

MAGRUDER - Fertilizer Check Sample No. - 200401 MAP

- Pass 1 Results for 86 Labs - - Pass 2 Results for 85 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	11	11.11	0.34	0.11	10	11.10	0.34	0.06
Ammoniacal Nitrogen, Other		001.99	15	11.38	0.23	0.07	15	11.38	0.23	0.07
Method Group 001.XX PCT			26	11.27	0.31	0.08	25	11.27	0.31	0.06
Nitrogen From Urea, Urease (as N)	959.03	005.00	1	0.15	0.06	0.09	1	0.15	0.06	0.09
Ammon & Nitrate N, Devarda	892.01	009.10	5	11.38	0.28	0.22	5	11.38	0.28	0.22
Total Nitrogen, Reduced Iron		010.10	1	11.72	0.01	0.02	1	11.72	0.01	0.02
Total Nitrogen, Modified Comprehensive	978.02	010.11	7	11.51	0.15	0.06	6	11.49	0.15	0.02
Total Nitrogen, Salicylic	955.04D	010.12	5	11.49	0.14	0.03	4	11.53	0.12	0.01
Total Nitrogen, Combustion		010.60	52	11.35	0.26	0.07	51	11.35	0.26	0.07
Total Nitrogen, Other		010.99	5	11.49	0.46	0.09	6	11.65	0.56	0.11
Method Group 010.XX PCT			70	11.39	0.27	0.07	67	11.39	0.27	0.06
Total Phosphate, Grav Quimociac	962.02	020.10	7	52.27	0.36	0.11	7	52.27	0.36	0.11
Total Phosphate, Spectrometric	958.01	020.20	22	51.85	0.47	0.27	21	51.84	0.45	0.21
Total Phosphate, Automated	978.01	020.40	7	51.95	0.35	0.16	7	51.95	0.35	0.16
Total Phosphate, ICP		020.50	2	51.98	0.17	0.18	2	51.98	0.17	0.18
Method Group 020.XX PCT			39	51.92	0.47	0.21	38	51.92	0.46	0.18
Insoluble Phosphate, Grav Quimociac ...	963.03C	030.10	3	0.34	0.06	0.02	3	0.34	0.06	0.02
Insoluble Phosphate, Spectrometric	963.03C	030.20	1	0.19	0.07	0.10	1	0.19	0.07	0.10
Insoluble Phosphate, Automated	978.01	030.40	2	0.28	0.10	0.04	2	0.28	0.10	0.04
Method Group 030.XX PCT			6	0.29	0.09	0.04	6	0.29	0.09	0.04
InDir Available Phosphate, Grav Quim ..	960.02	040.10	2	52.09	0.08	0.07	2	52.09	0.08	0.07
InDir Available Phosphate, Spectrometri	960.02	040.20	1	51.93	0.08	0.12	1	51.93	0.08	0.12
InDir Available Phosphate, Automated ..	960.02	040.40	1	51.63	0.01	0.01	1	51.63	0.01	0.01
InDir Available Phosphate, Other		040.99	1	51.72	0.15	0.21	1	51.72	0.15	0.21
Method Group 040.XX PCT			5	51.89	0.21	0.10	5	51.89	0.21	0.10
Dir Available Phosphate, Grav Quimociac	960.03E	041.10	20	51.89	0.25	0.17	19	51.89	0.24	0.14
Dir Available Phosphate, Spectrometric	960.03D	041.20	5	51.55	0.91	0.17	5	51.55	0.91	0.17
Dir Available Phosphate, Automated	978.01	041.40	3	51.69	0.58	0.03	3	51.69	0.58	0.03
Dir Available Phosphate, ICP		041.50	5	52.17	0.63	0.24	5	52.17	0.63	0.24
Dir Available Phosphate, EDTA Extract .	993.01	041.60	12	51.76	0.33	0.27	11	51.74	0.26	0.17
Dir Available Phosphate, Other		041.99	1	51.44	0.54	0.77	1	51.44	0.54	0.77
Method Group 041.XX PCT			47	51.85	0.50	0.21	44	51.84	0.49	0.16
Water Soluble Phosphate, Grav Quimociac	962.03	048.10	1	45.88	0.25	0.36	1	45.88	0.25	0.36
Water Soluble Phosphate, Spectrometric	970.01	048.20	3	46.57	0.78	0.27	3	46.57	0.78	0.27
Method Group 048.XX PCT			4	46.40	0.74	0.29	4	46.40	0.74	0.29
Soluble Potash, STPB Citrate	969.04	050.10	1	11.25	0.05	0.07	1	11.25	0.05	0.07
Soluble Potash, AA (Oxalate)		050.30	1	11.10	0.05	0.07	1	11.10	0.05	0.07
Soluble Potash, ICP (Oxalate)		050.50	3	1.04	0.89	0.09	3	1.04	0.89	0.09
Soluble Potash, ICP (Citrate)		050.51	2	0.16	0.06	0.02	2	0.16	0.06	0.02

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Soluble Potash, Flame (Oxalate)	983.02(a)	050.60	1	0.17	0.00	0.00	1	0.17	0.00	0.00
Soluble Potash, Other		050.99	1	0.13	0.00	0.00	1	0.13	0.00	0.00
Method Group 050.XX PCT			9	2.90	4.59	0.05	8	3.16	4.82	0.02
Free Water, Vacuum Oven	965.08B	060.00	9	1.19	0.18	0.06	9	1.19	0.18	0.06
Acid Soluble Calcium, ICP		101.30	7	0.35	0.02	0.01	7	0.35	0.02	0.01
Acid Soluble Magnesium, AA	984.01	121.00	2	0.78	0.03	0.04	2	0.78	0.03	0.04
Acid Soluble Magnesium, ICP		121.30	7	0.80	0.03	0.02	7	0.80	0.03	0.02
Method Group 121.XX PCT			9	0.80	0.03	0.02	9	0.80	0.03	0.02
Sulfur, Gravimetric	980.02a	144.01	1	1.81	0.02	0.03	1	1.81	0.02	0.03
Sulfur, Spectrometric		144.70	1	1.38	0.04	0.05	1	1.38	0.04	0.05
Sulfur, Other		144.99	7	1.53	0.13	0.04	6	1.52	0.13	0.01
Method Group 144.XX PCT			9	1.54	0.16	0.04	8	1.54	0.16	0.02
Arsenic, Atomic Absorption		151.00	2	16.25	3.30	2.19	2	16.25	3.30	2.19
Arsenic, ICP		151.30	6	15.70	3.85	1.34	6	15.70	3.85	1.34
Arsenic, Other		151.99	3	12.07	3.03	0.93	3	12.07	3.03	0.93
Method Group 151.XX PPM			11	14.81	3.81	1.38	11	14.81	3.81	1.38
Acid Soluble Boron, Other		165.99	4	0.036	0.009	0.002	4	0.036	0.009	0.002
Cadmium, Atomic Absorption		181.00	4	4.24	1.30	0.16	4	4.24	1.30	0.16
Cadmium, ICP		181.30	12	3.97	0.54	0.31	12	3.97	0.54	0.31
Cadmium, Other		181.99	3	3.90	0.82	0.61	3	3.90	0.82	0.61
Method Group 181.XX PPM			19	4.02	0.78	0.33	17	3.94	0.53	0.26
Water Soluble Chlorine, Other		190.99	1	0.02	0.00	0.00	1	0.02	0.00	0.00
Chromium, Atomic Absorption		191.00	1	128.50	3.54	5.00	1	128.50	3.54	5.00
Chromium, ICP		191.30	11	121.47	13.18	2.33	10	121.50	13.73	1.41
Chromium, Other		191.99	1	109.50	0.71	1.00	1	109.50	0.71	1.00
Method Group 191.XX PPM			13	121.09	12.72	2.43	12	121.08	13.15	1.68
Acid Soluble Cobalt, ICP	965.11	202.30	11	2.87	0.52	0.06	11	2.87	0.52	0.06
Acid Soluble Cobalt, Other		202.99	1	3.05	0.07	0.10	1	3.05	0.07	0.10
Method Group 202.XX PPM			12	2.89	0.50	0.07	12	2.89	0.50	0.07
Acid Soluble Copper, ICP		221.30	3	0.0009	0.0008	0.0000	3	0.0009	0.0008	0.0000
Acid Soluble Iron, Atomic Absorption ..	980.01	241.00	2	1.11	0.13	0.01	2	1.11	0.13	0.01
Acid Soluble Iron, ICP		241.30	8	1.15	0.10	0.00	7	1.14	0.10	0.00
Method Group 241.XX PCT			10	1.14	0.10	0.01	9	1.15	0.09	0.00
Lead, Atomic Absorption		251.00	3	2.83	1.27	0.22	3	2.83	1.27	0.22
Lead, ICP		251.30	7	3.72	1.50	0.95	6	3.88	1.33	0.46
Lead, Other		251.99	2	4.00	2.02	0.10	2	4.00	2.02	0.10
Method Group 251.XX PPM			12	3.54	1.53	0.63	11	3.61	1.46	0.33
Acid Soluble Manganese, AA	972.02a	261.00	1	0.036	0.002	0.003	1	0.036	0.002	0.003
Acid Soluble Manganese, ICP	972.02a	261.30	7	0.033	0.002	0.001	7	0.033	0.002	0.001

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Method Group 261.XX PCT			8	0.033	0.002	0.001	7	0.033	0.002	0.001
Mercury, ICP		281.30	1	12.55	0.78	1.10	1	12.55	0.78	1.10
Mercury, Other		281.99	2	5.09	5.84	0.05	2	5.09	5.84	0.05
Method Group 281.XX PPM			3	7.58	5.95	0.40	3	7.58	5.95	0.40
Molybdenum, Atomic Absorption		289.00	2	6.40	1.20	1.50	2	6.40	1.20	1.50
Molybdenum, ICP		289.30	10	7.26	1.59	0.57	9	7.08	1.55	0.43
Molybdenum, Other		289.99	1	12.90	0.00	0.00	1	12.90	0.00	0.00
Method Group 289.XX PPM			13	7.56	2.16	0.67	12	7.64	2.19	0.49
Nickel, Atomic Absorption		291.00	1	9.20	0.99	1.40	1	9.20	0.99	1.40
Nickel, ICP		291.30	9	11.06	1.19	0.27	8	11.13	1.23	0.17
Nickel, Other		291.99	1	11.20	0.14	0.20	1	11.20	0.14	0.20
Method Group 291.XX PPM			11	10.90	1.22	0.36	10	11.07	1.13	0.26
Selenium, Atomic Absorption		301.00	2	0.12	0.01	0.01	2	0.12	0.01	0.01
Selenium, Other		301.99	1	0.14	0.02	0.04	1	0.14	0.02	0.04
Method Group 301.XX PPM			3	0.12	0.02	0.02	3	0.12	0.02	0.02
Sodium, Atomic Absorption	983.04	311.00	1	0.17	0.00	0.01	1	0.17	0.00	0.01
Sodium, Flame Photometric	974.01	311.30	2	0.17	0.02	0.02	2	0.17	0.02	0.02
Sodium, Other		311.99	4	0.18	0.02	0.00	4	0.18	0.02	0.00
Method Group 311.XX PCT			7	0.18	0.02	0.01	6	0.18	0.02	0.00
Acid Soluble Zinc, Atomic Absorption ..	975.02	321.00	2	0.007	0.001	0.001	2	0.007	0.001	0.001
Acid Soluble Zinc, ICP		321.30	7	0.006	0.001	0.000	7	0.006	0.001	0.000
Acid Soluble Zinc, Other		321.99	1	0.005	0.000	0.000	1	0.005	0.000	0.000
Method Group 321.XX PCT			10	0.006	0.001	0.000	10	0.006	0.001	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			Meth: 001.XX PCT			Meth: 009.10 PCT			Meth: 010.60 PCT			Meth: 010.60 PCT		
<u>Ammoniacal Nitrogen</u>			<u>Ammoniacal Nitrogen</u>			<u>Ammon & Nitrate N</u>			<u>Total Nitrogen</u>			<u>Total Nitrogen</u>		
<u>MgO Distillation</u>						<u>Devarda</u>			<u>Combustion</u>			<u>Combustion</u>		
292	11.54	1.31	418	11.58 X	1.01	Avg	11.38		025	11.66	1.21	142	11.20	-.58
232	11.53	1.27	409	11.54	.88	420	10.99	-1.50	096	11.63	1.07	007	11.23	-.58
251	11.26 R	1.06	232	11.53	.83	Meth: 010.10 PCT			292	11.61	1.00	393	11.09	-1.00
416	11.35	.75	247	11.52	.82	Total Nitrogen			070	11.58	.88	024	11.07	-1.10
029	11.18	.25	369	11.50	.78	<u>Reduced Iron</u>			220	11.50 R	.80	042	10.97	-1.48
220	11.16	.19	220	11.51	.77	405	11.72	.71	381	11.55	.79	095	10.95	-1.55
Avg	11.10		211	11.51	.77	Meth: 010.11 PCT			023	11.53	.77	102	10.94	-1.60
389	11.05	-.20	397	11.43	.55	Total Nitrogen			247	11.55	.77	360	10.93	-1.65
288	11.03	-.24	363	11.36	.33	<u>Modified Comprehensi</u>			324	11.54	.77	262	10.90	-1.78
324	10.96	-.45	416	11.35	.27	363	11.60 R	1.08	028	11.54	.75	402	10.80	-2.16
415	10.78	-.97	376	11.33	.20	288	11.63	.93	029	11.53	.71	030	10.79	-2.18
309	10.40	-2.06	393	11.30 X	.12	090	11.59	.65	422	11.53	.69	035	10.79	-2.19
Meth: 001.99 PCT			Avg			220	11.56	.41	325	11.50	.57	034	10.42 s	-3.62
<u>Ammoniacal Nitrogen</u>			029	11.18	-.29	220	11.57	.41	073	11.48	.50	Meth: 010.99 PCT		
<u>Other</u>			220	11.16	-.35	105	11.53	.25	231	11.48	.49	<u>Total Nitrogen</u>		
320	11.64	1.09	420	11.07	-.71	Avg	11.49		233	11.46	.45	<u>Other</u>		
096	11.60	.93	389	11.05	-.72	029	11.47	-.20	330	11.40	.44	354	12.45 S	1.45
418	11.58 X	.85	288	11.03	-.79	309	11.20	-1.98	041	11.46	.42	102	12.16	.91
409	11.54	.69	354	11.00	-.88	Meth: 010.12 PCT			106	11.45	.41	Avg	11.49	
369	11.50	.61	324	10.96	-1.02	Total Nitrogen			055	11.44	.40	362	11.60	-.11
247	11.52	.61	251	11.26 R	-1.03	<u>Salicylic</u>			251	11.36	.33	368	11.59	-.13
220	11.51	.53	289	10.86	-1.31	254	11.70	1.40	296	11.43	.33	420	11.26	-.74
211	11.51	.53	415	10.78	-1.59	185	11.54	.12	177	11.43	.33	289	10.86	-1.42
397	11.43	.28	309	10.40	-2.79	Avg	11.53		040	11.43	.31	Meth: 010.XX PCT		
Avg	11.38		Meth: 005.00 PCT			137	11.50	-.29	043	11.43	.30	<u>Total Nitrogen</u>		
363	11.36	-.19	<u>Nitrogen From Urea</u>			415	11.38	-1.20	131	11.41	.24	354	12.45 s	3.96
Meth: 001.XX PCT			<u>Urease (as N)</u>			Meth: 010.60 PCT			389	11.35	.19	102	12.16	2.84
<u>Ammoniacal Nitrogen</u>			288	0.15	-.71	Total Nitrogen			114	11.38	.12	022	11.84	1.65
320	11.64	1.18	Meth: 009.10 PCT			<u>Combustion</u>			Avg	11.35		405	11.72	1.23
096	11.60	1.06	<u>Ammon & Nitrate N</u>			022	11.84	1.89	376	11.30	-.19	254	11.70	1.15
* X=Excluded from lab performance			<u>Devarda</u>			275	11.67 X	1.32	406	11.33	-.21	275	11.67 X	1.12
			258	11.49	1.23	Total Nitrogen			234	11.31	-.24	377	11.68	1.09
			392	11.62	.83	<u>Combustion</u>			049	11.33	-.24	157	11.68	1.08
			257	11.42	.17	022	11.84	1.89	027	11.27	-.32	025	11.66	1.00
			200	11.40	.08	275	11.67 X	1.32	351	11.25	-.38	363	11.60 R	.90
			S/s=Screened Outlier			377	11.68	1.30	086	11.22	-.56	A=Analysis beyond 3-s limits		
			R=Duplicate Range too large			157	11.68	1.29	009	11.20	-.58			

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index		
Meth: 010.XX PCT			Meth: 010.XX PCT			Meth: 020.20 PCT			Meth: 020.40 PCT			Meth: 020.XX PCT				
<u>Total Nitrogen</u>			<u>Total Nitrogen</u>			<u>Total Phosphate</u>			<u>Total Phosphate</u>			<u>Total Phosphate</u>				
288	11.63	.89	102	11.33	-.29	<u>Spectrometric</u>			<u>Automated</u>			Avg 51.92				
096	11.63	.88	049	11.33	-.31	381	53.38 s	4.53	042	47.69 s	-12.33	231	51.90	-.04		
292	11.61	.80	376	11.30	-.33	397	52.08 R	1.80	Meth: 020.50 PCT			247	51.89	-.15		
362	11.60	.77	251	11.36	-.34	406	52.40	1.26	<u>Total Phosphate</u>			313	51.84	-.17		
090	11.59	.75	234	11.31	-.35	420	52.33	1.19	<u>ICP</u>			247	51.86	-.22		
368	11.59	.74	027	11.27	-.45	262	52.35	1.15	330	53.70 S	10.89	096	51.82	-.22		
070	11.58	.69	351	11.25	-.52	257	52.25	.91	389	52.10	.91	095	51.82	-.24		
220	11.50 R	.67	086	11.22	-.67	232	52.17	.74	Avg 51.98			392	51.79	-.35		
220	11.56	.62	007	11.23	-.68	220	52.12	.63	247	51.86	-.82	200	51.73	-.42		
381	11.55	.60	420	11.26 R	-.68	288	52.08	.59	402	50.10 S	-11.14	258	51.82	-.69		
023	11.53	.60	309	11.20	-.70	234	52.05	.49	422	44.83 S	-41.01	193	51.60	-.83		
324	11.54	.59	009	11.20	-.70	142	52.02	.43	Meth: 020.XX PCT			369	51.65	-.84		
247	11.55	.59	142	11.20	-.70	362	51.99	.39	<u>Total Phosphate</u>			409	51.53	-.86		
185	11.54	.56	393	11.09	-1.11	416	52.01	.38	381	53.38 s	4.34	324	51.49	-1.00		
028	11.54	.56	024	11.07	-1.20	231	51.90	.14	330	53.70 s	4.28	376	51.19	-1.60		
105	11.53	.52	042	10.97	-1.57	Avg 51.84			105	52.83	2.01	292	51.14	-1.73		
029	11.53	.52	095	10.95	-1.63	392	51.79	-.22	397	52.08 R	1.73	418	51.20 X	-1.74		
422	11.53	.50	102	10.94	-1.69	200	51.73	-.25	320	52.52	1.32	157	50.94 X	-2.14		
325	11.50	.40	360	10.93	-1.73	258	51.82	-.67	090	52.50	1.28	363	50.90	-2.28		
137	11.50	.39	262	10.90	-1.85	369	51.65	-.73	402	50.10 s	-4.13	402	50.10 s	-4.13		
330	11.40	.37	289	10.86	-1.96	324	51.49	-.83	042	47.69 s	-9.36	042	47.69 s	-9.36		
073	11.48	.33	402	10.80	-2.22	376	51.19	-1.43	405	52.42	1.10	422	44.83 s	-15.55		
231	11.48	.32	030	10.79	-2.24	292	51.14	-1.56	406	52.40	1.07	309	42.00 s	-21.74		
233	11.46	.29	035	10.79	-2.25	418	51.20 X	-1.60	420	52.33	1.01	Meth: 030.10 PCT				
029	11.47	.28	034	10.42 s	-3.62	363	50.90	-2.12	114	52.34	.96	Insoluble Phosphate				
106	11.45	.27	Meth: 020.10 PCT			309	42.00 s	-21.80	262	52.35	.95	<u>Grav Quimociac</u>				
055	11.44	.27	<u>Total Phosphate</u>			Meth: 020.40 PCT			257	52.25	.72	405	0.39	.80		
041	11.46	.25	<u>Grav Quimociac</u>			<u>Total Phosphate</u>			105	52.19	.69	090	0.37	.52		
296	11.43	.19	105	52.83	1.59	<u>Automated</u>			232	52.17	.55	Avg 0.34				
177	11.43	.17	090	52.50	.68	320	52.52	1.65	389	52.10	.45	320	0.27	-1.26		
040	11.43	.16	405	52.42	.42	105	52.19	.84	220	52.12	.45	Meth: 030.20 PCT				
043	11.43	.13	114	52.34	.42	035	52.07	.38	220	52.12	.44	Insoluble Phosphate				
131	11.41	.11	Avg 52.27			Avg 51.95			288	52.08	.42	<u>Spectrometric</u>				
Avg	11.39		220	52.12	-.42	247	51.89	-.23	035	52.07	.34	363 0.90 S 11.23				
415	11.38	-.02	313	51.84	-1.19	096	51.82	-.36	234	52.05	.31	220 0.19 .71				
114	11.38	-.08	095	51.82	-1.25	193	51.60	-1.14	142	52.02	.26	Avg 0.19				
389	11.35	-.24	157	50.94 s	-3.68	409	51.53	-1.20	362	51.99	.23	A=Analysis beyond 3-s limits				
406	11.33	-.29	* 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: 030.40 PCT			Meth: 040.99 PCT			Meth: 041.20 PCT			Meth: 041.60 PCT			Meth: 041.XX PCT		
<u>Insoluble Phosphate</u>			<u>InDir Available Phos</u>			<u>Dir Available Phosph</u>			<u>Dir Available Phosph</u>			<u>Dir Available Phosph</u>		
<u>Automated</u>			<u>Other</u>			<u>Spectrometric</u>			<u>EDTA Extract</u>					
247	0.36	.89	247	51.72	.71	415	53.08	1.68	037	51.79	.25	220	51.95	.22
Avg	0.28					289	51.81	.29	Avg	51.74		040	51.92	.16
096	0.20	-.84	Meth: 040.XX PCT			Avg	51.55		073	51.71	-.41	260	51.92	.16
Meth: 030.XX PCT			<u>InDir Available Phos</u>			106	51.28	-.29	095	51.65	-.74	131	51.91	.14
<u>Insoluble Phosphate</u>			090	52.14	1.21	022	50.90	-.73	177	51.53	-.82	296	51.86	.14
363	0.90 s	7.97	405	52.04	.69	362	50.67	-.98	288	51.47	-1.08	086	51.89	.11
405	0.39	1.04	220	51.93	.34	030	50.79 S	-1.20	105	51.61	-1.09	Avg	51.84	
090	0.37	.83	Avg	51.89		Meth: 041.40 PCT			351	51.42	-1.26	289	51.81	-.11
247	0.36	.83	247	51.72	-.93	<u>Dir Available Phosph</u>			200	45.82 s	-23.16	037	51.79	-.15
Avg	0.29		096	51.63	-1.26	<u>Automated</u>			Meth: 041.99 PCT			009	51.74	-.23
320	0.27	-.33	363	50.01 s	-9.01	393	53.53 S	3.16	<u>Dir Available Phosph</u>			137	51.71	-.28
096	0.20	-1.12	Meth: 041.10 PCT			027	52.21	.88	<u>Other</u>			073	51.71	-.34
220	0.19	-1.30	<u>Dir Available Phosph</u>			131	51.91	.37	029			254	51.75	-.36
Meth: 040.10 PCT			<u>Grav Quimociac</u>			Avg	51.69		Meth: 041.99 PCT			136	51.70	-.43
<u>InDir Available Phos</u>			041	53.00 s	4.58	025	50.97	-1.26	<u>Dir Available Phosph</u>			095	51.65	-.53
<u>Grav Quim</u>			105	52.19	1.62	Meth: 041.50 PCT			393			185	51.80	-.54
090	52.14	1.04	055	51.92 R	1.39	<u>Dir Available Phosph</u>			415			049	51.57	-.59
Avg	52.09		211	52.23	1.39	<u>ICP</u>			393			177	51.53	-.65
405	52.04	-.64	322	52.16	1.10	393			041			022	51.63	-.66
Meth: 040.20 PCT			296	52.14	1.02	360			360			105	51.61	-.70
<u>InDir Available Phos</u>			177	52.09	.79	Avg			360			029	51.51	-.71
<u>Spectrometri</u>			131	52.04	.61	023			397			288	51.47	-.78
220	51.93	.71	028	52.00	.45	325			105			351	51.42	-.88
Avg	51.93		102	51.95	.26	354			211			354	51.30	-1.11
363	50.01 S	-22.80	040	51.92	.17	007			027			029	51.44 R	-1.15
Meth: 040.40 PCT			260	51.92	.13	251			055			106	51.28	-1.16
<u>InDir Available Phos</u>			086	51.89	.06	Meth: 041.60 PCT			043			025	50.97	-1.80
<u>Automated</u>			Avg	51.89		<u>Dir Available Phosph</u>			322			022	50.90	-1.96
096	51.63	.71	009	51.74	-.64	<u>EDTA Extract</u>			296			362	50.67	-2.43
Meth: 040.20 PCT			137	51.71	-.74	397			177			030	50.79 s	-2.70
<u>InDir Available Phos</u>			254	51.75	-.84	043			023			007	50.40 s	-3.07
<u>Automated</u>			136	51.70	-.99	377			131			251	46.91 s	-10.15
096			185	51.80	-1.12	377			377			200	45.82 s	-12.37
Meth: 040.20 PCT			049	51.57	-1.36	220			028			Meth: 048.10 PCT		
<u>InDir Available Phos</u>			022	51.63	-1.45	296			102			<u>Water Soluble Phosph</u>		
<u>Automated</u>			029	51.51	-1.59	51.86			51.95			<u>Grav Quimociac</u>		
096			S/s=Screened Outlier			R=Duplicate Range too large			A=Analysis beyond 3-s limits			405		
Meth: 040.20 PCT			S/s=Screened Outlier			R=Duplicate Range too large			A=Analysis beyond 3-s limits			45.88		
096			S/s=Screened Outlier			R=Duplicate Range too large			A=Analysis beyond 3-s limits			.71		

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 048.20 PCT			Meth: 050.51 PCT			Meth: 060.00 PCT			Meth: 121.XX PCT			Meth: 144.XX PCT		
<u>Water Soluble Phosph Spectrometric</u>			<u>Soluble Potash ICP (Citrate)</u>			<u>Free Water Vacuum Oven</u>			<u>Acid Soluble Magnesi</u>			<u>Sulfur</u>		
420 47.48 1.16			393 0.22 .86			007 1.15 -.26			422 1.78 s 31.31			288 1.81 1.69		
Avg 46.57			Avg 0.16			416 0.94 -1.37			393 0.85 1.71			035 1.70 1.00		
362 46.45 -.36			377 0.11 -.87			320 0.87 -1.76			102 0.83 .90			363 1.59 R .73		
363 45.79 -1.01									288 0.81 .40			247 1.61 .47		
			Meth: 050.60 PCT			Meth: 101.30 PCT			096 0.80 .08			096 1.54 .03		
			<u>Soluble Potash Flame (Oxalate)</u>			<u>Acid Soluble Calcium ICP</u>			Avg 0.80			Avg 1.54		
			275 52.84 S .00			422 2.64 s 101.64			320 0.80 -.22			009 1.51 -.14		
						320 0.39 1.71			035 0.79 -.40			422 1.44 -.63		
			Meth: 050.99 PCT			393 0.36 .62			193 0.79 -.43			393 1.38 -1.02		
			<u>Soluble Potash Other</u>			288 0.36 .31			131 0.78 X -1.06			232 1.31 -1.41		
			232 0.13 .71			035 0.35 .24			009 0.74 -1.75					
						Avg 0.35			232 0.65 s -4.78			Meth: 151.00 PPM		
			Meth: 048.XX PCT			102 0.35 -.23						<u>Arsenic</u>		
			<u>Water Soluble Phosph</u>			232 0.33 -.81			Meth: 144.01 PCT			<u>Atomic Absorption</u>		
			275 52.84 s 8.99			009 0.32 -1.53			<u>Sulfur</u>			040 18.86 .92		
			420 47.48 1.46						<u>Gravimetric</u>			Avg 16.25		
			362 46.45 .34						288 1.81 -.71			231 13.65 -.81		
			Avg 46.40											
			405 45.88 -.74											
			363 45.79 -.84											
			Meth: 050.10 PCT											
			<u>Soluble Potash STPB Citrate</u>											
			322 11.25 .71											
			Meth: 050.30 PCT											
			<u>Soluble Potash AA (Oxalate)</u>											
			234 11.10 .71											
			Meth: 050.50 PCT											
			<u>Soluble Potash ICP (Oxalate)</u>											
			422 2.13 1.22											
			Avg 1.04											
			354 0.81 -.29											
			251 0.18 -.96											

* 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.XX PPM			Meth: 181.30 PPM			Meth: 181.XX PPM			Meth: 191.99 PPM			Meth: 202.99 PPM					
<u>Arsenic</u>			<u>Cadmium</u>			<u>Cadmium</u>			<u>Chromium</u>			<u>Acid Soluble Cobalt</u>					
368	22.09	1.99	ICP			397	3.86	-.18	Other			409	3.05	.71			
040	18.86	1.14	376	4.55	1.17	220	3.85	-.33	409	109.50	.71						
376	18.95	1.11	324	4.55	1.11	247	3.70	-.59									
220	15.00	.27	102	4.34	.69	009	3.50	-.84	Meth: 191.XX PPM			Meth: 202.XX PPM					
Avg	14.81		106	4.30	.64	035	3.31	-1.48	<u>Chromium</u>			<u>Acid Soluble Cobalt</u>					
102	13.84	-.28	393	4.05	.17	389	3.10	-1.61	096	148.00	2.05	102	3.44	1.11			
288	13.75	-.29	Avg	3.97		363	3.00	-1.79	035	135.50	1.10	040	3.40	1.05			
231	13.65	-.35	288	3.92	-.11	362	3.10 R	-2.21	220	128.50	.60	009	3.30	.83			
106	13.00	-.48	232	3.86	-.22	Meth: 190.99 PCT			376	121.15 R	.44	288	3.05	.34			
136	12.70	-.56	247	3.70	-.63	Water Soluble Chlori			393	125.95	.38	324	3.05	.34			
247	12.55	-.60	009	3.50	-.88	<u>Other</u>			102	123.77	.21	409	3.05	.34			
409	8.50	-1.66	035	3.31	-1.50	288	0.02	.00	Avg	121.08		320	3.00	.23			
Meth: 165.99 PCT			Meth: 181.99 PPM			Meth: 191.00 PPM			288	119.00	-.16	035	2.94	.16			
<u>Acid Soluble Boron</u>			<u>Cadmium</u>			<u>Chromium</u>			368	119.03	-.19	106	2.90	.03			
<u>Other</u>			<u>Other</u>			<u>Atomic Absorption</u>			009	118.30	-.23	Avg	2.89				
409	1.800 s	201.17	136	4.45	.68	220	128.50	.71	247	118.00	-.23						
009	0.049	1.46	409	4.15	.31	Meth: 191.30 PPM			231	113.55	-.57	389	2.00	-1.77			
422	0.038	.18	Avg	3.90		<u>Chromium</u>			409	109.50	-.88	368	1.80	-2.18			
Avg	0.036					<u>ICP</u>			324	93.90	-2.07	Meth: 221.30 PCT					
288	0.029	-.81	Meth: 181.XX PPM			096	148.00	1.94	232	71.55 s	-3.77	<u>Acid Soluble Copper</u>					
232	0.029	-.82	<u>Cadmium</u>			035	135.50	1.02	Meth: 202.30 PPM			<u>ICP</u>					
Meth: 181.00 PPM			368			7.87 s	7.47	393	125.95	.33	<u>Acid Soluble Cobalt</u>			422			
<u>Cadmium</u>			231			7.00 s	5.81	102	123.77	.17	<u>ICP</u>			Avg			
<u>Atomic Absorption</u>			040			6.24 A	4.38	040	3.44	1.09	102			0.0009			
040	6.24	1.55	096			4.50	1.43	040	3.40	1.04	232			0.0006			
Avg	4.24		376			4.55	1.25	009	3.30	.83	102			0.0001			
397	3.86	-.29	324			4.55	1.19	288	3.05	.36	Meth: 241.00 PCT						
220	3.85	-.32	136			4.45	.97	368	3.05	.36	<u>Acid Soluble Iron</u>						
363	3.00	-.96	102			4.34	.77	320	3.00	.25	<u>Atomic Absorption</u>						
Meth: 181.30 PPM			106			4.30	.71	035	2.94	.18	193			1.22			
<u>Cadmium</u>			409			4.15	.41	106	2.90	.06	Avg			1.11			
<u>ICP</u>			393			4.05	.23	Avg	2.87		234			1.00			
368	7.87 s	7.25	Avg			3.94		232	2.71	-.33	Meth: 241.30 PCT						
231	7.00 s	5.62	288			3.92	-.05	389	2.00	-1.67	<u>Acid Soluble Iron</u>						
096	4.50	1.35	232			3.86	-.17	368	1.80	-2.07	<u>ICP</u>						
* X=Excluded from lab performance			S/s=Screened Outlier			R=Duplicate Range too large			A=Analysis beyond 3-s limits			102			1.23		

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 241.30 PCT			Meth: 251.30 PPM			Meth: 261.00 PCT			Meth: 281.XX PPM			Meth: 289.XX PPM		
Acid Soluble Iron			Lead			Acid Soluble Mangane			<u>Mercury</u>			<u>Molybdenum</u>		
<u>ICP</u>			<u>ICP</u>			<u>AA</u>			040 12.55 .84			368 8.87 .69		
288	1.22	.83	393	39.20 s	26.51	193	0.036	-.71	409	10.15	.43	009	8.50	.39
320	1.21 R	.74	324	5.80	1.45	Meth: 261.30 PCT			Avg	7.58		247	8.30	.33
035	1.20	.63	231	5.08	1.03	Acid Soluble Mangane			220	0.04	-1.27	Avg	7.64	
009	1.16	.22	Avg 3.88			<u>ICP</u>			Meth: 289.00 PPM			102	7.53	-.09
096	1.14	.04	035	3.84	-.07	102	0.035	1.19	Molybdenum			422	7.44	-.10
Avg	1.14		247	3.40	-.39	288	0.035	1.02	<u>Atomic Absorption</u>			232	6.76	-.40
422	1.07	-.70	106	3.05	-.65	035	0.033	.34	220	6.55	1.22	106	6.65	-.47
232	0.94	-1.99	389	2.10	-1.34	Avg	0.033		Avg	6.40		040	6.25	-.64
Meth: 241.99 PCT			368	2.75 R	-1.68	320	0.033	-.05	040	6.25	-.13	220	6.55 R	-.83
Acid Soluble Iron			Meth: 251.99 PPM			009	0.032	-.16	Meth: 289.30 PPM			324	5.80	-.84
<u>Other</u>			Lead			422	0.032	-.55	Molybdenum			231	3.86	-1.73
362	1.56 S	.00	<u>Other</u>			232	0.029	-1.90	<u>ICP</u>			Meth: 291.00 PPM		
Meth: 241.XX PCT			376	5.75	.87	Meth: 261.XX PCT			393	28.10 s	13.58	Nickel		
Acid Soluble Iron			Avg	4.00		Acid Soluble Mangane			288	8.85 R	1.30	<u>Atomic Absorption</u>		
362	1.56 s	4.32	136	2.25	-.87	193	0.036 R	1.63	368	8.87	1.29	220	9.20	.71
102	1.23	.84	Meth: 251.XX PPM			102	0.035	1.19	009	8.50	.92	Meth: 291.30 PPM		
288	1.22	.70	Lead			288	0.035	1.02	247	8.30	.81	Nickel		
193	1.22	.70	393	39.20 s	24.34	035	0.033	.34	102	7.53	.31	<u>ICP</u>		
320	1.21	.61	324	5.80	1.50	Avg	0.033		422	7.44	.24	096	20.00 s	7.38
035	1.20	.49	376	5.75	1.46	320	0.033	-.05	Avg	7.08		288	17.50 S	5.18
009	1.16	.05	231	5.08	1.10	009	0.032	-.16	232	6.76	-.20	102	12.53	1.14
Avg	1.15		397	4.41	.55	422	0.032	-.55	106	6.65	-.32	393	11.70	.47
096	1.14	-.15	035	3.84	.16	232	0.029	-1.90	324	5.80	-.83	009	11.65	.47
422	1.07	-.93	Avg	3.61		Meth: 281.30 PPM			231	3.86	-2.08	376	11.70	.46
234	1.00 R	-1.64	247	3.40	-.20	Mercury			Meth: 289.99 PPM			247	11.30	.16
232	0.94	-2.31	106	3.05	-.42	<u>ICP</u>			Molybdenum			Avg	11.13	
Meth: 251.00 PPM			296	2.35	-.88	040	12.55	-.71	<u>Other</u>			231	11.04	-.08
Lead			136	2.25	-.93	Meth: 281.99 PPM			409	12.90	.00	232	10.85	-.23
<u>Atomic Absorption</u>			389	2.10	-1.04	Mercury			Meth: 289.XX PPM			106	10.50 R	-.65
397	4.41	1.25	040	1.74	-1.29	<u>Other</u>			Molybdenum			324	8.25	-2.33
Avg	2.83		368	2.75 R	-1.45	409	10.15	.87	393	28.10 s	9.34	368	6.62 s	-4.90
296	2.35	-.43	Meth: 281.99 PPM			Avg	5.09		409	12.90	2.40	Meth: 289.99 PPM		
040	1.74	-.87	Mercury			220	0.04	-.87	288	8.85	.70	Molybdenum		
* 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: 291.99 PPM			Meth: 301.XX PPM			Meth: 321.00 PCT								
<u>Nickel</u>			<u>Selenium</u>			<u>Acid Soluble Zinc</u>								
<u>Other</u>			040 0.11 - .96			<u>Atomic Absorption</u>								
035	11.20	.71	Meth: 311.00 PCT			193	0.008	.97						
Meth: 291.XX PPM			Sodium			Avg 0.007								
<u>Nickel</u>			<u>Atomic Absorption</u>			131 0.006 X -.75								
096	20.00 s	8.13	193	0.17	.71	Meth: 321.30 PCT								
288	17.50 s	5.73	Meth: 311.30 PCT			<u>Acid Soluble Zinc</u>								
102	12.53	1.30	Sodium			ICP								
393	11.70	.56	Flame Photometric			422	0.009	2.30						
009	11.65	.56	232	0.18	.38	Avg 0.006								
376	11.70	.56	Avg 0.17			288	0.006	-.20						
247	11.30	.22	320	0.16	-1.17	102	0.006	-.24						
035	11.20	.14	Meth: 311.99 PCT			320	0.005	-.45						
Avg	11.07		Sodium			035	0.005	-.54						
231	11.04	-.04	<u>Other</u>			009	0.005	-.55						
232	10.85	-.20	422	0.38 S	10.96	232	0.005	-.58						
106	10.50	-.68	102	0.21	1.39	Meth: 321.99 PCT								
220	9.20 R	-1.78	Avg 0.18			<u>Acid Soluble Zinc</u>								
324	8.25	-2.51	288	0.18	-.08	<u>Other</u>								
368	6.62 s	-5.33	009	0.18	-.10	220	0.005	.71						
Meth: 301.00 PPM			035	0.16	-1.24	Meth: 321.XX PCT								
Selenium			Meth: 311.XX PCT			<u>Acid Soluble Zinc</u>								
<u>Atomic Absorption</u>			Sodium			422	0.009	2.34						
231	0.13	.87	422	0.38 s	13.05	193	0.008	1.23						
Avg	0.12		102	0.21	1.83	131	0.006 X	.27						
040	0.11	-.87	009	0.18	.16	Avg 0.006								
Meth: 301.99 PPM			288	0.18	.12	288	0.006	-.25						
Selenium			Avg 0.18			102	0.006	-.37						
<u>Other</u>			232	0.18	-.13	320	0.005	-.58						
296	0.14	-.71	193	0.17	-.71	220	0.005	-.66						
Meth: 301.XX PPM			035	0.16	-1.26	035	0.005	-.68						
<u>Selenium</u>			320	0.16 R	-1.38	009	0.005	-.69						
296	0.14	1.22				232	0.005	-.73						
231	0.13	.28												
Avg	0.12													

* 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	11	0.04	0.98	0.30	121.XX	11	2.41	9.72	0.45
001.99	15	0.00	1.00	0.18	144.99	7	0.08	0.98	0.31
001.XX	25	- 0.01	0.99	0.27	144.XX	9	0.03	0.97	0.23
009.10	5	0.00	0.84	0.58	151.00	2	0.00	1.12	0.36
009.XX	5	0.00	0.84	0.58	151.30	6	0.00	1.01	0.25
010.11	7	0.10	0.99	0.33	151.99	3	0.00	1.09	0.21
010.12	5	- 0.33	1.19	0.19	151.XX	11	0.00	0.99	0.24
010.60	53	- 0.06	1.09	0.19	165.99	5	40.235	89.972	0.107
010.99	6	0.00	1.04	0.12	165.XX	5	40.235	89.972	0.107
010.XX	68	- 0.01	1.11	0.29	181.00	4	0.00	1.08	0.07
020.10	8	- 0.46	1.61	0.19	181.30	14	0.92	2.51	0.39
020.20	24	- 0.74	4.63	0.76	181.99	3	0.00	0.87	0.57
020.40	8	- 1.53	4.41	0.66	181.XX	21	0.76	2.38	0.48
020.50	5	- 8.38	19.65	2.44	191.30	12	- 0.31	1.40	0.14
020.XX	42	- 1.06	4.49	0.70	191.XX	14	- 0.27	1.38	0.14
030.10	3	0.00	1.10	0.16	202.30	11	0.00	1.02	0.09
030.20	2	4.99	7.05	3.68	202.XX	12	0.00	1.02	0.09
030.40	2	0.00	1.19	0.22	221.30	3	0.0000	1.1179	0.0149
030.XX	7	0.97	2.73	1.58	221.XX	3	0.0000	1.1179	0.0149
040.10	2	0.00	0.90	0.59	241.00	2	0.00	1.22	0.06
040.20	2	- 11.34	16.04	1.70	241.30	8	0.09	1.00	0.04
040.XX	6	- 1.49	3.77	0.46	241.XX	11	0.24	1.71	0.06
041.10	21	0.22	1.30	0.56	251.00	3	0.00	1.11	0.12
041.20	6	- 0.14	1.00	0.37	251.30	8	3.21	9.46	0.55
041.40	4	0.79	1.83	0.06	251.99	2	0.00	1.22	0.02
041.50	7	- 1.58	3.25	0.37	251.XX	13	1.83	6.83	0.40
041.60	13	- 1.69	6.51	0.85	261.30	7	0.000	1.025	0.167
041.XX	45	- 0.56	2.60	0.47	261.XX	8	0.182	1.079	0.301
048.20	3	0.00	1.09	0.21	281.99	2	0.00	1.22	0.01
048.XX	5	1.74	3.99	1.06	281.XX	3	0.00	1.12	0.05
050.50	3	0.00	1.11	0.08	289.00	2	0.00	0.18	0.86
050.51	2	0.00	1.21	0.13	289.30	11	1.34	4.17	0.27
050.XX	9	- 0.05	0.98	0.01	289.XX	14	0.63	2.67	0.25
060.00	9	0.00	1.01	0.21	291.30	12	0.68	2.92	1.07
060.XX	9	0.00	1.01	0.21	291.XX	14	0.57	3.02	1.10
101.30	8	12.70	35.94	0.60	301.00	2	0.00	1.10	0.39
101.XX	8	12.70	35.94	0.60	301.XX	3	0.00	0.88	0.57
121.00	2	0.00	0.05	0.87	311.30	2	0.00	0.53	0.78
121.30	9	2.80	10.31	0.37	311.99	5	2.19	4.98	0.28

Method Evaluation - Z Values Based on 1 Reports

<u>Method Code</u>	<u>Number Of Labs</u>	<u>Avg Bias of Labs</u>	<u>Std Dev of Biases</u>	<u>Std Dev Within Labs</u>	<u>Method Code</u>	<u>Number Of Labs</u>	<u>Avg Bias of Labs</u>	<u>Std Dev of Biases</u>	<u>Std Dev Within Labs</u>
311.XX	8	1.52	4.74	0.47					
321.00	2	0.000	1.031	0.468					
321.30	7	0.000	1.030	0.140					
321.XX	9	- 0.260	0.621	0.193					