

AFPC Rock Check Program

Sample No. 2007-01

	Method #	# of Anal.	Grand Median	Std Dev
Moisture				
Ground Sample AFPC 9-2	101	21	1.11	0.127
Other (describe)	102	2	0.90	0.093
Method Group 100		23	1.08	0.21
BPL or P₂O₅				
Gravimetric AFPC 9-5	201	2	32.79	0.078
ICP-induced coupled plasma	202	2	32.90	0.326
Photometric-AFPC 9-6	203	14	32.59	0.142
Automated -AOAC 978.01-15th	204	8	32.53	0.101
Other(describe)	205	2	16.36	11.836
Method Group 200		28	32.57	0.17
BPL or P₂O₅ (on Dry Basis)				
Gravimetric AFPC 9-5	211	2	33.06	0.124
ICP-induced coupled plasma	212	1	32.88	0.000
Photometric-AFPC 9-6	213	11	32.94	0.153
Automated -AOAC 978.01-15th	214	8	32.92	0.114
Other(describe)	215	1	0.50	0.000
Method Group 210		13	32.95	0.07
Fe₂O₃				
Atomic Absorption-AFPC 9-12,13	301	6	1.16	0.077
ICP-induced coupled plasma	302	19	1.14	0.054
Other(describe)	303			
Method Group 300		25	1.14	0.07
Al₂O₃				
Atomic Absorption-AFPC 9-16,17	401	5	1.32	0.045
ICP-induced coupled plasma	402	18	1.31	0.087
Other(describe)	403			
Method Group 400		23	1.32	0.08
MgO				
Atomic Absorption-AFPC 9-18,19	501	7	0.36	0.015
ICP-induced coupled plasma	502	18	0.35	0.013
Other(describe)	503			
Method Group 500		25	0.35	0.01
Acid Insoluble				
Insoluble-AFPC 9-8	601	16	5.15	0.149
Other(describe)	602	1	5.55	0.000
Method Group 600		17	5.17	0.17
CaO				
Gravimetric sulfate	701			
ICP-induced coupled plasma	702	10	47.44	0.544
Ceric Sulfate volumetric	703			
Permanganate	704	2	46.87	0.386
EDTA Volumetric	705	5	46.71	0.366
Other(describe)	706	4	47.26	0.468
Method Group 700		21	47.10	0.64
CaO (on Dry Basis)				
Gravimetric sulfate	711			
ICP-induced coupled plasma	712	5	47.56	0.610
Ceric Sulfate volumetric	713			
Permanganate	714	1	47.67	0.000
EDTA Volumetric	715	4	47.18	0.326
Other(describe)	716	4	47.84	0.451
Method Group 710		13	47.37	0.66

	Method #	# of Anal.	Grand Median	Std Dev
Fluorine, F				
Volumetric-AFPC 9-37	801			
Specific Ion Electrode	802	14	3.61	0.165
Other (describe)	803	2	3.74	0.022
Method Group 800		16	3.64	0.15
Arsenic, As				
Atomic Absorption	911	1	5.5	0.00
ICP-induced coupled plasma	912	3	19.7	3.60
Other(describe)	913	4	14.4	1.82
Method Group 900		8	14.4	4.80
Cadmium, Cd				
Atomic Absorption	921	2	7	3.2
ICP-induced coupled plasma	922	11	5	0.1
Other(describe)	923	2	4	0.2
Method Group 910		15	5	0.4
Cobalt, Co				
Atomic Absorption	931	1	21	0.0
ICP-induced coupled plasma	932	5	7	0.0
Other(describe)	933	1	7	0.0
Method Group 920		7	7	0.0
Mercury, Hg				
Atomic Absorption	941			
ICP-induced coupled plasma	942			
Other(describe)	943			
Method Group 930		0	#NUM!	
Molybdenum, Mo				
Atomic Absorption	951	1	11	0.0
ICP-induced coupled plasma	952	4	9	1.3
Other(describe)	953	1	10	0.0
Method Group 940		6	9	1.3
Nickel, Ni				
Atomic Absorption	961	2	32	8.4
ICP-induced coupled plasma	962	7	20	2.1
Other(describe)	963	1	21	0.0
Method Group 950		10	21	2.4
Lead, Pb				
Atomic Absorption	971	2	17	1.3
ICP-induced coupled plasma	972	4	13	3.1
Other(describe)	973	1	14	0.0
Method Group 960		7	14	3.5
Selenium, Se				
Atomic Absorption	981			
ICP-induced coupled plasma	982	1	20	0.0
Other(describe)	983	1	3	0.0
Method Group 970		2	12	6.5
Zinc, Zn				
Atomic Absorption	991	3	59	17
ICP-induced coupled plasma	992	7	60	5
Other(describe)	993	2	35	16
Method Group 980		12	60	8

101 Ground Sample AFPC 9-2		
Lab	%	H ₂ O
9	1.36	-1.971
9	1.36	-1.971
10	1.26	-1.182
13	1.26	-1.143
Std Dev	1.24	-1.000
13	1.22	-0.867
24	1.20	-0.709
75	1.19	-0.631
61	1.13	-0.158
61	1.12	-0.079
5	1.11	0.000
6	1.11	0.000
Median	1.11	0.000
6	1.08	0.236
24	1.06	0.394
5	1.04	0.552
75	1.04	0.552
50	1.03	0.631
Std Dev	0.98	1.000
270	0.80	2.444
77	0.66	3.547
27	0.60	4.059
35	0.59	4.099
77	0.55	4.414

102 Other (describe)		
Lab	%	H ₂ O
51	1.02	-1.340
Std Dev	0.99	-1.000
Median	0.90	0.000
Std Dev	0.80	1.000
57	0.77	1.340

201 Gravimetric AFPC 9-5		
Lab	%	P2O5
51	32.89	-1.340
Std Dev	32.86	-1.000
Median	32.79	0.000
Std Dev	32.71	1.000
77	32.68	1.340

202 ICP-induced coupled plasma		
Lab	%	P2O5
26	33.34	-1.340
Std Dev	33.23	-1.000
Median	32.90	0.000
Std Dev	32.58	1.000
10	32.47	1.340

203 Photometric-AFPC 9-6		
Lab	%	P2O5
60	32.85	-1.851
35	32.80	-1.499
36	32.80	-1.499
Std Dev	32.73	-1.000
9	32.66	-0.511
9	32.66	-0.511
5	32.61	-0.159
61	32.61	-0.123
Median	32.59	0.000
6	32.57	0.123
6	32.57	0.123
270	32.56	0.194
Std Dev	32.45	1.000
5	32.44	1.040
270	32.42	1.181
61	32.39	1.428
27	32.13	3.262

204 Automated -AOAC 978.01-15th		
Lab	%	P2O5
50	32.76	-2.258
24	32.64	-1.017
Std Dev	32.63	-1.000
24	32.60	-0.620
13	32.55	-0.124
Median	32.53	0.000
75	32.52	0.124
75	32.50	0.323
Std Dev	32.43	1.000
77	32.38	1.514
13	32.34	1.960

205 Other(describe)		
Lab	%	P2O5

51	32.22	-1.340
Std Dev	28.20	-1.000
Median	16.36	0.000
Std Dev	4.52	1.000
57	0.50	1.340

211 Gravimetric AFPC 9-5			
Lab	%	P2O5	dB
51	33.23	-1.340	
Std Dev	33.19	-1.000	
Median	33.06	0.000	
Std Dev	32.94	1.000	
77	32.90	1.340	

212 ICP-induced coupled plasma			
Lab	%	P2O5	dB
10	32.88	0.000	
Median	32.88	0.000	

213 Photometric-AFPC 9-6			
Lab	%	P2O5	dB
9	33.11	-1.143	
9	33.11	-1.143	
Std Dev	33.09	-1.000	
35	32.99	-0.386	
61	32.97	-0.253	
5	32.95	-0.112	
6	32.94	0.000	
Median	32.94	0.000	
6	32.93	0.065	
5	32.80	0.860	
Std Dev	32.78	1.000	
61	32.76	1.180	
270	32.68	1.662	
27	32.32	4.044	

214 Automated -AOAC 978.01-15th			
Lab	%	P2O5	dB
50	33.10	-1.588	
Std Dev	33.03	-1.000	
24	32.99	-0.626	
24	32.98	-0.572	
13	32.95	-0.243	
Median	32.92	0.000	

75	32.89	0.243
75	32.86	0.502
Std Dev	32.80	1.000
13	32.75	1.513
77	32.56	3.146

215 Other(describe)			
Lab	%	P2O5	dB
57	0.50	0.000	
Median	0.50	0.000	

301 Atomic Absorption-AFPC 9-12,13		
Lab	%	Fe2O3
36	1.74	-7.491
Std Dev	1.24	-1.000
60	1.19	-0.323
5	1.18	-0.258
Median	1.16	0.000
5	1.14	0.258
Std Dev	1.08	1.000
51	1.06	1.292
27	0.46	9.106

302 ICP-induced coupled plasma		
Lab	%	Fe2O3
35	1.33	-3.571
77	1.33	-3.571
77	1.33	-3.571
26	1.32	-3.386
Std Dev	1.19	-1.000
9	1.17	-0.614
51	1.17	-0.614
6	1.16	-0.429
9	1.16	-0.429
6	1.15	-0.244
75	1.14	0.000
Median	1.14	0.000
75	1.12	0.309
24	1.11	0.495
50	1.11	0.495
24	1.11	0.587
61	1.09	0.865
13	1.09	0.957
Std Dev	1.08	1.000

61	1.07	1.234
10	1.05	1.604
13	1.05	1.604

303 Other(describe)		
Lab	%	Fe2O3
Median	0.00	0.000

401 Atomic Absorption-AFPC 9-16,17		
Lab	%	Al2O3
36	3.65	-52.037
Std Dev	1.36	-1.000
5	1.35	-0.670
5	1.32	0.000
Median	1.32	0.000
51	1.29	0.670
Std Dev	1.28	1.000
27	1.23	2.122

402 ICP-induced coupled plasma		
Lab	%	Al2O3
35	1.80	-5.619
77	1.76	-5.158
77	1.75	-5.043
24	1.43	-1.354
24	1.42	-1.239
Std Dev	1.40	-1.000
50	1.36	-0.548
75	1.34	-0.318
6	1.32	-0.086
6	1.32	-0.086
Median	1.31	0.000
10	1.31	0.086
75	1.30	0.095
9	1.30	0.144
9	1.30	0.144
13	1.29	0.317
13	1.28	0.375
61	1.27	0.548
61	1.27	0.548
Std Dev	1.23	1.000
26	1.18	1.527

403 Other(describe)		
Lab	%	Al2O3
Median	0.00	0.000

501 Atomic Absorption-AFPC 9-18,19		
Lab	%	MgO
36	0.39	-2.010
Std Dev	0.37	-1.000
27	0.37	-0.670
5	0.36	0.000
35	0.36	0.000
Median	0.36	0.000
5	0.35	0.670
Std Dev	0.35	1.000
51	0.34	1.340
60	0.33	2.345

502 ICP-induced coupled plasma		
Lab	%	MgO
13	0.43	-5.743
Std Dev	0.36	-1.000
6	0.36	-0.766
6	0.36	-0.766
9	0.36	-0.766
26	0.36	-0.766
61	0.36	-0.766
61	0.36	-0.766
9	0.35	0.000
10	0.35	0.000
13	0.35	0.000
24	0.35	0.000
77	0.35	0.000
77	0.35	0.000
Median	0.35	0.000
24	0.34	0.766
Std Dev	0.34	1.000
51	0.30	3.829
75	0.27	5.941
50	0.27	6.126
75	0.26	6.665

503 Other(describe)		
Lab	%	MgO
Median	0.00	0.000

601 Insoluble-AFPC 9-8			
Lab	%	Al	
9	5.66	-3.417	
13	5.42	-1.809	
61	5.33	-1.206	
5	5.32	-1.139	
Std Dev	5.30	-1.000	
13	5.28	-0.871	
9	5.25	-0.670	
51	5.25	-0.670	
24	5.17	-0.134	
Median	5.15	0.000	
6	5.13	0.134	
61	5.13	0.134	
6	5.11	0.268	
10	5.09	0.402	
27	5.09	0.402	
35	5.07	0.536	
24	5.07	0.569	
Std Dev	5.00	1.000	
5	4.89	1.742	

602 Other(describe)		
Lab	%	Al
57	5.55	0.000
Median	5.55	0.000

701 Gravimetric sulfate			
Lab	%	CaO	
Median	0.00	0.000	

702 ICP-induced coupled plasma			
Lab	%	CaO	
75	48.37	-1.709	
26	48.33	-1.626	
Std Dev	47.98	-1.000	
61	47.76	-0.578	
61	47.65	-0.376	
75	47.48	-0.074	
Median	47.44	0.000	
77	47.40	0.074	
77	47.10	0.626	
10	46.97	0.874	

Std Dev	46.90	1.000
6	46.86	1.067
6	46.78	1.215

703 Ceric Sulfate volumetric		
Lab	%	CaO
Median	0.00	0.000

704 Permanganate		
Lab	%	CaO
27	47.39	-1.340
Std Dev	47.25	-1.000
Median	46.87	0.000
Std Dev	46.48	1.000
60	46.35	1.340

705 EDTA Volumetric		
Lab	%	CaO
51	47.72	-2.762
Std Dev	47.08	-1.000
35	46.97	-0.711
50	46.71	0.000
Median	46.71	0.000
9	46.48	0.629
Std Dev	46.34	1.000
9	46.21	1.367

706 Other(describe)		
Lab	%	CaO
24	47.64	-0.817
24	47.50	-0.518
Median	47.26	0.000
13	47.02	0.518
Std Dev	46.79	1.000
13	46.59	1.436

711 Gravimetric sulfate			
Lab	%	CaO	dB
Median	0.00	0.000	

712 ICP-induced coupled plasma			
Lab	%	CaO	dB
61	48.30	-1.199	
61	48.19	-1.024	

Std Dev	48.17	-1.000
10	47.56	0.000
Median	47.56	0.000
6	47.37	0.316
6	47.31	0.425

713 Ceric Sulfate volumetric			
Lab	%	CaO	dB
Median	0.00		0.000

714 Permanganate			
Lab	%	CaO	dB
27	47.67		0.000
Median	47.67		0.000

715 EDTA Volumetric			
Lab	%	CaO	dB
51	48.21		-3.148
Std Dev	47.51		-1.000
35	47.25		-0.196
Median	47.18		0.000
9	47.12		0.196
Std Dev	46.86		1.000
9	46.85		1.035

716 Other(describe)			
Lab	%	CaO	dB
24	48.15		-0.697
24	48.08		-0.534
Median	47.84		0.000
13	47.60		0.534
Std Dev	47.39		1.000
13	47.18		1.462

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

802 Specific Ion Electrode			
Lab	%	Fluorine, F	
9	3.82		-1.287
9	3.81		-1.226
Std Dev	3.77		-1.000
51	3.72		-0.681

270	3.70	-0.560
13	3.69	-0.469
27	3.65	-0.257
13	3.64	-0.167
Median	3.61	0.000
75	3.58	0.167
75	3.55	0.379
50	3.52	0.530
36	3.46	0.893
Std Dev	3.44	1.000
24	3.39	1.348
24	3.32	1.772
35	2.13	8.948

803 Other(describe)			
Lab	%	Fluorine, F	
77	3.77		-1.340
Std Dev	3.76		-1.000
Median	3.74		0.000
Std Dev	3.72		1.000
77	3.71		1.340

911 Atomic Absorption-AFPC 9-18,19			
Lab	ppm	Arsenic, As	
27	5.5		0.000
Median	5.5		0.000

912 ICP-induced coupled plasma			
Lab	ppm	Arsenic, As	
270	20.0		-0.083
6	19.7		0.000
Median	19.7		0.000
Std Dev	16.1		1.000
24	10.4		2.597

913 Other(describe)			
Lab	ppm	Arsenic, As	
77	15.7		-0.701
77	15.1		-0.371
Median	14.4		0.000
13	13.8		0.371
Std Dev	12.6		1.000
51	10.0		2.433

921 Atomic Absorption-AFPC 9-12,13			
Lab	ppm	Cadmium, Cd	
27	12		-1.340
Std Dev	10		-1.000
Median	7		0.000
Std Dev	4		1.000
51	3		1.340

922 ICP-induced coupled plasma			
Lab	ppm	Cadmium, Cd	
270	8		-22.971
270	6		-7.657
61	5		-1.149
Std Dev	5		-1.000
51	5		0.000
75	5		0.000
75	5		0.000
77	5		0.000
77	5		0.000
Median	5		0.000
Std Dev	5		1.000
6	5		1.531
61	5		1.914
50	4		7.657

923 Other(describe)			
Lab	ppm	Cadmium, Cd	
13	4		-1.340
Std Dev	4		-1.000
Median	4		0.000
Std Dev	4		1.000
57	4		1.340

931 Atomic Absorption-AFPC 9-16,17			
Lab	ppm	Cobalt, Co	
27	21		0.000
Median	21		0.000

932 ICP-induced coupled plasma			
Lab	ppm	Cobalt, Co	
6	7		0.000
75	7		0.000
75	7		0.000
77	7		0.000

77	7	0.000
Median	7	0.000

933 Other(describe)			
Lab	ppm	Cobalt, Co	
13	7		0.000
Median	7		0.000

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	
Median	0.0		0.000

943 Other(describe)			
Lab	ppm	Mercury, Hg	
13	<0.07		0.000
Median	0.0		0.000

951 Atomic Absorption-AFPC 9-18,19			
Lab	ppm	Iolybdenum, Mo	
51	11		0.000
Median	11		0.000

952 ICP-induced coupled plasma			
Lab	ppm	Iolybdenum, Mo	
6	15		-4.560
Std Dev	10		-1.000
77	9		0.000
77	9		0.000
Median	9		0.000
51	8		0.800

953 Other(describe)			
Lab	ppm	Iolybdenum, Mo	
13	10		0.000
Median	10		0.000

961 Atomic Absorption-AFPC 9-12,13			
Lab	ppm	Nickel, Ni	
27	44		-1.340
Std Dev	41		-1.000

Median	32	0.000
Std Dev	24	1.000
51	21	1.340

962 ICP-induced coupled plasma		
Lab	ppm	Nickel, Ni
51	25	-2.339
270	24	-1.871
Std Dev	22	-1.000
6	21	-0.341
75	20	0.000
75	20	0.000
Median	20	0.000
77	19	0.468
77	18	0.935

963 Other(describe)		
Lab	ppm	Nickel, Ni
13	21	0.000
Median	21	0.000

971 Atomic Absorption-AFPC 9-16,17		
Lab	ppm	Lead, Pb
51	19	-1.340
Std Dev	19	-1.000
Median	17	0.000
Std Dev	16	1.000
27	16	1.340

972 ICP-induced coupled plasma		
Lab	ppm	Lead, Pb
6	25	-4.216
Std Dev	16	-1.000
270	13	-0.163
Median	13	0.000
77	12	0.163
77	12	0.163

973 Other(describe)		
Lab	ppm	Lead, Pb
13	14	0.000
Median	14	0.000

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

982 ICP-induced coupled plasma		
Lab	ppm	Selenium, Se
6	20	0.000
Median	20	0.000

983 Other(describe)		
Lab	ppm	Selenium, Se
13	3	0.000
Median	3	0.000

991 Atomic Absorption-AFPC 9-18,19		
Lab	ppm	Zinc, Zn
27	81	-1.282
Std Dev	76	-1.000
51	59	0.000
Median	59	0.000
Std Dev	42	1.000
60	35	1.398

992 ICP-induced coupled plasma		
Lab	ppm	Zinc, Zn
270	66	-1.266
Std Dev	65	-1.000
6	63	-0.570
51	62	-0.422
75	60	0.000
75	60	0.000
Median	60	0.000
Std Dev	55	1.000
77	52	1.688
77	51	1.899

993 Other(describe)		
Lab	ppm	Zinc, Zn
13	56	-1.340
Std Dev	51	-1.000
Median	35	0.000
Std Dev	19	1.000
57	13	1.340

