



Analyte PT For All Labs

### Magruder Fertilizer Proficiency Testing Program

# Analytes: 36

Sample # 240311

Regular PT Scheme

# Labs Reporting: 71

Grade 8-30-4

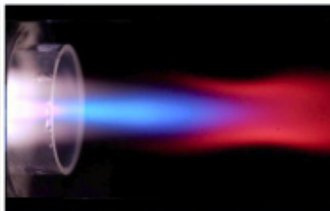
### Statistical Summary

Issue Date : 04/30/2024

Analyte Code	Analyte Sample # 240311	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Analyte Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Analyte IA Ratio	Average Range (R-bar)	Hornitz %RSD
001	Ammoniacal N (%)	5	5	7.436	0.6134	7.436		0.6134	0.3429	8.25%		0.0550	2.96%
005	Urea N (%)	1		0.2117									
010	Total N (8%)	56	56	8.241	0.1503	8.248	0.5550	0.1461	0.0244	1.77%	0.61	0.0680	2.91%
020	Total P2O5 (%)	35	34	31.39	3.237	30.88		1.094	0.2345	3.54%		0.2620	1.80%
040	Indirect Available P2O5 (30%)	2	2	22.07	12.63								
041	Direct Available P2O5 (30%)	38	37	30.05	4.211	30.52	0.7526	0.9146	0.1880	3.00%	2.83	0.2705	1.81%
048	Water Soluble P2O5 (%)	7	7	26.24	1.556	26.50		1.102	0.5205	4.16%		0.3153	1.94%
050	Soluble K2O (4%)	71	69	4.512	0.4926	4.442	0.4188	0.3317	0.0499	7.47%	1.85	0.0865	3.20%
060	Water (Free) (%)	1		0.9000									
101	Acid Soluble Ca (%)	14	14	1.552	0.2344	1.543	0.2771	0.2194	0.0733	14.22%	1.84	0.0350	3.75%
121	Acid Soluble Mg (%)	17	17	1.304	0.1396	1.305	0.2653	0.1532	0.0465	11.74%	1.35	0.0296	3.84%
131	Water Soluble Mg (%)	1		0.6262									
143	Elemental S (%)	5	5	6.167	0.9117	6.167		0.9117	0.5097	14.78%		0.1020	3.04%
145	Sulfate S, HCl soluble (%)	9	9	3.910	1.137	3.955		1.186	0.4940	29.98%		0.1132	3.25%
148	Total S (3%)	34	34	5.958	1.176	5.997	0.4998	0.9053	0.1941	15.10%	4.22	0.1107	3.05%
149	S - HNO3 soluble (%)	2	2	5.890	0.5876								
151	Acid Soluble As (ppm)	14	13	9.314	3.191	10.05		1.865	0.6465	18.56%		0.5626	11.30%
165	Acid Soluble B (%)	11	9	0.0943	0.0324	0.1035	0.0185	0.0068	0.0028	6.57%	0.86	0.0020	5.63%
171	Water Soluble B (%)	1		0.0880									
181	Acid Soluble Cd (ppm)	16	12	3.183	1.513	3.233		0.3382	0.1220	10.46%		0.2038	13.41%
191	Acid Soluble Cr (ppm)	16	16	66.48	8.554	67.40		6.618	2.068	9.82%		1.859	8.49%
202	Acid Soluble Co (ppm)	15	12	4.047	2.334	4.158	2.2473	0.8282	0.2989	19.92%	0.86	0.1783	12.91%
221	Acid Soluble Cu (0.6%)	51	50	0.1526	0.1967	0.0818	0.0132	0.0085	0.0015	10.45%	1.51	0.0042	5.83%
241	Acid Soluble Fe (%)	15	14	0.7740	0.1075	0.7535	0.0804	0.0419	0.0140	5.56%	1.21	0.0163	4.17%
251	Acid Soluble Pb (ppm)	16	9	2.901	1.739	2.589		1.256	0.5235	48.52%		0.1088	13.86%
261	Acid Soluble Mn (0.5%)	48	47	0.1751	0.1888	0.1320	0.0182	0.0127	0.0023	9.64%	1.63	0.0046	5.43%
271	Water Soluble Mn (%)	4	4	0.1850	0.2139	0.1850		0.2139	0.1337	115.64%		0.0030	5.16%
281	Acid Soluble Hg (ppm)	7	3	0.3754	0.7387	0.0089		0.0014	0.0010	15.46%		0.0004	22.00%
289	Acid Soluble Mo (ppm)	19	17	11.50	3.498	12.28	4.6851	1.246	0.3776	10.14%	0.62	0.7786	10.97%

Analyte Code	Analyte Sample # 240311	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Analyte Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Analyte IA Ratio	Average Range (R-bar)	Horwitz %RSD
291	Acid Soluble Ni (ppm)	16	15	15.58	8.599	13.46		1.732	0.5589	12.86%		1.136	10.82%
301	Acid Soluble Se (ppm)	14	5	2.652	3.764	1.565		0.6293	0.3518	40.21%		0.1145	14.95%
311	Sodium (%)	7	7	0.3485	0.0569	0.3485	0.0398	0.0645	0.0305	18.50%	3.77	0.0092	4.69%
321	Acid Soluble Zn (0.1%)	52	51	0.2648	0.2776	0.2272	0.0277	0.0229	0.0040	10.10%	1.93	0.0065	5.00%
325	Water Soluble Zn (%)	5	5	0.0822	0.0645	0.0822		0.0645	0.0361	78.51%		0.0105	5.83%
431	Soluble Si in nonliquids (%)	1		0.0070									
441	Humic Acids (%)	2	1	2.549	3.464								

The Analyte IA Ratio =  $2.33 * \text{Robust SD} / \text{IA at the Analyte Assigned Value}$ . 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.



Analyte PT For All Labs

### Magruder Fertilizer Proficiency Testing Program

# Analytes: 36

Sample # 240311

Regular PT Scheme

# Labs Reporting: 71

Grade 8-30-4

Lab Values

Issue Date : 04/30/2024

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
001	Ammoniacal N (%)	0423	6.790	0.1000	7.436	0.6134	0.0550	5	-1.05	001.99	0
001	Ammoniacal N (%)	0553	6.900	0.0200	7.436	0.6134	0.0550	5	-0.87	001.99	0
001	Ammoniacal N (%)	0524	7.365	0.0450	7.436	0.6134	0.0550	5	-0.12	001.99	0
001	Ammoniacal N (%)	0444	7.990	0.0200	7.436	0.6134	0.0550	5	0.90	001.10	0
001	Ammoniacal N (%)	0549	8.135	0.0900	7.436	0.6134	0.0550	5	1.14	001.99	0
005	Urea N (%)	0524	0.2117	0.0214				1		005.99	0
010	Total N (8%)	0517	7.845	0.0500	8.248	0.1461	0.0680	56	-2.76	010.99	0
010	Total N (8%)	0518	7.950	0.3000	8.248	0.1461	0.0680	56	-2.04	010.99	0
010	Total N (8%)	0023	7.954	0.3090	8.248	0.1461	0.0680	56	-2.02	010.60	0
010	Total N (8%)	0255	7.964	0.1390	8.248	0.1461	0.0680	56	-1.95	010.60	0
010	Total N (8%)	0560	7.970	0.0200	8.248	0.1461	0.0680	56	-1.91	010.99	0
010	Total N (8%)	0444	7.990	0.0200	8.248	0.1461	0.0680	56	-1.77	010.99	0
010	Total N (8%)	0600	8.050	0.0600	8.248	0.1461	0.0680	56	-1.36	010.99	0
010	Total N (8%)	0472	8.053	0.0080	8.248	0.1461	0.0680	56	-1.34	010.60	0
010	Total N (8%)	0534	8.065	0.0100	8.248	0.1461	0.0680	56	-1.26	010.60	0
010	Total N (8%)	0635	8.075	0.0300	8.248	0.1461	0.0680	56	-1.19	010.17	0
010	Total N (8%)	0423	8.090	0.0200	8.248	0.1461	0.0680	56	-1.08	010.60	0
010	Total N (8%)	0095	8.125	0.1100	8.248	0.1461	0.0680	56	-0.84	010.60	0
010	Total N (8%)	0527	8.142	0.0110	8.248	0.1461	0.0680	56	-0.73	010.60	0
010	Total N (8%)	0513	8.160	0.0200	8.248	0.1461	0.0680	56	-0.61	010.99	0
010	Total N (8%)	0368	8.165	0.0490	8.248	0.1461	0.0680	56	-0.57	010.60	0
010	Total N (8%)	0572	8.193	0.2180	8.248	0.1461	0.0680	56	-0.38	010.12	0
010	Total N (8%)	0564	8.195	0.0300	8.248	0.1461	0.0680	56	-0.37	010.99	0
010	Total N (8%)	0402	8.211	0.0460	8.248	0.1461	0.0680	56	-0.26	010.60	0
010	Total N (8%)	0543	8.216	0.0050	8.248	0.1461	0.0680	56	-0.23	010.60	0
010	Total N (8%)	0561	8.220	0.0200	8.248	0.1461	0.0680	56	-0.19	010.60	0
010	Total N (8%)	0027	8.225	0.2100	8.248	0.1461	0.0680	56	-0.16	010.60	0
010	Total N (8%)	0523	8.227	0.0500	8.248	0.1461	0.0680	56	-0.15	010.60	0
010	Total N (8%)	0055	8.233	0.0650	8.248	0.1461	0.0680	56	-0.11	010.60	0
010	Total N (8%)	0494	8.240	0.1600	8.248	0.1461	0.0680	56	-0.06	010.60	0
010	Total N (8%)	0537	8.245	0.1500	8.248	0.1461	0.0680	56	-0.02	010.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
010	Total N (8%)	0177	8.250	0.0290	8.248	0.1461	0.0680	56	0.01	010.60	0
010	Total N (8%)	0521	8.253	0.0000	8.248	0.1461	0.0680	56	0.03	010.60	0
010	Total N (8%)	0136	8.255	0.1300	8.248	0.1461	0.0680	56	0.05	010.60	0
010	Total N (8%)	0354	8.255	0.1100	8.248	0.1461	0.0680	56	0.05	010.60	0
010	Total N (8%)	0568	8.260	0.0000	8.248	0.1461	0.0680	56	0.08	010.12	0
010	Total N (8%)	0451	8.271	0.0230	8.248	0.1461	0.0680	56	0.15	010.60	0
010	Total N (8%)	0307	8.280	0.2000	8.248	0.1461	0.0680	56	0.22	010.60	0
010	Total N (8%)	0117	8.290	0.1309	8.248	0.1461	0.0680	56	0.29	010.12	0
010	Total N (8%)	0040	8.300	0.2000	8.248	0.1461	0.0680	56	0.35	010.60	0
010	Total N (8%)	0073	8.305	0.0300	8.248	0.1461	0.0680	56	0.39	010.60	0
010	Total N (8%)	0619	8.310	0.0600	8.248	0.1461	0.0680	56	0.42	010.60	0
010	Total N (8%)	0619	8.310	0.0600	8.248	0.1461	0.0680	56	0.42	010.99	0
010	Total N (8%)	0106	8.315	0.0500	8.248	0.1461	0.0680	56	0.46	010.60	0
010	Total N (8%)	0324	8.315	0.0300	8.248	0.1461	0.0680	56	0.46	010.60	0
010	Total N (8%)	0029	8.319	0.0550	8.248	0.1461	0.0680	56	0.48	010.60	0
010	Total N (8%)	0086	8.329	0.0084	8.248	0.1461	0.0680	56	0.55	010.60	0
010	Total N (8%)	0102	8.350	0.0200	8.248	0.1461	0.0680	56	0.70	010.60	0
010	Total N (8%)	0035	8.350	0.1000	8.248	0.1461	0.0680	56	0.70	010.60	0
010	Total N (8%)	0220	8.350	0.0800	8.248	0.1461	0.0680	56	0.70	010.60	0
010	Total N (8%)	0291	8.365	0.0100	8.248	0.1461	0.0680	56	0.80	010.60	0
010	Total N (8%)	0131	8.370	0.0286	8.248	0.1461	0.0680	56	0.83	010.60	0
010	Total N (8%)	0234	8.375	0.0300	8.248	0.1461	0.0680	56	0.87	010.60	0
010	Total N (8%)	0405	8.385	0.0300	8.248	0.1461	0.0680	56	0.93	010.60	0
010	Total N (8%)	0588	8.385	0.0900	8.248	0.1461	0.0680	56	0.93	010.60	0
010	Total N (8%)	0049	8.390	0.0600	8.248	0.1461	0.0680	56	0.97	010.60	0
010	Total N (8%)	0114	8.395	0.1590	8.248	0.1461	0.0680	56	1.00	010.60	0
010	Total N (8%)	0422	8.440	0.0200	8.248	0.1461	0.0680	56	1.31	010.60	0
010	Total N (8%)	0377	8.455	0.0100	8.248	0.1461	0.0680	56	1.41	010.60	0
010	Total N (8%)	0524	8.458	0.0552	8.248	0.1461	0.0680	56	1.43	010.99	0
010	Total N (8%)	0542	8.458	0.1480	8.248	0.1461	0.0680	56	1.43	010.60	0
010	Total N (8%)	0421	8.570	0.0800	8.248	0.1461	0.0680	56	2.20	010.60	0
020	Total P2O5 (%)	0389	28.56	0.1200	30.88	1.094	0.2620	34	-2.12	020.50	0
020	Total P2O5 (%)	0552	28.97	0.2100	30.88	1.094	0.2620	34	-1.75	020.50	0
020	Total P2O5 (%)	0543	29.11	0.1150	30.88	1.094	0.2620	34	-1.61	020.50	0
020	Total P2O5 (%)	0534	29.53	0.0200	30.88	1.094	0.2620	34	-1.23	020.20	0
020	Total P2O5 (%)	0423	29.62	0.3100	30.88	1.094	0.2620	34	-1.15	020.50	0
020	Total P2O5 (%)	0472	29.68	0.0200	30.88	1.094	0.2620	34	-1.09	020.50	0
020	Total P2O5 (%)	0588	29.81	0.3780	30.88	1.094	0.2620	34	-0.97	020.50	0
020	Total P2O5 (%)	0524	29.85	0.4876	30.88	1.094	0.2620	34	-0.94	020.50	0
020	Total P2O5 (%)	0637	30.28	0.2830	30.88	1.094	0.2620	34	-0.55	020.50	0
020	Total P2O5 (%)	0521	30.38	0.0000	30.88	1.094	0.2620	34	-0.46	020.50	0
020	Total P2O5 (%)	0481	30.51	0.5700	30.88	1.094	0.2620	34	-0.34	020.20	0
020	Total P2O5 (%)	0513	30.54	0.1000	30.88	1.094	0.2620	34	-0.31	020.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
020	Total P2O5 (%)	0572	30.67	1.203	30.88	1.094	0.2620	34	-0.19	020.99	0
020	Total P2O5 (%)	0433	30.71	0.5500	30.88	1.094	0.2620	34	-0.16	020.50	0
020	Total P2O5 (%)	0451	30.75	0.1700	30.88	1.094	0.2620	34	-0.12	020.50	0
020	Total P2O5 (%)	0527	30.84	0.0845	30.88	1.094	0.2620	34	-0.04	020.50	0
020	Total P2O5 (%)	0564	30.88	0.0500	30.88	1.094	0.2620	34	0.00	020.99	0
020	Total P2O5 (%)	0444	30.94	0.2700	30.88	1.094	0.2620	34	0.05	020.50	0
020	Total P2O5 (%)	0114	31.12	0.1911	30.88	1.094	0.2620	34	0.22	020.10	0
020	Total P2O5 (%)	0291	31.13	0.0100	30.88	1.094	0.2620	34	0.23	020.50	0
020	Total P2O5 (%)	0402	31.21	0.1860	30.88	1.094	0.2620	34	0.30	020.50	0
020	Total P2O5 (%)	0561	31.22	0.0200	30.88	1.094	0.2620	34	0.31	020.20	0
020	Total P2O5 (%)	0324	31.25	0.5000	30.88	1.094	0.2620	34	0.34	020.20	0
020	Total P2O5 (%)	0255	31.37	0.0460	30.88	1.094	0.2620	34	0.45	020.50	0
020	Total P2O5 (%)	0498	31.40	0.2000	30.88	1.094	0.2620	34	0.48	020.20	0
020	Total P2O5 (%)	0619	31.60	0.2000	30.88	1.094	0.2620	34	0.66	020.10	0
020	Total P2O5 (%)	0619	31.60	0.2000	30.88	1.094	0.2620	34	0.66	020.99	0
020	Total P2O5 (%)	0501	31.62	0.3800	30.88	1.094	0.2620	34	0.68	020.50	0
020	Total P2O5 (%)	0542	31.96	0.7040	30.88	1.094	0.2620	34	0.99	020.50	0
020	Total P2O5 (%)	0035	32.00	0.0000	30.88	1.094	0.2620	34	1.03	020.40	0
020	Total P2O5 (%)	0368	32.28	0.2514	30.88	1.094	0.2620	34	1.29	020.50	0
020	Total P2O5 (%)	0234	32.38	0.5500	30.88	1.094	0.2620	34	1.37	020.50	0
020	Total P2O5 (%)	0422	32.69	0.5300	30.88	1.094	0.2620	34	1.65	020.50	0
020	Total P2O5 (%)	0523	33.30	0.2000	30.88	1.094	0.2620	34	2.21	020.50	0
020	Total P2O5 (%)	0515	48.96	30.12	30.88	1.094	0.2620	34	16.53	020.99	1
040	Indirect Available P2O5 (30%)	0572	13.15‡	0.4900				2		040.99	0
040	Indirect Available P2O5 (30%)	0547	31.00‡	0.2000				2		040.50	0
041	Direct Available P2O5 (30%)	0572	13.25†	0.0300	30.52	0.9146	0.2705	37	-18.88	041.99	0
041	Direct Available P2O5 (30%)	0106	28.49†	0.1000	30.52	0.9146	0.2705	37	-2.21	041.21	0
041	Direct Available P2O5 (30%)	0095	29.14†	0.7100	30.52	0.9146	0.2705	37	-1.51	041.21	0
041	Direct Available P2O5 (30%)	0055	29.21†	0.1100	30.52	0.9146	0.2705	37	-1.43	041.21	0
041	Direct Available P2O5 (30%)	0472	29.35†	0.4900	30.52	0.9146	0.2705	37	-1.28	041.21	0
041	Direct Available P2O5 (30%)	0423	29.44†	0.0050	30.52	0.9146	0.2705	37	-1.18	041.51	0
041	Direct Available P2O5 (30%)	0518	29.60†	0.2000	30.52	0.9146	0.2705	37	-1.00	041.99	0
041	Direct Available P2O5 (30%)	0377	29.89	1.270	30.52	0.9146	0.2705	37	-0.69	041.51	0
041	Direct Available P2O5 (30%)	0185	30.01	0.7800	30.52	0.9146	0.2705	37	-0.55	041.11	0
041	Direct Available P2O5 (30%)	0560	30.03	0.1090	30.52	0.9146	0.2705	37	-0.53	041.99	0
041	Direct Available P2O5 (30%)	0635	30.05	0.0400	30.52	0.9146	0.2705	37	-0.51	041.10	0
041	Direct Available P2O5 (30%)	0600	30.10	0.1100	30.52	0.9146	0.2705	37	-0.46	041.99	0
041	Direct Available P2O5 (30%)	0405	30.14	0.0200	30.52	0.9146	0.2705	37	-0.41	041.11	0
041	Direct Available P2O5 (30%)	0549	30.21	0.0700	30.52	0.9146	0.2705	37	-0.34	041.99	0
041	Direct Available P2O5 (30%)	0517	30.22	0.0500	30.52	0.9146	0.2705	37	-0.33	041.11	0
041	Direct Available P2O5 (30%)	0513	30.39	0.0500	30.52	0.9146	0.2705	37	-0.14	041.11	0
041	Direct Available P2O5 (30%)	0553	30.46	0.0400	30.52	0.9146	0.2705	37	-0.06	041.20	0
041	Direct Available P2O5 (30%)	0485	30.60	0.8000	30.52	0.9146	0.2705	37	0.09	041.11	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
041	Direct Available P2O5 (30%)	0073	30.62	0.5800	30.52	0.9146	0.2705	37	0.11	041.11	0
041	Direct Available P2O5 (30%)	0421	30.65	0.5000	30.52	0.9146	0.2705	37	0.15	041.50	0
041	Direct Available P2O5 (30%)	0354	30.75	0.1000	30.52	0.9146	0.2705	37	0.26	041.21	0
041	Direct Available P2O5 (30%)	0220	30.79	0.1100	30.52	0.9146	0.2705	37	0.29	041.11	0
041	Direct Available P2O5 (30%)	0136	30.85	0.5000	30.52	0.9146	0.2705	37	0.37	041.51	0
041	Direct Available P2O5 (30%)	0177	30.86	0.0868	30.52	0.9146	0.2705	37	0.38	041.10	0
041	Direct Available P2O5 (30%)	0029	30.88	0.1400	30.52	0.9146	0.2705	37	0.40	041.40	0
041	Direct Available P2O5 (30%)	0494	30.93	0.2700	30.52	0.9146	0.2705	37	0.45	041.51	0
041	Direct Available P2O5 (30%)	0040	30.95	0.5000	30.52	0.9146	0.2705	37	0.48	041.10	0
041	Direct Available P2O5 (30%)	0102	31.00	0.4900	30.52	0.9146	0.2705	37	0.52	041.10	0
041	Direct Available P2O5 (30%)	0055	31.06	0.3500	30.52	0.9146	0.2705	37	0.59	041.11	0
041	Direct Available P2O5 (30%)	0027	31.25	0.4900	30.52	0.9146	0.2705	37	0.80	041.20	0
041	Direct Available P2O5 (30%)	0023	31.28‡	0.0320	30.52	0.9146	0.2705	37	0.84	041.51	0
041	Direct Available P2O5 (30%)	0494	31.33‡	0.0700	30.52	0.9146	0.2705	37	0.89	041.10	0
041	Direct Available P2O5 (30%)	0028	31.57‡	0.8500	30.52	0.9146	0.2705	37	1.15	041.40	0
041	Direct Available P2O5 (30%)	0049	31.58‡	0.5000	30.52	0.9146	0.2705	37	1.16	041.11	0
041	Direct Available P2O5 (30%)	0034	31.94‡	0.0300	30.52	0.9146	0.2705	37	1.55	041.40	0
041	Direct Available P2O5 (30%)	0568	33.20‡	0.0000	30.52	0.9146	0.2705	37	2.93	041.21	0
041	Direct Available P2O5 (30%)	0131	42.92‡	0.0700	30.52	0.9146	0.2705	37	13.56	041.50	0
041	Direct Available P2O5 (30%)	0537	16.91†	26.68	30.52	0.9146	0.2705	37	-14.88	041.99	1
048	Water Soluble P2O5 (%)	0472	23.03	0.4700	26.50	1.102	0.3153	7	-2.85	048.20	0
048	Water Soluble P2O5 (%)	0517	26.08	0.1900	26.50	1.102	0.3153	7	-0.35	048.99	0
048	Water Soluble P2O5 (%)	0513	26.14	0.0800	26.50	1.102	0.3153	7	-0.30	048.99	0
048	Water Soluble P2O5 (%)	0572	26.19	0.3669	26.50	1.102	0.3153	7	-0.25	048.99	0
048	Water Soluble P2O5 (%)	0619	27.35	0.5000	26.50	1.102	0.3153	7	0.70	048.10	0
048	Water Soluble P2O5 (%)	0619	27.35	0.5000	26.50	1.102	0.3153	7	0.70	048.99	0
048	Water Soluble P2O5 (%)	0444	27.54	0.1000	26.50	1.102	0.3153	7	0.85	048.50	0
050	Soluble K2O (4%)	0517	3.900†	0.0800	4.442	0.3317	0.0865	69	-1.64	050.99	0
050	Soluble K2O (4%)	0498	3.950†	0.1000	4.442	0.3317	0.0865	69	-1.48	050.30	0
050	Soluble K2O (4%)	0600	3.960†	0.0800	4.442	0.3317	0.0865	69	-1.45	050.99	0
050	Soluble K2O (4%)	0547	3.970†	0.1200	4.442	0.3317	0.0865	69	-1.42	050.52	0
050	Soluble K2O (4%)	0534	3.975†	0.0700	4.442	0.3317	0.0865	69	-1.41	050.99	0
050	Soluble K2O (4%)	0537	4.010†	0.0600	4.442	0.3317	0.0865	69	-1.30	050.99	0
050	Soluble K2O (4%)	0255	4.037	0.0260	4.442	0.3317	0.0865	69	-1.22	050.99	0
050	Soluble K2O (4%)	0560	4.042	0.1210	4.442	0.3317	0.0865	69	-1.21	050.99	0
050	Soluble K2O (4%)	0635	4.045	0.0100	4.442	0.3317	0.0865	69	-1.20	050.99	0
050	Soluble K2O (4%)	0422	4.065	0.0100	4.442	0.3317	0.0865	69	-1.14	050.50	0
050	Soluble K2O (4%)	0549	4.070	0.0400	4.442	0.3317	0.0865	69	-1.12	050.99	0
050	Soluble K2O (4%)	0588	4.084	0.1640	4.442	0.3317	0.0865	69	-1.08	050.99	0
050	Soluble K2O (4%)	0564	4.090	0.0200	4.442	0.3317	0.0865	69	-1.06	050.99	0
050	Soluble K2O (4%)	0518	4.100	0.4000	4.442	0.3317	0.0865	69	-1.03	050.99	0
050	Soluble K2O (4%)	0543	4.111	0.0010	4.442	0.3317	0.0865	69	-1.00	050.52	0
050	Soluble K2O (4%)	0619	4.165	0.0300	4.442	0.3317	0.0865	69	-0.84	050.50	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
050	Soluble K2O (4%)	0619	4.165	0.0300	4.442	0.3317	0.0865	69	-0.84	050.99	0
050	Soluble K2O (4%)	0354	4.180	0.0200	4.442	0.3317	0.0865	69	-0.79	050.52	0
050	Soluble K2O (4%)	0055	4.182	0.0690	4.442	0.3317	0.0865	69	-0.79	050.50	0
050	Soluble K2O (4%)	0405	4.190	0.0200	4.442	0.3317	0.0865	69	-0.76	050.00	0
050	Soluble K2O (4%)	0433	4.205	0.6500	4.442	0.3317	0.0865	69	-0.72	050.99	0
050	Soluble K2O (4%)	0451	4.237	0.0030	4.442	0.3317	0.0865	69	-0.62	050.99	0
050	Soluble K2O (4%)	0524	4.242	0.2087	4.442	0.3317	0.0865	69	-0.60	050.99	0
050	Soluble K2O (4%)	0553	4.275	0.0300	4.442	0.3317	0.0865	69	-0.50	050.99	0
050	Soluble K2O (4%)	0637	4.381	0.2820	4.442	0.3317	0.0865	69	-0.19	050.99	0
050	Soluble K2O (4%)	0619	4.390	0.0200	4.442	0.3317	0.0865	69	-0.16	050.00	0
050	Soluble K2O (4%)	0572	4.403	0.1088	4.442	0.3317	0.0865	69	-0.12	050.99	0
050	Soluble K2O (4%)	0481	4.420	0.1600	4.442	0.3317	0.0865	69	-0.07	050.99	0
050	Soluble K2O (4%)	0023	4.428	0.0010	4.442	0.3317	0.0865	69	-0.05	050.52	0
050	Soluble K2O (4%)	0102	4.440	0.0600	4.442	0.3317	0.0865	69	-0.01	050.00	0
050	Soluble K2O (4%)	0389	4.440	0.1200	4.442	0.3317	0.0865	69	-0.01	050.99	0
050	Soluble K2O (4%)	0234	4.450	0.0200	4.442	0.3317	0.0865	69	0.02	050.99	0
050	Soluble K2O (4%)	0527	4.458	0.0738	4.442	0.3317	0.0865	69	0.05	050.99	0
050	Soluble K2O (4%)	0513	4.475	0.0300	4.442	0.3317	0.0865	69	0.10	050.99	0
050	Soluble K2O (4%)	0034	4.485	0.0100	4.442	0.3317	0.0865	69	0.13	050.62	0
050	Soluble K2O (4%)	0106	4.495	0.0100	4.442	0.3317	0.0865	69	0.16	050.50	0
050	Soluble K2O (4%)	0377	4.495	0.1500	4.442	0.3317	0.0865	69	0.16	050.52	0
050	Soluble K2O (4%)	0423	4.498	0.0740	4.442	0.3317	0.0865	69	0.17	050.52	0
050	Soluble K2O (4%)	0035	4.500	0.0000	4.442	0.3317	0.0865	69	0.17	050.61	0
050	Soluble K2O (4%)	0177	4.536	0.0130	4.442	0.3317	0.0865	69	0.28	050.99	0
050	Soluble K2O (4%)	0027	4.540	0.1000	4.442	0.3317	0.0865	69	0.29	050.99	0
050	Soluble K2O (4%)	0472	4.560	0.1400	4.442	0.3317	0.0865	69	0.35	050.32	0
050	Soluble K2O (4%)	0494	4.560	0.0600	4.442	0.3317	0.0865	69	0.35	050.52	0
050	Soluble K2O (4%)	0220	4.565	0.0100	4.442	0.3317	0.0865	69	0.37	050.00	0
050	Soluble K2O (4%)	0049	4.570	0.1400	4.442	0.3317	0.0865	69	0.38	050.00	0
050	Soluble K2O (4%)	0073	4.600	0.0400	4.442	0.3317	0.0865	69	0.47	050.30	0
050	Soluble K2O (4%)	0040	4.600	0.2000	4.442	0.3317	0.0865	69	0.47	050.52	0
050	Soluble K2O (4%)	0494	4.625	0.2300	4.442	0.3317	0.0865	69	0.55	050.00	0
050	Soluble K2O (4%)	0028	4.630	0.1000	4.442	0.3317	0.0865	69	0.57	050.62	0
050	Soluble K2O (4%)	0324	4.670	0.0000	4.442	0.3317	0.0865	69	0.69	050.50	0
050	Soluble K2O (4%)	0561	4.680	0.1000	4.442	0.3317	0.0865	69	0.72	050.00	0
050	Soluble K2O (4%)	0521	4.694	0.0000	4.442	0.3317	0.0865	69	0.76	050.99	0
050	Soluble K2O (4%)	0029	4.700	0.0400	4.442	0.3317	0.0865	69	0.78	050.62	0
050	Soluble K2O (4%)	0523	4.700	0.0000	4.442	0.3317	0.0865	69	0.78	050.99	0
050	Soluble K2O (4%)	0055	4.718	0.1250	4.442	0.3317	0.0865	69	0.83	050.00	0
050	Soluble K2O (4%)	0402	4.734	0.1580	4.442	0.3317	0.0865	69	0.88	050.99	0
050	Soluble K2O (4%)	0095	4.750	0.0000	4.442	0.3317	0.0865	69	0.93	050.62	0
050	Soluble K2O (4%)	0421	4.750	0.0800	4.442	0.3317	0.0865	69	0.93	050.99	0
050	Soluble K2O (4%)	0501	4.760	0.2200	4.442	0.3317	0.0865	69	0.96	050.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
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050	Soluble K2O (4%)	0114	4.781	0.1603	4.442	0.3317	0.0865	69	1.02	050.00	0
050	Soluble K2O (4%)	0515	4.786	0.0370	4.442	0.3317	0.0865	69	1.03	050.99	0
050	Soluble K2O (4%)	0444	4.795	0.5100	4.442	0.3317	0.0865	69	1.06	050.50	0
050	Soluble K2O (4%)	0136	4.805	0.1500	4.442	0.3317	0.0865	69	1.09	050.52	0
050	Soluble K2O (4%)	0485	4.830	0.0800	4.442	0.3317	0.0865	69	1.17	050.52	0
050	Soluble K2O (4%)	0552	4.860	0.0400	4.442	0.3317	0.0865	69	1.26	050.99	0
050	Soluble K2O (4%)	0568	4.880‡	0.0000	4.442	0.3317	0.0865	69	1.32	050.51	0
050	Soluble K2O (4%)	0291	4.920‡	0.0000	4.442	0.3317	0.0865	69	1.44	050.51	0
050	Soluble K2O (4%)	0542	5.033‡	0.1040	4.442	0.3317	0.0865	69	1.78	050.99	0
050	Soluble K2O (4%)	0368	5.147‡	0.1713	4.442	0.3317	0.0865	69	2.12	050.51	0
050	Soluble K2O (4%)	0185	6.795‡	0.8500	4.442	0.3317	0.0865	69	7.09	050.32	1
050	Soluble K2O (4%)	0131	6.805‡	1.008	4.442	0.3317	0.0865	69	7.12	050.51	1
060	Water (Free) (%)	0513	0.9000	0.0200				1		060.00	0
101	Acid Soluble Ca (%)	0568	1.140	0.0000	1.543	0.2194	0.0350	14	-1.84	101.30	0
101	Acid Soluble Ca (%)	0572	1.239	0.0014	1.543	0.2194	0.0350	14	-1.38	101.99	0
101	Acid Soluble Ca (%)	0527	1.347	0.0227	1.543	0.2194	0.0350	14	-0.89	101.33	0
101	Acid Soluble Ca (%)	0472	1.490	0.0200	1.543	0.2194	0.0350	14	-0.24	101.33	0
101	Acid Soluble Ca (%)	0494	1.510	0.1080	1.543	0.2194	0.0350	14	-0.15	101.33	0
101	Acid Soluble Ca (%)	0117	1.510	0.0179	1.543	0.2194	0.0350	14	-0.15	101.33	0
101	Acid Soluble Ca (%)	0421	1.526	0.0360	1.543	0.2194	0.0350	14	-0.08	101.33	0
101	Acid Soluble Ca (%)	0389	1.565	0.0700	1.543	0.2194	0.0350	14	0.10	101.99	0
101	Acid Soluble Ca (%)	0095	1.570	0.0000	1.543	0.2194	0.0350	14	0.12	101.32	0
101	Acid Soluble Ca (%)	0423	1.589	0.0340	1.543	0.2194	0.0350	14	0.21	101.32	0
101	Acid Soluble Ca (%)	0035	1.605	0.0100	1.543	0.2194	0.0350	14	0.28	101.30	0
101	Acid Soluble Ca (%)	0354	1.695	0.0300	1.543	0.2194	0.0350	14	0.69	101.30	0
101	Acid Soluble Ca (%)	0553	1.865	0.1500	1.543	0.2194	0.0350	14	1.47	101.00	0
101	Acid Soluble Ca (%)	0552	2.075	0.0100	1.543	0.2194	0.0350	14	2.43	101.99	0
121	Acid Soluble Mg (%)	0515	1.057	0.0570	1.305	0.1532	0.0296	17	-1.62	121.99	0
121	Acid Soluble Mg (%)	0572	1.058	0.0048	1.305	0.1532	0.0296	17	-1.61	121.99	0
121	Acid Soluble Mg (%)	0515	1.104	0.1110	1.305	0.1532	0.0296	17	-1.32	121.33	0
121	Acid Soluble Mg (%)	0568	1.230	0.0000	1.305	0.1532	0.0296	17	-0.49	121.30	0
121	Acid Soluble Mg (%)	0095	1.265	0.0500	1.305	0.1532	0.0296	17	-0.26	121.32	0
121	Acid Soluble Mg (%)	0494	1.269	0.0030	1.305	0.1532	0.0296	17	-0.24	121.33	0
121	Acid Soluble Mg (%)	0421	1.285	0.0370	1.305	0.1532	0.0296	17	-0.14	121.33	0
121	Acid Soluble Mg (%)	0423	1.289	0.0070	1.305	0.1532	0.0296	17	-0.11	121.32	0
121	Acid Soluble Mg (%)	0527	1.289	0.0030	1.305	0.1532	0.0296	17	-0.11	121.33	0
121	Acid Soluble Mg (%)	0524	1.314	0.0056	1.305	0.1532	0.0296	17	0.06	121.99	0
121	Acid Soluble Mg (%)	0354	1.335	0.0300	1.305	0.1532	0.0296	17	0.19	121.30	0
121	Acid Soluble Mg (%)	0117	1.347	0.0356	1.305	0.1532	0.0296	17	0.27	121.33	0
121	Acid Soluble Mg (%)	0553	1.415	0.1100	1.305	0.1532	0.0296	17	0.72	121.00	0
121	Acid Soluble Mg (%)	0035	1.435	0.0100	1.305	0.1532	0.0296	17	0.85	121.30	0
121	Acid Soluble Mg (%)	0220	1.445	0.0300	1.305	0.1532	0.0296	17	0.91	121.32	0
121	Acid Soluble Mg (%)	0472	1.485	0.0300	1.305	0.1532	0.0296	17	1.17	121.33	0



Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
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121	Acid Soluble Mg (%)	0552	1.540	0.0000	1.305	0.1532	0.0296	17	1.53	121.99	0
131	Water Soluble Mg (%)	0572	0.6262	0.0081				1		131.99	0
143	Elemental S (%)	0485	4.770	0.1400	6.167	0.9117	0.1020	5	-1.53	143.00	0
143	Elemental S (%)	0255	5.703	0.0090	6.167	0.9117	0.1020	5	-0.51	143.99	0
143	Elemental S (%)	0368	6.752	0.2812	6.167	0.9117	0.1020	5	0.64	143.99	0
143	Elemental S (%)	0389	6.785	0.0700	6.167	0.9117	0.1020	5	0.68	143.99	0
143	Elemental S (%)	0291	6.825	0.0100	6.167	0.9117	0.1020	5	0.72	143.99	0
145	Sulfate S, HCl soluble (%)	0485	1.770	0.1200	3.955	1.186	0.1132	9	-1.70	145.00	0
145	Sulfate S, HCl soluble (%)	0537	3.020	0.0600	3.955	1.186	0.1132	9	-0.73	145.00	0
145	Sulfate S, HCl soluble (%)	0600	3.150	0.1000	3.955	1.186	0.1132	9	-0.63	145.99	0
145	Sulfate S, HCl soluble (%)	0518	3.300	0.2000	3.955	1.186	0.1132	9	-0.51	145.99	0
145	Sulfate S, HCl soluble (%)	0481	4.610	0.0800	3.955	1.186	0.1132	9	0.51	145.99	0
145	Sulfate S, HCl soluble (%)	0106	4.625	0.2700	3.955	1.186	0.1132	9	0.52	145.00	0
145	Sulfate S, HCl soluble (%)	0494	4.740	0.0200	3.955	1.186	0.1132	9	0.61	145.00	0
145	Sulfate S, HCl soluble (%)	0027	4.935	0.1700	3.955	1.186	0.1132	9	0.76	145.00	0
145	Sulfate S, HCl soluble (%)	0561	5.040	0.0200	3.955	1.186	0.1132	9	0.84	145.00	0
148	Total S (3%)	0635	3.030†	0.0400	5.997	0.9053	0.1107	34	-3.28	148.01	0
148	Total S (3%)	0560	3.072†	0.0320	5.997	0.9053	0.1107	34	-3.23	148.99	0
148	Total S (3%)	0564	4.370†	0.0400	5.997	0.9053	0.1107	34	-1.80	148.01	0
148	Total S (3%)	0402	5.035†	0.0650	5.997	0.9053	0.1107	34	-1.06	148.07	0
148	Total S (3%)	0324	5.035†	0.1900	5.997	0.9053	0.1107	34	-1.06	148.01	0
148	Total S (3%)	0543	5.045†	0.0190	5.997	0.9053	0.1107	34	-1.05	148.07	0
148	Total S (3%)	0354	5.130†	0.2800	5.997	0.9053	0.1107	34	-0.96	148.99	0
148	Total S (3%)	0572	5.138†	0.0163	5.997	0.9053	0.1107	34	-0.95	148.99	0
148	Total S (3%)	0377	5.235†	0.4300	5.997	0.9053	0.1107	34	-0.84	148.99	0
148	Total S (3%)	0498	5.300†	0.4000	5.997	0.9053	0.1107	34	-0.77	148.01	0
148	Total S (3%)	0515	5.360†	0.3160	5.997	0.9053	0.1107	34	-0.70	148.07	0
148	Total S (3%)	0073	5.370†	0.0200	5.997	0.9053	0.1107	34	-0.69	148.00	0
148	Total S (3%)	0136	5.795	0.1500	5.997	0.9053	0.1107	34	-0.22	148.00	0
148	Total S (3%)	0501	5.880	0.0600	5.997	0.9053	0.1107	34	-0.13	148.99	0
148	Total S (3%)	0472	6.005	0.0300	5.997	0.9053	0.1107	34	0.01	148.07	0
148	Total S (3%)	0637	6.090	0.0160	5.997	0.9053	0.1107	34	0.10	148.99	0
148	Total S (3%)	0177	6.119	0.1058	5.997	0.9053	0.1107	34	0.13	148.07	0
148	Total S (3%)	0023	6.225	0.0210	5.997	0.9053	0.1107	34	0.25	148.99	0
148	Total S (3%)	0521	6.305	0.0000	5.997	0.9053	0.1107	34	0.34	148.07	0
148	Total S (3%)	0055	6.378	0.1750	5.997	0.9053	0.1107	34	0.42	148.01	0
148	Total S (3%)	0433	6.420	0.0200	5.997	0.9053	0.1107	34	0.47	148.99	0
148	Total S (3%)	0117	6.427	0.1731	5.997	0.9053	0.1107	34	0.47	148.07	0
148	Total S (3%)	0040	6.450	0.1000	5.997	0.9053	0.1107	34	0.50	148.07	0
148	Total S (3%)	0485	6.540‡	0.2600	5.997	0.9053	0.1107	34	0.60	148.01	0
148	Total S (3%)	0049	6.600‡	0.0600	5.997	0.9053	0.1107	34	0.67	148.00	0
148	Total S (3%)	0494	6.605‡	0.1304	5.997	0.9053	0.1107	34	0.67	148.07	0
148	Total S (3%)	0527	6.727‡	0.0872	5.997	0.9053	0.1107	34	0.81	148.07	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
148	Total S (3%)	0422	6.780‡	0.0200	5.997	0.9053	0.1107	34	0.87	148.99	0
148	Total S (3%)	0029	6.807‡	0.1420	5.997	0.9053	0.1107	34	0.89	148.00	0
148	Total S (3%)	0523	6.820‡	0.0000	5.997	0.9053	0.1107	34	0.91	148.99	0
148	Total S (3%)	0451	6.850‡	0.0800	5.997	0.9053	0.1107	34	0.94	148.00	0
148	Total S (3%)	0513	6.950‡	0.0000	5.997	0.9053	0.1107	34	1.05	148.07	0
148	Total S (3%)	0220	7.205‡	0.0700	5.997	0.9053	0.1107	34	1.33	148.99	0
148	Total S (3%)	0421	9.465‡	0.2500	5.997	0.9053	0.1107	34	3.83	148.07	0
149	S - HNO3 soluble (%)	0524	5.475	0.2323				2		149.04	0
149	S - HNO3 soluble (%)	0423	6.306	0.0280				2		149.04	0
151	Acid Soluble As (ppm)	0368	6.600	0.4000	10.05	1.865	0.5626	13	-1.85	151.34	0
151	Acid Soluble As (ppm)	0481	7.780	0.6600	10.05	1.865	0.5626	13	-1.22	151.99	0
151	Acid Soluble As (ppm)	0220	9.150	0.3000	10.05	1.865	0.5626	13	-0.48	151.99	0
151	Acid Soluble As (ppm)	0220	9.200	0.0000	10.05	1.865	0.5626	13	-0.46	151.32	0
151	Acid Soluble As (ppm)	0136	9.600	0.2000	10.05	1.865	0.5626	13	-0.24	151.33	0
151	Acid Soluble As (ppm)	0523	9.620	0.3000	10.05	1.865	0.5626	13	-0.23	151.30	0
151	Acid Soluble As (ppm)	0572	9.704	0.1561	10.05	1.865	0.5626	13	-0.19	151.99	0
151	Acid Soluble As (ppm)	0524	9.953	0.1726	10.05	1.865	0.5626	13	-0.05	151.30	0
151	Acid Soluble As (ppm)	0515	10.55	2.687	10.05	1.865	0.5626	13	0.27	151.34	0
151	Acid Soluble As (ppm)	0117	10.89	0.4890	10.05	1.865	0.5626	13	0.45	151.33	0
151	Acid Soluble As (ppm)	0405	11.50	1.000	10.05	1.865	0.5626	13	0.78	151.32	0
151	Acid Soluble As (ppm)	0527	12.61	0.5983	10.05	1.865	0.5626	13	1.37	151.33	0
151	Acid Soluble As (ppm)	0515	13.25	2.690	10.05	1.865	0.5626	13	1.71	151.33	0
151	Acid Soluble As (ppm)	0255	0.0000	0.0000	10.05	1.865	0.5626	13		151.30	4
165	Acid Soluble B (%)	0572	0.0838	0.0015	0.1035	0.0068	0.0020	9	-2.68	165.99	0
165	Acid Soluble B (%)	0513	0.1000	0.0020	0.1035	0.0068	0.0020	9	-0.47	165.30	0
165	Acid Soluble B (%)	0515	0.1001	0.0034	0.1035	0.0068	0.0020	9	-0.46	165.99	0
165	Acid Soluble B (%)	0524	0.1013	0.0016	0.1035	0.0068	0.0020	9	-0.29	165.99	0
165	Acid Soluble B (%)	0423	0.1015	0.0010	0.1035	0.0068	0.0020	9	-0.27	165.99	0
165	Acid Soluble B (%)	0421	0.1035	0.0030	0.1035	0.0068	0.0020	9	0.00	165.99	0
165	Acid Soluble B (%)	0117	0.1098	0.0021	0.1035	0.0068	0.0020	9	0.85	165.99	0
165	Acid Soluble B (%)	0472	0.1100	0.0000	0.1035	0.0068	0.0020	9	0.89	165.99	0
165	Acid Soluble B (%)	0527	0.1118	0.0012	0.1035	0.0068	0.0020	9	1.13	165.99	0
165	Acid Soluble B (%)	0354	0.1150	0.0100	0.1035	0.0068	0.0020	9	1.57	165.30	1
165	Acid Soluble B (%)	0552	0.0000	0.0000	0.1035	0.0068	0.0020	9		165.99	4
171	Water Soluble B (%)	0572	0.0880	0.0027				1		171.99	0
181	Acid Soluble Cd (ppm)	0368	2.750	0.1000	3.233	0.3382	0.2038	12	-1.43	181.34	0
181	Acid Soluble Cd (ppm)	0481	2.835	0.1900	3.233	0.3382	0.2038	12	-1.18	181.99	0
181	Acid Soluble Cd (ppm)	0524	2.908	0.2079	3.233	0.3382	0.2038	12	-0.96	181.30	0
181	Acid Soluble Cd (ppm)	0405	3.000	0.0000	3.233	0.3382	0.2038	12	-0.69	181.32	0
181	Acid Soluble Cd (ppm)	0220	3.300	0.0000	3.233	0.3382	0.2038	12	0.20	181.32	0
181	Acid Soluble Cd (ppm)	0136	3.300	0.0000	3.233	0.3382	0.2038	12	0.20	181.33	0
181	Acid Soluble Cd (ppm)	0035	3.325	0.1900	3.233	0.3382	0.2038	12	0.27	181.30	0
181	Acid Soluble Cd (ppm)	0494	3.340	0.2200	3.233	0.3382	0.2038	12	0.32	181.33	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
181	Acid Soluble Cd (ppm)	0220	3.350	0.1000	3.233	0.3382	0.2038	12	0.35	181.99	0
181	Acid Soluble Cd (ppm)	0572	3.397	0.2395	3.233	0.3382	0.2038	12	0.48	181.99	0
181	Acid Soluble Cd (ppm)	0523	3.550	0.2600	3.233	0.3382	0.2038	12	0.94	181.30	0
181	Acid Soluble Cd (ppm)	0527	3.979	0.3797	3.233	0.3382	0.2038	12	2.20	181.33	0
181	Acid Soluble Cd (ppm)	0255	6.565	4.628	3.233	0.3382	0.2038	12	9.85	181.30	1
181	Acid Soluble Cd (ppm)	0515	< 0.133		3.233	0.3382	0.2038	12		181.34	5
181	Acid Soluble Cd (ppm)	0515	< 0.19		3.233	0.3382	0.2038	12		181.33	5
181	Acid Soluble Cd (ppm)	0117	< 5		3.233	0.3382	0.2038	12		181.33	5
191	Acid Soluble Cr (ppm)	0524	45.39	0.8882	67.40	6.618	1.859	16	-3.32	191.30	0
191	Acid Soluble Cr (ppm)	0572	51.78	1.141	67.40	6.618	1.859	16	-2.36	191.99	0
191	Acid Soluble Cr (ppm)	0035	60.75	2.500	67.40	6.618	1.859	16	-1.00	191.30	0
191	Acid Soluble Cr (ppm)	0368	60.80	2.400	67.40	6.618	1.859	16	-1.00	191.34	0
191	Acid Soluble Cr (ppm)	0515	64.16	3.550	67.40	6.618	1.859	16	-0.49	191.33	0
191	Acid Soluble Cr (ppm)	0136	65.35	0.9000	67.40	6.618	1.859	16	-0.31	191.33	0
191	Acid Soluble Cr (ppm)	0515	67.42	7.700	67.40	6.618	1.859	16	0.00	191.34	0
191	Acid Soluble Cr (ppm)	0405	69.50	1.000	67.40	6.618	1.859	16	0.32	191.32	0
191	Acid Soluble Cr (ppm)	0523	69.99	2.526	67.40	6.618	1.859	16	0.39	191.30	0
191	Acid Soluble Cr (ppm)	0220	70.25	0.1000	67.40	6.618	1.859	16	0.43	191.32	0
191	Acid Soluble Cr (ppm)	0527	70.50	0.9315	67.40	6.618	1.859	16	0.47	191.33	0
191	Acid Soluble Cr (ppm)	0027	70.91	1.370	67.40	6.618	1.859	16	0.53	191.30	0
191	Acid Soluble Cr (ppm)	0220	71.15	1.700	67.40	6.618	1.859	16	0.57	191.99	0
191	Acid Soluble Cr (ppm)	0494	71.70	5.800	67.40	6.618	1.859	16	0.65	191.33	0
191	Acid Soluble Cr (ppm)	0117	73.65	1.288	67.40	6.618	1.859	16	0.94	191.33	0
191	Acid Soluble Cr (ppm)	0481	80.35	1.900	67.40	6.618	1.859	16	1.96	191.99	0
202	Acid Soluble Co (ppm)	0572	2.959	0.0646	4.158	0.8282	0.1783	12	-1.45	202.99	0
202	Acid Soluble Co (ppm)	0368	3.050	0.1000	4.158	0.8282	0.1783	12	-1.34	202.34	0
202	Acid Soluble Co (ppm)	0220	3.700	0.0000	4.158	0.8282	0.1783	12	-0.55	202.32	0
202	Acid Soluble Co (ppm)	0136	3.700	0.2000	4.158	0.8282	0.1783	12	-0.55	202.33	0
202	Acid Soluble Co (ppm)	0527	3.947	0.0273	4.158	0.8282	0.1783	12	-0.25	202.33	0
202	Acid Soluble Co (ppm)	0220	4.050	0.1000	4.158	0.8282	0.1783	12	-0.13	202.99	0
202	Acid Soluble Co (ppm)	0035	4.275	0.5500	4.158	0.8282	0.1783	12	0.14	202.30	0
202	Acid Soluble Co (ppm)	0494	4.465	0.1900	4.158	0.8282	0.1783	12	0.37	202.33	0
202	Acid Soluble Co (ppm)	0524	4.596	0.2573	4.158	0.8282	0.1783	12	0.53	202.30	0
202	Acid Soluble Co (ppm)	0523	4.943	0.1100	4.158	0.8282	0.1783	12	0.95	202.30	0
202	Acid Soluble Co (ppm)	0405	5.000	0.0000	4.158	0.8282	0.1783	12	1.02	202.32	0
202	Acid Soluble Co (ppm)	0117	5.208	0.3500	4.158	0.8282	0.1783	12	1.27	202.33	0
202	Acid Soluble Co (ppm)	0255	10.42	20.84	4.158	0.8282	0.1783	12		202.99	4
202	Acid Soluble Co (ppm)	0515	< 0.139		4.158	0.8282	0.1783	12		202.34	5
202	Acid Soluble Co (ppm)	0515	< 0.26		4.158	0.8282	0.1783	12		202.33	5
221	Acid Soluble Cu (0.6%)	0055	0.06000†	0.0000	0.0818	0.0085	0.0042	50	-2.55	221.33	0
221	Acid Soluble Cu (0.6%)	0572	0.06510†	0.0024	0.0818	0.0085	0.0042	50	-1.95	221.99	0
221	Acid Soluble Cu (0.6%)	0177	0.0691	0.0079	0.0818	0.0085	0.0042	50	-1.49	221.33	0
221	Acid Soluble Cu (0.6%)	0451	0.0692	0.0013	0.0818	0.0085	0.0042	50	-1.48	221.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
221	Acid Soluble Cu (0.6%)	0524	0.0706	0.0028	0.0818	0.0085	0.0042	50	-1.31	221.99	0
221	Acid Soluble Cu (0.6%)	0023	0.0711	0.0009	0.0818	0.0085	0.0042	50	-1.26	221.99	0
221	Acid Soluble Cu (0.6%)	0029	0.0717	0.0028	0.0818	0.0085	0.0042	50	-1.18	221.00	0
221	Acid Soluble Cu (0.6%)	0543	0.0725	0.0010	0.0818	0.0085	0.0042	50	-1.09	221.33	0
221	Acid Soluble Cu (0.6%)	0255	0.0755	0.0010	0.0818	0.0085	0.0042	50	-0.74	221.30	0
221	Acid Soluble Cu (0.6%)	0521	0.0760	0.0000	0.0818	0.0085	0.0042	50	-0.68	221.32	0
221	Acid Soluble Cu (0.6%)	0402	0.0768	0.0007	0.0818	0.0085	0.0042	50	-0.59	221.30	0
221	Acid Soluble Cu (0.6%)	0513	0.0770	0.0000	0.0818	0.0085	0.0042	50	-0.56	221.30	0
221	Acid Soluble Cu (0.6%)	0368	0.0778	0.0024	0.0818	0.0085	0.0042	50	-0.47	221.99	0
221	Acid Soluble Cu (0.6%)	0637	0.0780	0.0040	0.0818	0.0085	0.0042	50	-0.44	221.99	0
221	Acid Soluble Cu (0.6%)	0027	0.0785	0.0010	0.0818	0.0085	0.0042	50	-0.39	221.99	0
221	Acid Soluble Cu (0.6%)	0423	0.0790	0.0000	0.0818	0.0085	0.0042	50	-0.33	221.32	0
221	Acid Soluble Cu (0.6%)	0040	0.0791	0.0064	0.0818	0.0085	0.0042	50	-0.32	221.33	0
221	Acid Soluble Cu (0.6%)	0485	0.0799	0.0032	0.0818	0.0085	0.0042	50	-0.22	221.00	0
221	Acid Soluble Cu (0.6%)	0324	0.0800	0.0020	0.0818	0.0085	0.0042	50	-0.21	221.30	0
221	Acid Soluble Cu (0.6%)	0095	0.0800	0.0000	0.0818	0.0085	0.0042	50	-0.21	221.32	0
221	Acid Soluble Cu (0.6%)	0472	0.0800	0.0000	0.0818	0.0085	0.0042	50	-0.21	221.33	0
221	Acid Soluble Cu (0.6%)	0481	0.0800	0.0000	0.0818	0.0085	0.0042	50	-0.21	221.99	0
221	Acid Soluble Cu (0.6%)	0523	0.0800	0.0000	0.0818	0.0085	0.0042	50	-0.21	221.99	0
221	Acid Soluble Cu (0.6%)	0564	0.0800	0.0000	0.0818	0.0085	0.0042	50	-0.21	221.99	0
221	Acid Soluble Cu (0.6%)	0537	0.0802	0.0002	0.0818	0.0085	0.0042	50	-0.19	221.00	0
221	Acid Soluble Cu (0.6%)	0515	0.0808	0.0091	0.0818	0.0085	0.0042	50	-0.12	221.33	0
221	Acid Soluble Cu (0.6%)	0049	0.0810	0.0040	0.0818	0.0085	0.0042	50	-0.09	221.30	0
221	Acid Soluble Cu (0.6%)	0600	0.0820	0.0040	0.0818	0.0085	0.0042	50	0.02	221.99	0
221	Acid Soluble Cu (0.6%)	0619	0.0830	0.0000	0.0818	0.0085	0.0042	50	0.14	221.31	0
221	Acid Soluble Cu (0.6%)	0220	0.0830	0.0000	0.0818	0.0085	0.0042	50	0.14	221.32	0
221	Acid Soluble Cu (0.6%)	0619	0.0830	0.0000	0.0818	0.0085	0.0042	50	0.14	221.99	0
221	Acid Soluble Cu (0.6%)	0433	0.0840	0.0020	0.0818	0.0085	0.0042	50	0.26	221.30	0
221	Acid Soluble Cu (0.6%)	0106	0.0844	0.0021	0.0818	0.0085	0.0042	50	0.30	221.33	0
221	Acid Soluble Cu (0.6%)	0035	0.0845	0.0030	0.0818	0.0085	0.0042	50	0.32	221.30	0
221	Acid Soluble Cu (0.6%)	0501	0.0846	0.0035	0.0818	0.0085	0.0042	50	0.32	221.00	0
221	Acid Soluble Cu (0.6%)	0494	0.0848	0.0018	0.0818	0.0085	0.0042	50	0.35	221.33	0
221	Acid Soluble Cu (0.6%)	0354	0.0850	0.0100	0.0818	0.0085	0.0042	50	0.37	221.30	0
221	Acid Soluble Cu (0.6%)	0136	0.0850	0.0100	0.0818	0.0085	0.0042	50	0.37	221.33	0
221	Acid Soluble Cu (0.6%)	0527	0.0854	0.0007	0.0818	0.0085	0.0042	50	0.42	221.33	0
221	Acid Soluble Cu (0.6%)	0117	0.0857	0.0020	0.0818	0.0085	0.0042	50	0.46	221.33	0
221	Acid Soluble Cu (0.6%)	0515	0.0871	0.0220	0.0818	0.0085	0.0042	50	0.62	221.99	0
221	Acid Soluble Cu (0.6%)	0498	0.0900	0.0020	0.0818	0.0085	0.0042	50	0.96	221.03	0
221	Acid Soluble Cu (0.6%)	0042	0.1175‡	0.0050	0.0818	0.0085	0.0042	50	4.18	221.99	0
221	Acid Soluble Cu (0.6%)	0291	0.1200‡	0.0000	0.0818	0.0085	0.0042	50	4.47	221.30	0
221	Acid Soluble Cu (0.6%)	0552	0.3050‡	0.0100	0.0818	0.0085	0.0042	50	26.11	221.30	0
221	Acid Soluble Cu (0.6%)	0073	0.3370‡	0.0120	0.0818	0.0085	0.0042	50	29.85	221.00	0
221	Acid Soluble Cu (0.6%)	0560	0.5895‡	0.0150	0.0818	0.0085	0.0042	50	59.39	221.99	0

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221	Acid Soluble Cu (0.6%)	0635	0.6001‡	0.0008	0.0818	0.0085	0.0042	50	60.63	221.99	0
221	Acid Soluble Cu (0.6%)	0234	0.8250‡	0.0100	0.0818	0.0085	0.0042	50	86.94	221.30	0
221	Acid Soluble Cu (0.6%)	0389	0.8300‡	0.0000	0.0818	0.0085	0.0042	50	87.53	221.99	0
221	Acid Soluble Cu (0.6%)	0377	0.7400‡	0.1400	0.0818	0.0085	0.0042	50	77.00	221.30	1
241	Acid Soluble Fe (%)	0515	0.6870	0.0369	0.7535	0.0419	0.0163	14	-1.59	241.33	0
241	Acid Soluble Fe (%)	0524	0.6880	0.0026	0.7535	0.0419	0.0163	14	-1.56	241.99	0
241	Acid Soluble Fe (%)	0572	0.7273	0.0054	0.7535	0.0419	0.0163	14	-0.63	241.99	0
241	Acid Soluble Fe (%)	0472	0.7300	0.0000	0.7535	0.0419	0.0163	14	-0.56	241.33	0
241	Acid Soluble Fe (%)	0423	0.7305	0.0070	0.7535	0.0419	0.0163	14	-0.55	241.32	0
241	Acid Soluble Fe (%)	0513	0.7480	0.0100	0.7535	0.0419	0.0163	14	-0.13	241.30	0
241	Acid Soluble Fe (%)	0095	0.7550	0.0100	0.7535	0.0419	0.0163	14	0.04	241.32	0
241	Acid Soluble Fe (%)	0035	0.7620	0.0180	0.7535	0.0419	0.0163	14	0.20	241.30	0
241	Acid Soluble Fe (%)	0220	0.7650	0.0020	0.7535	0.0419	0.0163	14	0.27	241.32	0
241	Acid Soluble Fe (%)	0117	0.7702	0.0070	0.7535	0.0419	0.0163	14	0.40	241.33	0
241	Acid Soluble Fe (%)	0494	0.7810	0.0420	0.7535	0.0419	0.0163	14	0.66	241.33	0
241	Acid Soluble Fe (%)	0354	0.7900	0.0000	0.7535	0.0419	0.0163	14	0.87	241.30	0
241	Acid Soluble Fe (%)	0527	0.7925	0.0123	0.7535	0.0419	0.0163	14	0.93	241.33	0
241	Acid Soluble Fe (%)	0552	1.145	0.0700	0.7535	0.0419	0.0163	14	9.35	241.30	0
241	Acid Soluble Fe (%)	0515	0.7381	0.1606	0.7535	0.0419	0.0163	14	-0.37	241.99	1
251	Acid Soluble Pb (ppm)	0524	1.177	0.0313	2.589	1.256	0.1088	9	-1.12	251.30	0
251	Acid Soluble Pb (ppm)	0572	1.735	0.0651	2.589	1.256	0.1088	9	-0.68	251.99	0
251	Acid Soluble Pb (ppm)	0523	1.805	0.0080	2.589	1.256	0.1088	9	-0.62	251.30	0
251	Acid Soluble Pb (ppm)	0527	1.920	0.0113	2.589	1.256	0.1088	9	-0.53	251.33	0
251	Acid Soluble Pb (ppm)	0481	2.040	0.0600	2.589	1.256	0.1088	9	-0.44	251.99	0
251	Acid Soluble Pb (ppm)	0515	2.775	0.9610	2.589	1.256	0.1088	9	0.15	251.34	0
251	Acid Soluble Pb (ppm)	0368	3.650	0.1000	2.589	1.256	0.1088	9	0.84	251.34	0
251	Acid Soluble Pb (ppm)	0220	4.050	0.3000	2.589	1.256	0.1088	9	1.16	251.32	0
251	Acid Soluble Pb (ppm)	0220	4.150	0.1000	2.589	1.256	0.1088	9	1.24	251.99	0
251	Acid Soluble Pb (ppm)	0494	5.900	2.000	2.589	1.256	0.1088	9	2.64	251.33	1
251	Acid Soluble Pb (ppm)	0255	0.0000	0.0000	2.589	1.256	0.1088	9		251.30	4
251	Acid Soluble Pb (ppm)	0515	< 0.21		2.589	1.256	0.1088	9		251.33	5
251	Acid Soluble Pb (ppm)	0136	< 3		2.589	1.256	0.1088	9		251.33	5
251	Acid Soluble Pb (ppm)	0405	< 4		2.589	1.256	0.1088	9		251.32	5
251	Acid Soluble Pb (ppm)	0035	< 5		2.589	1.256	0.1088	9		251.30	5
251	Acid Soluble Pb (ppm)	0117	< 5		2.589	1.256	0.1088	9		251.33	5
261	Acid Soluble Mn (0.5%)	0481	0.06500†	0.0100	0.1320	0.0127	0.0046	47	-5.27	261.99	0
261	Acid Soluble Mn (0.5%)	0537	0.09750†	0.0010	0.1320	0.0127	0.0046	47	-2.71	261.12	0
261	Acid Soluble Mn (0.5%)	0600	0.09885†	0.0007	0.1320	0.0127	0.0046	47	-2.60	261.99	0
261	Acid Soluble Mn (0.5%)	0498	0.1000†	0.0000	0.1320	0.0127	0.0046	47	-2.51	261.15	0
261	Acid Soluble Mn (0.5%)	0572	0.1075†	0.0009	0.1320	0.0127	0.0046	47	-1.93	261.99	0
261	Acid Soluble Mn (0.5%)	0177	0.1093†	0.0028	0.1320	0.0127	0.0046	47	-1.78	261.35	0
261	Acid Soluble Mn (0.5%)	0055	0.1125†	0.0050	0.1320	0.0127	0.0046	47	-1.53	261.35	0
261	Acid Soluble Mn (0.5%)	0515	0.1195	0.0357	0.1320	0.0127	0.0046	47	-0.98	261.35	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
261	Acid Soluble Mn (0.5%)	0042	0.1200	0.0000	0.1320	0.0127	0.0046	47	-0.94	261.99	0
261	Acid Soluble Mn (0.5%)	0524	0.1203	0.0039	0.1320	0.0127	0.0046	47	-0.92	261.99	0
261	Acid Soluble Mn (0.5%)	0255	0.1240	0.0020	0.1320	0.0127	0.0046	47	-0.63	261.99	0
261	Acid Soluble Mn (0.5%)	0136	0.1250	0.0100	0.1320	0.0127	0.0046	47	-0.55	261.35	0
261	Acid Soluble Mn (0.5%)	0029	0.1283	0.0045	0.1320	0.0127	0.0046	47	-0.29	261.12	0
261	Acid Soluble Mn (0.5%)	0049	0.1288	0.0069	0.1320	0.0127	0.0046	47	-0.25	261.32	0
261	Acid Soluble Mn (0.5%)	0368	0.1289	0.0044	0.1320	0.0127	0.0046	47	-0.24	261.99	0
261	Acid Soluble Mn (0.5%)	0402	0.1295	0.0010	0.1320	0.0127	0.0046	47	-0.19	261.32	0
261	Acid Soluble Mn (0.5%)	0040	0.1295	0.0030	0.1320	0.0127	0.0046	47	-0.19	261.35	0
261	Acid Soluble Mn (0.5%)	0234	0.1300	0.0000	0.1320	0.0127	0.0046	47	-0.15	261.30	0
261	Acid Soluble Mn (0.5%)	0095	0.1300	0.0000	0.1320	0.0127	0.0046	47	-0.15	261.34	0
261	Acid Soluble Mn (0.5%)	0023	0.1300	0.0000	0.1320	0.0127	0.0046	47	-0.15	261.99	0
261	Acid Soluble Mn (0.5%)	0389	0.1300	0.0000	0.1320	0.0127	0.0046	47	-0.15	261.99	0
261	Acid Soluble Mn (0.5%)	0220	0.1310	0.0000	0.1320	0.0127	0.0046	47	-0.08	261.32	0
261	Acid Soluble Mn (0.5%)	0494	0.1315	0.0090	0.1320	0.0127	0.0046	47	-0.04	261.35	0
261	Acid Soluble Mn (0.5%)	0423	0.1320	0.0040	0.1320	0.0127	0.0046	47	0.00	261.34	0
261	Acid Soluble Mn (0.5%)	0637	0.1325	0.0030	0.1320	0.0127	0.0046	47	0.04	261.99	0
261	Acid Soluble Mn (0.5%)	0027	0.1335	0.0010	0.1320	0.0127	0.0046	47	0.12	261.99	0
261	Acid Soluble Mn (0.5%)	0513	0.1340	0.0000	0.1320	0.0127	0.0046	47	0.16	261.32	0
261	Acid Soluble Mn (0.5%)	0521	0.1348	0.0000	0.1320	0.0127	0.0046	47	0.22	261.34	0
261	Acid Soluble Mn (0.5%)	0354	0.1350	0.0100	0.1320	0.0127	0.0046	47	0.24	261.30	0
261	Acid Soluble Mn (0.5%)	0515	0.1354	0.0598	0.1320	0.0127	0.0046	47	0.27	261.99	0
261	Acid Soluble Mn (0.5%)	0117	0.1364	0.0026	0.1320	0.0127	0.0046	47	0.35	261.35	0
261	Acid Soluble Mn (0.5%)	0035	0.1365	0.0050	0.1320	0.0127	0.0046	47	0.36	261.30	0
261	Acid Soluble Mn (0.5%)	0501	0.1390	0.0046	0.1320	0.0127	0.0046	47	0.55	261.11	0
261	Acid Soluble Mn (0.5%)	0324	0.1395	0.0010	0.1320	0.0127	0.0046	47	0.59	261.31	0
261	Acid Soluble Mn (0.5%)	0291	0.1400	0.0000	0.1320	0.0127	0.0046	47	0.63	261.30	0
261	Acid Soluble Mn (0.5%)	0472	0.1400	0.0000	0.1320	0.0127	0.0046	47	0.63	261.35	0
261	Acid Soluble Mn (0.5%)	0527	0.1419	0.0007	0.1320	0.0127	0.0046	47	0.78	261.35	0
261	Acid Soluble Mn (0.5%)	0106	0.1424	0.0027	0.1320	0.0127	0.0046	47	0.82	261.35	0
261	Acid Soluble Mn (0.5%)	0433	0.1440	0.0020	0.1320	0.0127	0.0046	47	0.95	261.30	0
261	Acid Soluble Mn (0.5%)	0485	0.1445	0.0030	0.1320	0.0127	0.0046	47	0.99	261.12	0
261	Acid Soluble Mn (0.5%)	0619	0.1445	0.0070	0.1320	0.0127	0.0046	47	0.99	261.33	0
261	Acid Soluble Mn (0.5%)	0619	0.1445	0.0070	0.1320	0.0127	0.0046	47	0.99	261.99	0
261	Acid Soluble Mn (0.5%)	0451	0.1457	0.0018	0.1320	0.0127	0.0046	47	1.08	261.32	0
261	Acid Soluble Mn (0.5%)	0543	0.1465	0.0010	0.1320	0.0127	0.0046	47	1.14	261.35	0
261	Acid Soluble Mn (0.5%)	0552	0.4200‡	0.0600	0.1320	0.0127	0.0046	47	22.65	261.32	0
261	Acid Soluble Mn (0.5%)	0635	0.5005‡	0.0030	0.1320	0.0127	0.0046	47	28.98	261.50	0
261	Acid Soluble Mn (0.5%)	0073	0.5300‡	0.0120	0.1320	0.0127	0.0046	47	31.30	261.12	0
261	Acid Soluble Mn (0.5%)	0377	1.305‡	0.2900	0.1320	0.0127	0.0046	47	92.25	261.32	1
271	Water Soluble Mn (%)	0619	0.0670	0.0000	0.1850	0.2139	0.0030	4	-0.55	271.30	0
271	Water Soluble Mn (%)	0619	0.0670	0.0000	0.1850	0.2139	0.0030	4	-0.55	271.99	0
271	Water Soluble Mn (%)	0564	0.1010	0.0020	0.1850	0.2139	0.0030	4	-0.39	271.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
271	Water Soluble Mn (%)	0560	0.5050	0.0040	0.1850	0.2139	0.0030	4	1.50	271.99	0
281	Acid Soluble Hg (ppm)	0524	0.0074	0.0001	0.0089	0.0014	0.0004	3	-0.91	281.99	0
281	Acid Soluble Hg (ppm)	0572	0.0093	0.0006	0.0089	0.0014	0.0004	3	0.25	281.99	0
281	Acid Soluble Hg (ppm)	0220	0.0100	0.0000	0.0089	0.0014	0.0004	3	0.66	281.99	0
281	Acid Soluble Hg (ppm)	0527	< 0.001		0.0089	0.0014	0.0004	3		281.30	5
281	Acid Soluble Hg (ppm)	0515	< 0.1		0.0089	0.0014	0.0004	3		281.30	5
281	Acid Soluble Hg (ppm)	0481	< 0.5		0.0089	0.0014	0.0004	3		281.00	5
281	Acid Soluble Hg (ppm)	0405	< 2		0.0089	0.0014	0.0004	3		281.30	5
289	Acid Soluble Mo (ppm)	0524	7.462	0.4348	12.28	1.246	0.7786	17	-3.87	289.30	0
289	Acid Soluble Mo (ppm)	0234	8.000	0.0000	12.28	1.246	0.7786	17	-3.44	289.30	0
289	Acid Soluble Mo (ppm)	0515	10.06	5.439	12.28	1.246	0.7786	17	-1.78	289.33	0
289	Acid Soluble Mo (ppm)	0255	11.59	0.0000	12.28	1.246	0.7786	17	-0.56	289.30	0
289	Acid Soluble Mo (ppm)	0035	11.85	0.5000	12.28	1.246	0.7786	17	-0.35	289.30	0
289	Acid Soluble Mo (ppm)	0220	12.15	0.1000	12.28	1.246	0.7786	17	-0.11	289.32	0
289	Acid Soluble Mo (ppm)	0220	12.15	0.5000	12.28	1.246	0.7786	17	-0.11	289.99	0
289	Acid Soluble Mo (ppm)	0136	12.20	0.4000	12.28	1.246	0.7786	17	-0.07	289.33	0
289	Acid Soluble Mo (ppm)	0117	12.41	1.209	12.28	1.246	0.7786	17	0.10	289.33	0
289	Acid Soluble Mo (ppm)	0402	12.50	1.000	12.28	1.246	0.7786	17	0.17	289.30	0
289	Acid Soluble Mo (ppm)	0572	12.66	0.1484	12.28	1.246	0.7786	17	0.30	289.99	0
289	Acid Soluble Mo (ppm)	0368	12.80	0.4000	12.28	1.246	0.7786	17	0.41	289.34	0
289	Acid Soluble Mo (ppm)	0405	13.00	0.0000	12.28	1.246	0.7786	17	0.58	289.32	0
289	Acid Soluble Mo (ppm)	0527	13.11	0.4063	12.28	1.246	0.7786	17	0.66	289.33	0
289	Acid Soluble Mo (ppm)	0106	13.50	1.000	12.28	1.246	0.7786	17	0.98	289.33	0
289	Acid Soluble Mo (ppm)	0494	13.50	3.000	12.28	1.246	0.7786	17	0.98	289.33	0
289	Acid Soluble Mo (ppm)	0423	17.70	1.370	12.28	1.246	0.7786	17	4.34	289.33	0
289	Acid Soluble Mo (ppm)	0515	11.76	6.802	12.28	1.246	0.7786	17	-0.42	289.34	1
289	Acid Soluble Mo (ppm)	0637	< 0.012		12.28	1.246	0.7786	17		289.30	5
291	Acid Soluble Ni (ppm)	0572	10.16	0.4534	13.46	1.732	1.136	15	-1.91	291.99	0
291	Acid Soluble Ni (ppm)	0515	11.61	4.127	13.46	1.732	1.136	15	-1.07	291.33	0
291	Acid Soluble Ni (ppm)	0515	12.19	6.820	13.46	1.732	1.136	15	-0.73	291.34	0
291	Acid Soluble Ni (ppm)	0524	12.53	0.3167	13.46	1.732	1.136	15	-0.54	291.30	0
291	Acid Soluble Ni (ppm)	0368	12.55	0.7000	13.46	1.732	1.136	15	-0.53	291.34	0
291	Acid Soluble Ni (ppm)	0136	12.80	2.000	13.46	1.732	1.136	15	-0.38	291.33	0
291	Acid Soluble Ni (ppm)	0035	12.85	1.700	13.46	1.732	1.136	15	-0.35	291.30	0
291	Acid Soluble Ni (ppm)	0527	12.95	0.0714	13.46	1.732	1.136	15	-0.29	291.33	0
291	Acid Soluble Ni (ppm)	0220	13.65	0.1000	13.46	1.732	1.136	15	0.11	291.32	0
291	Acid Soluble Ni (ppm)	0220	13.85	0.5000	13.46	1.732	1.136	15	0.22	291.99	0
291	Acid Soluble Ni (ppm)	0027	14.28	0.1270	13.46	1.732	1.136	15	0.47	291.30	0
291	Acid Soluble Ni (ppm)	0405	14.50	1.000	13.46	1.732	1.136	15	0.60	291.32	0
291	Acid Soluble Ni (ppm)	0523	15.38	0.0150	13.46	1.732	1.136	15	1.11	291.30	0
291	Acid Soluble Ni (ppm)	0494	15.85	0.9000	13.46	1.732	1.136	15	1.38	291.33	0
291	Acid Soluble Ni (ppm)	0117	16.90	2.987	13.46	1.732	1.136	15	1.99	291.33	0
291	Acid Soluble Ni (ppm)	0255	47.21	28.12	13.46	1.732	1.136	15	19.49	291.99	1

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
301	Acid Soluble Se (ppm)	0524	0.6095	0.0735	1.565	0.6293	0.1145	5	-1.52	301.30	0
301	Acid Soluble Se (ppm)	0515	1.348	0.2320	1.565	0.6293	0.1145	5	-0.34	301.34	0
301	Acid Soluble Se (ppm)	0501	1.715	0.0300	1.565	0.6293	0.1145	5	0.24	301.30	0
301	Acid Soluble Se (ppm)	0572	1.878	0.1201	1.565	0.6293	0.1145	5	0.50	301.99	0
301	Acid Soluble Se (ppm)	0523	2.275	0.1170	1.565	0.6293	0.1145	5	1.13	301.30	0
301	Acid Soluble Se (ppm)	0255	11.93	11.10	1.565	0.6293	0.1145	5	16.47	301.99	1
301	Acid Soluble Se (ppm)	0527	< 0.001		1.565	0.6293	0.1145	5		301.33	5
301	Acid Soluble Se (ppm)	0515	< 0.27		1.565	0.6293	0.1145	5		301.33	5
301	Acid Soluble Se (ppm)	0220	< 0.3		1.565	0.6293	0.1145	5		301.32	5
301	Acid Soluble Se (ppm)	0220	< 0.3		1.565	0.6293	0.1145	5		301.99	5
301	Acid Soluble Se (ppm)	0481	< 0.5		1.565	0.6293	0.1145	5		301.99	5
301	Acid Soluble Se (ppm)	0368	< 1		1.565	0.6293	0.1145	5		301.34	5
301	Acid Soluble Se (ppm)	0117	< 5		1.565	0.6293	0.1145	5		301.33	5
301	Acid Soluble Se (ppm)	0405	< 10		1.565	0.6293	0.1145	5		301.32	5
311	Sodium (%)	0553	0.2735	0.0110	0.3485	0.0645	0.0092	7	-1.05	311.00	0
311	Sodium (%)	0572	0.2928	0.0044	0.3485	0.0645	0.0092	7	-0.78	311.99	0
311	Sodium (%)	0423	0.3235	0.0030	0.3485	0.0645	0.0092	7	-0.35	311.33	0
311	Sodium (%)	0494	0.3560	0.0228	0.3485	0.0645	0.0092	7	0.11	311.33	0
311	Sodium (%)	0035	0.3735	0.0010	0.3485	0.0645	0.0092	7	0.35	311.33	0
311	Sodium (%)	0527	0.3800	0.0019	0.3485	0.0645	0.0092	7	0.44	311.33	0
311	Sodium (%)	0354	0.4400	0.0200	0.3485	0.0645	0.0092	7	1.28	311.99	0
321	Acid Soluble Zn (0.1%)	0073	0.08055†	0.0023	0.2272	0.0229	0.0065	51	-6.39	321.00	0
321	Acid Soluble Zn (0.1%)	0635	0.09850†	0.0010	0.2272	0.0229	0.0065	51	-5.61	321.99	0
321	Acid Soluble Zn (0.1%)	0042	0.1000†	0.0000	0.2272	0.0229	0.0065	51	-5.54	321.99	0
321	Acid Soluble Zn (0.1%)	0537	0.1325†	0.0130	0.2272	0.0229	0.0065	51	-4.13	321.00	0
321	Acid Soluble Zn (0.1%)	0572	0.1813†	0.0078	0.2272	0.0229	0.0065	51	-2.00	321.99	0
321	Acid Soluble Zn (0.1%)	0055	0.1875†	0.0050	0.2272	0.0229	0.0065	51	-1.73	321.33	0
321	Acid Soluble Zn (0.1%)	0600	0.1900†	0.0200	0.2272	0.0229	0.0065	51	-1.62	321.99	0
321	Acid Soluble Zn (0.1%)	0368	0.2057	0.0026	0.2272	0.0229	0.0065	51	-0.94	321.99	0
321	Acid Soluble Zn (0.1%)	0255	0.2085	0.0030	0.2272	0.0229	0.0065	51	-0.81	321.30	0
321	Acid Soluble Zn (0.1%)	0136	0.2100	0.0000	0.2272	0.0229	0.0065	51	-0.75	321.33	0
321	Acid Soluble Zn (0.1%)	0485	0.2125	0.0030	0.2272	0.0229	0.0065	51	-0.64	321.00	0
321	Acid Soluble Zn (0.1%)	0177	0.2141	0.0145	0.2272	0.0229	0.0065	51	-0.57	321.33	0
321	Acid Soluble Zn (0.1%)	0029	0.2148	0.0064	0.2272	0.0229	0.0065	51	-0.54	321.00	0
321	Acid Soluble Zn (0.1%)	0354	0.2150	0.0100	0.2272	0.0229	0.0065	51	-0.53	321.30	0
321	Acid Soluble Zn (0.1%)	0561	0.2150	0.0100	0.2272	0.0229	0.0065	51	-0.53	321.33	0
321	Acid Soluble Zn (0.1%)	0524	0.2165	0.0066	0.2272	0.0229	0.0065	51	-0.46	321.99	0
321	Acid Soluble Zn (0.1%)	0423	0.2195	0.0010	0.2272	0.0229	0.0065	51	-0.33	321.32	0
321	Acid Soluble Zn (0.1%)	0472	0.2200	0.0000	0.2272	0.0229	0.0065	51	-0.31	321.33	0
321	Acid Soluble Zn (0.1%)	0402	0.2217	0.0010	0.2272	0.0229	0.0065	51	-0.24	321.30	0
321	Acid Soluble Zn (0.1%)	0049	0.2220	0.0020	0.2272	0.0229	0.0065	51	-0.23	321.30	0
321	Acid Soluble Zn (0.1%)	0494	0.2220	0.0080	0.2272	0.0229	0.0065	51	-0.23	321.33	0
321	Acid Soluble Zn (0.1%)	0040	0.2225	0.0010	0.2272	0.0229	0.0065	51	-0.20	321.33	0



Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
321	Acid Soluble Zn (0.1%)	0023	0.2230	0.0040	0.2272	0.0229	0.0065	51	-0.18	321.99	0
321	Acid Soluble Zn (0.1%)	0027	0.2255	0.0010	0.2272	0.0229	0.0065	51	-0.07	321.99	0
321	Acid Soluble Zn (0.1%)	0543	0.2285	0.0030	0.2272	0.0229	0.0065	51	0.06	321.33	0
321	Acid Soluble Zn (0.1%)	0513	0.2290	0.0040	0.2272	0.0229	0.0065	51	0.08	321.30	0
321	Acid Soluble Zn (0.1%)	0523	0.2290	0.0060	0.2272	0.0229	0.0065	51	0.08	321.99	0
321	Acid Soluble Zn (0.1%)	0220	0.2330	0.0040	0.2272	0.0229	0.0065	51	0.25	321.32	0
321	Acid Soluble Zn (0.1%)	0106	0.2330	0.0022	0.2272	0.0229	0.0065	51	0.25	321.33	0
321	Acid Soluble Zn (0.1%)	0501	0.2344	0.0100	0.2272	0.0229	0.0065	51	0.32	321.99	0
321	Acid Soluble Zn (0.1%)	0527	0.2345	0.0013	0.2272	0.0229	0.0065	51	0.32	321.33	0
321	Acid Soluble Zn (0.1%)	0095	0.2350	0.0100	0.2272	0.0229	0.0065	51	0.34	321.32	0
321	Acid Soluble Zn (0.1%)	0421	0.2350	0.0100	0.2272	0.0229	0.0065	51	0.34	321.33	0
321	Acid Soluble Zn (0.1%)	0389	0.2350	0.0100	0.2272	0.0229	0.0065	51	0.34	321.99	0
321	Acid Soluble Zn (0.1%)	0481	0.2350	0.0100	0.2272	0.0229	0.0065	51	0.34	321.99	0
321	Acid Soluble Zn (0.1%)	0324	0.2355	0.0010	0.2272	0.0229	0.0065	51	0.36	321.30	0
321	Acid Soluble Zn (0.1%)	0433	0.2360	0.0080	0.2272	0.0229	0.0065	51	0.39	321.30	0
321	Acid Soluble Zn (0.1%)	0521	0.2370	0.0000	0.2272	0.0229	0.0065	51	0.43	321.32	0
321	Acid Soluble Zn (0.1%)	0637	0.2375	0.0210	0.2272	0.0229	0.0065	51	0.45	321.99	0
321	Acid Soluble Zn (0.1%)	0234	0.2400	0.0000	0.2272	0.0229	0.0065	51	0.56	321.30	0
321	Acid Soluble Zn (0.1%)	0515	0.2436	0.0377	0.2272	0.0229	0.0065	51	0.71	321.33	0
321	Acid Soluble Zn (0.1%)	0117	0.2447	0.0051	0.2272	0.0229	0.0065	51	0.76	321.33	0
321	Acid Soluble Zn (0.1%)	0498	0.2450	0.0100	0.2272	0.0229	0.0065	51	0.78	321.03	0
321	Acid Soluble Zn (0.1%)	0451	0.2479	0.0026	0.2272	0.0229	0.0065	51	0.90	321.30	0
321	Acid Soluble Zn (0.1%)	0035	0.2500	0.0101	0.2272	0.0229	0.0065	51	0.99	321.30	0
321	Acid Soluble Zn (0.1%)	0619	0.2670‡	0.0040	0.2272	0.0229	0.0065	51	1.74	321.31	0
321	Acid Soluble Zn (0.1%)	0619	0.2670‡	0.0040	0.2272	0.0229	0.0065	51	1.74	321.99	0
321	Acid Soluble Zn (0.1%)	0291	0.2700‡	0.0000	0.2272	0.0229	0.0065	51	1.87	321.30	0
321	Acid Soluble Zn (0.1%)	0517	0.3000‡	0.0100	0.2272	0.0229	0.0065	51	3.17	321.99	0
321	Acid Soluble Zn (0.1%)	0515	0.3043‡	0.1624	0.2272	0.0229	0.0065	51	3.36	321.99	0
321	Acid Soluble Zn (0.1%)	0552	0.5450‡	0.0100	0.2272	0.0229	0.0065	51	13.85	321.30	0
321	Acid Soluble Zn (0.1%)	0377	2.180‡	0.4600	0.2272	0.0229	0.0065	51	85.10	321.30	1
325	Water Soluble Zn (%)	0572	0.0253	0.0046	0.0822	0.0645	0.0105	5	-0.88	325.99	0
325	Water Soluble Zn (%)	0619	0.0480	0.0000	0.0822	0.0645	0.0105	5	-0.53	325.30	0
325	Water Soluble Zn (%)	0619	0.0480	0.0000	0.0822	0.0645	0.0105	5	-0.53	325.99	0
325	Water Soluble Zn (%)	0560	0.1045	0.0170	0.0822	0.0645	0.0105	5	0.35	325.99	0
325	Water Soluble Zn (%)	0564	0.1850	0.0100	0.0822	0.0645	0.0105	5	1.59	325.99	0
431	Soluble Si in nonliquids (%)	0572	< 0.007					0		431.99	5
441	Humic Acids (%)	0527	4.998	0.1399				1		441.10	0
441	Humic Acids (%)	0501	< 0.1					1		441.00	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:**

Analyte Group	Analyte (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				

\*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. Your offset values are higher (‡) or lower (†) than the Robust Analyte value ± Investigational Allowance. Analyte codes in light green indicate a guaranteed analyte. Individual lab values may be below detection limits but are reported solely for the purpose of this Proficiency Testing program.