

- Pass 1 Results for 83 Labs - - Pass 2 Results for 83 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	5	3.22	0.07	0.09	5	3.22	0.07	0.09
Ammoniacal Nitrogen, Other		001.99	10	3.32	0.20	0.04	10	3.32	0.20	0.04
Method Group 001.XX PCT			15	3.29	0.17	0.05	15	3.29	0.17	0.05
Nitrate Nitrogen, Other		002.99	2	0.12	0.15	0.07	2	0.12	0.15	0.07
Water Insoluble Nitrogen, Meth I	945.01	003.10	2	1.51	0.10	0.02	2	1.51	0.10	0.02
Water Insoluble Nitrogen, Other		003.99	1	1.59	0.01	0.02	1	1.59	0.01	0.02
Method Group 003.XX PCT			3	1.54	0.09	0.02	3	1.54	0.09	0.02
Nitrogen From Urea, Other		005.99	3	2.44	0.42	0.02	3	2.44	0.42	0.02
Percent Urea, Urease (as Urea)	959.03	007.00	1	5.46	0.11	0.15	1	5.46	0.11	0.15
Ammon & Nitrate N, Devarda	892.01	009.10	2	3.51	0.23	0.04	2	3.51	0.23	0.04
Ammon & Nitrate N, Other		009.99	1	3.64	0.30	0.42	1	3.64	0.30	0.42
Method Group 009.XX PCT			3	3.56	0.23	0.16	3	3.56	0.23	0.16
Total Nitrogen, Modified Comprehensive	978.02	010.11	7	11.59	0.08	0.03	6	11.58	0.08	0.01
Total Nitrogen, Salicylic	955.04D	010.12	3	11.65	0.10	0.12	3	11.65	0.10	0.12
Total Nitrogen, Raney	970.03	010.16	1	11.40	0.14	0.20	1	11.40	0.14	0.20
Total Nitrogen, Combustion		010.60	53	11.69	0.14	0.09	50	11.68	0.14	0.07
Total Nitrogen, Other		010.99	2	11.82	0.32	0.11	2	11.82	0.32	0.11
Method Group 010.XX PCT			67	11.67	0.16	0.09	62	11.66	0.14	0.07
Total Phosphate, Grav Quimociac	962.02	020.10	3	4.15	0.11	0.10	3	4.15	0.11	0.10
Total Phosphate, Spectrometric	958.01	020.20	17	4.15	0.09	0.04	16	4.15	0.10	0.03
Total Phosphate, Automated	978.01	020.40	5	4.13	0.19	0.05	5	4.13	0.19	0.05
Total Phosphate, ICP		020.50	9	4.16	0.15	0.05	9	4.16	0.15	0.05
Total Phosphate, Other		020.99	1	3.90	0.03	0.04	1	3.90	0.03	0.04
Method Group 020.XX PCT			36	4.15	0.15	0.05	35	4.14	0.13	0.05
Insoluble Phosphate, Automated	978.01	030.40	1	0.07	0.00	0.00	1	0.07	0.00	0.00
Insoluble Phosphate, ICP		030.50	1	0.02	0.00	0.00	1	0.02	0.00	0.00
Insoluble Phosphate, Other		030.99	2	0.81	0.91	0.00	2	0.81	0.91	0.00
Method Group 030.XX PCT			4	0.43	0.72	0.00	4	0.43	0.72	0.00
InDir Available Phosphate, Spectrometri	960.02	040.20	1	4.05	0.01	0.02	1	4.05	0.01	0.02
InDir Available Phosphate, Automated	960.02	040.40	3	3.82	0.47	0.03	3	3.82	0.47	0.03
InDir Available Phosphate, ICP		040.50	2	3.85	0.07	0.08	2	3.85	0.07	0.08
Method Group 040.XX PCT			6	3.87	0.33	0.05	6	3.87	0.33	0.05
Dir Available Phosphate, Grav Quimociac	960.03E	041.10	15	4.11	0.09	0.06	15	4.11	0.09	0.06
Dir Available Phosphate, Spectrometric	960.03D	041.20	3	3.96	0.12	0.12	3	3.96	0.12	0.12
Dir Available Phosphate, Automated	978.01	041.40	4	4.06	0.11	0.04	4	4.06	0.11	0.04
Dir Available Phosphate, ICP		041.50	12	4.12	0.10	0.07	11	4.13	0.09	0.05
Dir Available Phosphate, EDTA Extract	993.01	041.60	9	4.06	0.08	0.03	9	4.06	0.08	0.03
Dir Available Phosphate, Other		041.99	3	4.05	0.10	0.04	3	4.05	0.10	0.04
Method Group 041.XX PCT			46	4.09	0.10	0.06	44	4.09	0.10	0.05

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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
Water Soluble Phosphate, Spectrometric	970.01	048.20	4	3.49	0.28	0.07	4	3.49	0.28	0.07
Water Soluble Phosphate, Other		048.99	1	3.32	0.03	0.04	1	3.32	0.03	0.04
Method Group 048.XX PCT			5	3.45	0.25	0.06	5	3.45	0.25	0.06
Soluble Potash, STPB Oxalate	958.02	050.00	14	22.61	0.24	0.11	13	22.60	0.24	0.09
Soluble Potash, AA (Oxalate)		050.30	10	22.62	0.79	0.15	9	22.30	0.98	0.05
Soluble Potash, AA (Citrate)		050.31	1	23.39	0.18	0.26	1	23.39	0.18	0.26
Soluble Potash, ICP (Oxalate)		050.50	4	22.19	0.91	0.19	4	22.19	0.91	0.19
Soluble Potash, ICP (Citrate)		050.51	11	22.54	0.58	0.16	11	22.54	0.58	0.16
Soluble Potash, Flame (Oxalate)	983.02(a)	050.60	8	22.66	0.49	0.26	8	22.66	0.49	0.26
Soluble Potash, Flame (Citrate)	983.02(b)	050.61	7	22.89	0.40	0.12	7	22.89	0.40	0.12
Soluble Potash, Other		050.99	19	22.60	0.77	0.32	17	22.54	0.76	0.22
Method Group 050.XX PCT			75	22.60	0.64	0.20	70	22.60	0.63	0.15
Free Water, Vacuum Oven	965.08B	060.00	5	1.29	0.21	0.05	5	1.29	0.21	0.05
Acid Soluble Calcium, AA	945.04	101.00	3	0.39	0.01	0.00	3	0.39	0.01	0.00
Acid Soluble Calcium, ICP		101.30	16	0.39	0.03	0.02	15	0.39	0.03	0.01
Acid Soluble Calcium, Other		101.99	1	0.39	0.01	0.01	1	0.39	0.01	0.01
Method Group 101.XX PCT			20	0.39	0.03	0.01	19	0.39	0.03	0.01
Acid Soluble Magnesium, AA	984.01	121.00	15	2.22	0.10	0.06	15	2.22	0.10	0.06
Acid Soluble Magnesium, ICP		121.30	26	2.25	0.17	0.04	26	2.25	0.17	0.04
Acid Soluble Magnesium, Other		121.99	2	2.17	0.13	0.10	2	2.17	0.13	0.10
Method Group 121.XX PCT			43	2.24	0.14	0.05	41	2.22	0.13	0.05
Water Soluble Magnesium, AA		131.00	2	1.79	0.40	0.13	2	1.79	0.40	0.13
Water Soluble Magnesium, ICP		131.30	1	2.07	0.03	0.04	1	2.07	0.03	0.04
Method Group 131.XX PCT			3	1.88	0.34	0.10	3	1.88	0.34	0.10
Sulfur, Gravimetric	980.02a	144.01	16	13.40	0.19	0.06	15	13.40	0.19	0.04
Sulfur, Gravimetric	980.02b	144.02	1	13.42	0.04	0.06	1	13.42	0.04	0.06
Sulfur, Spectrometric		144.70	1	13.48	0.04	0.06	1	13.48	0.04	0.06
Sulfur, Other		144.99	15	13.31	0.79	0.30	15	13.14	0.80	0.28
Method Group 144.XX PCT			34	13.38	0.55	0.18	30	13.34	0.33	0.11
Arsenic, Atomic Absorption		151.00	1	0.77	0.01	0.01	1	0.77	0.01	0.01
Arsenic, ICP		151.30	4	0.98	0.26	0.23	4	0.98	0.26	0.23
Method Group 151.XX PPM			5	0.94	0.25	0.18	5	0.94	0.25	0.18
Acid Soluble Boron, Other		165.99	4	0.038	0.066	0.003	3	0.003	0.001	0.000
Cadmium, Atomic Absorption		181.00	1	0.45	0.21	0.30	1	0.45	0.21	0.30
Cadmium, ICP		181.30	9	1.23	0.93	0.25	8	1.16	0.93	0.10
Method Group 181.XX PPM			10	1.15	0.92	0.25	9	1.08	0.91	0.13
Water Soluble Chlorine, Titrimetric	928.02	190.00	2	0.50	0.06	0.03	2	0.50	0.06	0.03
Water Soluble Chlorine, Other		190.99	2	0.46	0.17	0.05	2	0.46	0.17	0.05
Method Group 190.XX PCT			4	0.48	0.12	0.04	4	0.48	0.12	0.04

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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
Chromium, ICP		191.30	10	72.47	6.77	2.97	10	72.47	6.77	2.97
Acid Soluble Cobalt, ICP	965.11	202.30	9	7.65	1.08	0.26	8	7.53	1.07	0.18
Method Group 202.XX PPM			9	7.65	1.08	0.26	8	7.53	1.07	0.18
Acid Soluble Copper, Atomic Absorption	975.01	221.00	4	0.0012	0.0002	0.0001	4	0.0012	0.0002	0.0001
Acid Soluble Copper, ICP		221.30	15	0.0011	0.0004	0.0001	14	0.0010	0.0003	0.0001
Method Group 221.XX PCT			21	0.0011	0.0004	0.0002	18	0.0011	0.0003	0.0001
Acid Soluble Iron, Atomic Absorption	980.01	241.00	15	0.90	0.08	0.04	14	0.90	0.07	0.02
Acid Soluble Iron, ICP		241.30	29	0.86	0.13	0.03	28	0.86	0.13	0.03
Acid Soluble Iron, Other		241.99	2	0.92	0.03	0.02	2	0.92	0.03	0.02
Method Group 241.XX PCT			47	0.87	0.12	0.04	45	0.87	0.12	0.03
Lead, Atomic Absorption		251.00	1	22.00	2.83	4.00	1	22.00	2.83	4.00
Lead, ICP		251.30	10	14.70	7.19	2.20	9	13.83	6.57	0.78
Method Group 251.XX PPM			11	15.36	7.19	2.36	10	14.65	6.73	1.10
Acid Soluble Manganese, AA	972.02a	261.00	12	0.251	0.017	0.008	11	0.252	0.016	0.006
Acid Soluble Manganese, AA	972.02b	261.11	2	0.257	0.012	0.011	2	0.257	0.012	0.011
Acid Soluble Manganese, ICP	972.02a	261.30	22	0.250	0.013	0.009	20	0.250	0.012	0.006
Acid Soluble Manganese, ICP	972.02b	261.31	1	0.265	0.007	0.010	1	0.265	0.007	0.010
Acid Soluble Manganese, Other		261.99	5	0.255	0.012	0.011	5	0.255	0.012	0.011
Method Group 261.XX PCT			42	0.252	0.014	0.009	39	0.252	0.013	0.007
Water Soluble Manganese, Atomic Abs	972.03	271.00	1	0.190	0.007	0.010	1	0.190	0.007	0.010
Water Soluble Manganese, ICP	972.03	271.30	2	0.209	0.053	0.007	2	0.209	0.053	0.007
Method Group 271.XX PCT			3	0.203	0.042	0.008	3	0.203	0.042	0.008
Molybdenum, ICP		289.30	11	8.46	0.61	0.46	11	8.46	0.61	0.46
Nickel, Atomic Absorption		291.00	1	45.50	2.12	3.00	1	45.50	2.12	3.00
Nickel, ICP		291.30	7	37.82	3.25	1.76	7	37.82	3.25	1.76
Method Group 291.XX PPM			8	38.78	4.04	1.92	8	38.78	4.04	1.92
Selenium, ICP		301.30	1	0.00	0.00	0.00	1	0.00	0.00	0.00
Sodium, Other		311.99	6	0.19	0.01	0.01	6	0.19	0.01	0.01
Acid Soluble Zinc, Atomic Absorption	975.02	321.00	9	0.010	0.001	0.001	8	0.010	0.001	0.001
Acid Soluble Zinc, ICP		321.30	20	0.010	0.001	0.001	19	0.010	0.001	0.001
Acid Soluble Zinc, Other		321.99	1	0.010	0.000	0.000	1	0.010	0.000	0.000
Method Group 321.XX PCT			30	0.010	0.001	0.001	28	0.010	0.001	0.001

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 001.10 PCT											
Ammoniacal Nitrogen											
MgO Distillation											
230	3.28	1.01									
309	3.27	.86									
Avg	3.22										
324	3.17	-.76									
029	3.21	-.93									
444	3.16	-1.15									
Meth: 001.99 PCT											
Ammoniacal Nitrogen											
Other											
022	11.65 s	41.57									
393	4.26 S	4.68									
372	3.79	2.33									
419	3.46	.68									
371	3.45	.61									
397	3.37	.22									
Avg	3.32										
096	3.29	-.22									
255	3.23	-.50									
394	3.22	-.55									
420	3.22	-.59									
105	3.12	-1.02									
027	3.11	-1.09									
Meth: 001.XX PCT											
Ammoniacal Nitrogen											
022	11.65 s	47.85									
393	4.26 s	5.57									
372	3.79	2.88									
419	3.46	.99									
371	3.45	.91									
397	3.37	.45									
096	3.29	.17									
Avg	3.29										
230	3.28	-.18									
309	3.27	-.24									
255	3.23	-.38									
Meth: 002.99 PCT											
Nitrate Nitrogen											
Other											
105	0.25	.92									
Avg	0.12										
393	0.00	-.81									
Meth: 003.10 PCT											
Water Insoluble Nitr											
Meth I											
029	1.60	.87									
Avg	1.51										
057	1.42	-.87									
Meth: 003.99 PCT											
Water Insoluble Nitr											
Other											
372	1.59	.71									
Meth: 003.XX PCT											
Water Insoluble Nitr											
029	1.60	.70									
372	1.59	.60									
Avg	1.54										
057	1.42	-1.28									
Meth: 005.99 PCT											
Nitrogen From Urea											
Other											
029	2.94	1.20									
Meth: 005.99 PCT											
Nitrogen From Urea											
Other											
029	2.94	1.20									
Meth: 007.00 PCT											
Percent Urea											
Urease (as Urea)											
255	5.46	.71									
Meth: 009.10 PCT											
Ammon & Nitrate N											
Devarda											
257	3.71	.86									
Avg	3.51										
200	3.32	-.87									
Meth: 009.99 PCT											
Ammon & Nitrate N											
Other											
234	3.64	.71									
Meth: 009.XX PCT											
Ammon & Nitrate N											
234	3.64	.98									
257	3.71	.67									
Avg	3.56										
200	3.32	-1.05									
Meth: 010.11 PCT											
Total Nitrogen											
Modified Comprehensi											
028	11.86	1.32									
070	11.84	1.22									
007	11.80	1.11									
157	11.76	.97									
309	11.63 R	1.18									
105	11.65	.80									
288	11.64	.67									
Avg	11.58										
416	11.57	-.23									
Meth: 010.12 PCT											
Total Nitrogen											
Salicylic											
137	11.74	1.00									
Avg	11.65										
185	11.60	-.59									
397	11.60	-1.07									
Meth: 010.16 PCT											
Total Nitrogen											
Raney											
419	11.40	.71									
Meth: 010.60 PCT											
Total Nitrogen											
Combustion											
102	12.31 s	4.47									
393	12.18 s	3.57									
043	12.03	2.48									
450	12.00	2.28									
443	11.80 R	1.67									
095	11.81 R	1.47									
042	11.74 R	1.36									
292	11.86	1.33									
028	11.86	1.32									
070	11.84	1.22									
007	11.80	1.11									
157	11.76	.97									
309	11.63 R	1.18									
105	11.65	.80									
288	11.64	.67									
Avg	11.58										
416	11.57	-.23									
Meth: 010.60 PCT											
Total Nitrogen											
Combustion											
131	11.62	-.48									
351	11.60	-.55									
262	11.60	-.57									
055	11.68	-.61									
009	11.59	-.65									
296	11.59	-.66									
255	11.64	-.69									
423	11.58	-.75									
372	11.57	-.79									
040	11.61	-.87									
390	11.60	-.92									
037	11.58	-1.01									
041	11.54	-1.14									
023	11.52	-1.15									
035	11.50	-1.30									
402	11.48	-1.44									
307	11.48	-1.45									

* 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: 010.60 PCT											
Total Nitrogen											
096	11.44	-1.76	037	11.58	-0.93						
444	11.35	-2.40	041	11.54	-1.03						
425	11.36 s	-2.95	023	11.52	-1.03						
426	11.24 s	-3.23	035	11.50	-1.17						
Meth: 010.99 PCT											
Total Nitrogen											
055	11.68	.62	371	11.50	-1.20						
177	11.74	.60	211	11.48	-1.31						
114	11.75	.60	402	11.48	-1.32						
451	11.73	.51	307	11.48	-1.33						
029	11.70	.45	096	11.44	-1.64						
136	11.72	.40	419	11.40	-2.02						
291	11.69	.30	444	11.35	-2.28						
086	11.68	.21	425	11.36 s	-2.87						
394	11.68	.20	426	11.24 A	-3.12						
029	11.68	.14	105	10.85 s	-5.89						
Avg	11.66	-.13	322	10.63 s	-7.41						
105	11.65	-.20	030	9.77 s	-14.41						
288	11.64	-.21	420	9.29 s	-17.10						
247	11.64	-.23	Meth: 020.10 PCT								
406	11.65	-.27	Total Phosphate								
369	11.63	-.30	Grav Quimociac								
360	11.65	-.31	444	4.63 S	5.12						
233	11.62	-.37	105	4.26	1.15						
131	11.62	-.42	Avg	4.15	-1.69						
351	11.60	-.44	114	4.14	-.21						
262	11.60	-.52	041	4.06	-1.07						
009	11.59	-.54	Meth: 020.20 PCT								
296	11.59	-.62	Total Phosphate								
185	11.60	-.63	Spectrometric								
309	11.63	-.64	425	4.58 s	4.61						
423	11.58	-.66	428	4.35	2.19						
255	11.64	-.70	257	4.32	1.79						
372	11.57	-.70	309	4.19 R	.97						
416	11.57	-.80	451	4.20	.78						
040	11.61	-.83	406	4.21	.69						
234	11.55	-.85	450	4.19	.63						
390	11.60	-.85	292	4.20	.55						
397	11.60	-.85	Meth: 020.40 PCT								
Total Phosphate											
Automated											
035	22.77 s	96.35	Total Phosphate								
393	4.37	1.25	Automated								
394	4.17	.24	035	22.77 s	141.19						
096	4.15	.14	393	4.96 s	6.24						
105	4.14	.06	444	4.63 s	4.26						
Avg	4.13	-.88	307	4.53 s	3.41						
042	3.81	-1.69	425	4.58 A	3.36						
Meth: 020.50 PCT											
Total Phosphate											
ICP											
393	4.96 s	5.37	Total Phosphate								
307	4.53 S	2.90	ICP								
330	4.37	1.42	444	4.13	-.48						
389	4.25	.71	255	3.83	-2.20						
361	4.26	.66	247	3.24 s	-6.11						
426	4.22	.39	Meth: 020.99 PCT								
406	4.21	.54	Total Phosphate								
450	4.19	.48	Other								
292	4.20	.43	443	3.90	.71						
394	4.17	.24	Meth: 020.20 PCT								
402	4.16	.12	Total Phosphate								
096	4.15	.11	Spectrometric								
Avg	4.14	-.05	393	4.96 s	5.37						
105	4.14	-.08	307	4.53 S	2.90						
416	4.13	-.08	330	4.37	1.42						
114	4.14	-.12	389	4.25	.71						
193	4.12	-.15	361	4.26	.66						
* 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: 020.XX PCT														
<u>Total Phosphate</u>														
369	4.12	-.19										Meth: 041.10 PCT		
372	4.12	-.22										Dir Available Phosph		
177	4.11	-.24										ICP		
423	4.11	-.29										291	4.22	1.03
288	4.10	-.34										360	4.21	1.00
390	4.11	-.43										007	4.22	.97
234	4.08	-.46										393	4.21	.87
444	4.13	-.51										452	4.17	.70
169	4.07	-.58										Avg	4.13	
041	4.06	-.81										009	4.13	-.27
200	4.04	-.82										325	4.10	-.30
262	4.00	-1.06										361	4.09	-.40
443	3.90	-1.83										043	4.11	-.46
255	3.83	-2.37										354	3.98	-1.57
042	3.81	-2.59										023	3.97	-1.80
324	3.62 s	-3.99										022	4.03 R	-1.81
247	3.24 s	-6.83										Meth: 041.60 PCT		
Meth: 030.40 PCT														
<u>Insoluble Phosphate</u>														
096	0.07	.00										Dir Available Phosph		
Meth: 030.50 PCT														
<u>Insoluble Phosphate</u>														
255	0.02	.00										EDTA Extract		
Meth: 040.XX PCT														
<u>InDir Available Phos</u>														
394	4.16	.73										351	4.15	1.06
096	4.08	.56										296	4.15	1.01
Avg	3.82											043	4.13	.85
247	3.22	-1.29										105	4.11	.48
Meth: 041.20 PCT														
<u>InDir Available Phos</u>														
423	3.90	.98										073	4.09	.24
Avg	3.85											Avg	4.06	
255	3.81	-.73										028	4.04	-.54
Meth: 040.XX PCT														
<u>InDir Available Phos</u>														
394	4.16	.89										037	4.04	-.56
096	4.08	.64										024	3.99	-.95
372	4.05	.55										288	3.90	-1.96
423	3.90	.19										Meth: 041.99 PCT		
Avg	3.87											Dir Available Phosph		
255	3.81	-.21										Other		
247	3.22	-1.98										397	4.63 S	5.77
Meth: 030.99 PCT														
<u>Insoluble Phosphate</u>														
027	1.59	.87										105	4.12	.75
Avg	0.81											322	4.11	.56
247	0.02	-.87										Avg	4.05	
Meth: 041.50 PCT														
<u>Dir Available Phosph</u>														
185	4.60 s	5.79										230	3.93	-1.27
397	4.63 s	5.40										Meth: 041.XX PCT		
022	4.25	1.71										Dir Available Phosph		
137	4.24	1.55										185	4.60 s	5.79
291	4.22	1.31										397	4.63 s	5.40
360	4.21	1.26										022	4.25	1.71
007	4.22	1.26										137	4.24	1.55
027	4.22	1.25										291	4.22	1.31
393	4.21	1.16										360	4.21	1.26
452	4.17	.91										007	4.22	1.26
296	4.17	.87										027	4.22	1.25
055	4.15	.61										393	4.21	1.16
296	4.15	.61										452	4.17	.91
009	4.14	.54										296	4.17	.87
211	4.14	.50										055	4.17	.76
043	4.13	.50										057	4.15	.67
043	4.11	.45										351	4.15	.65
009	4.13	.43										296	4.15	.61
009	4.13	.42										009	4.14	.54
105	4.12	.42										211	4.14	.50
029	4.12	.35										043	4.13	.50
040	4.11	.20										043	4.11	.45
322	4.11	.17										009	4.13	.43
105	4.11	.16										105	4.12	.42
325	4.10	.14										029	4.12	.35
136	4.10	.14										040	4.11	.20
361	4.09	.10										322	4.11	.17
Avg	4.09											105	4.11	.16
073	4.09	-.07										325	4.10	.14
131	4.09	-.16										136	4.10	.14
105	4.08	-.38										361	4.09	.10
260	4.06	-.43										Avg	4.09	
393	4.07	-.43										073	4.09	-.07
037	4.04	-.64										131	4.09	-.16
028	4.04	-.65										105	4.08	-.38
131	4.02	-.73										260	4.06	-.43
030	4.02	-.73										393	4.07	-.43
025	3.32 S	-6.75										037	4.04	-.64
025	3.32 S	-6.75										028	4.04	-.65
025	3.32 S	-6.75										131	4.02	-.73
025	3.32 S	-6.75										030	4.03	-.92

* 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.XX PCT														
<u>Dir Available Phosph</u>														
024	3.99	-1.05										453		
049	4.00	-1.10										451		
354	3.98	-1.10										451		
023	3.97	-1.33										073		
262	4.00 R	-1.34										234		
022	4.03 R	-1.50										406		
029	3.94	-1.51										007		
230	3.93	-1.67										030		
102	3.93	-1.67										307		
288	3.90	-1.91										095		
055	3.85	-2.40										330		
025	3.32 s	-7.70										025		
419	2.05 s	-20.38										452		
Meth: 048.20 PCT														
<u>Water Soluble Phosph</u>														
393	3.86	1.35										324		
420	3.56	.40										041		
Avg	3.49											291		
096	3.35	-.52										233		
372	3.18	-1.12										157		
Meth: 048.99 PCT														
<u>Water Soluble Phosph</u>														
394	3.32	.71										040		
Meth: 050.00 PCT														
<u>Soluble Potash</u>														
233	22.97	1.54										324		
211	22.86	1.06										426		
416	22.84	.98										354		
022	22.70 R	.93										Avg		
057	22.67	.70										420		
049	22.75	.61										419		
029	22.69	.40										Meth: 050.51 PCT		
009	22.62	.12										<u>Soluble Potash</u>		
Avg	22.60											007		
043	22.58	-.13										071		
372	22.54	-.28										452		
114	22.51	-.46										291		
257	22.39	-.88										009		
055	22.34	-1.33										393		
102	22.11	-2.05										393		
230	21.45 s	-4.80										423		
Meth: 050.30 PCT														
<u>Soluble Potash</u>														
369	23.09	.80										023		
040	22.95	.66										043		
136	22.79	.50										389		
262	22.64	.35										444		
Avg	22.55											361		
137	22.11	-.20										Meth: 050.60 PCT		
185	21.95 R	-.44										<u>Soluble Potash</u>		
351	21.68	-.64										443		
428	21.53	-.80										406		
425	20.32 S	-2.03										157		
Meth: 050.31 PCT														
<u>Soluble Potash</u>														
096	3.35	-.44										131		
394	3.32	-.52										105		
372	3.18	-1.09										360		
Meth: 050.61 PCT														
<u>Soluble Potash</u>														
<u>Flame (Citrate)</u>														
030	23.50	1.54										402		
025	23.23	.85										394		
041	23.08	.47										325		
Avg	22.89											322		
024	22.82	-.18										390		
037	22.78	-.31										022		
028	22.52	-.96										255		
029	22.32	-1.47										402		
035	4.20 s	-46.54										402		
Meth: 050.99 PCT														
<u>Soluble Potash</u>														
<u>Other</u>														
393	24.18	2.14										393		
234	23.58	1.36										234		
307	23.27 R	1.17										307		
330	23.00 R	1.02										330		
247	23.06	.69										247		
177	23.06	.73										177		
042	22.98	.61										177		
233	22.97	.59										042		
157	22.72 R	.58										042		
397	22.62 R	.58										397		
040	22.95	.55										027		
055	22.91	.51										131		
009	22.86	.43										105		
211	22.86	.41										360		
416	22.84	.38										Avg		
022	22.70	.36										22.54		
024	22.82	.35										402		
136	22.79	.30										402		
037	22.78	.29										394		
057	22.67	.27										22.20		
027	22.76	-.14										325		
040	22.95	.55										322		
055	22.91	.51										21.93		
009	22.86	.43										390		
211	22.86	.41										21.90		
416	22.84	.38										022		
022	22.70	.36										21.28		
024	22.82	.35										21.13		
136	22.79	.30										255		
037	22.78	.29										402		
057	22.67	.27										394		
027	22.76	-.14										22.20		
040	22.95	.55										325		
055	22.91	.51										322		
009	22.86	.43										21.93		
211	22.86	.41										390		
416	22.84	.38										21.90		
022	22.70	.36										022		
024	22.82	.35										21.28		
136	22.79	.30										21.13		
037	22.78	.29										255		
057	22.67	.27										402		
027	22.76	-.14										394		
040	22.95	.55										22.20		
055	22.91	.51										325		
009	22.86	.43										322		
211	22.86	.41										21.93		
416	22.84	.38										390		
022	22.70	.36										21.90		
024	22.82	.35										022		
136	22.79	.30										21.28		
037	22.78	.29										21.13		
057	22.67	.27										255		
027	22.76	-.14										402		
040	22.95	.55										394		
055	22.91	.51										22.20		
009	22.86	.43										325		
211	22.86	.41										322		
416	22.84	.38										21.93		
022	22.70	.36										390		
024	22.82	.35										21.90		
136	22.79	.30										022		
037	22.78	.29										21.28		
057	22.67	.27										21.13		
027	22.76	-.14										255		
040	22.95	.55										402		
055	22.91	.51										394		
009	22.86	.43										22.20		
211	22.86	.41										325		
416	22.84	.38										322		
022	22.70	.36										21.93		
024	22.82	.35										390		
136	22.79	.30										21.90		
037	22.78	.29										022		
057	22.67	.27										21.28		
027	22.76	-.14										21.13		
040	22.95	.55										255		
055	22.91	.51										402		
009	22.86	.43										394		
211	22.86	.41										22.20		
416	22.84	.38										325		
022	22.70	.36										322		
024	22.82	.35										21.93		
136	22.79	.30										390		
037	22.78	.29										21.90		
057	22.67	.27										022		
027	22.76	-.14										21.28		
040	22.95	.55										21.13		
055	22.91	.51										255		
009	22.86	.43										402		
211	22.86	.41										394		
416	22.84	.38										22.20		
022	22.70	.36										325		
024	22.82	.35										322		
136	22.79	.30										21.93		
037	22.78	.29										390		
057	22.67	.27										21.90		
027	22.76	-.14										022		
040	22.95	.55										21.28		
055	22.91	.51										21.13		
009	22.86	.43										255		
211	22.86	.41										402		
416	22.84	.38										394		
022	22.70	.36										22.20		
024	22.82	.35										325		
136	22.79	.30										322		
037	22.78	.29										21.93		
057	22.67	.27										390		
027	22.76	-.14										21.90		
040	22.95	.55										022		
055	22.91	.51										21.28		
009	22.86	.43										21.13		
211	22.86	.41										255		
416	22.84	.38										402		
022	22.70	.36										394		
024	22.82	.35										22.20		
136	22.79	.30										325		
037	22.78	.29										322		
057	22.67	.27										21.93		
027	22.76	-.14										390		
040	22.95	.55										21.90		
055	22.91	.51										022		
009	22.86	.43										21.28		
211	22.86	.41										21.13		
416	22.84	.38										255		
022	22.70	.36										402		
024	22.82	.35										394		
136	22.79	.30										22.20		
037	22.78	.29										325		
057	22.67	.27										322		
027	22.76	-.14										21.93		
040	22.95	.55										390		
055	22.91	.51										21.90		
009	22.86	.43										022		
211	22.86	.41										21.28		
416	22.84	.38										21.13		
022	22.70	.36										255		
024	22.82	.35										402		
136	22.79	.30										394		
037	22.78	.29										22.20		
057	22.67	.27										325		
027	22.76	-.14										322		
040	22.95	.55										21.93		
055	22.91	.51										390		
009	22.86	.43										21.90		
211	22.86	.41										022		
416	22.84	.38										21.28		
022	22.70	.36										21.13		
024	22.82	.35										255		
136	22.79	.30										402		
037	22.78	.29										394		
057	22.67	.27										22.20		
027	22.76	-.14										325		
040	22.95	.55										322		
055	22.91	.51										21.93		
009	22.86	.43										390		
211	22.86	.41										21.90		
416	22.84	.38										022		
022	22.70	.36										21.28		
024	22.82	.35										21.13		
136	22.79	.30										255		
037	22.78	.29										402		
057	22.67	.27										394		

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 050.XX PCT											
<u>Soluble Potash</u>											
169	22.67	.12	420	20.82	-2.81	Meth: 101.30 PCT					
131	22.64	.08	419	21.70 s	-3.03	Acid Soluble Calcium					
009	22.62	.05	425	20.32 s	-3.59	065	0.39	-0.26	200	2.73 s	5.48
Avg	22.60		035	4.20 s	-28.99	027	0.38	-0.31	029	2.39	1.84
131	22.58	-.03	Meth: 060.00 PCT			057	0.37	-0.47	450	2.35	1.48
043	22.58	-.04	Free Water			035	0.36	-.84	095	2.32	1.31
360	22.57	-.08	Vacuum Oven			420	0.33	-1.67	177	2.31	.98
423	22.55	-.09	105	1.52	1.11	292	0.31	-2.29	105	2.26	.46
372	22.54	-.10	096	1.44	.76	Meth: 101.99 PCT					
105	22.55	-.14	007	1.37	.41	Acid Soluble Calcium					
114	22.51	-.17	Avg	1.29		389	0.39	.71	043	2.17	-.49
028	22.52	-.19	416	1.08	-1.00	Meth: 101.XX PCT					
393	22.58	-.21	193	1.03	-1.24	Acid Soluble Calcium					
402	22.44	-.26	Meth: 101.00 PCT								
023	22.50	-.31	Acid Soluble Calcium								
257	22.39	-.32	041	0.45 s	2.92	041	0.45 s	2.92	262	2.15	-.87
309	22.43	-.40	390	0.43	1.72	390	0.43	1.72	296	2.14	-.90
105	22.59	-.43	AA			307	0.39 R	1.23	193	2.08	-1.59
029	22.32	-.48	193	0.40	1.32	096	0.41	1.02	030	2.01 s	-3.82
055	22.34	-.50	Avg	0.39		247	0.42	.95	Meth: 121.30 PCT		
354	22.23	-.58	086	0.39	-.26	009	0.41	.78	Acid Soluble Magnesi		
394	22.20	-.62	105	0.38	-.83	102	0.40	.76	Other		
043	22.20	-.63	Meth: 101.30 PCT								
325	22.30	-.66	Acid Soluble Calcium								
102	22.11	-.77	041	0.45 s	2.60	131	0.40	.42	330	3.84 s	9.46
137	22.11	-.77	390	0.43	1.53	193	0.40	.31	230	2.79 S	3.21
389	22.00	-.94	307	0.39 R	1.09	423	0.40	.28	041	2.74 S	2.89
322	21.93	-1.05	096	0.41	.91	433	0.39	.15	433	2.70	2.65
185	21.95	-1.09	247	0.42	.85	Avg	0.39		027	2.53	1.66
200	21.86	-1.17	041	0.41	.70	086	0.39	-.01	057	2.41	.91
444	21.78	-1.30	009	0.41	.68	105	0.38	-0.12	452	2.39	.80
390	21.90 R	-1.35	102	0.40	.56	389	0.39	-.18	390	2.37	.75
361	21.72	-1.39	102	0.40	.68	065	0.39	-.30	423	2.36	.65
351	21.68	-1.44	037	0.41	.56	027	0.38	-.35	023	2.32	.42
428	21.53	-1.69	131	0.40	.38	057	0.37	-.54	131	2.32	.37
230	21.45	-1.81	423	0.40	.26	035	0.36	-.95	102	2.30	.29
022	21.28	-2.07	433	0.39	.14	420	0.33	-1.88	307	2.30	.27
255	21.13	-2.34	Avg	0.39		292	0.31	-2.58	444	2.27	.21
Meth: 121.30 PCT											
Acid Soluble Magnesi											
ICP											
Avg	2.25		Meth: 121.99 PCT								
291	2.24	-.10	Acid Soluble Calcium								
354	2.24	-.13	Other								
009	2.23	-.15	389	2.17	-.52	Meth: 121.30 PCT					
096	2.22	-.23	426	2.13	-.73	Acid Soluble Magnesi					
419	2.24	-.31	324	2.09	-1.00	Other					
389	2.20	-.31	035	2.07	-1.17	Acid Soluble Magnesi					
065	2.23	-.35	420	1.99	-1.62	ICP					
233	2.20	-.36	292	1.83	-2.53	Acid Soluble Calcium					
255	2.17	-.52	247	1.19 s	-8.81	Meth: 121.99 PCT					
426	2.13	-.73	Acid Soluble Magnesi								
324	2.09	-1.00	Other								
035	2.07	-1.17	Acid Soluble Magnesi								
420	1.99	-1.62	ICP								
292	1.83	-2.53	Acid Soluble Calcium								
247	1.19 s	-8.81	Meth: 121.30 PCT								
Meth: 121.99 PCT											
Acid Soluble Magnesi											
Other											
042	2.26	1.01	Meth: 121.30 PCT								
Avg	2.17		Acid Soluble Magnesi								
022	2.08	-.70	ICP								
Meth: 121.XX PCT											
Acid Soluble Magnesi											
330	3.84 s	12.58	Meth: 101.30 PCT								
230	2.79 s	4.42	Acid Soluble Calcium								
200	2.73 s	4.00	ICP								
041	2.74 s	4.00	Acid Soluble Calcium								
433	2.70 A	3.68	Meth: 101.30 PCT								
027	2.53	1.66	Acid Soluble Calcium								
057	2.41	.91	Meth: 101.30 PCT								
452	2.39	.80	Acid Soluble Calcium								
390	2.37	.75	Meth: 101.30 PCT								
423	2.36	.65	Acid Soluble Calcium								
023	2.32	.42	Meth: 101.30 PCT								
131	2.32	.37	Acid Soluble Calcium								
102	2.30	.29	Meth: 101.30 PCT								
307	2.30	.27	Acid Soluble Calcium								
444	2.27	.21	Meth: 101.30 PCT								
360	2.26	.07	Acid Soluble Calcium								

* 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: 121.XX PCT																	
<u>Acid Soluble Magnesi</u>																	
450	2.35	1.04	Meth: 121.XX PCT	Meth: 144.01 PCT	Meth: 144.99 PCT	Meth: 144.XX PCT	Meth: 144.XX PCT	Meth: 144.XX PCT	Meth: 144.XX PCT	Meth: 144.XX PCT	Meth: 144.XX PCT	Meth: 144.XX PCT	Meth: 144.XX PCT	Meth: 144.XX PCT			
095	2.32	.92	<u>Acid Soluble Magnesi</u>	Sulfur	Sulfur	Sulfur	Sulfur	Sulfur	Sulfur	Sulfur	Sulfur	Sulfur	Sulfur	Sulfur			
042	2.26	R	247	1.19 s	-11.34	105	13.39	R	-1.15	177	12.42	-0.90	193	13.14	-0.62		
023	2.32	.77	Meth: 131.00 PCT	073	13.16	-1.30	073	13.16	-1.30	035	11.85	S	-1.70	009	12.83	-1.62	
131	2.32	.71	Water Soluble Magnes	114	13.16	-1.30	114	13.16	-1.30	255	11.79	-1.72	354	12.81	-1.64		
177	2.31	.66	AA	193	13.14	-1.38	193	13.14	-1.38	136	8.42	s	-5.88	351	12.83	-1.71	
102	2.30	.60	029	2.13	.87	028	8.26	s	-27.46	Meth: 144.XX PCT	Meth: 144.XX PCT	Meth: 144.XX PCT	Meth: 144.XX PCT	Meth: 144.XX PCT	Meth: 144.XX PCT		
307	2.30	.57	Avg	1.79		Meth: 144.02 PCT	Meth: 144.02 PCT	Meth: 144.02 PCT	Meth: 144.02 PCT	Sulfur	Sulfur	Sulfur	Sulfur	Sulfur	Sulfur		
065	2.23	.43	309	1.45	-.86	Sulfur	Sulfur	Sulfur	Sulfur	393	16.50	s	9.60	292	11.20	s	
444	2.27	.43	Meth: 131.30 PCT	Meth: 131.30 PCT	Meth: 131.30 PCT	Gravimetric	Gravimetric	Gravimetric	Gravimetric	230	16.40	s	9.28	136	8.42	s	
419	2.24	.41	Water Soluble Magnes	029	13.42	.71	029	13.42	.71	423	15.00	A	5.02	028	8.26	s	
360	2.26	.29	ICP	Avg	13.42		Avg	13.42		307	14.45	R	3.80	Meth: 151.00 PPM	Meth: 151.00 PPM	Meth: 151.00 PPM	
105	2.26	.28	452	2.07	-.71	Meth: 144.70 PCT	Meth: 144.70 PCT	Meth: 144.70 PCT	Meth: 144.70 PCT	055	13.96	2.02	055	13.85	1.57	Arsenic	
354	2.24	.22	Meth: 131.XX PCT	Meth: 131.XX PCT	Meth: 131.XX PCT	Sulfur	Sulfur	Sulfur	Sulfur	360	13.85	1.57	262	13.77	1.29	Atomic Absorption	
291	2.24	.15	Water Soluble Magnes	029	2.13	.74	029	2.13	.74	296	13.60	.78	390	13.40	R	1.23	
009	2.23	.08	029	2.07	.56	452	13.48	.71	452	13.48	.71	Meth: 151.30 PPM	Meth: 151.30 PPM	Meth: 151.30 PPM	Meth: 151.30 PPM		
Avg	2.22		452	2.07	.56	Avg	1.88		Avg	1.88		Arsenic	Arsenic	Arsenic	Arsenic	Arsenic	
096	2.22	-.08	Meth: 144.01 PCT	Meth: 144.01 PCT	Meth: 144.01 PCT	Sulfur	Sulfur	Sulfur	Sulfur	389	13.55	.65	ICP	ICP	ICP	ICP	ICP
389	2.20	-.19	029	1.45	-1.28	Meth: 144.99 PCT	Meth: 144.99 PCT	Meth: 144.99 PCT	Meth: 144.99 PCT	043	13.54	.63	230	1.29	1.31	230	1.29
137	2.20	-.23	029	1.45	-1.28	Sulfur	Sulfur	Sulfur	Sulfur	288	13.52	.54	450	1.00	.08	450	1.00
257	2.19	-.28	Meth: 144.01 PCT	Meth: 144.01 PCT	Meth: 144.01 PCT	Other	Other	Other	Other	029	13.49	.45	Avg	0.98		Avg	0.98
040	2.22	-.30	Sulfur	Sulfur	Sulfur	393	16.50	S	4.19	393	16.50	S	4.19	102	0.76	-.84	102
233	2.20	-.31	029	1.45	-1.28	230	16.40	S	4.06	230	16.40	S	4.06	065	0.87	X	-1.03
043	2.17	-.43	029	1.45	-1.28	423	15.00	2.32	2.32	423	15.00	2.32	2.32	Meth: 151.XX PPM	Meth: 151.XX PPM	Meth: 151.XX PPM	Meth: 151.XX PPM
309	2.17	-.45	029	1.45	-1.28	307	14.45	R	1.79	307	14.45	R	1.79	Arsenic	Arsenic	Arsenic	Arsenic
255	2.17	-.47	Meth: 144.01 PCT	Meth: 144.01 PCT	Meth: 144.01 PCT	360	13.85	.89	.89	360	13.85	.89	.89	230	1.29	1.54	230
351	2.15	-.59	Sulfur	Sulfur	Sulfur	390	13.40	.59	.59	390	13.40	.59	.59	450	1.00	.26	450
055	2.16	-.63	029	1.45	-1.28	389	13.55	.52	.52	389	13.55	.52	.52	Avg	0.94		Avg
262	2.15	-.70	029	1.45	-1.28	043	13.54	.84	.84	043	13.54	.84	.84	136	0.76	-.72	136
296	2.14	-.73	029	1.45	-1.28	288	13.52	.66	.66	288	13.52	.66	.66	102	0.76	-.72	102
426	2.13	-.74	029	1.45	-1.28	029	13.49	.49	.49	029	13.49	.49	.49	065	0.87	X	065
324	2.09	-1.09	040	13.49	.46	027	13.38	.30	.30	027	13.38	.30	.30	Meth: 151.XX PPM	Meth: 151.XX PPM	Meth: 151.XX PPM	Meth: 151.XX PPM
022	2.08	-1.13	444	13.40	.11	291	13.26	.15	.15	291	13.26	.15	.15	Arsenic	Arsenic	Arsenic	Arsenic
193	2.08	-1.24	Avg	13.40		247	13.22	.10	.10	247	13.22	.10	.10	230	1.29	1.54	230
035	2.07	-1.31	372	13.33	-.37	Avg	13.23			Avg	13.23			450	1.00	.26	450
420	1.99	-1.90	095	13.32	-.45	354	12.81	-.42	-.42	354	12.81	-.42	-.42	Avg	0.94		Avg
030	2.01	s	137	13.31	-.48	009	12.83	-.43	-.43	009	12.83	-.43	-.43	136	0.77	-.69	136
292	1.83	-3.08	102	13.21	-1.03	351	12.83	-.48	-.48	351	12.83	-.48	-.48	102	0.76	-.72	102
														065	0.87	X	-1.03

* 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: 165.99 PCT											
Acid Soluble Boron											
Other											
042	0.145 R	166.62									
444	0.004	1.13									
433	0.003	.08									
Avg	0.003										
423	0.002	-1.10									
Meth: 181.00 PPM											
Cadmium											
Atomic Absorption											
136	0.45	.71									
Meth: 181.30 PPM											
Cadmium											
ICP											
452	3.25	2.24									
419	1.80 R	1.02									
324	1.95	.85									
Avg	1.16										
450	0.88	-.31									
009	0.78	-.41									
230	0.72	-.47									
102	0.66	-.53									
035	0.62	-.59									
065	0.42 X	-.79									
Meth: 181.30 PPM											
Cadmium											
452	3.25	2.39									
419	1.80 R	1.11									
324	1.95	.96									
Avg	1.08										
450	0.88	-.23									
009	0.78	-.34									
230	0.72	-.40									
102	0.66	-.46									
035	0.62	-.52									
136	0.45	-.71									
Meth: 181.30 PPM											
Cadmium											
452	3.25	2.24									
419	1.80 R	1.02									
324	1.95	.85									
Avg	1.16										
450	0.88	-.31									
009	0.78	-.41									
230	0.72	-.47									
102	0.66	-.53									
035	0.62	-.59									
065	0.42 X	-.79									
Meth: 190.99 PCT											
Water Soluble Chlori											
Other											
009	0.60	.88									
Avg	0.46										
288	0.31	-.85									
Meth: 190.99 PCT											
Water Soluble Chlori											
009	0.60	.88									
Avg	0.46										
288	0.31	-.85									
Meth: 191.30 PPM											
Chromium											
ICP											
452	82.40	1.47									
390	78.65	1.00									
450	78.00	.83									
009	76.20	.55									
037	74.78	.42									
Avg	72.47										
065	70.81	-.29									
102	71.07	-.56									
035	66.60	-.91									
324	64.50	-1.18									
230	61.71	-1.60									
Meth: 202.00 PPM											
Acid Soluble Cobalt											
AA											
136	20.50 S	.00									
Meth: 202.30 PPM											
Acid Soluble Cobalt											
ICP											
419	10.00 S	4.41									
037	8.95	1.34									
009	8.90	1.29									
450	8.65 R	1.13									
057	8.30	.72									
035	7.56	.03									
Avg	7.53										
065	7.34	-.21									
102	6.45	-1.02									
230	6.43	-1.03									
324	6.30	-1.17									
Meth: 202.00 PPM											
Acid Soluble Cobalt											
136	20.50 S	12.18									
419	10.00 S	4.41									
037	8.95	1.34									
009	8.90	1.29									
450	8.65 R	1.13									
057	8.30	.72									
035	7.56	.03									
Avg	7.53										
065	7.34	-.21									
102	6.45	-1.02									
230	6.43	-1.03									
324	6.30	-1.17									
Meth: 221.00 PCT											
Acid Soluble Copper											
Atomic Absorption											
Avg	0.0012										
095	0.0011	-.46									
028	0.0011	-.48									
428	0.0011	-.76									
105	0.0005 S	-4.06									
Meth: 221.30 PCT											
Acid Soluble Copper											
ICP											
402	0.0045 S	12.51									
354	0.0040 S	11.18									
420	0.0026 S	5.46									
419	0.0018 R	3.45									
452	0.0014	1.26									
433	0.0014	1.13									
423	0.0012	.62									
230	0.0012	.58									
324	0.0012	.40									
450	0.0011	.40									
233	0.0011	.15									
Avg	0.0010										
065	0.0010	-.05									
444	0.0010	-.18									
102	0.0010	-.18									
009	0.0010	-.18									
035	0.0010	-.19									
009	0.0010	-.20									
057	0.0010	-.37									
041	0.0002	-3.05									
Meth: 221.00 PCT											
Acid Soluble Iron											
Atomic Absorption											
086	1.20 S	4.69									
030	0.91 R	1.97									
055	1.02	1.64									
137	0.95	.66									
351	0.95	.63									
095	0.95	.60									
040	0.93	.47									
371	0.94	.46									
028	0.93	.44									
029	0.92	.29									
177	0.92	.20									
Avg	0.90										
105	0.90	-.16									
397	0.88	-.37									
296	0.83	-1.02									
Meth: 221.30 PCT											
Acid Soluble Copper											
402	0.0045 S	12.95									
354	0.0040 S	11.57									
420	0.0026 S	5.59									
086	0.0018 R	3.59									
419	0.0018 R	3.51									
043	0.0015	1.57									

* 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	Lab	Average*	Index		
Meth: 241.00 PCT																
Acid Soluble Iron																
Atomic Absorption																
043	0.78	-1.72													Meth: 241.00 PCT	
262	0.75	-2.17													Acid Soluble Iron	
428	0.62 s	-3.81													AA	
Meth: 241.30 PCT																
Acid Soluble Iron																
ICP																
230	1.19	2.55													Meth: 241.30 PCT	
330	1.03	1.27													Acid Soluble Iron	
390	0.97	.88													AA	
041	0.96	.80													095	0.226
433	0.95	.72													Avg	0.257
131	0.94	.62													029	0.249
360	0.94	.57													Meth: 261.11 PCT	
354	0.92	.51													Acid Soluble Iron	
420	0.91	.45													AA	
096	0.91	.44													040	0.266
324	0.92	.43													Avg	0.257
057	0.91	.40													029	0.249
291	0.89	.33													Meth: 251.30 PPM	
009	0.89	.25													Lead	
419	0.87	.24													ICP	
426	0.87	.19													452	31.32
102	0.87	.16													419	22.50 R
035	0.87	.06													136	22.00
Meth: 241.30 PCT																
Acid Soluble Iron																
ICP																
230	1.19	2.55													Avg	14.65
330	1.03	1.27													450	13.50
390	0.97	.88													324	13.75
041	0.96	.80													037	12.59
433	0.95	.72													102	11.94
131	0.94	.62													230	11.50
360	0.94	.57													009	11.05
354	0.92	.51													065	10.37
420	0.91	.45													035	8.49
096	0.91	.44													Meth: 261.30 PCT	
324	0.92	.43													Acid Soluble Iron	
057	0.91	.40													AA	
291	0.89	.33													040	0.266
009	0.89	.25													Avg	0.257
419	0.87	.24													029	0.249
426	0.87	.19													Meth: 251.30 PPM	
102	0.87	.16													Lead	
035	0.87	.06													ICP	
Meth: 241.30 PCT																
Acid Soluble Iron																
ICP																
230	1.19	2.55													452	31.32
330	1.03	1.27													419	22.50 R
390	0.97	.88													136	22.00
041	0.96	.80													Avg	14.65
433	0.95	.72													450	13.50
131	0.94	.62													324	13.75
360	0.94	.57													037	12.59
354	0.92	.51													102	11.94
420	0.91	.45													230	11.50
096	0.91	.44													009	11.05
324	0.92	.43													065	10.37
057	0.91	.40													035	8.49
291	0.89	.33													Meth: 261.00 PCT	
009	0.89	.25													Acid Soluble Iron	
419	0.87	.24													AA	
426	0.87	.19													257	0.280
102	0.87	.16													028	0.268
035	0.87	.06													055	0.262
Meth: 241.30 PCT																
Acid Soluble Iron																
ICP																
230	1.19	2.55													086	0.263
330	1.03	1.27													351	0.257
390	0.97	.88													Avg	0.252
041	0.96	.80													177	0.252
433	0.95	.72													043	0.247
131	0.94	.62													105	0.245
360	0.94	.57													137	0.240
354	0.92	.51													296	0.234
420	0.91	.45													262	0.235 R
096	0.91	.44													Meth: 261.00 PCT	
324	0.92	.43													Acid Soluble Iron	
057	0.91	.40													AA	
291	0.89	.33													257	0.280
009	0.89	.25													028	0.268
419	0.87	.24													055	0.262
426	0.87	.19													086	0.263
102	0.87	.16													351	0.257
035	0.87	.06													Avg	0.252
Meth: 241.30 PCT																
Acid Soluble Iron																
ICP																
230	1.19	2.55													177	0.252
330	1.03	1.27													043	0.247
390	0.97	.88													105	0.245
041	0.96	.80													137	0.240
433	0.95	.72													296	0.234
131	0.94	.62													262	0.235 R
360	0.94	.57													Meth: 261.00 PCT	
354	0.92	.51													Acid Soluble Iron	
420	0.91	.45													AA	
096	0.91	.44													257	0.280
324	0.92	.43													028	0.268
057	0.91	.40													055	0.262
291	0.89	.33													086	0.263
009	0.89	.25													351	0.257
419	0.87	.24													Avg	0.252
426	0.87	.19													177	0.252
102	0.87	.16													043	0.247
035	0.87	.06													105	0.245
Meth: 241.30 PCT																
Acid Soluble Iron																
ICP																
230	1.19	2.55													137	0.240
330	1.03	1.27													296	0.234
390	0.97	.88													262	0.235 R
041	0.96	.80													Meth: 261.00 PCT	
433	0.95	.72													Acid Soluble Iron	
131	0.94	.62													AA	
360	0.94	.57													040	0.266
354	0.92	.51													Avg	0.257
420	0.91	.45													029	0.249
096	0.91	.44													Meth: 261.30 PCT	
324	0.92	.43													Acid Soluble Iron	
057	0.91	.40													ICP	
291	0.89	.33													389	1.351 s
009	0.89	.25													390	0.262 R
419	0.87	.24													433	0.266
426	0.87	.19													330	0.265
102	0.87	.16													423	0.263
035	0.87	.06													041	0.260
Meth: 241.30 PCT																
Acid Soluble Iron																
ICP																
230	1.19	2.55													354	0.259
330	1.03	1.27													131	0.259
390	0.97	.88													102	0.257
041	0.96	.80													291	0.255
433	0.95	.72													009	0.252
131	0.94	.62													360	0.250
360	0.94	.57													452	0.250
354	0.92	.51													Meth: 261.00 PCT	
420	0.91	.45													Acid Soluble Iron	
096	0.91	.44													AA	
324	0.92	.43													257	0.280
057	0.91	.40													028	0.268
291	0.89	.33													055	0.262
009	0.89	.25													086	0.263
419	0.87	.24													351	0.257
426	0.87	.19													Avg	0.252
102	0.87	.16													177	0.252
035	0.87	.06													043	0.247
Meth: 241.30 PCT																
Acid Soluble Iron																
ICP																
230	1.19	2.55													105	0.245
330	1.03	1.27													137	0.240
390	0.97	.88													296	0.234
041	0.96	.80													262	0.235 R
433	0.95	.72													Meth: 261.00 PCT	
131	0.94	.62													Acid Soluble Iron	
360	0.94	.57													AA	
354	0.92	.51													040	0.266
420	0.91	.45													Avg	0.257
096	0.91	.44													029	0.249
324	0.92	.43													Meth: 261.30 PCT	
057	0.91	.40													Acid Soluble Iron	
291	0.89	.33													ICP	
009	0.89	.25													389	1.351 s
419	0.87	.24													390	0.262 R
426	0.87	.19													433	0.266
102	0.87	.16													330	0.265
035	0.87	.06													423	0.263
Meth: 241.30 PCT																
Acid Soluble Iron																
ICP																
230	1.19	2.55													041	0.260
330	1.03	1.27													354	0.259
390	0.97	.88													131	0.259
041	0.96	.80													102	0.257
433	0.95	.72													291	0.255
131	0.94	.62													009	0.252
360	0.94	.57													360	0.250
354	0.92	.51													452	0.250
420	0.91	.45													Meth: 261.00 PCT	
096	0.91	.44													Acid Soluble Iron	
324	0.92	.43													AA	
057	0.91	.40													257	0.280
291	0.89	.33													028	0.268
009	0.89	.25													055	0.262
419	0.87	.24													086	0.263
426	0.87	.19													351	0.257
102	0.87	.16													Avg	0.252
035	0.87	.06													177	0.252
Meth: 241.30 PCT																
Acid Soluble Iron																
ICP																
230	1.19	2.55													043	0.247
330	1.03	1.27													105	0.245
390	0.97	.88													137	0.240
041	0.96	.80													296	0.234
433	0.95	.72													262	0.235 R
131	0.94	.62													Meth: 261.00 PCT	
360	0.94	.57													Acid Soluble Iron	
354	0.92	.51													AA	
420	0.91	.45													040	0.266
096	0.91	.44													Avg	0.257
324	0.92	.43													029	0.249
057	0.91	.40													Meth: 261.30 PCT	
291	0.89	.33													Acid Soluble Iron	
009	0.89	.25													ICP	
419	0.87	.24													389	1.351 s
426	0.87	.19													390	0.262 R
102	0.87	.16													433	0.266
035	0.87	.06														

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 261.31 PCT			Meth: 261.31 PCT			Meth: 261.31 PCT			Meth: 261.31 PCT		
Acid Soluble Manganese			Acid Soluble Manganese			Acid Soluble Manganese			Acid Soluble Manganese		
ICP			ICP			ICP			ICP		
230	0.318 S	7.50	351	0.257	.42	114	0.255	1.24	324	32.55	-1.62
324	0.265	.71	009	0.252	.23	Avg	0.203		Nickel		
Avg	0.265		177	0.252	.08	029	0.190	-0.33	ICP		
			Avg	0.252		452	0.164	-0.93	Meth: 291.30 PPM		
			452	0.250	-.14				Nickel		
Meth: 261.99 PCT			360	0.250	-.14	Meth: 289.30 PPM			ICP		
Acid Soluble Manganese			444	0.249	-.31	Molybdenum			136	45.50	1.70
Other			029	0.249	-.35	ICP			009	40.40	.58
042	0.262	1.40	057	0.249	-.37	419	12.65 s	11.14	450	41.00	.55
022	0.260	.47	426	0.247	-.40	037	9.59	2.06	037	39.79	.32
402	0.258	.46	043	0.247	-.45	450	8.50	.82	065	38.87	.13
Avg	0.255		105	0.245	-.54	065	8.88	.77	Avg	38.78	
037	0.253	-.71	027	0.242	-.74	009	8.80	.74	102	37.51	-.57
255	0.240	-1.26	307	0.241	-.87	057	8.60	.28	035	34.65	-1.06
			137	0.240	-.90	433	8.59	.23	324	32.55	-1.54
			255	0.240	-.90	Avg	8.46		Meth: 301.30 PPM		
Meth: 261.30 PCT			065	0.241	-.90	102	8.37	-.17	Selenium		
Acid Soluble Manganese			233	0.244	-.92	230	8.30	-.26	ICP		
389	1.351 s	117.07	296	0.234	-1.36	255	8.06	-.85	450	0.00	.00
230	0.318 s	4.98	262	0.235 R	-1.70	035	7.68	-1.31	Meth: 311.99 PCT		
257	0.280	2.12	035	0.229	-1.72	324	7.70	-1.34	Sodium		
390	0.262 R	1.43	420	0.247 R	-1.84	444	0.28 s	-13.41	Other		
028	0.268	1.35	095	0.226	-1.99				102	0.20	1.39
042	0.262	1.33	292	0.220	-2.40	Meth: 291.00 PPM			009	0.20	.83
040	0.266	1.17	419	0.210 s	-3.24	Nickel			423	0.19	.08
055	0.262	1.07				Atomic Absorption			Avg	0.19	
433	0.266	1.07				136	45.50	.71	057	0.18	-.44
330	0.265	1.06				Meth: 291.30 PPM			307	0.18	-.97
324	0.265	1.06				Nickel			035	0.18	-1.31
086	0.263	.93				ICP			Meth: 321.00 PCT		
423	0.263	.89				450	41.00	.98	Acid Soluble Zinc		
041	0.260	.61				009	40.40	.95	Atomic Absorption		
022	0.260	.61				037	39.79	.66	086	0.014 s	5.47
037	0.253	.61				065	38.87	.36	043	0.013 R	3.82
354	0.259	.56				Avg	37.82		371	0.011	1.31
402	0.258	.54				452	0.164	-.86	296	0.011	1.22
102	0.257	.54									
131	0.259	.53									
291	0.255	.44									

* 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	5	0.00	0.79	0.64	050.60	9	0.63	2.10	0.39
001.99	12	3.85	11.99	0.12	050.61	8	- 5.82	16.48	0.17
001.XX	17	3.14	11.64	0.18	050.99	19	0.08	0.96	0.33
002.99	2	0.00	1.15	0.30	050.XX	71	- 0.40	3.64	0.46
002.XX	2	0.00	1.15	0.30	060.00	5	0.00	1.05	0.13
003.10	2	0.00	1.22	0.10	060.XX	5	0.00	1.05	0.13
003.XX	3	0.00	1.11	0.11	101.00	3	0.00	0.94	0.49
005.99	3	0.00	1.12	0.03	101.30	17	0.11	1.00	0.60
005.XX	3	0.00	1.12	0.03	101.XX	21	0.10	1.01	0.61
009.10	2	0.00	1.22	0.11	121.00	17	0.19	1.69	0.86
009.XX	3	0.00	0.91	0.53	121.30	30	0.31	2.43	1.12
010.11	8	- 1.43	4.39	0.37	121.99	2	0.00	0.98	0.52
010.12	3	0.00	0.80	0.64	121.XX	49	0.39	2.59	1.21
010.60	57	0.08	1.29	0.50	131.00	2	0.00	1.20	0.16
010.99	5	- 3.46	3.66	0.90	131.XX	3	0.00	1.10	0.15
010.XX	72	- 0.45	3.01	0.80	144.01	18	- 1.36	6.61	0.48
020.10	4	1.10	2.32	1.39	144.02	2	- 26.16	37.00	0.53
020.20	19	- 0.03	1.93	0.34	144.99	19	0.21	2.16	0.28
020.40	6	16.06	39.35	0.38	144.XX	39	- 0.49	4.53	0.51
020.50	12	0.15	2.70	0.47	151.30	4	0.00	0.86	0.56
020.XX	39	3.60	22.69	0.68	151.XX	5	0.00	0.88	0.53
030.99	2	0.00	1.22	0.00	165.99	4	41.631	83.267	2.873
030.XX	4	0.00	1.08	0.00	165.XX	4	41.631	83.267	2.873
040.40	3	0.00	1.12	0.04	181.30	9	0.08	0.99	0.26
040.50	2	0.00	0.87	0.61	181.XX	10	0.08	1.00	0.26
040.XX	6	0.00	1.04	0.09	190.00	2	0.00	1.06	0.43
041.10	16	0.34	1.63	0.89	190.99	2	0.00	1.21	0.15
041.20	4	- 4.12	8.27	0.53	190.XX	4	0.00	1.05	0.21
041.40	5	- 1.35	3.15	0.20	191.30	10	0.00	0.99	0.26
041.50	12	- 0.09	0.98	0.52	191.XX	10	0.00	0.99	0.26
041.60	9	0.00	0.99	0.26	202.30	10	0.34	1.19	1.20
041.99	4	1.44	3.01	0.25	202.XX	11	1.41	3.74	1.15
041.XX	40	- 0.50	3.75	0.68	221.00	6	- 0.053	2.2740	1.5240
048.20	4	0.00	1.06	0.16	221.30	18	1.7246	3.9195	1.1027
048.XX	5	0.00	1.05	0.16	221.XX	24	1.3561	3.6526	1.1448
050.00	15	- 0.29	1.54	0.35	241.00	17	0.02	1.66	0.76
050.30	11	0.11	1.05	0.13	241.30	30	- 0.11	1.10	0.19
050.50	5	- 0.11	0.96	0.84	241.99	2	0.00	1.11	0.36
050.51	11	0.00	1.01	0.18	241.XX	49	- 0.02	1.14	0.33

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
251.30	10	0.13	1.05	0.37					
251.XX	11	0.11	1.03	0.35					
261.00	12	0.088	0.990	0.367					
261.11	2	0.000	0.985	0.514					
261.30	24	3.684	18.622	18.555					
261.31	2	3.748	5.300	0.500					
261.99	5	0.000	0.767	0.655					
261.XX	45	1.860	12.397	12.356					
271.30	2	0.000	1.221	0.070					
271.XX	3	0.000	1.111	0.100					
289.30	13	- 0.50	4.39	2.47					
289.XX	13	- 0.50	4.39	2.47					
291.30	7	0.00	0.97	0.35					
291.XX	8	0.00	0.99	0.29					
311.99	6	0.00	0.94	0.42					
311.XX	6	0.00	0.94	0.42					
321.00	10	0.827	1.963	1.022					
321.30	22	11.798	42.008	0.486					
321.XX	32	8.928	37.864	0.606					