

MAGRUDER - Fertilizer Check Sample No. - 200608 Grade 19-2-19

- 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	7	1.17	0.21	0.04	6	1.18	0.22	0.01
Ammoniacal Nitrogen, Other		001.99	6	1.16	0.14	0.01	5	1.10	0.06	0.01
Method Group 001.XX PCT			13	1.16	0.18	0.03	12	1.17	0.18	0.01
Water Insoluble Nitrogen, Meth I	945.01	003.10	3	5.05	1.61	0.02	3	5.05	1.61	0.02
Water Insoluble Nitrogen, Other		003.99	2	5.36	2.13	0.01	2	5.36	2.13	0.01
Method Group 003.XX PCT			5	5.17	1.73	0.02	5	5.17	1.73	0.02
Nitrogen From Urea, Urease (as N)	959.03	005.00	1	3.90	0.01	0.02	1	3.90	0.01	0.02
Nitrogen From Urea, Other		005.99	4	3.98	0.44	0.03	4	3.98	0.44	0.03
Method Group 005.XX PCT			5	3.97	0.39	0.03	5	3.97	0.39	0.03
Percent Urea, Urease (as Urea)	959.03	007.00	1	3.51	0.02	0.03	1	3.51	0.02	0.03
Total Nitrogen, Modified Comprehensive	978.02	010.11	9	19.31	0.21	0.13	8	19.30	0.20	0.08
Total Nitrogen, Salicylic	955.04D	010.12	5	19.25	0.11	0.06	5	19.25	0.11	0.06
Total Nitrogen, Comprehensive	970.02	010.17	1	19.55	0.01	0.01	1	19.55	0.01	0.01
Total Nitrogen, Combustion		010.60	52	19.46	0.25	0.11	48	19.48	0.23	0.09
Total Nitrogen, Other		010.99	5	19.44	0.35	0.33	4	19.39	0.21	0.10
Method Group 010.XX PCT			72	19.43	0.25	0.12	69	19.43	0.24	0.10
Total Phosphate, Grav Quimociac	962.02	020.10	5	2.24	0.15	0.07	5	2.24	0.15	0.07
Total Phosphate, Spectrometric	958.01	020.20	18	2.29	0.12	0.03	15	2.32	0.07	0.01
Total Phosphate, Automated	978.01	020.40	4	2.26	0.04	0.02	4	2.26	0.04	0.02
Total Phosphate, ICP		020.50	9	2.28	0.13	0.06	9	2.28	0.13	0.06
Total Phosphate, Other		020.99	1	2.47	0.04	0.05	1	2.47	0.04	0.05
Method Group 020.XX PCT			38	2.27	0.14	0.04	34	2.28	0.14	0.03
Insoluble Phosphate, Grav Quimociac ...	963.03C	030.10	2	0.01	0.02	0.00	2	0.01	0.02	0.00
Insoluble Phosphate, Spectrometric	963.03C	030.20	1	0.05	0.00	0.00	1	0.05	0.00	0.00
Insoluble Phosphate, Automated	978.01	030.40	2	0.05	0.02	0.03	2	0.05	0.02	0.03
Method Group 030.XX PCT			5	0.03	0.02	0.01	4	0.03	0.02	0.00
InDir Available Phosphate, Grav Quim ..	960.02	040.10	1	2.37	0.06	0.08	1	2.37	0.06	0.08
InDir Available Phosphate, Spectrometri	960.02	040.20	1	2.34	0.06	0.08	1	2.34	0.06	0.08
InDir Available Phosphate, Automated ..	960.02	040.40	2	2.23	0.06	0.03	2	2.23	0.06	0.03
InDir Available Phosphate, ICP		040.50	2	2.24	0.03	0.04	2	2.24	0.03	0.04
Method Group 040.XX PCT			6	2.27	0.07	0.05	6	2.27	0.07	0.05
Dir Available Phosphate, Grav Quimociac	960.03E	041.10	17	2.25	0.10	0.03	17	2.25	0.10	0.03
Dir Available Phosphate, Spectrometric	960.03D	041.20	1	2.15	0.00	0.00	1	2.15	0.00	0.00
Dir Available Phosphate, Automated	978.01	041.40	4	2.27	0.05	0.06	4	2.27	0.05	0.06
Dir Available Phosphate, ICP		041.50	6	2.33	0.03	0.04	6	2.33	0.03	0.04
Dir Available Phosphate, EDTA Extract .	993.01	041.60	9	2.18	0.11	0.04	9	2.18	0.11	0.04
Dir Available Phosphate, Other		041.99	5	2.20	0.12	0.04	5	2.20	0.12	0.04
Method Group 041.XX PCT			44	2.24	0.11	0.04	42	2.24	0.11	0.04
Water Soluble Phosphate, Spectrometric	970.01	048.20	2	1.61	0.09	0.03	2	1.61	0.09	0.03

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Water Soluble Phosphate, Other		048.99	1	1.66	0.00	0.00	1	1.66	0.00	0.00
Method Group 048.XX PCT			3	1.63	0.08	0.02	3	1.63	0.08	0.02
Soluble Potash, STPB Oxalate	958.02	050.00	17	19.57	0.34	0.08	16	19.53	0.30	0.05
Soluble Potash, AA (Oxalate)		050.30	10	19.46	0.61	0.24	10	19.46	0.61	0.24
Soluble Potash, AA (Citrate)		050.31	2	19.57	0.44	0.04	2	19.57	0.44	0.04
Soluble Potash, ICP (Oxalate)		050.50	6	19.61	0.61	0.06	6	19.61	0.61	0.06
Soluble Potash, ICP (Citrate)		050.51	6	19.59	0.39	0.12	6	19.59	0.39	0.12
Soluble Potash, Flame (Oxalate)	983.02(a)	050.60	8	19.60	0.41	0.21	8	19.60	0.41	0.21
Soluble Potash, Flame (Citrate)	983.02(b)	050.61	5	19.85	0.29	0.15	5	19.85	0.29	0.15
Soluble Potash, Other		050.99	16	19.70	0.49	0.26	15	19.72	0.48	0.21
Method Group 050.XX PCT			70	19.61	0.46	0.17	64	19.62	0.45	0.11
Free Water, Vacuum Oven	965.08B	060.00	4	1.74	0.26	0.05	4	1.74	0.26	0.05
Acid Soluble Calcium, AA	945.04	101.00	2	0.26	0.02	0.02	2	0.26	0.02	0.02
Acid Soluble Calcium, ICP		101.30	14	0.27	0.02	0.01	13	0.27	0.02	0.01
Acid Soluble Calcium, Other		101.99	1	0.29	0.01	0.02	1	0.29	0.01	0.02
Method Group 101.XX PCT			17	0.27	0.02	0.01	16	0.27	0.02	0.01
Acid Soluble Magnesium, AA	984.01	121.00	20	0.94	0.05	0.03	19	0.93	0.05	0.02
Acid Soluble Magnesium, ICP		121.30	26	0.96	0.06	0.03	24	0.95	0.06	0.02
Acid Soluble Magnesium, Other		121.99	3	0.92	0.05	0.04	3	0.92	0.05	0.04
Method Group 121.XX PCT			49	0.95	0.06	0.03	46	0.94	0.05	0.02
Water Soluble Magnesium, AA		131.00	3	0.76	0.06	0.01	3	0.76	0.06	0.01
Water Soluble Magnesium, ICP		131.30	3	0.80	0.06	0.02	3	0.80	0.06	0.02
Method Group 131.XX PCT			6	0.78	0.06	0.01	6	0.78	0.06	0.01
Sulfur, Gravimetric	980.02a	144.01	17	8.62	0.14	0.08	16	8.62	0.14	0.07
Sulfur, Gravimetric	980.02b	144.02	2	8.73	0.29	0.12	2	8.73	0.29	0.12
Sulfur, Other		144.99	22	8.52	0.28	0.12	24	8.52	0.35	0.11
Method Group 144.XX PCT			42	8.57	0.24	0.12	39	8.60	0.20	0.09
Arsenic, Atomic Absorption		151.00	1	0.73	0.00	0.01	1	0.73	0.00	0.01
Arsenic, ICP		151.30	3	0.73	0.54	0.61	3	0.73	0.54	0.61
Arsenic, Other		151.99	2	1.12	0.21	0.25	2	1.12	0.21	0.25
Method Group 151.XX PPM			6	0.86	0.43	0.39	5	0.86	0.26	0.13
Acid Soluble Boron, Spectrometric	982.01	165.00	2	0.004	0.001	0.002	2	0.004	0.001	0.002
Acid Soluble Boron, Other		165.99	6	0.003	0.002	0.000	6	0.003	0.002	0.000
Method Group 165.XX PCT			8	0.003	0.002	0.001	8	0.003	0.002	0.001
Cadmium, Atomic Absorption		181.00	1	1.10	0.01	0.02	1	1.10	0.01	0.02
Cadmium, ICP		181.30	4	0.68	0.32	0.05	4	0.68	0.32	0.05
Cadmium, Other		181.99	1	0.53	0.01	0.02	1	0.53	0.01	0.02
Method Group 181.XX PPM			6	0.72	0.32	0.04	6	0.72	0.32	0.04
Water Soluble Chlorine, Titrimetric	928.02	190.00	2	0.56	0.07	0.01	2	0.56	0.07	0.01

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Water Soluble Chlorine, Other		190.99	2	0.29	0.05	0.02	2	0.29	0.05	0.02
Method Group 190.XX PCT			4	0.42	0.16	0.01	4	0.42	0.16	0.01
Chromium, Atomic Absorption		191.00	1	26.00	1.41	2.00	1	26.00	1.41	2.00
Chromium, ICP		191.30	6	24.62	1.83	0.62	6	24.62	1.83	0.62
Chromium, Other		191.99	1	28.00	0.00	0.00	1	28.00	0.00	0.00
Method Group 191.XX PPM			8	25.21	2.00	0.72	8	25.21	2.00	0.72
Acid Soluble Cobalt, AA		202.00	2	7.72	1.36	0.19	2	7.72	1.36	0.19
Acid Soluble Cobalt, ICP	965.11	202.30	8	7.31	1.16	0.28	8	7.31	1.16	0.28
Acid Soluble Cobalt, Other		202.99	2	9.10	1.05	0.20	2	9.10	1.05	0.20
Method Group 202.XX PPM			12	7.68	1.31	0.25	12	7.68	1.31	0.25
Acid Soluble Copper, Atomic Absorption	975.01	221.00	4	0.0012	0.0003	0.0003	4	0.0012	0.0003	0.0003
Acid Soluble Copper, ICP		221.30	13	0.0013	0.0004	0.0002	12	0.0013	0.0003	0.0001
Acid Soluble Copper, Other		221.99	3	0.0015	0.0005	0.0001	3	0.0015	0.0005	0.0001
Method Group 221.XX PCT			21	0.0012	0.0004	0.0002	19	0.0013	0.0004	0.0001
Acid Soluble Iron, Atomic Absorption	980.01	241.00	18	0.59	0.05	0.01	17	0.58	0.05	0.01
Acid Soluble Iron, ICP		241.30	27	0.58	0.07	0.02	27	0.58	0.07	0.02
Acid Soluble Iron, Other		241.99	2	0.47	0.06	0.02	2	0.47	0.06	0.02
Method Group 241.XX PCT			47	0.58	0.07	0.02	47	0.58	0.07	0.02
Lead, Atomic Absorption		251.00	1	4.70	0.00	0.00	1	4.70	0.00	0.00
Lead, ICP		251.30	7	4.47	1.95	1.39	7	4.47	1.95	1.39
Lead, Other		251.99	2	4.95	0.86	1.00	2	4.95	0.86	1.00
Method Group 251.XX PPM			10	4.59	1.66	1.18	10	4.59	1.66	1.18
Acid Soluble Manganese, AA	972.02a	261.00	12	0.201	0.011	0.010	12	0.201	0.011	0.010
Acid Soluble Manganese, AA	972.02b	261.11	2	0.199	0.003	0.004	2	0.199	0.003	0.004
Acid Soluble Manganese, ICP	972.02a	261.30	23	0.204	0.011	0.007	22	0.203	0.011	0.006
Acid Soluble Manganese, ICP	972.02b	261.31	2	0.204	0.007	0.001	2	0.204	0.007	0.001
Acid Soluble Manganese, Other		261.99	3	0.200	0.010	0.017	3	0.200	0.010	0.017
Method Group 261.XX PCT			42	0.203	0.011	0.008	41	0.202	0.010	0.007
Water Soluble Manganese, Atomic Abs	972.03	271.00	3	0.213	0.072	0.001	3	0.213	0.072	0.001
Water Soluble Manganese, ICP	972.03	271.30	2	0.643	0.609	0.025	2	0.643	0.609	0.025
Method Group 271.XX PCT			5	0.385	0.419	0.010	4	0.189	0.076	0.003
Molybdenum, ICP		289.30	8	1.84	0.52	0.35	8	1.84	0.52	0.35
Molybdenum, Other		289.99	1	3.00	0.00	0.00	1	3.00	0.00	0.00
Method Group 289.XX PPM			10	2.33	1.24	0.38	10	2.33	1.24	0.38
Nickel, Atomic Absorption		291.00	1	11.50	0.71	1.00	1	11.50	0.71	1.00
Nickel, ICP		291.30	6	13.40	1.03	0.68	5	13.15	0.73	0.31
Method Group 291.XX PPM			7	13.13	1.19	0.72	6	12.87	0.95	0.43
Selenium, ICP		301.30	1	0.18	0.08	0.11	1	0.18	0.08	0.11
Selenium, Other		301.99	1	0.00	0.00	0.00	1	0.00	0.00	0.00

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Method Group 301.XX PPM			2	0.09	0.11	0.06	2	0.09	0.11	0.06
Sodium, Other		311.99	6	0.13	0.03	0.00	6	0.13	0.03	0.00
Acid Soluble Zinc, Atomic Absorption ..	975.02	321.00	8	0.012	0.002	0.001	8	0.012	0.002	0.001
Acid Soluble Zinc, ICP		321.30	17	0.014	0.002	0.001	16	0.014	0.002	0.001
Acid Soluble Zinc, Other		321.99	4	0.015	0.001	0.001	4	0.015	0.001	0.001
Method Group 321.XX PCT			29	0.014	0.002	0.001	26	0.013	0.002	0.001

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 001.10 PCT			Meth: 001.XX PCT			Meth: 005.99 PCT			Meth: 010.12 PCT			Meth: 010.60 PCT		
<u>Ammoniacal Nitrogen</u>			<u>Ammoniacal Nitrogen</u>			<u>Nitrogen From Urea</u>			<u>Total Nitrogen</u>			<u>Total Nitrogen</u>		
<u>MgO Distillation</u>			288 1.02 - .85			<u>Other</u>			<u>Salicylic</u>			<u>Combustion</u>		
220 1.47 1.29			324 0.99 -1.02			351 4.18 .46			254 19.39 1.31			324 19.55 .38		
230 1.45 1.22			415 0.97 -1.10			Avg 3.98			416 19.32 .67			024 19.53 .26		
029 1.21 .13						029 3.74 -.56			137 19.25 .40			025 19.53 .23		
Avg 1.18			Meth: 003.10 PCT			394 3.47 -1.17			Avg 19.25			029 19.50 .20		
309 1.10 R -.59			Water Insoluble Nitr						434 19.16 -.84			389 19.50 .10		
288 1.02 -.77			<u>Meth I</u>			Meth: 005.XX PCT			185 19.12 -1.21			291 19.49 X .04		
324 0.99 -.90			023 6.98 1.20			<u>Nitrogen From Urea</u>						Avg 19.48		
415 0.97 -.97			Avg 5.05			309 17.25 s 34.14			Meth: 010.17 PCT			177 19.46 -.08		
			029 4.76 -.18			230 4.54 1.48			<u>Total Nitrogen</u>			040 19.46 -.10		
Meth: 001.99 PCT			230 3.42 -1.01			351 4.18 .56			<u>Comprehensive</u>			022 19.45 -.13		
<u>Ammoniacal Nitrogen</u>						Avg 3.97			211 19.55 -.71			232 19.45 -.16		
<u>Other</u>			Meth: 003.99 PCT			288 3.90 -.17						231 19.43 -.23		
434 2.65 S 23.92			Water Insoluble Nitr			029 3.74 -.60			Meth: 010.60 PCT			230 19.45 -.25		
372 2.01 S 14.08			<u>Other</u>			394 3.47 -1.27			<u>Total Nitrogen</u>			042 19.40 -.34		
397 1.44 R 5.21			372 7.21 .87						<u>Combustion</u>			296 19.38 -.44		
376 1.20 1.53			Avg 5.36			Meth: 007.00 PCT			102 20.35 s 3.83			136 19.40 -.46		
247 1.12 .29			027 3.51 -.87			Percent Urea			434 20.21 s 3.64			426 19.43 -.48		
096 1.11 .21						<u>Urease (as Urea)</u>			292 20.07 2.59			442 19.35 -.59		
Avg 1.10			Meth: 003.XX PCT			247 3.51 .71			027 19.99 2.22			262 19.35 -.60		
027 1.05 -.79			<u>Water Insoluble Nitr</u>						157 19.93 1.97			023 19.33 -.73		
394 1.03 -1.18			372 7.21 1.18			Meth: 010.11 PCT			422 19.79 1.37			307 19.42 -.74		
			023 6.98 1.05			<u>Total Nitrogen</u>			351 19.75 1.20			007 19.30 -.89		
			Avg 5.17			<u>Modified Comprehensi</u>			409 19.72 1.13			041 19.26 -.99		
Meth: 001.XX PCT			029 4.76 -.24			309 19.55 1.41			234 19.67 .90			360 19.35 R -1.00		
<u>Ammoniacal Nitrogen</u>			027 3.51 -.96			220 19.57 1.32			330 19.50 R .88			131 19.25 -1.00		
434 2.65 s 8.12			230 3.42 -1.02			288 19.33 R 1.13			037 19.61 .84			247 19.25 -1.02		
372 2.01 s 4.62						114 19.41 .51			096 19.67 .84			325 19.25 -1.02		
220 1.47 1.63			Meth: 005.00 PCT			105 19.34 .20			095 19.53 R .79			009 19.28 -1.06		
230 1.45 1.54			<u>Nitrogen From Urea</u>			Avg 19.30			043 19.61 .69			034 19.10 -1.65		
397 1.44 1.47			<u>Urease (as N)</u>			090 19.23 -.39			049 19.60 .55			423 19.08 -1.76		
029 1.21 .23			288 3.90 -.71			405 19.23 -.42			028 19.59 .49			394 19.05 -1.90		
376 1.20 .17						029 19.12 -.93			106 19.58 .49			428 19.00 -2.13		
Avg 1.17			Meth: 005.99 PCT			371 19.00 -1.51			055 19.54 .48			390 19.10 s -3.10		
247 1.12 -.27			<u>Nitrogen From Urea</u>						372 19.58 .45			073 18.76 A -3.15		
096 1.11 -.33			<u>Other</u>						425 19.57 .42					
027 1.05 -.66			309 17.25 s 30.19						406 19.57 .40					
309 1.10 R -.67			230 4.54 1.27						369 19.53 .38					
394 1.03 -.80														

* 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: 010.99 PCT			Meth: 010.XX PCT			Meth: 010.XX PCT			Meth: 020.20 PCT			Meth: 020.99 PCT		
<u>Total Nitrogen</u>			<u>Total Nitrogen</u>			<u>Total Nitrogen</u>			<u>Total Phosphate</u>			<u>Total Phosphate</u>		
Other			Other			Spectrometric			Other			Other		
354	20.77 S	6.72	211	19.55	.50	288	19.33 R	-1.03	416	2.30	-.26	368	2.47	.71
368	19.62 R	3.18	024	19.53	.44	434	19.16	-1.11	425	2.27	-.65			
397	19.60	1.07	025	19.53	.44	029	19.12	-1.29	288	2.26	-.90	Meth: 020.XX PCT		
376	19.40	.49	426	19.43	.42	185	19.12	-1.30	232	2.25	-.95	<u>Total Phosphate</u>		
377	19.47	.39	029	19.50	.35	415	19.10	-1.33	324	2.17	-2.18	409	4.97 s	19.78
Avg	19.39		389	19.50	.31	034	19.10	-1.35	376	2.20 R	-2.21	292	2.47	1.41
415	19.10	-1.40	291	19.49 X	.25	423	19.08	-1.46	372	1.94 A	-5.50	368	2.47	1.39
Meth: 010.XX PCT			230	19.45	.23	394	19.05	-1.58	442	1.89 s	-6.15	426	2.44	1.19
<u>Total Nitrogen</u>			377	19.47	.20	371	19.00	-1.79	262	1.30 s	-14.67	257	2.40	.90
354	20.77 s	5.61	040	19.46	.13	428	19.00	-1.81				390	2.39	.81
102	20.35 s	3.86	022	19.45	.11	073	18.76	-2.78	Meth: 020.40 PCT			234	2.33 R	.78
434	20.21 s	3.65	232	19.45	.10	390	19.10 s	-2.84	<u>Total Phosphate</u>			090	2.37	.74
292	20.07	2.68	Avg	19.43		Meth: 020.10 PCT			<u>Automated</u>			330	2.37	.71
368	19.62 R	2.67	231	19.43	-.02	<u>Total Phosphate</u>			409	4.97 S	61.77	406	2.37	.65
027	19.99	2.33	042	19.40	-.10	<u>Grav Quimociac</u>			247	2.32	1.29	220	2.34	.46
157	19.93	2.10	114	19.41	-.13	090	2.37	.94	394	2.28	.39	423	2.34	.46
422	19.79	1.52	254	19.39	-.15	114	2.32	.56	Avg	2.26		371	2.34	.46
351	19.75	1.36	296	19.38	-.21	105	2.31	.50	105	2.22	-.88	432	2.33	.43
409	19.72	1.28	136	19.40	-.30	Avg	2.24		096	2.23	-.96	428	2.33	.42
234	19.67	1.06	442	19.35	-.35	405	2.18	-.67	042	1.40 S	-19.56	114	2.32	.31
096	19.67	1.02	105	19.34	-.36	193	2.01	-1.61	Meth: 020.50 PCT			369	2.32	.29
037	19.61	.96	262	19.35	-.38	Meth: 020.20 PCT			<u>Total Phosphate</u>			247	2.32	.28
330	19.50 R	.89	376	19.40	-.43	<u>Total Phosphate</u>			<u>ICP</u>			231	2.32	.28
043	19.61	.84	416	19.32	-.47	<u>Spectrometric</u>			426	2.44	1.19	105	2.31	.25
095	19.53	.84	023	19.33	-.50	292	2.47	2.24	390	2.39	.79	177	2.31	.24
309	19.55	.81	307	19.42	-.67	234	2.33 R	1.38	330	2.37	.70	416	2.30	.18
397	19.60	.79	007	19.30	-.67	257	2.40	1.22	423	2.34	.44	309	2.30	.16
049	19.60	.73	041	19.26	-.72	406	2.37	.75	432	2.33	.42	389	2.30	.16
028	19.59	.68	131	19.25	-.73	220	2.34	.39	389	2.30	.13	Avg	2.28	
106	19.58	.66	247	19.25	-.75	371	2.34	.36	Avg	2.28		394	2.28	-.04
372	19.58	.65	325	19.25	-.76	428	2.33	.28	157	2.21	-.67	425	2.27	-.06
220	19.57	.62	137	19.25	-.77	Avg	2.32		307	2.15	-1.19	288	2.26	-.20
425	19.57	.61	090	19.23	-.83	231	2.32	-.07	422	2.03	-1.93	232	2.25	-.22
055	19.54	.60	360	19.35	-.84	177	2.31	-.12				105	2.22	-.42
406	19.57	.59	009	19.28	-.84	369	2.32	-.22				096	2.23	-.43
324	19.55	.55	405	19.23	-.84	309	2.30	-.22				157	2.21	-.63
* X=Excluded from lab performance			S/s=Screened Outlier			R=Duplicate Range too large			A=Analysis beyond 3-s limits			324	2.17	-.84

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 020.XX PCT			Meth: 040.10 PCT			Meth: 041.10 PCT			Meth: 041.50 PCT			Meth: 041.XX PCT		
<u>Total Phosphate</u>			<u>InDir Available Phos Grav Quim</u>			<u>Dir Available Phosph Grav Quimociac</u>			<u>Dir Available Phosph ICP</u>			<u>Dir Available Phosph</u>		
376	2.20 R	- .93	090	2.37	.71	022	2.40	1.51	360	2.36	.91	105	3.23 s	12.31
405	2.18 R	- .93				041	2.39	1.50	007	2.34	.54	023	2.44	1.82
307	2.15 R	-1.14	Meth: 040.20 PCT			185	2.36	1.13	291	2.34 X	.33	022	2.40	1.45
422	2.03	-1.86	<u>InDir Available Phos Spectrometri</u>			105	2.34	.89	Avg	2.33		041	2.39	1.43
193	2.01	-2.04	220	2.34	.71	029	2.28	.44	022	2.32	-.33	185	2.36	1.10
372	1.94	-2.52	Avg	2.34		296	2.28	.36	009	2.32	-.81	360	2.36	1.05
442	1.89	-2.85	372	1.87 S	-8.40	434	2.28	.32	043	2.30	-1.87	007	2.34	.88
042	1.40 s	-6.45				055	2.26	.14	325	2.20 s	-4.79	105	2.34	.88
262	1.30 s	-7.18	Meth: 040.40 PCT			040	2.26	.10				291	2.34 X	.86
Meth: 030.10 PCT			<u>InDir Available Phos Automated</u>			Avg	2.25		Meth: 041.60 PCT			137	2.32	.75
<u>Insoluble Phosphate Grav Quimociac</u>			409	4.92 S	47.97	102	2.23	-.27	<u>Dir Available Phosph</u>			009	2.32	.71
405	0.03	.90	394	2.28	.81	131	2.23	-.30	<u>EDTA Extract</u>			043	2.30	.71
Avg	0.01		Avg	2.23		009	2.25	-.31	105	3.23 s	12.69	022	2.32	.68
090	0.00	-.83	096	2.19	-.92	211	2.21	-.47	043	2.30	1.13	131	2.30	.60
Meth: 030.20 PCT			Meth: 040.50 PCT			260	2.20	-.63	296	2.28	.92	043	2.30	.59
<u>Insoluble Phosphate Spectrometric</u>			<u>InDir Available Phos ICP</u>			220	2.17	-.85	106	2.25	.74	105	2.30	.54
220	0.05	.00	423	2.25	1.11	049	2.16	-.94	028	2.21	.40	029	2.28	.44
Meth: 030.40 PCT			Meth: 041.20 PCT			254	2.00	-2.64	Meth: 041.99 PCT			106	2.25	.43
<u>Insoluble Phosphate Automated</u>			<u>Dir Available Phosph Spectrometric</u>			<u>Dir Available Phosph Spectrometric</u>			<u>Dir Available Phosph Other</u>			025	2.29	.42
409	0.06	1.18	354	2.23	-.51	055	2.15	.00	073	2.18	-.09	296	2.28	.38
Avg	0.05		Meth: 040.XX PCT			Meth: 041.40 PCT			397	2.18	-.10	296	2.28	.38
096	0.04	-.34	<u>InDir Available Phos</u>			<u>Dir Available Phosph Automated</u>			288	2.07	-1.04	434	2.28	.36
Meth: 030.XX PCT			409	4.92 s	36.40	131	2.30	.89	351	1.96	-2.11	009	2.25	.29
<u>Insoluble Phosphate</u>			090	2.37	1.42	025	2.29	.47				377	2.26	.24
409	0.06 R	1.78	220	2.34	1.05	Avg	2.27		073	2.18	-.09	055	2.26	.18
220	0.05	1.05	394	2.28	.07	027	2.24	-.55	034	2.22	-.24	040	2.26	.15
096	0.04	.55	Avg	2.27		029	2.24	-1.47	211	2.21	-.37	Avg	2.24	
Avg	0.03		423	2.25	-.54	Meth: 041.50 PCT			102	2.23	-.18	027	2.24	-.10
405	0.03	-.31	354	2.23	-.65	<u>Dir Available Phosph</u>			131	2.23	-.23	102	2.23	-.18
090	0.00	-1.42	096	2.19	-1.29	<u>ICP</u>			034	2.22	-.24	131	2.23	-.23
* X=Excluded from lab performance			372	1.87 s	-5.65	023 2.44 s 3.32			211	2.21	-.37	028	2.21	-.49
S/s=Screened Outlier			R=Duplicate Range too large			A=Analysis beyond 3-s limits			260	2.20	-.52	028	2.21	-.49
									073	2.18	-.61	260	2.20	-.52
									397	2.18	-.65	073	2.18	-.61
									029	2.24 R	-.66	397	2.18	-.65
									220	2.17	-.72	029	2.24 R	-.66
												220	2.17	-.72

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 041.XX PCT			Meth: 050.00 PCT			Meth: 050.50 PCT			Meth: 050.61 PCT			Meth: 050.XX PCT		
<u>Dir Available Phosph</u>			Soluble Potash			Soluble Potash			Soluble Potash			<u>Soluble Potash</u>		
049	2.16	-.80	<u>STPB Oxalate</u>			<u>ICP (Oxalate)</u>			<u>Flame (Citrate)</u>			360	20.30	1.58
055	2.15	-.89	090	19.72	.63	324	20.45	1.37	025	20.31	1.57	025	20.31	1.53
325	2.20 R	-1.03	055	19.65	.40	292	19.96	.56	041	19.94	.55	442	20.29	1.49
415	2.08	-1.52	416	19.61	.27	426	19.87	.41	Avg	19.85		177	20.28	1.48
288	2.07	-1.64	231	19.56	.20	106	19.63	.06	029	19.73	-.48	230	20.20 R	1.46
230	2.04	-1.94	Avg	19.53		Avg	19.61		105	19.69	-.76	131	20.17	1.27
254	2.00	-2.36	029	19.52	-.05	422	19.14	-.78	028	19.57	-.96	368	20.16	1.26
351	1.96	-2.72	043	19.45	-.30	354	18.64	-1.59				372	20.18	1.25
			049	19.40	-.47				Meth: 050.99 PCT			307	19.80 R	1.02
Meth: 048.20 PCT			296	19.30	-.78	Meth: 050.51 PCT			Soluble Potash			262	20.05	1.02
Water Soluble Phosph			009	19.30	-.89	Soluble Potash			<u>Other</u>			040	20.03	.94
<u>Spectrometric</u>			137	19.20	-1.12	<u>ICP (Citrate)</u>			360	20.30	1.26	389	20.00	.85
096	1.69	.87	257	19.13	-1.37	389	20.00	1.04	177	20.28	1.16	377	19.99	.84
Avg	1.61		022	19.07	-1.56	291	19.86 X	.68	131	20.17	.97	042	19.99	.83
372	1.53	-.86				007	19.82	.58	368	20.16	.97	232	19.97	.78
			Meth: 050.30 PCT			009	19.60	.51	307	19.80	.89	041	19.94	.77
Meth: 048.99 PCT			Soluble Potash			Avg			377	19.99	.58	292	19.96	.75
Water Soluble Phosph			<u>AA (Oxalate)</u>			423	19.35	-.65	042	19.99	.55	254	19.95	.74
<u>Other</u>			262	20.05	.99	043	18.92	-1.72	232	19.97	.51	406	19.95	.73
394	1.66	.00	040	20.03	.94	Meth: 050.60 PCT			Avg	19.72		220	19.89	.60
			073	19.86	.67	Soluble Potash			247	19.67	-.12	073	19.86	.56
Meth: 048.XX PCT			369	19.52	.59	Flame (Oxalate)			260	19.62	-.22	023	19.74	.56
Water Soluble Phosph			023	19.74	.58	415	22.45 s	6.98	394	19.51	-.44	426	19.87	.55
096	1.69	.82	234	19.58	.29	442	20.29	1.69	376	19.24	-1.02	291	19.86 X	.52
394	1.66	.46	351	19.61	.26	406	19.95	.85	027	19.19	-1.12	007	19.82	.44
Avg	1.63		428	19.49	.14	055	19.72	.37	325	19.15	-1.20	105	19.69	.39
372	1.53	-1.27	Avg	19.46		105	19.66	.21	330	19.35 R	-1.33	114	19.79	.38
			185	18.40	-1.73	Avg	19.60		022	18.85	-2.01	055	19.72	.30
Meth: 050.00 PCT			425	18.35	-1.82	131	19.49	-.27	432	17.91 S	-3.80	029	19.73	.29
Soluble Potash			Meth: 050.31 PCT			288	19.47	-.75	434	9.89 s	-20.43	211	19.74	.26
<u>STPB Oxalate</u>			Soluble Potash			309	19.20	-1.01	Meth: 050.XX PCT			090	19.72	.21
397	23.75 s	14.33	<u>AA (Citrate)</u>			157	19.04	-1.45	<u>Soluble Potash</u>			105	19.66	.16
102	21.39 s	6.28	254	19.95	.87	Meth: 050.61 PCT			397	23.75 s	9.26	247	19.67	.10
230	20.20 R	2.48	Avg	19.57		Soluble Potash			415	22.45 s	6.33	055	19.65	.08
372	20.18	2.20	095	19.19	-.86	Flame (Citrate)			034	21.60 s	4.50	106	19.63	.07
220	19.89	1.22							102	21.39 s	3.94	Avg	19.62	
114	19.79	.88							324	20.45	1.86	260	19.62	.00
211	19.74	.69							034	21.60 S	6.13	416	19.61	-.02
* X=Excluded from lab performance S/s=Screened Outlier R=Duplicate Range too large A=Analysis beyond 3-s limits														

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 050.XX PCT			Meth: 060.00 PCT			Meth: 101.99 PCT			Meth: 121.00 PCT			Meth: 121.30 PCT		
<u>Soluble Potash</u>			Free Water			Acid Soluble Calcium			Acid Soluble Magnesi			Acid Soluble Magnesi		
351	19.61	-.10	<u>Vacuum Oven</u>			Other			<u>AA</u>			<u>ICP</u>		
028	19.57	-.13	096	2.11	1.40	022	0.29	.71	040	0.95	.28	354	0.94	-.56
231	19.56	-.17	105	1.80	.20	Meth: 101.XX PCT			177	0.94	.19	426	0.91	-.80
029	19.52	-.23	Avg 1.74			<u>Acid Soluble Calcium</u>			Avg 0.93			065	0.90	-1.01
394	19.51	-.25	007	1.62	-.54	422	1.07 s	49.35	043	0.92	-.31	232	0.90	-1.07
131	19.49	-.29	416	1.46	-1.09	041	0.51 s	14.49	434	0.93	-.33	106	0.89	-1.25
234	19.58	-.32	Meth: 101.00 PCT			041	0.51 s	14.49	351	0.91	-.48	409	0.91 R	-1.47
428	19.49	-.34	Acid Soluble Calcium			389	0.31	1.95	262	0.91	-.54	324	0.87	-1.58
043	19.45	-.40	<u>AA</u>			022	0.29	1.18	055	0.89	-.85	292	0.87	-1.58
009	19.60	-.45	220	0.27	.35	288	0.29	1.16	105	0.90	-.86	247	0.45 s	-9.07
049	19.40	-.50	Avg 0.26			131	0.29	1.01	309	0.88	-1.04	Meth: 121.70 PCT		
423	19.35	-.64	105	0.26	-1.17	102	0.28	.43	296	0.88	-1.18	Acid Soluble Magnesi		
288	19.47 R	-.71	Meth: 101.30 PCT			433	0.28	.32	371	0.81	-2.40	<u>Titrimetric</u>		
296	19.30	-.72	Acid Soluble Calcium			390	0.28	.32	Meth: 121.30 PCT			415 1.19 S .00		
009	19.30	-.77	<u>ICP</u>			106	0.28	.32	Acid Soluble Magnesi			Meth: 121.99 PCT		
369	19.52 R	-.83	422	1.07 s	52.06	009	0.28	.20	<u>ICP</u>			Acid Soluble Magnesi		
376	19.24	-.86	041	0.51 s	15.26	Avg 0.27			330	1.60 s	11.60	Other		
137	19.20	-.94	389	0.31	2.02	232	0.27	-.41	422	1.34 s	6.81	042 0.95 .83		
095	19.19	-.96	288	0.29	1.20	027	0.27	-.51	009	1.09	2.37	022 0.94 .57		
309	19.20	-.96	131	0.29	1.03	220	0.27	-.63	432	1.05 R	1.94	Avg 0.92		
027	19.19	-.97	102	0.28	.41	065	0.26	-.93	027	1.04	1.61	368 0.87 -1.22		
325	19.15	-1.06	106	0.28	.33	423	0.26	-1.02	041	1.04	1.54	Meth: 121.XX PCT		
422	19.14	-1.09	390	0.28	.32	292	0.25	-1.48	423	1.02	1.20	<u>Acid Soluble Magnesi</u>		
257	19.13	-1.10	433	0.28	.31	105	0.26	-1.57	231	0.98	.50	330 1.60 s 12.22		
022	19.07	-1.23	009	0.28	.18	307	0.23 R	-3.12	102	0.97	.50	422 1.34 s 7.26		
330	19.35 R	-1.30	Meth: 121.00 PCT			Acid Soluble Magnesi			023	0.98	.49	415 1.19 s 4.59		
157	19.04	-1.36	Acid Soluble Calcium			<u>AA</u>			389	0.97	.34	009 1.09 2.66		
043	18.92	-1.58	Avg 0.27			397	1.01 R	1.93	096	0.97	.34	432 1.05 R 2.19		
022	18.85 R	-1.95	232	0.27	-.47	028	1.00	1.55	390	0.97	.23	027 1.04 1.87		
354	18.64	-2.20	027	0.27	-.57	193	1.00	1.33	307	0.96	.17	041 1.04 1.80		
185	18.40	-2.73	065	0.26	-1.02	257	1.00	1.27	433	0.96	.11	397 1.01 R 1.67		
425	18.35	-2.85	423	0.26	-1.12	137	0.98	.94	Avg 0.95			423 1.02 1.44		
432	17.91 s	-3.86	292	0.25	-1.61	034	0.98	.85	131	0.95	-.16	028 1.00 1.28		
434	9.89 s	-21.74	307	0.23 R	-3.33	220	0.96	.54	372	0.95	-.19	193 1.00 1.07		
						029	0.95	.36	037	0.95	-.31	257 1.00 1.01		
						095	0.94	.33	288	0.93	-.52	A=Analysis beyond 3-s limits		
									360	0.93	-.52			

* 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			Meth: 121.XX PCT			Meth: 144.01 PCT			Meth: 144.99 PCT			Meth: 144.XX PCT				
<u>Acid Soluble Magnesi</u>			<u>Acid Soluble Magnesi</u>			<u>Sulfur</u>			<u>Sulfur</u>			<u>Sulfur</u>				
231	0.98	.71	292	0.87	-1.44	<u>Gravimetric</u>			<u>Other</u>			137	8.64	.24		
023	0.98	.70	324	0.87	-1.44	324	8.75	.91	137	8.64	.33	372	8.64	.21		
137	0.98	.69	371	0.81	-2.45	296	8.65	.44	177	8.54	.17	Avg	8.60			
102	0.97	.68	247	0.45 s	-9.20	029	8.65	.36	023	8.54	.10	095	8.60	-.05		
034	0.98	.61				Avg	8.62		Avg	8.52		073	8.58	-.18		
389	0.97	.50	Meth: 131.00 PCT			095	8.60	-.15	351	8.48	-.14	040	8.59	-.25		
096	0.97	.50	Water Soluble Magnes			073	8.58	-.35	027	8.46	-.18	102	8.55	-.28		
042	0.95	.46	<u>AA</u>			105	8.62	-.40	307	8.43	-.36	023	8.54	-.35		
390	0.97	.43	220	0.80	.66	040	8.59	-.42	247	8.40	-.37	043	8.52	-.44		
220	0.96	.36	029	0.80	.65	102	8.55	-.52	131	8.30	-.64	177	8.54	-.44		
307	0.96	.33	Avg	0.76		288	8.57	-.73	423	8.16	-1.07	288	8.57	-.46		
433	0.96	.31	434	0.69	-1.28	043	8.52	-.76	422	8.15	-1.08	106	8.48	-.58		
037	0.95	.28				106	8.48	-.97	376	8.10	-1.33	351	8.48	-.62		
022	0.94	.25	Meth: 131.30 PCT			397	8.45	-1.24	232	7.96	-1.66	029	8.50	-.62		
372	0.95	.23	Water Soluble Magnes			193	8.42	-1.45	291	7.76 S	-2.19	027	8.46	-.70		
095	0.94	.22	<u>ICP</u>			230	8.25 s	-3.43	096	6.02 s	-7.15	397	8.45	-.77		
029	0.95	.19	230	0.88	1.26							193	8.42	-.91		
131	0.95	.12	Avg	0.80		Meth: 144.02 PCT			Meth: 144.XX PCT			307	8.43	-.95		
040	0.95	.07	432	0.77	-.64	<u>Sulfur</u>			<u>Sulfur</u>			247	8.40	-1.03		
Avg	0.94		027	0.76	-.71	<u>Gravimetric</u>			220			9.32 s	3.57	131	8.30	-1.50
177	0.94	-.03				292	8.98	.86	368	9.05	2.26	423	8.16	-2.24		
288	0.93	-.34	Meth: 131.XX PCT			Avg	8.74		360	8.98	1.89	422	8.15	-2.26		
360	0.93	-.34	Water Soluble Magnes			029	8.50	-.87	292	8.98	1.86	230	8.25 R	-2.28		
434	0.93	-.43	230	0.88	1.55	Meth: 144.99 PCT			028	8.89	1.44	376	8.10 R	-2.67		
043	0.92	-.46	220	0.80	.35	<u>Sulfur</u>			262	8.86	1.26	232	7.96 A	-3.25		
354	0.94	-.52	029	0.80	.31	<u>Other</u>			157	8.70	1.02	291	7.76 s	-4.18		
351	0.91	-.64	Avg	0.78		220	9.32 S	2.28	055	8.74	.74	096	6.02 s	-12.77		
426	0.91	-.64	027	0.76	-.36	368	9.05	1.52	409	8.74	.74					
262	0.91	-.70	432	0.77	-.39	360	8.98	1.31	324	8.75	.71	Meth: 151.00 PPM				
065	0.90	-.85	434	0.69	-1.61	409	8.74	.64	330	8.61	.64	Arsenic				
232	0.90	-.91				389	8.73	.58	389	8.73	.62	<u>Atomic Absorption</u>				
105	0.90	-.95	Meth: 144.01 PCT			389	8.73	.58	390	8.63	.53	394	0.73	-.71		
055	0.89	-.99	Sulfur			037	8.68	.46	037	8.68	.41					
106	0.89	-1.10	<u>Gravimetric</u>			330	8.61	.45	296	8.65	.34	Meth: 151.30 PPM				
309	0.88	-1.17	028	8.89	1.99	390	8.63	.42	009	8.64	.33	Arsenic				
296	0.88	-1.27	262	8.86	1.73	354	8.65	.39	354	8.65	.33	<u>ICP</u>				
368	0.87	-1.40	157	8.70 R	1.45	009	8.64	.37	029	8.65	.31	065	0.84 X	1.56		
409	0.91 R	-1.43	055	8.74	.97	372	8.64	.34	105	8.62	.28	102	0.74	.14		
* 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: 151.30 PPM			Meth: 165.XX PCT			Meth: 181.XX PPM			Meth: 191.30 PPM			Meth: 202.30 PPM		
Arsenic			<u>Acid Soluble Boron</u>			<u>Cadmium</u>			Chromium			Acid Soluble Cobalt		
ICP			422	0.006	1.36	409	0.53	-.61	ICP			ICP		
Avg	0.73		106	0.005	1.09	102	0.44	-.89	037	24.21	-.24	037	8.38	.92
096	0.60	-.24	220	0.005	.82	009	0.39	-1.05	324	23.15	-.81	096	8.30	.85
			Avg	0.003					232	22.30	-1.32	390	7.61	.40
Meth: 151.99 PPM			433	0.003	-.23	Meth: 190.00 PCT			065	12.59 S	-6.56	102	7.51	.18
Arsenic			288	0.003	-.47	Water Soluble Chlori			Meth: 191.99 PPM			Avg		
<u>Other</u>			105	0.003	-.57	<u>Titrimetric</u>			Chromium			106		
220	1.15 X	1.22	423	0.001	-1.04	220	0.63	.87	Other			324		
Avg	1.12		232	0.001	-1.45	Avg	0.56		368			232		
409	1.10	-.11				422	0.50	-.86	219.05 S			0.00 s		
			Meth: 181.00 PPM			Meth: 190.99 PCT			409			28.00		
Meth: 151.XX PPM			Cadmium			Water Soluble Chlori			Avg			28.00		
Arsenic			<u>Atomic Absorption</u>			<u>Other</u>			Meth: 191.XX PPM			Meth: 202.99 PPM		
220	1.15 X	1.45	193	1.10	.71	009	0.33	.84	Chromium			Acid Soluble Cobalt		
409	1.10	.90	Meth: 181.30 PPM			Avg			368			409		
Avg	0.86		Cadmium			0.29			219.05 s			10.00		
394	0.73	-.52	ICP			288			28.00			9.10		
102	0.74	-.54	324	1.15	1.47	0.25			009			8.20		
096	0.60	-1.01	065	0.73	.18	Meth: 190.XX PCT			220			-.88		
065	0.84 R	-3.21	Avg	0.68		Water Soluble Chlori			102			Meth: 202.XX PPM		
			102	0.44	-.73	220			25.45			Acid Soluble Cobalt		
Meth: 165.00 PCT			009	0.39	-.89	422			25.21			409		
Acid Soluble Boron			Meth: 181.99 PPM			Avg			106			10.00		
<u>Spectrometric</u>			Cadmium			0.42			25.00			8.90		
220	0.005	.72	<u>Other</u>			0.33			037			8.65		
Avg	0.004		368	21.77 S	1513.19	-.61			324			8.38		
105	0.003	-.99	409	0.53	.71	-1.14			232			8.30		
Meth: 165.99 PCT			Avg			Meth: 191.00 PPM			065			48		
Acid Soluble Boron			0.53			Chromium			12.59 s			43		
<u>Other</u>			Meth: 181.XX PPM			<u>Atomic Absorption</u>			Meth: 202.00 PPM			Avg		
422	0.006	1.36	Cadmium			220			Acid Soluble Cobalt			7.68		
106	0.005	1.12	368	21.77 s	66.67	26.00			AA			102		
Avg	0.003		409	0.53	.71	.71			434			7.51		
433	0.003	-.11	Meth: 181.XX PPM			Meth: 191.30 PPM			Avg			390		
288	0.003	-.36	Cadmium			Chromium			7.72			7.61		
423	0.001	-.85	368	21.77 s	66.67	ICP			220			-.83		
232	0.001	-1.24	324	1.15	1.35	009			6.55			-.86		
* X=Excluded from lab performance			193	1.10	1.19	27.60			Avg			324		
			065	0.73	.10	25.45			7.72			5.70		
			Avg	0.72		.46			6.55			-1.51		
			Meth: 181.XX PPM			Meth: 191.30 PPM			220			-5.87		
			Cadmium			Chromium			009			Meth: 202.30 PPM		
			368	21.77 s	66.67	ICP			8.65			Acid Soluble Cobalt		
			324	1.15	1.35	009			1.18			ICP		
			193	1.10	1.19	27.60								
			065	0.73	.10	25.45								
			Avg	0.72		.46								
			Meth: 181.XX PPM			Meth: 191.30 PPM								
			Cadmium			Chromium								
			368	21.77 s	66.67	ICP								
			324	1.15	1.35	009								
			193	1.10	1.19	27.60								
			065	0.73	.10	25.45								
			Avg	0.72		.46								
			Meth: 181.XX PPM			Meth: 191.30 PPM								
			Cadmium			Chromium								
			368	21.77 s	66.67	ICP								
			324	1.15	1.35	009								
			193	1.10	1.19	27.60								
			065	0.73	.10	25.45								
			Avg	0.72		.46								
			Meth: 181.XX PPM			Meth: 191.30 PPM								
			Cadmium			Chromium								
			368	21.77 s	66.67	ICP								
			324	1.15	1.35	009								
			193	1.10	1.19	27.60								
			065	0.73	.10	25.45								
			Avg	0.72		.46								

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 221.00 PCT			Meth: 221.XX PCT			Meth: 241.00 PCT			Meth: 241.30 PCT			Meth: 241.XX PCT		
Acid Soluble Copper			Acid Soluble Copper			Acid Soluble Iron			Acid Soluble Iron			Acid Soluble Iron		
<u>Atomic Absorption</u>			<u>Atomic Absorption</u>			<u>Atomic Absorption</u>			<u>ICP</u>			<u>Atomic Absorption</u>		
220	0.0033 s	8.18	220	0.0033 s	6.57	043	0.58	-.22	291	0.53 X	-.72	095	0.61	.43
434	0.0015	1.11	422	0.0020	1.97	177	0.57	-.28	389	0.50	-1.20	307	0.60	.36
043	0.0013	.27	368	0.0019	1.56	296	0.57	-.32	065	0.45	-1.85	096	0.60	.35
Avg	0.0012		330	0.0018	1.51	351	0.57	-.36	023	0.43	-2.17	433	0.60	.30
029	0.0011	-.45	409	0.0018	1.26	220	0.58	-.36	292	0.39	-2.72	426	0.59	.22
105	0.0009	-1.41	232	0.0014	.63	029	0.56	-.43	247	0.35 s	-3.20	428	0.59	.21
			434	0.0015	.61	397	0.51	-1.60				043	0.58	.15
			423	0.0014	.20	371	0.45	-2.74	Meth: 241.99 PCT			034	0.59	.12
			433	0.0014	.13	434	0.29 s	-6.09	Acid Soluble Iron			372	0.59	.12
			Avg	0.0013					<u>Other</u>			Avg	0.58	
			096	0.0013	-.17				368	0.52	.85	177	0.57	-.11
			043	0.0013	-.22	Meth: 241.30 PCT			Avg	0.47		296	0.57	-.15
			102	0.0012	-.31	Acid Soluble Iron			042	0.42	-.88	351	0.57	-.18
			037	0.0012	-.42	<u>ICP</u>						029	0.56	-.22
			324	0.0011	-.60	432	1.15 s	7.80	Meth: 241.XX PCT			288	0.58	-.23
			029	0.0011	-.66	354	0.69	1.53	Acid Soluble Iron			220	0.58	-.23
			065	0.0011	-.69	106	0.66	1.09	432	1.15 s	8.40	102	0.56	-.31
			288	0.0010	-.88	330	0.66	1.03	354	0.69	1.68	232	0.56	-.34
			009	0.0010	-.96	409	0.64	.81	055	0.66	1.21	423	0.54	-.59
			105	0.0009	-1.44	324	0.64	.74	106	0.66	1.21	291	0.53 X	-.73
			193	0.0008	-1.45	131	0.63	.68	330	0.66	1.15	368	0.52	-.92
			041	0.0008 R	-1.94	027	0.63	.61	409	0.64	.91	397	0.51	-1.08
			372	0.0005 R	-2.71	360	0.63	.60	425	0.64	.89	389	0.50	-1.24
						390	0.61	.56	324	0.64	.84	371	0.45	-1.91
						041	0.62	.55	009	0.61	.45	065	0.45	-1.93
						422	0.61	.39	131	0.63	.78	023	0.43	-2.28
						231	0.60	.39	027	0.63	.70	042	0.42	-2.41
						307	0.60	.30	028	0.62	.70	292	0.39	-2.87
						096	0.60	.29	360	0.63	.69	247	0.35 s	-3.39
						433	0.60	.24	262	0.62	.65	434	0.29 s	-4.36
						426	0.59	.16	390	0.61	.64			
						372	0.59	.08	041	0.62	.63	Meth: 251.00 PPM		
						Avg	0.58		137	0.62	.61	Lead		
						288	0.58	-.23	040	0.62	.56	<u>Atomic Absorption</u>		
						102	0.56	-.32	009	0.61	.52	193	4.70	.00
						232	0.56	-.36	105	0.61	.52			
						034	0.59	.10	422	0.61	.47			
						Avg	0.58		231	0.60	.44			

* 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: 251.30 PPM			Meth: 261.00 PCT			Meth: 261.30 PCT			Meth: 261.XX PCT			Meth: 261.XX PCT		
Lead			Acid Soluble Mangane			Acid Soluble Mangane			<u>Acid Soluble Mangane</u>			<u>Acid Soluble Mangane</u>		
<u>ICP</u>			<u>AA</u>			<u>ICP</u>			034 0.215 1.31			232 0.184 -1.76		
324	7.50	1.76	262	0.205	.57	Avg	0.203		257	0.210	1.21	434	0.125 s	-7.40
232	6.15	.88	220	0.205	.57	360	0.201	-.22	372	0.210	1.21	193	0.023 s	-17.12
102	4.66	.81	095	0.203	.12	292	0.200	-.30	023	0.211	.95			
Avg	4.47		Avg	0.201		106	0.200	-.30	022	0.204	.89	Meth: 271.00 PCT		
043	3.53	-.50	177	0.200	-.11	231	0.200	-.30	288	0.208	.87	Water Soluble Mangan		
096	3.60	-.61	043	0.198	-.35	037	0.200	-.30	423	0.210	.81	<u>Atomic Abs</u>		
106	3.30	-.61	105	0.199	-.48	131	0.198	-.48	389	0.210	.74	137	0.290	1.07
065	2.54	-.99	351	0.189	-1.08	065	0.195	-.78	041	0.210	.74	434	0.220	.09
			055	0.190	-1.37	354	0.201	-.81	324	0.210	.74	Avg	0.213	
Meth: 251.99 PPM			296 0.188 -1.38			291 0.187 X -1.52			390 0.208 .58			029 0.130 -1.16		
Lead			193 0.023 s -16.18			096 0.185 -1.72			262 0.205 .54					
<u>Other</u>						232 0.184 -1.76			220 0.205 .54			Meth: 271.30 PCT		
409	5.50	.87	Meth: 261.11 PCT			Meth: 261.31 PCT			009 0.205 .30			Water Soluble Mangan		
Avg	4.95		Acid Soluble Mangane			Acid Soluble Mangane			426 0.204 .25			<u>ICP</u>		
368	4.40	-.87	<u>AA</u>			<u>ICP</u>			095 0.203 .05			230 1.170 .87		
			029	0.199	1.16	324	0.210	.86	Avg	0.202		Avg	0.643	
Meth: 251.XX PPM			Avg 0.199			Avg 0.204			360 0.201 -.15			432 0.115 -.87		
Lead			040 0.198 -.38			027 0.198 -.87			177 0.200 -.19					
324	7.50	2.00	434 0.125 S -24.17			Meth: 261.99 PCT			106 0.200 -.22			Meth: 271.XX PCT		
232	6.15	.96	Meth: 261.30 PCT			Acid Soluble Mangane			231 0.200 -.22			<u>Water Soluble Mangan</u>		
102	4.66	.95	Acid Soluble Mangane			Acid Soluble Mangane			292 0.200 -.22			230 1.170 R 12.94		
409	5.50	.63	<u>ICP</u>			<u>Other</u>			037 0.200 -.22			137 0.290 1.33		
193	4.70	.07	432	0.360 s	14.32	022	0.204	.98	131 0.198 -.41			434 0.220 .41		
Avg	4.59		422	0.310 s	9.63	Avg	0.200		040 0.198 -.42			Avg 0.189		
368	4.40	-.32	433	0.225	1.99	042	0.196	-.75	027 0.198 -.42			029 0.130 -.77		
043	3.53	-.66	102	0.222	1.81	368	0.200	-.98	029 0.199 -.44			432 0.115 -.97		
096	3.60	-.77	330	0.215 R	1.73	Meth: 261.XX PCT			043 0.198 -.45					
106	3.30	-.78	372	0.210	1.09	Acid Soluble Mangane			105 0.199 -.54			Meth: 289.30 PPM		
065	2.54	-1.24	023	0.211	.82	Acid Soluble Mangane			065 0.195 -.73			Molybdenum		
			288	0.208	.78	425	0.425 s	21.28	042 0.196 -.86			<u>ICP</u>		
Meth: 261.00 PCT			423 0.210 .70			432 0.360 s 15.19			368 0.200 -.98			288 5.50 s 7.16		
Acid Soluble Mangane			041 0.210 .61			422 0.310 s 10.24			351 0.189 -1.23			433 2.69 1.64		
<u>AA</u>			389 0.210 .61			433 0.225 2.19			291 0.187 X -1.51			106 2.05 .79		
425	0.425 s	20.31	390 0.208 .47			102 0.222 2.00			296 0.188 -1.54			009 2.10 .53		
028	0.214	1.52	009 0.205 .20			330 0.215 R 1.88			096 0.185 -1.72			102 2.08 .46		
034	0.215	1.32	426 0.204 .19			028 0.214 1.54			096 0.185 -1.72			Avg 1.84		
257	0.210	1.20	S/s=Screened Outlier			R=Duplicate Range too large			A=Analysis beyond 3-s limits			096 1.60 -.51		
* X=Excluded from lab performance														

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 289.30 PPM Molybdenum			Meth: 291.30 PPM Nickel			Meth: 311.99 PCT Sodium			Meth: 321.30 PCT Acid Soluble Zinc			Meth: 321.XX PCT Acid Soluble Zinc		
<u>ICP</u>			<u>ICP</u>			<u>Other</u>			<u>ICP</u>			Avg 0.013		
232	1.60	-.91	Avg	13.15		422	0.20	2.10	232	0.013	-.24	028	0.013	-.15
065	1.28	-1.10	106	13.00	-.20	Avg	0.13		390	0.013	-.39	390	0.013	-.24
324	1.35	-1.17	232	12.80	-.49	102	0.13	-.14	037	0.013	-.52	043	0.013	-.33
Meth: 289.99 PPM Molybdenum			232			288			009			105		
<u>Other</u>			232			009			372			037		
368	7.70 S	.00	065	6.80 S	-8.67	232	0.12	-.54	041	0.013	-.71	009	0.013	-.43
409	3.00	.00	Meth: 291.XX PPM Nickel			423			027			296		
Avg	3.00		390	14.65 R	2.30	Meth: 321.00 PCT Acid Soluble Zinc			292			372		
Meth: 289.XX PPM Molybdenum			102	14.14	1.34	<u>Atomic Absorption</u>			Meth: 321.99 PCT Acid Soluble Zinc			027		
368	7.70 S	4.59	009	13.55	.72	434	0.015	1.84	<u>Other</u>			041		
288	5.50	2.59	106	13.00	.13	028	0.013	.47	022	0.015	1.60	029		
409	3.00	.54	Avg	12.87		105	0.013	.42	409	0.015	.57	220		
433	2.69	.30	232	12.80	-.13	296	0.013	.34	Avg 0.015			262		
Avg	2.33		324	12.25	-.88	043	0.013	.32	288			292		
102	2.08	-.20	220	11.50	-1.54	Avg	0.012		368			234		
009	2.10	-.20	065	6.80 S	-6.42	029	0.012	-.64	Meth: 321.XX PCT Acid Soluble Zinc			0001 s		
106	2.05	-.36	Meth: 301.30 PPM Selenium			220	0.012	-.70	422			354		
096	1.60	-.59	<u>ICP</u>			262	0.010	-1.61	354			389		
232	1.60	-.67	065	0.18 X	.71	234	0.001 S	-7.82	389			330		
324	1.35	-.83	Meth: 301.99 PPM Selenium			Meth: 321.30 PCT Acid Soluble Zinc			330			022		
065	1.28	-.85	<u>Other</u>			<u>ICP</u>			022			324		
Meth: 291.00 PPM Nickel			368	0.00	-.71	422	0.024 S	4.85	324			106		
<u>Atomic Absorption</u>			Meth: 301.XX PPM Selenium			354	0.020 S	2.87	409			434		
220	11.50	.71	065	0.18 X	.93	389	0.020	2.83	434			131		
Meth: 291.30 PPM Nickel			Avg	0.09		330	0.016	1.08	131			368		
<u>ICP</u>			368	0.00	-.79	324	0.015 R	.96	368			102		
390	14.65 R	2.67	Meth: 301.99 PPM Selenium			106	0.016	.81	102			288		
102	14.14	1.36	<u>Other</u>			102	0.014	.23	423			423		
009	13.55	.55	368	0.00	-.79	423	0.014	.05	065			232		
* X=Excluded from lab performance			S/s=Screened Outlier			Avg	0.014		232			433		
						065	0.014	-.03	433			0.013		
						433	0.013	-.21	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	7	- 0.05	0.97	0.18	050.61	6	1.00	2.60	0.63
001.99	8	5.40	9.01	0.14	050.99	18	- 1.39	4.91	0.42
001.XX	15	0.82	2.52	0.15	050.XX	69	- 0.01	3.23	0.36
003.10	3	0.00	1.12	0.01	060.00	4	0.00	1.07	0.13
003.99	2	0.00	1.22	0.00	060.XX	4	0.00	1.07	0.13
003.XX	5	0.00	1.06	0.01	101.00	2	0.00	0.28	0.84
005.99	5	6.04	13.54	0.06	101.30	16	4.01	13.42	0.76
005.XX	6	5.69	13.97	0.07	101.XX	19	3.20	11.70	0.73
010.11	9	0.01	0.93	0.46	121.00	20	0.08	0.99	0.42
010.12	5	0.00	1.01	0.30	121.30	29	0.35	3.19	0.42
010.60	55	0.03	1.23	0.53	121.99	3	0.00	1.00	0.40
010.99	6	1.30	2.80	1.25	121.XX	53	0.33	2.59	0.41
010.XX	74	0.15	1.22	0.60	131.00	3	0.00	1.11	0.11
020.10	5	0.00	1.00	0.32	131.30	3	0.00	1.09	0.20
020.20	20	- 1.40	3.71	0.45	131.XX	6	0.00	1.03	0.16
020.40	6	7.03	27.94	0.30	144.01	18	- 0.12	1.12	0.66
020.50	9	0.00	0.98	0.30	144.02	2	0.00	1.19	0.21
020.XX	40	0.11	3.65	0.26	144.99	25	- 0.29	1.72	0.21
030.10	2	0.00	1.18	0.24	144.XX	44	- 0.47	2.35	0.41
030.40	2	0.00	0.48	0.80	151.30	3	0.00	0.22	0.89
030.XX	5	0.26	1.09	0.56	151.99	2	0.00	0.15	0.86
040.20	2	- 4.20	5.94	0.50	151.XX	6	- 0.01	0.83	1.38
040.40	3	15.99	27.71	0.27	165.00	2	0.000	0.843	0.628
040.50	2	0.00	0.52	0.78	165.99	6	0.000	1.032	0.171
040.XX	8	3.84	13.33	0.34	165.XX	8	0.000	0.992	0.276
041.10	17	0.00	0.99	0.21	181.30	4	0.00	1.07	0.10
041.40	4	0.00	0.61	0.77	181.99	2	750.95	1062.0	130.50
041.50	8	- 0.06	1.95	1.26	181.XX	7	9.45	25.03	3.10
041.60	10	0.98	3.24	2.55	190.00	2	0.00	1.22	0.05
041.99	5	0.00	1.05	0.16	190.99	2	0.00	1.19	0.22
041.XX	36	- 0.01	1.18	1.07	190.XX	4	0.00	1.08	0.05
048.20	2	0.00	1.21	0.14	191.30	7	- 0.94	2.65	0.22
048.XX	3	0.00	1.11	0.14	191.99	2	0.00	0.00	0.00
050.00	19	1.20	3.62	0.41	191.XX	10	9.06	30.95	0.28
050.30	10	0.00	0.99	0.25	202.00	2	0.00	1.22	0.08
050.31	2	0.00	1.22	0.05	202.30	9	- 0.70	2.31	0.16
050.50	6	0.00	1.05	0.06	202.99	2	0.00	1.21	0.13
050.51	6	0.00	1.02	0.23	202.XX	13	- 0.45	1.89	0.13
050.60	9	0.77	2.50	0.33	221.00	5	1.3988	3.2148	1.9627

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
221.30	14	- 0.302	1.1989	0.6046					
221.99	3	0.0000	1.1143	0.0745					
221.XX	22	0.0774	1.6167	0.8998					
241.00	19	- 0.29	1.70	0.22					
241.30	29	0.16	1.85	0.19					
241.99	2	0.00	1.20	0.19					
241.XX	50	0.01	1.73	0.19					
251.30	7	0.00	0.91	0.47					
251.99	2	0.00	0.91	0.58					
251.XX	10	0.00	0.89	0.48					
261.00	14	0.295	7.236	0.544					
261.11	3	- 8.039	13.925	1.170					
261.30	25	0.996	3.472	0.571					
261.31	2	0.000	1.216	0.101					
261.99	3	0.000	0.399	0.853					
261.XX	47	0.496	5.006	0.585					
271.00	3	0.000	1.118	0.006					
271.30	2	0.000	1.224	0.024					
271.XX	5	2.586	5.859	0.122					
289.30	9	0.79	2.51	0.53					
289.99	2	0.00	0.00	0.00					
289.XX	11	0.39	1.62	0.50					
291.30	7	- 0.95	3.58	0.71					
291.XX	8	- 0.57	2.59	0.55					
301.XX	2	0.00	1.12	0.35					
311.99	6	0.00	1.05	0.07					
311.XX	6	0.00	1.05	0.07					
321.00	9	- 0.869	2.761	0.320					
321.30	19	0.420	1.514	0.434					
321.99	4	0.000	0.510	0.825					
321.XX	31	0.279	2.395	0.548					