

MAGRUDER - Fertilizer Check Sample No. - 200609 Grade 10-10-10

- Pass 1 Results for 78 Labs - - Pass 2 Results for 78 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	7	9.61	0.28	0.08	7	9.61	0.28	0.08
Ammoniacal Nitrogen, Other .....		001.99	7	9.92	0.12	0.08	6	9.89	0.08	0.05
Method Group 001.XX PCT			15	9.72	0.30	0.07	14	9.70	0.29	0.06
Nitrogen From Urea, Urease (as N) .....	959.03	005.00	2	5.27	5.67	0.26	2	5.27	5.67	0.26
Ammon & Nitrate N, Devarda .....	892.01	009.10	2	9.89	0.02	0.02	2	9.89	0.02	0.02
Total Nitrogen, Reduced Iron .....		010.10	1	9.67	0.00	0.00	1	9.67	0.00	0.00
Total Nitrogen, Modified Comprehensive	978.02	010.11	6	9.92	0.12	0.04	5	9.90	0.11	0.00
Total Nitrogen, Salicylic .....	955.04D	010.12	3	9.86	0.30	0.07	3	9.86	0.30	0.07
Total Nitrogen, Comprehensive .....	970.02	010.17	1	9.75	0.01	0.01	1	9.75	0.01	0.01
Total Nitrogen, Combustion .....		010.60	49	10.01	0.16	0.08	47	10.00	0.14	0.07
Total Nitrogen, Other .....		010.99	6	9.93	0.11	0.07	6	9.93	0.11	0.07
Method Group 010.XX PCT			67	9.98	0.18	0.08	64	9.97	0.16	0.07
Total Phosphate, Grav Quimociac .....	962.02	020.10	3	10.00	0.08	0.07	3	10.00	0.08	0.07
Total Phosphate, Spectrometric .....	958.01	020.20	15	9.98	0.14	0.09	15	9.98	0.14	0.09
Total Phosphate, Automated .....	978.01	020.40	3	9.93	0.14	0.05	3	9.93	0.14	0.05
Total Phosphate, ICP .....		020.50	8	10.19	0.30	0.09	8	10.19	0.30	0.09
Total Phosphate, Other .....		020.99	4	9.90	0.32	0.16	4	9.90	0.32	0.16
Method Group 020.XX PCT			33	10.02	0.23	0.09	32	10.02	0.23	0.08
Insoluble Phosphate, Grav Quimociac ...	963.03C	030.10	1	0.14	0.00	0.00	1	0.14	0.00	0.00
Insoluble Phosphate, Automated .....	978.01	030.40	2	0.20	0.10	0.01	2	0.20	0.10	0.01
Insoluble Phosphate, Other .....		030.99	1	0.11	0.01	0.01	1	0.11	0.01	0.01
Method Group 030.XX PCT			4	0.16	0.08	0.01	4	0.16	0.08	0.01
InDir Available Phosphate, Grav Quim ..	960.02	040.10	1	9.88	0.08	0.12	1	9.88	0.08	0.12
InDir Available Phosphate, Automated ..	960.02	040.40	2	9.80	0.19	0.05	2	9.80	0.19	0.05
InDir Available Phosphate, ICP .....		040.50	1	9.87	0.06	0.08	1	9.87	0.06	0.08
InDir Available Phosphate, Other .....		040.99	2	9.58	0.12	0.05	2	9.58	0.12	0.05
Method Group 040.XX PCT			6	9.75	0.18	0.07	6	9.75	0.18	0.07
Dir Available Phosphate, Grav Quimociac	960.03E	041.10	16	9.88	0.11	0.08	15	9.88	0.10	0.06
Dir Available Phosphate, Spectrometric	960.03D	041.20	3	9.65	0.17	0.11	3	9.65	0.17	0.11
Dir Available Phosphate, Automated ....	978.01	041.40	4	9.67	0.26	0.06	4	9.67	0.26	0.06
Dir Available Phosphate, ICP .....		041.50	10	9.87	0.23	0.14	10	9.87	0.23	0.14
Dir Available Phosphate, EDTA Extract .	993.01	041.60	10	9.81	0.14	0.08	9	9.83	0.11	0.04
Dir Available Phosphate, Other .....		041.99	4	10.10	0.20	0.07	4	10.10	0.20	0.07
Method Group 041.XX PCT			47	9.85	0.20	0.09	45	9.86	0.19	0.08
Water Soluble Phosphate, Spectrometric	970.01	048.20	3	7.75	0.97	0.16	3	7.75	0.97	0.16
Water Soluble Phosphate, Other .....		048.99	2	9.31	1.18	0.04	2	9.31	1.18	0.04
Method Group 048.XX PCT			5	8.37	1.28	0.11	5	8.37	1.28	0.11
Soluble Potash, STPB Oxalate .....	958.02	050.00	14	10.10	0.25	0.11	14	10.10	0.25	0.11
Soluble Potash, AA (Oxalate) .....		050.30	8	9.91	0.48	0.22	8	9.91	0.48	0.22

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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
Soluble Potash, AA (Citrate)		050.31	1	9.95	0.05	0.07	1	9.95	0.05	0.07
Soluble Potash, ICP (Oxalate)		050.50	6	10.27	0.44	0.14	6	10.27	0.44	0.14
Soluble Potash, ICP (Citrate)		050.51	10	10.16	0.21	0.09	10	10.16	0.21	0.09
Soluble Potash, Flame (Oxalate)	983.02(a)	050.60	7	10.09	0.28	0.06	7	10.09	0.28	0.06
Soluble Potash, Flame (Citrate)	983.02(b)	050.61	6	10.28	0.32	0.11	6	10.28	0.32	0.11
Soluble Potash, Other		050.99	17	10.02	0.30	0.16	16	10.03	0.29	0.11
Method Group 050.XX PCT			69	10.09	0.33	0.13	66	10.10	0.32	0.11
Free Water, Vacuum Oven	965.08B	060.00	4	1.14	0.48	0.05	4	1.14	0.48	0.05
Acid Soluble Calcium, AA	945.04	101.00	12	7.06	0.32	0.12	12	7.06	0.32	0.12
Acid Soluble Calcium, ICP		101.30	23	6.91	0.37	0.21	22	6.89	0.36	0.18
Acid Soluble Calcium, Other		101.99	2	6.78	0.81	0.34	2	6.78	0.81	0.34
Method Group 101.XX PCT			38	6.92	0.43	0.19	36	6.94	0.38	0.17
Acid Soluble Magnesium, AA	984.01	121.00	14	2.72	0.15	0.05	14	2.72	0.15	0.05
Acid Soluble Magnesium, ICP		121.30	27	2.74	0.17	0.05	27	2.74	0.17	0.05
Acid Soluble Magnesium, Other		121.99	1	2.58	0.01	0.02	1	2.58	0.01	0.02
Method Group 121.XX PCT			42	2.73	0.16	0.05	42	2.73	0.16	0.05
Water Soluble Magnesium, AA		131.00	5	2.14	0.91	0.03	4	1.99	0.96	0.01
Water Soluble Magnesium, ICP		131.30	3	2.23	0.58	0.28	3	2.23	0.58	0.28
Method Group 131.XX PCT			8	2.17	0.78	0.12	7	2.22	0.81	0.02
Sulfur, Gravimetric	980.02a	144.01	16	12.81	0.20	0.08	15	12.80	0.20	0.05
Sulfur, Gravimetric	980.02b	144.02	4	12.47	0.35	0.14	4	12.47	0.35	0.14
Sulfur, Other		144.99	15	12.58	0.45	0.14	14	12.60	0.46	0.10
Method Group 144.XX PCT			35	12.67	0.37	0.11	33	12.68	0.36	0.08
Arsenic, Atomic Absorption		151.00	1	102.00	4.24	6.00	1	102.00	4.24	6.00
Arsenic, ICP		151.30	8	99.27	17.54	4.18	8	99.27	17.54	4.18
Arsenic, Other		151.99	3	109.93	13.42	16.27	3	109.93	13.42	16.27
Method Group 151.XX PPM			12	102.17	16.19	7.35	11	101.15	15.38	4.40
Acid Soluble Boron, Spectrometric	982.01	165.00	1	0.005	0.000	0.000	1	0.005	0.000	0.000
Acid Soluble Boron, Other		165.99	7	0.008	0.005	0.002	6	0.007	0.004	0.001
Method Group 165.XX PCT			8	0.007	0.004	0.002	7	0.007	0.004	0.000
Cadmium, Atomic Absorption		181.00	2	118.50	8.35	9.00	2	118.50	8.35	9.00
Cadmium, ICP		181.30	10	118.73	6.72	4.07	10	118.73	6.72	4.07
Cadmium, Other		181.99	1	131.00	1.41	2.00	1	131.00	1.41	2.00
Method Group 181.XX PPM			14	121.52	9.90	4.62	13	122.06	9.79	3.67
Water Soluble Chlorine, Titrimetric	928.02	190.00	3	4.13	0.11	0.05	3	4.13	0.11	0.05
Water Soluble Chlorine, Other		190.99	2	4.00	0.29	0.31	2	4.00	0.29	0.31
Method Group 190.XX PCT			5	4.07	0.20	0.16	4	4.13	0.10	0.05
Chromium, ICP		191.30	9	61.73	4.70	2.31	9	61.73	4.70	2.31
Chromium, Other		191.99	1	66.25	2.33	3.30	1	66.25	2.33	3.30

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Method Group 191.XX PPM			10	62.18	4.69	2.41	10	62.18	4.69	2.41
Acid Soluble Cobalt, AA .....		202.00	2	249.25	6.50	8.50	2	249.25	6.50	8.50
Acid Soluble Cobalt, ICP .....	965.11	202.30	8	254.78	8.82	7.72	8	254.78	8.82	7.72
Acid Soluble Cobalt, Other .....		202.99	1	266.00	2.83	4.00	1	266.00	2.83	4.00
Method Group 202.XX PPM			12	252.27	12.55	8.81	11	254.79	8.93	7.52
Acid Soluble Copper, Atomic Absorption	975.01	221.00	2	0.0006	0.0003	0.0001	2	0.0006	0.0003	0.0001
Acid Soluble Copper, ICP .....		221.30	8	0.0003	0.0002	0.0000	8	0.0003	0.0002	0.0000
Method Group 221.XX PCT			11	0.0005	0.0005	0.0000	10	0.0005	0.0006	0.0000
Acid Soluble Iron, Atomic Absorption ..	980.01	241.00	13	0.28	0.02	0.01	12	0.29	0.02	0.01
Acid Soluble Iron, ICP .....		241.30	27	0.28	0.02	0.01	25	0.28	0.02	0.00
Acid Soluble Iron, Other .....		241.99	2	0.30	0.04	0.02	2	0.30	0.04	0.02
Method Group 241.XX PCT			42	0.28	0.02	0.01	40	0.28	0.02	0.01
Lead, Atomic Absorption .....		251.00	2	645.75	20.69	32.50	2	645.75	20.69	32.50
Lead, ICP .....		251.30	9	612.47	48.23	15.98	8	620.49	43.36	9.93
Lead, Other .....		251.99	1	633.00	8.49	12.00	1	633.00	8.49	12.00
Method Group 251.XX PPM			12	619.73	44.19	18.40	11	626.22	38.86	14.22
Acid Soluble Manganese, ICP .....	972.02a	261.30	14	0.007	0.001	0.000	13	0.007	0.001	0.000
Acid Soluble Manganese, Other .....		261.99	1	0.007	0.000	0.000	1	0.007	0.000	0.000
Method Group 261.XX PCT			15	0.007	0.001	0.000	14	0.007	0.001	0.000
Mercury, Atomic Absorption .....		281.00	1	42.95	0.49	0.70	1	42.95	0.49	0.70
Mercury, Other .....		281.99	1	62.50	3.54	5.00	1	62.50	3.54	5.00
Method Group 281.XX PPM			2	52.73	11.47	2.85	2	52.73	11.47	2.85
Molybdenum, ICP .....		289.30	8	428.84	17.85	8.76	8	428.84	17.85	8.76
Molybdenum, Other .....		289.99	2	452.75	18.73	15.50	2	452.75	18.73	15.50
Method Group 289.XX PPM			10	433.62	20.08	10.11	10	433.62	20.08	10.11
Nickel, Atomic Absorption .....		291.00	1	1150.0	70.71	100.00	1	1150.0	70.71	100.00
Nickel, ICP .....		291.30	8	1018.7	80.43	28.18	8	1018.7	80.43	28.18
Method Group 291.XX PPM			9	1033.3	88.34	36.16	9	1033.3	88.34	36.16
Selenium, ICP .....		301.30	6	223.64	26.25	10.70	6	223.64	26.25	10.70
Selenium, Other .....		301.99	3	221.00	43.06	8.00	3	221.00	43.06	8.00
Method Group 301.XX PPM			9	222.76	31.51	9.80	9	222.76	31.51	9.80
Sodium, Other .....		311.99	7	0.29	0.03	0.01	7	0.29	0.03	0.01
Acid Soluble Zinc, Atomic Absorption ..	975.02	321.00	2	0.003	0.001	0.000	2	0.003	0.001	0.000
Acid Soluble Zinc, ICP .....		321.30	15	0.002	0.001	0.000	13	0.002	0.001	0.000
Acid Soluble Zinc, Other .....		321.99	2	0.003	0.001	0.001	2	0.003	0.001	0.001
Method Group 321.XX PCT			19	0.002	0.001	0.000	18	0.002	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: 010.12 PCT			Meth: 010.60 PCT			Meth: 010.99 PCT		
<u>Ammoniacal Nitrogen</u>			<u>Ammoniacal Nitrogen</u>			Total Nitrogen			Total Nitrogen			Total Nitrogen		
<u>MgO Distillation</u>			324 9.48 -.79			<u>Salicylic</u>			<u>Combustion</u>			<u>Other</u>		
416	9.90	1.01	027	9.17	-1.84	434	10.22	1.21	007	10.05	.52	234	10.00	1.14
288	9.81	.75	230	9.03	-2.33	Avg	9.86		232	10.06	.48	430	10.03	.80
220	9.75	.50	Meth: 005.00 PCT			351	9.79	-.23	055	10.01	.46	377	10.01	.67
029	9.71	.50	Nitrogen From Urea			185	9.57	-.99	426	10.01	.46	Avg	9.93	
Avg	9.61		<u>Urease (as N)</u>			Meth: 010.16 PCT			296	10.05	.43	442	9.93	-.17
309	9.61	-.02	090	10.18	.87	Total Nitrogen			024	10.06	.41	420	9.90	-.42
324	9.48	-.50	Avg	5.27		<u>Raney</u>			035	10.06	.41	402	9.75	-1.70
230	9.03	-2.04	288	0.36	-.87	434	10.60 S	.00	040	10.04	.37	Meth: 010.XX PCT		
Meth: 001.99 PCT			Meth: 009.10 PCT			Meth: 010.17 PCT			Avg	10.00		<u>Total Nitrogen</u>		
Ammoniacal Nitrogen			Ammon & Nitrate N			Total Nitrogen			136	10.00	-.11	028	12.11 s	13.77
<u>Other</u>			<u>Devarda</u>			<u>Comprehensive</u>			361	9.98	-.19	434	10.60 s	4.08
368	10.10 R	3.07	200	9.90	.50	211	9.75	.71	041	9.97	-.20	102	10.54 s	3.72
430	10.03	1.69	Avg	9.89		Meth: 010.60 PCT			247	9.95	-.34	369	10.53 A	3.59
420	9.90	.19	090	9.89	-1.12	Total Nitrogen			131	9.95	-.37	288	10.19 R	2.96
Avg	9.89		Meth: 010.10 PCT			<u>Combustion</u>			425	10.00	-.46	292	10.25	1.85
096	9.88	-.17	Total Nitrogen			028	12.11 s	14.89	096	9.93	-.54	409	10.20 R	1.75
409	9.86	-.37	<u>Reduced Iron</u>			102	10.54 s	3.88	423	9.93	-.54	434	10.22	1.64
397	9.84	-.64	137	9.67	.00	369	10.53 A	3.73	360	9.95	-.54	422	10.21	1.61
434	9.83	-1.42	Meth: 010.11 PCT			292	10.25	1.82	009	9.98	-.68	043	10.22	1.59
027	9.17 s	-8.85	Total Nitrogen			409	10.20 R	1.74	029	9.91	-.69	157	10.20	1.50
Meth: 001.XX PCT			Modified <u>Comprehensi</u>			292	10.25	1.82	106	9.89	-.85	073	10.17	1.30
<u>Ammoniacal Nitrogen</u>			288	10.19 s	4.51	422	10.21	1.57	023	9.88	-.87	330	10.15	1.22
368	10.10 R	1.48	220	10.01 R	1.36	043	10.22	1.54	428	9.88	-.89	390	10.15	1.22
430	10.03	1.14	114	10.01	1.01	157	10.20	1.44	022	9.90	-.91	406	10.14	1.09
420	9.90	.71	322	9.96	.58	073	10.17	1.23	251	9.88	-1.01	025	10.13	1.02
416	9.90	.69	029	9.92	.20	330	10.15	1.14	262	9.85	-1.06	291	10.12	.95
096	9.88	.62	Avg	9.90		390	10.15	1.14	230	9.85	-1.07	027	10.12	.95
434	9.83	.58	090	9.90	-.05	406	10.14	.99	325	9.80	-1.39	231	10.11	.94
409	9.86	.57	309	9.71	-1.76	025	10.13	.92	324	9.76	-1.68	177	10.10	.83
397	9.84	.49	Meth: 010.12 PCT			291	10.12	.84	233	9.76	-1.73	234	10.00	.74
288	9.81	.48	Total Nitrogen			027	10.12	.84	443	9.73	-1.92	049	10.07	.72
029	9.71	.37	<u>Salicylic</u>			231	10.11	.83	034	9.68	-2.25	220	10.01	.72
220	9.75	.20	324 9.48 -.79			177	10.10	.72	Meth: 010.99 PCT			009	9.98	.62
Avg	9.70		027 9.17 -1.84			049	10.07	.62	Total Nitrogen			007	10.05	.62
309	9.61	-.32	230 9.03 -2.33			037	10.01	.57	Other			232	10.06	.60
* X=Excluded from lab performance			S/s=Screened Outlier			R=Duplicate Range too large			A=Analysis beyond 3-s limits			037	10.01	.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: 020.40 PCT			Meth: 020.XX PCT			Meth: 030.40 PCT		
<u>Total Nitrogen</u>			<u>Total Nitrogen</u>			<u>Total Phosphate</u>			<u>Total Phosphate</u>			<u>Insoluble Phosphate</u>		
296	10.05	.56	402	9.75	-1.44	<u>Automated</u>			220	10.15	.79	<u>Automated</u>		
035	10.06	.56	443	9.73	-1.57	096	10.08	1.11	406	10.20	.77	409	0.29	.87
024	10.06	.56	309	9.71	-1.69	Avg	9.93		422	10.20	.75	Avg	0.20	
040	10.04	.50	034	9.68	-1.87	409	9.92	-.36	292	10.14	.61	096	0.12	-.87
055	10.01	.48	137	9.67	-1.92	247	9.78	-1.07	423	10.16	.61	Meth: 030.99 PCT		
426	10.01	.48	185	9.57	-2.59	035	7.44 S	-17.96	096	10.08	.25	<u>Insoluble Phosphate</u>		
425	10.00	.45	Meth: 020.10 PCT			Meth: 020.50 PCT			416	10.06	.21	<u>Other</u>		
434	10.02	.42	<u>Total Phosphate</u>			<u>Total Phosphate</u>			443	10.04	.19	247 0.11 -.71		
430	10.03	.37	<u>Grav Quimociac</u>			<u>ICP</u>			114	10.06	.16	Meth: 030.XX PCT		
377	10.01	.28	090	10.02	.77	426	10.57	1.25	232	10.04	.15	<u>Insoluble Phosphate</u>		
114	10.01	.27	114	10.06	.76	361	10.48	.93	430	10.03	.09	409	0.29	1.59
136	10.00	.20	Avg	10.00		390	10.34	.49	Avg	10.02		Avg	0.16	
361	9.98	.19	157	9.91	-1.15	330	10.23	.43	309	10.00	-.10	090	0.14	-.27
041	9.97	.07	Meth: 020.20 PCT			422	10.20	.05	231	10.00	-.10	096	0.12	-.60
Avg	9.97		<u>Total Phosphate</u>			Avg	10.19		090	10.02	-.26	247	0.11	-.73
322	9.96	-.04	<u>Spectrometric</u>			423	10.16	-.15	369	9.97	-.26	Meth: 040.10 PCT		
247	9.95	-.13	406	10.20	1.62	430	10.03	-.55	420	9.95	-.44	<u>InDir Available Phos</u>		
131	9.95	-.15	220	10.15	1.57	432	9.57	-2.08	200	9.91	-.49	<u>Grav Quim</u>		
442	9.93	-.28	292	10.14	1.32	Meth: 020.99 PCT			409	9.92	-.50	090 9.88 .71		
029	9.92	-.31	416	10.06	.64	<u>Total Phosphate</u>			157	9.91	-.52	Meth: 040.40 PCT		
096	9.93	-.32	232	10.04	.51	<u>Other</u>			324	9.93	-.62	<u>InDir Available Phos</u>		
423	9.93	-.32	231	10.00	.17	368	10.98 s	3.79	288	9.89	-.63	<u>Automated</u>		
360	9.95	-.40	309	10.00	.17	402	10.25	1.10	428	9.86	-.71	096 9.97 .85		
090	9.90	-.47	Avg	9.98		443	10.04	.44	234	9.85 R	-.99	Avg 9.80		
029	9.91	-.49	369	9.97	-.22	Avg	9.90		363	9.79	-1.04	409 9.64 -.88		
420	9.90	-.50	200	9.91	-.48	234	9.85	-.50	247	9.78	-1.05	Meth: 040.50 PCT		
106	9.89	-.61	420	9.95	-.54	442	9.48	-1.36	425	9.77	-1.13	<u>InDir Available Phos</u>		
023	9.88	-.62	288	9.89	-.74	Meth: 020.XX PCT			432	9.57	-1.99	<u>ICP</u>		
428	9.88	-.64	428	9.86	-.84	<u>Total Phosphate</u>			442	9.48	-2.38	423 9.87 -.71		
022	9.90	-.71	324	9.93	-.84	368	10.98 s	4.78	035	7.44 s	-11.18	Meth: 030.10 PCT		
251	9.88	-.77	363	9.79	-1.42	426	10.57	2.36	<u>Insoluble Phosphate</u>			Meth: 040.50 PCT		
262	9.85	-.78	425	9.77	-1.55	361	10.48	1.96	<u>Grav Quimociac</u>			<u>InDir Available Phos</u>		
230	9.85	-.80	Meth: 020.99 PCT			390	10.34	1.36	090	0.14	.00	423 9.87 -.71		
325	9.80	-1.08	<u>Total Phosphate</u>			330	10.23	1.03						
351	9.79	-1.14	<u>Other</u>			402	10.25	1.01						
324	9.76	-1.35	368 10.98 s 4.78											
211	9.75	-1.37	426 10.57 2.36											
233	9.76	-1.40	361 10.48 1.96											
* 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: 040.99 PCT			Meth: 041.20 PCT			Meth: 041.60 PCT			Meth: 041.XX PCT			Meth: 048.99 PCT		
<u>InDir Available Phos</u>			<u>Dir Available Phosph</u>			<u>Dir Available Phosph</u>			<u>Dir Available Phosph</u>			<u>Water Soluble Phosph</u>		
<u>Other</u>			<u>Spectrometric</u>			<u>EDTA Extract</u>			260 9.90 .18			<u>Other</u>		
247	9.68	.84	055	9.77	.89	288	9.81	-.20	055	9.88	.15	231	10.34	.87
Avg	9.58		363	9.74	.50	034	9.78	-.47	028	9.87	.13	Avg	9.31	
377	9.48	-.89	Avg	9.65		296	9.76	-.70	049	9.88	.12	247	8.29	-.87
			262	9.45	-1.21	106	9.75	-.76	Avg	9.86				
Meth: 040.XX PCT			Meth: 041.40 PCT			024 9.68 X -1.44			043 9.84 -.15			Meth: 048.XX PCT		
<u>InDir Available Phos</u>			<u>Dir Available Phosph</u>			177 9.62 R -2.57			043 9.84 -.15			<u>Water Soluble Phosph</u>		
096	9.97	1.19	<u>Automated</u>			Meth: 041.99 PCT			288 9.81 -.26			231 10.34 1.53		
090	9.88	.79	025	10.03	1.38	<u>Dir Available Phosph</u>			325 9.85 -.26			096 8.39 .05		
423	9.87	.70	131	9.75	.33	<u>Other</u>			296 9.81 -.34			Avg 8.37		
Avg	9.75		Avg	9.67		095	10.23	.74	322 9.79 -.36			247 8.29 -.07		
247	9.68	-.43	027	9.46	-.82	137	10.22	.61	034 9.78 -.41			420 8.36 -.09		
409	9.64	-.69	029	9.45	-.90	230	10.16	.36	254 9.77 -.47			363 6.50 -1.46		
377	9.48	-1.52				Avg	10.10		296 9.76 -.54					
						322	9.79	-1.56	131 9.75 -.56					
Meth: 041.10 PCT			Meth: 041.50 PCT			Meth: 041.XX PCT			106 9.75 -.57			Meth: 050.00 PCT		
<u>Dir Available Phosph</u>			<u>Dir Available Phosph</u>			<u>Dir Available Phosph</u>			009 9.82 -.59			<u>Soluble Potash</u>		
<u>Grav Quimociac</u>			<u>ICP</u>			<u>Dir Available Phosph</u>			177 9.77 -.59			<u>STPB Oxalate</u>		
233	10.11	2.35	007	10.21	1.55	095	10.23	1.94	363 9.74 -.62			102 11.90 s 7.18		
434	10.00 R	1.80	360	10.18	1.46	137	10.22	1.86	029 9.74 -.69			230 11.80 s 6.73		
041	9.95	.70	009	9.93	.45	007	10.21	1.85	055 9.77 -.70			022 10.43 1.33		
040	9.91	.62	251	9.91	.36	360	10.18	1.75	024 9.68 X -.97			220 10.37 1.08		
211	9.93	.48	291	9.91	.21	230	10.16	1.56	023 9.65 -1.18			055 10.36 1.06		
102	9.91	.45	Avg	9.87		233	10.11	1.30	022 9.68 R -1.28			095 10.23 .58		
131	9.92	.44	043	9.84	-.15	434	10.00	.99	177 9.62 R -1.59			114 10.20 .41		
136	9.89	.24	325	9.85	-.24	025	10.03	.89	361 9.54 -1.68			043 10.19 .40		
260	9.90	.19	023	9.65	-1.04	351	10.01	.79	027 9.46 -2.07			233 10.19 .38		
049	9.88	.10	022	9.68	-1.12	397	10.00	.72	220 9.56 s -2.09			416 10.15 .23		
Avg	9.88		361	9.54	-1.47	009	9.93	.55	262 9.45 -2.13			Avg 10.10		
055	9.88	-.25				041	9.95	.45	029 9.45 -2.15			211 10.10 -.03		
296	9.81	-.81	Meth: 041.60 PCT			041 9.95 .45						029 10.04 -.25		
254	9.77	-1.08	<u>Dir Available Phosph</u>			251 9.91 .44			Meth: 048.20 PCT			009 10.02 -.48		
009	9.82	-1.23	<u>EDTA Extract</u>			040 9.91 .37			<u>Water Soluble Phosph</u>			049 9.94 -.74		
177	9.77	-1.29	351	10.01	1.63	211 9.93 .34			<u>Spectrometric</u>			137 9.61 -1.95		
029	9.74	-1.51	397	10.00	1.51	131 9.92 .31			096 8.39 .66			397 9.62 -1.98		
220	9.56 s	-4.20	028	9.87	.37	102 9.91 .30			420 8.36 .64					
			043	9.84	.14	291 9.91 .28			Avg 7.75					
			Avg	9.83		136 9.89 .19			363 6.50 -1.29					

\* 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: 050.30 PCT			Meth: 050.51 PCT			Meth: 050.99 PCT			Meth: 050.XX PCT			Meth: 050.XX PCT		
Soluble Potash			Soluble Potash			Soluble Potash			<u>Soluble Potash</u>			<u>Soluble Potash</u>		
<u>AA (Oxalate)</u>			<u>ICP (Citrate)</u>			<u>Other</u>			022	10.24	.50	322	9.80	-.92
369	10.50	1.33	423	10.01	-.75	402	10.15	.44	106	10.15	.49	029	9.79	-.95
428	10.46	1.22	251	9.93	-1.08	377	10.15	.39	095	10.23	.47	330	9.73	-1.13
040	10.18	.59	361	9.90	-1.22	Avg	10.03		007	10.21	.43	442	9.77	-1.19
136	10.08	.37				027	9.91	-.44	434	10.19	.35	157	9.75 R	-1.30
Avg	9.91		Meth: 050.60 PCT			325	9.90	-.45	055	10.16	.34	432	9.92 R	-1.44
351	9.62	-.60	Soluble Potash			234	9.96	-.60	114	10.20	.34	351	9.62	-1.47
157	9.75	-.60	<u>Flame (Oxalate)</u>			260	9.82	-.79	043	10.19	.32	137	9.61	-1.50
262	9.38	-1.14	443	10.64	2.00	322	9.80	-.81	040	10.18	.32	397	9.62	-1.52
425	9.27	-1.32	055	10.16	.42	330	9.73	-1.04	233	10.19	.31	420	9.59	-1.61
			406	10.16	.29	442	9.77	-1.14	430	10.18	.26	390	9.44	-2.05
			Avg	10.09		432	9.92 R	-1.53	028	10.17	.24	262	9.38	-2.26
Meth: 050.31 PCT			288	10.06	-.10	390	9.44	-2.06	402	10.15	.23	425	9.27	-2.54
Soluble Potash			200	9.97	-.42				406	10.16	.22			
<u>AA (Citrate)</u>			309	9.81	-.99	Meth: 050.XX PCT			024	10.15	.21	Meth: 060.00 PCT		
254	9.95	.71	131	9.80	-1.03	<u>Soluble Potash</u>			416	10.15	.19	Free Water		
						102	11.90 s	5.61	377	10.15	.15	<u>Vacuum Oven</u>		
Meth: 050.50 PCT						230	11.80 s	5.26	043	10.12	.06	363	1.73	1.22
Soluble Potash			Meth: 050.61 PCT			034	11.14 s	3.38	Avg	10.10		416	1.40	.54
<u>ICP (Oxalate)</u>			Soluble Potash			422	10.82	2.23	211	10.10	-.02	Avg	1.14	
422	10.82	1.24	<u>Flame (Citrate)</u>			035	10.77	2.16	136	10.08	-.05	096	0.87	-.59
292	10.71	1.00	034	11.14 S	2.85	292	10.71	1.91	288	10.06	-.11	007	0.59	-1.17
324	10.31	.21	035	10.77	1.62	443	10.64	1.69	426	10.07	-.12			
Avg	10.27		025	10.43	.47	023	10.60	1.57	029	10.04	-.17	Meth: 101.00 PCT		
106	10.15	-.44	041	10.36	.31	369	10.50 R	1.42	009	10.02	-.24	Acid Soluble Calcium		
426	10.07	-.47	Avg	10.28		428	10.46	1.26	423	10.01	-.34	<u>AA</u>		
420	9.59	-1.58	028	10.17	-.34	368	10.42	1.06	009	10.02	-.36	028	7.43	1.22
			024	10.15	-.41	022	10.43	1.06	200	9.97	-.39	034	7.40	1.14
			029	9.79	-1.51	025	10.43	1.02	254	9.95	-.48	043	7.32	.82
Meth: 050.51 PCT			Meth: 050.99 PCT			220	10.37	.86	251	9.93	-.53	434	7.23	.59
Soluble Potash			Soluble Potash			055	10.36	.84	049	9.94	-.56	137	7.22	.51
<u>ICP (Citrate)</u>			<u>Other</u>			041	10.36	.83	027	9.91	-.59	220	7.15	.31
023	10.60	2.10	368	10.42	1.39	291	10.36	.82	325	9.90	-.60	Avg	7.06	
291	10.36	.96	360	10.34	1.07	360	10.34	.76	361	9.90	-.63	177	7.05	-.14
022	10.24	.52	177	10.34	1.06	177	10.34	.75	234	9.96	-.65	040	6.95	-.35
007	10.21	.45	131	10.31	1.00	131	10.31	.71	309	9.81	-.88	351	6.93	-.45
430	10.18	.15	232	10.31	.96	324	10.31	.70	260	9.82	-.90	029	6.92	-.45
Avg	10.16		434	10.19	.59	232	10.31	.67	131	9.80	-.92	262	6.86	-.64
043	10.12	-.19												
009	10.02	-.64												
* 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: 101.00 PCT			Meth: 101.99 PCT			Meth: 101.XX PCT			Meth: 121.30 PCT			Meth: 121.XX PCT		
Acid Soluble Calcium			Acid Soluble Calcium			Acid Soluble Calcium			Acid Soluble Magnesi			Acid Soluble Magnesi		
<u>AA</u>			<u>Other</u>			<u>ICP</u>			<u>ICP</u>			<u>ICP</u>		
095	6.26	-2.52	409	7.46	.83	023	6.72	-.69	291	3.16	2.40	330	4.17 s	8.83
055	5.76 s	-4.15	Avg	6.78		251	6.49	-1.19	432	3.07	1.92	422	3.89 s	7.12
			368	6.11	-.90	131	6.41	-1.41	426	3.07	1.91	309	3.31 s	3.52
Meth: 101.30 PCT			Meth: 101.XX PCT			Meth: 121.00 PCT			Avg			029		
Acid Soluble Calcium			Acid Soluble Calcium			Acid Soluble Magnesi			2.74			2.83		
<u>ICP</u>			<u>AA</u>			<u>AA</u>			023			022		
422	7.71	2.32	422	7.71	2.03	309	3.31 s	3.97	009	2.71	-.20	022	2.79	.47
432	7.30 R	1.62	432	7.30 R	1.41	028	2.91	1.32	251	2.72	-.27	037	2.79	.40
420	7.23	.95	409	7.46	1.37	434	2.90	1.19	041	2.70	-.30	390	2.79	.32
041	7.19	.86	028	7.43	1.32	247	4.78 s	-5.67	292	2.68	-.41	420	2.77	.30
324	7.17	.78	034	7.40	1.26	430	3.61 s	-8.76	131	2.73	-.42	423	2.89	.94
037	7.11	.77	043	7.32	1.00				420	2.77	.23	200	2.87	.81
231	6.92	.65	434	7.23	.79	Meth: 121.30 PCT			360	2.75	.03	029	2.83	.57
423	7.06	.56	420	7.23	.75	Acid Soluble Magnesi			Avg	2.74		022	2.79	.47
288	7.07	.55	137	7.22	.74	<u>AA</u>			023	2.74	-.18	022	2.79	.47
360	7.04	.45	041	7.19	.67	309			009	2.71	-.20	037	2.79	.40
390	7.01	.40	037	7.11	.61	028			251	2.72	-.27	390	2.79	.32
022	6.96	.30	324	7.17	.59	434			041	2.70	-.30	397	2.78	.30
009	6.97	.24	220	7.15	.56	200			292	2.68	-.41	420	2.77	.30
Avg	6.89		423	7.06	.41	029			131	2.73	-.42	023	2.74	.20
102	6.85	-.15	288	7.07	.38	397			232	2.67	-.46	351	2.76	.19
106	6.83	-.22	177	7.05	.31	288			288	2.67	-.47	177	2.75	.10
433	6.82	-.24	360	7.04	.30	351			433	2.66	-.50	360	2.75	.08
330	6.83	-.43	390	7.01	.26	177			065	2.66	-.65	Avg	2.73	
232	6.70	-.56	022	6.96	.22	095			324	2.62	-.73	095	2.72	-.06
023	6.72	-.62	009	6.97	.10	Avg			106	2.62	-.76	009	2.71	-.13
251	6.49	-1.13	040	6.95	.06	043			102	2.60	-.91	041	2.70	-.25
131	6.41	-1.37	Avg	6.94		040			409	2.58	-.97	251	2.72	-.26
291	6.27	-1.90	029	6.92	-.07	034			247	2.48	-1.57	043	2.71	-.27
035	6.21	-1.99	351	6.93	-.15	262			035	2.43	-1.88	292	2.68	-.35
065	5.26 s	-4.65	262	6.86	-.22	425			Meth: 121.99 PCT			040	2.69	-.35
247	4.78 s	-5.94	102	6.85	-.26	055			Acid Soluble Magnesi			034	2.70	-.37
430	3.61 s	-9.25	106	6.83	-.32	220			<u>Other</u>			232	2.67	-.41
			433	6.82	-.33	Meth: 121.30 PCT			368			288	2.67	-.42
			330	6.83	-.47	Acid Soluble Magnesi			2.58			131	2.73	-.43
			231	6.92	-.61	<u>ICP</u>						433	2.66	-.45
			232	6.70	-.65	330						065	2.66	-.62
			422	3.89 s	6.70	422						324	2.62	-.69
						330						106	2.62	-.72
						422								

\* 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: 131.XX PCT			Meth: 144.70 PCT			Meth: 144.XX PCT			Meth: 151.30 PPM		
<u>Acid Soluble Magnesi</u>			<u>Water Soluble Magnes</u>			<u>Sulfur</u>			<u>Sulfur</u>			<u>Arsenic</u>		
102	2.60	-.89	137	2.76	.66	<u>Spectrometric</u>			288	12.79	.38	<u>ICP</u>		
368	2.58	-.94	029	2.52	.38	430	9.45 S	.00	262	12.76	.22	009	99.35	.33
409	2.58	-.94	Avg	2.22		Meth: 144.99 PCT			330	12.73	.20	232	99.60	.18
262	2.55	-1.15	309	2.20	-.02	<u>Sulfur</u>			351	12.72	.12	Avg	99.28	
425	2.53	-1.30	027	1.90	-.39	<u>Other</u>			029	12.72	.12	037	97.89	-.11
247	2.48	-1.58	220 0.48 -2.14			009	13.43 s	2.91	136	12.69	.09	102	93.69	-.33
035	2.43	-1.90	Meth: 144.01 PCT			360	13.55	2.07	028	12.69	.07	065	93.22	-.35
055	2.40	-2.11	<u>Sulfur</u>			423	13.44	1.84	Avg	12.68		390	66.15	-1.90
220	0.55 s	-13.40	<u>Gravimetric</u>			390	12.75	.47	102	12.66	-.06	Meth: 151.99 PPM		
Meth: 131.00 PCT			251	13.25	2.25	330	12.73	.30	040	12.63	-.17	<u>Arsenic</u>		
<u>Water Soluble Magnes</u>			055	13.05	1.21	351	12.72	.27	095	12.62	-.17	<u>Other</u>		
<u>AA</u>			233	12.85 R	1.09	137	12.60	.00	137	12.60	-.21	368	113.30	1.50
434	2.77 R	.81	043	13.02	1.06	Avg	12.60		200	12.60	-.21	409	111.50	.12
137	2.76	.80	230	12.99	.91	397	12.55	-.17	106	12.55	-.36	Avg	109.93	
029	2.52	.56	324	12.89	.45	177	12.50	-.22	397	12.55	-.38	220	105.00	-.47
309	2.20	.22	296	12.88	.38	131	12.40	-.45	177	12.50	-.49	Meth: 151.XX PPM		
Avg	1.99		Avg	12.80		035	12.45	-.46	035	12.45	-.74	<u>Arsenic</u>		
220	0.48	-1.58	262	12.76	-.25	027	12.37	-.50	131	12.40	-.77	233	126.30	1.64
Meth: 131.30 PCT			288	12.79	-.40	023	12.33	-.58	027	12.37	-.84	368	113.30 R	1.52
<u>Water Soluble Magnes</u>			029	12.72	-.42	409	12.32	-.67	023	12.33	-.94	106	118.00	1.10
<u>ICP</u>			028	12.69	-.60	232	12.38 R	-.89	409	12.32	-1.04	409	111.50	.67
430	2.90	1.16	102	12.66	-.74	422	11.70	-1.98	232	12.38 R	-1.25	220	105.00	.36
Avg	2.23		040	12.63	-.89	Meth: 144.XX PCT			434	12.12	-1.53	136	102.00	.20
027	1.90	-.57	095	12.62	-.94	<u>Sulfur</u>			422	11.70	-2.69	Avg	101.15	
432	1.88	-.92	200	12.60	-1.01	009	13.43 s	3.52	291	10.96 s	-4.72	232	99.60	-.23
Meth: 131.99 PCT			106	12.55	-1.29	360	13.55	2.38	430	9.45 s	-8.84	037	97.89	-.23
<u>Water Soluble Magnes</u>			291	10.96 s	-9.23	423	13.44	2.09	Meth: 151.00 PPM			009	99.35	-.40
<u>Other</u>			Meth: 144.02 PCT			251	13.25	1.58	<u>Arsenic</u>			102	93.69	-.50
368	12.39 S	.00	<u>Sulfur</u>			055	13.05	1.01	<u>Atomic Absorption</u>			065	93.22	-.52
Meth: 131.XX PCT			<u>Gravimetric</u>			043	13.02	.93	136	102.00	.71	390	66.15	-2.29
<u>Water Soluble Magnes</u>			292	12.87	1.22	230	12.99	.85	Meth: 151.30 PPM			Meth: 165.00 PCT		
368	12.39 s	12.53	136	12.69	.63	233	12.85 R	.75	<u>Arsenic</u>			<u>Acid Soluble Boron</u>		
430	2.90	.84	Avg	12.47		292	12.87	.69	<u>ICP</u>			<u>Spectrometric</u>		
434	2.77	.68	029	12.21	-.76	324	12.89	.58	233	126.30	1.54	200	0.050 S	.00
* X=Excluded from lab performance			434	12.12	-1.01	296	12.88	.55	106	118.00	1.07	220	0.005	.00
			S/s=Screened Outlier			390	12.75	.46	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: 165.00 PCT Acid Soluble Boron <u>Spectrometric</u>			Meth: 181.30 PPM Cadmium <u>ICP</u>			Meth: 190.00 PCT Water Soluble Chlori <u>Titrimetric</u>			Meth: 191.30 PPM Chromium <u>ICP</u>			Meth: 202.30 PPM Acid Soluble Cobalt <u>ICP</u>					
Avg	0.005		035	146.00 s	4.07	422	4.25	1.18	035	61.30	-.27	324	259.50	.67			
			106	129.00	1.53	Avg	4.13		102	59.59	-.50	037	260.50	.65			
Meth: 165.99 PCT Acid Soluble Boron <u>Other</u>			009 123.50 .87			102 4.12 -.09			232 56.75 -1.10			Avg 254.78					
422	0.013	1.32	324 123.65 .78	096 122.50 .60		220 4.01 -1.04	Meth: 190.99 PCT Water Soluble Chlori <u>Other</u>			065 53.71 -1.71			102 248.06 -.94				
288	0.010 R	1.13	037 120.52 .51	037 120.52 .51		102 115.22 -.57	Meth: 191.99 PPM Chromium <u>Other</u>			106 246.00 -1.00			065 248.20 -1.08				
433	0.011	.78	390 119.50 .14	390 119.50 .14		233 113.15 -.85	423 9.66 S 19.77			390 250.00 -1.16			232 224.50 s -3.67				
009	0.010	.57	Avg 118.73	Avg 118.73		232 111.15 -1.13	009 4.13 .47			232 224.50 s -3.67			Meth: 202.99 PPM Acid Soluble Cobalt <u>Other</u>				
Avg	0.007		102 115.22 -.57	102 115.22 -.57		232 111.15 -1.13	Avg 4.00			409 66.25 .71			Meth: 202.99 PPM Acid Soluble Cobalt <u>Other</u>				
106	0.006	-.31	232 111.15 -1.13	232 111.15 -1.13		065 109.15 -1.68	288 3.87 -1.13			Meth: 191.XX PPM Chromium <u>Chromium</u>			409 266.00 .71				
423	0.002	-1.06	065 109.15 -1.68	065 109.15 -1.68			Meth: 190.XX PCT Water Soluble Chlori <u>Water Soluble Chlori</u>			220 79.50 s 4.32			Avg 266.00				
232	0.002	-1.27					423 9.66 s 57.29			390 68.40 1.36			368 156.00 S -41.15				
Meth: 165.XX PCT Acid Soluble Boron <u>Acid Soluble Boron</u>			Meth: 181.99 PPM Cadmium <u>Other</u>			422 4.25 1.38			009 67.05 1.10			Meth: 202.99 PPM Acid Soluble Cobalt <u>Acid Soluble Cobalt</u>					
200	0.050 s	10.29	409 131.00 .71	409 131.00 .71		009 4.13 .16	409 66.25 .94			409 266.00 1.27			009 259.45 .66				
422	0.013	1.48				Avg 4.13	106 64.50 .51			037 260.50 .64			Meth: 202.XX PPM Acid Soluble Cobalt <u>Acid Soluble Cobalt</u>				
288	0.010 R	1.24	Meth: 181.XX PPM Cadmium <u>Cadmium</u>			102 4.12 -.12	037 62.29 .25			Avg 62.18			409 266.00 1.27				
433	0.011	.90	035 146.00 2.45	035 146.00 2.45		220 4.01 -1.25	324 61.95 -.29			035 61.30 -.32			009 259.45 .66				
009	0.010	.68	409 131.00 .92	409 131.00 .92		288 3.87 R -4.09	035 61.30 -.32			102 59.59 -.59			324 259.50 .66				
Avg	0.007		106 129.00 .72	106 129.00 .72			102 59.59 -.59			232 56.75 -1.20			037 260.50 .64				
106	0.006	-.26	009 123.50 .38	009 123.50 .38			232 56.75 -1.20			065 53.71 -1.81			Avg 254.78				
220	0.005	-.45	324 123.65 .24	324 123.65 .24			Meth: 191.00 PPM Chromium <u>Atomic Absorption</u>			Meth: 202.00 PPM Acid Soluble Cobalt <u>AA</u>			136 252.50 -.38				
423	0.002	-1.06	096 122.50 .16	096 122.50 .16			220 79.50 S .00			106 246.00 -.99			102 248.06 -.93				
232	0.002	-1.28	136 122.50 .07	136 122.50 .07			Meth: 191.30 PPM Chromium <u>ICP</u>			065 248.20 -1.07			106 246.00 -.99				
Meth: 181.00 PPM Cadmium <u>Atomic Absorption</u>			Avg 122.06			220 79.50 S .00			136 252.50 .63			065 248.20 -1.07			390 250.00 -1.14		
136	122.50	.48	390 119.50 -.27	390 119.50 -.27			009 67.05 1.19			Avg 249.25			220 246.00 -1.19				
Avg	118.50		037 120.52 -.34	037 120.52 -.34			106 64.50 .60			220 246.00 -1.05			232 224.50 A -3.63				
220	114.50	-1.13	102 115.22 -.71	102 115.22 -.71			390 68.40 1.45			Meth: 202.30 PPM Acid Soluble Cobalt <u>ICP</u>			368 156.00 s -11.85				
			233 113.15 -.92	233 113.15 -.92			009 67.05 1.19			426 266.50 1.34			Meth: 221.00 PCT Acid Soluble Copper <u>Atomic Absorption</u>				
			232 111.15 -1.12	232 111.15 -1.12			106 64.50 .60			009 259.45 .67			043 0.0009 .88				
			220 114.50 R -1.16	220 114.50 R -1.16			324 61.95 .29			Meth: 202.30 PPM Acid Soluble Cobalt <u>ICP</u>							
			065 109.15 -1.45	065 109.15 -1.45			037 62.29 .27			426 266.50 1.34							
							Avg 61.73			009 259.45 .67							

\* 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: 221.00 PCT			Meth: 241.00 PCT			Meth: 241.30 PCT			Meth: 241.XX PCT			Meth: 251.00 PPM		
Acid Soluble Copper			Acid Soluble Iron			Acid Soluble Iron			<u>Acid Soluble Iron</u>			Lead		
<u>Atomic Absorption</u>			<u>Atomic Absorption</u>			<u>ICP</u>						<u>Atomic Absorption</u>		
Avg	0.0006		434	0.36 s	4.29	288	0.28	-0.08	360	0.30	.53	Avg	645.75	
095	0.0004	-0.85	137	0.33	2.19	292	0.28	-0.08	131	0.29	.45	220	641.50	-1.11
			425	0.32	1.83	251	0.28	-0.08	009	0.29	.26			
			034	0.30	.45	102	0.27	-0.39	262	0.29	.23	Meth: 251.30 PPM		
Meth: 221.30 PCT			Avg			065			055			Lead		
Acid Soluble Copper			428			035			023			<u>ICP</u>		
<u>ICP</u>			055			247			423			035		
422	0.0020 s	6.91	262	0.29	-0.30	433	0.27	-0.56	Avg	0.28		324	657.50	.91
037	0.0008	2.00	177	0.28	-0.59	291	0.27	-0.82	428	0.28	-0.13	037	635.00	.38
433	0.0005	.69	040	0.28	-0.64	027	0.26	-0.83	292	0.28	-0.23	Avg	620.49	
288	0.0005	.65	028	0.28	-0.65	232	0.26	-1.07	251	0.28	-0.23	233	618.85	-0.10
Avg	0.0003		220	0.28	-0.72	430	0.24	-1.95	288	0.28	-0.23	009	600.55	-0.47
232	0.0002	-0.41	043	0.28	-0.72	041	0.24	-2.19	177	0.28	-0.39	106	598.50	-0.51
324	0.0002	-0.42	351	0.27	-0.82	Meth: 241.99 PCT			028	0.28	-0.45	102	594.21	-0.61
065	0.0002	-0.55	029	0.23 R	-3.14	Acid Soluble Iron			040	0.28	-0.46	232	557.30	-1.46
009	0.0001	-0.70	397	0.12 s	-8.76	<u>Other</u>			220	0.28	-0.52	065	548.30 R	-1.82
041	0.0000	-1.21	095	0.17 s	-9.51	368	0.32	.96	043	0.28	-0.52	Meth: 251.99 PPM		
Meth: 221.99 PCT			Meth: 241.30 PCT			Avg			102			Lead		
Acid Soluble Copper			Acid Soluble Iron			402			065			<u>Other</u>		
<u>Other</u>			<u>ICP</u>			402			035			409		
368	0.0297 S	.00	432	0.70 s	20.51	Meth: 241.XX PCT			402	0.27	-0.54	Meth: 251.99 PPM		
Meth: 221.XX PCT			422			Acid Soluble Iron			065	0.27	-0.58	Lead		
Acid Soluble Copper			409			432			351	0.27	-0.63	<u>Other</u>		
368	0.0297 s	51.70	390	0.31 R	1.30	434	0.36 s	3.99	035	0.27	-0.64	409	633.00	.71
422	0.0020	2.66	324	0.31	1.12	422	0.34	2.49	402	0.27	-0.70	Meth: 251.XX PPM		
043	0.0009	.65	106	0.30	.86	433	0.27	-0.70	247	0.27	-0.70	Lead		
037	0.0008 R	.54	096	0.30	.86	291	0.27	-0.96	433	0.27	-0.70	035		
Avg	0.0005		426	0.30	.72	027	0.26	-0.98	291	0.27	-0.96	035	702.00	1.95
433	0.0005	-0.06	360	0.30	.66	430	0.24	-2.10	027	0.26	-0.98	324	657.50	.88
288	0.0005	-0.11	231	0.30	.66	041	0.24	-2.34	232	0.26	-1.22	220	641.50	.70
095	0.0004	-0.13	330	0.30	.66	029	0.23 R	-2.69	430	0.24	-2.10	136	650.00	.66
232	0.0002	-0.50	131	0.29	.58	397	0.12 s	-7.76	041	0.24	-2.34	037	635.00	.31
324	0.0002	-0.51	009	0.29	.40	095	0.17 s	-8.48	029	0.23 R	-2.69	409	633.00	.23
065	0.0002	-0.57	023	0.29	.33	Meth: 251.00 PPM			397	0.12 s	-7.76	Avg	626.22	
009	0.0001	-0.64	423	0.29	.25	Lead			095	0.17 s	-8.48	233	618.85	-0.22
041	0.0000	-0.85	Avg	0.28		<u>Atomic Absorption</u>			232	0.29	.25	009	600.55	-0.67
* X=Excluded from lab performance			S/s=Screened Outlier			034			136			106		
						0.30			650.00			598.50		
						.53			.53			594.21		
												232		
												557.30		
												-1.78		
												065		
												548.30 R		
												-2.17		
												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: 261.30 PCT			Meth: 261.XX PCT			Meth: 289.99 PPM			Meth: 291.XX PPM			Meth: 301.XX PPM		
<u>Acid Soluble Mangane</u>			<u>Acid Soluble Mangane</u>			<u>Molybdenum</u>			<u>Nickel</u>			<u>Selenium</u>		
ICP			422	0.007	-1.70	Other			035	1164.5	1.49	106	213.50	-.30
288	0.008 R	1.50	102	0.007	-1.70	220	438.50	-.86	220	1150.0	1.44	102	200.60	-.70
423	0.008	1.43	Meth: 281.00 PPM			Meth: 289.XX PPM			324	1097.0	.72	232	193.25	-.95
292	0.008	1.09	<u>Mercury</u>			<u>Molybdenum</u>			037	1035.0	.17	220	167.00	-1.77
022	0.008	.77	<u>Atomic Absorption</u>						Avg	1033.3		Meth: 311.99 PCT		
009	0.008	.64	232	42.95	-.71	324	448.50	.79	009	1030.5	-.04	Sodium		
041	0.008	.34	Meth: 281.99 PPM			009	442.60	.55	106	967.00	-.75	<u>Other</u>		
065	0.008	.33	<u>Mercury</u>			288	443.00	.51	102	956.80	-.97	422	0.35	2.17
096	0.008	.29	<u>Other</u>			220	438.50	.45	232	921.20	-1.27	Avg	0.29	
Avg	0.007		220	62.50	.71	Avg 433.62			Meth: 301.30 PPM			009	0.29	-.14
106	0.007	-.09	Meth: 281.XX PPM			106	425.00	-.47	<u>Selenium</u>			232	0.28	-.25
433	0.007	-.26	<u>Mercury</u>			433	423.40	-.52	<u>ICP</u>			288	0.29	-.28
035	0.007	-.67	220	62.50	.88	102	407.43	-1.38	009	261.85	1.48	102	0.29	-.42
232	0.007	-1.30	Avg	52.73		232	400.80	-1.64	037	246.00	.87	423	0.28	-.45
422	0.007	-1.69	232	42.95	-.85	065	346.50 s	-5.37	065	226.65	.51	035	0.26	-1.11
102	0.007	-1.69	Meth: 289.30 PPM			Meth: 291.00 PPM			Avg 223.64			Meth: 321.00 PCT		
Meth: 261.99 PCT			<u>Molybdenum</u>			<u>Nickel</u>			106			Acid Soluble Zinc		
<u>Acid Soluble Mangane</u>			<u>ICP</u>			<u>Atomic Absorption</u>			102			<u>Atomic Absorption</u>		
Other			324	448.50	1.14	220	1150.0	.71	232	193.25	-1.17	043	0.004	.86
402	0.007	.00	009	442.60	.85	Meth: 291.30 PPM			Meth: 301.99 PPM			Avg	0.003	
Meth: 261.XX PCT			288			Nickel			<u>Selenium</u>			220	0.002	-.88
<u>Acid Soluble Mangane</u>			037			<u>ICP</u>			<u>Other</u>			Meth: 321.30 PCT		
288	0.008 R	1.56	Avg	428.84		035	1164.5	1.82	409			Acid Soluble Zinc		
423	0.008	1.51	106	425.00	-.31	324	1097.0	.98	296			<u>ICP</u>		
292	0.008	1.16	433	423.40	-.32	037	1035.0	.28	Avg			096		
022	0.008	.83	102	407.43	-1.30	009	1030.5	.15	220			041		
009	0.008	.70	232	400.80	-1.57	Avg	1018.7		167.00			041		
041	0.008	.39	065	346.50 s	-5.82	106	967.00	-.64	-1.26			423		
065	0.008	.39	Meth: 289.99 PPM			102	956.80	-.91	Meth: 301.XX PPM			292		
096	0.008	.34	<u>Molybdenum</u>			232	921.20	-1.21	<u>Selenium</u>			Avg		
433	0.007	.26	<u>Other</u>						009			0.002		
106	0.007	.09	409	467.00	.87	Meth: 291.30 PPM			296			433		
Avg	0.007		Avg 452.75			Nickel			238.50			037		
402	0.007	-.58	S/s=Screened Outlier			<u>ICP</u>			257.50			288		
035	0.007	-.65	R=Duplicate Range too large			035			.85			009		
232	0.007	-1.29	A=Analysis beyond 3-s limits			324			.45			041		
* X=Excluded from lab performance						037			-1.26			423		
						Avg			1018.7			096		
						065			.43			041		
						102			1.10			041		
						232			.75			041		
						037			.57			041		
						065			.43			041		
						Avg			222.76			041		
						Avg			222.76			041		

Laboratory Averages & Accuracy Indexes

Lab Average\* Index      Lab Average\* Index      Lab Average\* Index      Lab Average\* Index

Meth: 321.30 PCT  
 Acid Soluble Zinc  
ICP  
 022 0.002      -.64  
 232 0.002      -.97  
 065 0.001      -1.05  
 102 0.001      -1.11  
 422 0.002 R    -1.17

Meth: 321.99 PCT  
 Acid Soluble Zinc  
Other  
 368 0.003      .99  
 Avg 0.003  
 409 0.002      -.72

Meth: 321.XX PCT  
Acid Soluble Zinc  
 096 0.004      2.14  
 368 0.003 R    1.74  
 043 0.004      1.72  
 041 0.003      1.25  
 423 0.003      1.23  
 292 0.003      .87  
 Avg 0.002  
 330 0.002      -.16  
 288 0.002      -.16  
 433 0.002      -.17  
 037 0.002      -.17  
 009 0.002      -.28  
 324 0.002      -.49  
 409 0.002      -.51  
 022 0.002      -.63  
 220 0.002      -.82  
 232 0.002      -.95  
 065 0.001      -1.02  
 102 0.001      -1.08  
 422 0.002      -1.12

\* 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	7	0.00	1.02	0.19	050.99	17	- 0.02	0.95	0.45
001.99	8	- 0.78	3.47	0.72	050.XX	66	0.20	1.41	0.36
001.XX	15	0.09	1.03	0.20	060.00	4	0.00	1.08	0.05
005.00	2	0.00	1.22	0.02	060.XX	4	0.00	1.08	0.05
005.XX	2	0.00	1.22	0.02	101.00	13	- 0.31	1.48	0.30
009.10	2	0.00	0.71	0.71	101.30	26	- 0.72	2.44	0.41
009.XX	2	0.00	0.71	0.71	101.99	2	0.00	1.17	0.25
010.11	7	0.51	1.32	1.44	101.XX	41	- 0.51	2.00	0.35
010.12	3	0.00	1.10	0.14	121.00	16	- 0.67	3.98	0.21
010.60	51	0.47	2.38	0.34	121.30	29	0.52	2.17	0.19
010.99	6	0.00	0.92	0.45	121.XX	46	0.13	2.83	0.19
010.XX	67	0.36	2.03	0.48	131.00	5	0.16	1.00	0.03
020.10	3	0.00	0.93	0.50	131.30	3	0.00	1.00	0.41
020.20	15	0.00	0.92	0.41	131.XX	9	1.35	4.29	0.23
020.40	4	- 4.49	9.02	0.35	144.01	17	- 0.53	2.43	0.32
020.50	8	0.00	1.02	0.18	144.02	4	0.00	1.04	0.25
020.99	5	0.68	1.75	0.81	144.99	16	0.08	1.05	0.62
020.XX	35	- 0.22	2.24	0.48	144.XX	37	- 0.30	1.92	0.54
030.40	2	0.00	1.22	0.05	151.30	8	0.00	1.02	0.16
030.XX	4	0.00	1.08	0.06	151.99	3	0.00	0.33	0.87
040.40	2	0.00	1.20	0.16	151.XX	12	0.07	0.99	0.41
040.99	2	0.00	1.17	0.26	165.00	2	0.000	0.000	0.000
040.XX	6	0.00	1.02	0.22	165.99	7	0.074	0.973	0.390
041.10	17	- 0.12	1.21	0.84	165.XX	9	1.213	3.526	0.367
041.20	3	0.00	1.02	0.37	181.00	2	0.00	0.68	0.72
041.40	4	0.00	1.07	0.15	181.30	11	0.37	1.52	0.38
041.50	10	0.00	0.95	0.38	181.XX	14	- 0.06	0.97	0.33
041.60	10	- 0.19	1.12	0.59	190.00	3	0.00	1.06	0.30
041.99	4	0.00	1.05	0.21	190.99	3	6.59	11.42	0.60
041.XX	41	- 0.02	1.01	0.41	190.XX	6	9.10	23.65	1.27
048.20	3	0.00	1.11	0.09	191.30	9	0.00	0.99	0.26
048.99	2	0.00	1.22	0.02	191.XX	11	0.34	1.45	0.72
048.XX	5	0.00	1.06	0.05	202.00	2	0.00	0.71	0.71
050.00	16	0.87	2.54	0.33	202.30	9	- 0.38	1.40	0.67
050.30	8	0.00	0.99	0.30	202.99	2	- 19.45	27.50	9.51
050.50	6	0.00	1.03	0.19	202.XX	13	- 1.11	3.23	1.32
050.51	10	0.00	0.99	0.25	221.00	2	0.0000	1.2087	0.1396
050.60	7	0.00	1.03	0.15	221.30	9	0.7679	2.4951	0.1315
050.61	7	0.38	1.36	0.46	221.XX	12	4.3224	14.837	1.7512

## 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
241.00	16	- 0.89	3.02	1.89					
241.30	28	0.80	3.78	1.30					
241.99	2	0.00	1.07	0.42					
241.XX	46	0.19	3.40	1.43					
251.00	2	0.00	0.29	0.84					
251.30	9	- 0.18	1.11	0.28					
251.XX	12	- 0.17	1.11	0.33					
261.30	14	0.072	0.945	0.468					
261.XX	15	0.072	0.951	0.463					
281.XX	2	0.000	1.205	0.156					
289.30	9	- 0.51	1.80	1.21					
289.99	2	0.00	1.08	0.41					
289.XX	11	- 0.39	1.61	0.99					
291.30	8	0.00	1.00	0.24					
291.XX	9	0.00	0.99	0.28					
301.30	6	0.00	1.01	0.25					
301.99	3	0.00	1.11	0.12					
301.XX	9	0.00	1.01	0.20					
311.99	7	0.00	1.02	0.19					
311.XX	7	0.00	1.02	0.19					
321.00	2	0.000	1.204	0.158					
321.30	15	0.014	1.022	0.277					
321.99	2	0.000	1.008	0.491					
321.XX	18	0.090	1.039	0.333					