

MAGRUDER - Fertilizer Check Sample No. - 200610 Grade 3-7-28

- Pass 1 Results for 83 Labs - - Pass 2 Results for 83 Labs -

Method	AOAC Ref.	Method Code	No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups	No. of Labs	Grand Avg.	Std. Dev.	Average Range of Dups
Ammoniacal Nitrogen, MgO Distillation .	920.03	001.10	8	2.91	0.08	0.03	8	2.91	0.08	0.03
Ammoniacal Nitrogen, Other		001.99	12	2.96	0.11	0.05	11	2.97	0.10	0.04
Method Group 001.XX PCT			20	2.94	0.10	0.05	18	2.94	0.09	0.03
Nitrogen From Urea, Urease (as N)	959.03	005.00	1	0.16	0.02	0.03	1	0.16	0.02	0.03
Ammon & Nitrate N, Devarda	892.01	009.10	2	3.18	0.07	0.03	2	3.18	0.07	0.03
Total Nitrogen, Reduced Iron		010.10	1	3.10	0.03	0.04	1	3.10	0.03	0.04
Total Nitrogen, Modified Comprehensive	978.02	010.11	6	3.00	0.06	0.01	5	2.98	0.06	0.00
Total Nitrogen, Salicylic	955.04D	010.12	2	2.97	0.09	0.01	2	2.97	0.09	0.01
Total Nitrogen, Raney	970.03	010.16	1	3.12	0.03	0.04	1	3.12	0.03	0.04
Total Nitrogen, Comprehensive	970.02	010.17	1	3.10	0.01	0.01	1	3.10	0.01	0.01
Total Nitrogen, Combustion		010.60	51	3.06	0.10	0.05	47	3.08	0.08	0.04
Total Nitrogen, Other		010.99	4	3.06	0.19	0.07	4	3.06	0.19	0.07
Method Group 010.XX PCT			66	3.06	0.10	0.04	61	3.06	0.09	0.04
Total Phosphate, Grav Quimociac	962.02	020.10	7	7.29	0.16	0.07	6	7.31	0.15	0.04
Total Phosphate, Spectrometric	958.01	020.20	16	7.37	0.13	0.05	16	7.37	0.13	0.05
Total Phosphate, Automated	978.01	020.40	4	7.31	0.04	0.04	4	7.31	0.04	0.04
Total Phosphate, ICP		020.50	9	7.40	0.25	0.08	10	7.46	0.30	0.09
Total Phosphate, Other		020.99	1	7.06	0.05	0.07	1	7.06	0.05	0.07
Method Group 020.XX PCT			37	7.35	0.18	0.06	35	7.35	0.18	0.05
Insoluble Phosphate, Grav Quimociac ...	963.03C	030.10	1	0.00	0.00	0.00	1	0.00	0.00	0.00
Insoluble Phosphate, Automated	978.01	030.40	1	0.06	0.01	0.01	1	0.06	0.01	0.01
Insoluble Phosphate, Other		030.99	1	0.09	0.00	0.00	1	0.09	0.00	0.00
Method Group 030.XX PCT			3	0.05	0.04	0.00	3	0.05	0.04	0.00
InDir Available Phosphate, Grav Quim ..	960.02	040.10	1	7.49	0.07	0.10	1	7.49	0.07	0.10
InDir Available Phosphate, Automated ..	960.02	040.40	1	7.29	0.01	0.01	1	7.29	0.01	0.01
InDir Available Phosphate, ICP		040.50	1	7.01	0.05	0.07	1	7.01	0.05	0.07
InDir Available Phosphate, Other		040.99	1	7.23	0.02	0.03	1	7.23	0.02	0.03
Method Group 040.XX PCT			4	7.25	0.19	0.05	4	7.25	0.19	0.05
Dir Available Phosphate, Grav Quimociac	960.03E	041.10	20	7.33	0.09	0.04	20	7.33	0.09	0.04
Dir Available Phosphate, Spectrometric	960.03D	041.20	4	7.16	0.29	0.13	4	7.16	0.29	0.13
Dir Available Phosphate, Automated	978.01	041.40	4	7.02	0.27	0.05	5	6.94	0.29	0.05
Dir Available Phosphate, ICP		041.50	10	7.28	0.22	0.08	10	7.28	0.22	0.08
Dir Available Phosphate, EDTA Extract .	993.01	041.60	12	7.32	0.07	0.06	12	7.32	0.07	0.06
Dir Available Phosphate, Other		041.99	1	7.46	0.04	0.06	1	7.46	0.04	0.06
Method Group 041.XX PCT			52	7.27	0.18	0.06	50	7.27	0.18	0.05
Water Soluble Phosphate, Spectrometric	970.01	048.20	3	5.73	0.67	0.15	3	5.73	0.67	0.15
Soluble Potash, STPB Oxalate	958.02	050.00	13	27.45	0.34	0.08	13	27.45	0.34	0.08
Soluble Potash, STPB Citrate	969.04	050.10	2	27.33	0.73	0.34	2	27.33	0.73	0.34
Soluble Potash, AA (Oxalate)		050.30	7	27.35	0.40	0.16	7	27.35	0.40	0.16

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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	27.15	0.08	0.12	1	27.15	0.08	0.12
Soluble Potash, ICP (Oxalate)		050.50	6	27.32	0.98	0.08	6	27.32	0.98	0.08
Soluble Potash, ICP (Citrate)		050.51	9	27.45	0.35	0.35	9	27.45	0.35	0.35
Soluble Potash, Flame (Oxalate)	983.02(a)	050.60	7	27.95	0.48	0.19	7	27.95	0.48	0.19
Soluble Potash, Flame (Citrate)	983.02(b)	050.61	8	27.62	0.29	0.11	8	27.62	0.29	0.11
Soluble Potash, Other		050.99	15	27.57	0.68	0.27	14	27.64	0.62	0.19
Method Group 050.XX PCT			72	27.54	0.64	0.21	69	27.54	0.63	0.17
Free Water, Vacuum Oven	965.08B	060.00	5	0.73	0.22	0.06	5	0.73	0.22	0.06
Acid Soluble Calcium, AA	945.04	101.00	1	2.89	0.27	0.38	1	2.89	0.27	0.38
Acid Soluble Calcium, ICP		101.30	20	2.71	0.20	0.06	20	2.71	0.20	0.06
Method Group 101.XX PCT			21	2.72	0.21	0.07	20	2.71	0.20	0.06
Acid Soluble Magnesium, AA	984.01	121.00	12	3.04	0.10	0.09	12	3.04	0.10	0.09
Acid Soluble Magnesium, ICP		121.30	31	3.06	0.16	0.06	31	3.06	0.16	0.06
Acid Soluble Magnesium, Titrimetric	964.01	121.70	1	3.14	0.00	0.00	1	3.14	0.00	0.00
Acid Soluble Magnesium, Other		121.99	2	2.88	0.13	0.10	2	2.88	0.13	0.10
Method Group 121.XX PCT			46	3.05	0.15	0.07	44	3.05	0.14	0.06
Water Soluble Magnesium, AA		131.00	1	2.91	0.01	0.02	1	2.91	0.01	0.02
Water Soluble Magnesium, ICP		131.30	2	2.43	0.20	0.11	2	2.43	0.20	0.11
Method Group 131.XX PCT			3	2.59	0.29	0.08	3	2.59	0.29	0.08
Sulfur, Gravimetric	980.02a	144.01	16	8.84	0.15	0.10	16	8.84	0.15	0.10
Sulfur, Gravimetric	980.02b	144.02	3	8.63	0.15	0.03	3	8.63	0.15	0.03
Sulfur, Other		144.99	20	8.49	0.38	0.07	19	8.47	0.38	0.06
Method Group 144.XX PCT			41	8.68	0.37	0.08	39	8.67	0.37	0.07
Arsenic, Atomic Absorption		151.00	1	11.75	0.35	0.50	1	11.75	0.35	0.50
Arsenic, ICP		151.30	7	12.37	1.51	0.85	7	12.37	1.51	0.85
Method Group 151.XX PPM			8	12.29	1.42	0.81	8	12.29	1.42	0.81
Acid Soluble Boron, Spectrometric	982.01	165.00	7	0.234	0.017	0.014	7	0.234	0.017	0.014
Acid Soluble Boron, Other		165.99	19	0.220	0.022	0.008	17	0.221	0.021	0.005
Method Group 165.XX PCT			26	0.224	0.022	0.010	24	0.224	0.022	0.007
Water Soluble Boron, Spectrometric	982.01	171.10	1	0.195	0.007	0.010	1	0.195	0.007	0.010
Water Soluble Boron, Other		171.99	1	0.216	0.001	0.001	1	0.216	0.001	0.001
Method Group 171.XX PCT			2	0.205	0.013	0.006	2	0.205	0.013	0.006
Cadmium, Atomic Absorption		181.00	2	2.48	0.61	0.05	2	2.48	0.61	0.05
Cadmium, ICP		181.30	10	2.28	0.44	0.12	10	2.28	0.44	0.12
Method Group 181.XX PPM			12	2.31	0.46	0.11	12	2.31	0.46	0.11
Water Soluble Chlorine, Titrimetric	928.02	190.00	13	17.68	0.46	0.17	12	17.67	0.47	0.13
Water Soluble Chlorine, Other		190.99	3	18.13	0.74	0.64	3	18.13	0.74	0.64
Method Group 190.XX PCT			16	17.76	0.54	0.26	15	17.75	0.51	0.16
Chromium, ICP		191.30	9	146.08	16.34	4.04	9	146.08	16.34	4.04

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Acid Soluble Cobalt, AA		202.00	2	60.58	1.92	0.75	2	60.58	1.92	0.75
Acid Soluble Cobalt, ICP	965.11	202.30	10	46.31	11.79	2.35	9	47.94	11.19	1.69
Method Group 202.XX PPM			12	48.69	12.03	2.09	11	50.23	11.26	1.52
Acid Soluble Copper, Atomic Absorption	975.01	221.00	6	0.0034	0.0008	0.0005	6	0.0034	0.0008	0.0005
Acid Soluble Copper, ICP		221.30	16	0.0030	0.0006	0.0002	15	0.0029	0.0004	0.0002
Acid Soluble Copper, Other		221.99	1	0.0025	0.0004	0.0005	1	0.0025	0.0004	0.0005
Method Group 221.XX PCT			23	0.0031	0.0007	0.0003	21	0.0029	0.0004	0.0002
Acid Soluble Iron, Atomic Absorption ..	980.01	241.00	1	0.41	0.00	0.01	1	0.41	0.00	0.01
Acid Soluble Iron, ICP		241.30	19	0.39	0.04	0.01	19	0.39	0.04	0.01
Method Group 241.XX PCT			20	0.39	0.04	0.01	19	0.39	0.04	0.01
Lead, Atomic Absorption		251.00	1	4.50	0.71	1.00	1	4.50	0.71	1.00
Lead, ICP		251.30	7	5.88	1.91	1.53	7	5.88	1.91	1.53
Method Group 251.XX PPM			8	5.70	1.85	1.46	8	5.70	1.85	1.46
Acid Soluble Manganese, AA	972.02a	261.00	11	1.420	0.096	0.027	10	1.411	0.096	0.021
Acid Soluble Manganese, AA	972.02b	261.11	3	1.448	0.036	0.021	3	1.448	0.036	0.021
Acid Soluble Manganese, ICP	972.02a	261.30	28	1.431	0.099	0.049	28	1.431	0.099	0.049
Acid Soluble Manganese, ICP	972.02b	261.31	1	1.495	0.001	0.002	1	1.495	0.001	0.002
Acid Soluble Manganese, Other		261.99	4	1.415	0.084	0.056	4	1.415	0.084	0.056
Method Group 261.XX PCT			47	1.429	0.093	0.042	47	1.429	0.093	0.042
Molybdenum, ICP		289.30	11	10.14	1.25	0.50	10	10.07	1.25	0.34
Nickel, Atomic Absorption		291.00	1	71.50	2.12	3.00	1	71.50	2.12	3.00
Nickel, ICP		291.30	7	64.91	4.93	2.72	7	64.91	4.93	2.72
Method Group 291.XX PPM			8	65.74	5.14	2.75	8	65.74	5.14	2.75
Selenium, ICP		301.30	4	5.38	2.37	1.15	4	5.38	2.37	1.15
Selenium, Other		301.99	1	0.32	0.02	0.02	1	0.32	0.02	0.02
Method Group 301.XX PPM			5	4.36	2.98	0.92	5	4.36	2.98	0.92
Sodium, Other		311.99	9	0.80	0.05	0.02	8	0.79	0.03	0.01
Acid Soluble Zinc, Atomic Absorption ..	975.02	321.00	14	0.253	0.012	0.011	13	0.253	0.011	0.009
Acid Soluble Zinc, ICP		321.30	30	0.254	0.018	0.009	28	0.253	0.017	0.007
Acid Soluble Zinc, Other		321.99	4	0.260	0.011	0.014	4	0.260	0.011	0.014
Method Group 321.XX PCT			48	0.254	0.016	0.010	46	0.254	0.016	0.009
Water Soluble Zinc, Atomic Absorption .		325.00	1	0.290	0.000	0.000	1	0.290	0.000	0.000

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 001.10 PCT			Meth: 001.XX PCT			Meth: 010.11 PCT			Meth: 010.60 PCT			Meth: 010.60 PCT		
<u>Ammoniacal Nitrogen</u>			<u>Ammoniacal Nitrogen</u>			<u>Total Nitrogen</u>			<u>Total Nitrogen</u>			<u>Total Nitrogen</u>		
<u>MgO Distillation</u>						<u>Modified Comprehensi</u>			<u>Combustion</u>			<u>Combustion</u>		
288	3.02	1.37	444	2.97	.30	029	3.00	.19	422	3.15	.87	049	2.99	-1.14
029	2.98	1.05	416	2.95	.06	Avg	2.98		234	3.14	.83	023	3.07 R	-1.22
444	2.97	.74	371	2.95	.06	322	2.98	-.10	041	3.14	.79	055	2.95	-1.60
416	2.95	.46	Avg	2.94		415	2.87	-1.75	096	3.12	.66	233	2.96 R	-1.71
Avg	2.91		096	2.94	-.11				434	3.10	.60	073	2.90 R	-2.43
324	2.86	-.70	420	2.92	-.34	Meth: 010.12 PCT			360	3.12	.52	007	2.85	-2.82
415	2.85	-.73	324	2.86	-.92	<u>Total Nitrogen</u>			057	3.10	.39	428	2.81 s	-3.66
389	2.86	-.83	415	2.85	-.96	<u>Salicylic</u>			292	3.11	.37	426	2.77 A	-3.74
309	2.80	-1.43	389	2.86	-.99	137	3.50 S	5.72	423	3.09	.33	325	2.75 s	-4.02
Meth: 001.99 PCT			434	2.86	-1.02	254	3.05	.86	131	3.09	.22	034	2.70 s	-4.58
<u>Ammoniacal Nitrogen</u>			027	2.81	-1.43	Avg	2.97		247	3.09	.22	Meth: 010.99 PCT		
<u>Other</u>			309	2.80	-1.54	434	2.89	-.87	042	3.09	.22	<u>Total Nitrogen</u>		
402	3.13	1.68	354	2.81 R	-1.75	Meth: 010.16 PCT			406	3.08	.14	<u>Other</u>		
430	3.09	1.27	Meth: 005.00 PCT			<u>Total Nitrogen</u>			231	3.09	.13	354	3.36	1.57
247	2.98	.85	Nitrogen From Urea			<u>Raney</u>			Avg	3.08		Avg	3.06	
255	3.00	.50	<u>Urease (as N)</u>			434	3.12	.71	296	3.08	-.06	300	3.00 X	-.36
423	3.01	.48	288	0.16	-.71	Meth: 010.17 PCT			040	3.07	-.22	420	2.99	-.47
300	2.99 X	.22	Meth: 009.10 PCT			<u>Total Nitrogen</u>			291	3.06	-.25	072	2.91	-.84
Avg	2.97		Ammon & Nitrate N			<u>Comprehensive</u>			389	3.08	-.31	Meth: 010.XX PCT		
371	2.95	-.26	<u>Devarda</u>			211	3.10	.71	024	3.05	-.31	<u>Total Nitrogen</u>		
096	2.94	-.32	200	3.24	.86	Meth: 010.60 PCT			232	3.05	-.37	390	3.74 s	7.93
420	2.92	-.59	Avg	3.18		<u>Total Nitrogen</u>			442	3.08	-.43	309	3.53 s	5.50
434	2.86	-1.25	090	3.13	-.87	<u>Combustion</u>			106	3.04	-.56	361	3.50 s	5.14
027	2.81	-1.66	Meth: 010.10 PCT			390	3.74 s	8.11	251	3.03	-.62	137	3.50 s	5.14
354	2.81 R	-1.93	<u>Total Nitrogen</u>			361	3.50 s	5.19	324	3.03	-.64	157	3.38 s	4.18
Meth: 001.XX PCT			<u>Reduced Iron</u>			157	3.38 s	4.20	377	3.03	-.66	354	3.36 A	3.56
<u>Ammoniacal Nitrogen</u>			255	3.10	-.71	369	3.31	2.83	022	3.02	-.72	369	3.31	2.89
402	3.13	2.02	Meth: 010.11 PCT			102	3.22	1.72	351	3.02	-.73	102	3.22	1.82
430	3.09	1.61	<u>Total Nitrogen</u>			262	3.22	1.71	425	3.01	-.80	262	3.22	1.81
247	2.98 R	.96	<u>Modified Comprehensi</u>			072	3.19	1.35	136	3.01	-.81	072	3.19	1.47
288	3.02	.79	309	3.53 S	8.56	029	3.16	1.34	307	3.02	-.83	025	3.19	1.46
423	3.01	.77	288	3.05 R	1.08	025	3.19	1.34	177	3.01	-.92	029	3.16	1.43
255	3.00	.74	114	3.05	1.03	043	3.14	1.00	028	3.03	-.92	023	3.07 R	1.17
029	2.98	.60	105	3.02	.56	027	3.15	.92	330	3.00	-.92	043	3.14	1.10
300	2.99 X	.52	* X=Excluded from lab performance			S/s=Screened Outlier			009	3.01	-.93	027	3.15	1.06
									035	3.00	-.99	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: 010.XX PCT			Meth: 020.20 PCT			Meth: 020.50 PCT			Meth: 020.XX PCT		
<u>Total Nitrogen</u>			<u>Total Nitrogen</u>			<u>Total Phosphate Spectrometric</u>			<u>Total Phosphate ICP</u>			<u>Total Phosphate</u>		
422	3.15	1.02	307	3.02	-.66	420	7.63	1.93	Avg	7.40		247	7.32	-.18
234	3.14	.97	330	3.00	-.70	292	7.51	1.05	389	7.29	-.56	231	7.34	-.28
041	3.14	.94	177	3.01	-.72	324	7.50	.97	432	7.32	-.59	363	7.29	-.40
096	3.12	.79	009	3.01	-.75	425	7.45	.70	423	7.28	-.62	389	7.29	-.40
434	3.12	.74	029	3.00	-.76	406	7.46	.68	255	7.17	-.99	035	7.28	-.45
360	3.12	.67	300	3.00 X	-.78	232	7.46	.67	422	7.05	-1.36	105	7.28	-.48
434	3.10	.67	035	3.00	-.78	371	7.39	.43				423	7.28	-.49
292	3.11	.53	028	3.03	-.78	369	7.39	.43	Meth: 020.99 PCT			416	7.25	-.59
255	3.10	.50	322	2.98	-.89	234	7.42	.39	<u>Total Phosphate</u>			432	7.32 R	-.64
057	3.10	.50	049	2.99	-.92	Avg	7.37		<u>Other</u>			200	7.22	-.78
442	3.08	.45	420	2.99	-1.02	288	7.34	-.34	402	7.06	.71	255	7.21	-.82
211	3.10	.42	055	2.95	-1.36	231	7.34	-.45	Avg	7.06		095	7.21	-.82
423	3.09	.41	233	2.96 R	-1.50	363	7.29	-.68	037	3.11 S	-79.80	309	7.20	-.87
042	3.09	.37	072	2.91	-1.84	416	7.25	-.93	Meth: 020.XX PCT			255	7.17	-1.13
247	3.09	.37	434	2.89	-1.99	200	7.22	-1.18	<u>Total Phosphate</u>			428	7.14	-1.19
131	3.09	.34	073	2.90 R	-2.16	309	7.20	-1.31	307	7.99 s	3.67	157	7.16 R	-1.34
389	3.08	.34	415	2.87	-2.19	428	7.14	-1.74	426	7.84	2.75	444	7.11	-1.40
231	3.09	.30	007	2.85	-2.52	442	6.82 s	-4.42	330	7.65 s	2.41	402	7.06	-1.71
406	3.08	.26	428	2.81 s	-3.34	Meth: 020.40 PCT			361	7.73	2.13	422	7.05	-1.75
296	3.08	.19	426	2.77 A	-3.40	<u>Total Phosphate</u>			420	7.63	1.57	442	6.82 s	-3.21
040	3.07	.19	325	2.75 s	-3.66	<u>Automated</u>			390	7.46	.70	037	3.11 s	-24.26
Avg	3.06		034	2.70 s	-4.20	096	7.34	.91	292	7.51	.90	Meth: 030.10 PCT		
291	3.06	-.08	Meth: 020.10 PCT			247	7.32	.65	324	7.50	.84	Insoluble Phosphate		
024	3.05	-.11	<u>Total Phosphate</u>			Avg	7.31		090	7.49	.83	<u>Grav Quimociac</u>		
254	3.05	-.11	<u>Grav Quimociac</u>			035	7.28	-.87	444	7.47	.65	090 0.00 .00		
114	3.05	-.11	090	7.49	1.27	105	7.28	-1.22	425	7.45	.62	Meth: 030.40 PCT		
232	3.05	-.18	105	7.46	.99	Meth: 020.50 PCT			406	7.46	.62	Insoluble Phosphate		
288	3.05	-.26	114	7.38	.45	<u>Total Phosphate</u>			232	7.46	.61	<u>Automated</u>		
095	3.04	-.34	Avg	7.31		<u>ICP</u>			105	7.46	.58	096 0.06 .71		
251	3.03	-.41	255	7.21	-.66	307	7.99 S	1.79	234	7.42	.40	Meth: 030.99 PCT		
106	3.04	-.42	095	7.21	-.68	426	7.84	1.25	369	7.39	.36	Insoluble Phosphate		
324	3.03	-.44	157	7.16 R	-1.33	330	7.65 S	1.19	371	7.39	.36	<u>Other</u>		
105	3.02	-.46	444	7.11	-1.35	361	7.73	.89	114	7.38	.13	247 0.09 .00		
377	3.03	-.49				390	7.46	.20	Avg	7.35				
351	3.02	-.51				444	7.47	.06	096	7.34	-.07			
022	3.02	-.52							288	7.34	-.18			
425	3.01	-.58												
136	3.01	-.59												

* 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: 030.XX PCT			Meth: 041.10 PCT			Meth: 041.40 PCT			Meth: 041.99 PCT			Meth: 041.XX PCT		
<u>Insoluble Phosphate</u>			Dir Available Phosph			Dir Available Phosph			Dir Available Phosph			<u>Dir Available Phosph</u>		
247	0.09	1.02	<u>Grav Quimociac</u>			<u>Automated</u>			<u>Other</u>			009	7.29	.13
096	0.06	.20	022	7.47	1.68	072	6.75	-.65	105	7.46	.71	102	7.28	.07
Avg	0.05		105	7.44	1.27	025	6.63 S	-1.08	Meth: 041.XX PCT			131	7.28	.05
090	0.00	-1.19	211	7.41	.92	Meth: 041.50 PCT			<u>Dir Available Phosph</u>			291	7.27	.01
Meth: 040.10 PCT			260	7.36	.80	Dir Available Phosph			322	8.27 s	5.52	Avg	7.27	
InDir Available Phos			055	7.38	.79	<u>ICP</u>			251	7.82 s	3.06	136	7.27	-.03
<u>Grav Quim</u>			434	7.39	.75	007	7.66	1.79	007	7.66	2.17	049	7.26	-.07
090	7.49	.71	137	7.33	.35	360	7.55	1.29	360	7.55	1.57	037	7.27	-.14
Meth: 040.40 PCT			Avg	7.33		009	7.37	.50	233	7.47	1.15	041	7.22	-.27
InDir Available Phos			029	7.32	-.18	043	7.30	.45	022	7.47	1.12	106	7.22	-.27
<u>Automated</u>			072	7.31	-.30	Avg	7.28		363	7.40 R	1.11	022	7.23	-.35
096	7.29	.71	296	7.33	-.41	291	7.27	-.03	055	7.43 R	1.08	034	7.21	-.36
Meth: 040.50 PCT			177	7.29	-.49	377	7.27	-.23	105	7.46	1.08	029	7.20	-.41
InDir Available Phos			009	7.29	-.51	022	7.23	-.32	105	7.44	.92	254	7.14	-.74
<u>ICP</u>			102	7.28	-.53	361	7.10	-.85	211	7.41	.76	361	7.10	-.97
423	7.01	.71	131	7.28	-.59	023	7.07	-.98	177	7.39	.67	023	7.07	-1.12
Meth: 040.99 PCT			136	7.27	-.71	325	6.95	-1.53	434	7.39	.66	351	6.99	-1.52
InDir Available Phos			049	7.26	-.78	354	6.78 S	-2.52	055	7.38	.66	325	6.95	-1.77
<u>Other</u>			041	7.22	-1.24	Meth: 041.60 PCT			009	7.37	.63	262	6.90	-2.03
247	7.23	.71	254	7.14	-2.23	Dir Available Phosph			288	7.38	.61	415	6.90	-2.05
Meth: 040.XX PCT			Meth: 041.20 PCT			<u>EDTA Extract</u>			260	7.36	.61	027	6.79	-2.64
InDir Available Phos			Dir Available Phosph			251	7.82 s	7.45	043	7.37	.58	072	6.75	-2.85
090	7.49	1.29	<u>Spectrometric</u>			177	7.39	1.11	043	7.30	.55	354	6.78 s	-2.96
096	7.29	.17	055	7.43	1.01	288	7.38	.95	105	7.32	.54	025	6.63 s	-3.54
Avg	7.25		363	7.40	.97	028	7.32	.88	057	7.35	.48	Meth: 048.20 PCT		
247	7.23	-.13	Avg	7.16		043	7.37	.86	024	7.36	.48	Water Soluble Phosph		
423	7.01	-1.34	262	6.90	-.87	057	7.35	.67	028	7.32	.44	<u>Spectrometric</u>		
Meth: 041.10 PCT			415	6.90	-.88	024	7.36	.59	137	7.33	.38	420	6.57	1.28
Dir Available Phosph			Meth: 041.40 PCT			296	7.33	.16	296	7.33	.37	Avg	5.73	
<u>Grav Quimociac</u>			Dir Available Phosph			Avg	7.32		131	7.33	.36	096	5.37	-.55
322	8.27 s	10.98	<u>Automated</u>			073	7.29	-.47	029	7.32	.33	363	5.24	-.75
233	7.47	1.78	131	7.33	1.35	037	7.27	-.82	296	7.33	.32	Meth: 050.00 PCT		
* X=Excluded from lab performance			029	7.20	.90	105	7.32	-1.25	377	7.27	.28	Soluble Potash		
			Avg	7.02		106	7.22	-1.41	040	7.31	.24	<u>STPB Oxalate</u>		
			027	6.79	-.53	034	7.21	-1.61	072	7.31	.22	072	30.25 s	8.31
			S/s=Screened Outlier			351	6.99 s	-4.74	177	7.29	.21	102	28.74 s	3.88
							R=Duplicate Range too large		073	7.29	.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: 050.00 PCT			Meth: 050.31 PCT			Meth: 050.60 PCT			Meth: 050.99 PCT			Meth: 050.XX PCT		
<u>STPB Oxalate</u>			<u>AA (Citrate)</u>			<u>Flame (Oxalate)</u>			<u>Other</u>			<u>Soluble Potash</u>		
416	27.95	1.48	254	27.15	.71	415	28.03	.34	325	26.80	-1.38	211	27.76	.33
211	27.76	.91				Avg	27.95		260	26.43	-1.94	037	27.75	.33
090	27.72	.85	Meth: 050.50 PCT			131	27.87	-.25	390	26.60 R	-2.01	090	27.72	.31
233	27.72	.81	<u>Soluble Potash</u>			105	27.42	-1.15	402	24.88 S	-4.43	233	27.72	.28
095	27.59	.43	<u>ICP (Oxalate)</u>			200	27.35	-1.26	234	9.91 s	-28.40	377	27.72	.28
114	27.50	.24	324	28.80	1.50							106	27.69	.24
Avg	27.45		422	28.05	.74	Meth: 050.61 PCT			Meth: 050.XX PCT			247	27.68	.22
029	27.41	-.11	106	27.69	.37	<u>Soluble Potash</u>			<u>Soluble Potash</u>			040	27.57	.19
231	27.40	-.17	Avg	27.32		<u>Flame (Citrate)</u>			442	30.86 s	5.29	136	27.65	.19
055	27.44	-.21	426	26.85	-.48	025	29.22 s	5.52	072	30.25 s	4.32	428	27.61	.14
296	27.30	-.44	444	26.46	-.89	041	28.12	1.73	432	29.31 s	2.86	095	27.59	.09
049	27.27	-.54	420	26.11	-1.24	057	27.91	1.01	369	28.90 s	2.67	029	27.55	.08
043	27.21	-.72	292	26.61 S	-1.66	037	27.75	.47	025	29.22	2.66	Avg	27.54	
009	26.58	-2.60	307	25.72 S	-1.84	Avg	27.62		309	28.80	2.00	024	27.53	-.03
						029	27.55	-.29	324	28.80	1.99	105	27.53	-.04
Meth: 050.10 PCT			Meth: 050.51 PCT			024	27.53	-.32	102	28.74	1.94	114	27.50	-.13
<u>Soluble Potash</u>			<u>Soluble Potash</u>			034	27.46	-.58	022	27.97 R	1.63	034	27.46	-.16
<u>STPB Citrate</u>			<u>ICP (Citrate)</u>			035	27.40	-.97	072	28.50	1.57	055	27.44	-.20
322	27.92	.80	022	27.97 s	3.08	105	27.23	-1.35	255	28.44	1.43	027	27.46	-.21
Avg	27.33		291	27.90	1.36				360	28.19	1.04	029	27.41	-.21
444	26.75	-.92	007	27.60	1.10	Meth: 050.99 PCT			406	28.12	.91	231	27.40	-.24
			023	27.48	.94	<u>Soluble Potash</u>			041	28.12	.91	105	27.42	-.30
Meth: 050.30 PCT			377	27.72	.78	<u>Other</u>			055	28.10	.89	035	27.40	-.37
<u>Soluble Potash</u>			389	27.55	.78	432	29.31 S	2.74	415	28.03	.81	296	27.30	-.39
<u>AA (Oxalate)</u>			Avg	27.45		072	28.50	1.44	422	28.05	.80	043	27.30	-.42
442	30.86 S	8.75	043	27.30	-.52	255	28.44	1.30	434	28.04	.79	049	27.27	-.45
369	28.90 S	4.57	009	27.34	-.81	360	28.19	.90	177	28.00	.73	105	27.23	-.51
137	27.81	1.15	423	27.14	-.92	434	28.04	.65	354	27.99	.71	009	27.34	-.53
136	27.65	.77	361	27.02	-1.24	177	28.00	.59	416	27.95	.64	023	27.48	-.53
428	27.61	.67	251	25.65 s	-5.20	354	27.99	.57	291	27.90	.61	043	27.21	-.54
040	27.57	.63				330	27.78	.43	322	27.92	.60	232	27.16	-.62
Avg	27.35		Meth: 050.60 PCT			247	27.68	.08	057	27.91	.58	254	27.15	-.63
351	27.06	-.71	<u>Soluble Potash</u>			Avg	27.64		007	27.60 R	.56	423	27.14	-.66
157	26.87	-1.25	<u>Flame (Oxalate)</u>			105	27.53	-.18	131	27.87	.53	351	27.06	-.77
262	26.85	-1.29	309	28.80	1.77	027	27.46	-.33	330	27.78	.52	361	27.02	-.84
425	24.78 S	-6.37	406	28.12	.36	232	27.16	-.77	137	27.81	.42	131	26.95	-.95
			055	28.10	.36	131	26.95	-1.11	389	27.55	.40	157	26.87	-1.11

* X=Excluded from lab performance S/s=Screened Outlier R=Duplicate Range too large A=Analysis beyond 3-s limits

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 050.XX PCT			Meth: 101.30 PCT			Meth: 101.XX PCT			Meth: 121.XX PCT					
<u>Soluble Potash</u>			Acid Soluble Calcium			<u>Acid Soluble Calcium</u>			Acid Soluble Magnesi			<u>Acid Soluble Magnesi</u>		
426	26.85	-1.11	<u>ICP</u>			232	2.56	-.74	<u>ICP</u>			330	5.05 s	13.85
262	26.85	-1.13	390	2.90	.94	433	2.53	-.90	360	3.12	.54	291	3.75 s	4.81
325	26.80	-1.23	027	2.83	.54	057	2.49	-1.17	423	3.14	.52	422	3.43	2.66
444	26.75	-1.38	324	2.83	.54	307	2.44	-1.36	233	3.12	.45	041	3.31	1.81
009	26.58	-1.55	096	2.74	.20	065	2.32	-1.90	037	3.09	.28	426	3.25	1.43
444	26.46	-1.74	102	2.73	.10				354	3.07	.15	057	3.24	1.31
260	26.43	-1.77	Avg	2.71		Meth: 121.00 PCT			255	3.07	.10	027	3.23	1.30
390	26.60 R	-1.87	106	2.70	-.09	Acid Soluble Magnesi			023	3.06	.03	434	3.16 R	1.23
420	26.11	-2.29	009	2.67	-.23	<u>AA</u>			Avg	3.06		390	3.19	1.06
292	26.61 s	-2.77	420	2.67	-.24	434	3.16	1.81	251	3.06	-.03	432	3.18	.92
251	25.65	-3.01	035	2.65	-.43	309	3.15	1.17	433	3.05	-.08	102	3.17	.84
307	25.72 s	-3.19	131	2.62	-.47	028	3.15	1.06	288	3.05	-.17	309	3.15	.78
402	24.88 s	-4.25	423	2.59	-.73	177	3.07	.22	096	3.03	-.20	028	3.15	.71
425	24.78 s	-4.40	232	2.56	-.74	043	3.06	.18	131	3.02	-.24	415	3.14	.64
234	9.91 s	-28.04	433	2.53	-.90	029	3.05	.06	009	3.02	-.35	360	3.12	.64
			057	2.49	-1.17	Avg	3.04		420	3.00	-.48	423	3.14	.63
Meth: 060.00 PCT			307	2.44	-1.36	137	3.04	-.40	389	2.95	-.74	233	3.12	.54
Free Water			065	2.32	-1.90	351	2.99	-.59	232	2.93	-.82	037	3.09	.35
<u>Vacuum Oven</u>						095	3.03	-.67	106	2.93	-.82	354	3.07	.19
105	1.03	1.37	Meth: 101.XX PCT			040	2.99	-.75	247	2.97	-.83	255	3.07	.16
096	0.86	.57	<u>Acid Soluble Calcium</u>			105	2.96	-.81	324	2.91	-.96	177	3.07	.12
363	0.77	.19	255	3.08	1.77	200	2.91	-1.86	444	2.88	-1.16	043	3.06	.11
Avg	0.73		422	3.05	1.66	425	2.56 s	-4.89	035	2.85	-1.38	433	3.05	.09
416	0.52	-.94	105	2.89 R	1.27	055	2.53 s	-5.18	065	2.80	-1.63	023	3.06	.09
007	0.47	-1.17	288	2.95	1.19	Meth: 121.30 PCT			307	2.69	-2.35	251	3.06	.05
			041	2.95	1.18	Acid Soluble Magnesi						029	3.05	.01
Meth: 101.00 PCT			390	2.90	.94	<u>ICP</u>			Meth: 121.70 PCT			Avg	3.05	
Acid Soluble Calcium			027	2.83	.54	330	5.05 s	12.54	Acid Soluble Magnesi			096	3.03	-.17
<u>AA</u>			324	2.83	.54	291	3.75 s	4.32	<u>Titrimetric</u>			288	3.05	-.17
105	2.89	.71	096	2.74	.20	422	3.43	2.36	415	3.14	.71	131	3.02	-.21
			102	2.73	.10	041	3.31	1.60	Meth: 121.99 PCT			137	3.04	-.28
Meth: 101.30 PCT			Avg	2.71		426	3.25	1.25	Acid Soluble Magnesi			009	3.02	-.36
Acid Soluble Calcium			106	2.70	-.09	057	3.24	1.14	<u>Other</u>			351	2.99	-.44
<u>ICP</u>			009	2.67	-.23	027	3.23	1.13	042	2.98	.94	095	3.03	-.48
255	3.08	1.77	420	2.67	-.24	390	3.19	.91	Avg	2.88		420	3.00	-.48
422	3.05	1.66	035	2.65	-.43	432	3.18	.78	022	2.79	-.78	040	2.99	-.55
288	2.95	1.19	131	2.62	-.47	102	3.17	.71				105	2.96	-.59
041	2.95	1.18	423	2.59	-.73							042	2.98	-.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: 121.XX PCT			Meth: 144.01 PCT			Meth: 144.99 PCT			Meth: 144.XX PCT			Meth: 151.30 PPM		
<u>Acid Soluble Magnesi</u>			Sulfur			Sulfur			<u>Sulfur</u>			Arsenic		
389	2.95	-.76	<u>Gravimetric</u>			<u>Other</u>			102	8.78	.29	<u>ICP</u>		
232	2.93	-.84	251	9.07	1.86	009	8.58	.33	136	8.78	.28	065	11.40	-.66
106	2.93	-.85	288	8.97	1.12	423	8.48	.20	233	8.77	.25	232	11.40	-.83
247	2.97	-.87	055	8.94	.85	096	8.48	.06	Avg	8.67		009	11.20	-.87
324	2.91	-.99	137	8.91	.47	023	8.47	.05	029	8.66	-.05	Meth: 151.XX PPM		
444	2.88	-1.22	043	8.91	.43	Avg	8.47		035	8.61	-.20	<u>Arsenic</u>		
200	2.91 R	-1.32	095	8.90	.40	351	8.35	-.33	027	8.59	-.21	037	21.89 s	6.76
035	2.85	-1.46	324	8.90	.40	291	8.29	-.50	009	8.58	-.27	106	15.50	2.28
065	2.80	-1.74	057	8.90	.38	307	8.26	-.56	096	8.48	-.53	233	12.39	.36
022	2.79	-1.83	105	8.85	.27	422	8.08	-1.04	023	8.47	-.55	102	12.55	.27
307	2.69	-2.53	Avg	8.84		232	8.07	-1.09	444	8.47	-.57	Avg	12.29	
425	2.56 s	-3.42	040	8.82	-.34	131	8.01	-1.22	423	8.48	-.57	096	12.15	-.11
055	2.53 s	-3.62	029	8.79	-.39	247	8.00	-1.25	434	8.45	-.60	136	11.75	-.42
Meth: 131.00 PCT			102	8.78	-.41	255	7.94	-1.44	351	8.35	-.88	065	11.40	-.65
Water Soluble Magnes			233	8.77	-.50	Meth: 144.XX PCT			291	8.29	-1.05	232	11.40	-.84
<u>AA</u>			296	8.79	-.68	<u>Sulfur</u>			307	8.26	-1.12	009	11.20	-.88
029	2.91	-.71	200	8.70	-1.36	262	9.54	2.34	422	8.08	-1.60	200	1.00 s	-7.94
Meth: 131.30 PCT			444	8.47	-2.48	360	9.41	1.98	232	8.07	-1.64	Meth: 165.00 PCT		
Water Soluble Magnes			Meth: 144.02 PCT			028	9.32	1.75	131	8.01	-1.78	Acid Soluble Boron		
<u>ICP</u>			Sulfur			251	9.07 R	1.16	247	8.00	-1.82	<u>Spectrometric</u>		
027	2.59	.80	<u>Gravimetric</u>			288	8.97	.85	255	7.94	-2.00	105	0.254	1.20
Avg	2.43		136	8.78	.99	055	8.94	.75	Meth: 151.00 PPM			137	0.250	.92
432	2.27	-.93	029	8.66	.26	390	8.91	.73	Arsenic			023	0.235	.04
Meth: 131.XX PCT			Avg	8.63		137	8.91	.64	<u>Atomic Absorption</u>			Avg	0.234	
Water Soluble Magnes			434	8.45	-1.21	043	8.91	.63	136	11.75	.71	029	0.232	-.20
029	2.91	1.09	Meth: 144.99 PCT			095	8.90	.61	Avg	11.75		296	0.230	-.62
027	2.59	.03	Sulfur			324	8.90	.60	200	1.00 S	-30.41	200	0.230	-1.17
Avg	2.59		<u>Other</u>			057	8.90	.60	Meth: 151.30 PPM			055	0.208	-1.56
432	2.27	-1.14	360	9.41	2.49	354	8.84	.50	Arsenic			428	0.132 S	-5.84
Meth: 144.01 PCT			105	8.85	.49	105	8.85	.49	<u>ICP</u>			262	0.050 S	-10.53
Sulfur			390	8.91 R	1.22	330	8.85	.48	037	21.89 s	6.33	Meth: 165.99 PCT		
<u>Gravimetric</u>			330	8.85	1.01	177	8.84	.46	106	15.50	2.10	Acid Soluble Boron		
262	9.54 s	4.63	354	8.84	1.01	200	8.70 R	.41	233	12.39	.34	<u>Other</u>		
028	9.32 s	3.20	389	8.80	.88	040	8.82	.40	102	12.55	.23	255	0.258	1.72
* X=Excluded from lab performance			035	8.61	.36	296	8.79	.40	Avg	12.37		360	0.253	1.46
S/s=Screened Outlier			027	8.59	.33	389	8.80	.34	096	12.15	-.15	A=Analysis beyond 3-s limits		
R=Duplicate Range too large			Meth: 144.99 PCT			029	8.79	.32	Meth: 151.30 PPM			Meth: 165.99 PCT		
A=Analysis beyond 3-s limits			Sulfur			Other			Arsenic			Acid Soluble Boron		

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 165.99 PCT			Meth: 165.XX PCT			Meth: 181.30 PPM			Meth: 190.00 PCT			Meth: 191.30 PPM		
<u>Acid Soluble Boron</u>			<u>Acid Soluble Boron</u>			<u>Cadmium</u>			<u>Water Soluble Chlori</u>			<u>Chromium</u>		
<u>Other</u>			<u>ICP</u>			<u>Titrimetric</u>			<u>ICP</u>					
288	0.244	1.03	354	0.225	.17	096	3.10	1.86	Avg	17.67		390	171.00	1.53
426	0.230 R	1.02	Avg	0.224		035	2.81	1.23	102	17.59	-.19	009	161.20	.93
433	0.231	.42	009	0.219	-.22	009	2.50	.55	057	17.45	-.52	035	161.00	.92
423	0.230	.41	291	0.215	-.46	106	2.40	.27	029	17.40	-.57	106	149.50	.40
251	0.230	.40	055	0.208	-.80	324	2.40	.27	043	17.36	-.67	037	146.72	.12
324	0.230	.40	307	0.206	-.83	Avg	2.28		444	17.37	-.73	Avg	146.08	
106	0.230	.40	232	0.201	-1.04	037	2.14	-.33	055	17.34	-.74	102	139.40	-.42
231	0.228	.31	043	0.200	-1.12	102	2.02	-.58	422	17.07	-1.28	232	135.00	-.69
354	0.225	.22	432	0.195	-1.50	390	1.86	-.98	Meth: 190.99 PCT			324	133.00	-.81
Avg	0.221		444	0.186	-1.74	065	1.82	-1.07	<u>Water Soluble Chlori</u>			065	117.90	-1.73
009	0.219	-.13	422	0.180	-2.07	232	1.75	-1.25	<u>Other</u>			Meth: 202.00 PPM		
291	0.215	-.38	428	0.132 s	-4.24	Meth: 181.XX PPM			423	18.77	.86	<u>Acid Soluble Cobalt</u>		
307	0.206	-.73	262	0.050 s	-8.04	<u>Cadmium</u>			Avg	18.13		<u>AA</u>		
232	0.201	-.95	Meth: 171.10 PCT			096	3.10	1.70	009	17.67	-.63	434	62.15	.91
043	0.200	-1.03	<u>Water Soluble Boron</u>			200	3.00	1.48	288	17.95	-1.17	Avg	60.58	
432	0.195 R	-1.42	<u>Spectrometric</u>			035	2.81	1.10	Meth: 190.XX PCT			136	59.00	-.82
444	0.186	-1.66	296	0.195	.71	009	2.50	.46	<u>Water Soluble Chlori</u>			Meth: 202.30 PPM		
422	0.180	-1.99	Meth: 171.99 PCT			106	2.40	.19	423	18.77	2.00	<u>Acid Soluble Cobalt</u>		
Meth: 165.XX PCT			<u>Water Soluble Boron</u>			324	2.40	.19	251	18.75	1.96	<u>ICP</u>		
<u>Acid Soluble Boron</u>			<u>Other</u>			Avg	2.31		288	17.95 R	1.71	009	64.55	1.48
255	0.258	1.60	027	0.216	.71	037	2.14	-.38	027	18.35	1.17	390	57.05	.81
105	0.254	1.43	Meth: 171.XX PCT			102	2.02	-.63	023	17.78	.64	035	55.75	.70
360	0.253	1.35	<u>Water Soluble Boron</u>			136	1.95	-.79	040	17.85	.37	037	54.00	.54
137	0.250	1.22	027	0.216	.82	390	1.86	-1.00	105	17.75	.08	057	51.79	.35
200	0.230 R	.97	Avg	0.205		065	1.82	-1.09	296	17.77	.03	Avg	47.94	
426	0.230 R	.97	296	0.195	-.91	232	1.75	-1.25	Avg	17.75		232	44.50	-.33
288	0.244	.92	Meth: 181.00 PPM			Meth: 190.00 PCT			009	17.67	-.24	106	38.50	-.84
296	0.230	.55	<u>Cadmium</u>			<u>Water Soluble Chlori</u>			102	17.59	-.32	102	35.13	-1.16
023	0.235	.50	<u>Atomic Absorption</u>			<u>Titrimetric</u>			057	17.45	-.62	065	31.71 R	-1.50
029	0.232	.41	200	3.00	.86	251	18.75	2.30	029	17.40	-.68	324	30.15	-1.60
433	0.231	.32	Avg	2.48		027	18.35	1.44	043	17.36	-.77	Meth: 202.XX PPM		
423	0.230	.31	136	1.95	-.87	023	17.78 R	.73	444	17.37	-.81	<u>Acid Soluble Cobalt</u>		
106	0.230	.30	Meth: 190.00 PCT			040	17.85	.51	055	17.34	-.84	009	64.55	1.27
324	0.230	.30	<u>Water Soluble Chlori</u>			296	17.77	.20	422	17.07	-1.33	434	62.15	1.06
251	0.230	.30	<u>Titrimetric</u>			105	17.75	.19	A=Analysis beyond 3-s limits					
231	0.228	.21												
* 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: 202.XX PPM			Meth: 221.30 PCT			Meth: 221.XX PCT			Meth: 241.XX PCT			Meth: 251.XX PPM		
<u>Acid Soluble Cobalt</u>			<u>Acid Soluble Copper</u>			<u>Acid Soluble Copper</u>			<u>Acid Soluble Iron</u>			<u>Lead</u>		
136	59.00	.78	<u>ICP</u>			065	0.0027	-.63	422	0.45	1.66	324	8.30	1.71
390	57.05	.61	288	0.0028	-.54	106	0.0027	-.70	390	0.44	1.42	037	7.06	1.09
035	55.75	.49	433	0.0027	-.56	307	0.0026	-.79	106	0.42	.71	096	6.95	.67
037	54.00	.33	065	0.0027	-.60	105	0.0027	-1.02	255	0.41	.67	232	6.10	.63
057	51.79	.15	106	0.0027	-.69	324	0.0025	-1.10	105	0.41	.57	Avg	5.70	
Avg	50.23		307	0.0026	-.78	022	0.0025	-1.23	057	0.41	.50	102	4.63	-.58
232	44.50	-.53	324	0.0025	-1.10	389	0.0023	-1.43	102	0.41	.50	200	4.50	-.70
106	38.50	-1.04	389	0.0023	-1.46				096	0.41	.44	106	4.05	-.93
102	35.13	-1.36				Meth: 241.00 PCT			389	0.41	.44	065	4.04	-.93
065	31.71 R	-1.69	Meth: 221.99 PCT			Acid Soluble Iron			131	0.40	.40	Meth: 261.00 PCT		
324	30.15	-1.79	<u>Other</u>			<u>Atomic Absorption</u>			009	0.40	.40	Acid Soluble Mangane		
			402	0.0055 S	8.74	105	0.41	.71	288	0.39	.27	<u>AA</u>		
Meth: 221.00 PCT			022	0.0025	.71	Meth: 241.30 PCT			433	0.39	.06	137	1.520	1.15
Acid Soluble Copper			Avg	0.0025		Acid Soluble Iron			Avg	0.39		105	1.518	1.11
<u>Atomic Absorption</u>						<u>ICP</u>			035	0.38	-.39	262	1.505 R	1.08
029	0.0047	1.79	Meth: 221.XX PCT			422	0.45	1.70	232	0.35	-1.01	028	1.486	.80
043	0.0038	.56	<u>Acid Soluble Copper</u>			390	0.44	1.47	027	0.35	-1.14	351	1.465	.56
Avg	0.0034		041	1.0000 s	3168.33	106	0.42	.77	423	0.34	-1.21	Avg	1.411	
028	0.0033	-.29	354	0.0120 s	20.46	255	0.41	.73	307	0.35 R	-1.24	095	1.410	-.01
095	0.0031	-.36	402	0.0055 s	5.86	057	0.41	.57	041	0.33	-1.62	043	1.405	-.08
434	0.0028	-.83	029	0.0047 R	4.04	102	0.41	.57	065	0.31	-2.14	177	1.406	-.09
105	0.0027	-1.04	255	0.0045 R	3.68	096	0.41	.51	Meth: 251.00 PPM			425	1.400	-.12
Meth: 221.30 PCT			422	0.0040	2.38	389	0.41	.51	Lead			296	1.295	-1.22
Acid Soluble Copper			043	0.0038	1.95	131	0.40	.48	<u>Atomic Absorption</u>			055	1.210	-2.12
<u>ICP</u>			028	0.0033	.96	009	0.40	.46	200	4.50	.71	Meth: 261.11 PCT		
041	1.0000 s	3377.12	233	0.0033	.89	288	0.39	.28	Meth: 251.30 PPM			Acid Soluble Mangane		
354	0.0120 s	21.87	057	0.0031	.63	433	0.39	.12	Lead			<u>AA</u>		
255	0.0045 R	3.99	102	0.0032	.58	Avg	0.39		<u>ICP</u>			029	1.485	1.04
422	0.0040	2.61	035	0.0031	.37	035	0.38	-.29	324	8.30	1.58	Avg	1.448	
233	0.0033	1.02	095	0.0031	.36	232	0.35	-.89	037	7.06	.99	434	1.445	-.70
057	0.0031	.72	009	0.0030	.12	027	0.35	-1.03	232	6.10	.59	040	1.413	-.96
102	0.0032	.68	330	0.0030	.12	423	0.34	-1.09	096	6.95	.56	Meth: 261.30 PCT		
035	0.0031	.46	Avg	0.0029		307	0.35	-1.13	Avg	5.88		Acid Soluble Mangane		
009	0.0030	.18	232	0.0029	-.23	041	0.33	-1.49	102	4.63	-.65	<u>ICP</u>		
330	0.0030	.16	434	0.0028	-.54	065	0.31	-2.00	106	4.05	-.98	390	1.615	1.87
Avg	0.0029		288	0.0028	-.54				065	4.04	-.99	A=Analysis beyond 3-s limits		
232	0.0029	-.18	433	0.0027	-.59				* 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: 261.30 PCT			Meth: 261.99 PCT			Meth: 261.XX PCT			Meth: 291.00 PPM			Meth: 301.99 PPM		
Acid Soluble Manganese			Acid Soluble Manganese			<u>Acid Soluble Manganese</u>			Nickel			Selenium		
<u>ICP</u>			<u>Other</u>			425 1.400 - .32			<u>Atomic Absorption</u>			<u>Other</u>		
354	1.560	1.32	255	1.530	1.36	426	1.400	- .32	136	71.50	.71	296	0.32	.71
432	1.535	1.06	Avg	1.415		106	1.420	- .44	Meth: 291.30 PPM			Meth: 301.XX PPM		
330	1.505	.93	042	1.387	- .34	042	1.387	- .46	Nickel			<u>Selenium</u>		
035	1.523	.93	022	1.400	- .74	023	1.396	- .50	<u>ICP</u>			037 7.43 1.04		
009	1.508	.86	402	1.345	- .99	324	1.415	- .51	390	71.35	1.35	009	7.05	.91
102	1.514	.83	Meth: 261.XX PCT			037	1.390	- .53	035	66.70	.54	065	4.79 X	.50
422	1.506	.76	<u>Acid Soluble Manganese</u>			251	1.380	- .62	009	66.70	.54	Avg	4.36	
389	1.500	.70	390	1.615	2.01	131	1.417	- .69	106	66.00	.30	102	2.24	- .71
057	1.485	.57	354	1.560	1.42	022	1.400	- .72	102	66.32	.29	296	0.32	-1.36
433	1.479	.48	432	1.535	1.15	231	1.350	- .86	Avg	64.91		Meth: 311.99 PCT		
360	1.465	.43	255	1.530	1.08	402	1.345	-1.03	232	61.25	- .77	Sodium		
288	1.465	.43	035	1.523	1.01	291	1.320	-1.19	065	56.07	-1.82	<u>Other</u>		
233	1.450	.33	330	1.505	1.00	296	1.295	-1.45	Meth: 291.XX PPM			288	0.89 R	3.43
Avg	1.431		137	1.520	1.00	232	1.285	-1.56	Nickel			102	0.83	1.45
423	1.405	- .27	105	1.518	.95	444	1.285	-1.65	136	71.50	1.16	423	0.82	1.16
426	1.400	- .31	262	1.505	.94	041	1.267	-1.76	390	71.35	1.14	009	0.80	.46
106	1.420	- .42	009	1.508	.93	307	1.225	-2.28	009	66.70	.43	422	0.79	.06
324	1.415	- .48	102	1.514	.90	055	1.210	-2.38	035	66.70	.43	Avg	0.79	
023	1.396	- .48	422	1.506	.83	065	0.960 s	-5.04	106	66.00	.20	232	0.79	- .52
037	1.390	- .51	389	1.500	.76	Meth: 289.30 PPM			102	66.32	.13	035	0.77	- .76
251	1.380	- .60	027	1.495	.70	Molybdenum			Avg	65.74		307	0.76	-1.06
131	1.417	- .65	028	1.486	.64	<u>ICP</u>			232	61.25	- .89	057	0.75	-1.36
231	1.350	- .82	057	1.485	.62	390	15.10 s	4.05	065	56.07	-1.90	Meth: 321.00 PCT		
291	1.320	-1.14	029	1.485	.60	434	13.10	2.48	Meth: 301.30 PPM			Acid Soluble Zinc		
232	1.285	-1.48	433	1.479	.53	232	10.75 R	1.00	Selenium			<u>Atomic Absorption</u>		
444	1.285	-1.56	360	1.465	.47	009	10.70	.52	<u>ICP</u>			425	0.335 s	7.49
041	1.267	-1.67	288	1.465	.47	035	10.35	.22	037	7.43	.89	200	0.260 R	1.90
307	1.225	-2.15	351	1.465	.38	102	10.27	.17	009	7.05	.72	434	0.270	1.79
065	0.960 s	-4.75	233	1.450	.36	Avg	10.07		Avg	5.38		095	0.270	1.55
Meth: 261.31 PCT			434	1.445	.32	324	9.95	- .11	065	4.79 X	- .65	177	0.261	.70
Acid Soluble Manganese			Avg	1.429		057	9.90	- .16	102	2.24	-1.33	262	0.255	.49
<u>ICP</u>			040	1.413	- .18	037	9.88	- .17	Meth: 301.30 PPM			028	0.258	.45
027	1.495	- .71	095	1.410	- .21	106	9.15	- .74	Selenium			Avg	0.253	
			177	1.406	- .27	433	8.82	-1.00	<u>ICP</u>			105	0.251	- .16
			043	1.405	- .27	065	8.62	-1.18	037	7.43	.89	A=Analysis beyond 3-s limits		
			423	1.405	- .27				009	7.05	.72			
									Avg	4.79 X	- .65			
									102	2.24	-1.33			

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index
Meth: 321.00 PCT			Meth: 321.30 PCT			Meth: 321.XX PCT								
Acid Soluble Zinc			Acid Soluble Zinc			<u>Acid Soluble Zinc</u>								
<u>Atomic Absorption</u>			<u>ICP</u>			255 0.255 .32								
296	0.249	-.49	433	0.239	-.85	262	0.255	.32						
428	0.247	-.56	444	0.234	-1.30	023	0.259	.30						
351	0.247	-.69	307	0.238 R	-1.34	040	0.258	.24						
055	0.245	-.82	035	0.229	-1.43	028	0.258	.22						
371	0.250	-.93	232	0.226	-1.59	422	0.255	.13						
029	0.248	-1.13	065	0.217	-2.14	Avg	0.254							
043	0.237	-1.45				360	0.253	-.20						
			Meth: 321.99 PCT			389	0.253	-.20						
Meth: 321.30 PCT			Acid Soluble Zinc			105	0.251	-.22						
Acid Soluble Zinc			<u>Other</u>			251	0.250	-.28						
<u>ICP</u>			402 0.271 1.34			037	0.249	-.34						
432	0.665 s	24.59	Avg 0.260			131	0.248	-.41						
354	0.285	1.84	040 0.258 -.23			042	0.253	-.42						
009	0.279 R	1.75	042 0.253 -.91			296	0.249	-.44						
102	0.282	1.74	022 0.260 -.91			423	0.248	-.45						
426	0.280	1.64				428	0.247	-.49						
288	0.275	1.28	Meth: 321.XX PCT			351	0.247	-.58						
390	0.270	.98	<u>Acid Soluble Zinc</u>			231	0.246	-.59						
324	0.265	.73	432 0.665 s 26.96			055	0.245	-.68						
330	0.265	.73	425 0.335 s 5.22			371	0.250	-.70						
233	0.264	.60	354 0.285 1.96			291	0.250	-.70						
057	0.262	.50	009 0.279 1.87			029	0.248	-.85						
106	0.260	.38	102 0.282 1.85			027	0.241	-.86						
023	0.259	.33	426 0.280 1.75			041	0.240	-.96						
255	0.255	.30	288 0.275 1.35			433	0.239	-.99						
422	0.255	.15	200 0.260 R 1.32			043	0.237	-1.14						
Avg	0.253		402 0.271 1.22			444	0.234	-1.48						
389	0.253	-.16	434 0.270 1.18			307	0.238 R	-1.51						
360	0.253	-.16	390 0.270 1.02			035	0.229	-1.63						
251	0.250	-.20	095 0.270 .99			232	0.226	-1.81						
037	0.249	-.26	330 0.265 .75			065	0.217	-2.41						
131	0.248	-.32	324 0.265 .75											
423	0.248	-.36	022 0.260 .73			Meth: 325.00 PCT								
231	0.246	-.48	233 0.264 .60			Water Soluble Zinc								
291	0.250	-.61	057 0.262 .49			<u>Atomic Absorption</u>								
027	0.241	-.72	177 0.261 .39			137 0.290 .00								
041	0.240	-.82	106 0.260 .36											

* 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	8	0.00	0.99	0.29	121.00	14	- 0.71	1.95	0.63
001.99	12	- 0.14	1.04	0.42	121.30	33	0.51	2.47	0.28
001.XX	20	- 0.05	0.99	0.37	121.99	2	0.00	1.07	0.42
009.10	2	0.00	1.20	0.19	121.XX	50	0.23	2.38	0.35
009.XX	2	0.00	1.20	0.19	131.30	2	0.00	1.13	0.33
010.11	7	1.36	3.28	0.46	131.XX	3	0.00	1.09	0.19
010.12	3	1.91	3.41	0.06	144.01	18	0.43	1.53	0.48
010.60	57	- 0.04	1.96	0.54	144.02	3	0.00	1.11	0.11
010.99	4	0.00	1.06	0.20	144.99	20	0.06	1.01	0.14
010.XX	70	0.21	1.97	0.55	144.XX	40	0.03	1.00	0.17
020.10	7	- 0.15	1.02	0.35	151.00	2	- 15.20	21.50	0.50
020.20	17	- 0.25	1.40	0.38	151.30	8	0.79	2.41	0.34
020.40	4	0.00	0.84	0.59	151.XX	10	- 0.12	3.57	0.33
020.50	11	0.06	0.97	0.35	165.00	9	- 1.816	3.866	0.496
020.99	2	- 39.90	56.43	0.54	165.99	19	- 0.044	0.991	0.312
020.XX	38	- 0.58	4.13	0.44	165.XX	28	- 0.417	1.923	0.341
030.XX	3	0.00	1.11	0.07	171.XX	2	0.000	1.157	0.284
040.XX	4	0.00	1.06	0.17	181.00	2	0.00	1.22	0.06
041.10	21	0.52	2.58	0.28	181.30	10	0.00	1.01	0.18
041.20	4	0.00	1.01	0.32	181.XX	12	0.00	1.01	0.16
041.40	5	0.00	1.06	0.09	190.00	13	0.02	0.96	0.26
041.50	11	- 0.21	1.17	0.39	190.99	3	0.00	0.77	0.66
041.60	14	0.19	2.56	0.53	190.XX	16	0.02	0.96	0.47
041.XX	45	0.02	1.49	0.39	191.30	9	0.00	1.02	0.15
048.20	3	0.00	1.11	0.12	191.XX	9	0.00	1.02	0.15
048.XX	3	0.00	1.11	0.12	202.00	2	0.00	1.16	0.28
050.00	15	0.81	2.47	0.30	202.30	10	- 0.14	1.07	0.15
050.10	2	0.00	1.14	0.32	202.XX	12	- 0.14	1.08	0.14
050.30	10	0.62	3.85	0.83	221.00	6	0.0000	0.9656	0.3737
050.50	8	- 0.30	1.07	0.61	221.30	18	133.89	561.70	563.67
050.51	11	- 0.34	1.82	0.98	221.99	2	4.3134	6.1000	1.1180
050.60	7	0.00	1.02	0.21	221.XX	26	87.326	438.47	440.01
050.61	9	0.61	2.06	0.25	241.30	19	0.00	0.99	0.19
050.99	18	- 1.77	6.83	0.35	241.XX	20	- 0.06	1.01	0.19
050.XX	72	- 0.37	3.63	0.52	251.30	7	0.00	0.87	0.53
060.00	5	0.00	1.04	0.18	251.XX	8	0.00	0.88	0.52
060.XX	5	0.00	1.04	0.18	261.00	11	0.089	1.007	0.200
101.30	20	0.00	0.99	0.19	261.11	3	0.000	1.000	0.408
101.XX	21	0.04	0.99	0.27	261.30	29	- 0.164	1.291	0.300

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
261.99	4	0.000	0.949	0.447					
261.XX	48	- 0.105	1.196	0.294					
289.30	12	0.38	1.47	0.34					
289.XX	12	0.38	1.47	0.34					
291.30	7	0.00	0.99	0.30					
291.XX	8	0.00	0.99	0.29					
301.30	4	0.00	1.01	0.33					
301.XX	5	0.00	1.03	0.23					
311.99	9	0.35	1.39	0.56					
311.XX	9	0.35	1.39	0.56					
321.00	15	0.534	2.060	0.751					
321.30	31	0.787	4.385	1.150					
321.99	4	0.000	0.685	0.723					
321.XX	50	0.611	3.860	1.046					