

- Pass 1 Results for 73 Labs - - Pass 2 Results for 73 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	8	10.06	0.43	0.10	7	10.03	0.44	0.04
Ammoniacal Nitrogen, Other		001.99	9	10.15	0.84	0.05	8	10.20	0.89	0.03
Method Group 001.XX PCT			17	10.11	0.67	0.07	16	10.10	0.69	0.04
Ammon & Nitrate N, Devarda	892.01	009.10	1	10.00	0.01	0.02	1	10.00	0.01	0.02
Total Nitrogen, Modified Comprehensive	978.02	010.11	5	10.24	0.31	0.08	4	10.30	0.31	0.03
Total Nitrogen, Salicylic	955.04D	010.12	2	10.55	0.06	0.01	2	10.55	0.06	0.01
Total Nitrogen, Combustion		010.60	45	10.40	0.21	0.09	41	10.42	0.18	0.07
Total Nitrogen, Other		010.99	3	10.33	0.27	0.09	3	10.33	0.27	0.09
Method Group 010.XX PCT			57	10.36	0.26	0.09	52	10.39	0.23	0.07
Total Phosphate, Grav Quimociac	962.02	020.10	7	51.11	0.88	0.12	6	51.06	0.95	0.07
Total Phosphate, Spectrometric	958.01	020.20	14	51.14	0.86	0.41	14	51.14	0.86	0.41
Total Phosphate, Automated	978.01	020.40	8	51.42	0.70	0.29	7	51.24	0.50	0.19
Total Phosphate, ICP		020.50	10	49.78	2.53	0.85	10	49.78	2.53	0.85
Total Phosphate, Other		020.99	3	47.80	3.23	0.08	3	47.80	3.23	0.08
Method Group 020.XX PCT			44	50.42	2.07	0.44	42	50.47	1.93	0.34
Insoluble Phosphate, Grav Quimociac	963.03C	030.10	1	0.71	0.04	0.06	1	0.71	0.04	0.06
Insoluble Phosphate, Spectrometric	963.03C	030.20	1	1.07	0.01	0.02	1	1.07	0.01	0.02
Insoluble Phosphate, Automated	978.01	030.40	1	0.82	0.04	0.06	1	0.82	0.04	0.06
Insoluble Phosphate, Other		030.99	2	1.24	0.05	0.05	2	1.24	0.05	0.05
Method Group 030.XX PCT			5	1.02	0.23	0.05	5	1.02	0.23	0.05
InDir Available Phosphate, Grav Quim	960.02	040.10	2	49.06	1.93	0.05	2	49.06	1.93	0.05
InDir Available Phosphate, Automated	960.02	040.40	1	50.58	0.05	0.07	1	50.58	0.05	0.07
InDir Available Phosphate, Other		040.99	3	50.25	0.23	0.21	3	50.25	0.23	0.21
Method Group 040.XX PCT			6	49.91	1.20	0.14	6	49.91	1.20	0.14
Dir Available Phosphate, Grav Quimociac	960.03E	041.10	10	50.27	0.86	0.20	9	50.43	0.75	0.15
Dir Available Phosphate, Spectrometric	960.03D	041.20	1	48.66	0.06	0.08	1	48.66	0.06	0.08
Dir Available Phosphate, Automated	978.01	041.40	2	51.58	0.82	0.17	2	51.58	0.82	0.17
Dir Available Phosphate, ICP		041.50	9	49.29	1.05	0.35	9	49.29	1.05	0.35
Dir Available Phosphate, EDTA Extract	993.01	041.60	10	50.22	0.81	0.24	10	50.22	0.81	0.24
Dir Available Phosphate, Other		041.99	2	50.61	1.34	0.26	2	50.61	1.34	0.26
Method Group 041.XX PCT			35	49.95	1.22	0.26	33	50.08	1.08	0.22
Water Soluble Phosphate, Grav Quimociac	962.03	048.10	1	43.54	0.19	0.27	1	43.54	0.19	0.27
Water Soluble Phosphate, Spectrometric	970.01	048.20	3	45.69	1.84	0.41	3	45.69	1.84	0.41
Water Soluble Phosphate, ICP		048.50	1	42.73	0.02	0.03	1	42.73	0.02	0.03
Method Group 048.XX PCT			5	44.67	1.93	0.31	4	43.83	0.81	0.12
Soluble Potash, STPB Oxalate	958.02	050.00	10	60.37	0.58	0.49	9	60.48	0.37	0.34
Soluble Potash, STPB Citrate	969.04	050.10	2	60.17	0.61	0.03	2	60.17	0.61	0.03
Soluble Potash, AA (Oxalate)		050.30	5	59.86	1.21	0.32	5	59.86	1.21	0.32
Soluble Potash, ICP (Oxalate)		050.50	6	59.87	0.45	0.24	6	59.87	0.45	0.24

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Soluble Potash, ICP (Citrate)		050.51	9	60.41	0.83	0.40	9	60.41	0.83	0.40
Soluble Potash, Flame (Oxalate)	983.02(a)	050.60	2	61.08	1.45	0.42	2	61.08	1.45	0.42
Soluble Potash, Flame (Citrate)	983.02(b)	050.61	9	60.72	0.88	0.19	9	60.72	0.88	0.19
Soluble Potash, Other		050.99	16	60.01	1.05	0.61	14	60.07	0.90	0.29
Method Group 050.XX PCT			59	60.25	0.93	0.41	56	60.29	0.87	0.29
Free Water, Vacuum Oven	965.08B	060.00	5	0.74	0.08	0.04	5	0.74	0.08	0.04
Acid Soluble Calcium, ICP		101.30	8	0.59	0.34	0.02	8	0.59	0.34	0.02
Acid Soluble Magnesium, ICP		121.30	7	0.94	0.45	0.03	6	0.92	0.49	0.01
Sulfur, Gravimetric	980.02a	144.01	7	1.68	0.09	0.09	7	1.68	0.09	0.09
Sulfur, Gravimetric	980.02b	144.02	1	1.60	0.01	0.01	1	1.60	0.01	0.01
Sulfur, Spectrometric		144.70	1	1.51	0.01	0.02	1	1.51	0.01	0.02
Sulfur, Other		144.99	13	1.54	0.11	0.02	11	1.56	0.09	0.01
Method Group 144.XX PCT			22	1.58	0.12	0.04	20	1.58	0.12	0.02
Arsenic, Atomic Absorption		151.00	1	0.17	0.04	0.05	1	0.17	0.04	0.05
Arsenic, ICP		151.30	3	0.74	0.82	0.39	3	0.74	0.82	0.39
Arsenic, Other		151.99	1	0.33	0.01	0.02	1	0.33	0.01	0.02
Method Group 151.XX PPM			5	0.55	0.67	0.25	4	0.56	0.71	0.06
Acid Soluble Boron, Other		165.99	2	0.020	0.018	0.005	2	0.020	0.018	0.005
Cadmium, Atomic Absorption		181.00	1	0.11	0.01	0.02	1	0.11	0.01	0.02
Cadmium, ICP		181.30	5	2.63	1.75	0.17	5	2.63	1.75	0.17
Method Group 181.XX PPM			6	2.21	1.86	0.15	5	1.80	1.77	0.08
Water Soluble Chlorine, Titrimetric	928.02	190.00	11	47.30	0.86	0.43	11	47.30	0.86	0.43
Water Soluble Chlorine, Other		190.99	3	41.08	5.42	1.46	3	41.08	5.42	1.46
Method Group 190.XX PCT			14	45.96	3.57	0.65	13	46.46	3.15	0.37
Chromium, ICP		191.30	7	36.70	57.18	0.87	6	22.75	48.78	0.36
Chromium, Other		191.99	1	2.77	0.04	0.06	1	2.77	0.04	0.06
Method Group 191.XX PPM			8	32.45	54.48	0.77	7	19.90	45.45	0.32
Acid Soluble Cobalt, AA		202.00	1	14.10	0.57	0.80	1	14.10	0.57	0.80
Acid Soluble Cobalt, ICP	965.11	202.30	3	1.78	2.37	0.05	3	1.78	2.37	0.05
Acid Soluble Cobalt, Other		202.99	1	0.09	0.01	0.02	1	0.09	0.01	0.02
Method Group 202.XX PPM			5	3.90	5.70	0.19	4	1.36	2.15	0.04
Acid Soluble Copper, Atomic Absorption	975.01	221.00	1	0.0007	0.0006	0.0009	1	0.0007	0.0006	0.0009
Acid Soluble Copper, ICP		221.30	5	0.0005	0.0008	0.0000	5	0.0005	0.0008	0.0000
Acid Soluble Copper, Other		221.99	1	0.0001	0.0000	0.0000	1	0.0001	0.0000	0.0000
Method Group 221.XX PCT			7	0.0004	0.0007	0.0001	6	0.0004	0.0007	0.0000
Acid Soluble Iron, Atomic Absorption	980.01	241.00	1	2.90	0.01	0.02	1	2.90	0.01	0.02
Acid Soluble Iron, ICP		241.30	7	1.36	0.86	0.03	6	1.32	0.93	0.01
Method Group 241.XX PCT			8	1.55	0.96	0.03	7	1.54	1.03	0.01
Lead, Atomic Absorption		251.00	1	14.15	0.49	0.70	1	14.15	0.49	0.70

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Lead, ICP		251.30	5	1.55	1.81	0.31	5	1.55	1.81	0.31
Method Group 251.XX PPM			6	3.65	5.17	0.38	6	3.65	5.17	0.38
Acid Soluble Manganese, ICP	972.02a	261.30	7	0.020	0.013	0.002	6	0.019	0.014	0.000
Method Group 261.XX PCT			7	0.020	0.013	0.002	6	0.019	0.014	0.000
Mercury, ICP		281.30	1	1.39	0.04	0.05	1	1.39	0.04	0.05
Molybdenum, ICP		289.30	7	5.56	5.89	0.55	6	4.66	5.88	0.30
Nickel, Atomic Absorption		291.00	1	7.90	0.14	0.20	1	7.90	0.14	0.20
Nickel, ICP		291.30	7	6.74	9.68	0.35	7	6.74	9.68	0.35
Nickel, Other		291.99	1	0.30	0.00	0.00	1	0.30	0.00	0.00
Method Group 291.XX PPM			9	6.15	8.73	0.29	8	6.86	9.04	0.21
Selenium, ICP		301.30	2	0.12	0.13	0.01	2	0.12	0.13	0.01
Selenium, Other		301.99	1	5.08	0.22	0.31	1	5.08	0.22	0.31
Method Group 301.XX PPM			3	1.77	2.57	0.11	3	1.77	2.57	0.11
Sodium, Other		311.99	4	0.84	0.51	0.02	4	0.84	0.51	0.02
Acid Soluble Zinc, Atomic Absorption	975.02	321.00	1	0.001	0.000	0.000	1	0.001	0.000	0.000
Acid Soluble Zinc, ICP		321.30	11	0.003	0.003	0.000	10	0.003	0.003	0.000
Acid Soluble Zinc, Other		321.99	1	0.000	0.000	0.000	1	0.000	0.000	0.000
Method Group 321.XX PCT			13	0.003	0.003	0.000	12	0.003	0.003	0.000
Water Soluble Zinc, ICP		325.30	1	1.640	0.028	0.040	1	1.640	0.028	0.040

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 001.10 PCT											
Ammoniacal Nitrogen											
MgO Distillation											
444	10.52	1.10	275	10.74	1.80	023	10.26	-0.85	055	10.57	.80
416	10.42	.87	027	10.74	1.77	057	10.25	-1.02	444	10.56	.76
405	10.40	.83	354	10.65 R	1.64	234	10.26	-1.03	029	10.55	.73
330	10.25 R	.75	049	10.62	1.13	368	10.18	-1.31	136	10.55	.71
470	10.25	.48	042	10.55 R	1.12	450	10.08	-1.90	292	10.55	.71
Avg	10.03		041	10.62	1.11	230	10.04 R	-2.31	405	10.52	.60
351	9.60	-.98	426	10.55	.97	420	9.96	-2.61	371	10.52	.60
456	9.54	-1.11	095	10.52	.88	406	9.93	-2.71	028	10.52	.58
232	9.51	-1.19	055	10.57	.83	324	9.81 R	-3.50	096	10.50	.58
230	7.53 s	-3.74	444	10.56	.78	325	9.70 s	-4.02	291	10.51	.56
Meth: 009.10 PCT											
Ammon & Nitrate N											
Devarda											
090	10.00	.71	136	10.55	.72	307	9.69 s	-4.18	117	10.50	.51
Meth: 010.11 PCT											
Total Nitrogen											
393	11.41	1.37	405	10.52	.58	035	5.39 s	-27.93	007	10.50	.51
137	10.66	.52	096	10.50	.57	Meth: 010.99 PCT					
479	10.49	.33	028	10.52	.55	Total Nitrogen					
371	10.49	.32	291	10.51	.54	Other					
096	10.47	.30	007	10.50	.47	371	10.52	.71	247	10.45	.33
200	10.32	.14	231	10.48	.37	476	10.48	.56	105	10.43	.24
Avg	10.20		377	10.45	.34	Avg	10.33		043	10.42	.20
420	9.75 R	-.52	157	10.45	.34	420	9.98	-1.30	233	10.41	.17
027	9.38	-.93	040	10.45	.34	Meth: 010.12 PCT					
368	8.39	-2.04	073	10.48	.33	Total Nitrogen					
Meth: 001.12 PCT											
Total Nitrogen											
393	11.41	1.90	247	10.45	.30	455	17.54 s	31.74	360	10.39	.09
137	10.66	.81	Avg	10.42		478	12.45 s	9.19	Avg	10.39	
444	10.52	.61	233	10.41	-.17	393	11.42 s	4.60	009	10.37	-.08
479	10.49	.57	177	10.40	-.18	275	10.74	1.58	232	10.37	-.15
371	10.49	.56	360	10.39	-.18	027	10.74	1.55	090	10.34	-.22
096	10.47	.53	131	10.40	-.19	354	10.65 R	1.42	037	10.33	-.31
416	10.42	.47	043	10.42	-.19	049	10.62	1.04	451	10.34	-.36
405	10.40	.44	009	10.37	-.26	041	10.62	1.02	402	10.34	-.40
330	10.25 R	.42	232	10.37	-.30	042	10.55 R	.99	351	10.29	-.42
200	10.32	.32	037	10.33	-.54	114	10.60	.96	034	10.27	-.54
Meth: 010.60 PCT											
Total Nitrogen											
405	10.40	.44	451	10.34	-.58	185	10.60	.96	023	10.26	-.55
330	10.25 R	.42	402	10.34	-.61	426	10.55	.88	057	10.25	-.69
200	10.32	.32	351	10.29	-.70	095	10.52	.80	234	10.26	-.71
Meth: 010.60 PCT											
Total Nitrogen											
393	11.42 s	5.58	034	10.27	-.84	Meth: 010.60 PCT					
Combustion											
Total Nitrogen											
Combustion											
Total Nitrogen											

* 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.XX PCT														
Total Nitrogen														
450	10.08	-1.38										Meth: 020.99 PCT		
230	10.04 R	-1.72										Total Phosphate		
260	10.01	-1.77										Other		
420	9.98	-1.82										137	51.95	1.28
420	9.96	-1.95										Avg	47.80	-0.09
406	9.93	-2.03										476	46.13	-0.52
211	9.82	-2.51										455	45.33	-0.77
324	9.81 R	-2.67										Meth: 020.XX PCT		
325	9.70	-3.07										Total Phosphate		
102	9.69 A	-3.12										451	53.73	1.68
307	9.69 s	-3.21										307	52.87 R	1.38
035	5.39 s	-22.17										027	52.67	1.17
Meth: 020.10 PCT														
Total Phosphate														
Grav Quimociac														
444	51.61	.58										406	52.30	.94
043	51.51	.47										095	52.08	.83
157	51.40 R	.41										137	51.95	.76
090	51.44	.40										296	51.91	.76
105	51.40	.35										450	51.90	.74
470	51.40	.35										324	51.75	.70
Avg	51.06											444	51.61	.59
114	49.05	-2.13										416	51.53	.55
041	9.55 s	-43.80										405	51.51	.54
Meth: 020.50 PCT														
Total Phosphate														
ICP														
451	53.73	1.56										043	51.51	.53
307	52.87	1.31										090	51.44	.50
291	50.43	.26										157	51.40	.49
368	50.11	.22										105	51.41	.48
478	50.27	.21										231	51.40	.48
402	50.30	.20										096	51.40	.48
324	51.75	.88										105	51.40	.48
405	51.51	.47										105	51.40	.48
416	51.53	.47										479	51.38	.47
231	51.40	.33										420	51.29	.42
479	51.38	.28										420	51.09	.36
Meth: 020.20 PCT														
Total Phosphate														
Spectrometric														
406	52.30	1.35										456	51.15	.35
296	51.91	.98										371	51.08	.31
450	51.90	.90										042	50.78	.21
324	51.75	.88										420	50.57	-1.46
405	51.51	.47										Meth: 020.20 PCT		
416	51.53	.47										Insoluble Phosphate		
231	51.40	.33										Spectrometric		
479	51.38	.28										479	1.07	.71
Avg	51.14											Meth: 030.10 PCT		
Meth: 030.40 PCT														
Total Phosphate														
Spectrometric														
451	53.73	1.56										Insoluble Phosphate		
307	52.87	1.31										Grav Quimociac		
291	50.43	.26										090	0.71	.71
368	50.11	.22										Meth: 040.99 PCT		
478	50.27	.21										InDir Available Phos		
402	50.30	.20										Other		
324	51.75	.88										479	50.43	.96
405	51.51	.47										405	50.29	.77
416	51.53	.47										Avg	50.25	
231	51.40	.33										247	50.02	-1.00
479	51.38	.28										Meth: 040.XX PCT		
Avg	51.14											InDir Available Phos		
Meth: 040.10 PCT														
InDir Available Phos														
Grav Quim														
090	50.73	.87										090	50.73	.87
Avg	49.06											Avg	49.06	
300	47.39	-.87										300	47.39	-.87
Meth: 040.40 PCT														
InDir Available Phos														
Automated														
096	50.58	.71										096	50.58	.71
Meth: 030.20 PCT														
Insoluble Phosphate														
Spectrometric														
479	50.43	.96										479	50.43	.96
405	50.29	.77										405	50.29	.77
Avg	50.25											Avg	50.25	
247	50.02	-1.00										247	50.02	-1.00
Meth: 030.40 PCT														
Insoluble Phosphate														
Automated														
096	0.82	-.71										096	0.82	-.71
Meth: 030.99 PCT														
Insoluble Phosphate														
Other														
247	1.27	1.06										247	1.27	1.06
Avg	1.24											Avg	1.24	
405	1.22	-.61										405	1.22	-.61

* 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: 041.10 PCT											
Dir Available Phosph											
Grav Quimociac	131	51.15	.96								
	009	51.04	.84								
	049	51.00	.77								
	211	50.93	.67								
	040	50.50	.41								
Avg	50.43										
055	50.22	-.29									
105	50.18	-.34									
177	50.14	-.39									
185	48.87 R	-2.13									
102	48.70	-2.30									
Meth: 041.20 PCT											
Dir Available Phosph											
Spectrometric	200	48.66	.71								
Meth: 041.40 PCT											
Dir Available Phosph											
Automated	095	52.28	.88								
Avg	51.58										
131	50.88	-.86									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
131	50.88	-.86									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
131	50.88	-.86									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									
360	48.92	-.38									
023	48.96	-.38									
Meth: 041.50 PCT											
Dir Available Phosph											
ICP	009	54.42 s	4.90								
	007	50.62	1.30								
	291	50.32	.99								
	043	49.78	.47								
	377	49.70	.40								
	055	49.36	.16								
Avg	49.29										
393	48.96	-.32									

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index			
Meth: 050.51 PCT														
Soluble Potash														
ICP (Citrate)			Meth: 050.99 PCT											
043	59.88	-.64	Soluble Potash											
377	59.85	-.86	Other			Meth: 050.99 PCT								
296	58.94	-1.89	444	60.11	.04	Soluble Potash								
Meth: 050.60 PCT														
Soluble Potash														
Flame (Oxalate)			Avg	60.07		Meth: 050.99 PCT								
406	62.30	.84	371	59.95	-.21	Soluble Potash								
Avg	61.08		402	59.71	-.45	Meth: 050.99 PCT								
105	59.86	-.89	200	59.48	-.65	Soluble Potash								
Meth: 050.61 PCT														
Soluble Potash														
Flame (Citrate)			275	59.55	-.71	Meth: 050.99 PCT								
029	62.38	1.90	455	59.17	-1.01	Soluble Potash								
028	61.59	1.05	307	59.07	-1.21	Meth: 050.99 PCT								
456	61.08	.41	232	58.93	-1.27	Soluble Potash								
095	60.86	.18	368	58.79	-1.82	Meth: 050.99 PCT								
Avg	60.72		325	56.80	-3.64	Soluble Potash								
105	60.50	-.25	Meth: 050.99 PCT											
037	60.36	-.42	Soluble Potash											
034	60.26	-.53	Flame (Citrate)											
131	60.13	-.67	029	62.38	2.40	Meth: 050.99 PCT								
035	59.29	-1.63	406	62.30	2.30	Soluble Potash								
Meth: 050.99 PCT														
Soluble Potash														
Other			177	62.26	2.26	Meth: 050.99 PCT								
451	63.52	5.98	042	60.32	2.10	Soluble Potash								
330	64.35	4.75	007	61.72	1.67	Meth: 050.99 PCT								
177	62.26	2.42	028	61.59	1.53	Soluble Potash								
042	60.32	2.04	040	61.25	1.17	Meth: 050.99 PCT								
450	61.06	1.09	023	61.07	.90	Soluble Potash								
131	60.83	.84	456	61.08	.90	Meth: 050.99 PCT								
360	60.36	.57	450	61.06	.88	Soluble Potash								
137	60.38	.34	009	60.97	.78	Meth: 050.99 PCT								
476	60.14	.12	393	60.97	.78	Soluble Potash								
Meth: 050.99 PCT														
Soluble Potash														
Other			009	60.86	.66	Meth: 050.99 PCT								
451	63.52	5.98	095	60.86	.66	Soluble Potash								
330	64.35	4.75	211	60.84	.63	Meth: 050.99 PCT								
177	62.26	2.42	131	60.83	.61	Soluble Potash								
042	60.32	2.04	360	60.36	.57	Meth: 050.99 PCT								
450	61.06	1.09	137	60.38	.34	Soluble Potash								
131	60.83	.84	476	60.14	.12	Meth: 050.99 PCT								
360	60.36	.57	Soluble Potash											
137	60.38	.34	Other											
476	60.14	.12	451	63.52	5.98	Meth: 050.99 PCT								
Meth: 050.99 PCT														
Soluble Potash														
Other			330	64.35	4.75	Meth: 050.99 PCT								
451	63.52	5.98	177	62.26	2.42	Soluble Potash								
330	64.35	4.75	042	60.32	2.10	Meth: 050.99 PCT								
177	62.26	2.42	007	61.72	1.67	Soluble Potash								
042	60.32	2.04	028	61.59	1.53	Meth: 050.99 PCT								
450	61.06	1.09	040	61.25	1.17	Soluble Potash								
131	60.83	.84	023	61.07	.90	Meth: 050.99 PCT								
360	60.36	.57	456	61.08	.90	Soluble Potash								
137	60.38	.34	450	61.06	.88	Meth: 050.99 PCT								
476	60.14	.12	009	60.97	.78	Soluble Potash								
Meth: 050.99 PCT														
Soluble Potash														
Other			009	60.97	.78	Meth: 050.99 PCT								
451	63.52	5.98	393	60.97	.78	Soluble Potash								
330	64.35	4.75	009	60.81	.68	Meth: 050.99 PCT								
177	62.26	2.42	095	60.86	.66	Soluble Potash								
042	60.32	2.04	211	60.84	.63	Meth: 050.99 PCT								
450	61.06	1.09	131	60.83	.61	Soluble Potash								
131	60.83	.84	360	60.36	.57	Meth: 050.99 PCT								
360	60.36	.57	137	60.38	.34	Soluble Potash								
137	60.38	.34	478	60.61	.50	Meth: 050.99 PCT								
476	60.14	.12	360	60.36	.49	Soluble Potash								

* 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: 144.99 PCT											
Sulfur			Meth: 151.00 PPM			Meth: 181.30 PPM			Meth: 190.99 PCT		
Other			Arsenic			Cadmium			Water Soluble Chlori		
096	1.54	-0.30	Atomic Absorption			ICP			Other		
232	1.51	-0.60	136	0.17	.71	247	4.25	.94	455	47.55	1.19
307	1.49	-0.82	Meth: 151.30 PPM			232	3.84	.69	Avg	41.08	
231	1.51 R	-0.84	Arsenic			096	3.70	.61	368	39.58	-0.48
291	1.47	-1.12	ICP			Avg	2.63		137	36.11	-0.92
393	1.40	-1.94	247	22.00 S	25.85	393	1.37	-0.72	Meth: 191.XX PPM		
354	1.30 R	-3.15	393	1.69	1.15	450	0.00	-1.50	Chromium		
Meth: 144.XX PCT											
Sulfur			Avg	0.74		Meth: 181.XX PPM					
360	2.01 s	3.64	450	0.50	-0.68	247	4.25 R	1.39	230	48.45	.67
296	1.76	1.63	102	0.05	-0.85	232	3.84	1.15	028	48.29	.59
057	1.76	1.55	Meth: 151.99 PPM			096	3.70	1.08	105	47.77	.42
043	1.68 R	1.42	Arsenic			Avg	1.80		291	47.78	.42
105	1.69	.96	Other			393	1.37	-0.25	455	47.55	.35
095	1.67	.79	231	0.33	.71	136	0.11	-0.96	444	47.45	.32
230	1.60 R	.71	Meth: 151.XX PPM			450	0.00	-1.02	043	47.32	.27
102	1.66	.70	Arsenic			Meth: 190.00 PCT					
027	1.66	.70	247	22.00 s	30.35	247	4.25 R	1.39	055	47.27	.26
368	1.64	.53	393	1.69	1.60	Water Soluble Chlori			470	47.14	.22
324	1.62	.35	Avg	0.56		Titrimetric			029	46.95	.16
479	1.61	.27	231	0.33	-0.32	230	48.45	1.54	Avg	46.46	
247	1.60	.20	136	0.17	-0.56	028	48.29	1.17	102	46.18	-0.09
330	1.60	.18	450	0.50 R	-0.71	105	47.77	.62	023	45.70	-0.32
292	1.60	.15	102	0.05	-0.72	291	47.78	.56	368	39.58 R	-2.29
Avg	1.58		Meth: 165.99 PCT			444	47.45	.31	137	36.11	-3.29
096	1.54	-0.37	Acid Soluble Boron			043	47.32	.10	479	1.38 s	-14.32
450	1.51	-0.59	Other			Avg	47.30		Meth: 191.30 PPM		
232	1.51	-0.59	354	0.035	.89	055	47.27	-0.04	Chromium		
231	1.51	-0.74	Avg	0.020	-0.84	470	47.14	-0.19	ICP		
307	1.49	-0.75	232	0.005	-0.84	029	46.95	-0.45	096	127.00	2.14
291	1.47	-0.97	Meth: 181.00 PPM			102	46.18	-1.30	232	120.35 R	2.00
393	1.40	-1.57	Cadmium			023	45.70	-2.01	Avg	22.75	
354	1.30	-2.45	Atomic Absorption			479	1.38 s	-53.35	393	7.80	-0.31
			136	0.11	.71	Meth: 202.00 PPM					
						Acid Soluble Cobalt			Meth: 202.99 PPM		
						AA			Acid Soluble Cobalt		
						136	14.10	.71	Other		
									231	0.09	.71
									Meth: 202.XX PPM		
									Acid Soluble Cobalt		
									136	14.10 R	5.93
									232	4.84	1.62
									Avg	1.36	

* 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:	202.XX PPM		Meth:	241.00 PCT		Meth:	251.30 PPM		Meth:	261.XX PCT	
<u>Acid Soluble Cobalt</u>			<u>Acid Soluble Iron</u>			<u>Lead</u>			<u>Acid Soluble Manganese</u>		
102	0.25	- .51	<u>Atomic Absorption</u>			ICP			096	0.030	.77
450	0.25	- .52	479	2.90	- .71	096	2.20	.42	354	0.025 R	.57
231	0.09	- .59				Avg	1.55		131	0.027	.55
			Meth:	241.30 PCT		393	0.73	- .45	232	0.026	.54
Meth:	221.00 PCT		<u>Acid Soluble Iron</u>			102	0.22	- .73	Avg	0.019	
<u>Atomic Absorption</u>			ICP			450	0.00	- .85	035	0.001	-1.34
296	0.0007	.71	393	17.79 s	17.73				102	0.001	-1.35
			096	2.04	.78	Meth:	251.XX PPM				
			307	2.00	.73	<u>Lead</u>					
Meth:	221.30 PCT		131	1.97	.71	136	14.15	2.03	Meth:	281.30 PPM	
<u>Acid Soluble Copper</u>			232	1.76	.48	247	4.60	.19	Mercury		
ICP			354	1.62 R	.33	Avg	3.65		ICP		
393	1.5250 s	1920.98	Avg	1.32		096	2.20	- .29	393	1.39	.71
354	0.0020	1.89	035	0.07	-1.35	393	0.73	- .56	Meth:	289.30 PPM	
Avg	0.0005		102	0.06	-1.35	102	0.22	- .66	Molybdenum		
095	0.0001	- .41				450	0.00	- .71	ICP		
433	0.0001	- .44	Meth:	241.XX PCT					247	12.90	1.40
232	0.0001	- .48	<u>Acid Soluble Iron</u>						232	12.25	1.29
114	0.0000	- .57	393	17.79 s	15.78	Meth:	261.30 PCT		096	11.00 R	1.09
			479	2.90	1.32	<u>Acid Soluble Manganese</u>			Avg	4.66	
			096	2.04	.48	ICP			114	1.50	- .54
Meth:	221.99 PCT		307	2.00	.44	307	0.030	.83	393	1.14	- .60
<u>Acid Soluble Copper</u>			131	1.97	.42	354	0.025 R	.57	433	0.15	- .77
Other			232	1.76	.21	131	0.027	.55	450	0.00	- .79
231	0.0001	.71	354	1.62 R	.09	232	0.026	.54			
			Avg	1.54		Avg	0.019		Meth:	291.00 PPM	
			035	0.07	-1.43	035	0.001	-1.34	Nickel		
			102	0.06	-1.44	102	0.001	-1.35	<u>Atomic Absorption</u>		
									136	7.90	- .71
			Meth:	251.00 PPM							
			<u>Lead</u>			Meth:	261.99 PCT				
			<u>Atomic Absorption</u>			<u>Acid Soluble Manganese</u>					
			136	14.15	.71	Other					
						393	5.695 S	.00			
			Meth:	251.30 PPM					Meth:	291.30 PPM	
			<u>Lead</u>						Nickel		
			ICP						ICP		
			247	4.60	1.69				247	23.25	1.71
									232	19.50	1.32
									Avg	6.74	
									393	1.84	- .51
									035	1.25	- .57

* 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: 301.XX PPM
Selenium
 231 5.08 1.29
 Avg 1.77
 393 0.23 -.60
 450 0.00 -.69

Meth: 311.99 PCT
Sodium
 Other
 035 1.36 1.02
 102 1.25 .80
 Avg 0.84
 105 0.51 -.63
 232 0.22 -1.19

Meth: 321.00 PCT
Acid Soluble Zinc
Atomic Absorption
 296 0.001 -.71

Meth: 321.30 PCT
Acid Soluble Zinc
ICP
 096 0.008 1.53
 354 0.008 1.47
 247 0.006 .87
 307 0.006 R .82
 232 0.006 .76
 Avg 0.003
 035 0.002 -.44
 433 0.001 -.74
 230 0.000 -.84
 102 0.000 -.84
 095 0.000 -.85
 114 0.000 -.90

Meth: 321.99 PCT
Acid Soluble Zinc
Other
 231 0.000 .71

Meth: 321.XX PCT
Acid Soluble Zinc
 096 0.008 1.73
 354 0.008 1.67
 247 0.006 1.05
 307 0.006 R .99
 232 0.006 .93
 Avg 0.003
 035 0.002 -.33
 433 0.001 -.64
 296 0.001 -.65
 231 0.000 -.71
 230 0.000 -.74
 102 0.000 -.75
 095 0.000 -.75
 114 0.000 -.81

Meth: 325.30 PCT
Water Soluble Zinc
ICP
 393 1.640 -.71

* 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	9	- 0.57	2.11	0.25	101.XX	8	0.00	1.03	0.03
001.99	9	- 0.06	0.98	0.04	121.30	7	0.04	0.96	0.05
001.XX	18	- 0.19	1.30	0.12	121.XX	7	0.04	0.96	0.05
010.11	5	- 0.18	1.02	0.22	144.01	7	0.00	0.70	0.72
010.12	3	39.93	69.17	0.55	144.99	14	0.10	1.91	0.21
010.60	51	- 0.52	4.54	0.41	144.XX	23	0.20	1.20	0.32
010.99	3	- 0.00	1.09	0.20	151.30	4	6.46	12.95	0.31
010.XX	61	- 0.27	5.28	0.31	151.XX	6	5.05	12.43	0.29
020.10	8	- 5.43	15.53	0.09	165.99	2	0.000	1.192	0.199
020.20	16	- 0.72	2.17	0.35	165.XX	2	0.000	1.192	0.199
020.40	8	- 0.36	1.37	0.47	181.30	5	0.00	1.06	0.07
020.50	10	- 0.00	0.99	0.24	181.XX	6	0.23	1.10	0.06
020.99	3	- 0.00	1.12	0.02	190.00	12	- 4.45	15.43	0.34
020.XX	44	- 0.52	3.36	0.19	190.99	3	0.00	1.08	0.23
030.99	2	- 0.00	0.85	0.62	190.XX	15	- 1.10	3.82	0.20
030.XX	5	- 0.00	1.05	0.11	191.30	7	0.29	1.22	0.02
040.10	2	- 0.00	1.22	0.02	191.XX	8	0.28	1.24	0.02
040.99	3	- 0.00	0.91	0.53	202.30	3	0.00	1.12	0.01
040.XX	6	- 0.00	1.05	0.07	202.XX	5	1.19	2.81	0.08
041.10	10	- 0.21	1.16	0.21	221.30	6	313.12	767.00	163.50
041.40	2	- 0.00	1.21	0.13	221.XX	8	254.23	718.90	153.25
041.50	11	- 0.05	2.48	0.20	241.30	8	2.26	6.32	0.04
041.60	11	- 0.41	1.67	0.20	241.XX	9	1.76	5.33	0.04
041.99	2	- 0.00	1.21	0.13	251.30	5	0.00	1.05	0.12
041.XX	30	- 0.36	1.63	0.37	251.XX	6	0.00	1.05	0.05
048.20	3	- 0.00	1.10	0.16	261.30	7	0.063	0.972	0.139
048.XX	5	- 1.04	2.50	0.30	261.XX	8	51.879	146.56	0.913
050.00	12	- 1.93	3.99	0.92	289.30	7	0.15	1.04	0.07
050.10	2	- 0.00	1.22	0.03	289.XX	7	0.15	1.04	0.07
050.30	7	- 1.15	2.13	0.18	291.30	7	0.00	1.04	0.03
050.50	6	- 0.00	0.97	0.37	291.XX	9	- 0.08	1.00	0.03
050.51	9	- 0.00	0.97	0.33	301.30	2	0.00	1.22	0.05
050.60	2	- 0.00	1.19	0.19	301.XX	3	0.00	1.12	0.03
050.61	9	- 0.00	1.02	0.15	311.99	4	0.00	1.08	0.02
050.99	19	- 0.20	1.89	1.20	311.XX	4	0.00	1.08	0.02
050.XX	61	- 0.11	1.70	0.80	321.30	11	0.074	1.005	0.026
060.00	5	- 0.00	0.98	0.36	321.XX	13	0.076	1.017	0.026
060.XX	5	- 0.00	0.98	0.36					
101.30	8	- 0.00	1.03	0.03					