

## AFPC

2017-12

Grade

MAP-S

## Sample

	AOAC Ref.	Method #	# of Labs.	Grand Median	Std Dev
<b>AMMONIACAL NITROGEN</b>					
Ammoniacal Nitrogen, MgO distillation	920.03	001.10	3	12.93	0.10
Ammoniacal Nitrogen, Other		001.99	14	12.96	0.17
Method Group 001.XX PCT			17	12.96	0.22
<b>NITRATE NITROGEN</b>					
Nitrate Nitrogen, Other		002.99	1	13.23	0.00
Method Group 002.XX PCT			1	13.23	0.00
<b>TOTAL NITROGEN</b>					
Total Nitrogen, Modified Comprehensive	978.02	010.11	2	12.87	0.03
Total Nitrogen, Combustion	993.13	010.60	19	12.94	0.16
Total Nitrogen, Other		010.99	3	12.98	0.25
Method Group 010.XX PCT			24	12.95	0.18
<b>TOTAL PHOSPHATE</b>					
Total Phosphate, Spectrometric	978.02	020.20	19	34.14	0.17
Total Phosphate, ICP	970.03	020.40	1	33.34	0.00
Total Phosphate, ICP, Lithium	970.02	020.50	1	33.87	0.00
Total Phosphate, Other	993.13	020.99	1	34.92	0.00
Method Group 020.XX PCT			22	34.11	0.23
<b>INSOLUBLE PHOSPHATE</b>					
Insoluble Phosphate, Spectrometric	963.03C(b)	030.20	9	0.13	0.02
Insoluble Phosphate, Alka. Quimociac	963.03C(c)	030.30	1	0.06	0.00
Insoluble Phosphate, Automated	978.01	030.40	1	0.11	0.00
Insoluble Phosphate, Other		030.99	3	0.21	12.61
Method Group 030.XX PCT			14	0.14	0.08
<b>INDIRECT AVAILABLE PHOSPHATE</b>					
Indirect Available Phosphate, Spectrometric	960.02	040.20	10	34.01	0.17
Indirect Available Phosphate, Other		040.99	4	33.84	0.21
Method Group 040.XX PCT			14	34.01	0.24
<b>DIRECT AVAILABLE PHOSPHATE</b>					
Direct Available Phosphate, Gravimetric Quimociac	960.03E	041.10	2	33.53	0.24
Direct Available Phosphate, Spectrometric	960.03D	041.20	1	34.37	0.00
Direct Available Phosphate, ICP		041.50	2	33.36	0.60
Direct Available Phosphate, EDTA Extract	993.01	041.60	6	33.77	0.75
Method Group 041.XX PCT			11	33.85	0.98
<b>WATER SOLUBLE PHOSPHATE</b>					
Water Soluble Phosphate, Spectrometric	970.01	048.20	14	30.08	0.35
Water Soluble Phosphate, Other		048.99	5	29.95	0.05
Method Group 048.XX PCT			19	30.00	0.36
<b>SOLUBLE POTASH AS K<sub>2</sub>O</b>					
Soluble Potash, ICP(Oxalate)		050.50	3	0.11	0.00
Soluble Potash, ICP(Citrate)		050.51	1	0.11	0.00
Soluble Potash, Other		050.99	8	0.12	0.01
Method Group 050.XX PCT			12	0.12	0.01
<b>FREE WATER</b>					
Free Water, Vacuum Oven	965.08B	060.00	14	1.21	0.07
Free Water, Other		060.99	7	1.03	0.21
Method Group 060.XX PCT			21	1.17	0.19
<b>ACID SOLUBLE CALCIUM AS CaO</b>					
Acid Soluble Calcium, ICP		101.30	14	0.22	0.02
Method Group 101.XX PCT			14	0.22	0.03
<b>ACID SOLUBLE MAGNESIUM AS MgO</b>					
Acid Soluble Magnesium, ICP		121.30	12	0.69	0.03
Acid Soluble Magnesium, Other		121.99	2	0.65	0.04
Method Group 121.XX PCT			14	0.69	0.04
<b>WATER SOLUBLE MAGNESIUM</b>					
Water Soluble Magnesium, Other		131.99	1		0.00
Method Group 131.XX PCT			1	0.00	0.00

<b>SULFATE SULFUR (S)</b>					
Sulfur, Gravimetric	980.02(a)	144.01	6	7.85	4.12
Sulfur, Gravimetric	980.02(b)	144.02	1	7.89	0.00
Sulfur, Other		144.99	14	7.49	0.49
Method Group 144.XX PCT			21	7.53	0.68
<b>TOTAL SULFUR (S)</b>					
Sulfur, Other		145.99	17	14.68	0.6
Method Group 145.XX PCT			17	14.68	0.8
<b>TOTAL ARSENIC</b>					
Total Arsenic, Atomic Absorbtion	980.02(a)	151.01	1	5	0.0
Total Arsenic, ICP	980.02(b)	151.02	4	7.0	1.0
Total Arsenic, Other		151.99	2	5.6	0.2
Method Group 151.XX PPM			7	6.0	1.2
<b>ACID SOLUBLE BORON</b>					
Acid Soluble Boron, Other		165.99	2	51	14.7
Method Group 165.XX PPM			2	51	17.9
<b>WATER SOLUBLE BORON</b>					
Water Soluble Boron, Other		171.99	1	28	0.0
Method Group 171.XX PPM			1	28	0.0
<b>TOTAL CADMIUM</b>					
Total Cadmium, Atomic Absorbtion		181.00	3	3	0.2
Total Cadmium, ICP		181.30	5	2.3	0.6
Total Cadmium, Other		181.99	3	3.2	0.5
Method Group 181.XX PPM			11	3.0	0.8
<b>ALUMINUM AS Al<sub>2</sub>O<sub>3</sub></b>					
ICP, %			12	1.10	0.03
Water Soluble Chlorine, Other, %		190.99	2	1.12	0.01
Method Group 190.XX PCT			14	1.10	0.04
<b>TOTAL CHROMIUM</b>					
Total Chromium, Atomic Absorbtion		191.00	3	55	0.9
Total Chromium, ICP		191.30	5	56	0.8
Total Chromium, Other		191.99	3	56	2.2
Method Group 191.XX PPM			11	56	1.3
<b>ACID SOLUBLE COBALT</b>					
Acid Soluble Cobalt, ICP		202.30	5	3	0.2
Acid Soluble Cobalt, Other		202.99	1	6	0.0
Method Group 202.XX PPM			6	3	0.3
<b>ACID SOLUBLE COPPER</b>					
Acid Soluble Copper, Other		221.99	1	0.9	0.0
Method Group 221.XX PPM			4	3.5	0.7
<b>ACID SOLUBLE IRON AS Fe<sub>2</sub>O<sub>3</sub></b>					
Acid Soluble Iron, ICP		241.30	12	1.34	0.05
Acid Soluble Iron, Other		241.99	2	1.28	0.03
Method Group 241.XX PCT			14	1.33	0.06
<b>TOTAL LEAD</b>					
Total Lead, Atomic Absorbtion		251.00	1	1	0.0
Total Lead, ICP		251.30	3	1	0.0
Total Lead, Other		251.99	2	0.6	0.0
Method Group 251.XX PPM			6	1	0.4
<b>ACID SOLUBLE MANGANESE</b>					
Acid Soluble Manganese, ICP	972.02a	261.30	2	213	0.2
Acid Soluble Manganese, Other		261.99	4	223	3.6
Method Group 261.XX PPM			6	220	8.1
<b>WATER SOLUBLE MANGANESE</b>					
Water Soluble Manganese, Other		271.99	1	177	0
Method Group 271.XX PCT			1	177	0.0
<b>TOTAL MOLYBDENUM</b>					
Total Molybdenum, ICP		289.30	5	8	0.7
Total Molybdenum, Other		289.99	2	8	0.6
Method Group 289.XX PPM			7	8	0.9
<b>TOTAL NICKEL</b>					
Total Nickel, ICP		291.30	4	16.3	1.2

Total Nickel, icp	291.99		2	15.1	1.9
Method Group 291.XX PPM			6	16.3	1.7
<b>TOTAL SELENIUM</b>					
Total Selenium, ICP	301.30		1	1.0	0.0
Total Selenium, Other	301.99		2	1	0.4
Method Group 301.XX PPM			3	1.0	0.5
<b>SODIUM AS Na<sub>2</sub>O</b>					
Sodium, Atomic Absorbtion	983.04	311.00	1	0.23	0.00
Sodium, Other		311.99	8	0.17	0.02
Method Group 311.XX PCT			9	0.17	0.02
<b>ACID SOLUBLE ZINC</b>					
Acid Soluble Zinc, ICP	321.30		4	75.5	45.2
Acid Soluble Zinc, Other	321.99		2	82.5	5.2
Method Group 321.XX %			6	76.5	11.3
<b>FLUORIDE</b>					
Volumetric	325.10		11	1.61	0.04
Distilled/Electrode	325.99		4	1.60	0.03
Method Group 325.XX PCT			15	1.61	0.05

001.10 Ammoniacal Nitrogen		
Lab	MgO distillation	
31	13.20	-2.584
Std Dev	13.03	-1.000
61	12.93	0.000
Median	12.93	0.000
61	12.92	0.096

001.99 Ammoniacal Nitrogen		
Lab	Other	
330	13.45	-2.935
275	13.31	-2.066
38	13.15	-1.138
275	13.13	-1.018
Std Dev	13.13	-1.000
79	13.02	-0.329
32	12.98	-0.090
24	12.97	-0.030
Median	12.96	0.000
32	12.96	0.030
24	12.95	0.090
113	12.89	0.449
34	12.88	0.509
310	12.80	0.958
Std Dev	12.79	1.000
23	12.75	1.258
23	12.70	1.557

001.XX Ammoniacal Nitrogen		
Lab	Total Method	
330	13.45	-2.707
275	13.31	-1.914
31	13.20	-1.313
38	13.15	-1.067
Std Dev	13.14	-1.000
275	13.13	-0.957
79	13.02	-0.328
32	12.98	-0.109
24	12.97	-0.055
32	12.96	0.000
Median	12.96	0.000
24	12.95	0.055
61	12.93	0.164
61	12.92	0.219

113	12.89	0.383
34	12.88	0.438
310	12.80	0.848
Std Dev	12.77	1.000
23	12.75	1.121
23	12.70	1.395

002.99 Nitrate Nitrogen		
Lab	Other	
275	13.23	0.000
Median	13.23	0.000

002.XX Nitrate Nitrogen		
Lab	Total Method	
275	13.23	0.000
Median	13.23	0.000

010.11 Total Nitrogen		
Lab	Modified Comprehensive	
219	12.91	-1.340
Std Dev	12.90	-1.000
Median	12.87	0.000
Std Dev	12.84	1.000
113	12.83	1.340

010.60 Total Nitrogen		
Lab	Combustion	
24	13.17	-1.370
24	13.16	-1.340
80	13.15	-1.279
Std Dev	13.10	-1.000
49	13.10	-0.975
14	13.07	-0.761
31	13.07	-0.761
14	13.06	-0.731
79	13.05	-0.670
63	12.96	-0.122
140	12.94	0.000
Median	12.94	0.000
66	12.92	0.152
219	12.91	0.183
111	12.89	0.305
77	12.88	0.365
64	12.81	0.792

38	12.80	0.853
47	12.79	0.944
Std Dev	12.78	1.000
137	12.77	1.066
99	12.61	2.010

010.99 Total Nitrogen		
Lab	Other	
330	13.62	-2.599
Std Dev	13.22	-1.000
32	12.98	0.000
Median	12.98	0.000
32	12.96	0.081

010.XX Total Nitrogen		
Lab	Total Method	
330	13.62	-4.534
24	13.17	-1.466
24	13.16	-1.433
80	13.15	-1.365
49	13.10	-1.028
Std Dev	13.10	-1.000
14	13.07	-0.792
31	13.07	-0.792
14	13.06	-0.758
79	13.05	-0.691
32	12.98	-0.185
63	12.96	-0.084
32	12.96	-0.051
Median	12.95	0.000
140	12.94	0.051
66	12.92	0.219
219	12.91	0.253
219	12.91	0.253
111	12.89	0.388
77	12.88	0.455
113	12.83	0.826
64	12.81	0.927
38	12.80	0.994
Std Dev	12.80	1.000
47	12.79	1.096
137	12.77	1.230
99	12.61	2.275

020.20 Total Phosphate		
Lab	Spectrometric	
99	34.65	-2.975
140	34.43	-1.679
Std Dev	34.31	-1.000
111	34.30	-0.913
24	34.28	-0.825
24	34.28	-0.825
61	34.25	-0.648
34	34.22	-0.471
14	34.17	-0.177
79	34.15	-0.059
23	34.14	0.000
Median	34.14	0.000
14	34.07	0.412
31	34.06	0.471
275	34.06	0.471
32	34.06	0.501
32	34.02	0.707
23	34.02	0.736
Std Dev	33.97	1.000
61	33.97	1.031
113	33.88	1.531
310	33.82	1.885

020.40 Total Phosphate		
Lab	Automated	
137	33.34	0.000
Median	33.34	0.000

020.50 Total Phosphate		
Lab	ICP	
111	33.87	0.000
Median	33.87	0.000

020.99 Total Phosphate		
Lab	Other	
330	34.92	0.000
Median	34.92	0.000

020.XX Total Phosphate		
Lab	Total Method	
330	34.92	-4.236
99	34.65	-2.824

140	34.43	-1.673
Std Dev	34.30	-1.000
111	34.30	-0.994
24	34.28	-0.915
24	34.28	-0.915
61	34.25	-0.758
34	34.22	-0.601
14	34.17	-0.340
79	34.15	-0.235
23	34.14	-0.183
Median	34.11	0.000
14	34.07	0.183
31	34.06	0.235
275	34.06	0.235
32	34.06	0.261
32	34.02	0.444
23	34.02	0.471
61	33.97	0.732
Std Dev	33.91	1.000
113	33.88	1.177
111	33.87	1.255
310	33.82	1.490
137	33.34	4.000

030.20	Insoluble Phosphate	
Lab	Spectrometric	
61	0.25	-5.360
61	0.22	-3.797
140	0.16	-1.117
113	0.16	-1.117
Std Dev	0.15	-1.000
23	0.13	0.000
79	0.13	0.000
Median	0.13	0.000
23	0.13	0.223
Std Dev	0.11	1.000
24	0.10	1.340
24	0.09	2.010

030.30	Insoluble Phosphate	
Lab	Alka. Quimociac	
31	0.06	0.000
Median	0.06	0.000

030.40	Insoluble Phosphate	
Lab	Automated	
34	0.11	0.000
Median	0.11	0.000

030.99	Insoluble Phosphate	
Lab	Other	
275	33.98	-2.679
Std Dev	12.82	-1.000
32	0.21	0.000
Median	0.21	0.000
32	0.20	0.001

030.XX	Insoluble Phosphate	
Lab	Total Method	
275	33.98	-490.186
61	0.25	-1.557
61	0.22	-1.050
Std Dev	0.21	-1.000
32	0.21	-0.978
32	0.20	-0.761
140	0.16	-0.181
113	0.16	-0.181
Median	0.14	0.000
23	0.13	0.181
79	0.13	0.181
23	0.13	0.254
34	0.11	0.471
24	0.10	0.616
24	0.09	0.833
Std Dev	0.07	1.000
31	0.06	1.268

040.20	Indirect Available Phosphate	
Lab	Spectrometric	
140	34.27	-1.484
24	34.20	-1.052
24	34.19	-1.023
Std Dev	34.19	-1.000
61	34.04	-0.130
79	34.02	-0.014
Median	34.01	0.000
23	34.01	0.014
31	34.01	0.043

23	33.89	0.706
Std Dev	33.84	1.000
113	33.73	1.657
61	33.72	1.715

040.99	Indirect Available Phosphate	
Lab	Other	
34	34.11	-1.293
Std Dev	34.05	-1.000
32	33.86	-0.118
Median	33.84	0.000
32	33.81	0.118
Std Dev	33.62	1.000
137	33.12	3.362

040.XX	Indirect Available Phosphate	
Lab	Total Method	
140	34.27	-1.309
Std Dev	34.21	-1.000
24	34.20	-0.935
24	34.19	-0.910
34	34.11	-0.511
61	34.04	-0.137
79	34.02	-0.037
23	34.01	-0.012
Median	34.01	0.000
31	34.01	0.012
23	33.89	0.586
32	33.86	0.735
32	33.81	0.985
Std Dev	33.81	1.000
113	33.73	1.409
61	33.72	1.458
137	33.12	4.425

041.10	Direct Available Phosphate	
Lab	Gravimetric Quimociac	
219	33.85	-1.340
Std Dev	33.77	-1.000
Median	33.53	0.000
Std Dev	33.29	1.000
47	33.21	1.340

041.20	Direct Available Phosphate	
Lab	Spectrometric	
47	34.37	0.000
Median	34.37	0.000

041.50	Direct Available Phosphate	
Lab	ICP	
63	34.17	-1.340
Std Dev	33.96	-1.000
Median	33.36	0.000
Std Dev	32.76	1.000
80	32.55	1.340

041.60	Direct Available Phosphate	
Lab	EDTA Extract	
103	34.58	-1.086
Std Dev	34.52	-1.000
77	34.18	-0.551
219	33.98	-0.284
Median	33.77	0.000
64	33.56	0.284
Std Dev	33.02	1.000
49	32.99	1.046
29	15.31	24.671

041.XX	Direct Available Phosphate	
Lab	Total Method	
103	34.58	-0.906
47	34.37	-0.639
77	34.18	-0.409
63	34.17	-0.397
219	33.98	-0.161
219	33.85	0.000
Median	33.85	0.000
64	33.56	0.366
47	33.21	0.800
Std Dev	33.04	1.000
49	32.99	1.073
80	32.55	1.613
29	15.31	23.003

048.20	Water Soluble Phosphate	
Lab	Spectrometric	
330	31.04	-2.708

14	30.94	-2.439
14	30.88	-2.269
<b>Std Dev</b>	<b>30.43</b>	<b>-1.000</b>
61	30.32	-0.681
61	30.32	-0.666
24	30.15	-0.199
24	30.12	-0.099
<b>Median</b>	<b>30.08</b>	<b>0.000</b>
79	30.05	0.099
31	29.97	0.312
23	29.96	0.354
140	29.81	0.766
<b>Std Dev</b>	<b>29.73</b>	<b>1.000</b>
111	29.69	1.106
23	29.67	1.177
113	29.62	1.305

048.99 Water Soluble Phosphate		
Lab		Other
29	30.77	-15.697
32	30.00	-1.053
<b>Std Dev</b>	<b>30.00</b>	<b>-1.000</b>
34	29.95	0.000
<b>Median</b>	<b>29.95</b>	<b>0.000</b>
111	29.93	0.287
32	29.91	0.766

048.XX Water Soluble Phosphate		
Lab		Total Method
330	31.04	-3.467
14	30.94	-3.149
14	30.88	-2.948
29	30.77	-2.563
61	30.32	-1.072
61	30.32	-1.055
<b>Std Dev</b>	<b>30.30</b>	<b>-1.000</b>
24	30.15	-0.502
24	30.12	-0.385
79	30.05	-0.151
32	30.00	0.000
<b>Median</b>	<b>30.00</b>	<b>0.000</b>
31	29.97	0.101
23	29.96	0.151
34	29.95	0.184

111	29.93	0.235
32	29.91	0.318
140	29.81	0.637
<b>Std Dev</b>	<b>29.70</b>	<b>1.000</b>
111	29.69	1.038
23	29.67	1.122
113	29.62	1.273

050.50 %K <sub>2</sub> O Soluble Potash		
Lab		ICP(Oxalate)
99	0.12	-2.680
<b>Std Dev</b>	<b>0.11</b>	<b>-1.000</b>
23	0.11	0.000
23	0.11	0.000
<b>Median</b>	<b>0.11</b>	<b>0.000</b>

050.51 %K <sub>2</sub> O Soluble Potash		
Lab		ICP(Citrate)
137	0.11	0.000
<b>Median</b>	<b>0.11</b>	<b>0.000</b>

050.99 %K <sub>2</sub> O Soluble Potash		
Lab		Other
24	0.13	-0.766
31	0.12	0.000
61	0.12	0.000
61	0.12	0.000
111	0.12	0.000
<b>Median</b>	<b>0.12</b>	<b>0.000</b>
24	0.12	0.766
<b>Std Dev</b>	<b>0.11</b>	<b>1.000</b>
80	0.10	3.063
330	0.09	4.594

050.XX %K <sub>2</sub> O Soluble Potash		
Lab		Total Method
24	0.13	-1.340
<b>Std Dev</b>	<b>0.12</b>	<b>-1.000</b>
31	0.12	-0.670
61	0.12	-0.670
61	0.12	-0.670
111	0.12	-0.670
24	0.12	0.000
99	0.12	0.000

<b>Median</b>	<b>0.12</b>	<b>0.000</b>
23	0.11	0.670
23	0.11	0.670
137	0.11	0.670
<b>Std Dev</b>	<b>0.11</b>	<b>1.000</b>
80	0.10	2.010
330	0.09	3.350

060.00 Free Water		
Lab		Vacuum Oven
31	1.37	-2.390
24	1.29	-1.231
<b>Std Dev</b>	<b>1.27</b>	<b>-1.000</b>
61	1.27	-0.942
24	1.26	-0.724
34	1.23	-0.362
23	1.23	-0.290
140	1.22	-0.145
<b>Median</b>	<b>1.21</b>	<b>0.000</b>
113	1.20	0.145
79	1.17	0.507
23	1.16	0.652
61	1.16	0.724
<b>Std Dev</b>	<b>1.14</b>	<b>1.000</b>
111	1.13	1.159
32	0.95	3.694
32	0.79	6.012

060.99 Free Water		
Lab		Other
330	1.31	-1.352
<b>Std Dev</b>	<b>1.23</b>	<b>-1.000</b>
275	1.18	-0.748
275	1.06	-0.169
14	1.03	0.000
<b>Median</b>	<b>1.03</b>	<b>0.000</b>
14	0.99	0.193
<b>Std Dev</b>	<b>0.82</b>	<b>1.000</b>
47	0.70	1.569
47	0.49	2.583

060.XX Free Water		
Lab		Total Method
31	1.37	-1.307

<b>Std Dev</b>	<b>1.32</b>	<b>-1.000</b>
330	1.31	-0.882
24	1.29	-0.784
61	1.27	-0.654
24	1.26	-0.556
34	1.23	-0.392
23	1.23	-0.360
140	1.22	-0.294
113	1.20	-0.163
275	1.18	-0.065
79	1.17	0.000
<b>Median</b>	<b>1.17</b>	<b>0.000</b>
23	1.16	0.065
61	1.16	0.098
111	1.13	0.294
275	1.06	0.719
14	1.03	0.948
<b>Std Dev</b>	<b>1.02</b>	<b>1.000</b>
14	0.99	1.209
32	0.95	1.438
32	0.79	2.484
47	0.70	3.072
47	0.49	4.445

101.30 Acid Soluble Calcium		
Lab	%CaO	ICP
24	0.29	-3.251
330	0.29	-3.018
61	0.25	-1.154
<b>Std Dev</b>	<b>0.24</b>	<b>-1.000</b>
61	0.24	-0.921
24	0.24	-0.687
32	0.23	-0.221
34	0.23	-0.221
<b>Median</b>	<b>0.22</b>	<b>0.000</b>
31	0.22	0.221
23	0.22	0.245
14	0.21	0.478
23	0.21	0.478
14	0.21	0.711
111	0.20	0.944
<b>Std Dev</b>	<b>0.20</b>	<b>1.000</b>
32	0.19	1.410

101.XX Acid Soluble Calcium		
Lab	%CaO	Total Method
24	0.29	-3.251
330	0.29	-3.018
61	0.25	-1.154
Std Dev	0.24	-1.000
61	0.24	-0.921
24	0.24	-0.687
32	0.23	-0.221
34	0.23	-0.221
Median	0.22	0.000
31	0.22	0.221
23	0.22	0.245
14	0.21	0.478
23	0.21	0.478
14	0.21	0.711
111	0.20	0.944
Std Dev	0.20	1.000
32	0.19	1.410

121.30 Acid Soluble Magnesium		
Lab	%MgO	ICP
23	0.73	-1.149
Std Dev	0.72	-1.000
23	0.72	-0.995
34	0.72	-0.995
32	0.71	-0.536
24	0.70	-0.383
61	0.70	-0.230
Median	0.69	0.000
32	0.68	0.230
61	0.68	0.230
24	0.67	0.689
31	0.67	0.689
14	0.66	0.995
Std Dev	0.65	1.000
14	0.65	1.149

121.99 Acid Soluble Magnesium		
Lab	%MgO	Other
330	0.71	-1.340
Std Dev	0.70	-1.000
Median	0.65	0.000
Std Dev	0.61	1.000

111	0.60	1.340
121.XX Acid Soluble Magnesium		
Lab	%MgO	Total Method
23	0.73	-1.149
Std Dev	0.72	-1.000
23	0.72	-0.995
34	0.72	-0.995
330	0.71	-0.689
32	0.71	-0.536
24	0.70	-0.383
61	0.70	-0.230
Median	0.69	0.000
32	0.68	0.230
61	0.68	0.230
24	0.67	0.689
31	0.67	0.689
14	0.66	0.995
Std Dev	0.65	1.000
14	0.65	1.149
111	0.60	2.833

144..01 Sulfate Sulfur (S)		
Lab	Gravimetric	
103	45.14	-9.057
47	14.70	-1.664
Std Dev	11.97	-1.000
77	8.12	-0.066
Median	7.85	0.000
113	7.58	0.066
79	7.53	0.079
140	7.39	0.112

144.02 Sulfate Sulfur (S)		
Lab	Gravimetric	
77	7.89	0.000
Median	7.89	0.000

144.99 Sulfate Sulfur (S)		
Lab	Other	
330	27.66	-40.961
14	10.45	-6.020
14	10.39	-5.888
38	8.19	-1.421

Std Dev	7.98	-1.000
24	7.56	-0.152
275	7.52	-0.071
34	7.51	-0.041
Median	7.49	0.000
23	7.47	0.041
24	7.46	0.051
275	7.44	0.091
23	7.35	0.284
31	7.28	0.426
32	7.05	0.893
Std Dev	6.99	1.000
32	6.93	1.127

144.XX Sulfate Sulfur (S)		
Lab	Total Method	
103	45.14	-67.648
330	27.66	-36.216
47	14.70	-12.905
14	10.45	-5.261
14	10.39	-5.144
38	8.19	-1.187
77	8.12	-1.070
Std Dev	8.08	-1.000
77	7.89	-0.657
113	7.58	-0.099
24	7.56	-0.063
79	7.53	0.000
Median	7.53	0.000
275	7.52	0.009
34	7.51	0.036
23	7.47	0.108
24	7.46	0.117
275	7.44	0.153
140	7.39	0.243
23	7.35	0.324
31	7.28	0.450
32	7.05	0.863
Std Dev	6.97	1.000
32	6.93	1.070

145.99 Total Sulfur (S)		
Lab	Other	
275	15.50	-1.332

Std Dev	15.30	-1.000
275	15.29	-0.991
103	15.08	-0.642
113	14.90	-0.357
49	14.87	-0.309
24	14.85	-0.268
23	14.81	-0.211
23	14.72	-0.057
24	14.68	0.000
Median	14.68	0.000
34	14.68	0.008
219	14.23	0.739
64	14.13	0.901
Std Dev	14.06	1.000
99	14.05	1.031
310	14.02	1.072
137	11.99	4.377
330	9.22	8.868
111	7.47	11.719

145.XX Total Sulfur (S)		
Lab	Total Method	
275	15.50	-1.332
Std Dev	15.30	-1.000
275	15.29	-0.991
103	15.08	-0.642
113	14.90	-0.357
49	14.87	-0.309
24	14.85	-0.268
23	14.81	-0.211
23	14.72	-0.057
24	14.68	0.000
Median	14.68	0.000
34	14.68	0.008
219	14.23	0.739
64	14.13	0.901
Std Dev	14.06	1.000
99	14.05	1.031
310	14.02	1.072
137	11.99	4.377
330	9.22	8.868
111	7.47	11.719

151.00		
Lab	Total Arsenic	
	Atomic Absorbtion	
113	4.80	0.000
Median	4.80	0.000

151.30		
Lab	Total Arsenic	
	ICP	
330	7.76	-0.726
140	7.64	-0.611
Median	7.00	0.000
24	6.36	0.611
64	5.99	0.966

151.99		
Lab	Total Arsenic	
	Other	
61	5.95	-1.340
Std Dev	5.87	-1.000
Median	5.63	0.000
Std Dev	5.38	1.000
31	5.30	1.340

151.XX		
Lab	Total Arsenic	
	Total Method	
330	7.76	-1.723
140	7.64	-1.606
Std Dev	7.01	-1.000
24	6.36	-0.361
64	5.99	0.000
Median	5.99	0.000
61	5.95	0.039
31	5.30	0.674
Std Dev	4.97	1.000
113	4.80	1.162

165.99		
Lab	PPM	Acid Soluble Boron
		Other
111	71.00	-1.340
Std Dev	66.01	-1.000
Median	51.35	0.000
Std Dev	36.69	1.000
24	31.70	1.340

65.XX, ppm		
Lab	PPM	Acid Soluble Boron
		Total Method

111	71.00	-1.340
Std Dev	66.01	-1.000
Median	51.35	0.000
Std Dev	36.69	1.000
24	31.70	1.340

171.99		
Lab	PPM	Water Soluble Boron
		Other
330	28.28	0.000
Median	28.28	0.000

171.XX		
Lab	PPM	Water Soluble Boron
		Total Method
330	28.28	0.000
Median	28.28	0.000

181.00		
Lab	Total Cadmium	
	Atomic Absorbtion	
113	3.38	-1.233
Std Dev	3.34	-1.000
330	3.15	0.000
Median	3.15	0.000
Std Dev	2.96	1.000
330	2.88	1.447

181.30		
Lab	PPM	Total Cadmium
		ICP
64	3.08	-1.444
275	3.02	-1.340
Std Dev	2.82	-1.000
61	2.25	0.000
61	2.25	0.000
Median	2.25	0.000
Std Dev	1.68	1.000
111	1.50	1.305

181.99		
Lab	Total Cadmium	
	Other	
275	3.26	-0.123
24	3.19	0.000
Median	3.19	0.000
Std Dev	2.65	1.000
31	1.80	2.557

181.XX		
Lab	PPM	Total Cadmium
		Total Method
113	3.38	-0.524
275	3.26	-0.345
24	3.19	-0.248
330	3.15	-0.189
64	3.08	-0.087
275	3.02	0.000
Median	3.02	0.000
330	2.88	0.204
Std Dev	2.33	1.000
61	2.25	1.122
61	2.25	1.122
31	1.80	1.777
111	1.50	2.214

190.00		
Lab	%Al <sub>2</sub> O <sub>3</sub>	Aluminum
		ICP
14	1.13	-0.670
23	1.13	-0.670
14	1.12	-0.521
23	1.12	-0.521
32	1.11	-0.223
32	1.11	-0.074
Median	1.10	0.000
34	1.10	0.074
24	1.09	0.372
24	1.08	0.819
61	1.08	0.819
Std Dev	1.07	1.000
61	1.05	1.712
111	0.68	12.581

190.99		
Lab	%Al <sub>2</sub> O <sub>3</sub>	Aluminum
		Atomic Absorption
330	1.14	-1.340
Std Dev	1.13	-1.000
Median	1.12	0.000
Std Dev	1.11	1.000
31	1.10	1.340

190.XX		
Lab	%Al <sub>2</sub> O <sub>3</sub>	Aluminum
		Total Method
330	1.14	-1.218

Std Dev	1.13	-1.000
14	1.13	-0.731
23	1.13	-0.731
14	1.12	-0.568
23	1.12	-0.568
32	1.11	-0.244
32	1.11	-0.081
Median	1.10	0.000
31	1.10	0.081
34	1.10	0.081
24	1.09	0.406
24	1.08	0.893
61	1.08	0.893
Std Dev	1.07	1.000
61	1.05	1.868
111	0.68	13.725

191.00		
Lab	Total Chromium	
	Atomic Absorbtion	
330	56.30	-2.016
Std Dev	55.43	-1.000
113	54.57	0.000
Median	54.57	0.000
330	54.00	0.664

191.30		
Lab	Total Chromium	
	ICP	
64	57.64	-2.532
Std Dev	56.34	-1.000
275	55.63	-0.154
61	55.50	0.000
Median	55.50	0.000
Std Dev	54.66	1.000
61	54.50	1.186
111	53.00	2.965

191.99		
Lab	PPM	Total Chromium
		Other
31	61.25	-2.560
Std Dev	57.87	-1.000
24	55.70	0.000
Median	55.70	0.000
275	55.44	0.120



191.XX Total Chromium		
Lab	PPM	Total Method
31	61.25	-5.259
64	57.64	-1.953
Std Dev	56.59	-1.000
330	56.30	-0.732
24	55.70	-0.183
275	55.63	-0.119
61	55.50	0.000
Median	55.50	0.000
275	55.44	0.055
113	54.57	0.851
61	54.50	0.915
Std Dev	54.41	1.000
330	54.00	1.372
111	53.00	2.287

202.30 Acid Soluble Cobalt		
Lab	PPM	ICP
64		

202.99 Acid Soluble Cobalt		
Lab	PPM	Other
24	5.68	0.000
Median	5.68	0.000

202.XX Acid Soluble Cobalt		
Lab	PPM	Total Method
24	5.68	-9.158
64	3.42	-1.118
Std Dev	3.38	-1.000
61	3.15	-0.177
Median	3.10	0.000
61	3.05	0.177
330	2.95	0.550
Std Dev	2.82	1.000
111	1.50	5.679

221.30 Acid Soluble Copper		
Lab	PPM	ICP
61	3.50	0.000
111	3.50	0.000
Median	3.50	0.000
Std Dev	2.94	1.000
61	2.00	2.680

221.99 Acid Soluble Copper		
Lab	PPM	Other
24	5.25	0.000
Median	5.25	0.000

221.XX Acid Soluble Copper		
Lab	PPM	Total Method
24	5.25	-2.886
Std Dev	4.11	-1.000
61	3.50	0.000
111	3.50	0.000
Median	3.50	0.000
Std Dev	2.89	1.000
61	2.00	2.474

241.30 Acid Soluble Iron		
Lab	%Fe <sub>2</sub> O <sub>3</sub>	ICP
23	1.39	-0.961
24	1.39	-0.961
23	1.39	-0.860
34	1.39	-0.860
24	1.36	-0.354
61	1.36	-0.253
Median	1.34	0.000
111	1.33	0.253
61	1.33	0.354
14	1.32	0.455
14	1.32	0.556
32	1.31	0.657
Std Dev	1.29	1.000
32	1.29	1.163

241.99 Acid Soluble Iron		
Lab	%Fe <sub>2</sub> O <sub>3</sub>	Other
31	1.32	-1.340
Std Dev	1.31	-1.000
Median	1.28	0.000
Std Dev	1.25	1.000
330	1.24	1.340

241.XX Acid Soluble Iron		
Lab	%Fe <sub>2</sub> O <sub>3</sub>	Total Method
23	1.39	-1.340

24	1.39	-1.340
23	1.39	-1.233
34	1.39	-1.233
Std Dev	1.37	-1.000
24	1.36	-0.697
61	1.36	-0.590
111	1.33	-0.054
Median	1.33	0.000
61	1.33	0.054
14	1.32	0.161
31	1.32	0.161
14	1.32	0.268
32	1.31	0.375
32	1.29	0.911
Std Dev	1.28	1.000
330	1.24	1.983

251.00 Total Lead		
Lab	PPM	Atomic Absorbtion
330	0.51	0.000
Median	0.51	0.000

251.30 Total Lead		
Lab	PPM	ICP
61	1.00	0.000
61	1.00	0.000
Median	1.00	0.000
Std Dev	0.97	1.000
275	0.92	2.680

251.99 Total Lead		
Lab	PPM	Other
275	0.65	-1.340
Std Dev	0.64	-1.000
Median	0.61	0.000
Std Dev	0.57	1.000
24	0.56	1.340

251.XX Total Lead		
Lab	PPM	Total Method
61	1.00	-0.736
61	1.00	-0.736
275	0.92	-0.448
Median	0.78	0.000

275	0.65	0.448
24	0.56	0.752
330	0.51	0.922

261.30 Acid Soluble Manganese		
Lab	PPM	ICP
111	213.50	-1.340
Std Dev	213.44	-1.000
Median	213.25	0.000
Std Dev	213.06	1.000
330	213.00	1.340

261.99 Acid Soluble Manganese		
Lab	PPM	Other
31	229.20	-1.731
Std Dev	226.58	-1.000
61	224.50	-0.419
Median	223.00	0.000
61	221.50	0.419
Std Dev	219.42	1.000
24	219.00	1.117

261.XX Acid Soluble Manganese		
Lab	PPM	Total Method
31	229.20	-1.351
Std Dev	226.87	-1.000
61	224.50	-0.642
61	221.50	-0.189
Median	220.25	0.000
24	219.00	0.189
Std Dev	213.63	1.000
111	213.50	1.019
330	213.00	1.095

271.99 Water Soluble Manganese		
Lab	PPM	Other
330	177.00	0.000
Median	177.00	0.000

271.XX Water Soluble Manganese		
Lab	PPM	Total Method
330	177.00	0.000
Median	177.00	0.000

289.30	Total Molybdenum	
Lab	PPM	ICP

330		
289.99	Total Molybdenum	
Lab	PPM	Other
24	8.42	-1.340
Std Dev	8.20	-1.000
Median	7.56	0.000
Std Dev	6.92	1.000
31	6.70	1.340

289.XX	Total Molybdenum	
Lab	PPM	Total Method

24	8.42	-1.188
330	8.30	-1.033
Std Dev	8.27	-1.000
64	8.18	-0.872
111	7.50	0.000
Median	7.50	0.000
61	7.25	0.323
61	7.15	0.452
Std Dev	6.73	1.000
31	6.70	1.033

291.30	Total Nickel	
Lab	ICP	

330		
291.99	Total Nickel	
Lab	PPM	Other
24	17.70	-1.340
Std Dev	17.04	-1.000
Median	15.10	0.000
Std Dev	13.16	1.000
31	12.50	1.340

291.XX	Total Nickel	
Lab	PPM	Total Method

24	17.70	-1.025
Std Dev	17.66	-1.000
330	17.05	-0.558
61	17.00	-0.522
Median	16.28	0.000
61	15.55	0.522
64	15.05	0.881

Std Dev	14.89	1.000
31	12.50	2.716

301.30	Total Selenium	
Lab	PPM	ICP

24	<0.001	0.000
140	1.05	0.000
Median	1.05	0.000

301.99	Total Selenium	
Lab	PPM	Other

330	1.48	-1.340
Std Dev	1.33	-1.000
Median	0.91	0.000
Std Dev	0.49	1.000
61	0.35	1.340

301.XX	Total Selenium	
Lab	PPM	Total Method

24	<0.001	0.000
330	1.48	-1.024
Std Dev	1.46	-1.000
140	1.05	0.000
Median	1.05	0.000
Std Dev	0.63	1.000
61	0.35	1.656

311.00	Sodium	
Lab	%Na <sub>2</sub> O	Atomic Absorbtion

330	0.23	0.000
Median	0.23	0.000

311.99	Sodium	
Lab	%Na <sub>2</sub> O	Other

111	0.21	-2.680
Std Dev	0.18	-1.000
23	0.18	-0.473
23	0.18	-0.473
24	0.17	-0.158
Median	0.17	0.000
31	0.17	0.158
24	0.16	0.788
Std Dev	0.15	1.000
61	0.15	1.104

61	0.15	1.419
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311.XX	Sodium	
Lab	%Na <sub>2</sub> O	Total Method

330	0.23	-4.020
111	0.21	-2.680
Std Dev	0.18	-1.000
23	0.18	-0.335
23	0.18	-0.335
24	0.17	0.000
Median	0.17	0.000
31	0.17	0.335
Std Dev	0.16	1.000
24	0.16	1.005
61	0.15	1.340
61	0.15	1.675

321.30	Acid Soluble Zinc	
Lab	PPM	ICP

111	303.50	-5.040
Std Dev	120.74	-1.000
24	77.50	-0.044
Median	75.50	0.000
61	73.50	0.044
61	73.00	0.055

321.99	Acid Soluble Zinc	
Lab	Other	

31	89.40	-1.340
Std Dev	87.64	-1.000
Median	82.45	0.000
Std Dev	77.26	1.000
330	75.50	1.340

321.XX	Acid Soluble Zinc	
Lab	PPM	Total Method

111	303.50	-24.481
31	89.40	-1.391
Std Dev	85.77	-1.000
24	77.50	-0.108
Median	76.50	0.000
330	75.50	0.108
61	73.50	0.324
61	73.00	0.377

325.10	Fluoride	
Lab	%	Electrode

111	2.04	-10.848
32	1.79	-4.467
14	1.67	-1.404
14	1.64	-0.766
32	1.61	0.000
79	1.61	0.000
Median	1.61	0.000
24	1.61	0.000
24	1.60	0.255
34	1.60	0.255
23	1.60	0.383
23	1.54	1.914

325.99	Fluoride	
Lab	%	Other

31	1.66	-2.055
61	1.61	-0.447
Median	1.60	0.000
330	1.59	0.447
61	1.58	0.625

325.XX	Fluoride	
Lab	%	Total Method

111	2.04	-11.390
32	1.79	-4.690
14	1.67	-1.474
31	1.66	-1.206
14	1.64	-0.804
32	1.61	0.000
61	1.61	0.000
79	1.61	0.000
Median	1.61	0.000
24	1.61	0.000
24	1.60	0.268
34	1.60	0.268
23	1.60	0.402
330	1.59	0.670
61	1.58	0.804
23	1.54	2.010