

- Pass 1 Results for 79 Labs - - Pass 2 Results for 79 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	10	6.59	0.37	0.07	10	6.59	0.37	0.07
Ammoniacal Nitrogen, Other		001.99	6	6.46	0.16	0.05	6	6.46	0.16	0.05
Method Group 001.XX PCT			16	6.54	0.31	0.07	14	6.48	0.19	0.05
Nitrate Nitrogen, Other		002.99	1	0.01	0.01	0.01	1	0.01	0.01	0.01
Nitrogen From Urea, Urease (as N)	959.03	005.00	3	3.72	1.88	0.14	3	3.72	1.88	0.14
Nitrogen From Urea, Other		005.99	3	5.03	0.71	0.18	3	5.03	0.71	0.18
Method Group 005.XX PCT			6	4.37	1.52	0.16	6	4.37	1.52	0.16
Percent Urea, Other		007.99	1	5.45	0.01	0.02	1	5.45	0.01	0.02
Ammon & Nitrate N, Devarda	892.01	009.10	2	5.47	1.09	0.07	2	5.47	1.09	0.07
Total Nitrogen, Modified Comprehensive	978.02	010.11	9	11.70	0.14	0.05	8	11.69	0.13	0.03
Total Nitrogen, Salicylic	955.04D	010.12	3	11.65	0.08	0.01	3	11.65	0.08	0.01
Total Nitrogen, Raney	970.03	010.16	1	11.78	0.01	0.02	1	11.78	0.01	0.02
Total Nitrogen, Combustion		010.60	56	11.80	0.12	0.06	53	11.79	0.11	0.06
Total Nitrogen, Other		010.99	3	11.74	0.08	0.09	3	11.74	0.08	0.09
Method Group 010.XX PCT			72	11.78	0.12	0.06	68	11.77	0.11	0.05
Total Phosphate, Grav Quimociac	962.02	020.10	5	8.53	0.10	0.10	5	8.53	0.10	0.10
Total Phosphate, Spectrometric	958.01	020.20	16	8.47	0.19	0.12	14	8.49	0.15	0.07
Total Phosphate, Automated	978.01	020.40	5	8.43	0.27	0.06	5	8.43	0.27	0.06
Total Phosphate, ICP		020.50	12	8.50	0.31	0.21	12	8.50	0.31	0.21
Total Phosphate, Other		020.99	1	9.42	0.00	0.00	1	9.42	0.00	0.00
Method Group 020.XX PCT			39	8.51	0.27	0.14	33	8.47	0.19	0.09
Insoluble Phosphate, Grav Quimociac	963.03C	030.10	1	0.01	0.00	0.00	1	0.01	0.00	0.00
Insoluble Phosphate, Spectrometric	963.03C	030.20	3	0.03	0.03	0.02	3	0.03	0.03	0.02
Insoluble Phosphate, Other		030.99	1	0.02	0.01	0.01	1	0.02	0.01	0.01
Method Group 030.XX PCT			5	0.03	0.02	0.01	5	0.03	0.02	0.01
InDir Available Phosphate, Grav Quim .	960.02	040.10	1	8.46	0.05	0.07	1	8.46	0.05	0.07
InDir Available Phosphate, Spectrometri	960.02	040.20	2	8.35	0.17	0.06	2	8.35	0.17	0.06
InDir Available Phosphate, ICP		040.50	1	8.18	0.06	0.09	1	8.18	0.06	0.09
InDir Available Phosphate, Other		040.99	3	8.48	0.04	0.02	3	8.48	0.04	0.02
Method Group 040.XX PCT			7	8.40	0.14	0.05	7	8.40	0.14	0.05
Dir Available Phosphate, Grav Quimociac	960.03E	041.10	12	8.46	0.16	0.07	12	8.46	0.16	0.07
Dir Available Phosphate, Spectrometric	960.03D	041.20	1	8.45	0.21	0.30	1	8.45	0.21	0.30
Dir Available Phosphate, Automated	978.01	041.40	4	8.33	0.16	0.02	4	8.33	0.16	0.02
Dir Available Phosphate, ICP		041.50	11	8.37	0.23	0.09	10	8.34	0.21	0.06
Dir Available Phosphate, EDTA Extract	993.01	041.60	9	8.40	0.09	0.07	9	8.40	0.09	0.07
Dir Available Phosphate, Other		041.99	1	8.46	0.11	0.16	1	8.46	0.11	0.16
Method Group 041.XX PCT			40	8.41	0.19	0.09	37	8.41	0.18	0.07
Water Soluble Phosphate, Spectrometric	970.01	048.20	2	8.22	0.55	0.08	2	8.22	0.55	0.08
Water Soluble Phosphate, Other		048.99	1	7.73	0.02	0.03	1	7.73	0.02	0.03

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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
Method Group 048.XX PCT			3	8.05	0.50	0.07	3	8.05	0.50	0.07
Soluble Potash, STPB Oxalate	958.02	050.00	14	20.62	0.31	0.13	14	20.62	0.31	0.13
Soluble Potash, AA (Oxalate)		050.30	6	20.10	0.78	0.15	5	20.35	0.58	0.08
Soluble Potash, AA (Citrate)		050.31	1	20.07	0.23	0.33	1	20.07	0.23	0.33
Soluble Potash, ICP (Oxalate)		050.50	9	20.51	0.93	0.27	9	20.51	0.93	0.27
Soluble Potash, ICP (Citrate)		050.51	10	20.83	0.48	0.09	10	20.83	0.48	0.09
Soluble Potash, Flame (Oxalate)	983.02(a)	050.60	6	20.76	0.42	0.16	5	20.75	0.45	0.07
Soluble Potash, Flame (Citrate)	983.02(b)	050.61	6	21.04	0.61	0.26	6	21.04	0.61	0.26
Soluble Potash, Other		050.99	18	20.96	0.79	0.32	17	20.96	0.80	0.26
Method Group 050.XX PCT			72	20.73	0.73	0.22	67	20.72	0.68	0.17
Free Water, Vacuum Oven	965.08B	060.00	4	1.47	0.28	0.05	4	1.47	0.28	0.05
Method Group 060.XX PCT			4	1.47	0.28	0.05	4	1.47	0.28	0.05
Acid Soluble Calcium, ICP		101.30	14	1.92	0.07	0.04	13	1.92	0.06	0.03
Acid Soluble Magnesium, ICP		121.30	15	0.18	0.02	0.00	13	0.18	0.02	0.00
Sulfur, Gravimetric	980.02a	144.01	9	7.82	0.28	0.13	8	7.84	0.28	0.09
Sulfur, Gravimetric	980.02b	144.02	2	8.06	0.11	0.04	2	8.06	0.11	0.04
Sulfur, Other		144.99	20	7.93	0.49	0.22	19	7.93	0.49	0.18
Method Group 144.XX PCT			31	7.90	0.43	0.18	29	7.88	0.41	0.13
Arsenic, ICP		151.30	8	5.58	2.20	0.34	8	5.58	2.20	0.34
Arsenic, Other		151.99	3	4.53	0.29	0.31	3	4.53	0.29	0.31
Method Group 151.XX PPM			11	5.29	1.92	0.33	11	5.29	1.92	0.33
Acid Soluble Boron, Other		165.99	8	6.076	10.859	0.238	7	3.529	8.948	0.015
Cadmium, Atomic Absorption		181.00	1	27.50	0.71	1.00	1	27.50	0.71	1.00
Cadmium, ICP		181.30	15	26.39	3.55	0.43	14	26.15	3.55	0.32
Cadmium, Other		181.99	2	29.99	1.14	1.39	2	29.99	1.14	1.39
Method Group 181.XX PPM			18	26.85	3.45	0.57	16	26.47	3.46	0.34
Water Soluble Chlorine, Titrimetric	928.02	190.00	1	15.70	0.04	0.05	1	15.70	0.04	0.05
Chromium, Atomic Absorption		191.00	1	96.00	2.83	4.00	1	96.00	2.83	4.00
Chromium, ICP		191.30	12	92.09	6.89	4.97	11	91.58	6.37	3.74
Chromium, Other		191.99	3	88.65	2.97	1.34	3	88.65	2.97	1.34
Method Group 191.XX PPM			16	91.69	6.33	4.23	15	91.29	5.85	3.28
Acid Soluble Cobalt, AA		202.00	1	552.50	51.62	73.00	1	552.50	51.62	73.00
Acid Soluble Cobalt, ICP	965.11	202.30	10	487.52	34.68	12.24	10	487.52	34.68	12.24
Acid Soluble Cobalt, Other		202.99	2	473.58	15.15	15.90	2	473.58	15.15	15.90
Method Group 202.XX PPM			13	490.38	37.53	17.47	12	485.20	32.43	12.85
Acid Soluble Copper, Atomic Absorption	975.01	221.00	3	0.0053	0.0003	0.0002	3	0.0053	0.0003	0.0002
Acid Soluble Copper, ICP		221.30	15	0.0052	0.0006	0.0003	15	0.0052	0.0006	0.0003
Acid Soluble Copper, Other		221.99	3	0.0052	0.0004	0.0003	3	0.0052	0.0004	0.0003
Method Group 221.XX PCT			21	0.0052	0.0006	0.0003	19	0.0052	0.0006	0.0002

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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
Acid Soluble Iron, Atomic Absorption ..	980.01	241.00	11	0.69	0.04	0.01	10	0.69	0.04	0.01
Acid Soluble Iron, ICP .....		241.30	34	0.68	0.07	0.02	33	0.68	0.07	0.02
Acid Soluble Iron, Other .....		241.99	1	0.70	0.02	0.02	1	0.70	0.02	0.02
Method Group 241.XX PCT			46	0.68	0.06	0.02	44	0.68	0.06	0.02
Lead, Atomic Absorption .....		251.00	1	2430.0	183.85	260.00	1	2430.0	183.85	260.00
Lead, ICP .....		251.30	12	2978.3	694.06	348.32	11	2943.9	693.54	275.07
Lead, Other .....		251.99	1	2368.8	161.59	228.53	1	2368.8	161.59	228.53
Method Group 251.XX PPM			14	2895.6	674.74	333.45	12	2772.2	594.95	200.36
Acid Soluble Manganese, ICP .....	972.02a	261.30	17	0.794	0.057	0.022	16	0.790	0.056	0.017
Mercury, ICP .....		281.30	2	0.05	0.06	0.00	2	0.05	0.06	0.00
Mercury, Other .....		281.99	1	0.05	0.00	0.00	1	0.05	0.00	0.00
Method Group 281.XX PPM			3	0.05	0.04	0.00	3	0.05	0.04	0.00
Molybdenum, ICP .....		289.30	14	4.89	1.19	0.31	13	4.82	1.20	0.24
Molybdenum, Other .....		289.99	2	5.45	0.17	0.04	2	5.45	0.17	0.04
Method Group 289.XX PPM			16	4.96	1.13	0.28	14	4.87	1.16	0.16
Nickel, Atomic Absorption .....		291.00	1	63.00	1.41	2.00	1	63.00	1.41	2.00
Nickel, ICP .....		291.30	13	61.12	7.48	2.63	12	61.30	7.46	1.61
Nickel, Other .....		291.99	2	63.75	1.89	2.33	2	63.75	1.89	2.33
Method Group 291.XX PPM			16	61.57	6.82	2.55	15	61.74	6.73	1.73
Selenium, ICP .....		301.30	3	1.82	0.72	0.50	3	1.82	0.72	0.50
Selenium, Other .....		301.99	3	1.61	0.60	0.21	3	1.61	0.60	0.21
Method Group 301.XX PPM			6	1.72	0.64	0.36	6	1.72	0.64	0.36
Sodium, Other .....		311.99	6	0.53	0.03	0.01	6	0.53	0.03	0.01
Acid Soluble Zinc, Atomic Absorption ..	975.02	321.00	10	0.889	0.028	0.018	9	0.894	0.021	0.011
Acid Soluble Zinc, ICP .....		321.30	33	0.915	0.082	0.023	31	0.916	0.083	0.019
Acid Soluble Zinc, Other .....		321.99	1	0.909	0.018	0.026	1	0.909	0.018	0.026
Method Group 321.XX PCT			45	0.911	0.074	0.025	43	0.908	0.073	0.021

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index			
Meth: 001.10 PCT														
Ammoniacal Nitrogen														
MgO Distillation	292	11.81 s	14.09									Meth: 010.60 PCT		
457	7.51	2.48										Total Nitrogen		
117	6.96	.99										Combustion		
220	6.67	.23										231	11.84	.42
Avg	6.59											034	11.81	.42
444	6.53	-.19										450	11.81	.36
230	6.48	-.42										247	11.82	.28
330	6.40	-.51										233	11.81	.15
029	6.39	-.56										419	11.80	.09
456	6.35	-.67										106	11.80	.09
415	6.33	-.70										Avg	11.79	
232	6.30	-.79										131	11.79	-.07
Meth: 001.99 PCT														
Ammoniacal Nitrogen														
Other	234	10.50 s	25.46									136	11.78	-.20
405	6.70	1.46										423	11.78	-.21
371	6.56	.68										041	11.75	-.39
409	6.52	.34										009	11.75	-.39
Avg	6.46											040	11.75	-.42
420	6.44	-.46										018	11.75	-.60
027	6.31	-.96										027	11.72	-.70
096	6.26	-1.28										232	11.72	-.74
419	2.49 s	-24.96										291	11.72	-.74
Meth: 005.00 PCT														
Nitrogen From Urea														
Urease (as N)	220	5.01	.69									351	11.70	-.81
330	4.85	.61										325	11.70	-.84
Avg	3.72											028	11.71	-.88
232	1.29	-1.29										422	11.69	-.92
Meth: 005.99 PCT														
Nitrogen From Urea														
Other	090	11.70	.09									354	11.69	-.98
029	5.72	.98										177	11.69	-1.01
444	5.20	.28										368	11.68	-1.02
Avg	5.03											023	11.69	-1.04
457	4.17	-1.21										426	11.71	-1.06
Meth: 001.XX PCT														
Ammoniacal Nitrogen														
292	11.81 s	27.75										102	11.69	-1.20
234	10.50 s	21.01										230	11.65	-1.39
457	7.51 A	5.36										234	11.71 R	-1.41
117	6.96	2.49										444	11.61	-1.69
405	6.70	1.14										361	11.61	-1.74
220	6.67	1.01										406	11.52	-2.58
230	6.48 R	.60												
371	6.56	.50												
444	6.53	.28												

\* 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		
Meth: 010.99 PCT													
Total Nitrogen													
Other			409	11.80	.45	Meth: 010.XX PCT							
409	11.80	.93	247	11.82	.45	Total Nitrogen	416	11.63	-1.28	Total Phosphate			
420	11.76	.50	114	11.81	.44		029	11.62	-1.30	324	8.47 R	-1.56	
Avg	11.74		450	11.81	.44		444	11.61	-1.40	409	8.23	-1.81	
371	11.67	-1.18	233	11.81	.32		361	11.61	-1.45	450	8.22	-1.90	
			106	11.80	.27		185	11.57	-1.74	234	8.14 R	-2.97	
			419	11.80	.27		406	11.52	-2.23	Meth: 020.XX PCT			
			423	11.78	.20		211	11.43	-2.97	Total Phosphate	455	18.48 s	52.98
			131	11.79	.15		309	11.12 s	-5.81	Automated	460	17.66 s	48.64
			136	11.78	.14		455	11.04 s	-6.43	456	8.89	1.69	
			300	11.78	.13		Meth: 020.10 PCT						
			Avg	11.77			Total Phosphate	247	8.41	-0.05	457	9.40 s	4.92
			009	11.75	-.19		Grav Quimociac	035	8.40	-.24	426	9.15 A	3.74
			041	11.75	-.19		114	8.65	1.20	096	8.34	-0.35	
			040	11.75	-.24		157	8.57	.80	042	8.11	-1.21	
			307	11.87 R	1.37		Avg	8.53		Meth: 020.50 PCT			
			457	11.91	1.25		090	8.47	-.67	Total Phosphate	324	8.47 R	1.22
			220	11.86 R	1.19		444	8.45	-.74	ICP	420	8.68	1.18
			360	11.89	1.07		041	8.49	-1.20	422	10.02 s	4.92	
			070	11.89	1.06		Meth: 020.20 PCT						
			405	11.89	1.02		Total Phosphate	426	9.15	2.19	426	9.15	2.19
			086	11.88	1.00		Spectrometric	432	8.53	.98	114	8.65	.96
			389	11.88	.95		460	17.66 s	61.94	368	8.59	.79	
			049	11.85	.94		457	9.40 s	6.10	330	8.70	.64	
			007	11.80	.92		420	8.68	1.35	247	8.65	.51	
			025	11.87	.89		415	8.65	1.11	402	8.54	.12	
			390	11.86	.87		406	8.65	1.05	Avg	8.50		
			324	11.85	.83		406	8.65	1.05	423	8.47	-.17	
			330	11.85	.83		309	8.63	.94	361	8.43	-.25	
			037	11.83	.82		419	8.55	.50	389	8.43	-.26	
			402	11.86	.82		220	8.55	.50	444	8.25	-.91	
			029	11.86	.80		405	8.52	.23	307	8.28	-1.01	
			035	11.85	.71		292	8.51	.23	390	8.03	-1.56	
			460	11.85	.71		Avg	8.49		Meth: 020.99 PCT			
			073	11.84	.65		231	8.45	-.33	Total Phosphate	371	8.45	-.14
			377	11.84	.62		371	8.45	-.33	Other	231	8.45	-.14
			231	11.84	.58		416	8.45	-.34	423	8.47	-.19	
			034	11.81	.50		232	8.39	-.78	090	8.47	-.19	
							234	11.71 R	-1.23	443	9.42	.00	
										361	8.43	-.23	

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Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	
Meth: 020.XX PCT												
Total Phosphate												
389	8.43	-.27										
247	8.41	-.28										
035	8.40	-.49										
232	8.39	-.49										
096	8.34	-.71										
409	8.23	-1.28										
444	8.25	-1.32										
450	8.22	-1.35										
307	8.28	-1.53										
042	8.11	-1.94										
234	8.14 R	-2.22										
390	8.03	-2.38										
Meth: 030.10 PCT												
Insoluble Phosphate												
090	0.01	.00										
Meth: 030.20 PCT												
Insoluble Phosphate												
220	0.06	1.25										
Avg	0.03											
409	0.03	-.40										
405	0.01	-.88										
Meth: 030.40 PCT												
Insoluble Phosphate												
423	8.18	.71										
Meth: 040.99 PCT												
Insoluble Phosphate												
405	8.52	.87										
247	8.50	.41										
Avg	8.48											
072	8.43	-1.25										
Meth: 030.XX PCT												
Insoluble Phosphate												
096	0.72 s	30.36										
220	0.06	1.77										
409	0.03	.49										
Avg	0.03											
247	0.02	-.49										
090	0.01	-.66										
405	0.01	-.66										
Meth: 040.10 PCT												
InDir Available Phos												
090	8.46	.71										
Meth: 040.20 PCT												
InDir Available Phos												
220	8.49	.87										
Avg	8.35											
409	8.20	-.87										
Meth: 040.40 PCT												
InDir Available Phos												
096	7.62 S	.00										
Meth: 040.50 PCT												
InDir Available Phos												
423	8.18	.71										
Meth: 040.99 PCT												
Insoluble Phosphate												
405	8.52	.87										
247	8.50	.41										
Avg	8.48											
072	8.43	-1.25										
Meth: 040.XX PCT												
InDir Available Phosph												
405	8.52	.85										
247	8.50	.73										
220	8.49	.70										
090	8.46	.48										
072	8.43	.30										
Avg	8.40											
409	8.20	-1.39										
423	8.18	-1.58										
096	7.62 s	-5.45										
Meth: 041.10 PCT												
Dir Available Phosph												
254	8.83	2.32										
211	8.70	1.48										
086	8.50	.27										
055	8.48	.10										
Avg	8.46											
009	8.45	-.14										
029	8.41	-.28										
177	8.39	-.46										
040	8.39	-.47										
185	8.40	-.76										
296	8.37	-.79										
131	8.32	-.84										
102	8.30	-1.18										
049	7.81 s	-5.01										
Meth: 041.20 PCT												
Dir Available Phosph												
419	8.45	.71										
Avg	8.45											
055	7.95 S	-3.23										
Meth: 041.50 PCT												
Dir Available Phosph												
360	8.68 R	1.85										
070	8.68	1.66										
007	8.62	1.43										
009	8.46	.58										
325	8.40	.31										
Avg	8.34											
043	8.28	-.31										
023	8.28	-.36										
291	8.24	-.47										
377	8.24	-.50										
361	8.20	-.66										
354	7.97	-1.77										
Meth: 041.60 PCT												
Dir Available Phosph												
233	9.52 s	16.89										
028	8.81 s	4.37										
296	8.54	1.42										
034	8.53	1.40										
106	8.42	.57										
351	8.41	.34										
Avg	8.40											
043	8.38	-.34										
037	8.38	-.40										
073	8.36	-.56										
177	8.33	-.81										
070	8.29	-1.69										
Meth: 041.99 PCT												
Dir Available Phosph												
018	8.16 s	-3.82										
Meth: 041.99 PCT												
Dir Available Phosph												
027	8.23	-.61										
131	8.14	-1.20										
Meth: 041.60 PCT												
Dir Available Phosph												
230	8.46	-.71										

\* 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: 050.XX PCT																	
<u>Soluble Potash</u>																	
360	20.65	-1.17													360	8.50 R	1.73
131	20.60	-1.18													291	8.59	1.73
043	20.64	-1.19													389	8.55	1.63
416	20.56	-2.24													307	8.47	1.58
018	20.65	-2.24													220	8.50	1.55
070	20.56	-2.24													368	7.91 R	1.29
029	20.56	-2.25													354	8.23	.85
049	20.59	-2.30													296	8.15	.68
043	20.52	-2.30													292	8.15	.65
090	20.52	-2.32													009	7.96	.49
043	20.50	-2.35													043	8.01	.39
247	20.46	-2.39													324	8.04	.38
034	20.45	-2.40													351	8.01	.31
296	20.46	-2.42													102	7.96	.20
232	20.27	-2.67													220	7.96	.20
423	20.27	-2.67													423	7.96	.19
377	20.27	-2.68													419	7.94	.15
457	20.30	-2.69													Avg	7.88	
426	20.25	-2.74													027	7.88	-.01
102	20.22	-2.75													405	7.88	-.03
422	20.28	-2.76													023	7.86	-.06
307	20.47 R	-2.77													450	7.83	-.27
460	20.08	-2.95													444	7.78	-.31
254	20.07	-2.99													247	7.74	-.38
072	19.88	-1.23													055	7.66	-.55
444	19.88	-1.24													232	7.66	-.57
185	19.74	-1.44													096	7.58	-.76
351	19.66	-1.55													029	7.67	-.77
419	19.64	-1.60													230	7.40	-1.29
230	19.65	-1.61													457	7.23	-1.59
330	19.60	-1.70													457	7.08	-1.97
390	19.20 R	-2.30													131	6.94	-2.32
073	18.88	-2.72													035	6.23 s	-4.05
405	13.59 s	-10.45													086	0.21 s	-18.78
Meth: 060.00 PCT																	
Free Water																	
<u>Vacuum Oven</u>																	
096	1.85	1.37													102	1.86	-.89
247	1.54	.25													390	1.84	-1.25
Avg	1.47														027	1.79	-2.13
007	1.34	-.52													Meth: 144.02 PCT		
416	1.15	-1.13													Sulfur		
Meth: 121.30 PCT																	
Acid Soluble Magnesi																	
<u>ICP</u>																	
422	0.34 s	7.13													292	8.15	.85
041	0.22	1.75													Avg	8.06	
423	0.21	1.23													220	7.96	-.88
389	0.20	.81													Meth: 144.99 PCT		
102	0.19	.56													Sulfur		
009	0.19	.42													Other		
307	0.19 R	.40													360	8.50	1.37
390	0.18	.17													291	8.59	1.35
131	0.18	.06													389	8.55	1.28
Avg	0.18														307	8.47	1.24
096	0.18	-.12													220	8.50	1.20
035	0.18	-.29													354	8.23	.62
232	0.17	-.42													009	7.96	.38
106	0.17	-.59													351	8.01	.17
354	0.15	-1.46													423	7.96	.07
247	0.14	-1.99													419	7.94	.05
027	0.13 R	-2.70													Avg	7.93	
Meth: 101.30 PCT																	
Acid Soluble Calcium																	
<u>ICP</u>																	
422	3.26 s	21.18													027	7.88	-.10
041	2.27 s	6.29													023	7.86	-.14
247	1.95 R	1.51													450	7.83	-.29
389	2.00	1.29													247	7.74	-.41
009	1.98	.99													232	7.66	-.57
423	1.97	.83													096	7.58	-.73
354	1.96	.69													368	7.91 R	-1.08
035	1.96	.62													230	7.40	-1.16
096	1.95	.50													457	7.08	-1.74
106	1.94	.35													131	6.94	-2.03
Avg	1.92														035	6.23 S	-3.48
232	1.91	-.37													086	0.21 s	-15.79
307	1.90	-.58													Meth: 144.01 PCT		
131	1.89	-.77													Sulfur		

\* 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
Meth: 151.30 PPM											
Arsenic											
ICP											
368	8.70	1.42									
444	8.48	1.34									
390	6.74	.54									
450	6.00	.19									
Avg	5.58										
232	4.61	-.46									
102	3.99	-.73									
230	3.13	-1.12									
405	3.00	-1.17									
Meth: 165.99 PCT											
Acid Soluble Boron											
Other											
232	23.900 R	2.28									
Avg	3.529										
354	0.019	-.39									
307	0.010	-.39									
422	0.010	-.39									
009	0.008	-.39									
389	0.006	-.39									
423	0.003	-.39									
Meth: 181.00 PPM											
Cadmium											
Atomic Absorption											
220	27.50	.71									
Meth: 181.30 PPM											
Cadmium											
ICP											
037	30.00	1.09									
009	29.75 R	1.05									
368	29.70	1.00									
390	28.85	.76									
102	28.77	.74									
106	28.50	.68									
419	28.00	.52									
233	27.86	.48									
405	27.00	.24									
096	27.00	.24									
Avg	26.15										
232	25.35	-.23									
450	24.00	-.60									
035	22.65	-.99									
230	19.55	-1.86									
444	18.83	-2.06									
Meth: 151.99 PPM											
Arsenic											
220	4.65	1.27									
231	4.64	.52									
Avg	4.53										
409	4.31	-.78									
Meth: 151.99 PPM											
Arsenic											
368	8.70	1.77									
444	8.48	1.68									
390	6.74	.77									
450	6.00	.37									
Avg	5.29										
231	4.64	-.34									
232	4.61	-.38									
220	4.65	-.38									
409	4.31	-.51									
102	3.99	-.68									
230	3.13	-1.13									
405	3.00	-1.19									
Meth: 165.99 PCT											
Acid Soluble Boron											
Other											
409	24.650	2.36									
Meth: 181.99 PPM											
Cadmium											
ICP											
037	30.00	1.09									
009	29.75 R	1.05									
368	29.70	1.00									
390	28.85	.76									
102	28.77	.74									
106	28.50	.68									
419	28.00	.52									
233	27.86	.48									
405	27.00	.24									
096	27.00	.24									
Avg	26.15										
232	25.35	-.23									
450	24.00	-.60									
035	22.65	-.99									
230	19.55	-1.86									
444	18.83	-2.06									
Meth: 191.99 PPM											
Chromium											
ICP											
035	97.75 R	1.75									
405	100.50	1.57									
009	99.85	1.34									
037	96.96	.89									
368	92.95	.88									
450	93.50	.31									
Avg	91.58										
419	91.00	-.18									
096	90.50	-.29									
106	88.50	-.54									
102	88.06	-.56									
027	83.00	-1.36									
232	82.55	-1.42									
230	59.85 s	-4.98									
444	56.31 s	-5.54									
Meth: 191.99 PPM											
Chromium											
ICP											
035	97.75 R	1.75									
405	100.50	1.57									
009	99.85	1.34									
037	96.96	.89									
368	92.95	.88									
450	93.50	.31									
Avg	91.58										
419	91.00	-.18									
096	90.50	-.29									
106	88.50	-.54									
102	88.06	-.56									
027	83.00	-1.36									
232	82.55	-1.42									
230	59.85 s	-4.98									
444	56.31 s	-5.54									
Meth: 202.30 PPM											
Acid Soluble Cobalt											
ICP											
035	549.00	1.77									
027	522.00	1.05									
009	510.50	.75									
037	499.30	.35									
368	497.00	.28									
Avg	487.52										
450	480.00	-.23									
390	473.50	-.47									
102	459.42	-.82									
232	445.50	-1.22									
419	439.00	-1.42									
230	324.50 s	-4.70									
Meth: 202.99 PPM											
Acid Soluble Cobalt											
Other											
231	482.16	1.08									
Avg	473.58										
409	465.00	-.58									
Meth: 191.30 PPM											
Chromium											
ICP											
035	97.75 R	1.75									
405	100.50	1.57									
009	99.85	1.34									
037	96.96	.89									
368	92.95	.88									
450	93.50	.31									
Avg	91.58										
419	91.00	-.18									
096	90.50	-.29									
106	88.50	-.54									
102	88.06	-.56									
027	83.00	-1.36									
232	82.55	-1.42									
230	59.85 s	-4.98									
444	56.31 s	-5.54									
Meth: 191.99 PPM											
Chromium											
ICP											
035	97.75 R	1.75									
405	100.50	1.57									
009	99.85	1.34									
037	96.96	.89									
368	92.95	.88									

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	
Meth: 202.XX PPM												
<u>Acid Soluble Cobalt</u>												
220	552.50 R	2.36										
035	549.00	1.97										
027	522.00	1.19										
009	510.50	.87										
037	499.30	.45										
368	497.00	.37										
Avg	485.20											
450	480.00	-.19										
231	482.16	-.44										
390	473.50	-.45										
409	465.00	-.63										
102	459.42	-.81										
232	445.50	-1.24										
419	439.00	-1.45										
230	324.50 s	-4.96										
Meth: 221.00 PCT												
<u>Acid Soluble Copper</u>												
409	0.0056	1.14										
Avg	0.0052											
231	0.0050	-.66										
220	0.0050	-.87										
Meth: 221.XX PCT												
<u>Acid Soluble Copper</u>												
043	5.5500 S7832.29											
460	0.0055	.60										
457	0.0055	.53										
Avg	0.0053											
220	0.0050	-1.36										
<u>Atomic Absorption</u>												
043	5.5500 S7832.29											
460	0.0055	.60										
457	0.0055	.53										
Avg	0.0053											
220	0.0050	-1.36										
Meth: 221.30 PCT												
<u>Acid Soluble Copper</u>												
354	0.0075 s	3.56										
230	0.0060 s	3.30										
233	0.0066 s	2.79										
402	0.0060	1.17										
419	0.0060	1.17										
433	0.0059	1.14										
368	0.0055	.88										
389	0.0055	.87										
102	0.0055	.87										
324	0.0055	.33										
Meth: 221.XX PCT												
<u>Acid Soluble Copper</u>												
035	0.0052	-.18										
450	0.0051	-.20										
307	0.0052	-.28										
231	0.0050	-.49										
220	0.0050	-.63										
220	0.0050	-.63										
096	0.0048	-.80										
422	0.0040	-2.11										
041	0.0040	-2.11										
Meth: 241.00 PCT												
<u>Acid Soluble Iron</u>												
460	0.77	1.78										
028	0.74	1.11										
351	0.72	.62										
457	0.72	.49										
073	0.71	.33										
Avg	0.69											
177	0.68	-.45										
043	0.68	-.47										
055	0.69 R	-.71										
220	0.66	-.93										
371	0.65	-1.16										
029	0.64	-1.31										
Meth: 241.30 PCT												
<u>Acid Soluble Iron</u>												
043	5.5500 S9665.20											
354	0.0075 s	4.07										
230	0.0060 s	3.74										
233	0.0066 s	3.19										
402	0.0060	1.37										
419	0.0060	1.37										
433	0.0059	1.34										
368	0.0055	1.01										
389	0.0055 R	1.00										
102	0.0055 R	1.00										
409	0.0056	.75										
460	0.0055	.46										
457	0.0055	.42										
324	0.0055	.42										
009	0.0053	.27										
Avg	0.0052											
232	0.0052	-.02										
Meth: 221.99 PCT												
<u>Acid Soluble Iron</u>												
035	0.0052	-.18										
450	0.0051	-.20										
307	0.0052	-.28										
231	0.0050	-.49										
220	0.0050	-.63										
220	0.0050	-.63										
096	0.0048	-.80										
422	0.0040	-2.11										
041	0.0040	-2.11										
Meth: 241.30 PCT												
<u>Acid Soluble Iron</u>												
360	0.70	.46										
106	0.71	.46										
042	0.70	.42										
324	0.70	.31										
433	0.69	.24										
405	0.69	.21										
096	0.68	.01										
Avg	0.68											
390	0.67	-.17										
009	0.68	-.20										
422	0.67	-.21										
307	0.67	-.22										
131	0.66	-.23										
102	0.66	-.25										
231	0.66	-.40										
419	0.65	-.44										
423	0.65	-.49										
426	0.65	-.52										
027	0.64	-.63										
368	0.64 R	-.67										
232	0.62	-.85										
291	0.62	-.87										
041	0.62	-.97										
023	0.59	-1.31										
450	0.59	-1.33										
444	0.56	-1.76										
402	0.54	-2.02										
247	0.44 S	-3.38										
230	0.42 S	-3.69										
389	0.34 s	-4.80										
Meth: 241.99 PCT												
<u>Acid Soluble Iron</u>												
037	0.70	.71										
Meth: 241.XX PCT												
<u>Acid Soluble Iron</u>												
409	0.94 s	3.90										
420	0.84	2.47										
432	0.81	1.88										
330	0.80	1.80										
117	0.79	1.63										
354	0.77	1.37										
460	0.77	1.35										
028	0.74	.91										
035	0.74	.88										
233	0.73	.76										
351	0.72	.59										
457	0.72	.50										
114	0.72	.50										
055	0.69 R	.48										
360	0.70	.46										
106	0.71	.44										
042	0.70	.43										
073	0.71	.39										
037	0.70	.32										
324	0.70	.28										
433	0.69	.24										
405	0.69	.19										
Avg	0.68											
096	0.68	-.05										
177	0.68	-.13										
043	0.68	-.15										
390	0.67	-.22										
009	0.68	-.24										
422	0.67	-.29										
307	0.67	-.29										
131	0.66	-.31										
102	0.66	-.33										
220	0.66	-.44										
231	0.66	-.49										
419	0.65	-.54										
423	0.65	-.59										
371	0.65	-.59										
426	0.65	-.62										

\* 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
Meth: 241.XX PCT											
Acid Soluble Iron											
029	0.64	-0.70									
027	0.64	-0.75									
368	0.64 R	-0.78									
232	0.62	-0.99									
291	0.62	-1.01									
041	0.62	-1.12									
023	0.59	-1.49									
450	0.59	-1.52									
444	0.56	-1.98									
402	0.54	-2.27									
247	0.44 s	-3.76									
230	0.42 s	-4.10									
389	0.34 s	-5.31									
Meth: 251.00 PPM											
Lead											
Atomic Absorption											
220	2430.0	.71									
Meth: 251.30 PPM											
Lead											
ICP											
450	4285.0	1.93									
230	3915.0	1.61									
027	3357.0 R	1.02									
037	3303.5	.69									
233	3194.0	.37									
Avg	2943.9										
419	2871.0	-.25									
102	2773.5	-.26									
106	2670.5	-.41									
035	2498.0	-.65									
232	2469.0	-.69									
009	2296.5	-.94									
390	2107.0	-1.21									
Meth: 251.99 PPM											
Acid Soluble Manganese											
ICP											
354	0.892	1.82									
389	0.850 R	1.39									
035	0.861	1.25									
102	0.841	.91									
106	0.835	.80									
423	0.825	.63									
307	0.798	.46									
402	0.807	.30									
131	0.792	.22									
Avg	0.790										
009	0.786	-.09									
041	0.780	-.26									
390	0.786	-.32									
368	0.769	-.56									
Meth: 261.30 PCT											
Acid Soluble Manganese											
ICP											
009	0.10	1.09									
220	0.05	.06									
Avg	0.05										
450	0.00	-1.15									
Meth: 261.30 PPM											
Molybdenum											
307	6.01	.99									
368	5.70 R	.89									
419	5.85	.88									
037	5.80	.82									
450	5.50 R	.70									
390	5.61	.64									
231	5.59	.63									
035	5.56	.61									
433	5.46	.55									
409	5.31	.38									
232	5.20	.29									
Avg	4.87										
102	4.53	-.29									
106	4.00	-.75									
220	3.90	-.83									
230	3.30	-1.35									
009	1.99	-2.49									
Meth: 261.30 PPM											
Mercury											
ICP											
009	0.10	.87									
Avg	0.05										
450	0.00	-.87									
Meth: 281.99 PPM											
Mercury											
Other											
220	0.05	.00									
232	2430.0	-.62									
231	2368.8	-.70									
009	2296.5	-.81									
390	2107.0	-1.12									
Meth: 281.30 PPM											
Mercury											
ICP											
009	0.10	.87									
Avg	0.05										
450	0.00	-.87									
Meth: 289.99 PPM											
Molybdenum											
Other											
422	9.14 S	21.92									
231	5.59	.87									
Avg	5.45										
409	5.31	-.86									
Meth: 289.99 PPM											
Molybdenum											
Other											
422	9.14 S	21.92									
231	5.59	.87									
Avg	5.45										
409	5.31	-.86									
Meth: 289.99 PPM											
Molybdenum											
Other											
422	9.14 S	21.92									
231	5.59	.87									
Avg	5.45										
409	5.31	-.86									
Meth: 289.99 PPM											
Molybdenum											
Other											
422	9.14 S	21.92									
231	5.59	.87									
Avg	5.45										
409	5.31	-.86									
Meth: 291.99 PPM											
Nickel											
Other											
409	64.55	.46									
Avg	63.75										
231	62.94	-1.13									
Meth: 291.30 PPM											
Nickel											
Atomic Absorption											
220	63.00	.71									
Meth: 291.30 PPM											
Nickel											
ICP											
009	73.20	1.60									
037	68.44	.98									
419	67.00	.76									
450	64.50	.43									
390	62.95	.40									
106	63.50	.30									
102	62.07	.11									
Avg	61.30										
035	60.80	-.15									
444	57.31	-.58									
232	56.60	-.63									
027	55.60	-.77									
368	58.95 R	-1.05									
230	43.65	-2.37									

\* 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	
Meth: 291.XX PPM												
<u>Nickel</u>												
220	63.00	.24										Meth: 321.XX PCT
102	62.07	.06										Acid Soluble Zinc
Avg	61.74											432 1.240 s 4.60
035	60.80	-.20										117 1.240 s 4.55
444	57.31	-.70										292 1.060 2.08
232	56.60	-.77										420 1.055 2.02
027	55.60	-.91										360 1.038 1.81
368	58.95 R	-1.18										457 0.995 R 1.57
230	43.65	-2.69										354 1.016 1.50
Meth: 311.99 PCT												
<u>Sodium</u>												
Other												
041	1.51 s	39.25										106 1.015 1.48
422	0.56	1.54										035 1.015 1.47
102	0.54	.68										102 0.981 1.02
009	0.53	.33										330 0.950 R .90
Avg	0.53											009 0.972 .88
232	0.52	-.35										114 0.960 .73
423	0.51	-.89										450 0.915 -.06
035	0.49	-1.29										423 0.915 -.54
Meth: 321.30 PCT												
<u>Acid Soluble Zinc</u>												
Atomic Absorption												
457	0.995 s	5.87										233 0.946 .52
073	0.932	1.79										073 0.932 .33
028	0.913	.91										402 0.929 .28
177	0.903	.48										037 0.924 .25
351	0.902	.47										231 0.909 .18
220	0.894	.05										131 0.914 .18
Avg	0.894											230 0.921 .17
055	0.880	-.64										450 0.915 .12
371	0.875	-.91										423 0.915 .12
296	0.875	-1.15										028 0.913 .09
043	0.870	-1.20										Avg 0.908
029	0.848 R	-2.87										177 0.903
460	0.128 s	-35.73										351 0.902
Meth: 301.99 PPM												
<u>Selenium</u>												
Other												
231	2.33	1.23										220 0.894
Avg	1.61											055 0.880
409	1.46	-.27										371 0.875
296	1.04	-.95										023 0.875
Meth: 321.30 PCT												
<u>Acid Soluble Zinc</u>												
ICP												
368	9.60 s	12.52										296 0.875
450	2.50	1.45										296 0.875
231	2.33	1.00										419 0.870
230	1.86	.23										043 0.870
Avg	1.72											390 0.870
409	1.46	-.41										433 0.859
232	1.11	-1.02										
296	1.04	-1.06										

\* 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
001.10	11	1.28	4.36	0.12	050.XX	68	-	1.71	0.27
001.99	8	0.05	13.48	0.80	060.00	4	0.00	1.07	0.12
001.XX	19	1.75	9.50	0.47	060.XX	5	6.96	15.59	0.36
005.00	3	0.00	1.12	0.05	101.30	16	1.70	5.43	0.93
005.99	3	0.00	1.10	0.14	101.XX	16	1.70	5.43	0.93
005.XX	6	0.00	1.05	0.06	121.30	16	0.29	2.15	0.13
009.10	2	0.00	1.22	0.03	121.XX	16	0.29	2.15	0.13
009.XX	2	0.00	1.22	0.03	144.01	9	-	0.97	0.32
010.11	10	-	1.76	0.42	144.02	2	0.00	1.19	0.20
010.12	4	-	1.97	0.26	144.99	22	-	3.53	0.34
010.60	58	0.37	2.07	0.59	144.XX	31	-	3.56	0.38
010.99	3	0.00	0.86	0.59	151.30	8	0.00	1.03	0.11
010.XX	74	0.13	2.09	0.55	151.99	3	0.00	0.68	0.73
020.10	5	0.00	0.80	0.62	151.XX	11	0.00	1.02	0.12
020.20	18	3.64	14.66	0.62	165.99	8	0.285	1.256	0.036
020.40	5	0.00	1.05	0.16	165.XX	8	0.285	1.256	0.036
020.50	13	0.38	1.61	0.46	181.30	15	0.07	1.01	0.09
020.99	2	0.00	0.00	0.00	181.99	2	0.00	0.01	0.87
020.XX	41	3.00	11.14	0.56	181.XX	18	0.11	1.00	0.13
030.20	3	0.00	0.95	0.49	191.30	14	-	2.13	0.52
030.XX	6	5.06	12.42	0.42	191.99	3	0.00	1.07	0.25
040.20	2	0.00	1.20	0.18	191.XX	18	-	2.06	0.51
040.99	3	0.00	1.05	0.30	202.30	11	-	1.71	0.20
040.XX	8	-	2.15	0.18	202.99	2	0.00	0.80	0.66
041.10	13	-	1.46	0.87	202.XX	14	-	1.73	0.38
041.20	2	-	1.67	1.64	221.00	4	4449.2	8898.4	561.69
041.40	4	0.00	1.08	0.08	221.30	18	0.3750	1.2770	0.9314
041.50	11	0.15	1.08	0.30	221.99	3	0.0000	0.9826	0.4355
041.60	12	1.15	3.81	3.55	221.XX	24	402.30	1968.9	124.29
041.XX	35	0.07	1.58	1.30	241.00	11	-	0.97	0.24
048.20	2	0.00	1.22	0.09	241.30	38	-	1.57	0.18
048.XX	3	0.00	1.11	0.09	241.XX	50	-	1.53	0.19
050.00	15	-	1.24	0.32	251.30	12	0.05	0.95	0.37
050.30	6	-	1.40	0.18	251.XX	14	0.21	1.08	0.41
050.50	9	0.00	1.01	0.20	261.30	17	0.063	0.999	0.288
050.51	11	0.35	1.52	0.18	261.XX	17	0.063	0.999	0.288
050.60	7	0.75	2.11	0.31	281.30	2	0.00	1.22	0.00
050.61	6	0.00	1.01	0.25	281.XX	3	0.00	1.12	0.00
050.99	19	-	2.31	0.32	289.30	14	0.05	0.99	0.20

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
289.99	3	7.31	12.68	0.34					
289.XX	17	0.29	1.28	0.19					
291.30	13	-	0.97	0.31					
291.99	2	0.00	0.60	0.75					
291.XX	16	-	0.97	0.32					
301.30	4	2.72	5.49	1.12					
301.99	3	0.00	1.09	0.20					
301.XX	7	1.76	4.73	0.95					
311.99	7	5.60	14.85	0.63					
311.XX	7	5.60	14.85	0.63					
321.00	12	-	2.764	10.528				1.186	
321.30	36	0.068	1.572	0.219					
321.XX	48	0.110	1.562	0.278					