

AFPC Rock Check Program

Sample No. 2003-09

	Method #	# of Anal.	Grand Median	Std Dev
Moisture				
Ground Sample AFPC 9-2	101	22	1.08	0.077
Other (describe)	102	4	0.89	0.078
Method Group 100		26	1.07	0.11
BPL or P₂O₅				
Gravimetric AFPC 9-5	201	1	31.16	0.000
ICP-induced coupled plasma	202	2	31.12	0.011
Photometric-AFPC 9-6	203	16	31.06	0.200
Automated -AOAC 978.01-15th	204	10	31.09	0.202
Other (describe)	205	4	31.14	0.037
Method Group 200		33	31.10	0.14
Fe₂O₃				
Atomic Absorption-AFPC 9-12,13	301	7	1.33	0.097
ICP-induced coupled plasma	302	19	1.36	0.043
Other (describe)	303	4	1.34	0.053
Method Group 300		30	1.35	0.06
Al₂O₃				
Atomic Absorption-AFPC 9-16,17	401	5	1.46	0.022
ICP-induced coupled plasma	402	18	1.44	0.099
Other (describe)	403	4	1.48	0.148
Method Group 400		27	1.44	0.10
MgO				
Atomic Absorption-AFPC 9-18,19	501	7	0.38	0.004
ICP-induced coupled plasma	502	18	0.40	0.007
Other (describe)	503	4	0.35	0.032
Method Group 500		29	0.39	0.01
Acid Insoluble				
Insoluble-AFPC 9-8	601	17	8.89	0.127
Other (describe)	602	2	8.85	0.112
Method Group 600		19	8.89	0.12
CaO				
Gravimetric sulfate	701	1	45.30	0.000
ICP-induced coupled plasma	702	11	44.83	0.144
Ceric Sulfate volumetric	703	2	44.89	0.037
Permanganate	704	1	44.35	0.000
EDTA Volumetric	705	3	44.62	0.321
Other (describe)	706	9	45.00	0.519
Method Group 700		27	44.83	0.43
Fluorine, F				
Volumetric-AFPC 9-37	801			
Specific Ion Electrode	802	13	3.51	0.075
Other (describe)	803	5	3.44	0.090
Method Group 800		18	3.46	0.09

	Method #	# of Anal.	Grand Median	Std Dev
Arsenic, As				
Atomic Absorption	911			
ICP-induced coupled plasma	912	4	6.9	5.24
Other (describe)	913	3	8.0	0.37
Method Group 900		7	8.0	2.87
Cadmium, Cd				
Atomic Absorption	921	1	11	0.0
ICP-induced coupled plasma	922	9	8	0.1
Other (describe)	923	4	8	0.8
Method Group 910		14	8	0.2
Cobalt, Co				
Atomic Absorption	931			
ICP-induced coupled plasma	932	5	4	2.2
Other (describe)	933	5	4	1.5
Method Group 920		10	4	2.4
Mercury, Hg				
Atomic Absorption	941			
ICP-induced coupled plasma	942	1	0.1	0.00
Other (describe)	943	1	0.4	0.00
Method Group 930		2	0.3	0.13
Molybdenum, Mo				
Atomic Absorption	951			
ICP-induced coupled plasma	952	5	6	1.1
Other (describe)	953	1	6	0.0
Method Group 940		6	6	0.9
Nickel, Ni				
Atomic Absorption	961			
ICP-induced coupled plasma	962	6	18	0.8
Other (describe)	963	6	21	8.4
Method Group 950		12	19	3.6
Lead, Pb				
Atomic Absorption	971			
ICP-induced coupled plasma	972	7	8	4.7
Other (describe)	973	3	14	5.0
Method Group 960		10	10	6.8
Selenium, Se				
Atomic Absorption	981			
ICP-induced coupled plasma	982			
Other (describe)	983	1	4	0.0
Method Group 970		1	4	0.0
Zinc, Zn				
Atomic Absorption	991	1	54	0
ICP-induced coupled plasma	992	7	128	37
Other (describe)	993	6	83	14
Method Group 980		14	86	32

101 Ground Sample AFPC 9-2		
Lab	%	H ₂ O
17	####	#####
13	1.48	-5.224
13	1.36	-3.610
10	1.28	-2.641
10	1.21	-1.673
Std Dev	1.15	-1.000
5	1.14	-0.833
24	1.13	-0.639
5	1.12	-0.575
61	1.09	-0.187
17	1.08	-0.058
61	1.08	-0.006
Median	1.08	0.000
24	1.08	0.006
78	1.08	0.006
26	1.07	0.071
9	1.06	0.200
9	1.04	0.459
6	1.03	0.588
78	1.03	0.652
Std Dev	1.00	1.000
6	0.98	1.233
57	0.86	2.783
77	0.34	9.499
77	0.29	10.145

102 Other (describe)		
Lab	%	H ₂ O
75	0.97	-1.021
Std Dev	0.97	-1.000
35	0.89	0.000
75	0.89	0.000
Median	0.89	0.000
Std Dev	0.81	1.000
237	0.55	4.339

201 Gravimetric AFPC 9-5		
Lab	%	P2O5
26	31.16	0.000
Median	31.16	0.000

202 ICP-induced coupled plasma		
Lab	%	P2O5
10	31.13	-1.340
Std Dev	31.13	-1.000
Median	31.12	0.000
Std Dev	31.10	1.000
10	31.10	1.340

203 Photometric-AFPC 9-6		
Lab	%	P2O5
36	33.24	-10.945
Std Dev	31.25	-1.000
78	31.20	-0.701
9	31.18	-0.626
9	31.16	-0.526
19	31.16	-0.526
78	31.11	-0.276
5	31.08	-0.125
5	31.06	-0.025
Median	31.06	0.000
61	31.05	0.025
61	31.00	0.276
6	30.95	0.526
6	30.94	0.576
Std Dev	30.86	1.000
17	30.75	1.528
237	30.75	1.528
17	30.71	1.728
60	30.45	3.031

204 Automated -AOAC 978.01-15th		
Lab	%	P2O5
57	31.40	-1.556
Std Dev	31.29	-1.000
24	31.28	-0.963
24	31.28	-0.939
15	31.18	-0.445
15	31.12	-0.173
Median	31.09	0.000
13	31.05	0.173
77	30.99	0.469
13	30.98	0.543
Std Dev	30.88	1.000
77	30.77	1.556

205 Other(describe)		
Lab	%	P2O5
57	30.50	2.890
70	31.24	-2.680
Std Dev	31.18	-1.000
35	31.15	-0.268
Median	31.14	0.000
75	31.13	0.268
Std Dev	31.10	1.000
75	31.10	1.072

301 Atomic Absorption-AFPC 9-12,13		
Lab	%	Fe2O3
26	1.36	-0.309
17	1.35	-0.206
5	1.33	0.000
5	1.33	0.000
Median	1.33	0.000
17	1.31	0.206
Std Dev	1.23	1.000
60	1.11	2.268
36	0.88	4.638

302 ICP-induced coupled plasma		
Lab	%	Fe2O3
77	1.49	-3.030
77	1.49	-3.030
78	1.43	-1.515
13	1.41	-1.165
78	1.41	-1.049
Std Dev	1.40	-1.000
10	1.39	-0.699
57	1.39	-0.699
10	1.39	-0.583
6	1.36	0.000
6	1.36	0.000
9	1.36	0.000
Median	1.36	0.000
13	1.35	0.233
61	1.35	0.233
9	1.34	0.466
61	1.34	0.466
24	1.33	0.816

Std Dev	1.32	1.000
24	1.31	1.165
57	1.30	1.398
237	1.27	2.097

303 Other(describe)		
Lab	%	Fe2O3
35	1.39	-0.965
19	1.37	-0.589
Median	1.34	0.000
75	1.31	0.589
75	1.29	0.861

401 Atomic Absorption-AFPC 9-16,17		
Lab	%	Al2O3
17	1.48	-0.893
17	1.46	0.000
26	1.46	0.000
Median	1.46	0.000
Std Dev	1.44	1.000
5	1.43	1.340
5	1.42	1.787

402 ICP-induced coupled plasma		
Lab	%	Al2O3
77	1.82	-3.868
77	1.82	-3.868
78	1.71	-2.756
78	1.66	-2.200
24	1.55	-1.087
237	1.55	-1.087
Std Dev	1.54	-1.000
24	1.51	-0.683
6	1.44	-0.025
6	1.44	-0.025
Median	1.44	0.000
10	1.44	0.025
13	1.44	0.025
13	1.43	0.126
10	1.42	0.177
9	1.41	0.278
9	1.40	0.379
57	1.36	0.784
61	1.36	0.834

Std Dev	1.34	1.000
61	1.34	1.037

403 Other(describe)		
Lab	%	Al2O3
19	1.69	-1.421
Std Dev	1.63	-1.000
35	1.56	-0.541
Median	1.48	0.000
75	1.40	0.541
75	1.38	0.694

501 Atomic Absorption-AFPC 9-18,19		
Lab	%	MgO
17	0.40	-5.360
26	0.39	-2.680
Std Dev	0.38	-1.000
5	0.38	0.000
5	0.38	0.000
17	0.38	0.000
36	0.38	0.000
Median	0.38	0.000
Std Dev	0.38	1.000
60	0.36	6.700

502 ICP-induced coupled plasma		
Lab	%	MgO
13	0.41	-1.340
61	0.41	-1.340
Std Dev	0.40	-1.000
9	0.40	-0.670
9	0.40	-0.670
61	0.40	-0.670
77	0.40	-0.670
78	0.40	-0.670
13	0.40	0.000
24	0.40	0.000
78	0.40	0.000
Median	0.40	0.000
6	0.39	0.670
6	0.39	0.670
10	0.39	0.670
10	0.39	0.670
24	0.39	0.670

77	0.39	0.670
Std Dev	0.39	1.000
57	0.37	3.350
237	0.37	3.350

503 Other(describe)		
Lab	%	MgO
19	0.39	-1.202
Std Dev	0.38	-1.000
35	0.37	-0.586
Median	0.35	0.000
75	0.33	0.586
75	0.33	0.642

601 Insoluble-AFPC 9-8			
Lab	%	Al	
19	9.15	-2.089	
9	9.14	-2.010	
57	9.04	-1.222	
24	9.04	-1.182	
6	9.03	-1.143	
Std Dev	9.01	-1.000	
26	9.01	-0.985	
6	8.98	-0.749	
24	8.93	-0.355	
61	8.89	0.000	
Median	8.89	0.000	
61	8.87	0.118	
5	8.86	0.197	
10	8.86	0.197	
13	8.86	0.197	
5	8.85	0.276	
9	8.84	0.355	
13	8.84	0.394	
Std Dev	8.76	1.000	
10	8.69	1.537	

602 Other(describe)			
Lab	%	Al	
35	9.00	-1.340	
Std Dev	8.96	-1.000	
Median	8.85	0.000	
Std Dev	8.74	1.000	
70	8.70	1.340	

701 Gravimetric sulfate			
Lab	%	CaO	
26	45.30	0.000	
Median	45.30	0.000	

702 ICP-induced coupled plasma			
Lab	%	CaO	
77	45.40	-4.003	
61	45.34	-3.550	
Std Dev	44.97	-1.000	
61	44.88	-0.348	
6	44.84	-0.104	
10	44.83	-0.035	
10	44.83	0.000	
Median	44.83	0.000	
6	44.74	0.592	
237	44.70	0.870	
Std Dev	44.68	1.000	
77	44.63	1.357	
78	44.56	1.845	
78	44.15	4.699	

703 Ceric Sulfate volumetric			
Lab	%	CaO	
17	44.94	-1.340	
Std Dev	44.93	-1.000	
Median	44.89	0.000	
Std Dev	44.85	1.000	
17	44.84	1.340	

704 Permanganate			
Lab	%	CaO	
60	44.35	0.000	
Median	44.35	0.000	

705 EDTA Volumetric			
Lab	%	CaO	
9	45.36	-2.306	
Std Dev	44.94	-1.000	
9	44.62	0.000	
Median	44.62	0.000	
19	44.50	0.374	

706 Other(describe)			
Lab	%	CaO	
75	45.51	-1.001	
Std Dev	45.51	-1.000	
57	45.40	-0.781	
24	45.38	-0.733	
24	45.11	-0.222	
13	45.00	0.000	
Median	45.00	0.000	
57	44.80	0.376	
13	44.68	0.607	
35	44.55	0.858	
Std Dev	44.48	1.000	
75	44.20	1.537	

801 Volumetric-AFPC 9-37			
Lab	%	Fluorine, F	
Median	0.00	0.000	

802 Specific Ion Electrode			
Lab	%	Fluorine, F	
24	3.78	-3.618	
24	3.74	-3.082	
237	3.59	-1.005	
Std Dev	3.58	-1.000	
17	3.56	-0.670	
17	3.55	-0.536	
9	3.54	-0.402	
9	3.51	0.000	
Median	3.51	0.000	
36	3.47	0.536	
13	3.46	0.670	
78	3.46	0.670	
Std Dev	3.44	1.000	
13	3.42	1.206	
57	3.36	2.010	
78	3.28	3.082	

803 Other(describe)			
Lab	%	Fluorine, F	
77	3.46	-0.223	
35	3.45	-0.112	
77	3.44	0.000	
Median	3.44	0.000	

Std Dev	3.35	1.000
75	3.33	1.228
75	3.33	1.228

911	Atomic Absorption-AFPC 9-18,19	
Lab	ppm	Arsenic, As
Median	0.0	0.000

912	ICP-induced coupled plasma	
Lab	ppm	Arsenic, As
9	10.5	-0.696
9	10.2	-0.639
Median	6.9	0.000
78	3.5	0.639
78	2.5	0.830

913	Other(describe)	
Lab	ppm	Arsenic, As
13	9.0	-2.680
Std Dev	8.4	-1.000
77	8.0	0.000
77	8.0	0.000
Median	8.0	0.000

921	Atomic Absorption-AFPC 9-12,13	
Lab	ppm	Cadmium, Cd
19	11	0.000
Median	11	0.000

922	ICP-induced coupled plasma	
Lab	ppm	Cadmium, Cd
77	11	-40.200
77	10	-26.800
Std Dev	8	-1.000
9	8	0.000
78	8	0.000
78	8	0.000
Median	8	0.000
Std Dev	8	1.000
61	8	1.340
61	8	1.340
9	8	2.680
237	7	10.050

923	Other(describe)	
Lab	ppm	Cadmium, Cd
57	8	-0.893
13	8	-0.638
Median	8	0.000
75	7	0.638
75	7	0.638

931	Atomic Absorption-AFPC 9-16,17	
Lab	ppm	Cobalt, Co
Median	0	0.000

932	ICP-induced coupled plasma	
Lab	ppm	Cobalt, Co
78	7	-1.340
78	7	-1.340
Std Dev	6	-1.000
77	4	0.000
77	4	0.000
Median	4	0.000
237	3	0.536

933	Other(describe)	
Lab	ppm	Cobalt, Co
57	12	-5.360
Std Dev	5	-1.000
57	5	-0.670
13	4	0.000
Median	4	0.000
75	3	0.670
75	3	0.670

941	Atomic Absorption-AFPC 9-18,19	
Lab	ppm	Mercury, Hg
Median	0.0	0.000

942	ICP-induced coupled plasma	
Lab	ppm	Mercury, Hg
24	0.1	0.000
Median	0.1	0.000

943	Other(describe)	
Lab	ppm	Mercury, Hg
13	<.07	0.000

57	0.4	0.000
Median	0.4	0.000

951	Atomic Absorption-AFPC 9-18,19	
Lab	ppm	Molybdenum, Mo
Median	0	0.000

952	ICP-induced coupled plasma	
Lab	ppm	Molybdenum, Mo
77	8	-2.233
Std Dev	7	-1.000
78	7	-0.893
78	6	0.000
Median	6	0.000
77	5	0.447
Std Dev	4	1.000
237	3	2.501

953	Other(describe)	
Lab	ppm	Molybdenum, Mo
13	6	0.000
Median	6	0.000

961	Atomic Absorption-AFPC 9-12,13	
Lab	ppm	Nickel, Ni
Median	0	0.000

962	ICP-induced coupled plasma	
Lab	ppm	Nickel, Ni
24	21	-3.573
77	19	-1.191
Std Dev	19	-1.000
77	18	0.000
78	18	0.000
Median	18	0.000
78	18	0.596
Std Dev	17	1.000
237	13	5.956

963	Other(describe)	
Lab	ppm	Nickel, Ni
19	42	-2.561
Std Dev	29	-1.000
57	27	-0.774

13	22	-0.179
Median	21	0.000
57	19	0.179
75	13	0.893
75	13	0.893

971	Atomic Absorption-AFPC 9-16,17	
Lab	ppm	Lead, Pb
Median	0	0.000

972	ICP-induced coupled plasma	
Lab	ppm	Lead, Pb
77	18	-2.251
77	17	-2.037
Std Dev	12	-1.000
9	10	-0.429
9	8	0.000
Median	8	0.000
78	7	0.107
237	7	0.107
78	6	0.322

973	Other(describe)	
Lab	ppm	Lead, Pb
57	23	-1.787
Std Dev	19	-1.000
57	14	0.000
Median	14	0.000
13	10	0.893

981	Atomic Absorption-AFPC 9-18,19	
Lab	ppm	Selenium, Se
Median	0	0.000

982	ICP-induced coupled plasma	
Lab	ppm	Selenium, Se
Median	0	0.000

983	Other(describe)	
Lab	ppm	Selenium, Se
13	4	0.000
Median	4	0.000

991 Atomic Absorption-AFPC 9-18,19			
Lab	ppm	Zinc, Zn	
60	54		0.000
Median	54		0.000

992 ICP-induced coupled plasma			
Lab	ppm	Zinc, Zn	
24	136		-0.231
77	135		-0.204
77	132		-0.122
24	128		0.000
Median	128		0.000
Std Dev	91		1.000
237	85		1.170
78	84		1.184
78	80		1.292

993 Other(describe)			
Lab	ppm	Zinc, Zn	
13	101		-1.269
Std Dev	97		-1.000
19	91		-0.564
57	88		-0.353
Median	83		0.000
57	78		0.353
75	69		0.987
75	69		0.987

