

AFPC Rock Check Program

Sample No. 2010-02

	Method #	# of Anal.	Grand Median	Std Dev
Moisture				
Ground Sample AFPC IX.2.A	101			
Other (describe)	102	23	0.13	0.028
Method Group 100		23	0.13	0.03
P₂O₅				
Gravimetric AFPC IX.3.B	201			
ICP-induced coupled plasma AFPC IX.3.D	202			
Photometric-AFPC IX.3.C	203			
Automated -AOAC 978.01-15th	204			
Other(describe)	205	30	29.37	0.132
Method Group 200		30	29.37	0.13
P₂O₅ (on Dry Basis)				
Gravimetric AFPC IX.3.B	211			
ICP-induced coupled plasma AFPC IX.3.D	212			
Photometric-AFPC IX.3.C	213			
Automated -AOAC 978.01-15th	214			
Other(describe)	215	23	29.42	0.126
Method Group 210		23	29.42	0.12
Fe₂O₃				
Atomic Absorption-AFPC IX.6.B	301			
ICP-induced coupled plasma-AFPC IX.6.C	302			
Other(describe)	303	29	0.73	0.036
Method Group 300		29	0.73	0.04
Al₂O₃				
Atomic Absorption-AFPC IX.7.B	401			
ICP-induced coupled plasma-AFPC IX.7.C	402			
Other(describe)	403	28	0.44	0.031
Method Group 400		28	0.44	0.03
MgO				
Atomic Absorption-AFPC IX.8.A	501			
ICP-induced coupled plasma-AFPC IX.8.B	502			
Other(describe)	503	29	0.65	0.022
Method Group 500		29	0.65	0.02
Acid Insoluble				
Insoluble-AFPC IX.4.A	601			
Other(describe)	602	17	11.10	0.194
Method Group 600		17	11.10	0.19
Carbon Dioxide				
Gasometric-AFPC IX.13.B	651			0.000
Other(describe)	652	9	2.39	0.000
Method Group 650		9	2.39	0.37
CaO				
Gravimetric sulfate-AFPC IX.12.A	701			
ICP-induced coupled plasma-AFPC IX.12.D	702			
Ceric Sulfate volumetric-AFPC IX.12.B	703			
Permanganate	704			
EDTA Volumetric-AFPC IX.12.C	705			
Other(describe)	706	28	47.09	0.456
Method Group 700		28	47.09	0.46
CaO (on Dry Basis)				
Gravimetric sulfate-AFPC IX.12.A	711			
ICP-induced coupled plasma-AFPC IX.12.D	712			
Ceric Sulfate volumetric-AFPC IX.12.B	713			

0.799
0.43

	Method #	# of Anal.	Grand Median	Std Dev
Fluorine, F				
Volumetric-AFPC IX.14.A	801			
Specific Ion Electrode-AFPC IX.14.B	802			
Other (describe)	803	17	3.44	0.119
Method Group 800		17	3.44	0.12
Arsenic, As				
Atomic Absorption	911			
ICP-induced coupled plasma-AFPC IX.15.B	912			
Other(describe)	913	8	16.9	3.76
Method Group 900		8	16.9	3.76
Cadmium, Cd				
Atomic Absorption-AFPC IX.11.A	921			
ICP-induced coupled plasma-AFPC IX.11.B	922			
Other(describe)	923	10	33	2.0
Method Group 910		10	33	2.0
Cobalt, Co				
Atomic Absorption-AFPC IX.16.B	931			
ICP-induced coupled plasma-AFPC IX.16.A	932			
Other(describe)	933	12	3	0.5
Method Group 920		12	3	0.5
Mercury, Hg				
Atomic Absorption-AFPC IX.16.B	941			
ICP-induced coupled plasma-AFPC IX.16.A	942			
Other(describe)	943	5		1.87
Method Group 930		5	0.0	1.87
Molybdenum, Mo				
Atomic Absorption-AFPC IX.16.B	951			
ICP-induced coupled plasma-AFPC IX.16.A	952			
Other(describe)	953	10	10	1.0
Method Group 940		10	10	1.0
Nickel, Ni				
Atomic Absorption-AFPC IX.16.B	961			
ICP-induced coupled plasma-AFPC IX.16.A	962			
Other(describe)	963	10	19	1.5
Method Group 950		10	19	1.5
Lead, Pb				
Atomic Absorption-AFPC IX.16.B	971			
ICP-induced coupled plasma-AFPC IX.16.A	972			
Other(describe)	973	11	5	4.3
Method Group 960		11	5	4.3
Selenium, Se				
Atomic Absorption-AFPC IX.16.B	981			
ICP-induced coupled plasma-AFPC IX.16.A	982			
Other(describe)	983	5	5	1.1
Method Group 970		5	5	1.1
Zinc, Zn				
Atomic Absorption-AFPC IX.16.B	991			
ICP-induced coupled plasma-AFPC IX.16.A	992			
Other(describe)	993	10	255	59
Method Group 980		10	255	59

101 Ground Sample AFPC IX.2.A		
Lab	%	H ₂ O
Median	0.00	0.000

102 Other (describe)		
Lab	%	H ₂ O

266	0.20	-2.680
13	0.20	-2.501
13	0.19	-2.323
15	0.18	-1.965
15	0.16	-1.072
Std Dev	0.15	-1.000
16	0.15	-0.893
9	0.15	-0.715
49	0.14	-0.679
21	0.14	-0.536
6	0.13	-0.179
10	0.13	-0.179
9	0.13	0.000
Median	0.13	0.000
16	0.12	0.179
55	0.12	0.179
75	0.12	0.179
75	0.12	0.179
10	0.11	0.536
51	0.11	0.536
Std Dev	0.10	1.000
30	0.08	1.608
55	0.08	1.608
77	0.07	1.965
77	0.06	2.323
21	0.06	2.501

201 Gravimetric AFPC IX.3.B		
Lab	%	P2O5
Median	0.00	0.000

202 ICP-induced coupled plasma AFPC IX.3.D		
Lab	%	P2O5
Median	0.00	0.000

203 Photometric-AFPC IX.3.C		
Lab	%	P2O5
Median	0.00	0.000

204 Automated -AOAC 978.01-15th		
Lab	%	P2O5
Median	0.00	0.000

205 Other(describe)		
Lab	%	P2O5

55	29.77	-3.022
60	29.75	-2.870
6	29.59	-1.654
10	29.57	-1.502
30	29.56	-1.426
Std Dev	29.50	-1.000
10	29.49	-0.893
15	29.49	-0.893
49	29.48	-0.817
55	29.47	-0.741
15	29.43	-0.399
77	29.41	-0.285
92	29.40	-0.209
92	29.40	-0.209
9	29.38	-0.057
16	29.38	-0.019
Median	29.37	0.000
16	29.37	0.019
51	29.36	0.095
77	29.36	0.095
75	29.35	0.171
9	29.33	0.323
78	29.33	0.361
21	29.31	0.513
75	29.30	0.551
13	29.27	0.779
Std Dev	29.24	1.000
13	29.15	1.692
21	29.13	1.882
51	29.11	1.996
266	28.94	3.288
270	28.93	3.364
78	28.80	4.353

211 Gravimetric AFPC IX.3.B			
Lab	%	P2O5	dB
Median	0.00		0.000

212 ICP-induced coupled plasma AFPC IX.3.D			
Lab	%	P2O5	dB
Median	0.00		0.000

213 Photometric-AFPC IX.3.C			
Lab	%	P2O5	dB
Median	0.00		0.000

214 Automated -AOAC 978.01-15th			
Lab	%	P2O5	dB
Median	0.00		0.000

215 Other(describe)			
Lab	%	P2O5	dB

55	29.79		-2.997
6	29.63		-1.683
10	29.61		-1.524
30	29.58		-1.326
15	29.54		-1.005
Std Dev	29.54		-1.000
49	29.52		-0.840
10	29.52		-0.840
55	29.51		-0.704
15	29.47		-0.428
77	29.43		-0.087
16	29.42		-0.019
9	29.42		0.000
Median	29.42		0.000
16	29.41		0.091
51	29.39		0.194
75	29.39		0.250
77	29.38		0.288
9	29.37		0.351
75	29.34		0.648
13	29.33		0.712
21	29.32		0.760
Std Dev	29.29		1.000
13	29.21		1.679
21	29.17		1.994
266	29.00		3.328

301 Atomic Absorption-AFPC IX.6.B			
Lab	%	Fe2O3	

Median	0.00	0.000
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302 ICP-induced coupled plasma-AFPC IX.6.C		
Lab	%	Fe2O3
Median	0.00	0.000

303 Other(describe)		
Lab	%	Fe2O3

77	0.85	-3.314
77	0.84	-3.038
266	0.83	-2.762
78	0.80	-1.933
78	0.78	-1.381
Std Dev	0.77	-1.000
49	0.76	-0.829
10	0.75	-0.552
10	0.75	-0.414
9	0.74	-0.276
9	0.74	-0.276
13	0.74	-0.276
16	0.74	-0.276
16	0.74	-0.276
30	0.74	-0.276
51	0.73	0.000
55	0.73	0.000
Median	0.73	0.000
15	0.72	0.414
15	0.72	0.414
13	0.71	0.552
270	0.71	0.552
55	0.71	0.690
75	0.70	0.926
21	0.70	0.967
21	0.70	0.967
75	0.69	0.985
Std Dev	0.69	1.000
6	0.69	1.105
92	0.69	1.105
92	0.68	1.381
60	0.63	2.762

401 Atomic Absorption-AFPC IX.6.B		
Lab	%	Al2O3
Median	0.00	0.000

402 ICP-induced coupled plasma-AFPC IX.6.C			
Lab	%	Al2O3	
Median	0.00		0.000

403 Other(describe)			
Lab	%	Al2O3	
30	0.61		-5.587
266	0.59		-4.939
78	0.57		-4.291
77	0.55		-3.644
77	0.54		-3.320
78	0.52		-2.672
51	0.48		-1.376
Std Dev	0.47		-1.000
75	0.47		-0.896
55	0.46		-0.567
270	0.45		-0.405
75	0.45		-0.355
10	0.45		-0.243
9	0.44		-0.081
10	0.44		-0.081
Median	0.44		0.000
21	0.44		0.081
21	0.44		0.081
13	0.43		0.243
49	0.43		0.243
55	0.43		0.243
92	0.43		0.243
92	0.43		0.243
9	0.42		0.567
15	0.42		0.567
15	0.42		0.567
16	0.42		0.567
16	0.42		0.567
13	0.41		0.891
Std Dev	0.41		1.000
6	0.36		2.510

501 Atomic Absorption-AFPC IX.8.A			
Lab	%	MgO	
Median	0.00		0.000

502 ICP-induced coupled plasma-AFPC IX.8.B			
Lab	%	MgO	
Median	0.00		0.000

503 Other(describe)			
Lab	%	MgO	
78	0.76		-4.913
78	0.73		-3.350
92	0.70		-2.233
92	0.68		-1.340
Std Dev	0.67		-1.000
49	0.67		-0.893
9	0.66		-0.447
10	0.66		-0.447
10	0.66		-0.447
13	0.66		-0.447
266	0.66		-0.447
15	0.66		-0.223
15	0.66		-0.223
16	0.66		-0.223
55	0.66		-0.223
16	0.65		0.000
55	0.65		0.000
77	0.65		0.000
270	0.65		0.000
Median	0.65		0.000
9	0.65		0.223
77	0.64		0.447
51	0.64		0.670
6	0.63		0.893
13	0.63		0.893
Std Dev	0.63		1.000
60	0.61		2.010
75	0.60		2.162
21	0.60		2.233
21	0.60		2.233
30	0.52		5.807
75	0.48		7.375

601 Insoluble-AFPC IX.4.A			
Lab	%	Al	
Median	0.00		0.000

602 Other(describe)			
Lab	%	Al	
266	13.00		-9.818
6	11.43		-1.727
9	11.32		-1.160
Std Dev	11.29		-1.000
9	11.25		-0.773
21	11.22		-0.644
10	11.22		-0.618
16	11.19		-0.490
16	11.10		-0.026
21	11.10		0.000
Median	11.10		0.000
10	11.08		0.103
13	11.05		0.232
15	11.00		0.490
15	10.96		0.696
Std Dev	10.90		1.000
30	10.90		1.005
13	10.83		1.366
55	10.66		2.242
55	5.70		27.805

651 Gasometric-AFPC IX.13.B			
Lab	%	CO2	
Median	0.00		0.000

652 Other(describe)			
Lab	%	CO2	
15	2.63		-0.643
15	2.58		-0.520
13	2.57		-0.492

51	2.47		-0.219
30	2.39		0.000
Median	2.39		0.000
6	2.37		0.055
9	2.08		0.848
13	2.08		0.848
Std Dev	2.02		1.000
9	1.87		1.436

701 Gravimetric sulfate-AFPC IX.12.A			
Lab	%	CaO	
Median	0.00		0.000

702 ICP-induced coupled plasma-AFPC IX.12.I			
Lab	%	CaO	
Median	0.00		0.000

703 Ceric Sulfate volumetric-AFPC IX.12.B			
Lab	%	CaO	
Median	0.00		0.000

704 Permanganate			
Lab	%	CaO	
Median	0.00		0.000

705 EDTA Volumetric-AFPC IX.12.C			
Lab	%	CaO	
Median	0.00		0.000

706 Other(describe)			
Lab	%	CaO	
75	48.11		-2.238
92	47.73		-1.403
77	47.60		-1.118
Std Dev	47.55		-1.000

78	47.51	-0.910
51	47.46	-0.811
21	47.38	-0.625
15	47.29	-0.438
30	47.27	-0.395
13	47.21	-0.263
6	47.19	-0.219
9	47.18	-0.197
49	47.16	-0.153
10	47.13	-0.077
13	47.11	-0.044
Median	47.09	0.000
21	47.07	0.044
9	46.99	0.230
15	46.95	0.307
55	46.88	0.471
270	46.83	0.570
10	46.75	0.756
55	46.68	0.910
Std Dev	46.63	1.000
266	46.63	1.008
77	46.58	1.118
16	46.43	1.458
92	46.39	1.535
16	46.36	1.600
60	46.15	2.061
78	45.34	3.847

711 Gravimetric sulfate-AFPC IX.12.A			
Lab	%	CaO	dB
Median	0.00		0.000

712 ICP-induced coupled plasma-AFPC IX.12.D			
Lab	%	CaO	dB
Median	0.00		0.000

713 Ceric Sulfate volumetric-AFPC IX.12.B			
Lab	%	CaO	dB
Median	0.00		0.000

714 Permanganate			
Lab	%	CaO	dB
Median	0.00		0.000

715 EDTA Volumetric-AFPC IX.12.C			
Lab	%	CaO	dB
Median	0.00		0.000

716 Other(describe)			
Lab	%	CaO	dB
75	68.05		-1.767
92	67.61		-1.212
Std Dev	67.44		-1.000
77	67.38		-0.933
78	67.22		-0.723
51	67.19		-0.685
30	67.11		-0.586
15	67.07		-0.538
6	67.02		-0.480
21	67.01		-0.469
10	66.91		-0.340
49	66.87		-0.296
9	66.76		-0.153
13	66.75		-0.136
55	66.74		-0.133
Median	66.64		0.000
9	66.53		0.133
15	66.52		0.142
13	66.49		0.183
21	66.41		0.283
10	66.30		0.429
55	66.18		0.577
77	65.99		0.816
270	65.89		0.934
Std Dev	65.84		1.000
16	65.73		1.138
92	65.71		1.165
60	65.69		1.183
16	65.64		1.247
266	65.62		1.275
78	63.67		3.713

801 Volumetric-AFPC IX.14.A			
Lab	%	Fluorine, F	
Median	0.00		0.000

802 Specific Ion Electrode-AFPC IX.14.B			
Lab	%	Fluorine, F	

Median	0.00		0.000
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803 Other(describe)			
Lab	%	Fluorine, F	
266	3.89		-3.769
30	3.67		-1.926
77	3.64		-1.675
51	3.60		-1.340
Std Dev	3.56		-1.000
9	3.54		-0.838
13	3.54		-0.838
9	3.52		-0.670
49	3.45		-0.084
15	3.44		0.000
Median	3.44		0.000
13	3.42		0.168
15	3.42		0.209
21	3.41		0.251
77	3.38		0.503
Std Dev	3.32		1.000
55	3.30		1.173
21	3.27		1.424
270	3.20		2.010
55	2.83		5.151

911 Atomic Absorption-AFPC			
Lab	ppm	Arsenic, As	
Median	0.0		0.000

912 ICP-induced coupled plasma-AFPC IX.15.B			
Lab	ppm	Arsenic, As	
Median	0.0		0.000

913 Other(describe)			
Lab	ppm	Arsenic, As	
77	<1		0.000
55	24.3		-1.962
55	22.4		-1.443
Std Dev	20.7		-1.000
270	18.0		-0.286
266	17.0		-0.020
Median	16.9		0.000
78	16.9		0.020
13	16.1		0.219

Std Dev	13.2		1.000
78	7.9		2.401
77	1.0		4.236

921 Atomic Absorption-AFPC IX.11.A			
Lab	ppm	Cadmium, Cd	
Median	0		0.000

922 ICP-induced coupled plasma-AFPC IX.11.			
Lab	ppm	Cadmium, Cd	
Median	0		0.000

923 Other(describe)			
Lab	ppm	Cadmium, Cd	
78	37		-1.918
78	36		-1.623
Std Dev	35		-1.000
13	34		-0.443
51	34		-0.295
55	33		-0.025
Median	33		0.000
55	33		0.025
77	31		0.934
77	31		0.934
Std Dev	31		1.000
270	31		1.131
266	29		1.918

931 Atomic Absorption-AFPC IX.16.B			
Lab	ppm	Cobalt, Co	
Median	0		0.000

932 ICP-induced coupled plasma-AFPC IX.16.			
Lab	ppm	Cobalt, Co	
Median	0		0.000

933 Other(describe)			
Lab	ppm	Cobalt, Co	
75	31		-50.828
75	29		-47.131
78	4		-1.848
Std Dev	4		-1.000
266	4		-0.924
13	3		-0.499

77	3	0.000
77	3	0.000
78	3	0.000
Median	3	0.000
55	3	0.185
55	3	0.185
51	3	0.924
Std Dev	2	1.000
270	2	1.663

941	Atomic Absorption-AFPC IX.16.B	
Lab	ppm	Mercury, Hg
Median	0.0	0.000

942	ICP-induced coupled plasma-AFPC IX.16.A	
Lab	ppm	Mercury, Hg
Median	0.0	0.000

943	Other(describe)	
Lab	ppm	Mercury, Hg
266	<5	0.000
13	<0.07	0.000
75	3.0	-1.608
75	2.5	-1.340
Std Dev	1.9	-1.000
55	0.0	0.000
55	0.0	0.000
270	0.0	0.000
Median		0.000

951	Atomic Absorption-AFPC IX.16.B	
Lab	ppm	Iolybdenum, Mo
Median	0	0.000

952	ICP-induced coupled plasma-AFPC IX.16.A	
Lab	ppm	Iolybdenum, Mo
Median	0	0.000

953	Other(describe)	
Lab	ppm	Iolybdenum, Mo
270	13	-3.077
13	11	-1.191
Std Dev	11	-1.000
78	11	-0.596

266	10	-0.199
51	10	-0.099
Median	10	0.000
78	10	0.099
55	9	0.844
55	9	0.844
Std Dev	9	1.000
77	8	1.886
77	8	1.886

961	Atomic Absorption-AFPC IX.16.B	
Lab	ppm	Nickel, Ni
Median	0	0.000

962	ICP-induced coupled plasma-AFPC IX.16.A	
Lab	ppm	Nickel, Ni
Median	0	0.000

963	Other(describe)	
Lab	ppm	Nickel, Ni
266	35	-10.854
13	24	-3.752
51	21	-1.273
Std Dev	20	-1.000
78	19	-0.268
55	19	-0.067
Median	19	0.000
55	19	0.067
78	19	0.067
270	18	0.402
Std Dev	17	1.000
77	17	1.072
77	17	1.072

971	Atomic Absorption-AFPC IX.16.B	
Lab	ppm	Lead, Pb
Median	0	0.000

972	ICP-induced coupled plasma-AFPC IX.16.A	
Lab	ppm	Lead, Pb
Median	0	0.000

973	Other(describe)	
Lab	ppm	Lead, Pb

75	18	-2.900
75	17	-2.668
Std Dev	9	-1.000
55	7	-0.429
55	7	-0.394
266	6	-0.253
270	5	0.000
Median	5	0.000
13	3	0.432
77	1	0.928
77	1	0.928
78	1	0.928
78	1	0.928

981	Atomic Absorption-AFPC IX.16.B	
Lab	ppm	Selenium, Se
Median	0	0.000

982	ICP-induced rd coupled plasma-AFPC IX.16.A	
Lab	ppm	Selenium, Se
Median	0	0.000

983	Other(describe)	
Lab	ppm	Selenium, Se
77	ND	0.000
77	ND	0.000
266	7	-1.700
Std Dev	6	-1.000
55	6	-0.638
13	5	0.000
Median	5	0.000
55	4	0.702
270		2.735

991	Atomic Absorption-AFPC IX.16.B	
Lab	ppm	Zinc, Zn
Median	0	0.000

992	ICP-induced coupled plasma-AFPC IX.16.A	
Lab	ppm	Zinc, Zn
Median	0	0.000

993	Other(describe)	
Lab	ppm	Zinc, Zn

270	416	-2.725
78	316	-1.026
Std Dev	314	-1.000
266	311	-0.949
60	265	-0.172
55	257	-0.040
Median	255	0.000
55	253	0.040
77	239	0.268
78	214	0.691
Std Dev	196	1.000
51	102	2.584
77	46	3.531

