



Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

# Methods: 130

Sample # 240811

Regular PT Scheme

# Labs Reporting: 66

Grade 21-7-14

Statistical Summary

Issue Date : 09/30/2024

Method Code	Analyte & Method Sample # 240811	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
001.10	Ammoniacal N, Magnesium Oxide Method (%)	5	5	10.83	0.3026	10.83		0.3026	0.1691	2.80%		0.1525	2.79%
001.99	Ammoniacal N, Other (%)	23	22	11.06	0.2679	11.08		0.1324	0.0353	1.19%		0.0772	2.78%
002.99	Nitrate N, Other (%)	22	21	9.889	0.6525	9.903		0.3358	0.0916	3.39%		0.1001	2.83%
005.99	Urea N, Other (%)	1		0.4956									
009.10	Ammoniacal Plus Nitrate N, Devarda (%)	4	4	20.91	0.1103	20.91		0.1103	0.0690	0.53%		0.1775	2.19%
009.99	Ammoniacal Plus Nitrate N, Other (%)	1		20.85									
010.11	Total N, Modified Comprehensive (21%)	1		21.00									
010.12	Total N, Salicylic (21%)	1		20.10									
010.17	Total N, Comprehensive (21%)	1		21.42									
010.60	Total N, Combustion (21%)	39	38	20.86	0.6534	20.85	0.7385	0.5650	0.1146	2.71%	1.78	0.1752	2.19%
010.99	Total N, Other (21%)	10	10	20.93	0.3308	20.92	0.7392	0.3412	0.1349	1.63%	1.08	0.0755	2.19%
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	2	2	6.990	0.0212								
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	7	6	6.966	0.1857	6.928		0.1952	0.0996	2.82%		0.0213	2.99%
020.40	Total P2O5, Automated (%)	2	2	6.928	0.0392								
020.50	Total P2O5, ICP (%)	17	17	6.739	0.7392	6.848		0.4802	0.1456	7.01%		0.1597	2.99%
020.99	Total P2O5, Other (%)	6	5	7.124	0.1978	7.106		0.2157	0.1206	3.03%		0.0680	2.98%
030.20	Citrate Insoluble P2O5, Spectrophotometric MolybdovanadoP	1		0.0100									
040.99	Indirect Available P2O5, Other (7%)	2	2	6.975	0.2404								
041.10	Direct Available P2O5, Gravimetric Quinolinium (7%)	3	3	6.875	0.0966	6.875	0.6787	0.0966	0.0697	1.41%	0.33	0.0467	2.99%
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA	9	9	6.842	0.1729	6.858	0.6786	0.1578	0.0657	2.30%	0.54	0.0638	2.99%
041.20	Direct Available P2O5, Spectrophotometric (7%)	2	2	6.930	0.0707								
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	7	7	6.751	0.4516	6.751	0.6775	0.5121	0.2420	7.59%	1.76	0.1421	3.00%
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (7%)	1		6.925									
041.50	Direct Available P2O5, ICP (7%)	2	2	6.487	0.5134								
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (7%)	9	9	6.880	0.2682	6.905	0.6791	0.2425	0.1011	3.51%	0.83	0.0642	2.99%
041.99	Direct Available P2O5, Other (7%)	8	8	7.113	0.2098	7.075	0.6800	0.1366	0.0604	1.93%	0.47	0.0817	2.98%
048.10	Water Soluble P2O5, Gravimetric Quinolinium (%)	2	2	5.255	0.0212								
048.20	Water Soluble P2O5, Spectrophotometric (%)	2	2	4.903	0.0106								
048.50	Water Soluble P2O5, ICP (%)	2	2	5.268	0.0035								

Method Code	Analyte & Method Sample # 240811	# 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
048.99	Water Soluble P2O5, Other (%)	3	3	5.275	0.2692	5.275		0.2692	0.1943	5.10%		0.1433	3.11%
050.00	Soluble K2O, STPB Oxalate (14%)	10	10	14.18	0.3979	14.18	0.8761	0.4512	0.1784	3.18%	1.20	0.0999	2.66%
050.30	Soluble K2O, AA (Oxalate) (14%)	3	3	14.33	0.9021	14.33	0.8816	0.9021	0.6510	6.29%	2.38	0.2200	2.64%
050.32	Soluble K2O, AA (Citrate-EDTA) (14%)	2	2	13.26	1.796								
050.50	Soluble K2O, ICP (Oxalate) (14%)	7	7	14.01	0.6536	14.01	0.8705	0.7412	0.3502	5.29%	1.98	0.2057	2.67%
050.52	Soluble K2O, ICP (Citrate-EDTA) (14%)	10	10	13.72	0.5744	13.74	0.8595	0.6231	0.2463	4.54%	1.69	0.1175	2.70%
050.60	Soluble K2O, Flame Photometric (Oxalate) (14%)	1		13.99									
050.61	Soluble K2O, Flame Photometric (Citrate) (14%)	1		13.70									
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (14%)	3	3	14.38	0.2849	14.38	0.8834	0.2849	0.2056	1.98%	0.75	0.1457	2.64%
050.99	Soluble K2O, Other (14%)	28	27	13.85	0.6048	13.91	0.8665	0.4307	0.1036	3.10%	1.16	0.1861	2.68%
060.00	Water (Free), Vacuum Oven (%)	1		0.4500									
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours, 5g samp	1		1.250									
060.99	Water (Free), Other (%)	1		1.070									
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	3	3	1.766	0.0869	1.766	0.2883	0.0869	0.0627	4.92%	0.70	0.0697	3.67%
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	1		1.741									
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	3	3	1.972	0.3913	1.972	0.2986	0.3913	0.2824	19.85%	3.05	0.0055	3.61%
101.99	Acid Soluble Ca, Other (%)	3	3	2.298	0.3628	2.298	0.3149	0.3628	0.2619	15.79%	2.68	0.1633	3.53%
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	3	3	0.1332	0.0104	0.1332	0.2067	0.0103	0.0075	7.77%	0.12	0.0053	5.42%
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	1		0.1260									
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	4	4	0.1044	0.0478	0.1044	0.2052	0.0478	0.0299	45.82%	0.54	0.0187	5.62%
121.99	Acid Soluble Mg, Other (%)	4	4	0.1374	0.0606	0.1374	0.2069	0.0606	0.0379	44.08%	0.68	0.0672	5.39%
131.99	Water Soluble Mg, Other (%)	1		0.0800									
143.00	Elemental S, Gravimetric Sulfur - carbon disulfide soluble sulfu	2	1	0.0553	0.0739								
143.99	Elemental S, Other (%)	2	2	6.879	2.339								
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	4	4	5.187	0.0904	5.187		0.0904	0.0565	1.74%		0.1055	3.12%
145.99	Sulfate S, HCl soluble, Other (%)	6	6	5.185	0.2420	5.183		0.2692	0.1374	5.19%		0.0867	3.12%
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a...	1		5.240									
148.00	Total S, Combustion (5.1%)	5	5	5.137	0.2272	5.137	0.4569	0.2272	0.1270	4.42%	1.16	0.1443	3.13%
148.01	Total S, Gravimetric - sulfate and elemental (5.1%)	9	9	5.250	0.1536	5.250	0.4625	0.1742	0.0726	3.32%	0.88	0.0870	3.12%
148.07	Total S, ICP, test portion as in 2017.02 (5.1%)	13	12	5.052	0.2437	5.055	0.4528	0.2884	0.1041	5.70%	1.48	0.0823	3.13%
148.99	Total S, Other (5.1%)	13	13	4.956	0.6165	5.078	0.4539	0.2077	0.0720	4.09%	1.07	0.0922	3.13%
149.04	S - HNO3 soluble, ICP (%)	3	3	5.054	0.4364	5.054		0.4364	0.3150	8.64%		0.1410	3.13%
149.99	S - HNO3 soluble, Other (%)	1		5.285									
151.30	Acid Soluble As, ICP (ppm)	4	2	3.553	2.807	4.006		1.896	1.676	47.34%		0.0395	12.98%
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	2	2	12.13	4.066								
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	4	4	6.934	3.103	6.934		3.103	1.939	44.75%		2.971	11.95%
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	1		5.997									
151.99	Acid Soluble As, Other (ppm)	2	2	6.560	3.946								
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	2	1	0.0057	0.0061								
165.99	Acid Soluble B, Other (%)	6	4	0.0338	0.0669	0.0454	0.0098	0.0832	0.0520	183.36%	19.77	0.2200	6.37%

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171.99	Water Soluble B, Other (%)	1		0.0112									
181.30	Acid Soluble Cd, ICP (ppm)	5	4	1.050	0.6304	0.8498		0.5129	0.3206	60.36%		0.2059	16.39%
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	2	1	0.7750	0.3182								
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	4	2	0.6023	0.3449	0.6096		0.1691	0.1494	27.74%		0.0283	17.23%
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	1		0.1330									
181.99	Acid Soluble Cd, Other (ppm)	2	2	0.5650	0.0141								
190.00	Water Soluble Cl, Titrimetric (%)	1		0.2600									
191.30	Acid Soluble Cr, ICP (ppm)	5	5	13.84	2.042	13.84		2.042	1.142	14.75%		0.4615	10.77%
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	2	2	15.53	0.7425								
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	3	3	17.14	4.529	17.14		4.529	3.269	26.42%		8.298	10.43%
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	1		7.827									
191.99	Acid Soluble Cr, Other (ppm)	2	2	14.58	2.075								
202.30	Acid Soluble Co, ICP (ppm)	2	2	0.9593	0.5209								
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	2	1	0.7750	0.3182								
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	3	1	1.123	1.205	0.9593	1.2878	0.5209	0.6511	54.30%	0.94	0.0020	16.10%
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	1		0.1390									
202.99	Acid Soluble Co, Other (ppm)	3	2	0.4320	0.2930	0.5925	1.1778	0.1308	0.1156	22.08%	0.26	0.0150	17.31%
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	5	4	0.0066	0.0084	0.0058	0.0056	0.0095	0.0059	163.28%	3.95	0.0002	8.68%
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	4	4	1.951	3.900	1.951	0.2001	3.900	2.437	199.92%	45.42	0.1201	3.62%
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	3	3	0.0010	0.0001	0.0010	0.0051	0.0001	0.0001	13.93%	0.06	0.0001	11.40%
221.99	Acid Soluble Cu, Other (%)	3	3	0.0009	0.0001	0.0009	0.0051	0.0001	0.0001	12.37%	0.05	0.0000	11.43%
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	4	4	0.0659	0.0183	0.0659	0.0116	0.0183	0.0114	27.74%	3.68	0.0145	6.02%
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	2	2	0.0146	0.0197								
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	4	3	0.0450	0.0301	0.0595	0.0109	0.0104	0.0075	17.53%	2.22	0.0013	6.12%
241.99	Acid Soluble Fe, Other (%)	3	2	0.0336	0.0280	0.0497	0.0100	0.0004	0.0003	0.78%	0.09	0.0001	6.28%
251.30	Acid Soluble Pb, ICP (ppm)	5	3	2.288	1.825	2.146		0.5788	0.4177	26.97%		0.0993	14.26%
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	2	1	3.100	1.273								
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	3	2	2.850	1.098	2.774		1.542	1.363	55.59%		0.0566	13.72%
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	1		3.691									
251.99	Acid Soluble Pb, Other (ppm)	2	2	1.890	0.5091								
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	3	2	0.0061	0.0034	0.0041	0.0054	0.0002	0.0002	4.29%	0.08	0.0003	9.14%
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)	1		0.0200									
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	1		0.0125									
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	1		0.0046									
261.99	Acid Soluble Mn, Other (%)	2	2	0.0039	0.0001								
281.30	Acid Soluble Hg, ICP (ppm)	4	0	0.8378	0.9601	0.0039		0.0001		1.81%		0.0001	22.00%
281.99	Acid Soluble Hg, Other (ppm)	3	1	0.0068	0.0056	0.0039		0.0001	0.0001	1.81%		0.0001	22.00%
289.30	Acid Soluble Mo, ICP (ppm)	2	2	0.6088	0.1213								
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	2	1	0.8425	0.2227								
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	3	2	1.417	1.610	2.011	1.6032	1.753	1.549	87.18%	2.55	0.0518	14.40%

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289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	1		0.1780									
289.99	Acid Soluble Mo, Other (ppm)	2	1	1.690	1.358								
291.30	Acid Soluble Ni, ICP (ppm)	5	5	3.351	0.4122	3.351		0.4122	0.2304	12.30%		0.3548	13.34%
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	2	2	3.300	0.4243								
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	3	2	2.529	1.965	3.664		0.0513	0.0453	1.40%		0.2244	13.16%
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	1		0.1800									
291.99	Acid Soluble Ni, Other (ppm)	3	3	9.667	10.96	9.667		10.96	7.913	113.43%		2.507	11.37%
301.30	Acid Soluble Se, ICP (ppm)	3	2	5.306	7.582	7.133		9.743	8.612	136.59%		0.1590	11.90%
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	2	0	5.150	6.859								
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)	1		0.2260									
301.99	Acid Soluble Se, Other (ppm)	3	1	5.830	9.839	7.133		9.743	12.18	136.59%		0.0520	11.90%
311.32	Sodium, ICP, 2006.03 test portion (%)	1		0.1464									
311.33	Sodium, ICP, test portion as in 2017.02 (%)	4	4	0.1610	0.0199	0.1610	0.0211	0.0199	0.0124	12.36%	2.20	0.0087	5.27%
311.99	Sodium, Other (%)	2	2	0.1600	0.0212								
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	5	4	0.0078	0.0075	0.0073	0.0057	0.0085	0.0053	117.51%	3.48	0.0054	8.39%
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	3	3	0.0023	0.0006	0.0023	0.0052	0.0006	0.0004	26.45%	0.27	0.0000	9.98%
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	5	5	0.0019	0.0006	0.0019	0.0052	0.0006	0.0003	30.52%	0.26	0.0004	10.29%
321.99	Acid Soluble Zn, Other (%)	3	3	0.0036	0.0025	0.0036	0.0054	0.0025	0.0018	71.22%	1.10	0.0017	9.34%
325.99	Water Soluble Zn, Other (%)	1		0.0011									
431.99	Soluble Si in nonliquids, Other (%)	1		0.0060									

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



Method PT For All Labs

### Magruder Fertilizer Proficiency Testing Program

Sample # 240811

Regular PT Scheme

Grade 21-7-14

### Method Precision Report

Issue Date : 09/30/2024

Method Code	Analyte & Method	# Tests Submitted	# Tests Used in Precision Calcs	Mean	SD	Between Labs sL	Within Labs sr	Reproducibility SR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
001.10	Ammoniacal N, Magnesium Oxide Method (%)	5	5	10.83	0.3026	0.2933	0.1049	0.3115	2.71%	0.97%	2.88%	2.969
001.99	Ammoniacal N, Other (%)	23	21	11.07	0.1257	0.1174	0.0635	0.1335	1.06%	0.57%	1.21%	2.102
002.99	Nitrate N, Other (%)	22	19	10.01	0.4275	0.4218	0.0982	0.4331	4.21%	0.98%	4.33%	4.412
010.60	Total N, Combustion (21%)	39	37	20.83	0.5577	0.5445	0.1708	0.5706	2.61%	0.82%	2.74%	3.340
010.99	Total N, Other (21%)	10	9	20.92	0.3480	0.3453	0.0613	0.3507	1.65%	0.29%	1.68%	5.719
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	7	6	6.928	0.1722	0.1716	0.0197	0.1727	2.48%	0.28%	2.49%	8.785
020.50	Total P2O5, ICP (%)	17	16	6.893	0.3931	0.3767	0.1586	0.4088	5.47%	2.30%	5.93%	2.577
020.99	Total P2O5, Other (%)	6	5	7.106	0.2157	0.2110	0.0629	0.2202	2.97%	0.89%	3.10%	3.499
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA E	9	9	6.842	0.1729	0.1678	0.0590	0.1779	2.45%	0.86%	2.60%	3.016
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	7	7	6.751	0.4516	0.4399	0.1444	0.4630	6.52%	2.14%	6.86%	3.207
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (7%)	9	9	6.880	0.2682	0.2657	0.0519	0.2707	3.86%	0.75%	3.93%	5.219
041.99	Direct Available P2O5, Other (7%)	8	7	7.046	0.0945	0.0788	0.0738	0.1080	1.12%	1.05%	1.53%	1.464
050.00	Soluble K2O, STPB Oxalate (14%)	10	10	14.18	0.3979	0.3939	0.0792	0.4018	2.78%	0.56%	2.83%	5.072
050.50	Soluble K2O, ICP (Oxalate) (14%)	7	7	14.01	0.6536	0.6372	0.2055	0.6695	4.55%	1.47%	4.78%	3.258
050.52	Soluble K2O, ICP (Citrate-EDTA) (14%)	10	10	13.72	0.5744	0.5682	0.1194	0.5806	4.14%	0.87%	4.23%	4.862
050.99	Soluble K2O, Other (14%)	28	25	13.89	0.4485	0.4269	0.1945	0.4691	3.07%	1.40%	3.38%	2.412
145.99	Sulfate S, HCl soluble, Other (%)	6	6	5.185	0.2420	0.2369	0.0701	0.2470	4.57%	1.35%	4.76%	3.523
148.00	Total S, Combustion (5.1%)	5	5	5.137	0.2272	0.2156	0.1015	0.2382	4.20%	1.98%	4.64%	2.348
148.01	Total S, Gravimetric - sulfate and elemental (5.1%)	9	9	5.250	0.1536	0.1432	0.0784	0.1633	2.73%	1.49%	3.11%	2.082
148.07	Total S, ICP, test portion as in 2017.02 (5.1%)	13	12	5.055	0.2543	0.2504	0.0628	0.2581	4.95%	1.24%	5.11%	4.110
148.99	Total S, Other (5.1%)	13	12	5.119	0.1990	0.1919	0.0741	0.2057	3.75%	1.45%	4.02%	2.777

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





Method PT For All Labs

### Magruder Fertilizer Proficiency Testing Program

# Methods: 130

Sample # 240811

Regular PT Scheme

# Labs Reporting: 66

Grade 21-7-14

Lab Values

Issue Date : 09/30/2024

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0389	10.44	0.0800	10.83	0.3026	0.1525	5	-1.27		0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0451	10.68	0.1900	10.83	0.3026	0.1525	5	-0.50		0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0231	10.76	0.2400	10.83	0.3026	0.1525	5	-0.21		0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0444	11.05	0.1000	10.83	0.3026	0.1525	5	0.74		0
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0619	11.20	0.0000	10.83	0.3026	0.1525	5	1.24		0
001.99	Ammoniacal N, Other (%)	0524	10.79	0.0190	11.08	0.1324	0.0772	22	-2.19	NA	0
001.99	Ammoniacal N, Other (%)	0605	10.82	0.1200	11.08	0.1324	0.0772	22	-2.00	NA	0
001.99	Ammoniacal N, Other (%)	0394	10.91	0.0180	11.08	0.1324	0.0772	22	-1.32	NA	0
001.99	Ammoniacal N, Other (%)	0136	10.95	0.0800	11.08	0.1324	0.0772	22	-1.02	NA	0
001.99	Ammoniacal N, Other (%)	0517	11.03	0.1500	11.08	0.1324	0.0772	22	-0.45	NA	0
001.99	Ammoniacal N, Other (%)	0553	11.04	0.0700	11.08	0.1324	0.0772	22	-0.38	NA	0
001.99	Ammoniacal N, Other (%)	0562	11.05	0.0600	11.08	0.1324	0.0772	22	-0.26	NA	0
001.99	Ammoniacal N, Other (%)	0600	11.05	0.0600	11.08	0.1324	0.0772	22	-0.26	NA	0
001.99	Ammoniacal N, Other (%)	0538	11.06	0.1500	11.08	0.1324	0.0772	22	-0.23	NA	0
001.99	Ammoniacal N, Other (%)	0513	11.07	0.0300	11.08	0.1324	0.0772	22	-0.15	NA	0
001.99	Ammoniacal N, Other (%)	0564	11.08	0.0500	11.08	0.1324	0.0772	22	-0.07	NA	0
001.99	Ammoniacal N, Other (%)	0584	11.08	0.1100	11.08	0.1324	0.0772	22	-0.07	NA	0
001.99	Ammoniacal N, Other (%)	0405	11.09	0.0500	11.08	0.1324	0.0772	22	0.00	NA	0
001.99	Ammoniacal N, Other (%)	0537	11.09	0.1400	11.08	0.1324	0.0772	22	0.04	NA	0
001.99	Ammoniacal N, Other (%)	0510	11.09	0.0057	11.08	0.1324	0.0772	22	0.08	NA	0
001.99	Ammoniacal N, Other (%)	0423	11.10	0.0300	11.08	0.1324	0.0772	22	0.08	NA	0
001.99	Ammoniacal N, Other (%)	0619	11.20	0.0000	11.08	0.1324	0.0772	22	0.87	NA	0
001.99	Ammoniacal N, Other (%)	0549	11.22	0.0100	11.08	0.1324	0.0772	22	0.98	NA	0
001.99	Ammoniacal N, Other (%)	0027	11.24	0.1100	11.08	0.1324	0.0772	22	1.13	NA	0
001.99	Ammoniacal N, Other (%)	0220	11.25	0.2000	11.08	0.1324	0.0772	22	1.25	NA	0
001.99	Ammoniacal N, Other (%)	0559	11.26	0.0100	11.08	0.1324	0.0772	22	1.29	NA	0
001.99	Ammoniacal N, Other (%)	0255	11.71	0.5500	11.08	0.1324	0.0772	22	4.68	NA	0
001.99	Ammoniacal N, Other (%)	0572	10.14	1.460	11.08	0.1324	0.0772	22	-7.14	NA	1
002.99	Nitrate N, Other (%)	0220	7.625	0.0700	9.903	0.3358	0.1001	21	-6.78	NA	0
002.99	Nitrate N, Other (%)	0029	9.405	0.0700	9.903	0.3358	0.1001	21	-1.48	NA	0
002.99	Nitrate N, Other (%)	0553	9.530	0.5000	9.903	0.3358	0.1001	21	-1.11	NA	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
002.99	Nitrate N, Other (%)	0564	9.585	0.0300	9.903	0.3358	0.1001	21	-0.95	NA	0
002.99	Nitrate N, Other (%)	0518	9.650	0.1000	9.903	0.3358	0.1001	21	-0.75	NA	0
002.99	Nitrate N, Other (%)	0562	9.770	0.1400	9.903	0.3358	0.1001	21	-0.40	NA	0
002.99	Nitrate N, Other (%)	0600	9.770	0.1400	9.903	0.3358	0.1001	21	-0.40	NA	0
002.99	Nitrate N, Other (%)	0605	9.835	0.1300	9.903	0.3358	0.1001	21	-0.20	NA	0
002.99	Nitrate N, Other (%)	0517	9.850	0.1000	9.903	0.3358	0.1001	21	-0.16	NA	0
002.99	Nitrate N, Other (%)	0584	9.875	0.0700	9.903	0.3358	0.1001	21	-0.08	NA	0
002.99	Nitrate N, Other (%)	0537	9.885	0.1900	9.903	0.3358	0.1001	21	-0.05	NA	0
002.99	Nitrate N, Other (%)	0538	9.895	0.0700	9.903	0.3358	0.1001	21	-0.02	NA	0
002.99	Nitrate N, Other (%)	0444	9.900	0.2000	9.903	0.3358	0.1001	21	-0.01	NA	0
002.99	Nitrate N, Other (%)	0549	9.965	0.0300	9.903	0.3358	0.1001	21	0.18	NA	0
002.99	Nitrate N, Other (%)	0513	10.06	0.0200	9.903	0.3358	0.1001	21	0.47	NA	0
002.99	Nitrate N, Other (%)	0394	10.10	0.0380	9.903	0.3358	0.1001	21	0.58	NA	0
002.99	Nitrate N, Other (%)	0231	10.13	0.1800	9.903	0.3358	0.1001	21	0.68	NA	0
002.99	Nitrate N, Other (%)	0027	10.22	0.0400	9.903	0.3358	0.1001	21	0.94	NA	0
002.99	Nitrate N, Other (%)	0559	10.33	0.0100	9.903	0.3358	0.1001	21	1.26	NA	0
002.99	Nitrate N, Other (%)	0423	10.54	0.0400	9.903	0.3358	0.1001	21	1.90	NA	0
002.99	Nitrate N, Other (%)	0547	11.40	0.4000	9.903	0.3358	0.1001	21	4.46	NA	0
002.99	Nitrate N, Other (%)	0136	10.25	1.130	9.903	0.3358	0.1001	21	1.02	NA	1
005.99	Urea N, Other (%)	0524	0.4956	0.0009				1			0
009.10	Ammoniacal Plus Nitrate N, Devarda (%)	0517	20.80	0.2000	20.91	0.1103	0.1775	4	-1.01		0
009.10	Ammoniacal Plus Nitrate N, Devarda (%)	0619	20.85	0.1000	20.91	0.1103	0.1775	4	-0.56		0
009.10	Ammoniacal Plus Nitrate N, Devarda (%)	0537	20.95	0.1100	20.91	0.1103	0.1775	4	0.31		0
009.10	Ammoniacal Plus Nitrate N, Devarda (%)	0444	21.05	0.3000	20.91	0.1103	0.1775	4	1.26		0
009.99	Ammoniacal Plus Nitrate N, Other (%)	0619	20.85	0.1000				1			0
010.11	Total N, Modified Comprehensive (21%)	0510	21.00	0.1854				1			0
010.12	Total N, Salicylic (21%)	0572	20.10	0.4700				1			0
010.17	Total N, Comprehensive (21%)	0027	21.42	0.1500				1			0
010.60	Total N, Combustion (21%)	0324	19.75	0.5000	20.85	0.5650	0.1752	38	-1.95	Low	0
010.60	Total N, Combustion (21%)	0588	19.85	0.1000	20.85	0.5650	0.1752	38	-1.77	Low	0
010.60	Total N, Combustion (21%)	0523	19.90	0.3300	20.85	0.5650	0.1752	38	-1.69	Low	0
010.60	Total N, Combustion (21%)	0102	20.01	0.0300	20.85	0.5650	0.1752	38	-1.49	Low	0
010.60	Total N, Combustion (21%)	0095	20.12	0.2900	20.85	0.5650	0.1752	38	-1.30	OK	0
010.60	Total N, Combustion (21%)	0042	20.25	0.6020	20.85	0.5650	0.1752	38	-1.07	OK	0
010.60	Total N, Combustion (21%)	0035	20.25	0.3000	20.85	0.5650	0.1752	38	-1.06	OK	0
010.60	Total N, Combustion (21%)	0185	20.26	0.1400	20.85	0.5650	0.1752	38	-1.04	OK	0
010.60	Total N, Combustion (21%)	0422	20.26	0.0400	20.85	0.5650	0.1752	38	-1.04	OK	0
010.60	Total N, Combustion (21%)	0029	20.59	0.1400	20.85	0.5650	0.1752	38	-0.46	OK	0
010.60	Total N, Combustion (21%)	0521	20.64	0.0000	20.85	0.5650	0.1752	38	-0.38	OK	0
010.60	Total N, Combustion (21%)	0169	20.66	0.0300	20.85	0.5650	0.1752	38	-0.34	OK	0
010.60	Total N, Combustion (21%)	0055	20.67	0.0400	20.85	0.5650	0.1752	38	-0.33	OK	0
010.60	Total N, Combustion (21%)	0389	20.70	0.0200	20.85	0.5650	0.1752	38	-0.26	OK	0
010.60	Total N, Combustion (21%)	0451	20.82	0.1500	20.85	0.5650	0.1752	38	-0.06	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				
010.60	Total N, Combustion (21%)	0543	20.84	0.1800	20.85	0.5650	0.1752	38	-0.02	OK	0
010.60	Total N, Combustion (21%)	0231	20.88	0.1300	20.85	0.5650	0.1752	38	0.05	OK	0
010.60	Total N, Combustion (21%)	0234	20.88	0.1200	20.85	0.5650	0.1752	38	0.05	OK	0
010.60	Total N, Combustion (21%)	0423	20.90	0.0200	20.85	0.5650	0.1752	38	0.09	OK	0
010.60	Total N, Combustion (21%)	0561	20.90	0.0600	20.85	0.5650	0.1752	38	0.09	OK	0
010.60	Total N, Combustion (21%)	0025	21.00	0.5000	20.85	0.5650	0.1752	38	0.27	OK	0
010.60	Total N, Combustion (21%)	0136	21.01	0.1000	20.85	0.5650	0.1752	38	0.28	OK	0
010.60	Total N, Combustion (21%)	0220	21.03	0.1100	20.85	0.5650	0.1752	38	0.31	OK	0
010.60	Total N, Combustion (21%)	0043	21.03	0.0400	20.85	0.5650	0.1752	38	0.32	OK	0
010.60	Total N, Combustion (21%)	0354	21.05	0.1000	20.85	0.5650	0.1752	38	0.36	OK	0
010.60	Total N, Combustion (21%)	0527	21.08	0.3340	20.85	0.5650	0.1752	38	0.41	OK	0
010.60	Total N, Combustion (21%)	0485	21.10	0.4000	20.85	0.5650	0.1752	38	0.44	OK	0
010.60	Total N, Combustion (21%)	0177	21.14	0.1050	20.85	0.5650	0.1752	38	0.52	OK	0
010.60	Total N, Combustion (21%)	0472	21.16	0.1500	20.85	0.5650	0.1752	38	0.54	OK	0
010.60	Total N, Combustion (21%)	0494	21.17	0.0800	20.85	0.5650	0.1752	38	0.57	OK	0
010.60	Total N, Combustion (21%)	0040	21.20	0.0000	20.85	0.5650	0.1752	38	0.62	OK	0
010.60	Total N, Combustion (21%)	0405	21.24	0.0100	20.85	0.5650	0.1752	38	0.68	OK	0
010.60	Total N, Combustion (21%)	0049	21.29	0.4600	20.85	0.5650	0.1752	38	0.78	OK	0
010.60	Total N, Combustion (21%)	0292	21.55	0.5500	20.85	0.5650	0.1752	38	1.23	OK	0
010.60	Total N, Combustion (21%)	0307	21.55	0.1000	20.85	0.5650	0.1752	38	1.24	OK	0
010.60	Total N, Combustion (21%)	0073	21.87	0.0000	20.85	0.5650	0.1752	38	1.81	High	0
010.60	Total N, Combustion (21%)	0255	22.32	0.0210	20.85	0.5650	0.1752	38	2.61	High	0
010.60	Total N, Combustion (21%)	0023	22.81	0.3440	20.85	0.5650	0.1752	38	3.47	High	0
010.60	Total N, Combustion (21%)	0542	19.77	0.9300	20.85	0.5650	0.1752	38	-1.92	Low	1
010.99	Total N, Other (21%)	0524	20.58	0.0090	20.92	0.3412	0.0755	10	-0.92	OK	0
010.99	Total N, Other (21%)	0562	20.65	0.1000	20.92	0.3412	0.0755	10	-0.73	OK	0
010.99	Total N, Other (21%)	0600	20.65	0.1000	20.92	0.3412	0.0755	10	-0.73	OK	0
010.99	Total N, Other (21%)	0605	20.66	0.0100	20.92	0.3412	0.0755	10	-0.71	OK	0
010.99	Total N, Other (21%)	0564	20.78	0.0300	20.92	0.3412	0.0755	10	-0.39	OK	0
010.99	Total N, Other (21%)	0538	20.95	0.0800	20.92	0.3412	0.0755	10	0.09	OK	0
010.99	Total N, Other (21%)	0444	21.05	0.3000	20.92	0.3412	0.0755	10	0.36	OK	0
010.99	Total N, Other (21%)	0513	21.13	0.0100	20.92	0.3412	0.0755	10	0.57	OK	0
010.99	Total N, Other (21%)	0518	21.30	0.2000	20.92	0.3412	0.0755	10	1.05	OK	0
010.99	Total N, Other (21%)	0559	21.58	0.0100	20.92	0.3412	0.0755	10	1.80	OK	0
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0444	6.975	0.0500				2			0
020.10	Total P2O5, Gravimetric Quinolinium MolybdoP (%)	0619	7.005	0.4100				2			0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0510	6.712	0.0017	6.928	0.1952	0.0213	6	-0.99	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0405	6.815	0.0500	6.928	0.1952	0.0213	6	-0.52	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0394	6.887	0.0060	6.928	0.1952	0.0213	6	-0.19	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0561	6.920	0.0200	6.928	0.1952	0.0213	6	-0.04	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0231	7.030	0.0400	6.928	0.1952	0.0213	6	0.46	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0292	7.205	0.0100	6.928	0.1952	0.0213	6	1.26	NA	0
020.20	Total P2O5, Spectrophotometric MolybdovanadoP (%)	0324	7.190	0.2000	6.928	0.1952	0.0213	6	1.19	NA	1



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				
020.40	Total P2O5, Automated (%)	0035	6.900	0.0000				2			0
020.40	Total P2O5, Automated (%)	0042	6.956	1.665				2			0
020.50	Total P2O5, ICP (%)	0552	4.280	0.5000	6.848	0.4802	0.1597	17	-5.35	NA	0
020.50	Total P2O5, ICP (%)	0423	6.189	0.0060	6.848	0.4802	0.1597	17	-1.37	NA	0
020.50	Total P2O5, ICP (%)	0543	6.225	0.1010	6.848	0.4802	0.1597	17	-1.30	NA	0
020.50	Total P2O5, ICP (%)	0255	6.461	0.0550	6.848	0.4802	0.1597	17	-0.81	NA	0
020.50	Total P2O5, ICP (%)	0524	6.632	0.0223	6.848	0.4802	0.1597	17	-0.45	NA	0
020.50	Total P2O5, ICP (%)	0389	6.660	0.0400	6.848	0.4802	0.1597	17	-0.39	NA	0
020.50	Total P2O5, ICP (%)	0444	6.715	0.1100	6.848	0.4802	0.1597	17	-0.28	NA	0
020.50	Total P2O5, ICP (%)	0472	6.825	0.0300	6.848	0.4802	0.1597	17	-0.05	NA	0
020.50	Total P2O5, ICP (%)	0451	6.880	0.1460	6.848	0.4802	0.1597	17	0.07	NA	0
020.50	Total P2O5, ICP (%)	0169	7.025	0.0100	6.848	0.4802	0.1597	17	0.37	NA	0
020.50	Total P2O5, ICP (%)	0234	7.045	0.2500	6.848	0.4802	0.1597	17	0.41	NA	0
020.50	Total P2O5, ICP (%)	0619	7.085	0.0900	6.848	0.4802	0.1597	17	0.49	NA	0
020.50	Total P2O5, ICP (%)	0588	7.170	0.5600	6.848	0.4802	0.1597	17	0.67	NA	0
020.50	Total P2O5, ICP (%)	0307	7.215	0.3900	6.848	0.4802	0.1597	17	0.76	NA	0
020.50	Total P2O5, ICP (%)	0422	7.280	0.4538	6.848	0.4802	0.1597	17	0.90	NA	0
020.50	Total P2O5, ICP (%)	0527	7.329	0.0548	6.848	0.4802	0.1597	17	1.00	NA	0
020.50	Total P2O5, ICP (%)	0523	7.550	0.1000	6.848	0.4802	0.1597	17	1.46	NA	0
020.99	Total P2O5, Other (%)	0513	6.835	0.0300	7.106	0.2157	0.0680	5	-1.10		0
020.99	Total P2O5, Other (%)	0572	6.975	0.1700	7.106	0.2157	0.0680	5	-0.53		0
020.99	Total P2O5, Other (%)	0619	7.085	0.0900	7.106	0.2157	0.0680	5	-0.09		0
020.99	Total P2O5, Other (%)	0559	7.265	0.0100	7.106	0.2157	0.0680	5	0.64		0
020.99	Total P2O5, Other (%)	0564	7.370	0.0400	7.106	0.2157	0.0680	5	1.07		0
020.99	Total P2O5, Other (%)	0515	7.213	1.002	7.106	0.2157	0.0680	5	0.43		1
030.20	Citrate Insoluble P2O5, Spectrophotometric MolybdovanadoP (	0405	0.0100	0.0000				1			0
040.99	Indirect Available P2O5, Other (7%)	0405	6.805	0.0500				2			0
040.99	Indirect Available P2O5, Other (7%)	0572	7.145	0.5300				2			0
041.10	Direct Available P2O5, Gravimetric Quinolinium (7%)	0086	6.765	0.0817	6.875	0.0966	0.0467	3	-1.14		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (7%)	0177	6.915	0.0483	6.875	0.0966	0.0467	3	0.41		0
041.10	Direct Available P2O5, Gravimetric Quinolinium (7%)	0102	6.945	0.0100	6.875	0.0966	0.0467	3	0.73		0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0049	6.480	0.0200	6.858	0.1578	0.0638	9	-2.21	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0513	6.730	0.0200	6.858	0.1578	0.0638	9	-0.75	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0055	6.798	0.1650	6.858	0.1578	0.0638	9	-0.35	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0405	6.815	0.0100	6.858	0.1578	0.0638	9	-0.25	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0485	6.820	0.0200	6.858	0.1578	0.0638	9	-0.22	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0220	6.890	0.0400	6.858	0.1578	0.0638	9	0.19	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0517	7.000	0.1000	6.858	0.1578	0.0638	9	0.83	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0185	7.020	0.1200	6.858	0.1578	0.0638	9	0.95	OK	0
041.11	Direct Available P2O5, Gravimetric Quinolinium, Citrate-EDTA I	0073	7.025	0.0900	6.858	0.1578	0.0638	9	0.98	OK	0
041.20	Direct Available P2O5, Spectrophotometric (7%)	0553	6.880	0.0200				2			0
041.20	Direct Available P2O5, Spectrophotometric (7%)	0027	6.980	0.0400				2			0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0472	6.170	0.0200	6.751	0.5121	0.1421	7	-1.03	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				
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0055	6.433	0.0050	6.751	0.5121	0.1421	7	-0.56	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0177	6.514	0.3704	6.751	0.5121	0.1421	7	-0.42	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0095	6.605	0.1900	6.751	0.5121	0.1421	7	-0.26	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0394	6.868	0.0290	6.751	0.5121	0.1421	7	0.21	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0231	7.260	0.0400	6.751	0.5121	0.1421	7	0.90	OK	0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (	0354	7.410	0.3400	6.751	0.5121	0.1421	7	1.16	OK	0
041.40	Direct Available P2O5, Automated, Citrate-EDTA Ext. (7%)	0029	6.925	0.1500				1			0
041.50	Direct Available P2O5, ICP (7%)	0521	6.124	0.0000				2			0
041.50	Direct Available P2O5, ICP (7%)	0605	6.850	0.2000				2			0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (7%)	0423	6.316	0.0070	6.905	0.2425	0.0642	9	-2.24	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (7%)	0072	6.695	0.1500	6.905	0.2425	0.0642	9	-0.80	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (7%)	0547	6.750	0.1000	6.905	0.2425	0.0642	9	-0.59	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (7%)	0040	6.900	0.0000	6.905	0.2425	0.0642	9	-0.02	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (7%)	0136	6.950	0.1000	6.905	0.2425	0.0642	9	0.17	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (7%)	0117	6.969	0.0757	6.905	0.2425	0.0642	9	0.24	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (7%)	0043	7.001	0.0110	6.905	0.2425	0.0642	9	0.36	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (7%)	0494	7.100	0.0000	6.905	0.2425	0.0642	9	0.74	OK	0
041.51	Direct Available P2O5, ICP, Citrate-EDTA Ext. (7%)	0023	7.240	0.0060	6.905	0.2425	0.0642	9	1.27	OK	0
041.99	Direct Available P2O5, Other (7%)	0572	6.930	0.1000	7.075	0.1366	0.0817	8	-0.97	OK	0
041.99	Direct Available P2O5, Other (7%)	0562	7.000	0.0800	7.075	0.1366	0.0817	8	-0.50	OK	0
041.99	Direct Available P2O5, Other (7%)	0600	7.000	0.0800	7.075	0.1366	0.0817	8	-0.50	OK	0
041.99	Direct Available P2O5, Other (7%)	0538	7.015	0.0700	7.075	0.1366	0.0817	8	-0.40	OK	0
041.99	Direct Available P2O5, Other (7%)	0584	7.025	0.0900	7.075	0.1366	0.0817	8	-0.33	OK	0
041.99	Direct Available P2O5, Other (7%)	0549	7.150	0.0200	7.075	0.1366	0.0817	8	0.50	OK	0
041.99	Direct Available P2O5, Other (7%)	0518	7.200	0.2000	7.075	0.1366	0.0817	8	0.84	OK	0
041.99	Direct Available P2O5, Other (7%)	0537	7.585	0.0700	7.075	0.1366	0.0817	8	3.41	OK	0
048.10	Water Soluble P2O5, Gravimetric Quinolinium (%)	0619	5.240	0.0800				2			0
048.10	Water Soluble P2O5, Gravimetric Quinolinium (%)	0444	5.270	0.0600				2			0
048.20	Water Soluble P2O5, Spectrophotometric (%)	0472	4.895	0.0100				2			0
048.20	Water Soluble P2O5, Spectrophotometric (%)	0394	4.910	0.0100				2			0
048.50	Water Soluble P2O5, ICP (%)	0619	5.265	0.0300				2			0
048.50	Water Soluble P2O5, ICP (%)	0444	5.270	0.2000				2			0
048.99	Water Soluble P2O5, Other (%)	0513	5.025	0.0100	5.275	0.2692	0.1433	3	-0.93		0
048.99	Water Soluble P2O5, Other (%)	0619	5.240	0.0800	5.275	0.2692	0.1433	3	-0.13		0
048.99	Water Soluble P2O5, Other (%)	0572	5.560	0.3400	5.275	0.2692	0.1433	3	1.06		0
050.00	Soluble K2O, STPB Oxalate (14%)	0619	13.75	0.1000	14.18	0.4512	0.0999	10	-0.88	OK	0
050.00	Soluble K2O, STPB Oxalate (14%)	0220	13.81	0.0600	14.18	0.4512	0.0999	10	-0.75	OK	0
050.00	Soluble K2O, STPB Oxalate (14%)	0231	13.81	0.0000	14.18	0.4512	0.0999	10	-0.75	OK	0
050.00	Soluble K2O, STPB Oxalate (14%)	0055	13.86	0.0800	14.18	0.4512	0.0999	10	-0.66	OK	0
050.00	Soluble K2O, STPB Oxalate (14%)	0072	13.92	0.0600	14.18	0.4512	0.0999	10	-0.53	OK	0
050.00	Soluble K2O, STPB Oxalate (14%)	0444	14.13	0.0500	14.18	0.4512	0.0999	10	-0.10	OK	0
050.00	Soluble K2O, STPB Oxalate (14%)	0405	14.56	0.2500	14.18	0.4512	0.0999	10	0.78	OK	0
050.00	Soluble K2O, STPB Oxalate (14%)	0049	14.56	0.1200	14.18	0.4512	0.0999	10	0.79	OK	0

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			Value	Range	Rob Mean	Rob SD	Rob R-bar				
050.00	Soluble K2O, STPB Oxalate (14%)	0561	14.68	0.1500	14.18	0.4512	0.0999	10	1.03	OK	0
050.00	Soluble K2O, STPB Oxalate (14%)	0102	14.69	0.0000	14.18	0.4512	0.0999	10	1.06	OK	0
050.30	Soluble K2O, AA (Oxalate) (14%)	0157	13.50	0.2000	14.33	0.9021	0.2200	3	-0.92		0
050.30	Soluble K2O, AA (Oxalate) (14%)	0040	14.20	0.2000	14.33	0.9021	0.2200	3	-0.14		0
050.30	Soluble K2O, AA (Oxalate) (14%)	0073	15.29	0.2600	14.33	0.9021	0.2200	3	1.06		0
050.32	Soluble K2O, AA (Citrate-EDTA) (14%)	0472	11.99	0.0600				2			0
050.32	Soluble K2O, AA (Citrate-EDTA) (14%)	0185	14.53	0.0200				2			0
050.50	Soluble K2O, ICP (Oxalate) (14%)	0055	13.36	0.1950	14.01	0.7412	0.2057	7	-0.80	OK	0
050.50	Soluble K2O, ICP (Oxalate) (14%)	0292	13.44	0.0600	14.01	0.7412	0.2057	7	-0.70	OK	0
050.50	Soluble K2O, ICP (Oxalate) (14%)	0619	13.55	0.3000	14.01	0.7412	0.2057	7	-0.57	OK	0
050.50	Soluble K2O, ICP (Oxalate) (14%)	0324	13.80	0.6000	14.01	0.7412	0.2057	7	-0.26	OK	0
050.50	Soluble K2O, ICP (Oxalate) (14%)	0444	14.26	0.0300	14.01	0.7412	0.2057	7	0.29	OK	0
050.50	Soluble K2O, ICP (Oxalate) (14%)	0169	14.64	0.0200	14.01	0.7412	0.2057	7	0.76	OK	0
050.50	Soluble K2O, ICP (Oxalate) (14%)	0422	15.06	0.3133	14.01	0.7412	0.2057	7	1.27	High	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (14%)	0423	12.68	0.0080	13.74	0.6231	0.1175	10	-1.59	Low	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (14%)	0543	12.84	0.1130	13.74	0.6231	0.1175	10	-1.35	Low	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (14%)	0485	13.65	0.1000	13.74	0.6231	0.1175	10	-0.13	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (14%)	0043	13.66	0.0600	13.74	0.6231	0.1175	10	-0.12	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (14%)	0354	13.80	0.2000	13.74	0.6231	0.1175	10	0.09	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (14%)	0117	13.92	0.0892	13.74	0.6231	0.1175	10	0.27	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (14%)	0136	13.96	0.3900	13.74	0.6231	0.1175	10	0.33	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (14%)	0023	13.98	0.0160	13.74	0.6231	0.1175	10	0.36	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (14%)	0494	14.27	0.2100	13.74	0.6231	0.1175	10	0.79	OK	0
050.52	Soluble K2O, ICP (Citrate-EDTA) (14%)	0072	14.51	0.1200	13.74	0.6231	0.1175	10	1.15	OK	0
050.60	Soluble K2O, Flame Photometric (Oxalate) (14%)	0510	13.99	0.0057				1			0
050.61	Soluble K2O, Flame Photometric (Citrate) (14%)	0035	13.70	0.2000				1			0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (14%)	0394	14.19	0.1070	14.38	0.2849	0.1457	3	-0.70		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (14%)	0513	14.26	0.1700	14.38	0.2849	0.1457	3	-0.45		0
050.62	Soluble K2O, Flame Photometric (Citrate-EDTA) (14%)	0095	14.71	0.1600	14.38	0.2849	0.1457	3	1.15		0
050.99	Soluble K2O, Other (14%)	0524	11.76	0.0126	13.91	0.4307	0.1861	27	-5.00	Low	0
050.99	Soluble K2O, Other (14%)	0523	12.80	0.2000	13.91	0.4307	0.1861	27	-2.58	Low	0
050.99	Soluble K2O, Other (14%)	0521	12.88	0.0000	13.91	0.4307	0.1861	27	-2.39	Low	0
050.99	Soluble K2O, Other (14%)	0552	13.16	0.3500	13.91	0.4307	0.1861	27	-1.76	OK	0
050.99	Soluble K2O, Other (14%)	0157	13.35	0.1000	13.91	0.4307	0.1861	27	-1.31	OK	0
050.99	Soluble K2O, Other (14%)	0177	13.44	0.0067	13.91	0.4307	0.1861	27	-1.10	OK	0
050.99	Soluble K2O, Other (14%)	0389	13.75	0.0300	13.91	0.4307	0.1861	27	-0.39	OK	0
050.99	Soluble K2O, Other (14%)	0619	13.75	0.1000	13.91	0.4307	0.1861	27	-0.38	OK	0
050.99	Soluble K2O, Other (14%)	0027	13.81	0.2200	13.91	0.4307	0.1861	27	-0.24	OK	0
050.99	Soluble K2O, Other (14%)	0553	13.88	0.0900	13.91	0.4307	0.1861	27	-0.09	OK	0
050.99	Soluble K2O, Other (14%)	0559	13.89	0.0100	13.91	0.4307	0.1861	27	-0.07	OK	0
050.99	Soluble K2O, Other (14%)	0451	13.95	0.3300	13.91	0.4307	0.1861	27	0.07	OK	0
050.99	Soluble K2O, Other (14%)	0588	13.95	0.9000	13.91	0.4307	0.1861	27	0.09	OK	0
050.99	Soluble K2O, Other (14%)	0605	13.97	0.0300	13.91	0.4307	0.1861	27	0.12	OK	0

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050.99	Soluble K2O, Other (14%)	0234	13.98	0.1600	13.91	0.4307	0.1861	27	0.16	OK	0
050.99	Soluble K2O, Other (14%)	0255	14.01	0.4930	13.91	0.4307	0.1861	27	0.22	OK	0
050.99	Soluble K2O, Other (14%)	0538	14.04	0.1300	13.91	0.4307	0.1861	27	0.28	OK	0
050.99	Soluble K2O, Other (14%)	0564	14.17	0.0300	13.91	0.4307	0.1861	27	0.58	OK	0
050.99	Soluble K2O, Other (14%)	0518	14.20	0.0000	13.91	0.4307	0.1861	27	0.67	OK	0
050.99	Soluble K2O, Other (14%)	0549	14.23	0.0300	13.91	0.4307	0.1861	27	0.72	OK	0
050.99	Soluble K2O, Other (14%)	0307	14.25	1.500	13.91	0.4307	0.1861	27	0.78	OK	0
050.99	Soluble K2O, Other (14%)	0517	14.30	0.1000	13.91	0.4307	0.1861	27	0.90	OK	0
050.99	Soluble K2O, Other (14%)	0562	14.30	0.2000	13.91	0.4307	0.1861	27	0.90	OK	0
050.99	Soluble K2O, Other (14%)	0600	14.30	0.2000	13.91	0.4307	0.1861	27	0.90	OK	0
050.99	Soluble K2O, Other (14%)	0537	14.31	0.3900	13.91	0.4307	0.1861	27	0.91	OK	0
050.99	Soluble K2O, Other (14%)	0527	14.36	0.1593	13.91	0.4307	0.1861	27	1.05	OK	0
050.99	Soluble K2O, Other (14%)	0572	14.44	0.4200	13.91	0.4307	0.1861	27	1.22	OK	0
050.99	Soluble K2O, Other (14%)	0042	14.55	3.250	13.91	0.4307	0.1861	27	1.47	OK	1
060.00	Water (Free), Vacuum Oven (%)	0513	0.4500	0.0200				1			0
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours, 5g sample)	0518	1.250	0.3000				1			0
060.99	Water (Free), Other (%)	0510	1.070	0.0023				1			0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0422	1.689	0.0290	1.766	0.0869	0.0697	3	-0.89		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0354	1.750	0.0200	1.766	0.0869	0.0697	3	-0.19		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0035	1.860	0.1600	1.766	0.0869	0.0697	3	1.08		0
101.32	Acid Soluble Ca, ICP, test portion 2006.03A-C (%)	0423	1.741	0.0030				1			0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0494	1.652	0.0058	1.972	0.3913	0.0055	3	-0.82		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0472	1.855	0.0100	1.972	0.3913	0.0055	3	-0.30		0
101.33	Acid Soluble Ca, ICP, 2017.02 (%)	0527	2.408	0.0008	1.972	0.3913	0.0055	3	1.12		0
101.99	Acid Soluble Ca, Other (%)	0513	2.025	0.0100	2.298	0.3628	0.1633	3	-0.75		0
101.99	Acid Soluble Ca, Other (%)	0552	2.160	0.4200	2.298	0.3628	0.1633	3	-0.38		0
101.99	Acid Soluble Ca, Other (%)	0572	2.710	0.0600	2.298	0.3628	0.1633	3	1.13		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0422	0.1221	0.0009	0.1332	0.0103	0.0053	3	-1.08		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	0.1350	0.0100	0.1332	0.0103	0.0053	3	0.18		0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0035	0.1425	0.0050	0.1332	0.0103	0.0053	3	0.90		0
121.32	Acid Soluble Mg, ICP, test portion 2006.03A-C (%)	0423	0.1260	0.0020				1			0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0515	0.0392	0.0618	0.1044	0.0478	0.0187	4	-1.36		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0472	0.1050	0.0100	0.1044	0.0478	0.0187	4	0.01		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0494	0.1205	0.0007	0.1044	0.0478	0.0187	4	0.34		0
121.33	Acid Soluble Mg, ICP, 2017.02 (%)	0527	0.1530	0.0023	0.1044	0.0478	0.0187	4	1.01		0
121.99	Acid Soluble Mg, Other (%)	0515	0.0854	0.0444	0.1374	0.0606	0.0672	4	-0.86		0
121.99	Acid Soluble Mg, Other (%)	0524	0.1193	0.0000	0.1374	0.0606	0.0672	4	-0.30		0
121.99	Acid Soluble Mg, Other (%)	0572	0.1200	0.0000	0.1374	0.0606	0.0672	4	-0.29		0
121.99	Acid Soluble Mg, Other (%)	0552	0.2250	0.0900	0.1374	0.0606	0.0672	4	1.45		0
131.99	Water Soluble Mg, Other (%)	0572	0.0800	0.0000				1			0
143.00	Elemental S, Gravimetric Sulfur - carbon disulfide soluble sulfur	0405	0.1075	0.0050				1			0
143.00	Elemental S, Gravimetric Sulfur - carbon disulfide soluble sulfur	0485	< 0.003					1			5
143.99	Elemental S, Other (%)	0389	5.225	0.0100				2			0



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143.99	Elemental S, Other (%)	0255	8.534	0.5250				2			0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0405	5.060	0.0000	5.187	0.0904	0.1055	4	-1.40		0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0177	5.188	0.0364	5.187	0.0904	0.1055	4	0.01		0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0485	5.235	0.0100	5.187	0.0904	0.1055	4	0.53		0
145.00	Sulfate S, HCl soluble, Gravimetric Sulfur - sulfate form (%)	0561	5.265	0.2700	5.187	0.0904	0.1055	4	0.86		0
145.99	Sulfate S, HCl soluble, Other (%)	0444	4.895	0.1700	5.183	0.2692	0.0867	6	-0.95	NA	0
145.99	Sulfate S, HCl soluble, Other (%)	0537	5.030	0.0800	5.183	0.2692	0.0867	6	-0.51	NA	0
145.99	Sulfate S, HCl soluble, Other (%)	0562	5.150	0.1000	5.183	0.2692	0.0867	6	-0.11	NA	0
145.99	Sulfate S, HCl soluble, Other (%)	0600	5.150	0.1000	5.183	0.2692	0.0867	6	-0.11	NA	0
145.99	Sulfate S, HCl soluble, Other (%)	0619	5.285	0.0100	5.183	0.2692	0.0867	6	0.34	NA	0
145.99	Sulfate S, HCl soluble, Other (%)	0553	5.600	0.0600	5.183	0.2692	0.0867	6	1.38	NA	0
146.00	Total S in Liquid, Gravimetric - sulfate, sulfite, thiosulfate, a... (5	0027	5.240	0.2600				1			0
148.00	Total S, Combustion (5.1%)	0405	4.800	0.0000	5.137	0.2272	0.1443	5	-1.48		0
148.00	Total S, Combustion (5.1%)	0025	5.090	0.1990	5.137	0.2272	0.1443	5	-0.21		0
148.00	Total S, Combustion (5.1%)	0029	5.103	0.0340	5.137	0.2272	0.1443	5	-0.15		0
148.00	Total S, Combustion (5.1%)	0049	5.318	0.1330	5.137	0.2272	0.1443	5	0.79		0
148.00	Total S, Combustion (5.1%)	0451	5.376	0.2110	5.137	0.2272	0.1443	5	1.05		0
148.01	Total S, Gravimetric - sulfate and elemental (5.1%)	0538	5.045	0.1500	5.250	0.1742	0.0870	9	-1.09	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (5.1%)	0584	5.095	0.0300	5.250	0.1742	0.0870	9	-0.82	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (5.1%)	0405	5.170	0.0000	5.250	0.1742	0.0870	9	-0.42	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (5.1%)	0055	5.198	0.1150	5.250	0.1742	0.0870	9	-0.28	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (5.1%)	0177	5.198	0.0403	5.250	0.1742	0.0870	9	-0.27	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (5.1%)	0485	5.235	0.0100	5.250	0.1742	0.0870	9	-0.08	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (5.1%)	0564	5.380	0.0200	5.250	0.1742	0.0870	9	0.69	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (5.1%)	0324	5.440	0.2400	5.250	0.1742	0.0870	9	1.01	OK	0
148.01	Total S, Gravimetric - sulfate and elemental (5.1%)	0220	5.490	0.1200	5.250	0.1742	0.0870	9	1.27	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (5.1%)	0494	4.738	0.0990	5.055	0.2884	0.0823	12	-1.10	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (5.1%)	0394	4.751	0.1037	5.055	0.2884	0.0823	12	-1.05	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (5.1%)	0292	4.775	0.0300	5.055	0.2884	0.0823	12	-0.97	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (5.1%)	0472	4.830	0.0400	5.055	0.2884	0.0823	12	-0.78	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (5.1%)	0543	4.912	0.1710	5.055	0.2884	0.0823	12	-0.50	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (5.1%)	0177	4.981	0.0433	5.055	0.2884	0.0823	12	-0.26	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (5.1%)	0040	5.100	0.0000	5.055	0.2884	0.0823	12	0.15	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (5.1%)	0513	5.250	0.0600	5.055	0.2884	0.0823	12	0.67	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (5.1%)	0169	5.255	0.0100	5.055	0.2884	0.0823	12	0.69	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (5.1%)	0102	5.310	0.1600	5.055	0.2884	0.0823	12	0.88	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (5.1%)	0527	5.339	0.1058	5.055	0.2884	0.0823	12	0.98	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (5.1%)	0521	5.426	0.0000	5.055	0.2884	0.0823	12	1.28	OK	0
148.07	Total S, ICP, test portion as in 2017.02 (5.1%)	0515	5.014	0.6710	5.055	0.2884	0.0823	12	-0.15	OK	1
148.99	Total S, Other (5.1%)	0523	3.005	0.2500	5.078	0.2077	0.0922	13	-9.98	Low	0
148.99	Total S, Other (5.1%)	0136	4.805	0.0100	5.078	0.2077	0.0922	13	-1.31	OK	0
148.99	Total S, Other (5.1%)	0307	4.890	0.2200	5.078	0.2077	0.0922	13	-0.90	OK	0
148.99	Total S, Other (5.1%)	0354	4.980	0.0200	5.078	0.2077	0.0922	13	-0.47	OK	0



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			Value	Range	Rob Mean	Rob SD	Rob R-bar				
148.99	Total S, Other (5.1%)	0572	5.025	0.1700	5.078	0.2077	0.0922	13	-0.25	OK	0
148.99	Total S, Other (5.1%)	0605	5.075	0.0900	5.078	0.2077	0.0922	13	-0.01	OK	0
148.99	Total S, Other (5.1%)	0023	5.088	0.1410	5.078	0.2077	0.0922	13	0.05	OK	0
148.99	Total S, Other (5.1%)	0422	5.128	0.1180	5.078	0.2077	0.0922	13	0.24	OK	0
148.99	Total S, Other (5.1%)	0043	5.163	0.0720	5.078	0.2077	0.0922	13	0.41	OK	0
148.99	Total S, Other (5.1%)	0072	5.200	0.0640	5.078	0.2077	0.0922	13	0.59	OK	0
148.99	Total S, Other (5.1%)	0559	5.215	0.0100	5.078	0.2077	0.0922	13	0.66	OK	0
148.99	Total S, Other (5.1%)	0619	5.285	0.0100	5.078	0.2077	0.0922	13	1.00	OK	0
148.99	Total S, Other (5.1%)	0220	5.575	0.0500	5.078	0.2077	0.0922	13	2.40	High	0
149.04	S - HNO3 soluble, ICP (%)	0423	4.560	0.0030	5.054	0.4364	0.1410	3	-1.13		0
149.04	S - HNO3 soluble, ICP (%)	0524	5.218	0.3699	5.054	0.4364	0.1410	3	0.38		0
149.04	S - HNO3 soluble, ICP (%)	0231	5.385	0.0500	5.054	0.4364	0.1410	3	0.76		0
149.99	S - HNO3 soluble, Other (%)	0619	5.285	0.0100				1			0
151.30	Acid Soluble As, ICP (ppm)	0524	2.665	0.0500				2			0
151.30	Acid Soluble As, ICP (ppm)	0523	5.347	0.0290				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
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0220	9.250	0.3000				2			0
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0405	15.00	2.000				2			0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0136	2.400	0.0000	6.934	3.103	2.971	4	-1.46		0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0527	7.480	0.4260	6.934	3.103	2.971	4	0.18		0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0494	8.735	0.0300	6.934	3.103	2.971	4	0.58		0
151.33	Acid Soluble As, ICP, 2017.02 (ppm)	0515	9.122	8.456	6.934	3.103	2.971	4	0.71		0
151.34	Acid Soluble As, ICP, EPA 3050B/6010C (ppm)	0515	5.997	7.669				1			0
151.99	Acid Soluble As, Other (ppm)	0572	3.770	0.0600				2			0
151.99	Acid Soluble As, Other (ppm)	0220	9.350	0.1000				2			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0422	0.0014	0.0001				1			0
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	< 0.01					1			5
165.99	Acid Soluble B, Other (%)	0524	0.0005	0.0000	0.0454	0.0832	0.2200	4	-0.46		0
165.99	Acid Soluble B, Other (%)	0423	0.0010	0.0000	0.0454	0.0832	0.2200	4	-0.45		0
165.99	Acid Soluble B, Other (%)	0472	0.0100	0.0000	0.0454	0.0832	0.2200	4	-0.36		0
165.99	Acid Soluble B, Other (%)	0552	0.1700	0.2200	0.0454	0.0832	0.2200	4	1.27		0
165.99	Acid Soluble B, Other (%)	0527	< 0.01		0.0454	0.0832	0.2200	4			5
165.99	Acid Soluble B, Other (%)	0572	< 0.0115		0.0454	0.0832	0.2200	4			5
171.99	Water Soluble B, Other (%)	0572	< 0.0112					0			5
181.30	Acid Soluble Cd, ICP (ppm)	0524	0.5380	0.0054	0.8498	0.5129	0.2059	4	-0.61		0
181.30	Acid Soluble Cd, ICP (ppm)	0523	0.6045	0.0010	0.8498	0.5129	0.2059	4	-0.48		0
181.30	Acid Soluble Cd, ICP (ppm)	0394	0.6400	0.0080	0.8498	0.5129	0.2059	4	-0.41		0
181.30	Acid Soluble Cd, ICP (ppm)	0255	1.617	0.8090	0.8498	0.5129	0.2059	4	1.49		0
181.30	Acid Soluble Cd, ICP (ppm)	0605	< 1.85		0.8498	0.5129	0.2059	4			5
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0220	0.5500	0.0000				1			0
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0405	< 1					1			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0494	0.4900	0.0060				2			0

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			Value	Range	Rob Mean	Rob SD	Rob R-bar				
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0527	0.7291	0.0506				2			0
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0515	< 0.19					2			5
181.33	Acid Soluble Cd, ICP, 2017.02 (ppm)	0136	< 1					2			5
181.34	Acid Soluble Cd, ICP, EPA 3050B/6010C (ppm)	0515	< 0.133					0			5
181.99	Acid Soluble Cd, Other (ppm)	0220	0.5550	0.0100				2			0
181.99	Acid Soluble Cd, Other (ppm)	0572	0.5750	0.0300				2			0
190.00	Water Soluble Cl, Titrimetric (%)	0553	0.2600	0.0200				1			0
191.30	Acid Soluble Cr, ICP (ppm)	0524	10.83	0.0403	13.84	2.042	0.4615	5	-1.47		0
191.30	Acid Soluble Cr, ICP (ppm)	0394	13.15	0.2420	13.84	2.042	0.4615	5	-0.34		0
191.30	Acid Soluble Cr, ICP (ppm)	0605	13.76	0.0210	13.84	2.042	0.4615	5	-0.04		0
191.30	Acid Soluble Cr, ICP (ppm)	0035	15.65	1.900	13.84	2.042	0.4615	5	0.89		0
191.30	Acid Soluble Cr, ICP (ppm)	0523	15.81	0.1040	13.84	2.042	0.4615	5	0.96		0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0405	15.00	0.0000				2			0
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0220	16.05	0.3000				2			0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0136	13.15	0.9000	17.14	4.529	8.298	3	-0.88		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0527	16.22	0.1431	17.14	4.529	8.298	3	-0.20		0
191.33	Acid Soluble Cr, ICP, 2017.02 (ppm)	0515	22.07	23.85	17.14	4.529	8.298	3	1.09		0
191.34	Acid Soluble Cr, ICP, EPA 3050B/6010C (ppm)	0515	7.827	4.346				1			0
191.99	Acid Soluble Cr, Other (ppm)	0572	13.12	0.5900				2			0
191.99	Acid Soluble Cr, Other (ppm)	0220	16.05	0.3000				2			0
202.30	Acid Soluble Co, ICP (ppm)	0523	0.5910	0.0020				2			0
202.30	Acid Soluble Co, ICP (ppm)	0524	1.328	0.2464				2			0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0220	0.5500	0.0600				1			0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0405	< 1					1			5
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0527	0.6084	0.0159				1			0
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0515	< 0.26					1			5
202.33	Acid Soluble Co, ICP, 2017.02 (ppm)	0136	< 2.5					1			5
202.34	Acid Soluble Co, ICP, EPA 3050B/6010C (ppm)	0515	< 0.139					0			5
202.99	Acid Soluble Co, Other (ppm)	0220	0.5000	0.0200				2			0
202.99	Acid Soluble Co, Other (ppm)	0572	0.6850	0.0100				2			0
202.99	Acid Soluble Co, Other (ppm)	0255	0.1110	0.2220				2			4
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0422	0.0008	0.0000	0.0058	0.0095	0.0002	4	-0.53		0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0255	0.0010	0.0000	0.0058	0.0095	0.0002	4	-0.51		0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0035	0.0014	0.0002	0.0058	0.0095	0.0002	4	-0.46		0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0552	0.0200	0.0000	0.0058	0.0095	0.0002	4	1.50		0
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	< 0.01		0.0058	0.0095	0.0002	4			5
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0405	0.0007	0.0001	1.951	3.900	0.1201	4	-0.50		0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0220	0.0007	0.0000	1.951	3.900	0.1201	4	-0.50		0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0423	0.0010	0.0000	1.951	3.900	0.1201	4	-0.50		0
221.32	Acid Soluble Cu, ICP, test portion 2006.03A-C (%)	0095	7.800	0.2400	1.951	3.900	0.1201	4	1.50		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0394	0.0008	0.0000	0.0010	0.0001	0.0001	3	-1.13		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0136	0.0010	0.0000	0.0010	0.0001	0.0001	3	0.38		0
221.33	Acid Soluble Cu, ICP, 2017.02 (%)	0527	0.0011	0.0001	0.0010	0.0001	0.0001	3	0.76		0

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221.99	Acid Soluble Cu, Other (%)	0524	0.0008	0.0000	0.0009	0.0001	0.0000	3	-1.15		0
221.99	Acid Soluble Cu, Other (%)	0523	0.0010	0.0000	0.0009	0.0001	0.0000	3	0.58		0
221.99	Acid Soluble Cu, Other (%)	0572	0.0010	0.0000	0.0009	0.0001	0.0000	3	0.58		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0035	0.0495	0.0030	0.0659	0.0183	0.0145	4	-0.90		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0422	0.0542	0.0006	0.0659	0.0183	0.0145	4	-0.64		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0354	0.0700	0.0400	0.0659	0.0183	0.0145	4	0.22		0
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0552	0.0900	0.0000	0.0659	0.0183	0.0145	4	1.32		0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	0220	0.0007	0.0000				2			0
241.32	Acid Soluble Fe, ICP, test portion 2006.03A-C (%)	0423	0.0285	0.0010				2			0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0494	0.0492	0.0021	0.0595	0.0104	0.0013	3	-0.99		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0527	0.0593	0.0004	0.0595	0.0104	0.0013	3	-0.02		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0472	0.0700	0.0000	0.0595	0.0104	0.0013	3	1.01		0
241.33	Acid Soluble Fe, ICP, 2017.02 (%)	0515	< 0.0017		0.0595	0.0104	0.0013	3			5
241.99	Acid Soluble Fe, Other (%)	0524	0.0495	0.0001				2			0
241.99	Acid Soluble Fe, Other (%)	0572	0.0500	0.0000				2			0
241.99	Acid Soluble Fe, Other (%)	0515	< 0.0012					2			5
251.30	Acid Soluble Pb, ICP (ppm)	0523	1.563	0.0040	2.146	0.5788	0.0993	3	-1.01		0
251.30	Acid Soluble Pb, ICP (ppm)	0524	2.155	0.0408	2.146	0.5788	0.0993	3	0.02		0
251.30	Acid Soluble Pb, ICP (ppm)	0394	2.721	0.2530	2.146	0.5788	0.0993	3	0.99		0
251.30	Acid Soluble Pb, ICP (ppm)	0255	0.0000	0.0000	2.146	0.5788	0.0993	3			4
251.30	Acid Soluble Pb, ICP (ppm)	0605	< 5		2.146	0.5788	0.0993	3			5
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0220	2.200	0.2000				1			0
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0405	< 4					1			5
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0527	1.684	0.0631				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0494	3.865	0.0500				2			0
251.33	Acid Soluble Pb, ICP, 2017.02 (ppm)	0136	< 3					2			5
251.34	Acid Soluble Pb, ICP, EPA 3050B/6010C (ppm)	0515	3.691	0.1630				1			0
251.99	Acid Soluble Pb, Other (ppm)	0572	1.530	0.0400				2			0
251.99	Acid Soluble Pb, Other (ppm)	0220	2.250	0.1000				2			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0422	0.0040	0.0000				2			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0035	0.0043	0.0003				2			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0354	< 0.01					2			5
261.32	Acid Soluble Mn, ICP, test portion inorganic 965.09 (%)	0552	0.0200	0.0000				1			0
261.34	Acid Soluble Mn, ICP, test portion 2006.03A-C (%)	0423	0.0125	0.0010				1			0
261.35	Acid Soluble Mn, ICP, 2017.02 (%)	0527	0.0046	0.0001				1			0
261.99	Acid Soluble Mn, Other (%)	0524	0.0039	0.0001				2			0
261.99	Acid Soluble Mn, Other (%)	0572	0.0040	0.0001				2			0
281.30	Acid Soluble Hg, ICP (ppm)	0527	< 0.001					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0515	< 0.1					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0605	< 1.25					0			5
281.30	Acid Soluble Hg, ICP (ppm)	0405	< 2					0			5
281.99	Acid Soluble Hg, Other (ppm)	0524	0.0003	0.0000				1			0
281.99	Acid Soluble Hg, Other (ppm)	0220	< 0.01					1			5

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281.99	Acid Soluble Hg, Other (ppm)	0572	< 0.01					1			5
289.30	Acid Soluble Mo, ICP (ppm)	0255	0.5230	0.2960				2			0
289.30	Acid Soluble Mo, ICP (ppm)	0524	0.6945	0.1848				2			0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0220	0.6850	0.0700				1			0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0405	< 1					1			5
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0527	0.7712	0.0036				2			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0136	3.250	0.1000				2			0
289.33	Acid Soluble Mo, ICP, 2017.02 (ppm)	0515	< 0.23					2			5
289.34	Acid Soluble Mo, ICP, EPA 3050B/6010C (ppm)	0515	< 0.178					0			5
289.99	Acid Soluble Mo, Other (ppm)	0220	0.7300	0.0600				1			0
289.99	Acid Soluble Mo, Other (ppm)	0572	< 2.65					1			5
291.30	Acid Soluble Ni, ICP (ppm)	0524	2.839	0.0042	3.351	0.4122	0.3548	5	-1.24		0
291.30	Acid Soluble Ni, ICP (ppm)	0394	3.103	0.0370	3.351	0.4122	0.3548	5	-0.60		0
291.30	Acid Soluble Ni, ICP (ppm)	0523	3.274	0.0000	3.351	0.4122	0.3548	5	-0.19		0
291.30	Acid Soluble Ni, ICP (ppm)	0605	3.758	0.0380	3.351	0.4122	0.3548	5	0.99		0
291.30	Acid Soluble Ni, ICP (ppm)	0035	3.780	1.340	3.351	0.4122	0.3548	5	1.04		0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0405	3.000	0.0000				2			0
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0220	3.600	0.2000				2			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0527	3.628	0.0488				2			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0136	3.700	0.4000				2			0
291.33	Acid Soluble Ni, ICP, 2017.02 (ppm)	0515	< 0.26					2			5
291.34	Acid Soluble Ni, ICP, EPA 3050B/6010C (ppm)	0515	< 0.18					0			5
291.99	Acid Soluble Ni, Other (ppm)	0572	3.125	0.1300	9.667	10.96	2.507	3	-0.60		0
291.99	Acid Soluble Ni, Other (ppm)	0220	3.550	0.1000	9.667	10.96	2.507	3	-0.56		0
291.99	Acid Soluble Ni, Other (ppm)	0255	22.33	7.290	9.667	10.96	2.507	3	1.15		0
301.30	Acid Soluble Se, ICP (ppm)	0524	0.2437	0.0520				2			0
301.30	Acid Soluble Se, ICP (ppm)	0523	14.02	0.2660				2			0
301.30	Acid Soluble Se, ICP (ppm)	0605	< 1.65					2			5
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0220	< 0.3					0			5
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0405	< 10					0			5
301.33	Acid Soluble Se, ICP, 2017.02 (ppm)	0527	< 0.01					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	< 0.226					0			5
301.99	Acid Soluble Se, Other (ppm)	0572	17.19	1.660				1			0
301.99	Acid Soluble Se, Other (ppm)	0255	0.0000	0.0000				1			4
301.99	Acid Soluble Se, Other (ppm)	0220	< 0.3					1			5
311.32	Sodium, ICP, 2006.03 test portion (%)	0422	0.1464	0.0012				1			0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0494	0.1422	0.0075	0.1610	0.0199	0.0087	4	-0.95		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0423	0.1455	0.0010	0.1610	0.0199	0.0087	4	-0.78		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0035	0.1765	0.0250	0.1610	0.0199	0.0087	4	0.78		0
311.33	Sodium, ICP, test portion as in 2017.02 (%)	0527	0.1798	0.0011	0.1610	0.0199	0.0087	4	0.94		0
311.99	Sodium, Other (%)	0572	0.1450	0.0100				2			0
311.99	Sodium, Other (%)	0354	0.1750	0.0100				2			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				
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0422	0.0021	0.0001	0.0073	0.0085	0.0054	4	-0.61		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0035	0.0026	0.0003	0.0073	0.0085	0.0054	4	-0.55		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0255	0.0045	0.0010	0.0073	0.0085	0.0054	4	-0.32		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0552	0.0200	0.0200	0.0073	0.0085	0.0054	4	1.49		0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0354	< 0.01		0.0073	0.0085	0.0054	4			5
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0220	0.0019	0.0000	0.0023	0.0006	0.0000	3	-0.66		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0405	0.0020	0.0000	0.0023	0.0006	0.0000	3	-0.49		0
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0423	0.0030	0.0000	0.0023	0.0006	0.0000	3	1.15		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0515	0.0011	0.0011	0.0019	0.0006	0.0004	5	-1.44		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0494	0.0016	0.0002	0.0019	0.0006	0.0004	5	-0.47		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0136	0.0020	0.0000	0.0019	0.0006	0.0004	5	0.23		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0394	0.0022	0.0001	0.0019	0.0006	0.0004	5	0.49		0
321.33	Acid Soluble Zn, ICP, 2017.02 (%)	0527	0.0026	0.0001	0.0019	0.0006	0.0004	5	1.19		0
321.99	Acid Soluble Zn, Other (%)	0524	0.0021	0.0000	0.0036	0.0025	0.0017	3	-0.58		0
321.99	Acid Soluble Zn, Other (%)	0572	0.0021	0.0004	0.0036	0.0025	0.0017	3	-0.58		0
321.99	Acid Soluble Zn, Other (%)	0523	0.0065	0.0030	0.0036	0.0025	0.0017	3	1.15		0
325.99	Water Soluble Zn, Other (%)	0572	0.0011	0.0001				1			0
431.99	Soluble Si in nonliquids, Other (%)	0572	< 0.006					0			5

**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 ± 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