0.78	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	0055	10.69	0.3450	10.33	0.4580	0.1465	17	0.78	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	0136	10.71	0.0900	10.33	0.4580	0.1465	17	0.81	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	0043	10.91	0.0500	10.33	0.4580	0.1465	17	1.24	OK	0
221.33	Acid Soluble Cu, ICP, 2017.02 (10%)	0106	11.20	0.2453	10.33	0.4580	0.1465	17	1.89	OK	0
221.99	Acid Soluble Cu, Other (10%)	0368	9.629	0.0388	10.24	0.3019	0.1618	12	-2.03	OK	0
221.99	Acid Soluble Cu, Other (10%)	0619	10.03	0.1500	10.24	0.3019	0.1618	12	-0.71	OK	0
221.99	Acid Soluble Cu, Other (10%)	0600	10.05	0.2000	10.24	0.3019	0.1618	12	-0.63	OK	0
221.99	Acid Soluble Cu, Other (10%)	0518	10.08	0.4500	10.24	0.3019	0.1618	12	-0.55	OK	0
221.99	Acid Soluble Cu, Other (10%)	0559	10.11	0.0100	10.24	0.3019	0.1618	12	-0.45	OK	0
221.99	Acid Soluble Cu, Other (10%)	0389	10.12	0.0900	10.24	0.3019	0.1618	12	-0.42	OK	0
221.99	Acid Soluble Cu, Other (10%)	0605	10.19	0.2100	10.24	0.3019	0.1618	12	-0.18	OK	0
221.99	Acid Soluble Cu, Other (10%)	0307	10.40	0.2000	10.24	0.3019	0.1618	12	0.53	OK	0
221.99	Acid Soluble Cu, Other (10%)	0577	10.40	0.1600	10.24	0.3019	0.1618	12	0.53	OK	0
221.99	Acid Soluble Cu, Other (10%)	0027	10.45	0.1240	10.24	0.3019	0.1618	12	0.70	OK	0
221.99	Acid Soluble Cu, Other (10%)	0023	10.60	0.2920	10.24	0.3019	0.1618	12	1.18	OK	0
221.99	Acid Soluble Cu, Other (10%)	0587	10.92	0.1500	10.24	0.3019	0.1618	12	2.23	OK	0
221.99	Acid Soluble Cu, Other (10%)	0515	9.237	0.8560	10.24	0.3019	0.1618	12	-3.32	Low	1
241.00	Acid Soluble Fe, AA, inorganic 965.09 (9%)	0415	5.222	0.1450	8.630	0.9464	0.1351	10	-3.35	Low	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (9%)	0558	6.105	0.0125	8.630	0.9464	0.1351	10	-2.48	Low	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (9%)	0580	8.140	0.0000	8.630	0.9464	0.1351	10	-0.48	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (9%)	0626	8.795	0.2900	8.630	0.9464	0.1351	10	0.16	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (9%)	0533	9.035	0.0100	8.630	0.9464	0.1351	10	0.40	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (9%)	0536	9.035	0.0500	8.630	0.9464	0.1351	10	0.40	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (9%)	0538	9.040	0.1200	8.630	0.9464	0.1351	10	0.40	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (9%)	0485	9.045	0.3500	8.630	0.9464	0.1351	10	0.41	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (9%)	0577	9.140	0.0600	8.630	0.9464	0.1351	10	0.50	OK	0
241.00	Acid Soluble Fe, AA, inorganic 965.09 (9%)	0029	9.652	0.1926	8.630	0.9464	0.1351	10	1.00	High	0

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241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (9%)	0255	3.941	0.0740	8.662	0.6641	0.1549	15	-7.11	Low	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (9%)	0619	6.210	0.1400	8.662	0.6641	0.1549	15	-3.69	Low	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (9%)	0035	7.775	0.0900	8.662	0.6641	0.1549	15	-1.34	Low	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (9%)	0231	8.180	0.1600	8.662	0.6641	0.1549	15	-0.73	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (9%)	0049	8.445	0.3700	8.662	0.6641	0.1549	15	-0.33	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (9%)	0433	8.596	0.0650	8.662	0.6641	0.1549	15	-0.10	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (9%)	0451	8.824	0.2980	8.662	0.6641	0.1549	15	0.24	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (9%)	0360	8.910	0.0000	8.662	0.6641	0.1549	15	0.37	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (9%)	0324	9.010	0.2200	8.662	0.6641	0.1549	15	0.52	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (9%)	0354	9.040	0.0000	8.662	0.6641	0.1549	15	0.57	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (9%)	0291	9.060	0.0200	8.662	0.6641	0.1549	15	0.60	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (9%)	0513	9.065	0.0700	8.662	0.6641	0.1549	15	0.61	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (9%)	0234	9.070	0.1000	8.662	0.6641	0.1549	15	0.61	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (9%)	0444	9.135	0.0900	8.662	0.6641	0.1549	15	0.71	OK	0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (9%)	0422	9.489	0.5070	8.662	0.6641	0.1549	15	1.24	OK	0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (9%)	0423	7.315	0.0700	8.504	0.9187	0.1229	8	-1.18	Low	0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (9%)	0292	7.530	0.0400	8.504	0.9187	0.1229	8	-0.97	Low	0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (9%)	0073	8.285	0.3700	8.504	0.9187	0.1229	8	-0.22	OK	0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (9%)	0300	8.647	0.0892	8.504	0.9187	0.1229	8	0.14	OK	0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (9%)	0220	8.685	0.1100	8.504	0.9187	0.1229	8	0.18	OK	0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (9%)	0405	8.800	0.1800	8.504	0.9187	0.1229	8	0.30	OK	0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (9%)	0028	8.885	0.1300	8.504	0.9187	0.1229	8	0.38	OK	0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (9%)	0095	9.890	0.1400	8.504	0.9187	0.1229	8	1.38	High	0
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	0055	6.914	0.0535	8.405	0.7546	0.1863	18	-1.98	Low	0
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	0543	7.157	0.0080	8.405	0.7546	0.1863	18	-1.65	Low	0
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	0472	7.215	0.0500	8.405	0.7546	0.1863	18	-1.58	Low	0
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	0177	7.767	0.8767	8.405	0.7546	0.1863	18	-0.85	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	0515	7.916	0.4430	8.405	0.7546	0.1863	18	-0.65	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	0136	8.265	0.1700	8.405	0.7546	0.1863	18	-0.19	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	0627	8.395	0.0500	8.405	0.7546	0.1863	18	-0.01	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	0260	8.420	0.8000	8.405	0.7546	0.1863	18	0.02	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	0630	8.453	0.2058	8.405	0.7546	0.1863	18	0.06	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	0106	8.583	0.2142	8.405	0.7546	0.1863	18	0.24	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	0040	8.600	0.1600	8.405	0.7546	0.1863	18	0.26	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	0043	8.700	0.1240	8.405	0.7546	0.1863	18	0.39	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	0394	8.723	0.0089	8.405	0.7546	0.1863	18	0.42	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	0527	8.860	0.0568	8.405	0.7546	0.1863	18	0.60	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	0452	9.079	0.1060	8.405	0.7546	0.1863	18	0.89	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	0521	9.150	0.0000	8.405	0.7546	0.1863	18	0.99	OK	0
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	0102	9.265	0.0500	8.405	0.7546	0.1863	18	1.14	High	0
241.33	Acid Soluble Fe, ICP, 2017.02 (9%)	0494	9.302	0.7016	8.405	0.7546	0.1863	18	1.19	High	0
241.70	Acid Soluble Fe, Titrimetric (9%)	0626	8.900	0.0400				1			0
241.99	Acid Soluble Fe, Other (9%)	0307	6.325	0.5300	8.120	0.9827	0.1565	13	-1.83	Low	0

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241.99	Acid Soluble Fe, Other (9%)	0515	6.869	0.1560	8.120	0.9827	0.1565	13	-1.27	Low	0
241.99	Acid Soluble Fe, Other (9%)	0619	6.910	0.0000	8.120	0.9827	0.1565	13	-1.23	Low	0
241.99	Acid Soluble Fe, Other (9%)	0389	7.800	0.2400	8.120	0.9827	0.1565	13	-0.33	OK	0
241.99	Acid Soluble Fe, Other (9%)	0605	7.800	0.2600	8.120	0.9827	0.1565	13	-0.33	OK	0
241.99	Acid Soluble Fe, Other (9%)	0027	7.979	0.2650	8.120	0.9827	0.1565	13	-0.14	OK	0
241.99	Acid Soluble Fe, Other (9%)	0518	8.375	0.1500	8.120	0.9827	0.1565	13	0.26	OK	0
241.99	Acid Soluble Fe, Other (9%)	0559	8.665	0.0100	8.120	0.9827	0.1565	13	0.55	OK	0
241.99	Acid Soluble Fe, Other (9%)	0368	8.684	0.1127	8.120	0.9827	0.1565	13	0.57	OK	0
241.99	Acid Soluble Fe, Other (9%)	0600	8.700	0.2000	8.120	0.9827	0.1565	13	0.59	OK	0
241.99	Acid Soluble Fe, Other (9%)	0587	8.975	0.0300	8.120	0.9827	0.1565	13	0.87	High	0
241.99	Acid Soluble Fe, Other (9%)	0023	9.018	0.0260	8.120	0.9827	0.1565	13	0.91	High	0
241.99	Acid Soluble Fe, Other (9%)	0444	9.135	0.0900	8.120	0.9827	0.1565	13	1.03	High	0
251.00	Acid Soluble Pb, AA, test portion 2006.03 modified w/dual acid	0626	327.6	11.60				1			0
251.30	Acid Soluble Pb, ICP (ppm)	0630	215.7	38.47	324.0	55.76	28.08	8	-1.78	NA	0
251.30	Acid Soluble Pb, ICP (ppm)	0605	265.0	8.690	324.0	55.76	28.08	8	-0.97	NA	0
251.30	Acid Soluble Pb, ICP (ppm)	0394	302.9	25.47	324.0	55.76	28.08	8	-0.35	NA	0
251.30	Acid Soluble Pb, ICP (ppm)	0626	335.1	18.46	324.0	55.76	28.08	8	0.18	NA	0
251.30	Acid Soluble Pb, ICP (ppm)	0627	359.0	4.000	324.0	55.76	28.08	8	0.57	NA	0
251.30	Acid Soluble Pb, ICP (ppm)	0255	359.6	68.90	324.0	55.76	28.08	8	0.58	NA	0
251.30	Acid Soluble Pb, ICP (ppm)	0035	364.0	54.00	324.0	55.76	28.08	8	0.66	NA	0
251.30	Acid Soluble Pb, ICP (ppm)	0027	366.4	7.585	324.0	55.76	28.08	8	0.69	NA	0
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0220	295.9	0.6000	333.1	35.41	14.40	3	-1.05		0
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0405	337.0	24.00	333.1	35.41	14.40	3	0.11		0
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0300	366.4	18.60	333.1	35.41	14.40	3	0.94		0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0515	243.4	39.20	340.6	81.95	18.64	4	-1.19		0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0494	319.0	26.00	340.6	81.95	18.64	4	-0.26		0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0136	360.3	8.280	340.6	81.95	18.64	4	0.24		0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0527	439.8	1.098	340.6	81.95	18.64	4	1.21		0
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0515	252.2	38.30				2			0
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0368	359.5	17.00				2			0
251.99	Acid Soluble Pb, Other (ppm)	0220	296.0	3.100				1			0
261.00	Acid Soluble Mn, AA, Mn2+ only (8%)	0533	7.695	0.0500				1			0
261.11	Acid Soluble Mn, AA, total Mn (8%)	0626	7.885	0.0700				1			0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (8%)	0580	7.255	0.0300	8.025	0.4749	0.1176	5	-1.62		0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (8%)	0485	7.995	0.1900	8.025	0.4749	0.1176	5	-0.06		0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (8%)	0538	8.150	0.1000	8.025	0.4749	0.1176	5	0.26		0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (8%)	0558	8.186	0.0069	8.025	0.4749	0.1176	5	0.34		0
261.12	Acid Soluble Mn, AA, inorganic 965.09 (8%)	0029	8.542	0.2610	8.025	0.4749	0.1176	5	1.09		0
261.14	Acid Soluble Mn, AA, 965.09, test portion 2006.03A-C (8%)	0292	7.420	0.0400				1			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (8%)	0291	8.030	0.0200	8.213	0.2697	0.0762	6	-0.60	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (8%)	0234	8.050	0.0600	8.213	0.2697	0.0762	6	-0.54	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (8%)	0433	8.091	0.0890	8.213	0.2697	0.0762	6	-0.40	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (8%)	0444	8.100	0.0600	8.213	0.2697	0.0762	6	-0.37	OK	0

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261.30	Acid Soluble Mn, ICP, test portion 972.02a (8%)	0354	8.390	0.1000	8.213	0.2697	0.0762	6	0.58	OK	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (8%)	0422	9.261	0.1280	8.213	0.2697	0.0762	6	3.46	High	0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (8%)	0035	6.600	1.620	8.213	0.2697	0.0762	6	-5.33	Low	1
261.31	Acid Soluble Mn, ICP, test portion 972.02b (8%)	0360	8.150	0.0800				2			0
261.31	Acid Soluble Mn, ICP, test portion 972.02b (8%)	0324	8.475	0.6300				2			0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (8%)	0231	7.705	0.0300	8.283	0.4210	0.0995	6	-1.22	OK	0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (8%)	0220	8.030	0.0800	8.283	0.4210	0.0995	6	-0.54	OK	0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (8%)	0049	8.370	0.2800	8.283	0.4210	0.0995	6	0.18	OK	0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (8%)	0451	8.375	0.1430	8.283	0.4210	0.0995	6	0.19	OK	0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (8%)	0513	8.435	0.0900	8.283	0.4210	0.0995	6	0.32	OK	0
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (8%)	0619	8.785	0.0100	8.283	0.4210	0.0995	6	1.06	OK	0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (8%)	0405	7.560	0.0200	7.900	0.2247	0.0830	8	-1.38	OK	0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (8%)	0073	7.760	0.3800	7.900	0.2247	0.0830	8	-0.57	OK	0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (8%)	0423	7.818	0.1740	7.900	0.2247	0.0830	8	-0.33	OK	0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (8%)	0095	7.870	0.0400	7.900	0.2247	0.0830	8	-0.12	OK	0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (8%)	0028	7.950	0.0200	7.900	0.2247	0.0830	8	0.20	OK	0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (8%)	0300	7.973	0.0210	7.900	0.2247	0.0830	8	0.29	OK	0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (8%)	0220	8.030	0.0800	7.900	0.2247	0.0830	8	0.53	OK	0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (8%)	0521	9.150	0.0000	7.900	0.2247	0.0830	8	5.09	High	0
261.35	Acid Soluble Mn, ICP, 2017.02 (8%)	0515	6.947	0.1780	8.191	0.3918	0.1296	15	-3.17	Low	0
261.35	Acid Soluble Mn, ICP, 2017.02 (8%)	0106	7.793	0.1972	8.191	0.3918	0.1296	15	-1.02	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (8%)	0472	7.890	0.0000	8.191	0.3918	0.1296	15	-0.77	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (8%)	0260	7.900	0.2000	8.191	0.3918	0.1296	15	-0.74	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (8%)	0177	7.967	0.1948	8.191	0.3918	0.1296	15	-0.57	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (8%)	0527	8.082	0.0613	8.191	0.3918	0.1296	15	-0.28	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (8%)	0043	8.085	0.0550	8.191	0.3918	0.1296	15	-0.27	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (8%)	0627	8.100	0.0400	8.191	0.3918	0.1296	15	-0.23	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (8%)	0136	8.200	0.0200	8.191	0.3918	0.1296	15	0.02	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (8%)	0494	8.347	0.2847	8.191	0.3918	0.1296	15	0.40	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (8%)	0102	8.375	0.0300	8.191	0.3918	0.1296	15	0.47	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (8%)	0630	8.489	0.0110	8.191	0.3918	0.1296	15	0.76	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (8%)	0543	8.491	0.1670	8.191	0.3918	0.1296	15	0.76	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (8%)	0055	8.764	0.4865	8.191	0.3918	0.1296	15	1.46	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (8%)	0452	8.985	0.0780	8.191	0.3918	0.1296	15	2.03	OK	0
261.35	Acid Soluble Mn, ICP, 2017.02 (8%)	0394	8.551	0.8666	8.191	0.3918	0.1296	15	0.92	OK	1
261.99	Acid Soluble Mn, Other (8%)	0515	6.588	0.4870	8.152	0.4295	0.1041	14	-3.64	Low	0
261.99	Acid Soluble Mn, Other (8%)	0389	7.665	0.0700	8.152	0.4295	0.1041	14	-1.13	OK	0
261.99	Acid Soluble Mn, Other (8%)	0368	7.760	0.0492	8.152	0.4295	0.1041	14	-0.91	OK	0
261.99	Acid Soluble Mn, Other (8%)	0626	7.930	0.0200	8.152	0.4295	0.1041	14	-0.52	OK	0
261.99	Acid Soluble Mn, Other (8%)	0307	7.970	0.0200	8.152	0.4295	0.1041	14	-0.42	OK	0
261.99	Acid Soluble Mn, Other (8%)	0255	7.998	0.2620	8.152	0.4295	0.1041	14	-0.36	OK	0
261.99	Acid Soluble Mn, Other (8%)	0600	8.150	0.2000	8.152	0.4295	0.1041	14	0.00	OK	0
261.99	Acid Soluble Mn, Other (8%)	0605	8.180	0.1000	8.152	0.4295	0.1041	14	0.07	OK	0

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			Value	Range	Rob Mean	Rob SD	Rob R-bar				
261.99	Acid Soluble Mn, Other (8%)	0587	8.260	0.1000	8.152	0.4295	0.1041	14	0.25	OK	0
261.99	Acid Soluble Mn, Other (8%)	0518	8.350	0.1000	8.152	0.4295	0.1041	14	0.46	OK	0
261.99	Acid Soluble Mn, Other (8%)	0559	8.355	0.0100	8.152	0.4295	0.1041	14	0.47	OK	0
261.99	Acid Soluble Mn, Other (8%)	0023	8.452	0.0930	8.152	0.4295	0.1041	14	0.70	OK	0
261.99	Acid Soluble Mn, Other (8%)	0027	8.760	0.1870	8.152	0.4295	0.1041	14	1.42	OK	0
261.99	Acid Soluble Mn, Other (8%)	0619	8.785	0.0100	8.152	0.4295	0.1041	14	1.47	OK	0
271.00	Water Soluble Mn, AA (%)	0536	7.990	0.0600				2			0
271.00	Water Soluble Mn, AA (%)	0577	8.165	0.0300				2			0
271.30	Water Soluble Mn, ICP, Ext. 972.03 (%)	0619	8.300	0.0800				1			0
271.99	Water Soluble Mn, Other (%)	0619	8.355	0.0300				1			0
281.00	Acid Soluble Hg, AA (ppm)	0300	< 0.05					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0630	0.0930	0.0100				1			0
281.30	Acid Soluble Hg, ICP (ppm)	0527	< 0.001					1			5
281.30	Acid Soluble Hg, ICP (ppm)	0515	< 0.1					1			5
281.30	Acid Soluble Hg, ICP (ppm)	0605	< 1.25					1			5
281.30	Acid Soluble Hg, ICP (ppm)	0405	< 2					1			5
281.99	Acid Soluble Hg, Other (ppm)	0220	0.0600	0.0000				2			0
281.99	Acid Soluble Hg, Other (ppm)	0626	0.0690	0.0040				2			0
289.30	Acid Soluble Mo, ICP (ppm)	0255	3.482	2.332	4.382	1.026	1.113	3	-0.88		0
289.30	Acid Soluble Mo, ICP (ppm)	0630	4.165	0.0080	4.382	1.026	1.113	3	-0.21		0
289.30	Acid Soluble Mo, ICP (ppm)	0234	5.500	1.000	4.382	1.026	1.113	3	1.09		0
289.30	Acid Soluble Mo, ICP (ppm)	0035	< 2.34		4.382	1.026	1.113	3			5
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0220	4.900	0.4000	6.549	1.476	0.7180	3	-1.12		0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0405	7.000	0.0000	6.549	1.476	0.7180	3	0.31		0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0300	7.747	1.036	6.549	1.476	0.7180	3	0.81		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0494	3.395	0.1500	10.26	12.26	3.652	4	-0.47		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0136	3.730	0.1000	10.26	12.26	3.652	4	-0.45		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	5.292	0.2687	10.26	12.26	3.652	4	-0.34		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0515	28.61	14.09	10.26	12.26	3.652	4	1.27		0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0106	0.0000	0.0000	10.26	12.26	3.652	4			4
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0626	< 10		10.26	12.26	3.652	4			5
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0368	4.550	0.1000				1			0
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0515	< 0.23					1			5
289.99	Acid Soluble Mo, Other (ppm)	0220	4.800	0.4000				1			0
291.00	Acid Soluble Ni, AA, test portion 2006.03 modified w/dual acid (	0626	143.6	4.300				1			0
291.30	Acid Soluble Ni, ICP (ppm)	0630	0.2488	0.4685	121.9	69.02	3.106	5	-1.54		0
291.30	Acid Soluble Ni, ICP (ppm)	0394	139.4	2.490	121.9	69.02	3.106	5	0.22		0
291.30	Acid Soluble Ni, ICP (ppm)	0035	142.0	4.000	121.9	69.02	3.106	5	0.25		0
291.30	Acid Soluble Ni, ICP (ppm)	0627	163.4	0.6000	121.9	69.02	3.106	5	0.52		0
291.30	Acid Soluble Ni, ICP (ppm)	0027	164.6	7.971	121.9	69.02	3.106	5	0.54		0
291.30	Acid Soluble Ni, ICP (ppm)	0605	180.3	72.32	121.9	69.02	3.106	5	0.74		1
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0405	140.0	4.000	148.2	8.329	5.650	3	-0.99		0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0220	148.0	2.400	148.2	8.329	5.650	3	-0.03		0

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291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0300	156.7	10.55	148.2	8.329	5.650	3	1.01		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0515	122.4	3.300	138.4	20.50	4.620	3	-0.78		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0136	131.4	7.560	138.4	20.50	4.620	3	-0.34		0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0494	161.5	3.000	138.4	20.50	4.620	3	1.13		0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0515	105.8	14.39	137.4	32.11	8.230	3	-0.98		0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0626	136.5	4.300	137.4	32.11	8.230	3	-0.03		0
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0368	170.0	6.000	137.4	32.11	8.230	3	1.01		0
291.99	Acid Soluble Ni, Other (ppm)	0220	155.9	6.600				2			0
291.99	Acid Soluble Ni, Other (ppm)	0255	165.1	5.600				2			0
301.00	Acid Soluble Se, AA, test portion 2006.03 modified w/dual acid	0626	< 0.5					0			5
301.30	Acid Soluble Se, ICP (ppm)	0630	1.560	0.3730				2			0
301.30	Acid Soluble Se, ICP (ppm)	0627	22.04	2.360				2			0
301.30	Acid Soluble Se, ICP (ppm)	0605	< 1.65					2			5
301.30	Acid Soluble Se, ICP (ppm)	0035	< 20.1					2			5
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0405	46.00	4.000				2			0
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0220	49.30	1.200				2			0
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0527	< 0.01					0			5
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0515	< 0.27					0			5
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0515	< 0.27					0			5
301.34	Acid Soluble Se, ICP, EPA 3050B/6010C (ppm)	0368	< 1.5					0			5
301.99	Acid Soluble Se, Other (ppm)	0220	48.90	0.6000				1			0
301.99	Acid Soluble Se, Other (ppm)	0255	0.0000	0.0000				1			4
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0423	1.263	0.0590	1.398	0.1176	0.0824	3	-1.15		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	1.453	0.0180	1.398	0.1176	0.0824	3	0.47		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0494	1.477	0.1701	1.398	0.1176	0.0824	3	0.68		0
311.99	Sodium, Other (%)	0354	1.460	0.0400				1			0
321.00	Acid Soluble Zn, AA, inorganic 965.09 (%)	0626	4.085	0.1100				1			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0255	3.535	0.0330	4.128	0.5285	0.0822	6	-1.00	Low	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0035	3.590	0.2400	4.128	0.5285	0.0822	6	-0.91	Low	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0354	4.225	0.1300	4.128	0.5285	0.0822	6	0.16	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0422	4.257	0.0110	4.128	0.5285	0.0822	6	0.22	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0234	4.510	0.0200	4.128	0.5285	0.0822	6	0.64	OK	0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0619	4.650	0.0800	4.128	0.5285	0.0822	6	0.88	High	0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0405	3.135	0.0300	3.875	0.4969	0.0586	5	-1.49		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0423	3.615	0.0100	3.875	0.4969	0.0586	5	-0.52		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0300	4.049	0.0630	3.875	0.4969	0.0586	5	0.35		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0220	4.255	0.0900	3.875	0.4969	0.0586	5	0.77		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0095	4.320	0.1000	3.875	0.4969	0.0586	5	0.90		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0472	3.745	0.1700	4.024	0.2122	0.1065	12	-1.31	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0394	3.774	0.0060	4.024	0.2122	0.1065	12	-1.18	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0102	3.785	0.0100	4.024	0.2122	0.1065	12	-1.12	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0260	3.910	0.0800	4.024	0.2122	0.1065	12	-0.54	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0043	3.966	0.0280	4.024	0.2122	0.1065	12	-0.27	OK	0

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			Value	Range	Rob Mean	Rob SD	Rob R-bar				
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0627	4.015	0.0500	4.024	0.2122	0.1065	12	-0.04	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0106	4.085	1.103	4.024	0.2122	0.1065	12	0.29	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0136	4.120	0.0600	4.024	0.2122	0.1065	12	0.45	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0626	4.180	0.1400	4.024	0.2122	0.1065	12	0.74	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0421	4.217	0.1330	4.024	0.2122	0.1065	12	0.91	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0630	4.226	0.5784	4.024	0.2122	0.1065	12	0.96	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0494	4.261	0.0993	4.024	0.2122	0.1065	12	1.12	OK	0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0515	6.955	1.703	4.024	0.2122	0.1065	12	13.81	High	1
321.99	Acid Soluble Zn, Other (%)	0533	3.395	0.0100	4.102	0.4699	0.0804	9	-1.39	Low	0
321.99	Acid Soluble Zn, Other (%)	0605	3.745	0.1900	4.102	0.4699	0.0804	9	-0.70	OK	0
321.99	Acid Soluble Zn, Other (%)	0307	3.750	0.0200	4.102	0.4699	0.0804	9	-0.69	OK	0
321.99	Acid Soluble Zn, Other (%)	0587	4.085	0.0700	4.102	0.4699	0.0804	9	-0.03	OK	0
321.99	Acid Soluble Zn, Other (%)	0600	4.125	0.1500	4.102	0.4699	0.0804	9	0.04	OK	0
321.99	Acid Soluble Zn, Other (%)	0559	4.165	0.0100	4.102	0.4699	0.0804	9	0.12	OK	0
321.99	Acid Soluble Zn, Other (%)	0368	4.473	0.1136	4.102	0.4699	0.0804	9	0.73	OK	0
321.99	Acid Soluble Zn, Other (%)	0027	4.530	0.0840	4.102	0.4699	0.0804	9	0.84	High	0
321.99	Acid Soluble Zn, Other (%)	0619	4.650	0.0800	4.102	0.4699	0.0804	9	1.08	High	0
321.99	Acid Soluble Zn, Other (%)	0515	3.272	1.191	4.102	0.4699	0.0804	9	-1.63	Low	1
325.00	Water Soluble Zn, AA (%)	0538	0.6050	0.0100				1			0
325.30	Water Soluble Zn, ICP (%)	0619	2.705	0.0100				1			0
325.99	Water Soluble Zn, Other (%)	0619	2.705	0.0100				1			0

Interpreting Z Scores and Flags:

Interpreting Z Scores: Red indicates a normally distributed Z value >3 or <-3 (requires action), Orange = Z between 2 and 3 or -2 and -3 (warning) and Green = Z < 2 and >-2 (OK at 95%). Flags indicate data usage: 0 = Used, 1 = rejected for duplicates too far apart, 2 = rejected as extreme outlier, 3 = removed from stats, 4 = rejected due to 0s submitted and 5 = LOD. A 9 flag indicates a data problem - scores not calculated.

Notes:

*Robust statistics not used if < 6 labs used in calculations, in this case Values and Z Scores are grayed out and should be interpreted with extreme caution. Identical duplicates not included in calculation of Rob R-bar. IA Status describes where your result is relative to the Assigned Value $\pm$ IA. Red indicates Higher or Lower and Green indicates within the IA range about the Robust mean. Method codes in light green indicate a guaranteed analyte. Individual lab values may be below detection limits but are reported solely for