

# magruder fertilizer

## check sample program



STRIVING FOR EXCELLENCE IN ANALYSIS

Analyte Proficiency From All Labs

Sample # 210911

Grade 8-5-1

### Statistical Summary

# Analytes: 35

# Labs Reporting: 90

Issue Date : 10/31/2021

Analyte Code	Analyte Sample # 210911	# 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
001	Ammoniacal N (%)	19	19	0.9882	0.5044	0.9882		0.5720	0.1640	57.88%		0.0333	4.01%
003	Water Insoluble N (%)	10	9	6.352	0.3455	6.436		0.2846	0.1186	4.42%		0.0286	3.02%
005	Urea N (%)	2	2	3.291	4.505								
009	Ammoniacal Plus Nitrate N (%)	1		1.415									
010	Total N (8%)	82	80	7.996	0.5763	8.070	0.5514	0.1038	0.0145	1.29%	0.44	0.0794	2.92%
020	Total P2O5 (%)	44	43	4.260	0.4956	4.265		0.4905	0.0935	11.50%		0.0926	3.22%
040	Indirect Available P2O5 (5%)	1		4.479									
041	Direct Available P2O5 (5%)	46	45	4.110	0.7442	4.094	0.6700	0.8191	0.1526	20.01%	2.85	0.1029	3.24%
048	Water Soluble P2O5 (%)	2	2	0.3575	0.3642								
050	Soluble K2O (1%)	80	78	1.268	0.2767	1.270	0.4100	0.1902	0.0269	14.97%	1.08	0.0525	3.86%
060	Water (Free) (%)	2	2	9.020	2.800								
101	Acid Soluble Ca (%)	15	15	3.425	0.1465	3.442	0.3721	0.1235	0.0399	3.59%	0.77	0.0598	3.32%
121	Acid Soluble Mg (%)	18	17	0.2431	0.0315	0.2444	0.2122	0.0306	0.0093	12.54%	0.34	0.0069	4.94%
143	Elemental S (%)	1		0.9300									
145	Sulfate S, HCl soluble (%)	1		0.2210									
148	Total S (%)	8	7	0.8044	0.0854	0.8234	0.2412	0.0812	0.0384	9.86%	0.78	0.0104	4.12%
149	S - HNO3 soluble (%)	3	3	0.8105	0.0423	0.8105		0.0422	0.0305	5.21%		0.0132	4.13%
151	Acid Soluble As (ppm)	23	15	1.041	1.226	0.8085		0.6713	0.2167	83.03%		0.3225	16.52%
165	Acid Soluble B (%)	9	6	4.939	14.80	0.0043	0.0036	0.0010	0.0005	22.68%	0.62	0.0001	9.09%
171	Water Soluble B (%)	1		0.0148									
181	Acid Soluble Cd (ppm)	21	15	0.4899	0.7067	0.2400		0.0704	0.0227	29.34%		0.0228	19.83%
190	Water Soluble Cl (%)	1		0.7450									
191	Acid Soluble Cr (ppm)	23	22	54.64	25.73	57.80		24.95	6.650	43.17%		3.324	8.69%
202	Acid Soluble Co (ppm)	22	21	31.82	15.95	31.86	10.5572	18.53	5.054	58.16%	4.09	2.330	9.50%
221	Acid Soluble Cu (%)	37	35	5.667	29.16	0.0171	0.0067	0.0026	0.0005	15.07%	0.89	0.0030	7.38%
241	Acid Soluble Fe (%)	18	17	149.5	632.9	0.2542	0.0304	0.0350	0.0106	13.76%	2.68	0.0057	4.92%
251	Acid Soluble Pb (ppm)	25	17	4.819	12.07	2.453		0.6635	0.2012	27.05%		0.1636	13.98%
261	Acid Soluble Mn (%)	15	13	14.02	54.23	0.0195	0.0069	0.0017	0.0006	8.60%	0.56	0.0014	7.23%
281	Acid Soluble Hg (ppm)	13	5	0.0591	0.1360	0.0293		0.0458	0.0256	156.64%		0.0101	22.00%
289	Acid Soluble Mo (ppm)	23	21	5.169	1.702	5.364	2.6091	1.364	0.3720	25.42%	1.22	0.3882	12.42%
291	Acid Soluble Ni (ppm)	23	22	28.83	11.73	30.51		8.458	2.254	27.72%		1.967	9.56%
301	Acid Soluble Se (ppm)	19	12	2.388	4.977	1.175		0.9213	0.3324	78.38%		0.4091	15.61%
311	Sodium (%)	9	8	0.7067	0.1431	0.7168	0.0767	0.1343	0.0593	18.73%	4.08	0.0057	4.21%

Analyte Code	Analyte Sample # 210911	# 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
321	Acid Soluble Zn (%)	37	35	6.626	40.07	0.0208	0.0071	0.0025	0.0005	11.83%	0.81	0.0021	7.16%
325	Water Soluble Zn (%)	1		0.0070									

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.

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Analyte Proficiency From All Labs

Sample # 210911

Grade 8-5-1

### Lab Values

# Analytes: 35

# Labs Reporting: 90

Issue Date : 10/31/2021

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
001	Ammoniacal N (%)	0231	0.1600	0.0400	0.9882	0.5720	0.0333	19	-1.45	001.99	0
001	Ammoniacal N (%)	0423	0.1650	0.0100	0.9882	0.5720	0.0333	19	-1.44	001.99	0
001	Ammoniacal N (%)	0451	0.2200	0.0000	0.9882	0.5720	0.0333	19	-1.34	001.10	0
001	Ammoniacal N (%)	0524	0.2420	0.0160	0.9882	0.5720	0.0333	19	-1.30	001.99	0
001	Ammoniacal N (%)	0546	0.3800	0.0000	0.9882	0.5720	0.0333	19	-1.06	001.99	0
001	Ammoniacal N (%)	0255	0.7340	0.0160	0.9882	0.5720	0.0333	19	-0.44	001.99	0
001	Ammoniacal N (%)	0532	0.9200	0.0400	0.9882	0.5720	0.0333	19	-0.12	001.99	0
001	Ammoniacal N (%)	0220	1.000	0.0600	0.9882	0.5720	0.0333	19	0.02	001.99	0
001	Ammoniacal N (%)	0027	1.220	0.1000	0.9882	0.5720	0.0333	19	0.41	001.99	0
001	Ammoniacal N (%)	0309	1.265	0.0300	0.9882	0.5720	0.0333	19	0.48	001.10	0
001	Ammoniacal N (%)	0549	1.285	0.1300	0.9882	0.5720	0.0333	19	0.52	001.99	0
001	Ammoniacal N (%)	0577	1.310	0.0400	0.9882	0.5720	0.0333	19	0.56	001.99	0
001	Ammoniacal N (%)	0548	1.330	0.0200	0.9882	0.5720	0.0333	19	0.60	001.99	0
001	Ammoniacal N (%)	0368	1.336	0.0240	0.9882	0.5720	0.0333	19	0.61	001.99	0
001	Ammoniacal N (%)	0559	1.365	0.0100	0.9882	0.5720	0.0333	19	0.66	001.99	0
001	Ammoniacal N (%)	0551	1.395	0.0500	0.9882	0.5720	0.0333	19	0.71	001.99	0
001	Ammoniacal N (%)	0565	1.405	0.0300	0.9882	0.5720	0.0333	19	0.73	001.99	0
001	Ammoniacal N (%)	0564	1.425	0.0100	0.9882	0.5720	0.0333	19	0.76	001.99	0
001	Ammoniacal N (%)	0538	1.619	0.0060	0.9882	0.5720	0.0333	19	1.10	001.99	0
003	Water Insoluble N (%)	0117	5.891	0.0676	6.436	0.2846	0.0286	9	-1.77	003.10	0
003	Water Insoluble N (%)	0220	6.205	0.0300	6.436	0.2846	0.0286	9	-0.75	003.10	0
003	Water Insoluble N (%)	0451	6.245	0.0100	6.436	0.2846	0.0286	9	-0.62	003.10	0
003	Water Insoluble N (%)	0027	6.280	0.1000	6.436	0.2846	0.0286	9	-0.51	003.10	0
003	Water Insoluble N (%)	0574	6.605	0.0100	6.436	0.2846	0.0286	9	0.55	003.99	0
003	Water Insoluble N (%)	0564	6.620	0.0000	6.436	0.2846	0.0286	9	0.60	003.99	0
003	Water Insoluble N (%)	0559	6.625	0.0100	6.436	0.2846	0.0286	9	0.61	003.99	0
003	Water Insoluble N (%)	0565	6.635	0.0100	6.436	0.2846	0.0286	9	0.65	003.99	0
003	Water Insoluble N (%)	0577	6.700	0.0200	6.436	0.2846	0.0286	9	0.86	003.99	0
003	Water Insoluble N (%)	0029	5.710	0.2200	6.436	0.2846	0.0286	9	-2.35	003.10	1
005	Urea N (%)	0524	0.1060	0.0320				2		005.99	0
005	Urea N (%)	0538	6.477	0.0270				2		005.99	0
009	Ammoniacal Plus Nitrate N (%)	0574	1.415	0.0100				1		009.10	0
010	Total N (8%)	0394	6.275†	0.0020	8.070	0.1038	0.0794	80	-17.30	010.99	0
010	Total N (8%)	0576	7.550	0.1000	8.070	0.1038	0.0794	80	-5.01	010.99	0
010	Total N (8%)	0419	7.580	0.1200	8.070	0.1038	0.0794	80	-4.73	010.16	0
010	Total N (8%)	0519	7.730	0.0600	8.070	0.1038	0.0794	80	-3.28	010.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010	Total N (8%)	0553	7.745	0.0300	8.070	0.1038	0.0794	80	-3.14	010.99	0
010	Total N (8%)	0476	7.748	0.0452	8.070	0.1038	0.0794	80	-3.11	010.99	0
010	Total N (8%)	0548	7.800	0.0800	8.070	0.1038	0.0794	80	-2.61	010.11	0
010	Total N (8%)	0177	7.901	0.0250	8.070	0.1038	0.0794	80	-1.64	010.60	0
010	Total N (8%)	0572	7.905	0.3900	8.070	0.1038	0.0794	80	-1.59	010.12	0
010	Total N (8%)	0234	7.935	0.0700	8.070	0.1038	0.0794	80	-1.30	010.60	0
010	Total N (8%)	0568	7.940	0.1000	8.070	0.1038	0.0794	80	-1.26	010.12	0
010	Total N (8%)	0055	7.960	0.0200	8.070	0.1038	0.0794	80	-1.06	010.60	0
010	Total N (8%)	0494	7.965	0.0900	8.070	0.1038	0.0794	80	-1.02	010.60	0
010	Total N (8%)	0354	7.975	0.0300	8.070	0.1038	0.0794	80	-0.92	010.60	0
010	Total N (8%)	0540	7.990	0.0400	8.070	0.1038	0.0794	80	-0.78	010.11	0
010	Total N (8%)	0231	7.990	0.0200	8.070	0.1038	0.0794	80	-0.78	010.60	0
010	Total N (8%)	0493	8.000	0.1000	8.070	0.1038	0.0794	80	-0.68	010.99	0
010	Total N (8%)	0577	8.005	0.0300	8.070	0.1038	0.0794	80	-0.63	010.99	0
010	Total N (8%)	0389	8.010	0.0800	8.070	0.1038	0.0794	80	-0.58	010.60	0
010	Total N (8%)	0561	8.015	0.1100	8.070	0.1038	0.0794	80	-0.53	010.60	0
010	Total N (8%)	0539	8.020	0.0600	8.070	0.1038	0.0794	80	-0.49	010.11	0
010	Total N (8%)	0574	8.020	0.0200	8.070	0.1038	0.0794	80	-0.49	010.99	0
010	Total N (8%)	0309	8.030	0.1400	8.070	0.1038	0.0794	80	-0.39	010.11	0
010	Total N (8%)	0102	8.030	0.1600	8.070	0.1038	0.0794	80	-0.39	010.60	0
010	Total N (8%)	0422	8.030	0.0600	8.070	0.1038	0.0794	80	-0.39	010.60	0
010	Total N (8%)	0043	8.035	0.0300	8.070	0.1038	0.0794	80	-0.34	010.60	0
010	Total N (8%)	0292	8.035	0.0100	8.070	0.1038	0.0794	80	-0.34	010.60	0
010	Total N (8%)	0547	8.035	0.1100	8.070	0.1038	0.0794	80	-0.34	010.60	0
010	Total N (8%)	0564	8.035	0.0100	8.070	0.1038	0.0794	80	-0.34	010.99	0
010	Total N (8%)	0131	8.037	0.2108	8.070	0.1038	0.0794	80	-0.32	010.60	0
010	Total N (8%)	0531	8.040	0.0200	8.070	0.1038	0.0794	80	-0.29	010.11	0
010	Total N (8%)	0230	8.050	0.0600	8.070	0.1038	0.0794	80	-0.20	010.60	0
010	Total N (8%)	0486	8.050	0.0800	8.070	0.1038	0.0794	80	-0.20	010.60	0
010	Total N (8%)	0565	8.050	0.0200	8.070	0.1038	0.0794	80	-0.20	010.99	0
010	Total N (8%)	0533	8.055	0.1900	8.070	0.1038	0.0794	80	-0.15	010.99	0
010	Total N (8%)	0423	8.060	0.0600	8.070	0.1038	0.0794	80	-0.10	010.60	0
010	Total N (8%)	0073	8.065	0.0900	8.070	0.1038	0.0794	80	-0.05	010.60	0
010	Total N (8%)	0501	8.070	0.0600	8.070	0.1038	0.0794	80	0.00	010.60	0
010	Total N (8%)	0095	8.075	0.1500	8.070	0.1038	0.0794	80	0.04	010.60	0
010	Total N (8%)	0260	8.075	0.0300	8.070	0.1038	0.0794	80	0.04	010.60	0
010	Total N (8%)	0523	8.075	0.0300	8.070	0.1038	0.0794	80	0.04	010.60	0
010	Total N (8%)	0551	8.075	0.0500	8.070	0.1038	0.0794	80	0.04	010.99	0
010	Total N (8%)	0086	8.080	0.0682	8.070	0.1038	0.0794	80	0.09	010.60	0
010	Total N (8%)	0472	8.085	0.0100	8.070	0.1038	0.0794	80	0.14	010.60	0
010	Total N (8%)	0114	8.090	0.1400	8.070	0.1038	0.0794	80	0.19	010.60	0
010	Total N (8%)	0324	8.090	0.0400	8.070	0.1038	0.0794	80	0.19	010.60	0
010	Total N (8%)	0405	8.090	0.0800	8.070	0.1038	0.0794	80	0.19	010.60	0
010	Total N (8%)	0563	8.090	0.2200	8.070	0.1038	0.0794	80	0.19	010.99	0
010	Total N (8%)	0513	8.095	0.0100	8.070	0.1038	0.0794	80	0.24	010.99	0
010	Total N (8%)	0538	8.096	0.0330	8.070	0.1038	0.0794	80	0.24	010.99	0
010	Total N (8%)	0007	8.100	0.2000	8.070	0.1038	0.0794	80	0.28	010.60	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
010	Total N (8%)	0027	8.100	0.0200	8.070	0.1038	0.0794	80	0.28	010.60	0
010	Total N (8%)	0040	8.100	0.0000	8.070	0.1038	0.0794	80	0.28	010.60	0
010	Total N (8%)	0042	8.100	0.0000	8.070	0.1038	0.0794	80	0.28	010.60	0
010	Total N (8%)	0534	8.100	0.0000	8.070	0.1038	0.0794	80	0.28	010.60	0
010	Total N (8%)	0390	8.102	0.0440	8.070	0.1038	0.0794	80	0.30	010.60	0
010	Total N (8%)	0356	8.104	0.1670	8.070	0.1038	0.0794	80	0.32	010.60	0
010	Total N (8%)	0325	8.110	0.0200	8.070	0.1038	0.0794	80	0.38	010.60	0
010	Total N (8%)	0233	8.113	0.1900	8.070	0.1038	0.0794	80	0.41	010.60	0
010	Total N (8%)	0532	8.115	0.0300	8.070	0.1038	0.0794	80	0.43	010.99	0
010	Total N (8%)	0255	8.122	0.1380	8.070	0.1038	0.0794	80	0.50	010.60	0
010	Total N (8%)	0035	8.135	0.1100	8.070	0.1038	0.0794	80	0.62	010.60	0
010	Total N (8%)	0136	8.150	0.1000	8.070	0.1038	0.0794	80	0.77	010.60	0
010	Total N (8%)	0377	8.150	0.0200	8.070	0.1038	0.0794	80	0.77	010.60	0
010	Total N (8%)	0452	8.155	0.0300	8.070	0.1038	0.0794	80	0.81	010.60	0
010	Total N (8%)	0049	8.165	0.0100	8.070	0.1038	0.0794	80	0.91	010.60	0
010	Total N (8%)	0106	8.165	0.1300	8.070	0.1038	0.0794	80	0.91	010.60	0
010	Total N (8%)	0524	8.174	0.0991	8.070	0.1038	0.0794	80	1.00	010.99	0
010	Total N (8%)	0444	8.185	0.1300	8.070	0.1038	0.0794	80	1.10	010.60	0
010	Total N (8%)	0451	8.186	0.3070	8.070	0.1038	0.0794	80	1.11	010.60	0
010	Total N (8%)	0450	8.200	0.0000	8.070	0.1038	0.0794	80	1.25	010.60	0
010	Total N (8%)	0291	8.215	0.0100	8.070	0.1038	0.0794	80	1.39	010.60	0
010	Total N (8%)	0506	8.230	0.1800	8.070	0.1038	0.0794	80	1.54	010.99	0
010	Total N (8%)	0220	8.250	0.1400	8.070	0.1038	0.0794	80	1.73	010.60	0
010	Total N (8%)	0527	8.317	0.0550	8.070	0.1038	0.0794	80	2.37	010.60	0
010	Total N (8%)	0521	8.322	0.0000	8.070	0.1038	0.0794	80	2.43	010.60	0
010	Total N (8%)	0559	8.360	0.0200	8.070	0.1038	0.0794	80	2.79	010.99	0
010	Total N (8%)	0421	8.415	0.1900	8.070	0.1038	0.0794	80	3.32	010.60	0
010	Total N (8%)	0402	8.517	0.0250	8.070	0.1038	0.0794	80	4.30	010.60	0
010	Total N (8%)	0025	8.595	0.1900	8.070	0.1038	0.0794	80	5.05	010.60	0
010	Total N (8%)	0368	8.462	0.6520	8.070	0.1038	0.0794	80	3.77	010.60	1
010	Total N (8%)	0546	3.390†	0.1600	8.070	0.1038	0.0794	80	-45.10	010.11	2
020	Total P2O5 (%)	0291	3.185	0.0100	4.265	0.4905	0.0926	43	-2.20	020.50	0
020	Total P2O5 (%)	0452	3.220	0.0800	4.265	0.4905	0.0926	43	-2.13	020.50	0
020	Total P2O5 (%)	0523	3.500	0.0000	4.265	0.4905	0.0926	43	-1.56	020.50	0
020	Total P2O5 (%)	0027	3.775	0.0500	4.265	0.4905	0.0926	43	-1.00	020.20	0
020	Total P2O5 (%)	0513	3.855	0.0300	4.265	0.4905	0.0926	43	-0.84	020.99	0
020	Total P2O5 (%)	0231	3.895	0.0100	4.265	0.4905	0.0926	43	-0.75	020.20	0
020	Total P2O5 (%)	0561	3.905	0.1500	4.265	0.4905	0.0926	43	-0.73	020.20	0
020	Total P2O5 (%)	0390	3.915	0.0300	4.265	0.4905	0.0926	43	-0.71	020.50	0
020	Total P2O5 (%)	0114	3.945	0.0100	4.265	0.4905	0.0926	43	-0.65	020.10	0
020	Total P2O5 (%)	0552	3.945	0.1100	4.265	0.4905	0.0926	43	-0.65	020.50	0
020	Total P2O5 (%)	0524	3.958	0.1642	4.265	0.4905	0.0926	43	-0.63	020.50	0
020	Total P2O5 (%)	0476	3.972	0.2945	4.265	0.4905	0.0926	43	-0.60	020.99	0
020	Total P2O5 (%)	0035	4.005	0.2900	4.265	0.4905	0.0926	43	-0.53	020.40	0
020	Total P2O5 (%)	0572	4.030	0.1200	4.265	0.4905	0.0926	43	-0.48	020.99	0
020	Total P2O5 (%)	0324	4.035	0.3100	4.265	0.4905	0.0926	43	-0.47	020.20	0
020	Total P2O5 (%)	0419	4.060	0.0000	4.265	0.4905	0.0926	43	-0.42	020.20	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
020	Total P2O5 (%)	0472	4.060	0.0000	4.265	0.4905	0.0926	43	-0.42	020.50	0
020	Total P2O5 (%)	0493	4.075	0.0500	4.265	0.4905	0.0926	43	-0.39	020.20	0
020	Total P2O5 (%)	0547	4.090	0.0200	4.265	0.4905	0.0926	43	-0.36	020.50	0
020	Total P2O5 (%)	0493	4.100	0.1000	4.265	0.4905	0.0926	43	-0.34	020.10	0
020	Total P2O5 (%)	0450	4.100	0.0000	4.265	0.4905	0.0926	43	-0.34	020.50	0
020	Total P2O5 (%)	0444	4.120	0.0000	4.265	0.4905	0.0926	43	-0.29	020.50	0
020	Total P2O5 (%)	0231	4.145	0.0100	4.265	0.4905	0.0926	43	-0.24	020.50	0
020	Total P2O5 (%)	0402	4.174	0.0460	4.265	0.4905	0.0926	43	-0.18	020.50	0
020	Total P2O5 (%)	0292	4.200	0.0200	4.265	0.4905	0.0926	43	-0.13	020.20	0
020	Total P2O5 (%)	0260	4.225	0.2100	4.265	0.4905	0.0926	43	-0.08	020.50	0
020	Total P2O5 (%)	0546	4.283	0.1658	4.265	0.4905	0.0926	43	0.04	020.50	0
020	Total P2O5 (%)	0422	4.295	0.0100	4.265	0.4905	0.0926	43	0.06	020.50	0
020	Total P2O5 (%)	0423	4.295	0.2100	4.265	0.4905	0.0926	43	0.06	020.50	0
020	Total P2O5 (%)	0548	4.490	0.0800	4.265	0.4905	0.0926	43	0.46	020.20	0
020	Total P2O5 (%)	0255	4.536	0.1350	4.265	0.4905	0.0926	43	0.55	020.50	0
020	Total P2O5 (%)	0356	4.614	0.3340	4.265	0.4905	0.0926	43	0.71	020.20	0
020	Total P2O5 (%)	0368	4.658	0.0709	4.265	0.4905	0.0926	43	0.80	020.50	0
020	Total P2O5 (%)	0389	4.705	0.0300	4.265	0.4905	0.0926	43	0.90	020.50	0
020	Total P2O5 (%)	0433	4.720	0.1000	4.265	0.4905	0.0926	43	0.93	020.50	0
020	Total P2O5 (%)	0527	4.774	0.2344	4.265	0.4905	0.0926	43	1.04	020.50	0
020	Total P2O5 (%)	0577	4.925	0.0300	4.265	0.4905	0.0926	43	1.35	020.99	0
020	Total P2O5 (%)	0565	4.950	0.0200	4.265	0.4905	0.0926	43	1.40	020.99	0
020	Total P2O5 (%)	0564	4.965	0.0100	4.265	0.4905	0.0926	43	1.43	020.99	0
020	Total P2O5 (%)	0539	5.045	0.0900	4.265	0.4905	0.0926	43	1.59	020.99	0
020	Total P2O5 (%)	0451	5.067	0.2090	4.265	0.4905	0.0926	43	1.63	020.50	0
020	Total P2O5 (%)	0515	5.132	0.0000	4.265	0.4905	0.0926	43	1.77	020.99	0
020	Total P2O5 (%)	0309	5.520	0.1400	4.265	0.4905	0.0926	43	2.56	020.20	0
020	Total P2O5 (%)	0042	4.000	0.6000	4.265	0.4905	0.0926	43	-0.54	020.50	1
040	Indirect Available P2O5 (5%)	0521	4.479±	0.0000				1		040.50	0
041	Direct Available P2O5 (5%)	0095	2.535†	0.1500	4.094	0.8191	0.1029	45	-1.90	041.11	0
041	Direct Available P2O5 (5%)	0325	3.050†	0.5000	4.094	0.8191	0.1029	45	-1.28	041.50	0
041	Direct Available P2O5 (5%)	0220	3.055†	0.1500	4.094	0.8191	0.1029	45	-1.27	041.11	0
041	Direct Available P2O5 (5%)	0494	3.085†	0.0100	4.094	0.8191	0.1029	45	-1.23	041.10	0
041	Direct Available P2O5 (5%)	0568	3.175†	0.1500	4.094	0.8191	0.1029	45	-1.12	041.21	0
041	Direct Available P2O5 (5%)	0177	3.191†	0.1032	4.094	0.8191	0.1029	45	-1.10	041.10	0
041	Direct Available P2O5 (5%)	0231	3.280†	0.0000	4.094	0.8191	0.1029	45	-0.99	041.50	0
041	Direct Available P2O5 (5%)	0423	3.405†	0.0900	4.094	0.8191	0.1029	45	-0.84	041.51	0
041	Direct Available P2O5 (5%)	0073	3.420†	0.1000	4.094	0.8191	0.1029	45	-0.82	041.11	0
041	Direct Available P2O5 (5%)	0231	3.470	0.0400	4.094	0.8191	0.1029	45	-0.76	041.21	0
041	Direct Available P2O5 (5%)	0472	3.490	0.0600	4.094	0.8191	0.1029	45	-0.74	041.21	0
041	Direct Available P2O5 (5%)	0055	3.580	0.1600	4.094	0.8191	0.1029	45	-0.63	041.11	0
041	Direct Available P2O5 (5%)	0354	3.580	0.0800	4.094	0.8191	0.1029	45	-0.63	041.21	0
041	Direct Available P2O5 (5%)	0086	3.591	0.1679	4.094	0.8191	0.1029	45	-0.61	041.10	0
041	Direct Available P2O5 (5%)	0230	3.640	0.1000	4.094	0.8191	0.1029	45	-0.55	041.21	0
041	Direct Available P2O5 (5%)	0136	3.650	0.0400	4.094	0.8191	0.1029	45	-0.54	041.11	0
041	Direct Available P2O5 (5%)	0049	3.710	0.0400	4.094	0.8191	0.1029	45	-0.47	041.11	0
041	Direct Available P2O5 (5%)	0040	3.750	0.1000	4.094	0.8191	0.1029	45	-0.42	041.51	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
041	Direct Available P2O5 (5%)	0494	3.755	0.2300	4.094	0.8191	0.1029	45	-0.41	041.51	0
041	Direct Available P2O5 (5%)	0513	3.760	0.0400	4.094	0.8191	0.1029	45	-0.41	041.11	0
041	Direct Available P2O5 (5%)	0233	3.873	0.0340	4.094	0.8191	0.1029	45	-0.27	041.51	0
041	Direct Available P2O5 (5%)	0377	3.925	0.2300	4.094	0.8191	0.1029	45	-0.21	041.51	0
041	Direct Available P2O5 (5%)	0177	3.964	0.1448	4.094	0.8191	0.1029	45	-0.16	041.21	0
041	Direct Available P2O5 (5%)	0007	4.000	0.2000	4.094	0.8191	0.1029	45	-0.12	041.50	0
041	Direct Available P2O5 (5%)	0486	4.005	0.0100	4.094	0.8191	0.1029	45	-0.11	041.51	0
041	Direct Available P2O5 (5%)	0131	4.080	0.0800	4.094	0.8191	0.1029	45	-0.02	041.50	0
041	Direct Available P2O5 (5%)	0055	4.120	0.4200	4.094	0.8191	0.1029	45	0.03	041.21	0
041	Direct Available P2O5 (5%)	0102	4.140	0.0200	4.094	0.8191	0.1029	45	0.06	041.10	0
041	Direct Available P2O5 (5%)	0421	4.240	0.1000	4.094	0.8191	0.1029	45	0.18	041.50	0
041	Direct Available P2O5 (5%)	0576	4.440	0.0400	4.094	0.8191	0.1029	45	0.42	041.20	0
041	Direct Available P2O5 (5%)	0506	4.770‡	0.0600	4.094	0.8191	0.1029	45	0.82	041.99	0
041	Direct Available P2O5 (5%)	0574	4.880‡	0.1600	4.094	0.8191	0.1029	45	0.96	041.99	0
041	Direct Available P2O5 (5%)	0540	4.970‡	0.0400	4.094	0.8191	0.1029	45	1.07	041.99	0
041	Direct Available P2O5 (5%)	0538	5.000‡	0.0400	4.094	0.8191	0.1029	45	1.11	041.99	0
041	Direct Available P2O5 (5%)	0549	5.000‡	0.0600	4.094	0.8191	0.1029	45	1.11	041.99	0
041	Direct Available P2O5 (5%)	0533	5.005‡	0.1300	4.094	0.8191	0.1029	45	1.11	041.99	0
041	Direct Available P2O5 (5%)	0518	5.010‡	0.0400	4.094	0.8191	0.1029	45	1.12	041.99	0
041	Direct Available P2O5 (5%)	0531	5.015‡	0.0100	4.094	0.8191	0.1029	45	1.12	041.99	0
041	Direct Available P2O5 (5%)	0532	5.025‡	0.1700	4.094	0.8191	0.1029	45	1.14	041.99	0
041	Direct Available P2O5 (5%)	0551	5.035‡	0.0300	4.094	0.8191	0.1029	45	1.15	041.99	0
041	Direct Available P2O5 (5%)	0553	5.040‡	0.0800	4.094	0.8191	0.1029	45	1.15	041.20	0
041	Direct Available P2O5 (5%)	0519	5.040‡	0.0600	4.094	0.8191	0.1029	45	1.15	041.99	0
041	Direct Available P2O5 (5%)	0539	5.045‡	0.0900	4.094	0.8191	0.1029	45	1.16	041.99	0
041	Direct Available P2O5 (5%)	0559	5.055‡	0.0100	4.094	0.8191	0.1029	45	1.17	041.99	0
041	Direct Available P2O5 (5%)	0043	5.070‡	0.0600	4.094	0.8191	0.1029	45	1.19	041.51	0
041	Direct Available P2O5 (5%)	0563	5.120‡	0.5600	4.094	0.8191	0.1029	45	1.25	041.21	1
048	Water Soluble P2O5 (%)	0472	0.1000	0.0200				2		048.20	0
048	Water Soluble P2O5 (%)	0572	0.6150	0.0300				2		048.99	0
050	Soluble K2O (1%)	0494	0.1650†	0.0500	1.270	0.1902	0.0525	78	-5.81	050.00	0
050	Soluble K2O (1%)	0055	0.2850†	0.0700	1.270	0.1902	0.0525	78	-5.18	050.00	0
050	Soluble K2O (1%)	0561	0.5700†	0.0000	1.270	0.1902	0.0525	78	-3.68	050.00	0
050	Soluble K2O (1%)	0540	0.9888	0.0100	1.270	0.1902	0.0525	78	-1.48	050.99	0
050	Soluble K2O (1%)	0548	1.005	0.0700	1.270	0.1902	0.0525	78	-1.40	050.30	0
050	Soluble K2O (1%)	0519	1.005	0.0100	1.270	0.1902	0.0525	78	-1.40	050.99	0
050	Soluble K2O (1%)	0451	1.016	0.0345	1.270	0.1902	0.0525	78	-1.34	050.99	0
050	Soluble K2O (1%)	0531	1.025	0.0100	1.270	0.1902	0.0525	78	-1.29	050.99	0
050	Soluble K2O (1%)	0472	1.040	0.0200	1.270	0.1902	0.0525	78	-1.21	050.32	0
050	Soluble K2O (1%)	0405	1.045	0.0300	1.270	0.1902	0.0525	78	-1.19	050.00	0
050	Soluble K2O (1%)	0551	1.050	0.0600	1.270	0.1902	0.0525	78	-1.16	050.99	0
050	Soluble K2O (1%)	0577	1.070	0.0400	1.270	0.1902	0.0525	78	-1.05	050.99	0
050	Soluble K2O (1%)	0564	1.075	0.0100	1.270	0.1902	0.0525	78	-1.03	050.99	0
050	Soluble K2O (1%)	0565	1.085	0.0100	1.270	0.1902	0.0525	78	-0.97	050.99	0
050	Soluble K2O (1%)	0476	1.089	0.1109	1.270	0.1902	0.0525	78	-0.95	050.99	0
050	Soluble K2O (1%)	0574	1.090	0.0200	1.270	0.1902	0.0525	78	-0.95	050.60	0
050	Soluble K2O (1%)	0547	1.095	0.0100	1.270	0.1902	0.0525	78	-0.92	050.52	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
050	Soluble K2O (1%)	0493	1.100	0.1000	1.270	0.1902	0.0525	78	-0.90	050.99	0
050	Soluble K2O (1%)	0533	1.120	0.0000	1.270	0.1902	0.0525	78	-0.79	050.99	0
050	Soluble K2O (1%)	0402	1.134	0.0215	1.270	0.1902	0.0525	78	-0.72	050.99	0
050	Soluble K2O (1%)	0131	1.135	0.0700	1.270	0.1902	0.0525	78	-0.71	050.51	0
050	Soluble K2O (1%)	0422	1.165	0.0500	1.270	0.1902	0.0525	78	-0.55	050.50	0
050	Soluble K2O (1%)	0506	1.175	0.0100	1.270	0.1902	0.0525	78	-0.50	050.99	0
050	Soluble K2O (1%)	0539	1.180	0.0400	1.270	0.1902	0.0525	78	-0.48	050.99	0
050	Soluble K2O (1%)	0546	1.183	0.0155	1.270	0.1902	0.0525	78	-0.46	050.99	0
050	Soluble K2O (1%)	0523	1.200	0.0000	1.270	0.1902	0.0525	78	-0.37	050.99	0
050	Soluble K2O (1%)	0538	1.210	0.0000	1.270	0.1902	0.0525	78	-0.32	050.99	0
050	Soluble K2O (1%)	0368	1.220	0.0067	1.270	0.1902	0.0525	78	-0.27	050.99	0
050	Soluble K2O (1%)	0501	1.225	0.0700	1.270	0.1902	0.0525	78	-0.24	050.99	0
050	Soluble K2O (1%)	0233	1.233	0.1440	1.270	0.1902	0.0525	78	-0.20	050.52	0
050	Soluble K2O (1%)	0559	1.235	0.0100	1.270	0.1902	0.0525	78	-0.19	050.99	0
050	Soluble K2O (1%)	0389	1.240	0.2400	1.270	0.1902	0.0525	78	-0.16	050.99	0
050	Soluble K2O (1%)	0040	1.250	0.1000	1.270	0.1902	0.0525	78	-0.11	050.30	0
050	Soluble K2O (1%)	0421	1.250	0.0200	1.270	0.1902	0.0525	78	-0.11	050.99	0
050	Soluble K2O (1%)	0220	1.255	0.0900	1.270	0.1902	0.0525	78	-0.08	050.99	0
050	Soluble K2O (1%)	0518	1.255	0.0500	1.270	0.1902	0.0525	78	-0.08	050.99	0
050	Soluble K2O (1%)	0255	1.257	0.0010	1.270	0.1902	0.0525	78	-0.07	050.99	0
050	Soluble K2O (1%)	0292	1.265	0.0100	1.270	0.1902	0.0525	78	-0.03	050.50	0
050	Soluble K2O (1%)	0291	1.270	0.0000	1.270	0.1902	0.0525	78	0.00	050.51	0
050	Soluble K2O (1%)	0572	1.270	0.1200	1.270	0.1902	0.0525	78	0.00	050.99	0
050	Soluble K2O (1%)	0177	1.284	0.0038	1.270	0.1902	0.0525	78	0.07	050.99	0
050	Soluble K2O (1%)	0419	1.290	0.0000	1.270	0.1902	0.0525	78	0.10	050.50	0
050	Soluble K2O (1%)	0452	1.295	0.0500	1.270	0.1902	0.0525	78	0.13	050.51	0
050	Soluble K2O (1%)	0042	1.300	0.2000	1.270	0.1902	0.0525	78	0.16	050.99	0
050	Soluble K2O (1%)	0231	1.300	0.0400	1.270	0.1902	0.0525	78	0.16	050.50	0
050	Soluble K2O (1%)	0055	1.315	0.0450	1.270	0.1902	0.0525	78	0.23	050.50	0
050	Soluble K2O (1%)	0515	1.317	0.1120	1.270	0.1902	0.0525	78	0.25	050.99	0
050	Soluble K2O (1%)	0027	1.320	0.0800	1.270	0.1902	0.0525	78	0.26	050.99	0
050	Soluble K2O (1%)	0563	1.329	0.0194	1.270	0.1902	0.0525	78	0.31	050.99	0
050	Soluble K2O (1%)	0073	1.330	0.0400	1.270	0.1902	0.0525	78	0.31	050.30	0
050	Soluble K2O (1%)	0553	1.335	0.0100	1.270	0.1902	0.0525	78	0.34	050.99	0
050	Soluble K2O (1%)	0324	1.340	0.0800	1.270	0.1902	0.0525	78	0.37	050.50	0
050	Soluble K2O (1%)	0524	1.341	0.0187	1.270	0.1902	0.0525	78	0.37	050.99	0
050	Soluble K2O (1%)	0234	1.345	0.0268	1.270	0.1902	0.0525	78	0.39	050.99	0
050	Soluble K2O (1%)	0230	1.360	0.0600	1.270	0.1902	0.0525	78	0.47	050.50	0
050	Soluble K2O (1%)	0095	1.380	0.0400	1.270	0.1902	0.0525	78	0.58	050.62	0
050	Soluble K2O (1%)	0377	1.390	0.0200	1.270	0.1902	0.0525	78	0.63	050.52	0
050	Soluble K2O (1%)	0260	1.390	0.0200	1.270	0.1902	0.0525	78	0.63	050.99	0
050	Soluble K2O (1%)	0527	1.392	0.0040	1.270	0.1902	0.0525	78	0.64	050.99	0
050	Soluble K2O (1%)	0007	1.400	0.0000	1.270	0.1902	0.0525	78	0.68	050.51	0
050	Soluble K2O (1%)	0390	1.410	0.0200	1.270	0.1902	0.0525	78	0.73	050.50	0
050	Soluble K2O (1%)	0423	1.415	0.0500	1.270	0.1902	0.0525	78	0.76	050.52	0
050	Soluble K2O (1%)	0513	1.415	0.0100	1.270	0.1902	0.0525	78	0.76	050.62	0
050	Soluble K2O (1%)	0356	1.424	0.0030	1.270	0.1902	0.0525	78	0.80	050.30	0



Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
050	Soluble K2O (1%)	0309	1.435	0.0700	1.270	0.1902	0.0525	78	0.87	050.30	0
050	Soluble K2O (1%)	0106	1.450	0.0000	1.270	0.1902	0.0525	78	0.94	050.50	0
050	Soluble K2O (1%)	0444	1.450	0.0200	1.270	0.1902	0.0525	78	0.94	050.50	0
050	Soluble K2O (1%)	0102	1.455	0.0100	1.270	0.1902	0.0525	78	0.97	050.00	0
050	Soluble K2O (1%)	0552	1.485	0.0300	1.270	0.1902	0.0525	78	1.13	050.99	0
050	Soluble K2O (1%)	0494	1.520	0.5400	1.270	0.1902	0.0525	78	1.31	050.52	0
050	Soluble K2O (1%)	0136	1.530	0.1000	1.270	0.1902	0.0525	78	1.36	050.52	0
050	Soluble K2O (1%)	0568	1.570	0.1400	1.270	0.1902	0.0525	78	1.58	050.51	0
050	Soluble K2O (1%)	0521	1.583	0.0000	1.270	0.1902	0.0525	78	1.64	050.99	0
050	Soluble K2O (1%)	0486	1.615	0.0100	1.270	0.1902	0.0525	78	1.81	050.52	0
050	Soluble K2O (1%)	0532	1.700‡	0.2000	1.270	0.1902	0.0525	78	2.26	050.99	0
050	Soluble K2O (1%)	0354	1.715‡	0.1900	1.270	0.1902	0.0525	78	2.34	050.52	0
050	Soluble K2O (1%)	0043	1.740‡	0.0800	1.270	0.1902	0.0525	78	2.47	050.52	0
050	Soluble K2O (1%)	0433	1.780‡	0.0200	1.270	0.1902	0.0525	78	2.68	050.99	0
050	Soluble K2O (1%)	0325	1.250	0.7000	1.270	0.1902	0.0525	78	-0.11	050.99	1
050	Soluble K2O (1%)	0035	2.190‡	1.140	1.270	0.1902	0.0525	78	4.83	050.61	1
060	Water (Free) (%)	0419	7.040	0.0000				2		060.10	0
060	Water (Free) (%)	0009	11.00	0.0000				2		060.99	0
101	Acid Soluble Ca (%)	0009	3.050	0.1000	3.442	0.1235	0.0598	15	-3.17	101.33	0
101	Acid Soluble Ca (%)	0472	3.210	0.0000	3.442	0.1235	0.0598	15	-1.88	101.33	0
101	Acid Soluble Ca (%)	0563	3.311	0.0169	3.442	0.1235	0.0598	15	-1.06	101.33	0
101	Acid Soluble Ca (%)	0568	3.360	0.0200	3.442	0.1235	0.0598	15	-0.66	101.30	0
101	Acid Soluble Ca (%)	0354	3.365	0.0700	3.442	0.1235	0.0598	15	-0.62	101.30	0
101	Acid Soluble Ca (%)	0419	3.405	0.0900	3.442	0.1235	0.0598	15	-0.30	101.33	0
101	Acid Soluble Ca (%)	0102	3.450	0.0800	3.442	0.1235	0.0598	15	0.06	101.30	0
101	Acid Soluble Ca (%)	0527	3.503	0.0213	3.442	0.1235	0.0598	15	0.49	101.33	0
101	Acid Soluble Ca (%)	0552	3.510	0.0200	3.442	0.1235	0.0598	15	0.55	101.99	0
101	Acid Soluble Ca (%)	0519	3.515	0.0300	3.442	0.1235	0.0598	15	0.59	101.99	0
101	Acid Soluble Ca (%)	0553	3.520	0.0800	3.442	0.1235	0.0598	15	0.63	101.00	0
101	Acid Soluble Ca (%)	0035	3.520	0.2000	3.442	0.1235	0.0598	15	0.63	101.30	0
101	Acid Soluble Ca (%)	0423	3.522	0.0080	3.442	0.1235	0.0598	15	0.65	101.32	0
101	Acid Soluble Ca (%)	0494	3.536	0.1212	3.442	0.1235	0.0598	15	0.76	101.33	0
101	Acid Soluble Ca (%)	0389	3.600	0.0400	3.442	0.1235	0.0598	15	1.28	101.99	0
121	Acid Soluble Mg (%)	0515	0.1888	0.0010	0.2444	0.0306	0.0069	17	-1.82	121.33	0
121	Acid Soluble Mg (%)	0524	0.1975	0.0007	0.2444	0.0306	0.0069	17	-1.53	121.99	0
121	Acid Soluble Mg (%)	0472	0.2150	0.0100	0.2444	0.0306	0.0069	17	-0.96	121.33	0
121	Acid Soluble Mg (%)	0009	0.2250	0.0100	0.2444	0.0306	0.0069	17	-0.63	121.33	0
121	Acid Soluble Mg (%)	0354	0.2300	0.0000	0.2444	0.0306	0.0069	17	-0.47	121.30	0
121	Acid Soluble Mg (%)	0494	0.2315	0.0019	0.2444	0.0306	0.0069	17	-0.42	121.33	0
121	Acid Soluble Mg (%)	0568	0.2335	0.0010	0.2444	0.0306	0.0069	17	-0.36	121.30	0
121	Acid Soluble Mg (%)	0423	0.2445	0.0030	0.2444	0.0306	0.0069	17	0.00	121.32	0
121	Acid Soluble Mg (%)	0035	0.2480	0.0100	0.2444	0.0306	0.0069	17	0.12	121.30	0
121	Acid Soluble Mg (%)	0519	0.2500	0.0200	0.2444	0.0306	0.0069	17	0.18	121.99	0
121	Acid Soluble Mg (%)	0563	0.2515	0.0046	0.2444	0.0306	0.0069	17	0.23	121.33	0
121	Acid Soluble Mg (%)	0419	0.2550	0.0100	0.2444	0.0306	0.0069	17	0.35	121.33	0
121	Acid Soluble Mg (%)	0527	0.2559	0.0026	0.2444	0.0306	0.0069	17	0.37	121.33	0
121	Acid Soluble Mg (%)	0553	0.2660	0.0060	0.2444	0.0306	0.0069	17	0.70	121.00	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
121	Acid Soluble Mg (%)	0389	0.2715	0.0070	0.2444	0.0306	0.0069	17	0.88	121.99	0
121	Acid Soluble Mg (%)	0102	0.2950	0.0100	0.2444	0.0306	0.0069	17	1.65	121.30	0
121	Acid Soluble Mg (%)	0552	0.3100	0.0200	0.2444	0.0306	0.0069	17	2.14	121.99	0
121	Acid Soluble Mg (%)	0515	0.2065	0.0715	0.2444	0.0306	0.0069	17	-1.24	121.99	1
143	Elemental S (%)	0389	0.9300	0.0200				1		143.99	0
145	Sulfate S, HCl soluble (%)	0553	0.2210	0.0080				1		145.99	0
148	Total S (%)	0354	0.7100	0.0000	0.8234	0.0812	0.0104	7	-1.26	148.99	0
148	Total S (%)	0472	0.7850	0.0100	0.8234	0.0812	0.0104	7	-0.43	148.07	0
148	Total S (%)	0419	0.7925	0.0030	0.8234	0.0812	0.0104	7	-0.34	148.04	0
148	Total S (%)	0563	0.8097	0.0115	0.8234	0.0812	0.0104	7	-0.15	148.07	0
148	Total S (%)	0494	0.8518	0.0339	0.8234	0.0812	0.0104	7	0.32	148.07	0
148	Total S (%)	0102	0.8950	0.0100	0.8234	0.0812	0.0104	7	0.80	148.07	0
148	Total S (%)	0527	0.9201	0.0043	0.8234	0.0812	0.0104	7	1.08	148.07	0
148	Total S (%)	0515	0.6710	0.2176	0.8234	0.0812	0.0104	7	-1.70	148.07	1
149	S - HNO3 soluble (%)	0524	0.7660	0.0145	0.8105	0.0422	0.0132	3	-1.05	149.04	0
149	S - HNO3 soluble (%)	0423	0.8155	0.0050	0.8105	0.0422	0.0132	3	0.12	149.04	0
149	S - HNO3 soluble (%)	0519	0.8500	0.0200	0.8105	0.0422	0.0132	3	0.94	149.04	0
151	Acid Soluble As (ppm)	0534	0.2750	0.0300	0.8085	0.6713	0.3225	15	-0.79	151.00	0
151	Acid Soluble As (ppm)	0519	0.3250	0.0100	0.8085	0.6713	0.3225	15	-0.72	151.99	0
151	Acid Soluble As (ppm)	0389	0.3750	0.0100	0.8085	0.6713	0.3225	15	-0.65	151.30	0
151	Acid Soluble As (ppm)	0548	0.4200	0.0200	0.8085	0.6713	0.3225	15	-0.58	151.33	0
151	Acid Soluble As (ppm)	0523	0.4650	0.0100	0.8085	0.6713	0.3225	15	-0.51	151.30	0
151	Acid Soluble As (ppm)	0009	0.4700	0.0000	0.8085	0.6713	0.3225	15	-0.50	151.99	0
151	Acid Soluble As (ppm)	0220	0.5000	0.2000	0.8085	0.6713	0.3225	15	-0.46	151.99	0
151	Acid Soluble As (ppm)	0524	0.5440	0.0265	0.8085	0.6713	0.3225	15	-0.39	151.30	0
151	Acid Soluble As (ppm)	0476	0.5650	0.0280	0.8085	0.6713	0.3225	15	-0.36	151.30	0
151	Acid Soluble As (ppm)	0563	0.5925	0.0074	0.8085	0.6713	0.3225	15	-0.32	151.33	0
151	Acid Soluble As (ppm)	0220	0.6500	0.1000	0.8085	0.6713	0.3225	15	-0.24	151.32	0
151	Acid Soluble As (ppm)	0405	1.500	1.000	0.8085	0.6713	0.3225	15	1.03	151.99	0
151	Acid Soluble As (ppm)	0515	1.860	2.696	0.8085	0.6713	0.3225	15	1.57	151.33	0
151	Acid Soluble As (ppm)	0576	2.865	0.2500	0.8085	0.6713	0.3225	15	3.06	151.99	0
151	Acid Soluble As (ppm)	0494	3.205	0.4500	0.8085	0.6713	0.3225	15	3.57	151.33	0
151	Acid Soluble As (ppm)	0255	0.0000	0.0000	0.8085	0.6713	0.3225	15		151.30	4
151	Acid Soluble As (ppm)	0515	2.183	4.365	0.8085	0.6713	0.3225	15		151.34	4
151	Acid Soluble As (ppm)	0527	< 0.0001		0.8085	0.6713	0.3225	15		151.33	5
151	Acid Soluble As (ppm)	0368	< 0.3		0.8085	0.6713	0.3225	15		151.34	5
151	Acid Soluble As (ppm)	0572	< 0.34		0.8085	0.6713	0.3225	15		151.99	5
151	Acid Soluble As (ppm)	0450	< 0.5		0.8085	0.6713	0.3225	15		151.30	5
151	Acid Soluble As (ppm)	0136	< 1		0.8085	0.6713	0.3225	15		151.33	5
151	Acid Soluble As (ppm)	0009	< 5		0.8085	0.6713	0.3225	15		151.33	5
165	Acid Soluble B (%)	0515	0.0032	0.0004	0.0043	0.0010	0.0001	6	-0.99	165.99	0
165	Acid Soluble B (%)	0527	0.0038	0.0001	0.0043	0.0010	0.0001	6	-0.49	165.99	0
165	Acid Soluble B (%)	0524	0.0041	0.0000	0.0043	0.0010	0.0001	6	-0.17	165.99	0
165	Acid Soluble B (%)	0009	0.0044	0.0000	0.0043	0.0010	0.0001	6	0.11	165.99	0
165	Acid Soluble B (%)	0563	0.0045	0.0002	0.0043	0.0010	0.0001	6	0.20	165.99	0
165	Acid Soluble B (%)	0472	0.0100	0.0000	0.0043	0.0010	0.0001	6	5.25	165.99	0
165	Acid Soluble B (%)	0423	44.41	0.1600	0.0043	0.0010	0.0001	6	40730.31	165.99	2

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
165	Acid Soluble B (%)	0552	0.0000	0.0000	0.0043	0.0010	0.0001	6		165.99	4
165	Acid Soluble B (%)	0354	< 0.01		0.0043	0.0010	0.0001	6		165.30	5
171	Water Soluble B (%)	0519	0.0148	0.0002				1		171.99	0
181	Acid Soluble Cd (ppm)	0389	0.0700	0.0000	0.2400	0.0704	0.0228	15	-2.41	181.30	0
181	Acid Soluble Cd (ppm)	0524	0.1828	0.0167	0.2400	0.0704	0.0228	15	-0.81	181.30	0
181	Acid Soluble Cd (ppm)	0519	0.1855	0.0010	0.2400	0.0704	0.0228	15	-0.77	181.99	0
181	Acid Soluble Cd (ppm)	0476	0.1870	0.0440	0.2400	0.0704	0.0228	15	-0.75	181.30	0
181	Acid Soluble Cd (ppm)	0450	0.2000	0.0000	0.2400	0.0704	0.0228	15	-0.57	181.30	0
181	Acid Soluble Cd (ppm)	0523	0.2085	0.0066	0.2400	0.0704	0.0228	15	-0.45	181.30	0
181	Acid Soluble Cd (ppm)	0009	0.2100	0.0200	0.2400	0.0704	0.0228	15	-0.43	181.99	0
181	Acid Soluble Cd (ppm)	0405	0.2300	0.0200	0.2400	0.0704	0.0228	15	-0.14	181.99	0
181	Acid Soluble Cd (ppm)	0368	0.2500	0.1000	0.2400	0.0704	0.0228	15	0.14	181.34	0
181	Acid Soluble Cd (ppm)	0563	0.2505	0.0035	0.2400	0.0704	0.0228	15	0.15	181.33	0
181	Acid Soluble Cd (ppm)	0419	0.2850	0.0100	0.2400	0.0704	0.0228	15	0.64	181.30	0
181	Acid Soluble Cd (ppm)	0572	0.2850	0.0900	0.2400	0.0704	0.0228	15	0.64	181.99	0
181	Acid Soluble Cd (ppm)	0220	0.3000	0.0000	0.2400	0.0704	0.0228	15	0.85	181.32	0
181	Acid Soluble Cd (ppm)	0220	0.4000	0.0000	0.2400	0.0704	0.0228	15	2.27	181.99	0
181	Acid Soluble Cd (ppm)	0548	0.4150	0.0300	0.2400	0.0704	0.0228	15	2.49	181.33	0
181	Acid Soluble Cd (ppm)	0255	2.958	3.602	0.2400	0.0704	0.0228	15	38.61	181.30	1
181	Acid Soluble Cd (ppm)	0527	< 0.0001		0.2400	0.0704	0.0228	15		181.33	5
181	Acid Soluble Cd (ppm)	0494	< 0.17		0.2400	0.0704	0.0228	15		181.33	5
181	Acid Soluble Cd (ppm)	0534	< 0.5		0.2400	0.0704	0.0228	15		181.00	5
181	Acid Soluble Cd (ppm)	0136	< 1		0.2400	0.0704	0.0228	15		181.33	5
181	Acid Soluble Cd (ppm)	0009	< 2		0.2400	0.0704	0.0228	15		181.33	5
190	Water Soluble Cl (%)	0553	0.7450	0.0100				1		190.00	0
191	Acid Soluble Cr (ppm)	0519	6.025	0.0500	57.80	24.95	3.324	22	-2.08	191.99	0
191	Acid Soluble Cr (ppm)	0035	18.95	6.500	57.80	24.95	3.324	22	-1.56	191.30	0
191	Acid Soluble Cr (ppm)	0368	23.35	1.500	57.80	24.95	3.324	22	-1.38	191.34	0
191	Acid Soluble Cr (ppm)	0389	31.61	0.1600	57.80	24.95	3.324	22	-1.05	191.30	0
191	Acid Soluble Cr (ppm)	0136	37.40	3.600	57.80	24.95	3.324	22	-0.82	191.33	0
191	Acid Soluble Cr (ppm)	0527	39.43	0.3918	57.80	24.95	3.324	22	-0.74	191.33	0
191	Acid Soluble Cr (ppm)	0524	42.40	0.9376	57.80	24.95	3.324	22	-0.62	191.30	0
191	Acid Soluble Cr (ppm)	0220	49.00	4.000	57.80	24.95	3.324	22	-0.35	191.32	0
191	Acid Soluble Cr (ppm)	0572	57.24	4.320	57.80	24.95	3.324	22	-0.02	191.99	0
191	Acid Soluble Cr (ppm)	0515	59.38	7.808	57.80	24.95	3.324	22	0.06	191.34	0
191	Acid Soluble Cr (ppm)	0444	59.97	3.620	57.80	24.95	3.324	22	0.09	191.30	0
191	Acid Soluble Cr (ppm)	0405	65.00	0.0000	57.80	24.95	3.324	22	0.29	191.99	0
191	Acid Soluble Cr (ppm)	0419	66.40	9.600	57.80	24.95	3.324	22	0.34	191.30	0
191	Acid Soluble Cr (ppm)	0220	66.50	3.000	57.80	24.95	3.324	22	0.35	191.99	0
191	Acid Soluble Cr (ppm)	0563	68.35	0.7763	57.80	24.95	3.324	22	0.42	191.33	0
191	Acid Soluble Cr (ppm)	0515	69.99	11.73	57.80	24.95	3.324	22	0.49	191.33	0
191	Acid Soluble Cr (ppm)	0548	73.99	1.980	57.80	24.95	3.324	22	0.65	191.33	0
191	Acid Soluble Cr (ppm)	0476	75.14	2.957	57.80	24.95	3.324	22	0.69	191.30	0
191	Acid Soluble Cr (ppm)	0009	82.00	2.000	57.80	24.95	3.324	22	0.97	191.33	0
191	Acid Soluble Cr (ppm)	0009	82.00	4.000	57.80	24.95	3.324	22	0.97	191.99	0
191	Acid Soluble Cr (ppm)	0523	86.76	0.2000	57.80	24.95	3.324	22	1.16	191.30	0
191	Acid Soluble Cr (ppm)	0450	95.00	4.000	57.80	24.95	3.324	22	1.49	191.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
191	Acid Soluble Cr (ppm)	0494	< 0.92		57.80	24.95	3.324	22		191.33	5
202	Acid Soluble Co (ppm)	0368	6.200	0.8000	31.86	18.53	2.330	21	-1.38	202.34	0
202	Acid Soluble Co (ppm)	0136	8.245	0.4500	31.86	18.53	2.330	21	-1.27	202.33	0
202	Acid Soluble Co (ppm)	0035	9.935	2.930	31.86	18.53	2.330	21	-1.18	202.30	0
202	Acid Soluble Co (ppm)	0220	11.40	1.600	31.86	18.53	2.330	21	-1.10	202.32	0
202	Acid Soluble Co (ppm)	0572	16.18	2.920	31.86	18.53	2.330	21	-0.85	202.99	0
202	Acid Soluble Co (ppm)	0515	17.91	10.61	31.86	18.53	2.330	21	-0.75	202.34	0
202	Acid Soluble Co (ppm)	0419	18.10	0.6000	31.86	18.53	2.330	21	-0.74	202.30	0
202	Acid Soluble Co (ppm)	0389	26.72	0.4400	31.86	18.53	2.330	21	-0.28	202.30	0
202	Acid Soluble Co (ppm)	0220	26.95	0.9000	31.86	18.53	2.330	21	-0.26	202.99	0
202	Acid Soluble Co (ppm)	0527	27.67	0.6422	31.86	18.53	2.330	21	-0.23	202.33	0
202	Acid Soluble Co (ppm)	0405	30.05	0.3000	31.86	18.53	2.330	21	-0.10	202.99	0
202	Acid Soluble Co (ppm)	0423	40.30	1.360	31.86	18.53	2.330	21	0.46	202.32	0
202	Acid Soluble Co (ppm)	0476	43.04	2.313	31.86	18.53	2.330	21	0.60	202.30	0
202	Acid Soluble Co (ppm)	0524	43.32	0.8312	31.86	18.53	2.330	21	0.62	202.30	0
202	Acid Soluble Co (ppm)	0563	43.55	0.7455	31.86	18.53	2.330	21	0.63	202.33	0
202	Acid Soluble Co (ppm)	0548	44.86	3.190	31.86	18.53	2.330	21	0.70	202.33	0
202	Acid Soluble Co (ppm)	0009	47.50	9.000	31.86	18.53	2.330	21	0.84	202.33	0
202	Acid Soluble Co (ppm)	0009	47.50	5.000	31.86	18.53	2.330	21	0.84	202.99	0
202	Acid Soluble Co (ppm)	0494	50.60	2.200	31.86	18.53	2.330	21	1.01	202.33	0
202	Acid Soluble Co (ppm)	0523	50.97	0.4200	31.86	18.53	2.330	21	1.03	202.30	0
202	Acid Soluble Co (ppm)	0255	58.02	1.670	31.86	18.53	2.330	21	1.41	202.99	0
202	Acid Soluble Co (ppm)	0515	30.99	14.48	31.86	18.53	2.330	21	-0.05	202.33	1
221	Acid Soluble Cu (%)	0402	0.0101	0.0016	0.0171	0.0026	0.0030	35	-2.71	221.30	0
221	Acid Soluble Cu (%)	0548	0.0125	0.0050	0.0171	0.0026	0.0030	35	-1.78	221.33	0
221	Acid Soluble Cu (%)	0534	0.0135	0.0010	0.0171	0.0026	0.0030	35	-1.39	221.00	0
221	Acid Soluble Cu (%)	0476	0.0140	0.0000	0.0171	0.0026	0.0030	35	-1.20	221.99	0
221	Acid Soluble Cu (%)	0515	0.0144	0.0001	0.0171	0.0026	0.0030	35	-1.06	221.99	0
221	Acid Soluble Cu (%)	0136	0.0148	0.0000	0.0171	0.0026	0.0030	35	-0.89	221.33	0
221	Acid Soluble Cu (%)	0515	0.0148	0.0004	0.0171	0.0026	0.0030	35	-0.89	221.33	0
221	Acid Soluble Cu (%)	0524	0.0148	0.0000	0.0171	0.0026	0.0030	35	-0.89	221.99	0
221	Acid Soluble Cu (%)	0368	0.0155	0.0002	0.0171	0.0026	0.0030	35	-0.62	221.99	0
221	Acid Soluble Cu (%)	0234	0.0156	0.0002	0.0171	0.0026	0.0030	35	-0.58	221.30	0
221	Acid Soluble Cu (%)	0009	0.0160	0.0000	0.0171	0.0026	0.0030	35	-0.42	221.33	0
221	Acid Soluble Cu (%)	0506	0.0160	0.0000	0.0171	0.0026	0.0030	35	-0.42	221.99	0
221	Acid Soluble Cu (%)	0106	0.0162	0.0002	0.0171	0.0026	0.0030	35	-0.34	221.33	0
221	Acid Soluble Cu (%)	0220	0.0165	0.0003	0.0171	0.0026	0.0030	35	-0.25	221.99	0
221	Acid Soluble Cu (%)	0009	0.0165	0.0010	0.0171	0.0026	0.0030	35	-0.23	221.99	0
221	Acid Soluble Cu (%)	0220	0.0166	0.0002	0.0171	0.0026	0.0030	35	-0.19	221.32	0
221	Acid Soluble Cu (%)	0563	0.0167	0.0002	0.0171	0.0026	0.0030	35	-0.15	221.33	0
221	Acid Soluble Cu (%)	0405	0.0170	0.0005	0.0171	0.0026	0.0030	35	-0.05	221.99	0
221	Acid Soluble Cu (%)	0260	0.0172	0.0005	0.0171	0.0026	0.0030	35	0.03	221.33	0
221	Acid Soluble Cu (%)	0035	0.0174	0.0003	0.0171	0.0026	0.0030	35	0.10	221.30	0
221	Acid Soluble Cu (%)	0553	0.0175	0.0010	0.0171	0.0026	0.0030	35	0.16	221.00	0
221	Acid Soluble Cu (%)	0255	0.0175	0.0010	0.0171	0.0026	0.0030	35	0.16	221.30	0
221	Acid Soluble Cu (%)	0433	0.0175	0.0010	0.0171	0.0026	0.0030	35	0.16	221.30	0
221	Acid Soluble Cu (%)	0572	0.0175	0.0002	0.0171	0.0026	0.0030	35	0.16	221.99	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
221	Acid Soluble Cu (%)	0527	0.0184	0.0003	0.0171	0.0026	0.0030	35	0.49	221.33	0
221	Acid Soluble Cu (%)	0043	0.0185	0.0010	0.0171	0.0026	0.0030	35	0.55	221.33	0
221	Acid Soluble Cu (%)	0419	0.0195	0.0030	0.0171	0.0026	0.0030	35	0.94	221.33	0
221	Acid Soluble Cu (%)	0102	0.0200	0.0000	0.0171	0.0026	0.0030	35	1.13	221.30	0
221	Acid Soluble Cu (%)	0231	0.0200	0.0000	0.0171	0.0026	0.0030	35	1.13	221.30	0
221	Acid Soluble Cu (%)	0444	0.0200	0.0000	0.0171	0.0026	0.0030	35	1.13	221.30	0
221	Acid Soluble Cu (%)	0552	0.0200	0.0000	0.0171	0.0026	0.0030	35	1.13	221.30	0
221	Acid Soluble Cu (%)	0472	0.0200	0.0000	0.0171	0.0026	0.0030	35	1.13	221.33	0
221	Acid Soluble Cu (%)	0389	0.0200	0.0000	0.0171	0.0026	0.0030	35	1.13	221.99	0
221	Acid Soluble Cu (%)	0494	0.0397	0.0369	0.0171	0.0026	0.0030	35	8.77	221.33	0
221	Acid Soluble Cu (%)	0519	34.03	0.0500	0.0171	0.0026	0.0030	35	13209.52	221.99	0
221	Acid Soluble Cu (%)	0423	175.1	3.100	0.0171	0.0026	0.0030	35	67987.13	221.32	2
221	Acid Soluble Cu (%)	0354	< 0.01		0.0171	0.0026	0.0030	35		221.30	5
241	Acid Soluble Fe (%)	0472	0.2000	0.0000	0.2542	0.0350	0.0057	17	-1.55	241.33	0
241	Acid Soluble Fe (%)	0553	0.2060	0.0000	0.2542	0.0350	0.0057	17	-1.38	241.00	0
241	Acid Soluble Fe (%)	0515	0.2134	0.0037	0.2542	0.0350	0.0057	17	-1.17	241.99	0
241	Acid Soluble Fe (%)	0519	0.2345	0.0010	0.2542	0.0350	0.0057	17	-0.56	241.99	0
241	Acid Soluble Fe (%)	0444	0.2400	0.0200	0.2542	0.0350	0.0057	17	-0.41	241.30	0
241	Acid Soluble Fe (%)	0524	0.2432	0.0073	0.2542	0.0350	0.0057	17	-0.32	241.99	0
241	Acid Soluble Fe (%)	0389	0.2475	0.0010	0.2542	0.0350	0.0057	17	-0.19	241.99	0
241	Acid Soluble Fe (%)	0419	0.2480	0.0020	0.2542	0.0350	0.0057	17	-0.18	241.33	0
241	Acid Soluble Fe (%)	0354	0.2500	0.0000	0.2542	0.0350	0.0057	17	-0.12	241.30	0
241	Acid Soluble Fe (%)	0515	0.2563	0.0159	0.2542	0.0350	0.0057	17	0.06	241.33	0
241	Acid Soluble Fe (%)	0009	0.2600	0.0000	0.2542	0.0350	0.0057	17	0.17	241.33	0
241	Acid Soluble Fe (%)	0563	0.2622	0.0007	0.2542	0.0350	0.0057	17	0.23	241.33	0
241	Acid Soluble Fe (%)	0494	0.2777	0.0033	0.2542	0.0350	0.0057	17	0.67	241.33	0
241	Acid Soluble Fe (%)	0527	0.2840	0.0024	0.2542	0.0350	0.0057	17	0.85	241.33	0
241	Acid Soluble Fe (%)	0102	0.2900	0.0000	0.2542	0.0350	0.0057	17	1.02	241.30	0
241	Acid Soluble Fe (%)	0552	0.3000	0.0000	0.2542	0.0350	0.0057	17	1.31	241.30	0
241	Acid Soluble Fe (%)	0035	0.8250	0.0400	0.2542	0.0350	0.0057	17	16.33	241.30	0
241	Acid Soluble Fe (%)	0423	2,685	20.60	0.2542	0.0350	0.0057	17	76793.46	241.32	2
251	Acid Soluble Pb (ppm)	0389	1.435	0.0900	2.453	0.6635	0.1636	17	-1.53	251.30	0
251	Acid Soluble Pb (ppm)	0519	1.535	0.0300	2.453	0.6635	0.1636	17	-1.38	251.99	0
251	Acid Soluble Pb (ppm)	0220	1.700	0.4000	2.453	0.6635	0.1636	17	-1.13	251.32	0
251	Acid Soluble Pb (ppm)	0476	2.004	0.2170	2.453	0.6635	0.1636	17	-0.68	251.30	0
251	Acid Soluble Pb (ppm)	0524	2.030	0.2080	2.453	0.6635	0.1636	17	-0.64	251.30	0
251	Acid Soluble Pb (ppm)	0444	2.200	0.1600	2.453	0.6635	0.1636	17	-0.38	251.30	0
251	Acid Soluble Pb (ppm)	0009	2.200	0.0000	2.453	0.6635	0.1636	17	-0.38	251.99	0
251	Acid Soluble Pb (ppm)	0523	2.457	0.0320	2.453	0.6635	0.1636	17	0.01	251.30	0
251	Acid Soluble Pb (ppm)	0572	2.470	0.0200	2.453	0.6635	0.1636	17	0.03	251.99	0
251	Acid Soluble Pb (ppm)	0548	2.680	0.2000	2.453	0.6635	0.1636	17	0.34	251.33	0
251	Acid Soluble Pb (ppm)	0405	2.750	0.1000	2.453	0.6635	0.1636	17	0.45	251.99	0
251	Acid Soluble Pb (ppm)	0527	2.779	0.0017	2.453	0.6635	0.1636	17	0.49	251.33	0
251	Acid Soluble Pb (ppm)	0563	2.802	0.0079	2.453	0.6635	0.1636	17	0.53	251.33	0
251	Acid Soluble Pb (ppm)	0450	2.900	0.0000	2.453	0.6635	0.1636	17	0.67	251.30	0
251	Acid Soluble Pb (ppm)	0035	2.970	0.0800	2.453	0.6635	0.1636	17	0.78	251.30	0
251	Acid Soluble Pb (ppm)	0419	3.315	0.6500	2.453	0.6635	0.1636	17	1.30	251.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
251	Acid Soluble Pb (ppm)	0515	6.385	0.5850	2.453	0.6635	0.1636	17	5.93	251.34	0
251	Acid Soluble Pb (ppm)	0515	62.37	83.33	2.453	0.6635	0.1636	17	90.29	251.33	2
251	Acid Soluble Pb (ppm)	0255	0.0000	0.0000	2.453	0.6635	0.1636	17		251.30	4
251	Acid Soluble Pb (ppm)	0368	< 0.6		2.453	0.6635	0.1636	17		251.34	5
251	Acid Soluble Pb (ppm)	0494	< 0.91		2.453	0.6635	0.1636	17		251.33	5
251	Acid Soluble Pb (ppm)	0220	< 1		2.453	0.6635	0.1636	17		251.99	5
251	Acid Soluble Pb (ppm)	0534	< 2		2.453	0.6635	0.1636	17		251.00	5
251	Acid Soluble Pb (ppm)	0136	< 3		2.453	0.6635	0.1636	17		251.33	5
251	Acid Soluble Pb (ppm)	0009	< 6		2.453	0.6635	0.1636	17		251.33	5
261	Acid Soluble Mn (%)	0519	0.0135	0.0030	0.0195	0.0017	0.0014	13	-3.57	261.99	0
261	Acid Soluble Mn (%)	0515	0.0159	0.0013	0.0195	0.0017	0.0014	13	-2.17	261.99	0
261	Acid Soluble Mn (%)	0524	0.0183	0.0001	0.0195	0.0017	0.0014	13	-0.74	261.99	0
261	Acid Soluble Mn (%)	0009	0.0190	0.0000	0.0195	0.0017	0.0014	13	-0.29	261.35	0
261	Acid Soluble Mn (%)	0035	0.0191	0.0008	0.0195	0.0017	0.0014	13	-0.23	261.30	0
261	Acid Soluble Mn (%)	0563	0.0193	0.0002	0.0195	0.0017	0.0014	13	-0.12	261.35	0
261	Acid Soluble Mn (%)	0527	0.0199	0.0003	0.0195	0.0017	0.0014	13	0.21	261.35	0
261	Acid Soluble Mn (%)	0419	0.0200	0.0020	0.0195	0.0017	0.0014	13	0.30	261.35	0
261	Acid Soluble Mn (%)	0472	0.0200	0.0000	0.0195	0.0017	0.0014	13	0.30	261.35	0
261	Acid Soluble Mn (%)	0389	0.0200	0.0000	0.0195	0.0017	0.0014	13	0.30	261.99	0
261	Acid Soluble Mn (%)	0494	0.0210	0.0005	0.0195	0.0017	0.0014	13	0.87	261.35	0
261	Acid Soluble Mn (%)	0553	0.0210	0.0000	0.0195	0.0017	0.0014	13	0.90	261.00	0
261	Acid Soluble Mn (%)	0552	0.0350	0.0100	0.0195	0.0017	0.0014	13	9.25	261.32	0
261	Acid Soluble Mn (%)	0423	210.1	2.100	0.0195	0.0017	0.0014	13	125243.03	261.34	2
261	Acid Soluble Mn (%)	0354	< 0.01		0.0195	0.0017	0.0014	13		261.30	5
281	Acid Soluble Hg (ppm)	0368	0.0045	0.0006	0.0293	0.0458	0.0101	5	-0.54	281.99	0
281	Acid Soluble Hg (ppm)	0524	0.0064	0.0011	0.0293	0.0458	0.0101	5	-0.50	281.99	0
281	Acid Soluble Hg (ppm)	0519	0.0100	0.0000	0.0293	0.0458	0.0101	5	-0.42	281.99	0
281	Acid Soluble Hg (ppm)	0035	0.0145	0.0110	0.0293	0.0458	0.0101	5	-0.32	281.99	0
281	Acid Soluble Hg (ppm)	0476	0.1110	0.0380	0.0293	0.0458	0.0101	5	1.78	281.30	0
281	Acid Soluble Hg (ppm)	0515	0.0000	0.0000	0.0293	0.0458	0.0101	5		281.30	4
281	Acid Soluble Hg (ppm)	0527	< 0.0001		0.0293	0.0458	0.0101	5		281.30	5
281	Acid Soluble Hg (ppm)	0572	< 0.008		0.0293	0.0458	0.0101	5		281.99	5
281	Acid Soluble Hg (ppm)	0220	< 0.01		0.0293	0.0458	0.0101	5		281.99	5
281	Acid Soluble Hg (ppm)	0405	< 0.01		0.0293	0.0458	0.0101	5		281.99	5
281	Acid Soluble Hg (ppm)	0009	< 0.044		0.0293	0.0458	0.0101	5		281.99	5
281	Acid Soluble Hg (ppm)	0534	< 0.05		0.0293	0.0458	0.0101	5		281.00	5
281	Acid Soluble Hg (ppm)	0450	< 0.5		0.0293	0.0458	0.0101	5		281.30	5
289	Acid Soluble Mo (ppm)	0519	0.0100	0.0000	5.364	1.364	0.3882	21	-3.93	289.30	0
289	Acid Soluble Mo (ppm)	0515	2.090	3.175	5.364	1.364	0.3882	21	-2.40	289.33	0
289	Acid Soluble Mo (ppm)	0035	2.625	0.6500	5.364	1.364	0.3882	21	-2.01	289.30	0
289	Acid Soluble Mo (ppm)	0527	3.463	0.2526	5.364	1.364	0.3882	21	-1.39	289.33	0
289	Acid Soluble Mo (ppm)	0368	4.400	0.2000	5.364	1.364	0.3882	21	-0.71	289.34	0
289	Acid Soluble Mo (ppm)	0220	4.650	0.1000	5.364	1.364	0.3882	21	-0.52	289.32	0
289	Acid Soluble Mo (ppm)	0524	4.758	0.0771	5.364	1.364	0.3882	21	-0.44	289.30	0
289	Acid Soluble Mo (ppm)	0255	5.416	0.0030	5.364	1.364	0.3882	21	0.04	289.30	0
289	Acid Soluble Mo (ppm)	0423	5.425	0.4300	5.364	1.364	0.3882	21	0.05	289.33	0
289	Acid Soluble Mo (ppm)	0433	5.500	1.000	5.364	1.364	0.3882	21	0.10	289.30	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
289	Acid Soluble Mo (ppm)	0419	5.525	0.0700	5.364	1.364	0.3882	21	0.12	289.30	0
289	Acid Soluble Mo (ppm)	0476	5.844	0.4830	5.364	1.364	0.3882	21	0.35	289.30	0
289	Acid Soluble Mo (ppm)	0548	6.035	0.0300	5.364	1.364	0.3882	21	0.49	289.33	0
289	Acid Soluble Mo (ppm)	0220	6.050	0.5000	5.364	1.364	0.3882	21	0.50	289.99	0
289	Acid Soluble Mo (ppm)	0009	6.200	0.2000	5.364	1.364	0.3882	21	0.61	289.33	0
289	Acid Soluble Mo (ppm)	0405	6.290	0.0400	5.364	1.364	0.3882	21	0.68	289.99	0
289	Acid Soluble Mo (ppm)	0563	6.393	0.3286	5.364	1.364	0.3882	21	0.75	289.33	0
289	Acid Soluble Mo (ppm)	0494	6.465	0.1900	5.364	1.364	0.3882	21	0.81	289.33	0
289	Acid Soluble Mo (ppm)	0523	6.569	0.0223	5.364	1.364	0.3882	21	0.88	289.30	0
289	Acid Soluble Mo (ppm)	0009	6.700	0.4000	5.364	1.364	0.3882	21	0.98	289.99	0
289	Acid Soluble Mo (ppm)	0106	7.000	0.0000	5.364	1.364	0.3882	21	1.20	289.33	0
289	Acid Soluble Mo (ppm)	0515	6.486	7.985	5.364	1.364	0.3882	21	0.82	289.34	1
289	Acid Soluble Mo (ppm)	0136	< 5		5.364	1.364	0.3882	21		289.33	5
291	Acid Soluble Ni (ppm)	0519	7.097	0.0040	30.51	8.458	1.967	22	-2.77	291.99	0
291	Acid Soluble Ni (ppm)	0035	12.49	5.030	30.51	8.458	1.967	22	-2.13	291.30	0
291	Acid Soluble Ni (ppm)	0368	14.80	0.6000	30.51	8.458	1.967	22	-1.86	291.34	0
291	Acid Soluble Ni (ppm)	0527	17.98	0.0235	30.51	8.458	1.967	22	-1.48	291.33	0
291	Acid Soluble Ni (ppm)	0136	22.40	2.000	30.51	8.458	1.967	22	-0.96	291.33	0
291	Acid Soluble Ni (ppm)	0524	26.88	0.0444	30.51	8.458	1.967	22	-0.43	291.30	0
291	Acid Soluble Ni (ppm)	0444	27.44	1.510	30.51	8.458	1.967	22	-0.36	291.30	0
291	Acid Soluble Ni (ppm)	0220	30.00	2.000	30.51	8.458	1.967	22	-0.06	291.32	0
291	Acid Soluble Ni (ppm)	0515	30.21	7.450	30.51	8.458	1.967	22	-0.04	291.33	0
291	Acid Soluble Ni (ppm)	0476	30.82	1.399	30.51	8.458	1.967	22	0.04	291.30	0
291	Acid Soluble Ni (ppm)	0515	32.97	6.456	30.51	8.458	1.967	22	0.29	291.34	0
291	Acid Soluble Ni (ppm)	0572	33.65	2.440	30.51	8.458	1.967	22	0.37	291.99	0
291	Acid Soluble Ni (ppm)	0450	34.00	4.000	30.51	8.458	1.967	22	0.41	291.30	0
291	Acid Soluble Ni (ppm)	0405	34.50	1.000	30.51	8.458	1.967	22	0.47	291.99	0
291	Acid Soluble Ni (ppm)	0548	35.08	0.3100	30.51	8.458	1.967	22	0.54	291.33	0
291	Acid Soluble Ni (ppm)	0419	35.25	0.4000	30.51	8.458	1.967	22	0.56	291.30	0
291	Acid Soluble Ni (ppm)	0523	36.41	0.6500	30.51	8.458	1.967	22	0.70	291.30	0
291	Acid Soluble Ni (ppm)	0009	36.50	1.000	30.51	8.458	1.967	22	0.71	291.99	0
291	Acid Soluble Ni (ppm)	0220	36.50	1.000	30.51	8.458	1.967	22	0.71	291.99	0
291	Acid Soluble Ni (ppm)	0009	37.00	2.000	30.51	8.458	1.967	22	0.77	291.33	0
291	Acid Soluble Ni (ppm)	0563	37.05	0.0474	30.51	8.458	1.967	22	0.77	291.33	0
291	Acid Soluble Ni (ppm)	0255	53.71	3.900	30.51	8.458	1.967	22	2.74	291.99	0
291	Acid Soluble Ni (ppm)	0494	< 0.37		30.51	8.458	1.967	22		291.33	5
301	Acid Soluble Se (ppm)	0548	0.0300	0.0400	1.175	0.9213	0.4091	12	-1.24	301.33	0
301	Acid Soluble Se (ppm)	0220	0.3000	0.0000	1.175	0.9213	0.4091	12	-0.95	301.32	0
301	Acid Soluble Se (ppm)	0389	0.3850	0.0100	1.175	0.9213	0.4091	12	-0.86	301.30	0
301	Acid Soluble Se (ppm)	0519	0.7455	0.0010	1.175	0.9213	0.4091	12	-0.47	301.99	0
301	Acid Soluble Se (ppm)	0572	0.9500	0.1000	1.175	0.9213	0.4091	12	-0.24	301.99	0
301	Acid Soluble Se (ppm)	0009	1.000	0.0000	1.175	0.9213	0.4091	12	-0.19	301.99	0
301	Acid Soluble Se (ppm)	0523	1.014	0.0471	1.175	0.9213	0.4091	12	-0.17	301.30	0
301	Acid Soluble Se (ppm)	0563	1.322	0.0224	1.175	0.9213	0.4091	12	0.16	301.33	0
301	Acid Soluble Se (ppm)	0524	1.392	0.0957	1.175	0.9213	0.4091	12	0.24	301.30	0
301	Acid Soluble Se (ppm)	0476	1.912	0.0340	1.175	0.9213	0.4091	12	0.80	301.30	0
301	Acid Soluble Se (ppm)	0515	2.496	4.560	1.175	0.9213	0.4091	12	1.43	301.33	0

Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
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301	Acid Soluble Se (ppm)	0405	3.000	0.0000	1.175	0.9213	0.4091	12	1.98	301.99	0
301	Acid Soluble Se (ppm)	0515	6.458	7.130	1.175	0.9213	0.4091	12	5.73	301.34	1
301	Acid Soluble Se (ppm)	0255	0.0000	0.0000	1.175	0.9213	0.4091	12		301.99	4
301	Acid Soluble Se (ppm)	0527	< 0.001		1.175	0.9213	0.4091	12		301.33	5
301	Acid Soluble Se (ppm)	0220	< 0.3		1.175	0.9213	0.4091	12		301.99	5
301	Acid Soluble Se (ppm)	0494	< 0.96		1.175	0.9213	0.4091	12		301.33	5
301	Acid Soluble Se (ppm)	0368	< 1.1		1.175	0.9213	0.4091	12		301.34	5
301	Acid Soluble Se (ppm)	0009	< 22		1.175	0.9213	0.4091	12		301.33	5
311	Sodium (%)	0519	0.3910	0.0020	0.7168	0.1343	0.0057	8	-2.22	311.99	0
311	Sodium (%)	0553	0.5525	0.0050	0.7168	0.1343	0.0057	8	-1.12	311.00	0
311	Sodium (%)	0009	0.7250	0.0100	0.7168	0.1343	0.0057	8	0.06	311.33	0
311	Sodium (%)	0035	0.7515	0.0050	0.7168	0.1343	0.0057	8	0.24	311.33	0
311	Sodium (%)	0563	0.7639	0.0026	0.7168	0.1343	0.0057	8	0.32	311.33	0
311	Sodium (%)	0423	0.7750	0.0040	0.7168	0.1343	0.0057	8	0.40	311.33	0
311	Sodium (%)	0419	0.8200	0.0000	0.7168	0.1343	0.0057	8	0.70	311.33	0
311	Sodium (%)	0527	0.8311	0.0166	0.7168	0.1343	0.0057	8	0.78	311.33	0
311	Sodium (%)	0354	0.7500	0.0400	0.7168	0.1343	0.0057	8	0.23	311.99	1
321	Acid Soluble Zn (%)	0534	0.0155	0.0010	0.0208	0.0025	0.0021	35	-2.17	321.00	0
321	Acid Soluble Zn (%)	0402	0.0173	0.0008	0.0208	0.0025	0.0021	35	-1.44	321.30	0
321	Acid Soluble Zn (%)	0106	0.0175	0.0001	0.0208	0.0025	0.0021	35	-1.38	321.33	0
321	Acid Soluble Zn (%)	0476	0.0175	0.0010	0.0208	0.0025	0.0021	35	-1.36	321.99	0
321	Acid Soluble Zn (%)	0136	0.0180	0.0000	0.0208	0.0025	0.0021	35	-1.15	321.33	0
321	Acid Soluble Zn (%)	0515	0.0189	0.0002	0.0208	0.0025	0.0021	35	-0.79	321.33	0
321	Acid Soluble Zn (%)	0515	0.0191	0.0008	0.0208	0.0025	0.0021	35	-0.71	321.99	0
321	Acid Soluble Zn (%)	0494	0.0193	0.0043	0.0208	0.0025	0.0021	35	-0.65	321.33	0
321	Acid Soluble Zn (%)	0506	0.0195	0.0010	0.0208	0.0025	0.0021	35	-0.54	321.99	0
321	Acid Soluble Zn (%)	0260	0.0198	0.0000	0.0208	0.0025	0.0021	35	-0.42	321.33	0
321	Acid Soluble Zn (%)	0405	0.0200	0.0006	0.0208	0.0025	0.0021	35	-0.34	321.99	0
321	Acid Soluble Zn (%)	0102	0.0200	0.0000	0.0208	0.0025	0.0021	35	-0.34	321.30	0
321	Acid Soluble Zn (%)	0231	0.0200	0.0000	0.0208	0.0025	0.0021	35	-0.34	321.30	0
321	Acid Soluble Zn (%)	0354	0.0200	0.0000	0.0208	0.0025	0.0021	35	-0.34	321.30	0
321	Acid Soluble Zn (%)	0009	0.0200	0.0000	0.0208	0.0025	0.0021	35	-0.34	321.33	0
321	Acid Soluble Zn (%)	0472	0.0200	0.0000	0.0208	0.0025	0.0021	35	-0.34	321.33	0
321	Acid Soluble Zn (%)	0572	0.0204	0.0013	0.0208	0.0025	0.0021	35	-0.20	321.99	0
321	Acid Soluble Zn (%)	0524	0.0204	0.0006	0.0208	0.0025	0.0021	35	-0.18	321.99	0
321	Acid Soluble Zn (%)	0527	0.0206	0.0005	0.0208	0.0025	0.0021	35	-0.12	321.33	0
321	Acid Soluble Zn (%)	0035	0.0211	0.0016	0.0208	0.0025	0.0021	35	0.11	321.30	0
321	Acid Soluble Zn (%)	0368	0.0213	0.0001	0.0208	0.0025	0.0021	35	0.17	321.99	0
321	Acid Soluble Zn (%)	0255	0.0215	0.0010	0.0208	0.0025	0.0021	35	0.27	321.30	0
321	Acid Soluble Zn (%)	0234	0.0216	0.0003	0.0208	0.0025	0.0021	35	0.29	321.30	0
321	Acid Soluble Zn (%)	0220	0.0216	0.0006	0.0208	0.0025	0.0021	35	0.31	321.32	0
321	Acid Soluble Zn (%)	0563	0.0220	0.0001	0.0208	0.0025	0.0021	35	0.45	321.33	0
321	Acid Soluble Zn (%)	0444	0.0220	0.0020	0.0208	0.0025	0.0021	35	0.47	321.30	0
321	Acid Soluble Zn (%)	0419	0.0220	0.0020	0.0208	0.0025	0.0021	35	0.47	321.33	0
321	Acid Soluble Zn (%)	0043	0.0225	0.0010	0.0208	0.0025	0.0021	35	0.67	321.33	0
321	Acid Soluble Zn (%)	0220	0.0226	0.0009	0.0208	0.0025	0.0021	35	0.69	321.99	0
321	Acid Soluble Zn (%)	0553	0.0235	0.0010	0.0208	0.0025	0.0021	35	1.08	321.00	0



Analyte Group	Analyte (Units)	Lab Code	Lab Data		Method Values			# Tests	Magruder CS Z Score	Your Method	Flag
			Value	Range	Rob Mean	Rob SD	R-bar				
321	Acid Soluble Zn (%)	0548	0.0250	0.0100	0.0208	0.0025	0.0021	35	1.69	321.33	0
321	Acid Soluble Zn (%)	0389	0.0250	0.0080	0.0208	0.0025	0.0021	35	1.69	321.99	0
321	Acid Soluble Zn (%)	0433	0.0265	0.0030	0.0208	0.0025	0.0021	35	2.30	321.30	0
321	Acid Soluble Zn (%)	0519	0.0700	0.0000	0.0208	0.0025	0.0021	35	19.94	321.99	0
321	Acid Soluble Zn (%)	0552	0.1150	0.0300	0.0208	0.0025	0.0021	35	38.19	321.30	0
321	Acid Soluble Zn (%)	0423	243.8	2.600	0.0208	0.0025	0.0021	35	98886.34	321.32	2
321	Acid Soluble Zn (%)	0450	< 0.5		0.0208	0.0025	0.0021	35		321.30	5
325	Water Soluble Zn (%)	0576	0.0070	0.0020				1		325.00	0

Interpreting Z Scores: Red indicates a normally distributed Z value >3 or <-3 (requires action), Orange = Z between 2 and 3 or -2 and -3 (warning) and Green = Z < 2 and >-2 (OK at 95%). Flags indicate data usage: 0 = Used, 1 = rejected for duplicates too far apart, 2 = rejected as extreme outlier, 3 = removed from stats, 4 = rejected due to 0s submitted and 5 = LOD. A 9 flag indicates a data problem - scores not calculated. Robust statistics not used if < 6 labs used in calculations, in this case the Z Scores are grey and included for information only. 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.