

MAGRUDER - Fertilizer Check Sample No. - 200606 Grade 12-12-12

- Pass 1 Results for 73 Labs - - Pass 2 Results for 73 Labs -

Method	AOAC Ref.	Method Code	No. of Labs	Grand Avq.	Std. Dev.	Average Range of Dups	No. of Labs	Grand Avq.	Std. Dev.	Average Range of Dups
Ammoniacal Nitrogen, MgO Distillation .	920.03	001.10	2	9.82	0.05	0.01	2	9.82	0.05	0.01
Ammoniacal Nitrogen, Other		001.99	4	9.86	0.22	0.05	3	9.78	0.19	0.00
Method Group 001.XX PCT			6	9.85	0.18	0.04	5	9.80	0.15	0.01
Nitrate Nitrogen, Other		002.99	2	0.10	0.01	0.01	2	0.10	0.01	0.01
Nitrogen From Urea, Urease (as N)	959.03	005.00	1	0.13	0.02	0.03	1	0.13	0.02	0.03
Ammon & Nitrate N, Devarda	892.01	009.10	2	10.05	0.02	0.03	2	10.05	0.02	0.03
Total Nitrogen, Modified Comprehensive	978.02	010.11	8	10.03	0.12	0.08	8	10.03	0.12	0.08
Total Nitrogen, Salicylic	955.04D	010.12	2	10.32	0.33	0.10	2	10.32	0.33	0.10
Total Nitrogen, Raney	970.03	010.16	1	10.54	0.06	0.09	1	10.54	0.06	0.09
Total Nitrogen, Combustion		010.60	45	10.14	0.15	0.07	43	10.13	0.15	0.06
Total Nitrogen, Other		010.99	4	9.96	0.23	0.11	4	9.96	0.23	0.11
Method Group 010.XX PCT			61	10.12	0.19	0.08	57	10.11	0.17	0.06
Total Phosphate, Grav Quimociac	962.02	020.10	3	10.04	0.04	0.07	3	10.04	0.04	0.07
Total Phosphate, Spectrometric	958.01	020.20	14	10.00	0.21	0.11	14	10.00	0.21	0.11
Total Phosphate, Automated	978.01	020.40	4	9.93	0.13	0.11	4	9.93	0.13	0.11
Total Phosphate, ICP		020.50	8	10.10	0.29	0.11	8	10.10	0.29	0.11
Method Group 020.XX PCT			29	10.02	0.22	0.11	29	10.02	0.22	0.11
Insoluble Phosphate, Grav Quimociac ...	963.03C	030.10	1	0.22	0.01	0.02	1	0.22	0.01	0.02
Insoluble Phosphate, Spectrometric	963.03C	030.20	1	0.06	0.01	0.01	1	0.06	0.01	0.01
Insoluble Phosphate, Automated	978.01	030.40	1	0.05	0.01	0.01	1	0.05	0.01	0.01
Insoluble Phosphate, Other		030.99	1	0.03	0.01	0.01	1	0.03	0.01	0.01
Method Group 030.XX PCT			4	0.09	0.08	0.01	4	0.09	0.08	0.01
InDir Available Phosphate, Grav Quim ..	960.02	040.10	1	9.81	0.04	0.05	1	9.81	0.04	0.05
InDir Available Phosphate, Automated ..	960.02	040.40	1	9.89	0.00	0.00	1	9.89	0.00	0.00
InDir Available Phosphate, Other		040.99	1	10.05	0.04	0.05	1	10.05	0.04	0.05
Method Group 040.XX PCT			3	9.91	0.11	0.03	3	9.91	0.11	0.03
Dir Available Phosphate, Grav Quimociac	960.03E	041.10	15	9.95	0.13	0.07	15	9.95	0.13	0.07
Dir Available Phosphate, Spectrometric	960.03D	041.20	3	9.80	0.40	0.10	3	9.80	0.40	0.10
Dir Available Phosphate, Alka Quim	960.03C	041.30	1	10.06	0.04	0.05	1	10.06	0.04	0.05
Dir Available Phosphate, Automated	978.01	041.40	3	10.11	0.18	0.05	3	10.11	0.18	0.05
Dir Available Phosphate, ICP		041.50	10	9.95	0.26	0.12	10	9.95	0.26	0.12
Dir Available Phosphate, EDTA Extract .	993.01	041.60	13	9.89	0.18	0.10	12	9.86	0.15	0.06
Dir Available Phosphate, Other		041.99	1	9.94	0.04	0.05	1	9.94	0.04	0.05
Method Group 041.XX PCT			46	9.94	0.21	0.09	44	9.94	0.18	0.08
Water Soluble Phosphate, Spectrometric	970.01	048.20	1	8.43	0.02	0.03	1	8.43	0.02	0.03
Soluble Potash, STPB Oxalate	958.02	050.00	14	10.50	0.27	0.09	13	10.51	0.27	0.07
Soluble Potash, STPB Citrate	969.04	050.10	1	10.21	0.00	0.00	1	10.21	0.00	0.00
Soluble Potash, AA (Oxalate)		050.30	7	10.21	0.53	0.19	7	10.21	0.53	0.19
Soluble Potash, AA (Citrate)		050.31	2	10.36	0.85	0.27	2	10.36	0.85	0.27

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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
Soluble Potash, ICP (Oxalate)		050.50	5	10.30	0.60	0.20	5	10.30	0.60	0.20
Soluble Potash, ICP (Citrate)		050.51	9	10.48	0.36	0.14	8	10.51	0.36	0.09
Soluble Potash, Flame (Oxalate)	983.02(a)	050.60	4	10.36	0.14	0.08	4	10.36	0.14	0.08
Soluble Potash, Flame (Citrate)	983.02(b)	050.61	10	10.40	0.33	0.17	9	10.40	0.32	0.11
Soluble Potash, Other		050.99	14	10.52	0.44	0.10	13	10.48	0.42	0.06
Method Group 050.XX PCT			66	10.42	0.41	0.13	61	10.43	0.40	0.10
Free Water, Vacuum Oven	965.08B	060.00	4	0.56	0.18	0.03	4	0.56	0.18	0.03
Acid Soluble Calcium, AA	945.04	101.00	1	1.14	0.00	0.00	1	1.14	0.00	0.00
Acid Soluble Calcium, ICP		101.30	16	1.14	0.06	0.04	15	1.14	0.05	0.03
Method Group 101.XX PCT			18	1.15	0.07	0.03	17	1.15	0.07	0.03
Acid Soluble Magnesium, AA	984.01	121.00	15	1.26	0.07	0.03	14	1.26	0.06	0.02
Acid Soluble Magnesium, ICP		121.30	27	1.28	0.06	0.03	27	1.28	0.06	0.03
Acid Soluble Magnesium, Other		121.99	1	1.28	0.01	0.02	1	1.28	0.01	0.02
Method Group 121.XX PCT			43	1.27	0.06	0.03	42	1.27	0.06	0.02
Water Soluble Magnesium, AA		131.00	2	1.09	0.09	0.02	2	1.09	0.09	0.02
Water Soluble Magnesium, ICP		131.30	3	0.99	0.07	0.06	3	0.99	0.07	0.06
Method Group 131.XX PCT			5	1.03	0.09	0.05	5	1.03	0.09	0.05
Sulfur, Gravimetric	980.02a	144.01	14	11.81	0.22	0.08	14	11.81	0.22	0.08
Sulfur, Gravimetric	980.02b	144.02	2	11.34	0.42	0.12	2	11.34	0.42	0.12
Sulfur, Other		144.99	20	11.56	0.36	0.15	18	11.61	0.33	0.11
Method Group 144.XX PCT			36	11.64	0.34	0.12	32	11.69	0.32	0.08
Arsenic, ICP		151.30	4	4.78	0.86	1.05	4	4.78	0.86	1.05
Arsenic, Other		151.99	2	4.98	0.40	0.47	2	4.98	0.40	0.47
Method Group 151.XX PPM			6	4.85	0.72	0.86	6	4.85	0.72	0.86
Acid Soluble Boron, Spectrometric	982.01	165.00	8	0.038	0.004	0.002	7	0.038	0.003	0.001
Acid Soluble Boron, Other		165.99	15	0.036	0.004	0.002	14	0.036	0.004	0.001
Method Group 165.XX PCT			23	0.037	0.004	0.002	21	0.037	0.004	0.001
Water Soluble Boron, Spectrometric	982.01	171.10	1	0.030	0.000	0.000	1	0.030	0.000	0.000
Water Soluble Boron, Other		171.99	1	0.038	0.000	0.000	1	0.038	0.000	0.000
Method Group 171.XX PCT			2	0.034	0.005	0.000	2	0.034	0.005	0.000
Cadmium, Atomic Absorption		181.00	2	0.88	0.45	0.15	2	0.88	0.45	0.15
Cadmium, ICP		181.30	7	1.53	0.64	0.30	6	1.37	0.49	0.18
Cadmium, Other		181.99	1	1.68	0.16	0.22	1	1.68	0.16	0.22
Method Group 181.XX PPM			10	1.41	0.63	0.26	9	1.29	0.51	0.18
Water Soluble Chlorine, Titrimetric	928.02	190.00	2	6.97	0.38	0.03	2	6.97	0.38	0.03
Water Soluble Chlorine, Other		190.99	2	6.71	0.08	0.09	2	6.71	0.08	0.09
Method Group 190.XX PCT			4	6.84	0.29	0.06	4	6.84	0.29	0.06
Chromium, Atomic Absorption		191.00	1	166.50	4.95	7.00	1	166.50	4.95	7.00
Chromium, ICP		191.30	9	141.17	24.84	4.43	8	139.00	25.39	2.86

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Chromium, Other		191.99	1	139.50	6.36	9.00	1	139.50	6.36	9.00
Method Group 191.XX PPM			11	143.32	23.65	5.08	10	141.80	24.16	3.89
Acid Soluble Cobalt, AA		202.00	1	90.50	6.36	9.00	1	90.50	6.36	9.00
Acid Soluble Cobalt, ICP	965.11	202.30	10	69.98	29.77	3.35	10	69.98	29.77	3.35
Method Group 202.XX PPM			11	71.84	28.99	3.87	11	71.84	28.99	3.87
Acid Soluble Copper, Atomic Absorption	975.01	221.00	7	0.0066	0.0008	0.0002	6	0.0064	0.0005	0.0001
Acid Soluble Copper, ICP		221.30	17	0.0070	0.0006	0.0005	17	0.0070	0.0006	0.0005
Method Group 221.XX PCT			24	0.0069	0.0007	0.0004	24	0.0069	0.0007	0.0004
Acid Soluble Iron, Atomic Absorption ..	980.01	241.00	14	0.51	0.05	0.03	14	0.51	0.05	0.03
Acid Soluble Iron, ICP		241.30	28	0.49	0.07	0.02	26	0.48	0.06	0.01
Acid Soluble Iron, Other		241.99	2	0.44	0.07	0.01	2	0.44	0.07	0.01
Method Group 241.XX PCT			44	0.50	0.07	0.02	42	0.50	0.07	0.02
Lead, Atomic Absorption		251.00	1	7.45	0.35	0.50	1	7.45	0.35	0.50
Lead, ICP		251.30	6	9.66	2.04	1.32	5	9.18	1.56	0.70
Lead, Other		251.99	1	9.68	0.45	0.63	1	9.68	0.45	0.63
Method Group 251.XX PPM			8	9.39	1.91	1.13	7	9.00	1.48	0.66
Acid Soluble Manganese, AA	972.02a	261.00	11	0.190	0.022	0.012	11	0.190	0.022	0.012
Acid Soluble Manganese, AA	972.02b	261.11	3	0.184	0.030	0.018	3	0.184	0.030	0.018
Acid Soluble Manganese, ICP	972.02a	261.30	25	0.188	0.018	0.011	25	0.188	0.018	0.011
Acid Soluble Manganese, ICP	972.02b	261.31	2	0.185	0.033	0.020	2	0.185	0.033	0.020
Method Group 261.XX PCT			42	0.189	0.021	0.013	42	0.189	0.021	0.013
Mercury, Atomic Absorption		281.00	1	0.12	0.01	0.02	1	0.12	0.01	0.02
Molybdenum, Atomic Absorption		289.00	1	13.50	0.71	1.00	1	13.50	0.71	1.00
Molybdenum, ICP		289.30	10	10.05	1.19	0.32	9	9.90	1.13	0.23
Method Group 289.XX PPM			11	10.37	1.53	0.38	11	10.37	1.53	0.38
Nickel, Atomic Absorption		291.00	1	61.00	1.41	2.00	1	61.00	1.41	2.00
Nickel, ICP		291.30	9	61.91	9.92	5.57	8	62.53	9.12	2.86
Method Group 291.XX PPM			10	61.82	9.39	5.21	9	62.36	8.59	2.77
Selenium, ICP		301.30	1	0.92	0.48	0.68	1	0.92	0.48	0.68
Selenium, Other		301.99	1	0.31	0.08	0.12	1	0.31	0.08	0.12
Method Group 301.XX PPM			2	0.62	0.45	0.40	2	0.62	0.45	0.40
Sodium, Other		311.99	7	0.38	0.02	0.01	7	0.38	0.02	0.01
Acid Soluble Zinc, Atomic Absorption ..	975.02	321.00	13	0.151	0.005	0.003	11	0.151	0.003	0.001
Acid Soluble Zinc, ICP		321.30	22	0.150	0.010	0.006	20	0.150	0.009	0.004
Acid Soluble Zinc, Other		321.99	5	0.154	0.016	0.010	5	0.154	0.016	0.010
Method Group 321.XX PCT			40	0.151	0.010	0.006	37	0.151	0.009	0.004

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 001.10 PCT			Meth: 009.10 PCT			Meth: 010.60 PCT			Meth: 010.60 PCT			Meth: 010.XX PCT		
Ammoniacal Nitrogen			Ammon & Nitrate N			Total Nitrogen			Total Nitrogen			<u>Total Nitrogen</u>		
<u>MgO Distillation</u>			<u>Devarda</u>			<u>Combustion</u>			<u>Combustion</u>					
288	9.86	.85	392	10.06	.47	361	10.41	1.86	009	10.01	-1.05	324	10.24	.83
Avg	9.82		Avg	10.05		422	10.36	1.56	377	9.98	-1.06	406	10.22	.68
220	9.78	-.88	090	10.04	-1.13	035	10.33	1.35	040	9.98	-1.08	049	10.16	.67
						102	10.24 R	1.31	325	9.95	-1.25	177	10.22	.62
Meth: 001.99 PCT			Meth: 010.11 PCT			390 10.30 1.16			023 9.91 -1.53			095 10.14 .40		
Ammoniacal Nitrogen			Total Nitrogen			018 10.25 .87			162 9.90 -1.61			027 10.18 .38		
<u>Other</u>			<u>Modified Comprehensi</u>			389 10.25 .87			230 9.59 s -3.71			057 10.17 .37		
434	10.10 R	1.68	309	10.10	1.03	324	10.24	.81	428	9.53 s	-4.16	037	10.17	.35
096	9.96	.87	029	10.14	.92	049	10.16	.71				232	10.17	.35
376	9.86	.39	288	10.11	.66	406	10.22	.63	Meth: 010.99 PCT			291	10.16 X	.33
Avg	9.78		220	10.09	.44	177	10.22	.56	Total Nitrogen			231	10.15	.29
027	9.54	-1.26	Avg	10.03		360	10.20	.49	<u>Other</u>			029	10.14	.18
			114	10.02	-.17	095	10.14	.41	354	11.20 S	5.57	028	10.12	.13
Meth: 001.XX PCT			090 10.02 -.21			027 10.18 .29			415 10.28 1.40			Avg 10.11		
<u>Ammoniacal Nitrogen</u>			416 9.98 -.57			057 10.17 .29			Avg 9.96			288 10.11 -.06		
434	10.10 R	2.11	073	9.82	-2.13	291	10.16 X	.28	376	9.93	-.13	330	10.10	-.07
096	9.96	1.05	322	9.45 s	-5.04	232	10.17	.26	070	9.91	-.52	025	10.10	-.11
376	9.86	.41				037	10.17	.26	397	9.73 X	-1.12	251	10.09	-.15
288	9.86	.41	Meth: 010.12 PCT			231 10.15 .24			430 9.24 S -3.15			220 10.09 -.17		
Avg	9.80		Total Nitrogen			Avg 10.13						096 10.11 -.24		
220	9.78	-.14	<u>Salicylic</u>			028 10.12 -.16			Meth: 010.XX PCT			296 10.08 -.27		
027	9.54	-1.74	434 10.60 .89			330 10.10 -.22			<u>Total Nitrogen</u>			233 10.06 -.32		
			Avg 10.32			025 10.10 -.26			354 11.20 s 6.81			425 10.06 -.44		
Meth: 002.99 PCT			351 10.04 -.84			251 10.09 -.30			369 11.15 s 6.30			351 10.04 -.44		
Nitrate Nitrogen						096 10.11 -.31			434 10.60 A 2.99			106 10.04 -.47		
<u>Other</u>			Meth: 010.16 PCT			296 10.08 -.43			351 10.54 2.59			007 10.05 -.48		
027	0.10	.00	Total Nitrogen			233 10.06 -.50			434 10.54 2.57			055 10.07 -.49		
Avg	0.10		<u>Raney</u>			425 10.06 -.60			262 10.45 2.07			029 10.06 -.53		
288	0.10	-1.22	434 10.54 .71			055 10.07 -.64			043 10.37 R 1.97			426 10.02 -.56		
						007 10.05 -.66			361 10.41 1.77			090 10.02 -.57		
Meth: 005.00 PCT			Meth: 010.60 PCT			106 10.04 -.67			422 10.36 1.51			041 10.02 -.59		
Nitrogen From Urea			Total Nitrogen			029 10.06 -.69			035 10.33 1.32			114 10.02 -.59		
<u>Urease (as N)</u>			<u>Combustion</u>			426 10.02 -.77			102 10.24 R 1.24			309 10.10 -.61		
288	0.13	.71	369 11.15 s 6.96			041 10.02 -.81			390 10.30 1.15			247 10.01 -.62		
			351 10.54 2.78			247 10.01 -.84			415 10.28 1.01			307 10.00 -.72		
			262 10.45 2.19			307 10.00 -.95			389 10.25 .89			034 9.98 -.78		
			043 10.37 R 2.11			034 9.98 -1.01			018 10.25 .89			416 9.98 -.82		

* 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.XX PCT			Meth: 020.20 PCT			Meth: 020.XX PCT			Meth: 030.40 PCT			Meth: 041.10 PCT		
<u>Total Nitrogen</u>			<u>Total Phosphate</u>			<u>Total Phosphate</u>			<u>Insoluble Phosphate</u>			<u>Dir Available Phosph</u>		
377	9.98	-.82	377	9.98	-.82	406	10.13	.49	096	0.05	.71	260	10.10	1.38
009	10.01	-.83	231	9.85	-1.02	361	10.13	.47	Automated			254	10.11	1.28
040	9.98	-.83	309	9.75	-1.22	114	10.07	.28	Meth: 030.99 PCT			055	10.11	1.28
325	9.95	-.98	376	9.72	-1.34	232	10.08	.25	Insoluble Phosphate			057	10.06	.92
376	9.93	-1.10	Meth: 020.40 PCT			247	10.07	.23	Other			177	10.05	.72
023	9.91	-1.23	Total Phosphate			090	10.03	.16	247 0.03 -.71			434	10.00	.54
162	9.90	-1.30	Automated			095	10.04	.12	Meth: 030.XX PCT			Avg	9.95	
070	9.91	-1.41	247	10.07	1.08	Avg	10.02		Insoluble Phosphate			322	9.93	-.17
073	9.82	-1.93	096	9.93	.04	422	10.02	-.12	090 0.22 1.60			233	9.93	-.19
397	9.73 X	-2.43	Avg	9.93		392	10.01	-.14	Avg 0.09			041	9.95	-.23
230	9.59 A	-3.16	035	9.93	-.78	416	9.98	-.18	220 0.06 -.38			296	9.94	-.23
428	9.53 s	-3.56	193	9.80	-1.31	425	9.98	-.19	096 0.05 -.50			040	9.92	-.26
322	9.45 s	-4.01	042	9.48 s	-4.27	220	9.97	-.30	247 0.03 -.73			009	9.90	-.40
430	9.24 s	-5.28	Meth: 020.10 PCT			096	9.93	-.40	Meth: 040.10 PCT			102	9.85	-.88
Total Phosphate			Meth: 020.50 PCT			230	9.98	-.58	InDir Available Phos			049	9.73	-1.69
Grav Quimociac			Total Phosphate			035	9.93	-.62	Grav Quim			029	9.72	-1.92
114	10.07	1.18	430	11.02 S	3.19	288	10.01	-.69	090 9.81 .71			Meth: 041.20 PCT		
Avg	10.04		307	10.59	1.69	432	9.86	-.98	Meth: 040.40 PCT			Dir Available Phosph		
095	10.04	-.48	330	10.27	.63	369	9.84	-1.03	InDir Available Phos			Spectrometric		
090	10.03	-.93	426	10.25	.51	231	9.85	-1.05	Automated			262	10.15	.89
Meth: 020.20 PCT			361	10.13	.10	309	9.75	-1.27	096 9.89 .00			055	9.94	.43
Total Phosphate			Avg	10.10		376	9.72	-1.38	Meth: 040.99 PCT			Avg 9.80		
Spectrometric			422	10.02	-.30	389	9.63	-1.82	InDir Available Phos			415 9.30 -1.23		
428	10.50	2.37	390	10.06	-.56	042	9.48 s	-2.83	Other			Meth: 041.30 PCT		
324	10.23	1.06	432	9.86	-.95	Meth: 030.10 PCT			247 10.05 .71			Dir Available Phosph		
288	10.01	.71	389	9.63	-1.64	Insoluble Phosphate			Meth: 040.XX PCT			Alka Quim		
406	10.13	.61	Meth: 020.XX PCT			Grav Quimociac			InDir Available Phos			073 10.06 .71		
232	10.08	.36	Total Phosphate			090 0.22 .71			Other			Meth: 041.40 PCT		
392	10.01	.12	430	11.02 s	4.54	Meth: 030.20 PCT			247 10.05 1.21			Dir Available Phosph		
Avg	10.00		307	10.59	2.56	Insoluble Phosphate			Avg 9.91			Automated		
416	9.98	-.08	428	10.50	2.18	Spectrometric			096 9.89 -.21			025 10.32 1.12		
425	9.98	-.11	330	10.27	1.16	220 0.06 .71			090 9.81 -1.00			Avg 10.11		
220	9.97	-.24	426	10.25	1.01	Meth: 040.99 PCT			029 10.11 -.22			027 9.91 -1.10		
230	9.98	-.58	324	10.23	.92	InDir Available Phos			A=Analysis beyond 3-s limits					
369	9.84	-.99	390	10.06	.72	Automated								
* X=Excluded from lab performance			S/s=Screened Outlier			R=Duplicate Range too large								

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 041.50 PCT			Meth: 041.XX PCT			Meth: 041.XX PCT			Meth: 050.10 PCT			Meth: 050.51 PCT		
<u>Dir Available Phosph</u>			<u>Dir Available Phosph</u>			<u>Dir Available Phosph</u>			Soluble Potash			Soluble Potash		
<u>ICP</u>			397 11.05 s 6.13			177 9.79 -.88			<u>STPB Citrate</u>			<u>ICP (Citrate)</u>		
291	10.39 X	1.70	291	10.39 X	2.43	007	9.84	-.88	322	10.21	-.71	043	10.84	.91
009	10.15	.80	025	10.32	2.04	049	9.73	-1.16				Avg	10.51	
043	10.08	.53	034	10.19 R	1.97	106	9.73	-1.19	Meth: 050.30 PCT			377	10.50	-.14
361	10.08	.51	009	10.15	1.16	029	9.72	-1.33	Soluble Potash			389	10.45	-.22
325	10.03	.50	262	10.15	1.16	024	9.70	-1.38	<u>AA (Oxalate)</u>			007	10.44	-.38
360	9.96	.47	260	10.10	1.02	351	9.59	-1.98	369	11.68 S	2.79	009	10.35	-.46
Avg	9.95		055	10.11	.95	023	9.59	-2.00	023	11.01	1.55	361	10.31	-.55
377	9.82	-.55	254	10.11	.95	251	9.57	-2.10	262	10.40	.67	251	10.25 R	-1.03
007	9.84	-.63	029	10.11	.94	415	9.30 A	-3.54	040	10.51	.59	430	9.98	-1.47
023	9.59	-1.42	043	10.08	.78	354	9.16 s	-4.31	428	10.35	.28			
251	9.57	-1.49	220	10.06	.77	Meth: 048.20 PCT			Avg	10.21		Meth: 050.60 PCT		
354	9.16 S	-3.05	361	10.08	.75	Water Soluble Phosph			397	10.00	-.40	Soluble Potash		
Meth: 041.60 PCT			325	10.03	.72	<u>Spectrometric</u>			425	9.84	-.69	<u>Flame (Oxalate)</u>		
<u>Dir Available Phosph</u>			057	10.06	.69	096 8.43 -.71			351	9.36	-1.61	415	11.73 S	9.94
<u>EDTA Extract</u>			360	9.96	.67	Meth: 050.00 PCT			193	7.90 s	-4.69	309	10.55	1.43
397	11.05 s	8.17	073	10.06	.62	Soluble Potash			Meth: 050.31 PCT			055	10.37	.30
034	10.19 R	2.85	043	10.06	.62	<u>STPB Oxalate</u>			Soluble Potash			Avg	10.36	
220	10.06	1.43	177	10.05	.55	102 11.52 s 3.81			<u>AA (Citrate)</u>			288	10.29	-.50
043	10.06	1.32	434	10.00	.41	230 11.15 2.36			254 11.08 .84			406	10.23	-1.05
018	9.90	.73	028	9.96	.20	220 10.76 .93			Avg 10.36			Meth: 050.61 PCT		
028	9.96	.66	041	9.95	.17	233 10.72 .82			095 9.65 -.89			Soluble Potash		
296	9.95	.58	296	9.95	.14	009 10.56 .22			Meth: 050.50 PCT			<u>Flame (Citrate)</u>		
037	9.91	.42	Avg	9.94		043 10.54 .19			Soluble Potash			034	11.02	2.04
057	9.89	.17	322	9.93	-.08	057 10.52 .13			<u>ICP (Oxalate)</u>			057	10.46 R	1.08
288	9.87	.10	233	9.93	-.10	416 10.53 .08			354 10.90 1.04			025	10.75	1.08
Avg	9.86		040	9.92	-.15	Avg 10.51			324 10.53 .39			024	10.52	.38
177	9.79	-.55	070	9.94	-.15	055 10.45 -.24			106 10.46 .29			Avg	10.40	
106	9.73	-.93	296	9.94	-.15	392 10.43 -.29			422 10.40 .26			037	10.37	-.28
024	9.70	-1.16	027	9.91	-.18	029 10.39 -.44			Avg 10.30			018	10.30	-.30
351	9.59	-1.92	009	9.90	-.25	114 10.40 -.45			426 9.25 -1.76			028	10.27	-.39
Meth: 041.99 PCT			037	9.91	-.25	049 10.42 R -.86			Meth: 050.51 PCT			041	10.28	-.44
<u>Dir Available Phosph</u>			057	9.89	-.30	231 10.10 -1.52			Soluble Potash			029	10.05	-1.08
<u>Other</u>			288	9.87	-.45	090 10.08 -1.57			<u>ICP (Citrate)</u>			035	10.03	-1.17
070	9.94	.71	055	9.94	-.55				291 11.22 X 1.94					
			102	9.85	-.59									
			018	9.90	-.60									
			377	9.82	-.76									

* 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: 050.99 PCT			Meth: 050.XX PCT			Meth: 050.XX PCT			Meth: 101.30 PCT			Meth: 101.XX PCT		
<u>Soluble Potash</u>			<u>Soluble Potash</u>			<u>Soluble Potash</u>			<u>Acid Soluble Calcium</u>			<u>Acid Soluble Calcium</u>		
<u>Other</u>									<u>ICP</u>					
432	11.28	1.90	042	10.68	.62	231	10.10	-.84	232	1.16	.54	102	1.12	-.51
434	11.25	1.84	009	10.56	.34	090	10.08	-.88	027	1.15	.32	288	1.10	-.81
307	11.05 R	1.53	309	10.55	.33	247	10.07	-.90	114	1.15	.27	307	1.11	-.82
376	10.74	.62	324	10.53	.32	232	10.06	-.93	Avg	1.14		433	1.09	-.87
360	10.68	.48	007	10.44	.30	029	10.05	-.95	389	1.13	-.37	009	1.05	-1.44
042	10.68	.48	043	10.54	.29	035	10.03	-1.03	096	1.13	-.37	Meth: 121.00 PCT		
Avg	10.48		040	10.51	.27	397	10.00	-1.08	057	1.12	-.44	<u>AA</u>		
177	10.45	-.06	416	10.53	.25	390	9.98	-1.13	102	1.12	-.48	028	1.36	1.54
325	10.39	-.24	057	10.52	.23	430	9.98	-1.14	106	1.14	-.50	397	1.35	1.30
330	10.29	-.50	024	10.52	.23	425	9.84	-1.47	288	1.10	-.88	351	1.33	1.03
260	10.21	-.65	106	10.46	.22	095	9.65 R	-2.07	433	1.09	-.95	177	1.30	.62
027	10.13	-.82	377	10.50	.22	351	9.36	-2.69	307	1.11	-.98	034	1.30	.58
247	10.07	-.96	389	10.45	.14	426	9.25	-2.98	009	1.05	-1.76	040	1.28	.33
232	10.06	-.98	055	10.45	.09	193	7.90 s	-6.75	Meth: 101.70 PCT			Avg	1.26	
390	9.98	-1.17	177	10.45	.05	Meth: 060.00 PCT			Meth: 101.70 PCT			029	1.26	-.12
Meth: 050.XX PCT			392	10.43	.00	Free Water			Acid Soluble Calcium			043	1.26	-.16
<u>Soluble Potash</u>			Avg	10.43		<u>Vacuum Oven</u>			Titrimetric			392	1.26	-.28
415	11.73 s	3.27	029	10.39	-.11	096	0.84	1.60	415	2.58 S	.00	055	1.25	-.39
369	11.68 s	3.15	114	10.40	-.14	Avg	0.56		Meth: 101.XX PCT			220	1.23	-.54
102	11.52 s	2.81	325	10.39	-.16	416	0.51	-.27	Acid Soluble Calcium			262	1.21	-.87
432	11.28	2.13	055	10.37	-.18	193	0.46	-.57	415	2.58 s	20.46	095	1.19	-1.40
434	11.25	2.07	009	10.35	-.23	007	0.43	-.74	117	1.48 s	6.37	296	1.14	-2.06
291	11.22 X	1.98	428	10.35	-.25	Meth: 101.00 PCT			422	1.35	2.91	434	1.17 R	-2.08
230	11.15	1.82	037	10.37	-.27	Acid Soluble Calcium			035	1.23 R	1.62	309	1.13 S	-2.60
307	11.05 R	1.72	361	10.31	-.30	<u>AA</u>			065	1.23	1.33	Meth: 121.30 PCT		
254	11.08	1.64	018	10.30	-.32	220	1.14	.00	390	1.20	.74	Acid Soluble Magnesi		
034	11.02	1.58	422	10.40	-.33	Meth: 101.30 PCT			361	1.20	.65	<u>ICP</u>		
023	11.01	1.52	288	10.29	-.35	Acid Soluble Calcium			232	1.16	.21	330	2.12 s	14.51
354	10.90	1.27	028	10.27	-.40	<u>ICP</u>			114	1.15	.01	432	1.61 s	5.79
043	10.84	1.04	041	10.28	-.43	117	1.48 s	9.07	Avg	1.15		422	1.54 s	4.48
057	10.46 R	.87	330	10.29	-.43	422	1.35 s	4.32	220	1.14	-.13	057	1.38	1.80
220	10.76	.84	406	10.23	-.53	035	1.23 R	2.45	096	1.13	-.41	027	1.36	1.46
025	10.75	.80	049	10.42	-.54	065	1.23	2.09	389	1.13	-.41	233	1.36	1.45
376	10.74	.78	322	10.21	-.56	390	1.20	1.28	106	1.14	-.41	037	1.36	1.40
233	10.72	.75	260	10.21	-.58	361	1.20	1.17	057	1.12	-.50	035	1.33	1.13
360	10.68	.63	027	10.13	-.75	* X=Excluded from lab performance			S/s=Screened Outlier			R=Duplicate Range too large		
* X=Excluded from lab performance			251	10.25 R	-.81	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: 121.30 PCT			Meth: 121.XX PCT			Meth: 121.XX PCT			Meth: 144.01 PCT			Meth: 144.99 PCT		
<u>Acid Soluble Magnesi</u>			<u>Acid Soluble Magnesi</u>			<u>Acid Soluble Magnesi</u>			<u>Sulfur</u>			<u>Sulfur</u>		
<u>ICP</u>									<u>Gravimetric</u>			<u>Other</u>		
231	1.34	1.10	415	2.95 s	28.58	433	1.23	-.70	028	15.36 s	16.33	177	11.58	-.10
114	1.33	.90	330	2.12 s	14.33	220	1.23	-.74	262	12.24	2.03	422	11.54	-.24
426	1.32	.89	432	1.61 s	5.77	288	1.22	-1.03	043	12.12	1.41	247	11.59	-.24
065	1.30	.38	422	1.54 s	4.48	247	1.22	-1.08	230	11.95	.69	389	11.50	-.34
389	1.29	.28	057	1.38	1.85	262	1.21	-1.09	288	11.91	.49	023	11.39	-.70
360	1.29	.28	027	1.36	1.52	095	1.19	-1.64	055	11.90	.48	376	11.40	-.89
361	1.28	.18	233	1.36	1.51	430	1.18	-1.68	324	11.85	.33	096	11.30	-.97
009	1.28	.06	028	1.36	1.48	324	1.17	-1.77	296	11.85	.20	037	11.30	-.97
Avg	1.28		037	1.36	1.45	434	1.17 R	-2.33	Avg	11.81		009	11.19	-1.29
232	1.27	-.16	397	1.35	1.23	296	1.14	-2.36	102	11.78	-.13	307	11.14	-1.45
307	1.26	-.31	035	1.33	1.18	309	1.13 s	-2.91	233	11.73	-.39	232	11.07 R	-1.87
096	1.26	-.41	231	1.34	1.16	193	0.30 s	-16.57	040	11.69	-.58	390	11.03 R	-1.96
251	1.26	-.47	114	1.33	.96	Meth: 131.00 PCT			095	11.68	-.59	251	10.15 s	-4.49
354	1.27	-.51	426	1.32	.94	Water Soluble Magnes			029	11.67	-.66	Meth: 144.XX PCT		
102	1.26	-.52	351	1.33	.94	<u>AA</u>			106	11.58	-1.09	<u>Sulfur</u>		
390	1.25	-.63	177	1.30	.50	029	1.17	.87	193	11.39	-1.96	028	15.36 s	11.60
230	1.24	-.76	065	1.30	.45	Avg	1.09		291	10.31 s	-6.89	220	12.47	2.47
106	1.24	-.76	034	1.30	.45	220	1.02	-.86	Meth: 144.02 PCT			262	12.24	1.77
433	1.23	-.80	389	1.29	.32	Meth: 131.30 PCT			Sulfur			043	12.12	1.35
288	1.22	-1.13	360	1.29	.32	Water Soluble Magnes			<u>Gravimetric</u>			230	11.95	.85
247	1.22	-1.18	040	1.28	.28	<u>ICP</u>			029	11.69	.88	330	11.92	.75
430	1.18	-1.79	361	1.28	.20	230	1.05	.98	Avg	11.34		288	11.91	.71
324	1.17	-1.89	042	1.28	.18	Avg	0.99		434	10.98	-.85	055	11.90	.69
Meth: 121.70 PCT			009	1.28	.12	027	0.94	-.72	Meth: 144.99 PCT			360	11.90	.67
<u>Acid Soluble Magnesi</u>			Avg	1.27		432	0.98	-1.02	<u>Sulfur</u>			324	11.85	.55
<u>Titrimetric</u>			232	1.27	-.08	Meth: 131.XX PCT			<u>Other</u>			351	11.82	.52
415	2.95 S	.00	307	1.26	-.22	<u>Water Soluble Magnes</u>			220	12.47	2.63	296	11.85	.52
Meth: 121.99 PCT			029	1.26	-.25	029	1.17	1.56	330	11.92	.95	057	11.82	.44
<u>Acid Soluble Magnesi</u>			096	1.26	-.32	230	1.05	.33	360	11.90	.88	102	11.78	.30
<u>Other</u>			043	1.26	-.32	Avg	1.03		351	11.82	.70	029	11.69	.28
042	1.28	.71	392	1.26	-.40	220	1.02	-.16	057	11.82	.64	027	11.77	.26
Avg	1.28		251	1.26	-.41	432	0.98	-.96	354	11.64	.61	233	11.73	.17
193	0.30 S	-66.37	102	1.26	-.46	027	0.94	-1.01	361	11.77	.49	040	11.69	.13
			354	1.27	-.49	Avg			027	11.77	.48	Avg	11.69	
			055	1.25	-.52	Avg			11.61			095	11.68	-.02
			390	1.25	-.55	Avg			11.61			A=Analysis beyond 3-s limits		
			230	1.24	-.66	Avg			11.61					
			106	1.24	-.66	Avg			11.61					

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 144.XX PCT			Meth: 151.XX PPM			Meth: 165.99 PCT			Meth: 165.XX PCT			Meth: 181.99 PPM		
<u>Sulfur</u>			<u>Arsenic</u>			<u>Acid Soluble Boron</u>			<u>Acid Soluble Boron</u>			<u>Cadmium</u>		
029	11.67	-.07	065	10.22 s	8.26	<u>Other</u>			430	0.030	-1.88	<u>Other</u>		
177	11.58	-.34	096	5.50	.91	Avg	0.036		042	0.030	-1.96	376	1.68	-.71
106	11.58	-.37	220	4.85	.62	232	0.035	-.36	028	0.016 s	-5.74	Meth: 181.XX PPM		
247	11.59	-.40	376	5.12	.38	043	0.035	-.46	Meth: 171.10 PCT			<u>Cadmium</u>		
422	11.54	-.48	Avg	4.85		009	0.034	-.58	Water Soluble Boron			096	2.50 R	2.57
389	11.50	-.59	009	4.65	-.34	307	0.032	-1.05	<u>Spectrometric</u>			035	1.77	.96
354	11.64 R	-.64	102	4.61	-1.02	288	0.033 R	-1.31	296	0.030	.00	376	1.68	.79
023	11.39	-.95	106	4.35	-1.73	430	0.030	-1.68	Meth: 171.99 PCT			324	1.65	.71
193	11.39	-.97	Meth: 165.00 PCT			Meth: 165.XX PCT			Water Soluble Boron			065	1.59	.58
376	11.40 R	-1.10	<u>Acid Soluble Boron</u>			<u>Acid Soluble Boron</u>			<u>Other</u>			102	1.46	.33
096	11.30	-1.23	291	0.385 s	101.50	432	0.710 s	180.17	027	0.038	.00	232	1.35	.15
037	11.30	-1.24	262	0.210 s	50.26	291	0.385 s	92.67	Meth: 171.XX PCT			Avg	1.29	
009	11.19	-1.57	029	0.043	1.24	262	0.210 s	46.06	<u>Water Soluble Boron</u>			220	1.25	-.31
307	11.14	-1.73	057	0.042	1.21	354	0.057 s	5.72	027	0.038	.87	193	0.50	-1.56
232	11.07 R	-2.14	231	0.040	.38	029	0.043	1.46	Avg	0.034		106	0.40	-1.86
434	10.98	-2.23	392	0.039	.16	057	0.042	1.41	296	0.030	-.87	Meth: 190.00 PCT		
390	11.03 R	-2.24	Avg	0.038		360	0.042	1.19	Meth: 181.00 PPM			Water Soluble Chlori		
291	10.31 s	-4.35	040	0.037	-.48	106	0.040	1.13	Cadmium			<u>Titrimetric</u>		
251	10.15 s	-4.86	055	0.036	-.83	433	0.040	.81	220	1.25	.90	422	7.30	.86
Meth: 151.30 PPM			220	0.033	-1.55	251	0.040	.78	Atomic Absorption			Avg	6.97	
<u>Arsenic</u>			296	0.035 R	-1.75	231	0.040	.67	220	0.88		220	6.65	-.87
<u>ICP</u>			028	0.016 S	-6.67	392	0.039	.41	Avg	0.88		Meth: 190.99 PCT		
065	10.22 s	7.02	Meth: 165.99 PCT			434	0.039	.41	193	0.50	-.83	Water Soluble Chlori		
096	5.50	.85	<u>Acid Soluble Boron</u>			422	0.038	.25	Meth: 181.30 PPM			<u>Other</u>		
Avg	4.78		<u>Other</u>			230	0.038	.22	Cadmium			009	6.74	1.09
009	4.65	-.23	432	0.710 s	177.24	324	0.037	.07	<u>ICP</u>			Avg	6.71	
102	4.61	-.84	354	0.057 s	5.78	Avg	0.037	-.27	096	2.50 R	2.50	288	6.67	-.56
106	4.35	-1.43	360	0.042	1.33	040	0.037	-.27	035	1.77	.84	Meth: 190.XX PCT		
Meth: 151.99 PPM			106	0.040	1.25	055	0.036	-.43	324	1.65	.58	<u>Water Soluble Chlori</u>		
<u>Arsenic</u>			433	0.040	.95	232	0.035	-.52	065	1.59	.45	422	7.30	1.59
<u>Other</u>			251	0.040	.93	043	0.035	-.61	102	1.46	.19	Avg	6.84	
376	5.12	.34	434	0.039	.56	009	0.034	-.75	Avg	1.37		009	6.74	-.41
Avg	4.98		422	0.038	.41	220	0.033	-1.08	232	1.35	-.11	288	6.67	-.60
220	4.85	-1.18	230	0.038	.34	307	0.032	-1.23	106	0.40	-2.05	220	6.65	-.67
* X=Excluded from lab performance			324	0.037	.22	288	0.033 R	-1.44	A=Analysis beyond 3-s limits					
S/s=Screened Outlier						R=Duplicate Range too large								

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 191.00 PPM			Meth: 202.00 PPM			Meth: 221.00 PCT			Meth: 221.XX PCT			Meth: 241.00 PCT		
Chromium			Acid Soluble Cobalt			Acid Soluble Copper			<u>Acid Soluble Copper</u>			Acid Soluble Iron		
<u>Atomic Absorption</u>			<u>AA</u>			<u>Atomic Absorption</u>			035 0.0076	1.18		<u>Atomic Absorption</u>		
220 166.50	.71		434 90.50	.71		095 0.0073	1.80		102 0.0073	.80		296 0.48	-.90	
						028 0.0066	.47		096 0.0073	.80		028 0.47	-1.17	
Meth: 191.30 PPM			Meth: 202.30 PPM			220 0.0065	.32		095 0.0073	.67		040 0.47	-1.22	
Chromium			Acid Soluble Cobalt			Avg 0.0064			037 0.0070	.64		434 0.45	-1.48	
<u>ICP</u>			<u>ICP</u>			434 0.0060	-.75		106 0.0071	.61				
009 162.80	.95		096 112.50	1.43		193 0.0060	-.75		330 0.0072	.58		Meth: 241.30 PCT		
035 158.50 R	.84		057 97.95	.95		029 0.0060	-.90		288 0.0070	.21		Acid Soluble Iron		
096 160.00	.83		009 97.30	.92					Avg 0.0069			<u>ICP</u>		
390 159.50	.81		390 83.00	.45		Meth: 221.30 PCT			433 0.0068	-.18		432 2.55 s	33.17	
037 151.70	.50		037 81.85	.40		Acid Soluble Copper			389 0.0068	-.32		354 0.65	2.65	
106 142.00	.12		035 80.40	.35		<u>ICP</u>			028 0.0066	-.42		035 0.65 R	2.64	
Avg 139.00			Avg 69.98			354 0.0080	1.76		307 0.0068	-.56		117 0.61 R	2.22	
102 134.13	-.20		106 43.50	-.89		057 0.0075	1.25		009 0.0066	-.59		057 0.57	1.41	
324 113.00	-1.02		232 42.50	-.92		035 0.0076	1.14		220 0.0065	-.66		106 0.56	1.21	
065 88.87	-1.98		102 34.36	-1.20		102 0.0073	.77		232 0.0067	-.94		360 0.55	1.05	
232 10.60 s	-5.06		324 26.40	-1.46		096 0.0073	.77		065 0.0066	-.95		390 0.54	.93	
						037 0.0070	.67		324 0.0062	-1.04		330 0.54	.88	
Meth: 191.99 PPM			Meth: 202.XX PPM			106 0.0071	.61		422 0.0060	-1.30		422 0.54	.81	
Chromium			<u>Acid Soluble Cobalt</u>			330 0.0072	.53		434 0.0060	-1.30		232 0.51	.42	
<u>Other</u>			096 112.50	1.41		288 0.0070	.07		193 0.0060	-1.30		009 0.51	.36	
376 139.50	.71		057 97.95	.91		Avg 0.0070			029 0.0060	-1.40		230 0.50	.30	
			009 97.30	.88		433 0.0068	-.32		114 0.0033 s	-5.40		433 0.49	.14	
Meth: 191.XX PPM			434 90.50	.66		389 0.0068	-.43					096 0.49	.08	
Chromium			390 83.00	.40		307 0.0068	-.69		Meth: 241.00 PCT			Avg 0.48		
<u>Atomic Absorption</u>			037 81.85	.35		009 0.0066	-.78		Acid Soluble Iron			324 0.48	-.07	
220 166.50	1.03		035 80.40	.30		232 0.0067	-1.10		<u>Atomic Absorption</u>			291 0.48 X	-.18	
009 162.80	.88		Avg 71.84			065 0.0066	-1.13		351 0.61	1.95		231 0.47	-.21	
035 158.50 R	.78		106 43.50	-.98		324 0.0062	-1.33		029 0.57	1.16		307 0.47	-.26	
096 160.00	.76		232 42.50	-1.01		422 0.0060	-1.62		095 0.56	.92		102 0.47	-.29	
390 159.50	.73		102 34.36	-1.29		114 0.0033 s	-6.18		055 0.55	.71		389 0.45	-.64	
037 151.70	.41		324 26.40	-1.57					037 0.53	.44		065 0.44	-.64	
106 142.00	.04					Meth: 221.XX PCT			Avg 0.51			023 0.44	-.75	
Avg 141.80						<u>Acid Soluble Copper</u>			177 0.51	-.07		426 0.43	-.82	
376 139.50	-.21		Meth: 221.00 PCT			262 0.0100 s	4.77		034 0.51	-.08		027 0.43	-.87	
102 134.13	-.32		Acid Soluble Copper			425 0.0080	1.84		043 0.51	-.21		251 0.41	-1.19	
324 113.00	-1.19		<u>Atomic Absorption</u>			354 0.0080	1.73		220 0.51	-.62		247 0.41	-1.20	
065 88.87	-2.19		262 0.0100 S	7.10		057 0.0075	1.24		425 0.48	-.71		288 0.41	-1.27	
232 10.60 s	-5.43		425 0.0080 R	3.27										

* 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: 241.30 PCT			Meth: 241.XX PCT			Meth: 251.99 PPM			Meth: 261.11 PCT			Meth: 261.31 PCT		
Acid Soluble Iron			Acid Soluble Iron			Lead			Acid Soluble Mangane			Acid Soluble Mangane		
<u>ICP</u>			<u>ICP</u>			<u>Other</u>			<u>AA</u>			<u>ICP</u>		
430	0.36	-1.93	324	0.48	-.25	376	9.68	.71	040	0.181	-.32	324	0.210	.97
			425	0.48	-.27				434	0.155	-1.09	Avg	0.185	
			291	0.48 X	-.29	Meth: 251.XX PPM			Meth: 261.30 PCT			027	0.160	-.75
Meth: 241.99 PCT			231 0.47 -.38			<u>Lead</u>			Acid Soluble Mangane			Meth: 261.99 PCT		
Acid Soluble Iron			307 0.47 -.43			117 31.80 s 15.43			<u>ICP</u>			Acid Soluble Mangane		
<u>Other</u>			102 0.47 -.45			324 12.10 R 2.57			432 0.405 s 12.06			<u>Other</u>		
376	0.50	.86	296	0.48	-.49	232 11.75 1.87			117 0.230 s 2.60			042 0.113 S .00		
Avg	0.44		028	0.47	-.68	376 9.68 .51			035 0.218 1.75					
042	0.37	-.87	040	0.47 R	-.72	009 9.20 .19			291 0.210 X 1.36					
			389	0.45	-.79	Avg 9.00			037 0.202 1.28			Meth: 261.XX PCT		
Meth: 241.XX PCT			065 0.44 -.79			102 8.92 -.05			057 0.206 1.03			<u>Acid Soluble Mangane</u>		
<u>Acid Soluble Iron</u>			434 0.45 -.88			106 8.55 -.48			231 0.206 1.02			432 0.405 s 10.09		
432	2.55 s	31.66	023	0.44	-.89	220 7.45 -1.06			009 0.198 .71			117 0.230 2.14		
354	0.65	2.36	426	0.43	-.97	065 7.45 X -1.16			232 0.189 .69			035 0.218 1.42		
035	0.65	2.36	027	0.43	-1.02	Meth: 261.00 PCT			433 0.199 .62			220 0.215 1.41		
117	0.61 R	1.97	251	0.41	-1.32	Acid Soluble Mangane			390 0.198 .61			324 0.210 1.36		
351	0.61	1.73	247	0.41	-1.33	<u>AA</u>			106 0.190 .57			034 0.210 1.36		
057	0.57	1.17	288	0.41	-1.39	220 0.215 1.35			251 0.190 .57			029 0.216 1.30		
029	0.57	1.13	042	0.37	-1.88	034 0.210 1.30			023 0.194 .41			291 0.210 X 1.09		
106	0.56	.99	430	0.36	-2.03	193 0.210 .93			354 0.192 .26			037 0.202 1.04		
095	0.56	.95	Meth: 251.00 PPM			028 0.206 .74			360 0.190 .13			193 0.210 .99		
360	0.55	.83	Lead			095 0.199 .43			Avg 0.188			057 0.206 .81		
055	0.55	.78	<u>Atomic Absorption</u>			262 0.190 .01			233 0.182 -.31			231 0.206 .80		
390	0.54	.72	220 7.45 .71			Avg 0.190			065 0.182 -.31			028 0.206 .79		
330	0.54	.67	Meth: 251.30 PPM			055 0.185 -.32			389 0.183 -.32			009 0.198 .55		
422	0.54	.60	Lead			296 0.176 -.63			096 0.182 -.41			095 0.199 .48		
037	0.53	.59	<u>ICP</u>			392 0.175 -.69			426 0.182 -.42			251 0.190 .47		
220	0.51	.50	117 31.80 S 14.46			177 0.170 -.93			307 0.179 -.54			106 0.190 .47		
177	0.51	.23	324 12.10 R 2.34			425 0.153 -1.89			422 0.174 -.76			390 0.198 .47		
232	0.51	.23	232 11.75 1.65			351 0.115 s -3.44			102 0.173 -.84			433 0.199 .47		
034	0.51	.21	009 9.20 .13			Meth: 261.11 PCT			230 0.171 -1.18			023 0.194 .30		
009	0.51	.18	Avg 9.18			Acid Soluble Mangane			288 0.166 -1.47			354 0.192 .17		
043	0.51	.15	102 8.92 -.16			<u>AA</u>			430 0.139 -2.73			360 0.190 .05		
230	0.50	.13	106 8.55 -.53			029 0.216 1.10			Avg 0.189			262 0.190 .05		
376	0.50	.06	065 7.45 X -1.20			Avg 0.184			055 0.185 -.29			055 0.185 -.29		
Avg	0.50								233 0.182 -.31			233 0.182 -.31		
433	0.49	-.06												
096	0.49	-.19												
* 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: 261.XX PCT			Meth: 289.30 PPM			Meth: 291.30 PPM			Meth: 311.99 PCT			Meth: 321.30 PCT		
<u>Acid Soluble Manganese</u>			<u>Molybdenum</u>			<u>Nickel</u>			<u>Sodium</u>			<u>Acid Soluble Zinc</u>		
065	0.182	-.32	<u>ICP</u>			<u>ICP</u>			<u>Other</u>			<u>ICP</u>		
389	0.183	-.32	057	10.40	.48	232	67.65	.58	057	0.40	1.34	354	0.164 R	2.07
096	0.182	-.39	232	10.35	.40	Avg	62.53		035	0.40	1.21	065	0.151 R	1.26
426	0.182	-.40	433	10.02	.12	035	60.85	-.38	102	0.38	.14	330	0.160	1.11
307	0.179	-.51	106	10.00	.09	324	51.85	-1.17	Avg	0.38		037	0.152	.79
040	0.181	-.56	Avg	9.90		117	57.01 R	-1.61	288	0.38	-.05	291	0.155 X	.79
232	0.189	-.58	102	9.50	-.35	065	45.19	-1.92	422	0.37	-.27	426	0.154	.64
296	0.176	-.60	324	8.75	-1.02	Meth: 291.XX PPM			232	0.37	-.48	307	0.154	.54
392	0.175	-.66	065	7.65	-1.99	<u>Nickel</u>			009	0.34	-1.71	433	0.152	.34
422	0.174	-.69	Meth: 289.XX PPM			009	69.60	.86	Meth: 321.00 PCT			102	0.152	.24
102	0.173	-.76	<u>Molybdenum</u>			102	69.59	.84	<u>Acid Soluble Zinc</u>			360	0.150	.04
177	0.170	-.90	288	13.50 s	3.08	390	67.50	.67	<u>Atomic Absorption</u>			324	0.150	.04
230	0.171	-1.04	220	13.50	2.08	106	68.00	.66	193	0.200 s	14.15	Avg	0.150	
288	0.166	-1.28	035	11.50	.81	232	67.65	.64	220	0.180 s	8.84	009	0.150	-.05
027	0.160	-1.35	037	11.45	.80	Avg	62.36		028	0.161 R	3.30	233	0.149	-.12
434	0.155	-1.71	009	10.90	.35	220	61.00	-.20	040	0.159	2.13	023	0.150	-.27
425	0.153	-1.88	057	10.40	.13	035	60.85	-.40	055	0.154	.88	231	0.146	-.40
430	0.139	-2.35	Avg	10.37		324	51.85	-1.22	029	0.154	.72	251	0.145	-.73
351	0.115 s	-3.46	232	10.35	-.03	117	57.01 R	-1.70	177	0.153	.54	230	0.143	-.77
042	0.113 s	-3.56	433	10.02	-.23	065	45.19	-2.02	296	0.152	.38	114	0.142	-.81
Meth: 281.00 PPM			106	10.00	-.24	Meth: 301.30 PPM			Avg	0.151		232	0.139	-1.25
Mercury			102	9.50	-.56	Selenium			034	0.150	-.33	288	0.138	-1.26
<u>Atomic Absorption</u>			324	8.75	-1.06	<u>ICP</u>			262	0.150	-.33	422	0.136	-1.51
193	0.12	.71	065	7.65	-1.78	065	0.92 X	-.71	351	0.149	-.78	430	0.117 S	-3.48
Meth: 289.00 PPM			Meth: 291.00 PPM			Meth: 301.99 PPM			095	0.149	-.78	Meth: 321.99 PCT		
<u>Molybdenum</u>			<u>Nickel</u>			<u>Selenium</u>			425	0.148	-.89	<u>Acid Soluble Zinc</u>		
<u>Atomic Absorption</u>			<u>Atomic Absorption</u>			<u>Other</u>			392	0.147	-1.41	<u>Other</u>		
220	13.50	.71	220	61.00	.71	220	0.31	.71	043	0.145 R	-2.29	389	0.179	1.60
Meth: 289.30 PPM			Meth: 291.30 PPM			Meth: 301.XX PPM			434	0.107 s	-13.17	220	0.156	.37
<u>Molybdenum</u>			<u>Nickel</u>			<u>Selenium</u>			Meth: 321.30 PCT			Avg	0.154	
<u>ICP</u>			<u>ICP</u>			<u>Selenium</u>			<u>Acid Soluble Zinc</u>			390	0.145	-.59
288	13.50 s	4.43	009	69.60	.79	065	0.92 X	1.01	<u>ICP</u>			376	0.150	-.68
035	11.50	1.48	102	69.59	.78	Avg	0.62		432	1.050 s	97.24	042	0.140	-1.00
037	11.45 R	1.45	390	67.50	.61	220	0.31	-.69	117	0.200 s	7.59			
009	10.90	.89	106	68.00	.60				106	0.175 s	3.15			
* X=Excluded from lab performance			S/s=Screened Outlier			R=Duplicate Range too large			057	0.177	2.95	A=Analysis beyond 3-s limits		

Laboratory Averages & Accuracy Indexes

<u>Lab</u>	<u>Average*</u>	<u>Index</u>	<u>Lab</u>	<u>Average*</u>	<u>Index</u>	<u>Lab</u>	<u>Average*</u>	<u>Index</u>	<u>Lab</u>	<u>Average*</u>	<u>Index</u>	<u>Lab</u>	<u>Average*</u>	<u>Index</u>
Meth: 321.XX PCT			Meth: 321.XX PCT			Meth: 321.XX PCT			Meth: 321.XX PCT			Meth: 321.XX PCT		
<u>Acid Soluble Zinc</u>			<u>Acid Soluble Zinc</u>			<u>Acid Soluble Zinc</u>			<u>Acid Soluble Zinc</u>			<u>Acid Soluble Zinc</u>		
432	1.050 s	98.25	230	0.143	-.91									
117	0.200 s	7.59	114	0.142	-.95									
193	0.200 s	5.32	376	0.150 R	-1.08									
220	0.180 s	3.34	065	0.151 R	-1.27									
106	0.175 s	3.08	232	0.139	-1.38									
389	0.179	3.05	288	0.138	-1.40									
057	0.177	2.85	042	0.140	-1.42									
354	0.164 R	2.01	422	0.136	-1.66									
028	0.161	1.27	430	0.117 s	-3.65									
330	0.160	1.00	434	0.107 s	-4.88									
040	0.159	.84												
220	0.156	.78												
037	0.152	.77												
291	0.155 X	.71												
426	0.154	.56												
307	0.154	.42												
055	0.154	.37												
029	0.154	.31												
433	0.152	.28												
177	0.153	.24												
296	0.152	.17												
102	0.152	.12												
Avg	0.151													
262	0.150	-.08												
034	0.150	-.08												
360	0.150	-.08												
324	0.150	-.08												
009	0.150	-.14												
233	0.149	-.24												
351	0.149	-.25												
095	0.149	-.25												
425	0.148	-.29												
023	0.150	-.30												
392	0.147	-.49												
231	0.146	-.53												
390	0.145	-.70												
251	0.145	-.83												
043	0.145	-.83												

* 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	2	0.00	1.21	0.15	121.30	30	0.82	3.04	0.29
001.99	4	0.40	1.22	0.23	121.99	2	- 33.19	46.93	0.50
001.XX	6	0.34	1.26	0.25	121.XX	49	0.66	5.35	0.40
002.99	2	0.00	0.00	0.87	131.00	2	0.00	1.21	0.14
002.XX	2	0.00	0.00	0.87	131.30	3	0.00	0.82	0.62
009.10	2	0.00	0.59	0.76	131.XX	5	0.00	0.98	0.36
009.XX	2	0.00	0.59	0.76	144.01	16	0.59	4.63	0.24
010.11	9	- 0.56	1.88	0.46	144.02	2	0.00	1.20	0.16
010.12	2	0.00	1.18	0.22	144.99	21	- 0.38	1.40	0.35
010.60	48	0.03	1.61	0.37	144.XX	38	- 0.07	2.42	0.29
010.99	6	0.38	2.88	0.59	151.30	5	1.27	2.87	1.54
010.XX	63	- 0.03	1.79	0.45	151.99	2	0.00	0.48	0.80
020.10	3	0.00	0.48	0.83	151.XX	7	1.06	2.85	1.56
020.20	14	0.00	0.94	0.37	165.00	11	13.101	33.149	0.656
020.40	5	- 0.71	1.76	1.17	165.99	17	10.640	42.718	4.484
020.50	9	0.35	1.41	0.26	165.XX	28	11.285	38.170	3.575
020.XX	31	0.07	1.31	0.41	171.XX	2	0.000	1.225	0.000
030.XX	4	0.00	1.08	0.08	181.00	2	0.00	1.18	0.24
040.XX	3	0.00	1.10	0.18	181.30	7	0.33	1.26	0.46
041.10	15	0.00	0.95	0.35	181.XX	10	0.24	1.20	0.39
041.20	3	0.00	1.10	0.16	190.00	2	0.00	1.22	0.05
041.40	3	0.00	1.10	0.14	190.99	2	0.00	0.74	0.69
041.50	11	- 0.28	1.31	0.27	190.XX	4	0.00	1.07	0.14
041.60	14	0.74	2.38	0.60	191.30	10	- 0.43	1.88	0.12
041.XX	41	- 0.04	1.61	0.45	191.XX	12	- 0.39	1.85	0.14
050.00	15	0.22	1.35	0.33	202.30	10	0.00	1.03	0.07
050.30	9	- 0.18	2.02	0.62	202.XX	11	0.00	1.02	0.08
050.31	2	0.00	1.19	0.21	221.00	8	1.2837	2.7396	0.3217
050.50	5	0.00	1.04	0.19	221.30	18	- 0.343	1.6700	0.5368
050.51	9	- 0.08	0.99	0.28	221.XX	26	- 0.024	1.6820	0.4244
050.60	5	1.99	4.53	0.34	241.00	14	0.00	0.92	0.42
050.61	10	0.02	0.94	0.42	241.30	29	1.29	6.19	0.75
050.99	14	0.10	1.04	0.20	241.99	2	0.00	1.22	0.07
050.XX	65	0.03	1.44	0.40	241.XX	45	0.73	4.79	0.60
060.00	4	0.00	1.06	0.16	251.30	7	2.33	5.46	0.59
060.XX	4	0.00	1.06	0.16	251.XX	9	1.95	5.17	0.56
101.30	18	0.72	2.05	1.50	261.00	12	- 0.286	1.323	0.416
101.XX	20	1.32	4.72	1.02	261.11	3	0.000	1.039	0.337
121.00	16	- 0.23	1.13	0.54	261.30	27	0.533	2.506	0.457

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
261.31	2	0.000	1.066	0.426					
261.XX	45	0.069	1.907	0.417					
289.30	11	0.41	1.36	0.96					
289.XX	12	0.17	1.13	0.69					
291.30	9	- 0.07	0.97	0.53					
291.XX	10	- 0.06	0.97	0.54					
301.XX	2	0.00	0.96	0.54					
311.99	7	0.00	1.01	0.23					
311.XX	7	0.00	1.01	0.23					
321.00	16	0.666	5.458	1.241					
321.30	26	3.941	18.897	2.974					
321.99	5	0.000	0.969	0.385					
321.XX	45	2.433	14.541	2.312					