

MAGRUDER - Fertilizer Check Sample No. - 200611 Grade 32-0-10

- 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	3	11.24	15.87	0.02	3	11.24	15.87	0.02
Ammoniacal Nitrogen, Other		001.99	4	7.60	13.84	0.05	3	0.13	0.02	0.01
Method Group 001.XX PCT			7	9.16	14.27	0.03	6	5.68	12.17	0.01
Water Insoluble Nitrogen, Meth I	945.01	003.10	4	11.93	0.88	0.25	4	11.93	0.88	0.25
Water Insoluble Nitrogen, Other		003.99	2	11.49	0.63	0.02	2	11.49	0.63	0.02
Method Group 003.XX PCT			6	11.78	0.81	0.18	6	11.78	0.81	0.18
Nitrogen From Urea, Urease (as N)	959.03	005.00	1	13.85	0.15	0.22	1	13.85	0.15	0.22
Nitrogen From Urea, Other		005.99	4	16.56	2.54	0.11	4	16.56	2.54	0.11
Method Group 005.XX PCT			5	16.02	2.52	0.14	5	16.02	2.52	0.14
Ammon & Nitrate N, Devarda	892.01	009.10	1	3.92	0.03	0.04	1	3.92	0.03	0.04
Ammon & Nitrate N, Other		009.99	1	13.85	0.07	0.10	1	13.85	0.07	0.10
Method Group 009.XX PCT			2	8.89	5.73	0.07	2	8.89	5.73	0.07
Total Nitrogen, Modified Comprehensive	978.02	010.11	8	31.56	0.62	0.09	8	31.56	0.62	0.09
Total Nitrogen, Salicylic	955.04D	010.12	2	31.48	0.10	0.05	2	31.48	0.10	0.05
Total Nitrogen, Raney	970.03	010.16	1	30.85	0.35	0.50	1	30.85	0.35	0.50
Total Nitrogen, Combustion		010.60	51	31.76	0.40	0.18	49	31.78	0.37	0.15
Total Nitrogen, Other		010.99	7	31.61	0.42	0.15	7	31.61	0.42	0.15
Method Group 010.XX PCT			69	31.70	0.44	0.17	66	31.70	0.41	0.14
Total Phosphate, Grav Quimociac	962.02	020.10	1	0.00	0.00	0.00	1	0.00	0.00	0.00
Total Phosphate, Spectrometric	958.01	020.20	3	0.02	0.02	0.01	3	0.02	0.02	0.01
Total Phosphate, ICP		020.50	6	0.04	0.04	0.01	5	0.04	0.04	0.01
Total Phosphate, Other		020.99	1	0.00	0.00	0.00	1	0.00	0.00	0.00
Method Group 020.XX PCT			11	0.03	0.03	0.01	9	0.02	0.03	0.00
Dir Available Phosphate, Grav Quimociac	960.03E	041.10	2	0.02	0.02	0.00	2	0.02	0.02	0.00
Dir Available Phosphate, ICP		041.50	3	0.05	0.04	0.01	3	0.05	0.04	0.01
Dir Available Phosphate, EDTA Extract .	993.01	041.60	1	0.04	0.01	0.02	1	0.04	0.01	0.02
Method Group 041.XX PCT			6	0.04	0.04	0.01	6	0.04	0.04	0.01
Soluble Potash, STPB Oxalate	958.02	050.00	16	9.90	0.29	0.13	15	9.92	0.28	0.10
Soluble Potash, AA (Oxalate)		050.30	9	9.94	0.33	0.07	9	9.94	0.33	0.07
Soluble Potash, AA (Citrate)		050.31	1	9.66	0.00	0.00	1	9.66	0.00	0.00
Soluble Potash, ICP (Oxalate)		050.50	6	9.98	0.54	0.11	6	9.98	0.54	0.11
Soluble Potash, ICP (Citrate)		050.51	11	9.85	0.17	0.10	10	9.83	0.15	0.07
Soluble Potash, Flame (Oxalate)	983.02(a)	050.60	7	9.94	0.26	0.17	6	9.93	0.21	0.05
Soluble Potash, Flame (Citrate)	983.02(b)	050.61	6	9.80	0.29	0.31	5	9.78	0.17	0.15
Soluble Potash, Other		050.99	17	9.78	0.31	0.12	16	9.79	0.31	0.10
Method Group 050.XX PCT			73	9.87	0.31	0.13	69	9.87	0.30	0.09
Free Water, Vacuum Oven	965.08B	060.00	3	2.28	0.11	0.05	3	2.28	0.11	0.05
Free Water, Vacuum Desiccate	965.08A	060.10	1	2.26	0.08	0.11	1	2.26	0.08	0.11
Method Group 060.XX PCT			4	2.27	0.10	0.06	4	2.27	0.10	0.06

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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
Acid Soluble Calcium, AA	945.04	101.00	1	1.79	0.00	0.00	1	1.79	0.00	0.00
Acid Soluble Calcium, ICP		101.30	12	1.76	0.05	0.04	12	1.76	0.05	0.04
Method Group 101.XX PCT			13	1.76	0.05	0.03	13	1.76	0.05	0.03
Acid Soluble Magnesium, AA	984.01	121.00	2	0.02	0.00	0.00	2	0.02	0.00	0.00
Acid Soluble Magnesium, ICP		121.30	10	0.02	0.00	0.00	10	0.02	0.00	0.00
Method Group 121.XX PCT			12	0.02	0.00	0.00	12	0.02	0.00	0.00
Sulfur, Other		144.99	10	0.11	0.01	0.01	10	0.11	0.01	0.01
Acid Soluble Boron, Other		165.99	1	0.001	0.000	0.000	1	0.001	0.000	0.000
Cadmium, ICP		181.30	5	0.15	0.16	0.02	4	0.09	0.08	0.01
Water Soluble Chlorine, Titrimetric	928.02	190.00	3	7.81	0.19	0.05	3	7.81	0.19	0.05
Water Soluble Chlorine, Other		190.99	1	7.87	0.32	0.45	1	7.87	0.32	0.45
Method Group 190.XX PCT			4	7.83	0.20	0.15	4	7.83	0.20	0.15
Chromium, ICP		191.30	7	3.53	2.12	0.26	7	3.53	2.12	0.26
Acid Soluble Cobalt, ICP	965.11	202.30	8	1.11	0.15	0.10	8	1.11	0.15	0.10
Acid Soluble Copper, ICP		221.30	6	0.2502	0.3944	0.0087	5	0.1033	0.2144	0.0005
Acid Soluble Copper, Other		221.99	1	0.0020	0.0000	0.0000	1	0.0020	0.0000	0.0000
Method Group 221.XX PCT			7	0.2148	0.3738	0.0075	6	0.0864	0.1979	0.0004
Acid Soluble Iron, Atomic Absorption	980.01	241.00	2	0.02	0.01	0.01	2	0.02	0.01	0.01
Acid Soluble Iron, ICP		241.30	8	0.02	0.00	0.00	7	0.02	0.00	0.00
Acid Soluble Iron, Other		241.99	1	0.02	0.00	0.00	1	0.02	0.00	0.00
Method Group 241.XX PCT			11	0.02	0.00	0.00	9	0.02	0.00	0.00
Lead, ICP		251.30	4	1.06	1.00	0.24	4	1.06	1.00	0.24
Acid Soluble Manganese, AA	972.02a	261.00	2	0.001	0.000	0.000	2	0.001	0.000	0.000
Acid Soluble Manganese, ICP	972.02a	261.30	5	0.001	0.000	0.000	4	0.001	0.000	0.000
Acid Soluble Manganese, Other		261.99	3	0.000	0.000	0.000	3	0.000	0.000	0.000
Method Group 261.XX PCT			10	0.001	0.000	0.000	9	0.001	0.000	0.000
Molybdenum, ICP		289.30	4	1.42	2.22	0.13	4	1.42	2.22	0.13
Nickel, ICP		291.30	4	3.20	0.56	0.32	4	3.20	0.56	0.32
Sodium, Other		311.99	5	0.26	0.01	0.00	5	0.26	0.01	0.00
Acid Soluble Zinc, Atomic Absorption	975.02	321.00	1	0.000	0.000	0.000	1	0.000	0.000	0.000
Acid Soluble Zinc, ICP		321.30	10	0.001	0.001	0.000	9	0.001	0.001	0.000
Acid Soluble Zinc, Other		321.99	1	0.001	0.001	0.002	1	0.001	0.001	0.002
Method Group 321.XX PCT			12	0.001	0.001	0.000	10	0.001	0.001	0.000

Laboratory Averages & Accuracy Indexes

<u>Lab</u>	<u>Average*</u>	<u>Index</u>	<u>Lab</u>	<u>Average*</u>	<u>Index</u>	<u>Lab</u>	<u>Average*</u>	<u>Index</u>	<u>Lab</u>	<u>Average*</u>	<u>Index</u>	<u>Lab</u>	<u>Average*</u>	<u>Index</u>
Meth: 001.10 PCT Ammoniacal Nitrogen <u>MgO Distillation</u>			Meth: 003.99 PCT Water Insoluble Nitr <u>Other</u>			Meth: 009.10 PCT Ammon & Nitrate N <u>Devarda</u>			Meth: 010.60 PCT Total Nitrogen <u>Combustion</u>			Meth: 010.60 PCT Total Nitrogen <u>Combustion</u>		
405	31.70	1.29	027	12.04	.87	372	3.92	.71	369	32.63 s	3.20	426	31.52	-.70
Avg	11.24		Avg	11.49					102	32.89 s	3.00	443	31.52	-.71
372	1.96	-.58	372	10.95	-.87	Meth: 009.99 PCT Ammon & Nitrate N <u>Other</u>			351	32.85	2.87	131	31.51	-.72
324	0.06	-.70				255	13.85	-.71	422	32.67	2.48	324	31.57	-.76
Meth: 001.99 PCT Ammoniacal Nitrogen <u>Other</u>			Meth: 003.XX PCT Water Insoluble Nitr			Meth: 009.XX PCT Ammon & Nitrate N <u>Other</u>			406	32.45	1.78	055	31.49	-.79
428	30.03 R1324.00		023	13.18	1.75	255	13.85	.87	095	32.42	1.71	136	31.47	-.83
096	0.15	1.11	027	12.04	.32				292	32.31	1.42	233	31.44	-.91
193	0.13	.22	230	11.90	.19	Meth: 009.XX PCT Ammon & Nitrate N <u>Other</u>			072	32.26	1.39	028	31.41	-1.01
Avg	0.13		Avg	11.78		255	13.85	-.87	027	32.26	1.32	262	31.40	-1.01
027	0.10	-1.11	029	11.72	-.24	Avg	8.89		035	32.09	.89	234	31.40	-1.02
			372	10.95	-1.03	372	3.92	-.87	230	31.95	.81	377	31.41	-1.05
			090	10.91	-1.09				255	32.05	.74	042	31.40	-1.05
						Meth: 010.11 PCT			177	32.02	.65	023	31.38	-1.10
									442	31.83	.63	041	31.26	-1.41
Meth: 001.XX PCT <u>Ammoniacal Nitrogen</u>			Meth: 005.00 PCT Nitrogen From Urea <u>Urease (as N)</u>			<u>Modified Comprehensi</u>			330	31.95	.61	157	31.68 R	-1.44
405	31.70	2.14	351	13.85	-.71	114	32.60	1.67	296	31.97	.60	389	31.20	-1.55
428	30.03 R	2.00				415	32.09	.86	325	32.00	.59	022	30.94 R	-2.49
Avg	5.68					211	32.01	.72	043	31.90	.49	361	28.55 s	-8.64
372	1.96	-.31				Avg	31.56		096	31.96	.49			
096	0.15	-.45	Meth: 005.99 PCT Nitrogen From Urea <u>Other</u>			309	31.50	-.10	360	31.80	.48	Meth: 010.99 PCT Total Nitrogen		
193	0.13	-.46	309	20.50	1.55	105	31.36	-.33	372	31.92	.37	<u>Other</u>		
027	0.10	-.46	Avg	16.56		090	31.23	-.54	423	31.86	.27	402	32.00	1.06
324	0.06	-.46	230	16.25	-.13	029	31.14	-.68	007	31.85	.23	430	32.00	.98
			419	15.15	-.55	322	30.56	-1.60	Avg	31.78		381	31.91	.73
			029	14.33	-.88				291	31.77	-.04	Avg	31.61	
						Meth: 010.12 PCT Total Nitrogen <u>Salicylic</u>			106	31.71	-.19	300	31.60	-.11
			Meth: 005.XX PCT <u>Nitrogen From Urea</u>			029	31.71	-.20	029	31.71	-.20	072	31.51	-.24
			309	20.50	1.78	025	31.71	-.20	232	31.70	-.24	255	31.40	-.55
			Avg	16.02		024	31.64	-.39	024	31.64	-.39	420	30.83	-1.87
			230	16.25	.11	037	31.64	-.41	009	31.67	-.41	137	29.92 S	-4.07
			Avg	15.15	-.34	231	31.60	-.49	211	31.60	-.49			
			029	14.33	-.67	Meth: 010.16 PCT Total Nitrogen <u>Raney</u>			247	31.59	-.52	Meth: 010.XX PCT Total Nitrogen		
			351	13.85	-.86	419	30.85	.71	425	31.65	-.55	369	32.63 s	3.03
									034	31.55	-.63	102	32.89 s	2.90
									040	31.56	-.65	351	32.85	2.79

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

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index		
Meth: 010.XX PCT			Meth: 010.XX PCT			Meth: 020.20 PCT			Meth: 041.10 PCT			Meth: 050.00 PCT				
<u>Total Nitrogen</u>			<u>Total Nitrogen</u>			<u>Total Phosphate Spectrometric</u>			<u>Dir Available Phosph Grav Quimociac</u>			<u>Soluble Potash STPB Oxalate</u>				
422	32.67 R	2.43	034	31.55	-.38	428	0.04	.96	296	0.04	.87	Avg	9.92			
114	32.60	2.18	397	31.55	-.38	324	0.03	.34	Avg	0.02		090	9.91	-.02		
406	32.45	1.80	425	31.65	-.40	Avg	0.02		254	0.00	-.87	231	9.90	-.06		
095	32.42	1.74	040	31.56	-.41	262	0.00	-1.21	Meth: 041.50 PCT			114	9.87	-.20		
292	32.31	1.48	426	31.52	-.43	Meth: 020.50 PCT			<u>Dir Available Phosph ICP</u>			055	9.88	-.22		
072	32.26	1.44	443	31.52	-.45	<u>Total Phosphate ICP</u>			377	0.09	.89	029	9.85	-.32		
027	32.26	1.38	131	31.51	-.45	330	0.08 R	1.54	361	0.07	.39	211	9.81	-.40		
035	32.09	.99	072	31.51	-.46	361	0.09	1.52	Avg	0.05		296	9.82	-.58		
415	32.09	.98	309	31.50	-.48	389	0.05	.41	325	0.00	-1.25	137	9.61	-1.11		
402	32.00	.88	055	31.49	-.52	Avg	0.04		Meth: 041.60 PCT			397	9.57	-1.43		
255	32.05	.86	324	31.57	-.55	422	0.04	-.41	<u>Dir Available Phosph EDTA Extract</u>			372	9.52	-1.43		
230	31.95	.86	136	31.47	-.55	444	0.00	-.96	296	0.04	.71	444	9.60 R	-1.58		
177	32.02	.78	233	31.44	-.63	255	0.00	-.96	Meth: 050.30 PCT			<u>Soluble Potash AA (Oxalate)</u>				
430	32.00	.77	028	31.41	-.71	Meth: 020.99 PCT	<u>Total Phosphate Other</u>			193	10.70	2.32	262	10.21	.82	
211	32.01	.76	262	31.40	-.72	402			0.00	.00	<u>Dir Available Phosph</u>			428	9.98	.33
325	32.00	.73	254	31.40	-.72	Meth: 020.XX PCT			<u>Total Phosphate</u>			Avg	9.94			
296	31.97	.72	234	31.40	-.73	<u>Total Phosphate</u>			377	0.09	1.45	234	9.91	-.17		
330	31.95	.71	255	31.40	-.76	361	0.09	2.14	361	0.07	.85	136	9.84	-.35		
442	31.83	.64	042	31.40	-.76	330	0.08 R	2.13	296	0.04	.28	040	9.76	-.58		
096	31.96	.64	377	31.41	-.76	389	0.05	.85	Avg	0.04	.00	425	9.73	-.63		
043	31.90	.59	023	31.38	-.80	422	0.04 R	.61	325	0.00	-1.14	369	9.67	-.82		
372	31.92	.53	105	31.36	-.83	428	0.04	.60	254	0.00	-1.14	351	9.65	-.89		
381	31.91	.51	041	31.26	-1.08	Meth: 020.XX PCT			Meth: 050.00 PCT			Meth: 050.31 PCT				
360	31.80	.50	090	31.23	-1.14	<u>Total Phosphate</u>			<u>Soluble Potash STPB Oxalate</u>			<u>Soluble Potash AA (Citrate)</u>				
423	31.86	.42	389	31.20	-1.20	361	0.09	2.14	102	11.80 s	6.88	254	9.66	.00		
007	31.85	.39	157	31.68 R	-1.28	330	0.08 R	2.13	009	11.57 s	6.01	Meth: 050.50 PCT				
291	31.77	.16	029	31.14	-1.36	389	0.05	.85	381	10.59	2.46	<u>Soluble Potash</u>				
029	31.71	.08	022	30.94 R	-2.07	422	0.04 R	.61	022	10.20	1.02	<u>ICP (Oxalate)</u>				
025	31.71	.04	420	30.83	-2.10	428	0.04	.60	230	10.15	.87	426	10.65	1.23		
106	31.71	.03	419	30.85	-2.13	324	0.03	.21	043	10.13	.76	422	10.52	1.00		
Avg	31.70		322	30.56	-2.75	Avg	0.02		049	9.95	.19	Meth: 050.50 PCT				
232	31.70	-.06	137	29.92 s	-4.30	255	0.00	-.75	<u>Soluble Potash</u>			<u>Soluble Potash</u>				
024	31.64	-.16	361	28.55 s	-7.60	262	0.00	-.75	<u>STPB Oxalate</u>			<u>AA (Citrate)</u>				
037	31.64	-.20	Meth: 020.10 PCT			444	0.00	-.75	102	11.80 s	6.88	Meth: 050.50 PCT				
231	31.60	-.25	<u>Total Phosphate</u>			444	0.00	-.75	009	11.57 s	6.01	<u>Soluble Potash</u>				
300	31.60	-.27	<u>Grav Quimociac</u>			402	0.00	-.75	381	10.59	2.46	<u>ICP (Oxalate)</u>				
009	31.67	-.27	444	0.00	.00	Meth: 020.10 PCT			022	10.20	1.02	426	10.65	1.23		
247	31.59	-.29	Meth: 020.10 PCT			<u>Total Phosphate</u>			230	10.15	.87	422	10.52	1.00		
* 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: 050.50 PCT			Meth: 050.61 PCT			Meth: 050.XX PCT			Meth: 050.XX PCT			Meth: 060.00 PCT		
Soluble Potash			Soluble Potash			<u>Soluble Potash</u>			<u>Soluble Potash</u>			Free Water		
<u>ICP (Oxalate)</u>			<u>Flame (Citrate)</u>			426	10.65	2.57	131	9.82	-.20	<u>Vacuum Oven</u>		
324	10.14	.35	025	11.29 S	8.62	381	10.59	2.41	232	9.81	-.20	105	2.36	.78
Avg	9.98		041	9.90 R	3.20	422	10.52	2.16	022	9.81	-.20	096	2.34	.59
106	9.84	-.37	105	10.00	1.32	041	9.90 R	1.81	029	9.85	-.21	Avg	2.28	
420	9.48	-.91	037	9.89	.78	442	9.94 R	1.54	136	9.84	-.22	007	2.15	-1.24
444	9.23	-1.37	Avg	9.78		415	10.22	1.16	211	9.81	-.22			
			034	9.76	-.30	322	10.21	1.12	309	9.80	-.24	Meth: 060.10 PCT		
Meth: 050.51 PCT			035	9.64	-.91	262	10.21	1.11	034	9.76	-.40	Free Water		
Soluble Potash			029	9.61	-1.10	022	10.20	1.08	040	9.76	-.44	<u>Vacuum Desiccate</u>		
<u>ICP (Citrate)</u>			Meth: 050.99 PCT			300	10.16	.98	023	9.74	-.44	419	2.26	.71
377	10.06 R	2.01	Soluble Potash			255	10.16	.96	296	9.82	-.45			
291	10.05	1.43	<u>Other</u>			324	10.14	.95	360	9.73	-.46	Meth: 060.XX PCT		
009	9.95	1.00	322	10.21	1.35	406	10.16	.95	425	9.73	-.47	<u>Free Water</u>		
007	9.96	.88	300	10.16	1.21	230	10.15	.94	072	9.78	-.47	105	2.36	.94
430	9.90	.47	255	10.16	1.20	402	10.08	.92	106	9.84	-.50	096	2.34	.72
389	9.85	.36	402	10.08	1.10	377	10.06	.91	157	9.68	-.66	Avg	2.27	
423	9.84	.10	177	10.03	.78	043	10.13	.84	369	9.67	-.67	419	2.26	-.60
Avg	9.83		432	9.96	.56	291	10.05	.58	254	9.66	-.70	007	2.15	-1.32
022	9.81	-.14	260	9.84	.20	177	10.03	.53	351	9.65	-.75			
023	9.74	-.62	247	9.82	.10	428	9.98	.49	035	9.64	-.81	Meth: 101.00 PCT		
361	9.61	-1.44	232	9.81	.08	105	10.00	.48	137	9.61	-.87	Acid Soluble Calcium		
043	9.58	-1.68	Avg	9.79		009	9.95	.40	361	9.61	-.87	<u>AA</u>		
			360	9.73	-.18	007	9.96	.32	325	9.75 R	-.92	105	1.79	.71
Meth: 050.60 PCT			072	9.78	-.34	432	9.96	.30	029	9.61	-.93			
Soluble Potash			028	9.54	-.79	049	9.95	.29	043	9.58	-.99	Meth: 101.30 PCT		
<u>Flame (Oxalate)</u>			325	9.75 R	-.81	037	9.89	.29	028	9.54	-1.10	Acid Soluble Calcium		
442	9.94 R	2.23	419	9.41	-1.19	055	9.94	.28	372	9.52	-1.17	<u>ICP</u>		
415	10.22	1.39	027	9.41	-1.20	234	9.91	.21	397	9.57	-1.18	422	2.54 s	15.01
406	10.16	1.07	131	9.39	-1.30	055	9.88	.15	420	9.48	-1.30	106	1.84	1.60
055	9.94	.27	390	9.25	-1.81	090	9.91	.13	444	9.60 R	-1.34	423	1.82	1.11
Avg	9.93		Meth: 050.XX PCT			231	9.90	.10	419	9.41	-1.51	096	1.77	.81
131	9.82	-.57	<u>Soluble Potash</u>			430	9.90	.10	027	9.41	-1.53	232	1.77	.61
309	9.80	-.65	102	11.80 s	6.46	Avg	9.87		131	9.39	-1.62	022	1.76	.58
157	9.68	-1.26	009	11.57 s	5.66	114	9.87	-.10	444	9.23	-2.13	102	1.78	.57
443	8.78 s	-5.62	025	11.29 s	4.69	423	9.84	-.11	390	9.25	-2.15	255	1.78	.52
			193	10.70	2.75	260	9.84	-.14	443	8.78 s	-3.64	009	1.76	.16
			247	9.82	-.19	389	9.85	-.18				Avg	1.76	
			247	9.82	-.19	420	1.74	-.39				420	1.74	-.39

* 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: 101.30 PCT			Meth: 121.30 PCT			Meth: 144.99 PCT			Meth: 190.XX PCT			Meth: 221.99 PCT		
Acid Soluble Calcium			Acid Soluble Magnesi			Sulfur			<u>Water Soluble Chlори</u>			Acid Soluble Copper		
<u>ICP</u>			<u>ICP</u>			<u>Other</u>			102 7.58 -1.24			<u>Other</u>		
035 1.73 -.70			035 0.02 .32			389 0.10 -1.01						402 0.0020 .00		
131 1.68 -1.52			232 0.02 .30			035 0.09 -1.03			Meth: 191.30 PPM			Meth: 221.XX PCT		
389 1.68 -1.67			009 0.02 .27						Chromium			<u>Acid Soluble Copper</u>		
			Avg 0.02			Meth: 165.99 PCT			<u>ICP</u>			330 1.5000 s 10.42		
Meth: 101.XX PCT			022 0.02 -.91			Acid Soluble Boron			096 8.35 2.28			444 0.9850 R 4.54		
Acid Soluble Calcium			423 0.02 -1.60			<u>Other</u>			035 3.69 .11			230 0.5100 2.14		
422 2.54 s 15.35			106 0.02 -1.60			422 0.001 .00			Avg 3.53			Avg 0.0864		
106 1.84 1.59									009 3.25 -.21			422 0.0045 -.41		
423 1.82 1.09			Meth: 121.XX PCT			Meth: 181.30 PPM			232 2.60 -.44			402 0.0020 -.43		
096 1.77 .82			<u>Acid Soluble Magnesi</u>			Cadmium			102 2.36 -.56			255 0.0010 -.43		
232 1.77 .61			422 0.18 s 67.86			<u>ICP</u>			324 2.25 -.61			419 0.0007 -.43		
105 1.79 .60			193 0.03 1.34			035 0.42 R 4.08			419 2.25 -.61			324 0.0001 -.44		
102 1.78 .54			255 0.02 1.07			296 0.20 X 1.37								
255 1.78 .50			102 0.02 1.07			102 0.11 .31			Meth: 202.30 PPM			Meth: 241.00 PCT		
009 1.76 .15			131 0.02 .61			Avg 0.09			Acid Soluble Cobalt			Acid Soluble Iron		
Avg 1.76			420 0.02 .38			419 0.04 -.60			<u>ICP</u>			<u>Atomic Absorption</u>		
420 1.74 -.45			035 0.02 .27			324 0.00 -1.08			009 1.40 1.98			262 0.03 1.11		
022 1.76 -.59			232 0.02 .23						035 1.19 .87			Avg 0.02		
035 1.73 -.76			009 0.02 .20			Meth: 190.00 PCT			037 1.17 .33			105 0.02 -.52		
131 1.68 -1.61			Avg 0.02			Water Soluble Chlори			102 1.13 .15					
389 1.68 -1.76			105 0.02 -.77			<u>Titrimetric</u>			Avg 1.11			Meth: 241.30 PCT		
			022 0.02 -.95			422 7.96 .85			296 1.05 X -.53			Acid Soluble Iron		
Meth: 121.00 PCT			423 0.02 -1.62			027 7.90 .46			230 0.99 -.83			<u>ICP</u>		
Acid Soluble Magnesi			106 0.02 -1.62			Avg 7.81			419 0.99 -.84			422 0.05 s 17.42		
<u>AA</u>						102 7.58 -1.25			324 1.00 -.99			255 0.02 R 3.88		
193 0.03 .88			Meth: 144.99 PCT									106 0.02 1.03		
Avg 0.02			Sulfur			Meth: 190.99 PCT			Meth: 221.30 PCT			035 0.02 .82		
105 0.02 -.85			<u>Other</u>			Water Soluble Chlори			Acid Soluble Copper			102 0.02 .78		
			102 0.13 1.63			<u>Other</u>			<u>ICP</u>			389 0.02 .46		
Meth: 121.30 PCT			009 0.12 1.16			009 7.87 -.71			330 1.5000 s 9.56			Avg 0.02		
Acid Soluble Magnesi			423 0.12 .95						444 0.9850 R 4.11			009 0.02 -.39		
<u>ICP</u>			193 0.11 .91			Meth: 190.XX PCT			230 0.5100 1.90			232 0.02 -.57		
422 0.18 s 69.45			Avg 0.11			<u>Water Soluble Chlори</u>			Avg 0.1033			423 0.02 -1.87		
255 0.02 1.15			422 0.11 -.43			009 7.87 1.15			422 0.0045 -.46					
102 0.02 1.15			096 0.10 -.50			422 7.96 .72			255 0.0010 -.48					
131 0.02 .67			232 0.10 -.69			027 7.90 .35			419 0.0007 -.48					
420 0.02 .45			255 0.10 -.87			Avg 7.83			324 0.0001 -.48					
* X=Excluded from lab performance			S/s=Screened Outlier			R=Duplicate Range too large			A=Analysis beyond 3-s limits					

Laboratory Averages & Accuracy Indexes

Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index	Lab	Average*	Index			
Meth: 241.99 PCT Acid Soluble Iron			Meth: 261.30 PCT Acid Soluble Mangane			Meth: 291.30 PPM Nickel			Meth: 321.30 PCT Acid Soluble Zinc								
<u>Other</u>			<u>ICP</u>			<u>ICP</u>			<u>ICP</u>								
402	0.02	.71	102	0.001	.93	035	3.86	1.17	009	0.000	-.66						
			422	0.001	.93												
Meth: 241.XX PCT Acid Soluble Iron			Avg 0.001			Avg 3.20			Meth: 321.99 PCT Acid Soluble Zinc								
422	0.05 s	14.50	035	0.001 R	-.48				<u>Other</u>								
262	0.03 R	4.08	232	0.001	-.88				402			0.001 .71					
255	0.02 R	3.33	009	0.001	-.99												
106	0.02	1.04	Meth: 261.99 PCT Acid Soluble Mangane			Meth: 311.99 PCT Sodium			Meth: 321.XX PCT Acid Soluble Zinc								
035	0.02	.82	<u>Other</u>			<u>Other</u>			330			1.500 s3362.35					
102	0.02	.82	389	0.001	.74	422	0.48 s	19.91	255	0.065 s	102.47						
105	0.02	.63	402	0.001	.54	102	0.27	1.12	422	0.003 R	3.18						
389	0.02	.57	Avg 0.000				423	0.27	.67	096	0.002	2.45					
Avg 0.02			255	0.000	-1.29	009	0.26	.22	402	0.001 R	1.74						
009	0.02	-.15	Meth: 261.XX PCT Acid Soluble Mangane			Avg 0.26			037	0.001	1.28						
232	0.02	-.28	102	0.001	1.30	232	0.26	-.43	Avg 0.001								
423	0.02	-1.34	422	0.001	1.30	Meth: 321.00 PCT Acid Soluble Zinc			296	0.000 X	-.25						
402	0.02	-1.86	035	0.001 R	.68	<u>Atomic Absorption</u>			419	0.000	-.39						
Meth: 251.30 PPM Lead			389	0.001	.25	105			0.000	.71	444	0.000	-.43				
<u>ICP</u>			105	0.001	.19	402			0.001	.04	232	0.000	-.46				
296	2.40 X	1.34	402	0.001	.04	Avg 0.001			Meth: 321.30 PCT Acid Soluble Zinc			324	0.000	-.48			
419	1.36	.49	Avg 0.001			232			0.001	-.10	102	0.000	-.56				
Avg 1.06			232	0.001	-.10	009			0.001	-.19	105	0.000	-.58				
102	0.49	-.58	009	0.001	-.19	193			0.001	-.45	009	0.000	-.62				
324	0.00	-1.06	193	0.001	-.45	255			0.000	-2.19							
Meth: 261.00 PCT Acid Soluble Mangane			255	0.000	-2.19	330			1.500 s3245.54								
<u>AA</u>			Meth: 289.30 PPM Molybdenum			255			0.065 s 98.85								
105	0.001	.94	<u>ICP</u>			422			0.003 R 3.01								
Avg 0.001			444	4.99	1.61	096			0.002 2.30								
193	0.001	-.78	Avg 1.42			037			0.001 1.17								
			102	0.62	-.36	Avg 0.001											
			419	0.08	-.61	296			0.000 X -.30								
			324	0.00	-.64	419			0.000 -.44								
									444			0.000 -.47					
									232			0.000 -.50					
									324			0.000 -.52					
									102			0.000 -.60					

* 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	3	0.00	1.12	0.00	190.00	3	0.00	1.10	0.16
001.99	4	331.00	662.00	1.69	190.XX	4	0.00	0.85	0.58
001.XX	7	0.29	1.22	0.00	191.30	7	0.00	1.04	0.08
003.10	4	0.00	1.06	0.16	191.XX	7	0.00	1.04	0.08
003.99	2	0.00	1.22	0.01	202.30	8	0.00	0.92	0.44
003.XX	6	0.00	1.04	0.14	202.XX	8	0.00	0.92	0.44
005.99	4	0.00	1.08	0.03	221.30	7	1.5183	2.8204	2.6450
005.XX	5	0.00	1.06	0.03	221.XX	8	1.4606	2.9299	2.6805
009.XX	2	0.00	1.22	0.01	241.00	2	0.00	0.71	0.71
010.11	8	0.00	1.03	0.08	241.30	9	2.21	5.78	1.24
010.12	2	0.00	1.11	0.37	241.XX	12	1.66	4.24	1.17
010.60	54	- 0.11	1.61	0.47	251.30	4	0.00	1.06	0.20
010.99	8	- 0.51	1.72	0.22	251.XX	4	0.00	1.06	0.20
010.XX	70	- 0.09	1.50	0.42	261.00	2	0.000	1.108	0.369
020.20	3	0.00	1.08	0.23	261.30	5	- 0.002	0.935	0.216
020.50	6	0.23	1.09	0.33	261.99	3	0.000	1.118	0.017
020.XX	10	0.31	1.10	0.31	261.XX	10	0.057	0.987	0.130
041.10	2	0.00	1.22	0.00	289.30	4	0.00	1.08	0.04
041.50	3	0.00	1.11	0.14	289.XX	4	0.00	1.08	0.04
041.XX	5	0.00	1.16	0.16	291.30	4	0.00	1.02	0.31
050.00	18	0.65	2.30	0.44	291.XX	4	0.00	1.02	0.31
050.30	9	0.00	1.02	0.15	311.99	6	3.32	8.18	0.30
050.50	6	0.00	1.04	0.14	311.XX	6	3.32	8.18	0.30
050.51	11	0.14	1.03	0.49	321.30	12	199.66	660.30	662.62
050.60	8	- 0.70	2.17	0.80	321.XX	13	191.03	657.43	659.53
050.61	7	1.34	3.32	1.23					
050.99	17	- 0.01	0.96	0.30					
050.XX	70	0.17	1.43	0.54					
060.00	3	0.00	1.08	0.24					
060.XX	4	0.00	0.99	0.36					
101.30	13	1.15	4.26	0.40					
101.XX	14	1.10	4.20	0.39					
121.00	2	0.00	1.13	0.33					
121.30	11	6.28	20.86	2.05					
121.XX	13	5.20	18.76	1.85					
144.99	10	0.00	0.94	0.39					
144.XX	10	0.00	0.94	0.39					
181.30	5	0.81	2.04	0.16					
181.XX	5	0.81	2.04	0.16					