

- Pass 1 Results for 80 Labs - - Pass 2 Results for 80 Labs -

Method	AOAC Ref.	Method Code	No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups	No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups
Ammoniacal Nitrogen, MgO Distillation	920.03	001.10	1	0.13	0.01	0.02	1	0.13	0.01	0.02
Ammoniacal Nitrogen, Other		001.99	2	1.88	1.99	0.06	2	1.88	1.99	0.06
Method Group 001.XX PCT			3	1.30	1.79	0.05	3	1.30	1.79	0.05
Nitrogen From Urea, Urease (as N)	959.03	005.00	1	6.00	0.04	0.06	1	6.00	0.04	0.06
Nitrogen From Urea, Other		005.99	1	5.81	0.01	0.01	1	5.81	0.01	0.01
Method Group 005.XX PCT			2	5.90	0.12	0.04	2	5.90	0.12	0.04
Ammon & Nitrate N, Devarda	892.01	009.10	1	9.00	0.14	0.20	1	9.00	0.14	0.20
Total Nitrogen, Modified Comprehensive	978.02	010.11	9	9.28	0.11	0.07	9	9.28	0.11	0.07
Total Nitrogen, Salicylic	955.04D	010.12	2	9.24	0.03	0.04	2	9.24	0.03	0.04
Total Nitrogen, Combustion		010.60	56	9.25	0.20	0.06	55	9.25	0.20	0.05
Total Nitrogen, Other		010.99	5	9.39	0.24	0.09	5	9.39	0.24	0.09
Method Group 010.XX PCT			72	9.26	0.19	0.06	70	9.26	0.19	0.06
Total Phosphate, Grav Quimociac	962.02	020.10	6	6.06	0.05	0.05	6	6.06	0.05	0.05
Total Phosphate, Spectrometric	958.01	020.20	18	6.05	0.26	0.09	17	6.07	0.23	0.06
Total Phosphate, Automated	978.01	020.40	5	6.03	0.07	0.03	5	6.03	0.07	0.03
Total Phosphate, ICP		020.50	10	6.20	0.28	0.08	11	6.26	0.33	0.07
Method Group 020.XX PCT			40	6.10	0.25	0.08	39	6.11	0.24	0.07
Insoluble Phosphate, Spectrometric	963.03C	030.20	1	0.20	0.21	0.30	1	0.20	0.21	0.30
Insoluble Phosphate, ICP		030.50	1	0.00	0.00	0.00	1	0.00	0.00	0.00
Method Group 030.XX PCT			2	0.10	0.17	0.15	2	0.10	0.17	0.15
InDir Available Phosphate, Spectrometri	960.02	040.20	2	3.30	2.91	0.20	2	3.30	2.91	0.20
InDir Available Phosphate, ICP		040.50	2	6.09	0.07	0.02	2	6.09	0.07	0.02
Method Group 040.XX PCT			4	4.70	2.42	0.11	3	4.32	2.74	0.02
Dir Available Phosphate, Grav Quimociac	960.03E	041.10	12	6.10	0.05	0.03	11	6.11	0.05	0.03
Dir Available Phosphate, Alka Quim	960.03C	041.30	1	6.01	0.00	0.00	1	6.01	0.00	0.00
Dir Available Phosphate, Automated	978.01	041.40	4	5.97	0.12	0.12	3	5.98	0.06	0.03
Dir Available Phosphate, ICP		041.50	8	6.03	0.13	0.07	8	6.03	0.13	0.07
Dir Available Phosphate, EDTA Extract	993.01	041.60	8	6.05	0.16	0.06	8	6.05	0.16	0.06
Method Group 041.XX PCT			35	6.04	0.13	0.06	34	6.04	0.13	0.05
Water Soluble Phosphate, Grav Quimociac	962.03	048.10	1	6.01	0.06	0.08	1	6.01	0.06	0.08
Water Soluble Phosphate, Spectrometric	970.01	048.20	1	0.12	0.01	0.01	1	0.12	0.01	0.01
Method Group 048.XX PCT			2	3.06	3.40	0.05	2	3.06	3.40	0.05
Soluble Potash, STPB Oxalate	958.02	050.00	18	8.30	0.33	0.12	17	8.30	0.34	0.10
Soluble Potash, STPB Citrate	969.04	050.10	2	8.39	0.23	0.23	2	8.39	0.23	0.23
Soluble Potash, AA (Oxalate)		050.30	12	8.16	0.37	0.09	12	8.16	0.37	0.09
Soluble Potash, AA (Citrate)		050.31	1	8.09	0.01	0.01	1	8.09	0.01	0.01
Soluble Potash, ICP (Oxalate)		050.50	7	8.21	0.31	0.09	7	8.21	0.31	0.09
Soluble Potash, ICP (Citrate)		050.51	9	8.01	0.31	0.11	9	8.01	0.31	0.11
Soluble Potash, Flame (Oxalate)	983.02(a)	050.60	3	7.94	0.28	0.07	3	7.94	0.28	0.07

- Pass 1 Results for 80 Labs - - Pass 2 Results for 80 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
Soluble Potash, Flame (Citrate)	983.02(b)	050.61	7	8.18	0.13	0.09	7	8.18	0.13	0.09
Soluble Potash, Other		050.99	14	8.08	0.22	0.11	13	8.11	0.20	0.09
Method Group 050.XX PCT			73	8.16	0.31	0.11	69	8.17	0.30	0.09
Acid Soluble Calcium, ICP		101.30	7	0.43	0.77	0.01	6	0.41	0.84	0.01
Acid Soluble Magnesium, ICP		121.30	4	0.03	0.05	0.00	3	0.00	0.00	0.00
Sulfur, Gravimetric	980.02a	144.01	8	0.02	0.02	0.01	8	0.02	0.02	0.01
Sulfur, Gravimetric	980.02b	144.02	2	0.04	0.01	0.01	2	0.04	0.01	0.01
Sulfur, Other		144.99	7	0.03	0.02	0.01	6	0.03	0.02	0.00
Method Group 144.XX PCT			17	0.02	0.02	0.01	17	0.02	0.02	0.01
Arsenic, ICP		151.30	1	47.60	1.70	2.40	1	47.60	1.70	2.40
Acid Soluble Boron, Spectrometric	982.01	165.00	7	0.021	0.005	0.001	6	0.021	0.005	0.000
Acid Soluble Boron, Other		165.99	18	0.024	0.003	0.001	16	0.023	0.003	0.001
Method Group 165.XX PCT			25	0.023	0.004	0.001	23	0.023	0.004	0.001
Water Soluble Boron, Spectrometric	982.01	171.10	1	0.020	0.000	0.000	1	0.020	0.000	0.000
Water Soluble Boron, Other		171.99	2	0.028	0.004	0.001	2	0.028	0.004	0.001
Method Group 171.XX PCT			3	0.026	0.005	0.000	3	0.026	0.005	0.000
Cadmium, ICP		181.30	2	0.81	0.91	0.10	2	0.81	0.91	0.10
Water Soluble Chlorine, Titrimetric	928.02	190.00	1	0.17	0.00	0.00	1	0.17	0.00	0.00
Chromium, ICP		191.30	5	1.18	0.66	0.24	5	1.18	0.66	0.24
Chromium, Other		191.99	1	0.61	0.16	0.22	1	0.61	0.16	0.22
Method Group 191.XX PPM			6	1.08	0.64	0.23	6	1.08	0.64	0.23
Acid Soluble Cobalt, ICP	965.11	202.30	3	3.11	4.75	0.04	3	3.11	4.75	0.04
Acid Soluble Copper, Atomic Absorption	975.01	221.00	14	0.0389	0.0014	0.0009	14	0.0389	0.0014	0.0009
Acid Soluble Copper, Titrimetric	942.01	221.10	1	0.0378	0.0000	0.0000	1	0.0378	0.0000	0.0000
Acid Soluble Copper, ICP		221.30	21	0.0390	0.0016	0.0003	20	0.0389	0.0015	0.0003
Acid Soluble Copper, Other		221.99	2	0.0393	0.0009	0.0001	2	0.0393	0.0009	0.0001
Method Group 221.XX PCT			38	0.0390	0.0015	0.0005	34	0.0389	0.0014	0.0003
Acid Soluble Iron, Atomic Absorption	980.01	241.00	15	0.06	0.01	0.00	15	0.06	0.01	0.00
Acid Soluble Iron, ICP		241.30	27	0.07	0.01	0.00	21	0.06	0.01	0.00
Method Group 241.XX PCT			43	0.07	0.01	0.00	36	0.06	0.01	0.00
Lead, ICP		251.30	3	0.44	0.43	0.01	3	0.44	0.43	0.01
Lead, Other		251.99	1	0.46	0.00	0.00	1	0.46	0.00	0.00
Method Group 251.XX PPM			4	0.45	0.37	0.01	4	0.45	0.37	0.01
Acid Soluble Manganese, AA	972.02a	261.00	13	0.051	0.002	0.001	12	0.050	0.002	0.001
Acid Soluble Manganese, AA	972.02b	261.11	2	0.052	0.002	0.000	2	0.052	0.002	0.000
Acid Soluble Manganese, ICP	972.02a	261.30	23	0.053	0.004	0.002	20	0.053	0.003	0.001
Acid Soluble Manganese, ICP	972.02b	261.31	1	0.056	0.000	0.000	1	0.056	0.000	0.000
Acid Soluble Manganese, Other		261.99	4	0.052	0.003	0.001	4	0.052	0.003	0.001
Method Group 261.XX PCT			44	0.052	0.003	0.002	40	0.052	0.003	0.001

- Pass 1 Results for 80 Labs - - Pass 2 Results for 80 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
Water Soluble Manganese, Atomic Abs ...	972.03	271.00	2	0.050	0.002	0.001	2	0.050	0.002	0.001
Water Soluble Manganese, ICP	972.03	271.30	2	0.060	0.000	0.000	2	0.060	0.000	0.000
Method Group 271.XX PCT			4	0.055	0.005	0.000	4	0.055	0.005	0.000
Mercury, Other		281.99	1	0.04	0.00	0.00	1	0.04	0.00	0.00
Molybdenum, ICP		289.30	11	11.83	1.45	0.64	10	11.67	1.30	0.33
Molybdenum, Other		289.99	1	13.45	0.07	0.10	1	13.45	0.07	0.10
Method Group 289.XX PPM			12	11.96	1.46	0.59	11	11.83	1.34	0.31
Nickel, ICP		291.30	2	14.60	16.69	0.05	2	14.60	16.69	0.05
Nickel, Other		291.99	1	0.50	0.01	0.02	1	0.50	0.01	0.02
Method Group 291.XX PPM			3	9.90	14.83	0.04	3	9.90	14.83	0.04
Sodium, Other		311.99	4	0.24	0.28	0.00	4	0.24	0.28	0.00
Acid Soluble Zinc, Atomic Absorption ..	975.02	321.00	18	0.050	0.005	0.002	17	0.050	0.004	0.001
Acid Soluble Zinc, ICP		321.30	27	0.050	0.004	0.002	25	0.050	0.004	0.001
Acid Soluble Zinc, Other		321.99	2	0.054	0.001	0.001	2	0.054	0.001	0.001
Method Group 321.XX PCT			47	0.050	0.004	0.001	44	0.050	0.004	0.001
Water Soluble Zinc, ICP		325.30	1	0.062	0.000	0.000	1	0.062	0.000	0.000

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 001.10 PCT														
Ammoniacal Nitrogen														
MgO Distillation	288	0.13	.71											
Meth: 001.99 PCT														
Ammoniacal Nitrogen														
Other	405	3.61	.87											
Avg	1.88													
096	0.16		-.87											
Meth: 001.XX PCT														
Ammoniacal Nitrogen														
405	3.61	1.29												
Avg	1.30													
096	0.16	-.64												
288	0.13	-.65												
Meth: 005.00 PCT														
Nitrogen From Urea														
Urease (as N)	288	6.00	.71											
Meth: 005.99 PCT														
Nitrogen From Urea														
Other	027	5.81	.71											
Meth: 005.XX PCT														
Nitrogen From Urea														
288	6.00	.88												
Avg	5.90													
027	5.81	-.85												
Meth: 009.10 PCT														
Ammon & Nitrate N														
Devarda	030	9.00	.71											
Meth: 010.11 PCT														
Total Nitrogen														
Modified Comprehensi	090	9.49	1.96											
090	9.49	1.96	.56											
288	9.34	.65	.46											
029	9.30	.32	.44											
Avg	9.28		.36											
211	9.27	-.10	.36											
416	9.25	-.34	.26											
371	9.27	-.49	.26											
220	9.24	-.63	.23											
405	9.27	-1.05	.23											
322	9.13	-1.50	.22											
309	2.51 s	-64.08	.18											
Meth: 010.12 PCT														
Total Nitrogen														
Salicylic	185	9.26	.67											
Avg	9.24		-.03											
137	9.23	-1.02	-.04											
Meth: 010.60 PCT														
Total Nitrogen														
Combustion	351	9.94 s	3.48											
072	9.66	2.03	3.48											
409	9.65	2.00	3.48											
136	9.61	1.81	3.48											
037	9.58	1.66	3.48											
027	9.55	1.48	3.48											
102	9.54	1.46	3.48											
450	9.46	1.15	3.48											
444	9.47	1.09	3.48											
360	9.43	.99	3.48											
114	9.41	.83	3.48											
035	9.40	.77	3.48											
247	9.38	.69	3.48											
390	9.38	.67	3.48											
049	9.36	.56	3.48											
Meth: 010.60 PCT														
Total Nitrogen														
Combustion	007	9.35	.56											
007	9.35	.56	.56											
381	9.34	.46	.46											
296	9.34	.44	.44											
234	9.30	.36	.36											
043	9.30	.36	.36											
029	9.30	.26	.26											
106	9.28	.26	.26											
292	9.30	.23	.23											
131	9.27	.23	.23											
041	9.28	.22	.22											
009	9.28	.18	.18											
389	9.28	.18	.18											
057	9.25	.13	.13											
040	9.27	.11	.11											
361	9.25	.08	.08											
Avg	9.25		.08											
372	9.25	-.03	-.03											
394	9.24	-.04	-.04											
325	9.25	-.08	-.08											
425	9.23	-1.10	-1.10											
233	9.22	-1.20	-1.20											
023	9.21	-1.25	-1.25											
426	9.18	-1.32	-1.32											
073	9.18	-1.32	-1.32											
162	9.19	-1.37	-1.37											
232	9.18	-1.38	-1.38											
324	9.18	-1.39	-1.39											
055	9.18	-1.49	-1.49											
028	9.15	-1.53	-1.53											
307	9.21 R	-1.58	-1.58											
157	9.13	-1.60	-1.60											
369	9.11	-1.72	-1.72											
262	9.09	-1.82	-1.82											
034	9.07	-1.89	-1.89											
018	9.06	-1.97	-1.97											
423	9.04	-1.09	-1.09											
095	9.03	-1.13	-1.13											
Meth: 010.60 PCT														
Total Nitrogen														
Combustion	351	9.94 s	3.51											
354	9.76	2.56	3.51											
072	9.66	2.02	3.51											
409	9.65	1.99	3.51											
136	9.61	1.79	3.51											
037	9.58	1.63	3.51											
027	9.55	1.45	3.51											
102	9.54	1.43	3.51											
072	9.49	1.26	3.51											
090	9.49	1.18	3.51											
450	9.46	1.11	3.51											
444	9.47	1.05	3.51											
360	9.43	.95	3.51											
114	9.41	.83	3.51											
035	9.40	.77	3.51											
247	9.38	.69	3.51											
390	9.38	.67	3.51											
049	9.36	.56	3.51											
Meth: 010.99 PCT														
Total Nitrogen														
Other	354	9.76	1.54											
072	9.49	.56	.56											
Avg	9.39		.56											
300	9.35	-.27	-.27											
255	9.22	-.73	-.73											
420	9.13	-1.10	-1.10											
Meth: 010.XX PCT														
Total Nitrogen														
Avg	9.26		.04											
185	9.26	-.05	-.05											
416	9.25	-.08	-.08											
361	9.25	-.09	-.09											
372	9.25	-.10	-.10											
394	9.24	-.12	-.12											
325	9.25	-.12	-.12											
057	9.25	-.14	-.14											
425	9.23	-.16	-.16											
137	9.23	-.23	-.23											
233	9.22	-.26	-.26											
307	9.21 R	-.28	-.28											
450	9.46	1.11	1.11											
444	9.47	1.05	1.05											
360	9.43	.95	1.05											
114	9.41	.83	1.05											
035	9.40	.77	1.05											
247	9.38	.69	1.05											
390	9.38	.67	1.05											
049	9.36	.56	1.05											

* 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												
<u>Total Nitrogen</u>												
324	9.18	-.47										
055	9.18	-.56										
028	9.15	-.62										
307	9.21 R	-.63										
157	9.13	-.69										
322	9.13	-.71										
420	9.13	-.72										
369	9.11	-.81										
262	9.09	-.91										
034	9.07	-.98										
018	9.06	-1.07										
423	9.04	-1.20										
095	9.03	-1.23										
096	9.01	-1.30										
422	9.00	-1.34										
291	8.95	-1.61										
451	8.82	-2.26										
377	8.78	-2.49										
230	8.82 s	-2.60										
177	8.74	-2.69										
309	2.51 s	-34.79										
Meth: 020.10 PCT												
<u>Total Phosphate</u>												
<u>Grav Quimociac</u>												
444	6.71 s	12.41										
157	6.14	1.85										
095	6.08	.39										
Avg	6.06											
090	6.04	-.60										
114	6.02	-.68										
049	6.02	-.68										
405	6.04	-.80										
Meth: 020.20 PCT												
<u>Total Phosphate</u>												
<u>Spectrometric</u>												
232	6.26	.80										
381	6.23	.75										
292	6.23	.71										
416	6.16	.36										
Avg	6.07											
450	6.07	-.02										
420	6.07	-.12										
177	6.04	-.13										
371	6.02	-.23										
262	6.06	-.27										
324	6.02	-.30										
220	6.02	-.32										
030	6.00	-.55										
234	5.96	-.57										
369	5.91	-.72										
451	5.90	-.90										
309	5.60	-2.10										
230	5.58 R	-2.47										
372	0.83 s	-23.03										
Meth: 020.40 PCT												
<u>Total Phosphate</u>												
<u>Automated</u>												
394	6.14	1.41										
042	6.05	.73										
096	6.05	.23										
Avg	6.03											
035	5.98	-.74										
409	5.95	-1.18										
Meth: 020.50 PCT												
<u>Total Phosphate</u>												
<u>ICP</u>												
432	7.44 S	3.59										
426	6.88 S	1.88										
361	6.67	1.24										
247	6.56	.91										
Meth: 020.50 PCT												
<u>Total Phosphate</u>												
<u>ICP</u>												
390	6.38	1.21										
232	6.26	.60										
381	6.23	.56										
292	6.23	.52										
157	6.14	.24										
416	6.16	.17										
423	6.15	.16										
394	6.14	.09										
Avg	6.11											
095	6.08	-.17										
450	6.07	-.19										
420	6.07	-.23										
096	6.05	-.27										
177	6.04	-.30										
262	6.06	-.34										
042	6.05	-.35										
090	6.04	-.35										
255	6.03	-.35										
Meth: 020.50 PCT												
<u>Total Phosphate</u>												
<u>ICP</u>												
390	6.38	1.21										
232	6.26	.60										
381	6.23	.56										
292	6.23	.52										
157	6.14	.24										
416	6.16	.17										
423	6.15	.16										
394	6.14	.09										
Avg	6.11											
095	6.08	-.17										
450	6.07	-.19										
420	6.07	-.23										
096	6.05	-.27										
177	6.04	-.30										
262	6.06	-.34										
042	6.05	-.35										
090	6.04	-.35										
255	6.03	-.35										
Meth: 020.50 PCT												
<u>Total Phosphate</u>												
<u>ICP</u>												
390	6.38	1.21										
232	6.26	.60										
381	6.23	.56										
292	6.23	.52										
157	6.14	.24										
416	6.16	.17										
423	6.15	.16										
394	6.14	.09										
Avg	6.11											
095	6.08	-.17										
450	6.07	-.19										
420	6.07	-.23										
096	6.05	-.27										
177	6.04	-.30										
262	6.06	-.34										
042	6.05	-.35										
090	6.04	-.35										
255	6.03	-.35										
Meth: 020.50 PCT												
<u>Total Phosphate</u>												
<u>ICP</u>												
390	6.38	1.21										
232	6.26	.60										
381	6.23	.56										
292	6.23	.52										
157	6.14	.24										
416	6.16	.17										
423	6.15	.16										
394	6.14	.09										
Avg	6.11											
095	6.08	-.17										
450	6.07	-.19										
420	6.07	-.23										
096	6.05	-.27										
177	6.04	-.30										
262	6.06	-.34										
042	6.05	-.35										
090	6.04	-.35										
255	6.03	-.35										
Meth: 020.20 PCT												
<u>Insoluble Phosphate</u>												
<u>Spectrometric</u>												
220	0.20	.71										
Meth: 030.20 PCT												
<u>Insoluble Phosphate</u>												
<u>Spectrometric</u>												
220	0.20	.71										
Meth: 041.10 PCT												
<u>Dir Available Phosph</u>												
<u>Grav Quimociac</u>												
137	6.64 s	11.30										
233	6.16	1.29										
185	6.17	1.27										
055	6.13	.68										
296	6.13	.56										
041	6.12	.53										
211	6.12	.23										
Avg	6.11											
029	6.09	-.33										
009	6.09	-.39										
072	6.09	-.54										
040	6.08	-.58										
260	6.05 R	-1.74										
131	6.00	-2.29										
102	5.85 s	-5.72										

* 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: 050.60 PCT																	
Soluble Potash																	
Flame (Oxalate)			432	10.17 s	6.59	211	8.15	-0.09	309	6.93 s	-4.13	309	6.93 s	-4.13			
157	7.59	-1.29	030	9.00 s	4.55	055	8.14	-0.15	423	6.60 s	-5.22	423	6.60 s	-5.22			
309	6.93 S	-3.64	114	9.00	2.72	035	8.16	-0.22	023	5.84 s	-7.73	023	5.84 s	-7.73			
			381	8.99	2.71	043	8.12	-0.24				Avg	0.04	.87			
Meth: 050.61 PCT																	
Soluble Potash																	
Flame (Citrate)			102	8.57	1.33	057	8.16	-0.25	Meth: 101.30 PCT						114	0.03	-0.87
030	9.00 s	10.20	361	8.57	1.33	055	8.14	-0.26	Acid Soluble Calcium								
018	8.35	1.53	137	8.55	1.24	095	8.09	-0.26	ICP								
024	8.34	1.15	322	8.50	1.09	296	8.10	-0.26	232	2.20	2.13	232	2.20	2.13			
037	8.20	.42	220	8.46	.96	131	8.09	-0.27	422	0.52 R	.13	422	0.52 R	.13			
Avg	8.18		040	8.45	.92	360	8.10	-0.27	Avg	0.41		405	0.26	-0.18			
041	8.16	-0.19	425	8.44	.90	233	8.11	-0.28	420	0.01		420	0.01	-0.48			
035	8.16	-0.50	369	8.41	.84	351	8.08	-0.31	057	0.00		Avg	0.03	.30			
029	8.04	-1.06	072	8.31 R	.83	029	8.07	-0.34	009	0.00		255	0.03	-0.37			
028	8.04	-1.12	073	8.41	.82	422	8.06	-0.40	433	0.00		009	0.02	-0.47			
			444	8.28 R	.82	372	8.05	-0.41				390	0.02	-0.47			
Meth: 050.99 PCT																	
Soluble Potash																	
Other			426	8.39	.73	042	8.05	-0.44	Meth: 121.30 PCT						450	0.02 R	-0.79
247	8.36	1.24	018	8.35	.71	029	8.04	-0.44	Acid Soluble Magnesi						023	0.01	-0.98
177	8.34	1.16	247	8.36	.60	028	8.04	-0.46	ICP								
325	8.30	.95	177	8.34	.55	072	8.15	-0.50	232	3.07 s0694.14		232	3.07 s0694.14				
232	8.30	.94	024	8.34	.54	377	8.00	-0.57	422	0.11 R 364.23		422	0.11 R 364.23				
390	8.22	.82	106	8.33	.53	009	8.02	-0.59	420	0.00	1.28	420	0.00	1.28			
072	8.15	.78	390	8.22	.44	049	8.00	-0.66	Avg	0.00		Avg	0.00				
			451	8.29	.43	394	7.97	-0.68	009	0.00	-0.53	027	0.08	2.49			
			389	8.30	.42	043	7.97	-0.69	433	0.00	-0.76	095	0.05	1.25			
			325	8.30	.41	255	7.90	-0.90				029	0.05	1.03			
			232	8.30	.40	009	7.91	-0.93	Meth: 144.01 PCT						422	0.04	.76
			324	8.27	.36	027	7.87	-1.02	Sulfur						296	0.03	.56
			307	8.23	.35	354	7.75	-1.44	Gravimetric						137	0.03	.27
			416	8.27	.32	291	7.71	-1.55	095	0.05	1.81	114	0.03	.25			
			090	8.22	.26	260	7.74 R	-1.56	296	0.03	.92	255	0.03	.12			
			007	8.20	.22	096	7.72 R	-1.62	137	0.03	.76	Avg	0.02				
			234	8.23	.21	444	7.63	-1.83	Avg	0.02		009	0.02	-0.04			
			037	8.20	.20	420	7.60	-1.90	040	0.01	-0.61	390	0.02	-0.05			
			Avg	8.17		157	7.59	-1.95	028	0.01	-0.62	450	0.02	-0.54			
			041	8.16	-0.05	428	7.52	-2.17	029	0.00	-0.82	023	0.01	-0.58			
			136	8.16	-0.05	185	7.35	-2.72	444	0.00	-0.82	040	0.01	-0.86			
									262	0.00	-0.82	028	0.01	-0.99			

* 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.XX PCT														
Sulfur														
444	0.00	-1.20										Meth: 221.00 PCT		
262	0.00	-1.20										Acid Soluble Copper		
029	0.00	-1.20										Atomic Absorption		
Meth: 151.30 PPM														
Arsenic														
ICP			220	0.016	-1.80							262	0.0400	.79
232	47.60	.71										030	0.0400	.79
Meth: 165.00 PCT														
Acid Soluble Boron														
137	0.030	1.68										296	0.0385	-1.07
023	0.026	.86										428	0.0370	-1.30
028	0.021 R	.19										043	0.0310 s	-5.48
Avg	0.021											Meth: 221.10 PCT		
296	0.020	-.15										Acid Soluble Copper		
055	0.017	-.70										Titrimetric		
029	0.017	-.80										034	0.0378	.00
220	0.016	-.89										Meth: 221.30 PCT		
Meth: 165.99 PCT														
Acid Soluble Boron														
Other												Acid Soluble Copper		
232	0.269 s	66.13										ICP		
291	0.045 s	6.15										422	0.0500 s	7.26
137	0.030	1.97										291	0.0450 s	5.14
432	0.030 R	1.95										041	0.0465 s	4.95
354	0.030 R	1.95										426	0.0430	2.65
422	0.027 R	1.23										360	0.0410 R	1.50
049	0.026	.89										354	0.0400	.69
096	0.026	.78										106	0.0400	.69
023	0.026	.77										389	0.0400	.69
043	0.025	.71										027	0.0400	.69
300	0.025	.51										292	0.0400	.69
360	0.025	.51										432	0.0400	.69
409	0.024	.48										102	0.0397	.47
042	0.024	.38										009	0.0391	.22
324	0.024	.26										390	0.0392	.18
040	0.023	.11										037	0.0390	.04
Avg	0.023											Meth: 221.00 PCT		
433	0.022	-.14										Acid Soluble Cobalt		
255	0.022	-.18										ICP		
444	0.021	-.52										232	9.25	1.29
028	0.021	-.52										Avg	3.11	
043	0.025	.68										102	0.06	-.64
300	0.025	.42										247	0.04	-.65
360	0.025	.42										Meth: 221.00 PCT		
409	0.024	.36										Acid Soluble Copper		
042	0.024	.42										Atomic Absorption		
409	0.024	.23										137	0.0500 s	7.73
324	0.024	.07										351	0.0416	1.89
Avg	0.023											177	0.0400	1.05
232	0.269 s	90.79										095	0.0400	.79
291	0.045 s	8.19										Meth: 181.30 PPM		
432	0.030	2.42										Cadmium		
354	0.030 R	2.42										ICP		
422	0.027 R	1.46										232	1.60	.87
049	0.026	.94										Avg	0.81	
096	0.026	.78										102	0.03	-.86
043	0.025	.68										Meth: 190.00 PCT		
300	0.025	.42										Water Soluble Chlori		
360	0.025	.42										Titrimetric		
409	0.024	.36										422	0.17	.00
042	0.024	.38										Meth: 191.30 PPM		
324	0.024	.26										Chromium		
040	0.023	.11										ICP		
Avg	0.023											232	86.25 s	133.05
433	0.022	-.14										450	2.00	1.43
255	0.022	-.18										444	1.55	.81
444	0.021	-.52										324	1.10	.47
028	0.021	-.52										Avg	1.08	
043	0.025	.68										009	1.05	-.09
300	0.025	.42										409	0.61	-.76
360	0.025	.42										102	0.18	-1.41
409	0.024	.36										Meth: 202.30 PPM		
042	0.024	.38										Acid Soluble Cobalt		
324	0.024	.26										ICP		
040	0.023	.11										232	9.25	1.29
Avg	0.023											Avg	3.11	
433	0.022	-.14										102	0.06	-.64
255	0.022	-.18										247	0.04	-.65
444	0.021	-.52										Meth: 221.00 PCT		
028	0.021	-.52										Acid Soluble Copper		
043	0.025	.68										Atomic Absorption		
300	0.025	.42										137	0.0500 s	7.73
360	0.025	.42										351	0.0416	1.89
409	0.024	.36										177	0.0400	1.05
042	0.024	.23										095	0.0400	.79
324	0.024	.07										Meth: 191.99 PPM		
Avg	0.023											Chromium		
232	0.269 s	90.79										Other		
291	0.045 s	8.19										426	0.032	.87
432	0.030	2.42										Avg	0.028	
354	0.030 R	2.42										027	0.025	-.86
422	0.027 R	1.46										Meth: 171.99 PCT		
049	0.026	.94										Water Soluble Boron		
096	0.026	.78										Other		
043	0.025	.68										409	0.61	.71
300	0.025	.42										Meth: 191.99 PPM		
360	0.025	.42										Chromium		
409	0.024	.36										Other		
042	0.024	.38										232	86.25 s	133.05
324	0.024	.26										450	2.00	1.43
040	0.023	.11										444	1.55	.81
Avg	0.023											324	1.10	.47
433	0.022	-.14										Avg	1.08	
255	0.022	-.18										009	1.05	-.09
444	0.021	-.52										409	0.61	-.76
028	0.021	-.52										102	0.18	-1.41
043	0.025	.68										Meth: 221.30 PCT		
300	0.025	.42										Acid Soluble Copper		
360	0.025	.42										ICP		
409	0.024	.36										422	0.0500 s	7.26
042	0.024	.38										291	0.0450 s	5.14
324	0.024	.26										041	0.0465 s	4.95
040	0.023	.11										426	0.0430	2.65
Avg	0.023											360	0.0410 R	1.50
433	0.022	-.14										354	0.0400	.69
255	0.022	-.18										106	0.0400	.69
444	0.021	-.52										389	0.0400	.69
028	0.021	-.52										027	0.0400	.69
043	0.025	.68										292	0.0400	.69
300	0.025	.42										432	0.0400	.69
360	0.025	.42										102	0.0397	.47
409	0.024	.36										009	0.0391	.22
042	0.024	.23										390	0.0392	.18
324	0.024	.07										037	0.0390	.04
Avg	0.023											Meth: 221.00 PCT		
232	0.269 s	90.79										Acid Soluble Copper		
291	0.045 s	8.19										Atomic Absorption		
432	0.030	2.42										262	0.0400	.79
354	0.030 R	2.42										030	0.0400	.79
422	0.027 R	1.46										296	0.0395	.56
049	0.026	.94										Avg	0.0389	
096	0.026	.78										029	0.0384	-.43
043	0.025	.68										371	0.0380	-.60
300	0.025	.42										028	0.0382	-.62
360	0.025	.42										040	0.0380	-.92
409	0.024	.36										220	0.0375	-1.01
042	0.024	.38										055	0.0375	-1.01
324	0.024	.26										450	0.0385	-1.07
040	0.023	.11										428	0.0370	-1.30
Avg	0.023											043	0.0310 s	-5.48
433	0.022	-.14										Meth: 221.10 PCT		
255	0.022	-.18										Acid Soluble Copper		
444	0.021	-.52										Titrimetric		
028	0.021	-.52										034	0.0378	.00
043	0.025	.68										Meth: 221.30 PCT		
300	0.025	.42										Acid Soluble Copper		
360	0.025	.42										ICP		
409	0.024	.36										422	0.0500 s	7.26
042	0.024	.38										291	0.0450 s	5.14
324	0.024	.26										041	0.0465 s	4.95
040	0.023	.11										426	0.0430	2.65
Avg	0.023											360	0.0410 R	1.50
433	0.022	-.14										354	0.0400	.69
255	0.022	-.18										106	0.0400	.69
444	0.021	-.52										389	0.0400	.69
028	0.021	-.52										027	0.0400	.69
043	0.025	.68										292	0.0400	.69
300	0.025	.42										432	0.0400	.69
360	0.025	.42										102	0.0397	.47
409	0.024	.36										009	0.0391	.22
042	0.024	.23										390	0.0392	.18
324	0.024	.07										037	0.0390	.04
Avg	0.023											Meth: 221.00 PCT		
232	0.269 s	90.79										Acid Soluble Copper		
291	0.045 s	8.19										Atomic Absorption		
432	0.030	2.42										262	0.0400	.79
354	0.030 R	2.42										030	0.0400	.79
422	0.027 R	1.46										296	0.0395	.56
049	0.026	.94										Avg	0.0389	
096	0.026	.78										029	0.0384	-.43
043	0.025	.68										371	0.0380	-.60
300	0.025	.42										028	0.0382	-.62
360	0.025	.42										040	0.0380	-.92
409	0.024	.36										220	0.0375	-1.01
042	0.024	.38										055	0.0375	-1.01
324	0.024	.26										450	0.0385	-1.07
040	0.023	.11										428	0.0370	-1.30
Avg	0.023											043	0.0310 s	-5.48
433	0.022	-.14										Meth: 221.10 PCT		
255	0.022	-.18										Acid Soluble Copper		
444	0.021	-.52										Titrimetric		
028	0.021	-.52												

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 221.30 PCT											
Acid Soluble Copper											
ICP											
Avg	0.0389										
131	0.0383	- .42									
057	0.0383	- .42									
444	0.0385	- .44									
423	0.0381	- .58									
420	0.0380	- .61									
324	0.0377	- .82									
023	0.0375	- 1.00									
300	0.0365	- 1.63									
255	0.0360	- 1.92									
433	0.0336 s	- 3.52									
049	0.0350 s	- 4.16									
232	0.0075 s	- 20.56									
Meth: 221.99 PCT											
Acid Soluble Copper											
Other											
042	0.0401	.87									
Avg	0.0393										
409	0.0386	- .87									
Meth: 221.30 PCT											
Acid Soluble Iron											
ICP											
Avg	0.07	.94									
095	0.07	.94									
247	0.07	.94									
057	0.07 R	.84									
029	0.07	.59									
324	0.07	.48									
390	0.07	.31									
360	0.06	.25									
040	0.06	.25									
037	0.07	.20									
102	0.06	.18									
420	0.07	.09									
055	0.06	.08									
Avg	0.06										
131	0.06	- .17									
371	0.06	- .18									
300	0.06	- .18									
027	0.06	- .24									
177	0.06	- .30									
023	0.06	- .34									
009	0.06	- .46									
233	0.06	- .56									
096	0.06	- .75									
049	0.06	- .75									
034	0.06	- .75									
262	0.06	- .75									
220	0.06	- .77									
444	0.06	- .92									
351	0.06	- .95									
296	0.06	- 1.03									
433	0.06	- 1.05									
255	0.06	- 1.34									
043	0.05	- 1.94									
428	0.04 A	- 3.96									
405	0.00 s	- 10.13									
Meth: 241.30 PCT											
Acid Soluble Iron											
ICP											
420	0.07	.04									
Avg	0.06										
131	0.06	- .24									
300	0.06	- .24									
360	0.06	- .27									
027	0.06	- .32									
023	0.06	- .41									
009	0.06	- .54									
233	0.06	- .64									
049	0.06	- .84									
096	0.06	- .84									
444	0.06	- 1.02									
433	0.06	- 1.16									
255	0.06	- 1.46									
405	0.00 s	- 10.64									
Meth: 241.99 PCT											
Acid Soluble Iron											
Other											
042	0.10 S	.00									
Meth: 241.30 PCT											
Acid Soluble Iron											
ICP											
232	0.22 s	27.53									
422	0.10 s	6.56									
291	0.08 R	3.67									
423	0.08	2.96									
354	0.08 R	2.16									
292	0.08 R	2.00									
432	0.08 R	2.00									
426	0.07	1.34									
041	0.07 R	1.15									
106	0.07	.92									
389	0.07	.92									
247	0.07	.92									
057	0.07 R	.86									
324	0.07	.45									
390	0.07	.26									
102	0.06	.18									
Meth: 241.00 PCT											
Acid Soluble Iron											
Atomic Absorption											
381	0.58 s	80.70									

* 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: 289.XX PPM											
<u>Molybdenum</u>											
057	12.45	.67									
009	12.40	.42									
324	11.85	.19									
Avg	11.83										
433	11.76	-.17									
102	11.41	-.36									
444	11.00	-.62									
220	11.00	-.62									
232	8.65	-2.38									
Meth: 291.30 PPM											
<u>Nickel</u>											
232	29.05	.87									
Avg	14.60										
102	0.15	-.87									
Meth: 291.99 PPM											
<u>Nickel</u>											
409	0.50	.71									
Meth: 291.XX PPM											
<u>Nickel</u>											
232	29.05	1.29									
Avg	9.90										
409	0.50	-.63									
102	0.15	-.66									
Meth: 311.99 PPM											
<u>Sodium</u>											
232	0.69	1.61									
Avg	0.24										
422	0.13	-.41									
102	0.08	-.60									
009	0.07	-.61									
Meth: 321.00 PCT											
<u>Acid Soluble Zinc</u>											
136	0.060	2.25									
137	0.060	2.25									
029	0.055	1.06									
028	0.050	.07									
095	0.050	.02									
262	0.050	.02									
Avg	0.050										
055	0.050	-.14									
381	0.050	-.14									
177	0.050	-.14									
371	0.049	-.20									
043	0.050	-.34									
450	0.048	-.55									
428	0.047	-.73									
034	0.047	-.77									
351	0.047	-.84									
296	0.046	-.87									
220	0.044	-1.46									
040	0.044 R	-1.72									
030	0.035 s	-3.50									
Meth: 321.30 PCT											
<u>Acid Soluble Zinc</u>											
ICP											
389	0.050	.04									
Avg	0.050										
037	0.050	-.02									
247	0.050	-.06									
131	0.049	-.13									
027	0.050	-.15									
009	0.049	-.26									
360	0.049	-.35									
444	0.049	-.35									
023	0.049	-.35									
423	0.048	-.46									
255	0.048	-.59									
390	0.047	-.66									
096	0.047	-.71									
300	0.047	-.83									
433	0.043	-1.62									
307	0.042	-1.98									
Meth: 321.99 PCT											
<u>Acid Soluble Zinc</u>											
ICP											
409	0.054	.31									
Avg	0.054										
042	0.053	-1.18									
Meth: 321.XX PCT											
<u>Acid Soluble Zinc</u>											
232	0.260 s	50.06									
291	0.065 s	3.77									
106	0.060	2.52									
432	0.060	2.52									
041	0.057 R	2.17									
057	0.053 R	1.17									
354	0.054	1.06									
102	0.053	.99									
422	0.052	.59									
420	0.051	.29									
324	0.051	.17									
049	0.050	.04									
292	0.050	.04									
Meth: 321.XX PCT											
<u>Acid Soluble Zinc</u>											
409	0.054	.96									
102	0.053	.91									
042	0.053	.85									
422	0.052	.53									
420	0.051	.23									
324	0.051	.11									
Avg	0.050										
095	0.050	-.01									
292	0.050	-.01									
049	0.050	-.01									
262	0.050	-.01									
389	0.050	-.01									
037	0.050	-.07									
247	0.050	-.08									
028	0.050	-.08									
027	0.050	-.17									
381	0.050	-.17									
055	0.050	-.17									
177	0.050	-.17									
131	0.049	-.17									
371	0.049	-.25									
009	0.049	-.30									
043	0.050	-.37									
023	0.049	-.38									
444	0.049	-.38									
360	0.049	-.38									
423	0.048	-.49									
450	0.048	-.62									
255	0.048	-.62									
390	0.047	-.68									
096	0.047	-.73									
428	0.047	-.81									
034	0.047	-.85									
300	0.047	-.85									
351	0.047	-.93									
296	0.046	-.96									
220	0.044	-1.60									
433	0.043	-1.61									
Meth: 325.30 PCT											
<u>Water Soluble Zinc</u>											
ICP											
426	0.062	.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
001.99	2	0.00	1.22	0.02	144.XX	18	31.05	104.54	0.49
001.XX	3	0.00	1.12	0.02	165.00	7	0.004	0.956	0.085
005.XX	2	0.00	1.20	0.19	165.99	20	5.106	20.270	0.545
010.11	10	- 6.41	20.28	0.43	165.XX	27	2.778	12.751	0.346
010.12	2	0.00	0.83	0.64	171.99	2	0.000	1.218	0.094
010.60	58	0.02	1.11	0.24	171.XX	3	0.000	1.116	0.056
010.99	5	0.00	1.03	0.22	181.30	2	0.00	1.22	0.08
010.XX	73	- 0.49	4.21	0.25	181.XX	2	0.00	1.22	0.08
020.10	7	1.74	4.67	1.02	191.30	6	21.40	52.44	0.23
020.20	19	- 1.33	5.36	0.33	191.XX	7	19.01	50.30	0.23
020.40	5	0.00	0.99	0.34	202.30	3	0.00	1.12	0.01
020.50	12	0.30	1.41	0.18	202.XX	3	0.00	1.12	0.01
020.XX	42	- 0.40	3.74	0.36	221.00	16	0.1416	2.5816	0.4274
030.XX	2	0.00	0.84	0.63	221.30	27	- 0.339	4.6071	0.9189
040.20	2	0.00	1.22	0.05	221.99	2	0.0000	1.2235	0.0395
040.50	2	0.00	1.20	0.17	221.XX	46	- 0.163	4.0008	0.7860
040.XX	4	0.14	0.95	0.04	241.00	17	4.53	19.67	0.22
041.10	15	- 0.17	3.94	0.58	241.30	30	1.12	5.63	0.40
041.40	4	- 0.11	0.90	1.74	241.XX	48	2.52	13.10	0.34
041.50	10	2.14	5.36	0.32	251.30	4	11.90	23.82	2.89
041.60	8	0.00	1.01	0.21	251.XX	5	11.26	25.20	3.06
041.XX	32	0.81	3.39	0.41	261.00	14	0.539	1.729	0.423
048.XX	2	0.00	1.22	0.01	261.11	2	0.000	1.222	0.056
050.00	18	0.00	0.97	0.24	261.30	24	19.770	96.343	2.826
050.10	2	0.00	0.71	0.70	261.99	4	0.000	1.063	0.164
050.30	12	0.00	1.01	0.14	261.XX	45	10.373	69.023	2.029
050.50	7	0.00	1.03	0.16	271.00	2	0.000	1.196	0.185
050.51	12	- 0.39	3.36	0.22	271.30	2	0.000	1.000	0.500
050.60	4	- 0.91	2.03	0.14	271.XX	4	0.000	1.078	0.055
050.61	8	0.76	2.32	2.92	289.30	11	0.12	1.04	0.47
050.99	14	- 0.13	1.05	0.40	289.XX	12	0.10	1.02	0.44
050.XX	71	- 0.11	1.78	0.50	291.30	2	0.00	1.22	0.00
101.30	7	0.02	0.96	0.01	291.XX	3	0.00	1.12	0.00
101.XX	7	0.02	0.96	0.01	311.99	4	0.00	1.08	0.01
121.30	5	2211.5	4744.3	39.90	311.XX	4	0.00	1.08	0.01
121.XX	5	2211.5	4744.3	39.90	321.00	19	- 0.244	1.239	0.394
144.01	8	0.00	0.99	0.28	321.30	29	2.009	9.681	0.411
144.02	3	66.23	114.71	1.38	321.99	2	0.000	0.438	0.809
144.99	8	51.96	147.21	0.21	321.XX	50	1.019	7.182	0.401