

- Pass 1 Results for 60 Labs - - Pass 2 Results for 58 Labs -

Method	AOAC Ref.	Method Code	No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups	No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups
Ammoniacal Nitrogen, MgO Distillation .	920.03	001.10	1	0.59	0.00	0.00	1	0.59	0.00	0.00
Nitrate Nitrogen, Other .....		002.99	1	0.01	0.00	0.00	1	0.01	0.00	0.00
Total Nitrogen, Salicylic .....	955.04D	010.12	1	0.09	0.00	0.00	1	0.09	0.00	0.00
Total Nitrogen, Combustion .....		010.60	6	0.15	0.05	0.04	6	0.15	0.05	0.04
Method Group 010.XX PCT			7	0.14	0.05	0.03	7	0.14	0.05	0.03
Total Phosphate, Grav Quimociac .....	962.02	020.10	12	46.20	0.72	0.18	12	46.20	0.72	0.18
Total Phosphate, Spectrometric .....	958.01	020.20	13	45.85	0.44	0.24	12	45.82	0.43	0.17
Total Phosphate, Automated .....	978.01	020.40	7	45.99	0.64	0.23	6	46.09	0.62	0.13
Total Phosphate, ICP .....		020.50	9	45.90	1.03	0.60	8	45.76	0.94	0.42
Total Phosphate, Other .....		020.99	2	46.38	0.40	0.54	2	46.38	0.40	0.54
Method Group 020.XX PCT			43	46.00	0.71	0.31	39	45.97	0.69	0.20
Insoluble Phosphate, Spectrometric ....	963.03C	030.20	1	0.19	0.01	0.02	1	0.19	0.01	0.02
Insoluble Phosphate, Automated .....	978.01	030.40	2	0.24	0.14	0.02	2	0.24	0.14	0.02
Method Group 030.XX PCT			3	0.22	0.12	0.02	3	0.22	0.12	0.02
InDir Available Phosphate, Grav Quim ..	960.02	040.10	1	46.44	0.01	0.01	1	46.44	0.01	0.01
InDir Available Phosphate, Spectrometri	960.02	040.20	1	45.67	0.05	0.07	1	45.67	0.05	0.07
InDir Available Phosphate, Automated ..	960.02	040.40	2	45.71	0.09	0.09	2	45.71	0.09	0.09
Method Group 040.XX PCT			4	45.88	0.35	0.06	4	45.88	0.35	0.06
Dir Available Phosphate, Grav Quimociac	960.03E	041.10	6	46.30	0.46	0.18	6	46.30	0.46	0.18
Dir Available Phosphate, Automated ....	978.01	041.40	2	45.15	0.18	0.07	2	45.15	0.18	0.07
Dir Available Phosphate, ICP .....		041.50	8	45.72	0.37	0.33	8	45.72	0.37	0.33
Dir Available Phosphate, EDTA Extract .	993.01	041.60	9	46.12	0.62	0.23	8	46.22	0.56	0.14
Dir Available Phosphate, Other .....		041.99	1	46.24	0.08	0.12	1	46.24	0.08	0.12
Method Group 041.XX PCT			27	46.02	0.62	0.23	25	46.07	0.61	0.18
Water Soluble Phosphate, Grav Quimociac	962.03	048.10	1	39.66	0.08	0.12	1	39.66	0.08	0.12
Water Soluble Phosphate, Spectrometric	970.01	048.20	2	41.11	0.40	0.14	2	41.11	0.40	0.14
Method Group 048.XX PCT			3	40.62	0.81	0.13	3	40.62	0.81	0.13
Soluble Potash, ICP (Oxalate) .....		050.50	2	0.13	0.01	0.01	2	0.13	0.01	0.01
Soluble Potash, ICP (Citrate) .....		050.51	1	0.16	0.00	0.00	1	0.16	0.00	0.00
Soluble Potash, Flame (Oxalate) .....	983.02(a)	050.60	1	0.29	0.05	0.07	1	0.29	0.05	0.07
Soluble Potash, Flame (Citrate) .....	983.02(b)	050.61	1	0.17	0.04	0.05	1	0.17	0.04	0.05
Soluble Potash, Other .....		050.99	4	0.15	0.08	0.01	4	0.15	0.08	0.01
Method Group 050.XX PCT			9	0.16	0.07	0.02	8	0.15	0.06	0.01
Free Water, Vacuum Oven .....	965.08B	060.00	3	2.30	0.18	0.05	3	2.30	0.18	0.05
Acid Soluble Calcium, AA .....	945.04	101.00	1	12.33	0.01	0.02	1	12.33	0.01	0.02
Acid Soluble Calcium, ICP .....		101.30	7	13.78	0.64	0.51	7	13.78	0.64	0.51
Method Group 101.XX PCT			8	13.60	0.77	0.45	8	13.60	0.77	0.45
Acid Soluble Magnesium, AA .....	984.01	121.00	2	0.76	0.20	0.01	2	0.76	0.20	0.01
Acid Soluble Magnesium, ICP .....		121.30	8	0.91	0.05	0.02	7	0.91	0.05	0.01

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Acid Soluble Magnesium, Other .....		121.99	1	0.80	0.01	0.01	1	0.80	0.01	0.01
Method Group 121.XX PCT			12	0.85	0.13	0.02	11	0.85	0.13	0.01
Sulfur, Gravimetric .....	980.02a	144.01	1	1.14	0.01	0.01	1	1.14	0.01	0.01
Sulfur, Gravimetric .....	980.02b	144.02	1	1.39	0.01	0.01	1	1.39	0.01	0.01
Sulfur, Spectrometric .....		144.70	1	0.70	0.01	0.01	1	0.70	0.01	0.01
Sulfur, Other .....		144.99	7	1.11	0.14	0.02	7	1.11	0.14	0.02
Method Group 144.XX PCT			10	1.10	0.20	0.01	9	1.10	0.21	0.01
Arsenic, Atomic Absorption .....		151.00	1	16.40	0.99	1.40	1	16.40	0.99	1.40
Arsenic, ICP .....		151.30	7	17.63	3.49	0.45	7	17.63	3.49	0.45
Arsenic, Other .....		151.99	2	18.78	0.24	0.35	2	18.78	0.24	0.35
Method Group 151.XX PPM			10	17.73	2.97	0.52	10	17.73	2.97	0.52
Acid Soluble Boron, Other .....		165.99	3	0.005	0.004	0.000	3	0.005	0.004	0.000
Cadmium, ICP .....		181.30	11	87.22	6.40	3.38	10	87.20	6.34	2.34
Cadmium, Other .....		181.99	3	86.58	3.35	2.17	3	86.58	3.35	2.17
Method Group 181.XX PPM			14	87.09	5.83	3.12	13	87.06	5.74	2.30
Water Soluble Chlorine, Titrimetric ...	928.02	190.00	2	0.13	0.06	0.00	2	0.13	0.06	0.00
Water Soluble Chlorine, Other .....		190.99	1	0.11	0.01	0.01	1	0.11	0.01	0.01
Method Group 190.XX PCT			3	0.12	0.05	0.01	3	0.12	0.05	0.01
Chromium, ICP .....		191.30	9	403.89	40.44	11.91	8	404.69	42.39	8.53
Chromium, Other .....		191.99	2	471.95	57.08	15.30	2	471.95	57.08	15.30
Method Group 191.XX PPM			11	416.27	50.11	12.53	11	416.27	50.11	12.53
Acid Soluble Cobalt, ICP .....	965.11	202.30	10	6.10	1.04	0.21	10	6.10	1.04	0.21
Acid Soluble Cobalt, Other .....		202.99	2	6.92	1.20	0.06	2	6.92	1.20	0.06
Method Group 202.XX PPM			12	6.23	1.08	0.19	11	6.21	1.13	0.14
Acid Soluble Copper, Atomic Absorption	975.01	221.00	3	0.0077	0.0006	0.0004	3	0.0077	0.0006	0.0004
Acid Soluble Copper, ICP .....		221.30	13	0.0081	0.0011	0.0002	12	0.0080	0.0011	0.0001
Acid Soluble Copper, Other .....		221.99	4	0.0075	0.0010	0.0004	4	0.0075	0.0010	0.0004
Method Group 221.XX PCT			20	0.0079	0.0011	0.0003	17	0.0078	0.0011	0.0001
Acid Soluble Iron, Atomic Absorption ..	980.01	241.00	2	0.72	0.09	0.01	2	0.72	0.09	0.01
Acid Soluble Iron, ICP .....		241.30	9	0.80	0.11	0.02	9	0.80	0.11	0.02
Acid Soluble Iron, Other .....		241.99	1	0.76	0.02	0.03	1	0.76	0.02	0.03
Method Group 241.XX PCT			12	0.78	0.10	0.02	12	0.78	0.10	0.02
Lead, ICP .....		251.30	8	4.04	0.91	0.17	8	4.04	0.91	0.17
Lead, Other .....		251.99	3	3.98	0.81	0.40	3	3.98	0.81	0.40
Method Group 251.XX PPM			11	4.02	0.86	0.23	10	3.96	0.87	0.16
Acid Soluble Manganese, AA .....	972.02b	261.11	2	0.021	0.001	0.001	2	0.021	0.001	0.001
Acid Soluble Manganese, ICP .....	972.02a	261.30	6	0.021	0.001	0.000	6	0.021	0.001	0.000
Method Group 261.XX PCT			8	0.021	0.001	0.001	8	0.021	0.001	0.001
Mercury, ICP .....		281.30	1	0.03	0.04	0.05	1	0.03	0.04	0.05

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Mercury, Other .....		281.99	1	0.05	0.00	0.00	1	0.05	0.00	0.00
Method Group 281.XX PPM			2	0.04	0.03	0.03	2	0.04	0.03	0.03
Molybdenum, ICP .....		289.30	9	11.77	1.45	0.46	8	11.64	1.44	0.25
Molybdenum, Other .....		289.99	2	14.25	0.35	0.10	2	14.25	0.35	0.10
Method Group 289.XX PPM			11	12.22	1.64	0.39	10	12.16	1.67	0.22
Nickel, Atomic Absorption .....		291.00	1	186.20	0.26	0.37	1	186.20	0.26	0.37
Nickel, ICP .....		291.30	10	230.32	32.98	9.10	10	230.32	32.98	9.10
Nickel, Other .....		291.99	2	257.58	30.16	8.45	2	257.58	30.16	8.45
Method Group 291.XX PPM			13	231.12	34.78	8.33	13	231.12	34.78	8.33
Selenium, ICP .....		301.30	2	0.08	0.13	0.12	2	0.08	0.13	0.12
Selenium, Other .....		301.99	2	0.63	0.07	0.11	2	0.63	0.07	0.11
Method Group 301.XX PPM			4	0.35	0.31	0.12	4	0.35	0.31	0.12
Sodium, Other .....		311.99	5	0.18	0.05	0.00	4	0.18	0.06	0.00
Acid Soluble Zinc, Atomic Absorption ..	975.02	321.00	9	40.344	1.100	0.577	7	40.087	0.855	0.167
Acid Soluble Zinc, ICP .....		321.30	27	39.549	3.758	0.830	25	39.520	3.883	0.655
Acid Soluble Zinc, Other .....		321.99	3	37.440	2.003	0.620	3	37.440	2.003	0.620
Method Group 321.XX PCT			39	39.570	3.278	0.756	36	39.580	3.383	0.581
Water Soluble Zinc, ICP .....		325.30	1	3.690	0.000	0.000	1	3.690	0.000	0.000
Water Soluble Zinc, Other .....		325.99	2	25.528	20.108	0.415	2	25.528	20.108	0.415
Method Group 325.XX PCT			3	18.248	19.230	0.277	3	18.248	19.230	0.277

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 001.10 PCT Ammoniacal Nitrogen <u>MgO Distillation</u>			Meth: 020.10 PCT Total Phosphate <u>Grav Quimociac</u>			Meth: 020.40 PCT Total Phosphate <u>Automated</u>			Meth: 020.XX PCT Total Phosphate			Meth: 020.XX PCT Total Phosphate		
496	0.59	.00	114	47.16	1.36	470	46.76	1.08	035	46.76	1.15	043	19.98 s	-37.65
			300	47.02	1.15	Avg	46.09		470	46.76	1.14			
Meth: 002.99 PCT Nitrate Nitrogen <u>Other</u>			444 47.01 1.14 470 46.79 .83 041 46.44 X .37 090 46.35 .26 Avg 46.20			096 46.02 -.12 105 46.08 -.14 409 45.89 -.34 042 45.40 R -1.28 486 45.03 -1.73			487 46.41 .95 368 46.28 R .95 481 46.18 R .82 041 46.44 X .69 258 46.42 .65 090 46.35 .57 460 46.35 .56			Meth: 030.20 PCT Insoluble Phosphate <u>Spectrometric</u>		
496	0.01	.00										405	0.19	.71
Meth: 010.12 PCT Total Nitrogen <u>Salicylic</u>			211 46.00 -.27 105 45.87 -.46 157 45.85 -.59 493 45.70 -.69 095 45.20 -1.40 049 44.97 -1.75 043 19.98 s -36.59			Meth: 020.50 PCT Total Phosphate <u>ICP</u>			450 46.03 .55 406 46.25 .40 105 46.08 .20 416 46.02 .11 096 46.02 .07 211 46.00 .04 231 45.98 .03 Avg 45.97			Meth: 030.40 PCT Insoluble Phosphate <u>Automated</u>		
496	0.09	.71										096	0.37	.87
Meth: 010.60 PCT Total Nitrogen <u>Combustion</u>			Meth: 020.20 PCT Total Phosphate <u>Spectrometric</u>			482 47.55 1.93 307 47.00 R 1.70 368 46.28 .83 472 45.80 .64 483 45.83 .08 Avg 45.76			416 46.02 .11 096 46.02 .07 211 46.00 .04 231 45.98 .03 Avg 45.97			Meth: 030.XX PCT Insoluble Phosphate		
096	0.21	1.14										096	0.37	1.23
325	0.15	.92	481	46.18 R	1.49	291	45.62	-.15	409	45.89	-.15	Avg	0.22	
354	0.19	.85	258	46.42	1.42	451	45.57	-.20	105	45.87	-.17	405	0.19	-.30
377	0.16	.66	450	46.03	1.01	025	44.95	-.86	405	45.86	-.18	409	0.12	-.94
Avg	0.15		406	46.25	1.01	389	44.47	-1.37	483	45.83	-.20			
482	0.11	-.80	416	46.02	.50	Meth: 020.99 PCT Total Phosphate <u>Other</u>			371	45.73	-.35	Meth: 040.10 PCT InDir Available Phos <u>Grav Quim</u>		
292	0.08	-1.25	231	45.98	.39	487	46.41	1.22	493	45.70	-.40	300	46.44	-.71
Meth: 010.XX PCT Total Nitrogen			292	45.93	.27	Avg	46.38		157	45.85	-.40	Meth: 040.20 PCT InDir Available Phos <u>Spectrometri</u>		
096	0.21	1.30	405	45.86	.14	460	46.35	-.14	496	45.65	-.46	405	45.67	-.71
354	0.19	.99	Avg	45.82		Meth: 020.XX PCT Total Phosphate			291	45.62	-.51	Meth: 040.40 PCT InDir Available Phos <u>Automated</u>		
325	0.15	.94	371	45.73	-.24	482	47.55	2.35	489	45.61	-.53	409	45.77	.96
377	0.16	.70	496	45.65	-.39	307	47.00 R	2.09	451	45.57	-.59	Avg	45.71	
Avg	0.14		489	45.61	-.52	114	47.16	1.74	324	45.55	-.71	096	45.65	-.76
482	0.11	-.65	324	45.55	-.86	300	47.02	1.52	472	45.80 R	-.90			
496	0.09	-.91	309	44.80	-2.39	444	47.01	1.51	042	45.40	-1.01	Meth: 040.40 PCT InDir Available Phos <u>Automated</u>		
292	0.08	-1.10	Meth: 020.40 PCT Total Phosphate <u>Automated</u>			470	46.79	1.19	095	45.20	-1.12	409	45.77	.96
			035	46.76	1.09				486	45.03	-1.38	Avg	45.71	
									025	44.95	-1.48	096	45.65	-.76
									049	44.97	-1.50			
									309	44.80	-1.69			
									389	44.47	-2.17			

\* X=Excluded from lab performance      S/s=Screened Outlier      R=Duplicate Range too large      A=Analysis beyond 3-s limits

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 040.XX PCT			Meth: 041.60 PCT			Meth: 041.XX PCT			Meth: 050.51 PCT			Meth: 060.00 PCT		
<u>InDir Available Phos</u>			<u>Dir Available Phosph</u>			<u>Dir Available Phosph</u>			<u>Soluble Potash</u>			<u>Free Water</u>		
300	46.44	1.59	<u>EDTA Extract</u>			185	45.63	-.75	<u>ICP (Citrate)</u>			<u>Vacuum Oven</u>		
Avg	45.88		231	46.64	.74	007	45.70	-.79	096	0.16	.00	096	2.50	1.14
409	45.77	-.36	136	46.57	.64	043	45.53	-.90	Meth: 050.60 PCT			Avg	2.30	
405	45.67	-.63	043	46.55	.59	095	45.30	-1.28	<u>Soluble Potash</u>			416	2.30	-.15
096	45.65	-.67	105	46.54	.56	360	45.44 R	-1.29	<u>Flame (Oxalate)</u>			007	2.10	-1.09
Meth: 041.10 PCT			073	46.45	.42	024	45.36 R	-1.40	105	0.29	-.71	Meth: 101.00 PCT		
<u>Dir Available Phosph</u>			029	46.29	.31	055	45.23	-1.41	Meth: 050.61 PCT			<u>Acid Soluble Calcium</u>		
<u>Grav Quimociac</u>			Avg	46.22		472	45.00	-1.77	<u>Soluble Potash</u>			<u>AA</u>		
055	46.94	1.40	177	45.73	-.90	486	44.99	-1.79	105	0.17	.71	496	12.33	.71
040	46.60	.78	024	45.36 R	-1.73	Meth: 048.10 PCT			Meth: 050.99 PCT			Meth: 101.30 PCT		
177	46.50	.45	486	44.99	-2.19	<u>Water Soluble Phosph</u>			<u>Soluble Potash</u>			<u>Acid Soluble Calcium</u>		
Avg	46.30		Meth: 041.99 PCT			<u>Grav Quimociac</u>			<u>Other</u>			<u>ICP</u>		
105	46.12	-.40	<u>Dir Available Phosph</u>			444	39.66	.71	Meth: 050.99 PCT			035	14.45	1.27
102	46.00	-.64	<u>Other</u>			Meth: 048.20 PCT			<u>Soluble Potash</u>			483	14.35	.93
185	45.63	-1.47	105	46.24	.71	<u>Water Soluble Phosph</u>			482	0.25	1.13	482	14.20	.68
Meth: 041.40 PCT			Meth: 041.XX PCT			<u>Spectrometric</u>			105	0.21	.68	041	13.80 X	.63
<u>Dir Available Phosph</u>			<u>Dir Available Phosph</u>			096	41.44	.84	Avg	0.15		Avg	13.78	
<u>Automated</u>			377	47.40	2.20	Avg	41.11		325	0.10	-.60	389	13.40	-.61
095	45.30	.90	055	46.94	1.44	405	40.77	-.89	496	0.05	-1.19	307	13.31	-.92
Avg	45.15		040	46.60	.93	Meth: 048.XX PCT			Meth: 050.XX PCT			102	12.92	-1.39
472	45.00	-.83	231	46.64	.93	<u>Water Soluble Phosph</u>			<u>Soluble Potash</u>			354	9.02 s	-7.48
Meth: 041.50 PCT			136	46.57	.83	096	41.44	1.01	105	0.29 R	2.37	Meth: 101.XX PCT		
<u>Dir Available Phosph</u>			043	46.55	.79	405	40.77	.23	482	0.25	1.63	<u>Acid Soluble Calcium</u>		
<u>ICP</u>			105	46.54	.76	Avg	40.62		105	0.21	1.00	035	14.45	1.25
377	47.40 s	4.54	177	46.50	.71	444	39.66	-1.19	105	0.17	.51	483	14.35	1.00
023	46.10	1.11	073	46.45	.63	Meth: 050.50 PCT			096	0.16	.21	482	14.20	.79
325	46.05	.90	029	46.29	.45	<u>Soluble Potash</u>			Avg	0.15		041	13.80 X	.58
368	45.93	.69	105	46.24	.30	<u>ICP (Oxalate)</u>			292	0.14	-.22	Avg	13.60	
354	45.78	.16	023	46.10	.27	292	0.14	.92	354	0.12	-.49	389	13.40	-.28
Avg	45.72		105	46.12	.12	Avg	0.13		325	0.10	-.79	307	13.31	-.59
043	45.53	-.54	Avg	46.07		354	0.12	-.81	496	0.05	-1.62	102	12.92	-.92
007	45.70	-.81	325	46.05	-.09	Meth: 050.50 PCT			Meth: 050.50 PCT			496	12.33	-1.64
055	45.23	-1.38	102	46.00	-.12	<u>Soluble Potash</u>			<u>Soluble Potash</u>			354	9.02 s	-5.94
360	45.44	-1.45	368	45.93	-.32	<u>ICP (Oxalate)</u>			<u>Soluble Potash</u>			Meth: 050.50 PCT		
Meth: 041.60 PCT			354	45.78	-.48	292			0.14	.92	<u>Free Water</u>			
<u>Dir Available Phosph</u>			177	45.73	-.60	Avg			0.13		<u>Vacuum Oven</u>			
<u>EDTA Extract</u>			Meth: 041.99 PCT			354			0.12	-.81	<u>Acid Soluble Calcium</u>			
<u>Grav Quimociac</u>			<u>Dir Available Phosph</u>			Meth: 050.50 PCT			<u>Soluble Potash</u>			<u>AA</u>		
<u>Automated</u>			<u>Other</u>			<u>Soluble Potash</u>			<u>Flame (Citrate)</u>			<u>AA</u>		
<u>ICP</u>			<u>Other</u>			<u>Soluble Potash</u>			<u>Flame (Citrate)</u>			<u>AA</u>		

\* X=Excluded from lab performance    S/s=Screened Outlier    R=Duplicate Range too large    A=Analysis beyond 3-s limits

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
<u>Meth: 121.00 PCT</u>			<u>Meth: 121.XX PCT</u>			<u>Meth: 144.XX PCT</u>			<u>Meth: 151.XX PPM</u>			<u>Meth: 181.XX PPM</u>		
<u>Acid Soluble Magnesi</u>			<u>Acid Soluble Magnesi</u>			<u>Sulfur</u>			<u>Arsenic</u>			<u>Cadmium</u>		
AA			105	0.58	-1.99	096	1.04	-.32	102	16.32	-.48	450	95.30	1.45
496	0.93	.87				389	1.03	-.37	481	16.40	-.51	035	87.40 R	1.20
Avg	0.76		<u>Meth: 144.01 PCT</u>			035	1.00	-.49	096	15.40	-.79	105	92.85	1.04
105	0.58	-.87	<u>Sulfur</u>			496	0.70	-1.94	486	11.02	-2.26	482	91.10	.81
			<u>Gravimetric</u>			<u>Meth: 151.00 PPM</u>			<u>Meth: 165.99 PCT</u>			095	90.00	.62
<u>Meth: 121.30 PCT</u>			105	1.14	.71	<u>Arsenic</u>			<u>Acid Soluble Boron</u>			409	90.25	.56
<u>Acid Soluble Magnesi</u>			<u>Meth: 144.02 PCT</u>			<u>Atomic Absorption</u>			<u>Other</u>			041	88.80 X	.44
<u>ICP</u>			<u>Sulfur</u>			481	16.40	.71	482	0.010	1.28	096	88.75	.29
483	1.00	1.51	<u>Gravimetric</u>			<u>Meth: 151.30 PPM</u>			Avg	0.005		102	87.60	.11
307	0.95	.72	292	1.39	.71	<u>Arsenic</u>			496	0.003	-.57	Avg	87.06	
482	0.93	.23	<u>Meth: 144.70 PCT</u>			<u>ICP</u>			354	0.003	-.73	487	86.00	-.39
Avg	0.91		<u>Sulfur</u>			041	21.45 X	1.09	<u>Meth: 181.30 PPM</u>			042	83.50	-.64
389	0.91	-.20	<u>Spectrometric</u>			095	20.00	.68	<u>Cadmium</u>			368	83.60	-.71
041	0.91 X	-.20	496	0.70	.71	368	19.95	.68	<u>ICP</u>			481	79.80	-1.27
096	0.89	-.44	<u>Meth: 144.99 PCT</u>			450	19.25	.50	450	95.30	1.29	<u>Meth: 190.00 PCT</u>		
035	0.91 R	-.77	<u>Sulfur</u>			Avg	17.63		035	87.40 R	1.09	<u>Water Soluble Chlori</u>		
102	0.81	-1.83	<u>Other</u>			102	16.32	-.38	105	92.85	.92	<u>Titrimetric</u>		
354	0.61 s	-5.69	482	1.41	2.16	096	15.40	-.64	482	91.10	.71	105	0.18	.87
			483	1.18	.53	486	11.02	-1.89	095	90.00	.54	Avg	0.13	
<u>Meth: 121.99 PCT</u>			Avg	1.11		<u>Meth: 151.99 PPM</u>			041	88.80 X	.38	481	0.08	-.86
<u>Acid Soluble Magnesi</u>			102	1.05	-.39	<u>Arsenic</u>			096	88.75	.24	<u>Meth: 190.99 PCT</u>		
<u>Other</u>			354	1.04	-.50	<u>Other</u>			102	87.60	.08	<u>Water Soluble Chlori</u>		
105	0.80	-.71	096	1.04	-.50	409	18.85	1.10	Avg	87.20		<u>Other</u>		
			389	1.03	-.58	Avg	18.78		368	83.60	-.67	043	0.11	-.71
<u>Meth: 121.XX PCT</u>			035	1.00	-.75	042	18.70	-.53	481	79.80	-1.17	<u>Meth: 190.XX PCT</u>		
<u>Acid Soluble Magnesi</u>			<u>Meth: 144.XX PCT</u>			<u>Meth: 151.XX PPM</u>			486	74.25	-2.04	<u>Water Soluble Chlori</u>		
483	1.00	1.11	<u>Sulfur</u>			<u>Arsenic</u>			<u>Meth: 181.99 PPM</u>			<u>Water Soluble Chlori</u>		
307	0.95	.78	482	1.41	1.48	041	21.45 X	1.25	<u>Cadmium</u>			105	0.18	1.25
496	0.93	.62	292	1.39	1.36	095	20.00	.76	<u>Other</u>			Avg	0.12	
482	0.93	.58	483	1.18	.37	368	19.95	.76	409	90.25	1.10	043	0.11	-.38
035	0.91 R	.54	105	1.14	.16	450	19.25	.56	Avg	86.58		481	0.08	-.89
389	0.91	.48	Avg	1.10		409	18.85	.38	487	86.00	-.62	<u>Meth: 190.99 PCT</u>		
041	0.91 X	.48	102	1.05	-.25	042	18.70	.33	042	83.50	-.95	<u>Water Soluble Chlori</u>		
096	0.89	.32	354	1.04 R	-.32	Avg	17.73		<u>Meth: 181.99 PPM</u>			<u>Water Soluble Chlori</u>		
Avg	0.85					<u>Arsenic</u>			<u>Cadmium</u>			<u>Water Soluble Chlori</u>		
102	0.81	-.24	<u>Meth: 144.XX PCT</u>			<u>Arsenic</u>			<u>Cadmium</u>			<u>Water Soluble Chlori</u>		
105	0.80	-.34	<u>Sulfur</u>			<u>Arsenic</u>			<u>Cadmium</u>			<u>Water Soluble Chlori</u>		
354	0.61	-1.80	<u>Sulfur</u>			<u>Arsenic</u>			<u>Cadmium</u>			<u>Water Soluble Chlori</u>		

\* X=Excluded from lab performance    S/s=Screened Outlier    R=Duplicate Range too large    A=Analysis beyond 3-s limits

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 191.00 PPM Chromium			Meth: 191.XX PPM Chromium			Meth: 202.XX PPM Acid Soluble Cobalt			Meth: 221.XX PCT Acid Soluble Copper			Meth: 241.30 PCT Acid Soluble Iron		
<u>Atomic Absorption</u>			<u>ICP</u>			<u>Atomic Absorption</u>			<u>ICP</u>			<u>ICP</u>		
481	93.34 S	.00	481	93.34 s	-6.44	486	4.19	-1.79	102	0.0100	2.02	482	0.0100	2.02
Meth: 191.30 PPM Chromium			Meth: 202.30 PPM Acid Soluble Cobalt			Meth: 221.00 PCT Acid Soluble Copper			041 0.0095 R 1.62			307 0.73 -.61		
<u>ICP</u>			<u>ICP</u>			<u>Atomic Absorption</u>			042 0.0089 1.01			096 0.73 -.64		
450	457.50	1.27	035	7.53	1.38	043	0.0083	1.03	043	0.0083	.39	450	0.0081	.34
368	432.70	.66	450	7.40	1.29	Avg	0.0077		096	0.0081	.29	368	0.0080	.15
096	430.85	.62	105	6.51	.52	481	0.0072	-.77	307	0.0080	.15	354	0.56	-2.26
105	427.55	.54	041	6.45 X	.37	496	0.0075	-.92	095	0.0078	.14	Meth: 241.99 PCT Acid Soluble Iron		
Avg	404.69		368	6.30	.19	Meth: 221.30 PCT Acid Soluble Copper			Avg	0.0078		<u>Other</u>		
102	398.90	-.14	102	6.20	.10	<u>ICP</u>			035	0.0077	-.23	105	0.76	.71
035	388.00	-.44	Avg	6.10		102	0.0100	1.84	483	0.0076	-.29	Meth: 241.XX PCT Acid Soluble Iron		
482	397.50 R	-.49	095	6.00	-.09	482	0.0100	1.84	105	0.0077 R	-.49	035	0.90	1.19
041	385.20 X	-.52	482	5.75	-.36	486	0.0095 R	1.46	496	0.0075 R	-.57	482	0.90	1.15
486	316.85	-2.07	096	4.64	-1.40	450	0.0081	.27	481	0.0072	-.57	041	0.87 X	.85
Meth: 191.99 PPM Chromium			Meth: 202.99 PPM Acid Soluble Cobalt			096	0.0081	.17	433	0.0072	-.67	389	0.84	.54
<u>Other</u>			<u>Other</u>			368	0.0080	.06	486	0.0070	-.86	102	0.84	.54
042	520.40	.88	042	7.95	.87	307	0.0080	.03	487	0.0064	-1.35	483	0.83	.44
Avg	471.95		Avg	6.92		Avg	0.0080		354	0.0060	-1.72	105	0.80	.18
409	423.50	-.85	409	5.88	-.87	095	0.0078	-.17	Meth: 241.00 PCT Acid Soluble Iron			Avg	0.78	
Meth: 191.XX PPM Chromium			Meth: 202.XX PPM Acid Soluble Cobalt			035	0.0077	-.31	<u>Atomic Absorption</u>			105	0.76	-.30
042	520.40	2.10	042	7.95	1.55	483	0.0076	-.38	105	0.80	.87	307	0.73	-.46
450	457.50	.85	035	7.53	1.17	433	0.0072	-.67	Avg	0.72		096	0.73	-.50
368	432.70	.33	450	7.40	1.09	486	0.0070	-.86	496	0.64	-.86	496	0.64	-1.38
096	430.85	.29	105	6.51 R	.40	354	0.0060	-1.77	Meth: 241.30 PCT Acid Soluble Iron			354	0.56	-2.18
105	427.55	.23	041	6.45 X	.25	Meth: 221.99 PCT Acid Soluble Copper			<u>ICP</u>			Meth: 251.30 PPM Lead		
409	423.50	.15	368	6.30	.08	<u>Other</u>			041 0.0089 1.37			<u>ICP</u>		
Avg	416.27		Avg	6.21		042	0.0077	.52	Meth: 241.30 PCT Acid Soluble Iron			041 5.55 X 1.66		
102	398.90	-.35	102	6.20	-.03	105	0.0077	.52	<u>ICP</u>			095 5.00 1.06		
482	397.50	-.54	095	6.00	-.18	Avg	0.0075		035	0.90	.98	096	4.50	.55
035	388.00	-.59	409	5.88	-.29	409	0.0070	-.51	482	0.90	.94	450	4.20	.28
041	385.20 X	-.65	482	5.75	-.43	487	0.0064	-1.05	041	0.87 X	.66	Avg	4.04	
486	316.85	-1.98	096	4.64	-1.39				389	0.84	.36	486	3.50	-.59
									102	0.84	.36	102	3.43	-.67
									483	0.83	.27	481	3.25	-.88

\* X=Excluded from lab performance      S/s=Screened Outlier      R=Duplicate Range too large      A=Analysis beyond 3-s limits

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
<u>Meth: 251.30 PPM</u>			<u>Meth: 261.30 PCT</u>			<u>Meth: 281.XX PPM</u>			<u>Meth: 289.XX PPM</u>			<u>Meth: 291.XX PPM</u>		
<u>Lead</u>			<u>Acid Soluble Manganese</u>			<u>Mercury</u>			<u>Molybdenum</u>			<u>Nickel</u>		
ICP			ICP			042	0.05	.50	096	9.15	-1.80	Avg	231.12	
368	2.87	-1.29	096	0.021	.45	Avg	0.04		450	0.03	-1.12	102	230.82	-.03
<u>Meth: 251.99 PPM</u>			<u>041 0.021 X -.78</u>			<u>Meth: 289.30 PPM</u>			<u>Meth: 291.00 PPM</u>			<u>368 231.10 -.19</u>		
<u>Lead</u>			<u>482 0.020 -1.00</u>			<u>Molybdenum</u>			<u>Nickel</u>			<u>035 228.00 -.33</u>		
<u>Other</u>			<u>102 0.020 -1.00</u>			<u>ICP</u>			<u>Atomic Absorption</u>			<u>482 203.50 -.81</u>		
042	4.60	.99	354	0.015 S	-8.33	450	12.85 R	1.11	481	186.20	.71	481	186.20	-1.29
487	4.30	.41	<u>Meth: 261.99 PCT</u>			433	13.12	1.03	<u>Meth: 291.30 PPM</u>			486	154.85	-2.19
Avg	3.98		<u>Acid Soluble Manganese</u>			105	13.07	1.01	<u>Nickel</u>			<u>Meth: 301.30 PPM</u>		
409	3.05	-1.16	<u>Other</u>			041	12.70 X	.74	<u>ICP</u>			<u>Selenium</u>		
<u>Meth: 251.XX PPM</u>			<u>105 0.023 S .00</u>			035	11.90	.39	105	283.40	1.61	<u>ICP</u>		
<u>Lead</u>			<u>Meth: 261.XX PCT</u>			095	12.00	.25	450	253.00	.70	041	0.16 X	1.07
041	5.55 X	1.82	<u>Acid Soluble Manganese</u>			Avg	11.64		041	239.50 X	.34	Avg	0.08	
095	5.00	1.19	105	0.023 s	3.22	368	11.40	-.17	095	241.50	.34	095	0.00	-.59
042	4.60 R	.93	307	0.022	1.37	486	9.79	-1.28	368	231.10	.20	<u>Meth: 301.99 PPM</u>		
096	4.50	.66	105	0.021	.95	096	9.15	-1.73	102	230.82	.04	<u>Selenium</u>		
487	4.30	.40	035	0.021	.81	<u>Meth: 289.99 PPM</u>			Avg	230.32		<u>Other</u>		
450	4.20	.35	096	0.021	.37	<u>Molybdenum</u>			035	228.00	-.34	042	0.65	.80
Avg	3.96		Avg	0.021		<u>Other</u>			482	203.50	-.83	Avg	0.63	
486	3.50	-.53	496	0.021	-.84	042	14.55	.87	486	154.85	-2.29	409	0.60	-.93
102	3.43	-.61	041	0.021 X	-.84	Avg	14.25		<u>Meth: 291.99 PPM</u>			<u>Meth: 301.XX PPM</u>		
481	3.25	-.84	102	0.020	-1.12	409	13.95	-.87	<u>Nickel</u>			<u>Selenium</u>		
409	3.05	-1.05	482	0.020	-1.12	<u>Meth: 289.XX PPM</u>			<u>Other</u>			042	0.65	.98
368	2.87	-1.26	354	0.015 s	-8.68	<u>Molybdenum</u>			042	283.15	.88	409	0.60	.83
<u>Meth: 261.11 PCT</u>			<u>Meth: 281.30 PPM</u>			042	14.55	1.43	409	232.00	-.85	Avg	0.35	
<u>Acid Soluble Manganese</u>			<u>Mercury</u>			409	13.95	1.07	<u>Meth: 291.XX PPM</u>			041	0.16 X	-.74
<u>AA</u>			<u>ICP</u>			450	12.85 R	.75	<u>Nickel</u>			095	0.00	-1.15
105	0.021	.69	450	0.03	.71	433	13.12	.57	042	283.15	1.51	<u>Meth: 311.99 PCT</u>		
Avg	0.021		<u>Meth: 281.99 PPM</u>			105	13.07	.57	105	283.40	1.51	<u>Sodium</u>		
496	0.021	-1.01	<u>Mercury</u>			041	12.70 X	.33	450	253.00	.64	<u>Other</u>		
<u>Meth: 261.30 PCT</u>			<u>Other</u>			Avg	12.16		041	239.50 X	.31	496	0.28	1.59
<u>Acid Soluble Manganese</u>			<u>042 0.05 .00</u>			095	12.00	-.10	096	241.50	.30	Avg	0.18	
<u>ICP</u>						035	11.90	-.34	095	237.50	.28	354	0.17	-.24
307	0.022	1.41				368	11.40	-.46	409	232.00	.04	482	0.15	-.59
035	0.021	.85				486	9.79	-1.42				035	0.15 R	-.64

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Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 311.99 PCT			Meth: 321.30 PCT			Meth: 321.XX PCT			Meth: 325.XX PCT					
Sodium			Acid Soluble Zinc			Acid Soluble Zinc			Water Soluble Zinc					
<u>Other</u>			<u>ICP</u>			<u>ICP</u>			<u>ICP</u>					
102	0.14	-.76	292	39.015	-.14	444	40.545	.29	450	42.940 X	1.28			
			055	38.800	-.19	043	40.450	.26	Avg	18.248				
			231	38.670	-.22	258	40.450	.26	487	8.115	-.53			
Meth: 321.00 PCT			433 38.565 -.25			177 40.352 .23			444 3.690 -.76					
Acid Soluble Zinc			324 38.550 -.41			354 40.254 .21								
<u>Atomic Absorption</u>			486 35.664 -.99			023 40.110 .16								
029	42.085 R	2.58	472	32.950	-1.69	105	39.895 X	.16						
105	41.335	1.46	041	32.780 X	-1.74	136	39.900	.10						
040	40.405 R	1.30	377	32.540	-1.80	481	39.625	.01						
043	40.450	.46	483	30.800	-2.25	Avg	39.580							
258	40.450	.46				389	39.000	-.17						
177	40.352	.37				292	39.015	-.18						
Avg	40.087		Meth: 321.99 PCT			055	38.800	-.23						
136	39.900	-.25	Acid Soluble Zinc			231	38.670	-.27						
481	39.625	-.54	<u>Other</u>			433	38.565	-.30						
496	38.495	-1.86	105	39.895 X	1.25	496	38.495	-.32						
			Avg	37.440		324	38.550 R	-.48						
Meth: 321.30 PCT			042	36.750	-.41	042	36.750	-.85						
Acid Soluble Zinc			460	35.675	-.88	460	35.675	-1.15						
<u>ICP</u>						486	35.664	-1.16						
073	45.700	1.59	Meth: 321.XX PCT			472	32.950	-1.96						
291	43.920	1.13	<u>Acid Soluble Zinc</u>			041	32.780 X	-2.01						
360	43.130	.94	073	45.700	1.81	377	32.540	-2.08						
090	43.100	.92	291	43.920	1.28	483	30.800	-2.60						
450	42.940	.89	360	43.130	1.06	Meth: 325.30 PCT								
102	42.783	.84	090	43.100	1.04	Water Soluble Zinc								
488	42.300	.72	450	42.940	1.00	<u>ICP</u>								
371	42.235	.72	102	42.783	.95	444	3.690	.00						
095	41.760	.58	488	42.300	.81	Meth: 325.99 PCT								
368	41.090	.47	371	42.235	.81	Water Soluble Zinc								
157	40.800	.45	029	42.085	.79	<u>Other</u>								
131	39.835 R	.42	095	41.760	.65	450	42.940 X	.87						
307	39.984 R	.39	368	41.090	.53	Avg	25.528							
444	40.545	.26	105	41.335	.52	487	8.115	-.87						
354	40.254	.20	157	40.800	.51									
023	40.110	.16	131	39.835 R	.48									
Avg	39.520		307	39.984 R	.44									
389	39.000	-.13	040	40.405	.40									

\* X=Excluded from lab performance      S/s=Screened Outlier      R=Duplicate Range too large      A=Analysis beyond 3-s limits

## Method Evaluation - Z Values Based on 1 Reports

Method Code	Number Of Labs	Avg Bias of Labs	Std Dev of Biases	Std Dev Within Labs	Method Code	Number Of Labs	Avg Bias of Labs	Std Dev of Biases	Std Dev Within Labs
010.60	6	0.00	0.90	0.49	190.00	2	0.00	1.22	0.04
010.XX	7	0.00	0.92	0.46	190.XX	3	0.00	1.11	0.07
020.10	13	- 2.81	10.19	0.17	191.30	9	- 0.02	0.96	0.20
020.20	13	0.06	0.95	0.46	191.99	2	0.00	1.20	0.17
020.40	7	- 0.16	1.04	0.27	191.XX	12	- 0.54	2.09	0.17
020.50	9	0.15	1.01	0.48	202.30	10	0.00	1.01	0.15
020.99	2	0.00	0.11	0.86	202.99	2	0.00	1.22	0.03
020.XX	42	- 0.88	5.89	0.39	202.XX	12	0.02	0.97	0.13
030.40	2	0.00	1.22	0.08	221.00	3	0.0000	0.9209	0.5176
030.XX	3	0.00	1.11	0.09	221.30	13	0.1069	1.0473	0.1579
040.40	2	0.00	0.96	0.54	221.99	4	0.0000	1.0387	0.2565
040.XX	4	0.00	1.07	0.11	221.XX	20	0.0549	0.9945	0.2040
041.10	6	0.00	1.02	0.24	241.00	2	0.00	1.22	0.09
041.40	2	0.00	1.17	0.26	241.30	9	0.00	1.02	0.11
041.50	9	0.50	1.70	0.56	241.XX	11	0.01	1.06	0.12
041.60	9	- 0.17	1.08	0.31	251.30	8	0.00	1.03	0.13
041.XX	22	- 0.14	0.95	0.48	251.99	3	0.00	1.02	0.37
048.20	2	0.00	1.19	0.22	251.XX	11	0.07	0.99	0.21
048.XX	3	0.00	1.11	0.10	261.11	2	0.000	0.925	0.568
050.50	2	0.00	1.12	0.35	261.30	7	- 1.190	3.254	0.451
050.99	4	0.00	1.07	0.09	261.XX	9	- 0.855	3.100	0.676
050.XX	7	- 0.01	1.13	0.36	281.XX	2	0.000	0.707	0.707
060.00	3	0.00	1.09	0.19	289.30	9	0.09	1.00	0.28
060.XX	3	0.00	1.09	0.19	289.99	2	0.00	1.21	0.14
101.30	8	- 0.93	2.78	0.42	289.XX	11	0.04	0.98	0.22
101.XX	9	- 0.66	2.18	0.33	291.30	10	0.00	1.01	0.17
121.00	2	0.00	1.22	0.04	291.99	2	0.00	1.20	0.18
121.30	9	- 0.65	2.09	0.28	291.XX	13	0.00	1.01	0.15
121.XX	11	0.15	0.88	0.27	301.30	2	0.00	0.84	0.63
144.99	7	0.00	1.04	0.08	301.99	2	0.00	0.51	0.79
144.XX	10	- 0.03	0.98	0.05	301.XX	4	0.00	1.05	0.23
151.30	7	0.00	1.04	0.09	311.99	5	- 0.13	0.98	0.06
151.99	2	0.00	0.45	0.81	311.XX	5	- 0.13	0.98	0.06
151.XX	10	0.00	1.02	0.12	321.00	9	0.301	1.182	0.566
165.99	3	0.000	1.114	0.077	321.30	27	0.007	0.964	0.159
165.XX	3	0.000	1.114	0.077	321.99	3	0.000	1.095	0.185
181.30	11	0.00	0.95	0.39	321.XX	38	- 0.011	0.970	0.174
181.99	3	0.00	1.02	0.38	325.99	2	0.000	1.225	0.013
181.XX	14	0.00	0.95	0.40	325.XX	2	0.263	1.443	0.013