

AFPC Rock Check Program

Sample No. 2007-06

	Method #	# of Anal.	Grand Median	Std Dev
Moisture				
Ground Sample AFPC 9-2	101	18	0.95	0.117
Other (describe)	102	5	0.80	0.470
Method Group 100		23	0.94	0.18
BPL or P₂O₅				
Gravimetric AFPC 9-5	201	3	23.88	0.097
ICP-induced coupled plasma	202	1	23.88	0.000
Photometric-AFPC 9-6	203	11	23.69	0.082
Automated -AOAC 978.01-15th	204	9	23.72	0.213
Other(describe)	205	3	23.97	0.787
Method Group 200		27	23.72	0.20
BPL or P₂O₅ (on Dry Basis)				
Gravimetric AFPC 9-5	211	3	24.07	0.084
ICP-induced coupled plasma	212	1	24.18	0.000
Photometric-AFPC 9-6	213	9	23.93	0.067
Automated -AOAC 978.01-15th	214	8	23.92	0.252
Other(describe)	215	2	23.08	0.829
Method Group 210		23	23.95	0.16
Fe₂O₃				
Atomic Absorption-AFPC 9-12,13	301	3	1.08	0.211
ICP-induced coupled plasma	302	18	1.18	0.138
Other(describe)	303	2	1.15	0.006
Method Group 300		23	1.14	0.12
Al₂O₃				
Atomic Absorption-AFPC 9-16,17	401	2	1.68	0.463
ICP-induced coupled plasma	402	19	1.04	0.030
Other(describe)	403			
Method Group 400		21	1.04	0.03
MgO				
Atomic Absorption-AFPC 9-18,19	501	3	1.43	0.052
ICP-induced coupled plasma	502	20	1.55	0.084
Other(describe)	503			
Method Group 500		23	1.55	0.10
Acid Insoluble				
Insoluble-AFPC 9-8	601	14	20.19	0.471
Other(describe)	602	2	20.80	0.149
Method Group 600		16	20.23	0.45
CaO				
Gravimetric sulfate	701			
ICP-induced coupled plasma	702	13	37.35	0.500
Ceric Sulfate volumetric	703	1	37.64	0.000
Permanganate	704	1	36.85	0.000
EDTA Volumetric	705	3	37.57	0.045
Other(describe)	706	7	37.39	0.274
Method Group 700		25	37.49	0.43
CaO (on Dry Basis)				
Gravimetric sulfate	711			
ICP-induced coupled plasma	712	8	37.54	0.811
Ceric Sulfate volumetric	713			
Permanganate	714			
EDTA Volumetric	715	3	37.89	0.052
Other(describe)	716	5	37.72	0.301
Method Group 710		23	37.76	0.40

	Method #	# of Anal.	Grand Median	Std Dev
Fluorine, F				
Volumetric-AFPC 9-37	801			
Specific Ion Electrode	802	13	2.81	0.086
Other (describe)	803	2	2.87	0.007
Method Group 800		15	2.84	0.08
Arsenic, As				
Atomic Absorption	911			
ICP-induced coupled plasma	912	6	19.6	2.10
Other(describe)	913	4	16.6	2.56
Method Group 900		10	18.3	3.34
Cadmium, Cd				
Atomic Absorption	921	1	1	0.0
ICP-induced coupled plasma	922	10	2	0.1
Other(describe)	923	4	2	0.2
Method Group 910		15	2	0.3
Cobalt, Co				
Atomic Absorption	931			
ICP-induced coupled plasma	932	6	4	0.2
Other(describe)	933	3	5	0.2
Method Group 920		9	4	0.7
Mercury, Hg				
Atomic Absorption	941			
ICP-induced coupled plasma	942	1		0.00
Other(describe)	943	2	1.0	0.04
Method Group 930		3	0.9	0.37
Molybdenum, Mo				
Atomic Absorption	951			
ICP-induced coupled plasma	952	4	9	1.1
Other(describe)	953	3	2	3.2
Method Group 940		7	8	3.7
Nickel, Ni				
Atomic Absorption	961			
ICP-induced coupled plasma	962	8	15	2.0
Other(describe)	963	4	12	2.1
Method Group 950		12	14	2.2
Lead, Pb				
Atomic Absorption	971			
ICP-induced coupled plasma	972	5	12	1.9
Other(describe)	973	4	16	6.4
Method Group 960		9	13	2.2
Selenium, Se				
Atomic Absorption	981			
ICP-induced coupled plasma	982	2	2	0.3
Other(describe)	983	4	1	0.6
Method Group 970		6	1	1.1
Zinc, Zn				
Atomic Absorption	991	2	37	1
ICP-induced coupled plasma	992	8	29	2
Other(describe)	993	3	19	8
Method Group 980		13	29	4

101 Ground Sample AFPC 9-2			
Lab	%	H ₂ O	
10	1.23	-2.380	
61	1.14	-1.651	
61	1.11	-1.394	
Std Dev	1.06	-1.000	
24	1.04	-0.793	
24	1.03	-0.708	
75	1.03	-0.708	
13	1.02	-0.579	
9	0.95	-0.021	
9	0.95	-0.021	
Median	0.95	0.000	
75	0.95	0.021	
6	0.92	0.236	
6	0.92	0.236	
34	0.90	0.407	
13	0.87	0.708	
Std Dev	0.83	1.000	
26	0.75	1.694	
270	0.63	2.723	
77	0.41	4.610	
77	0.16	6.754	

102 Other (describe)			
Lab	%	H ₂ O	
69	0.95	-0.308	
69	0.94	-0.298	
51	0.80	0.000	
Median	0.80	0.000	
Std Dev	0.33	1.000	
241	0.31	1.042	
57	0.30	1.063	

201 Gravimetric AFPC 9-5			
Lab	%	P2O5	
77	24.09	-2.165	
Std Dev	23.98	-1.000	
51	23.88	0.000	
Median	23.88	0.000	
241	23.83	0.515	

202 ICP-induced coupled plasma			
Lab	%	P2O5	
77	24.09	-2.165	
Std Dev	23.98	-1.000	
51	23.88	0.000	
Median	23.88	0.000	
241	23.83	0.515	

10	23.88	0.000	
Median	23.88	0.000	

203 Photometric-AFPC 9-6			
Lab	%	P2O5	
69	23.88	-2.315	
69	23.80	-1.340	
Std Dev	23.77	-1.000	
270	23.73	-0.487	
270	23.72	-0.365	
9	23.70	-0.122	
61	23.69	0.000	
Median	23.69	0.000	
61	23.68	0.122	
9	23.64	0.609	
Std Dev	23.61	1.000	
6	23.59	1.218	
6	23.59	1.218	
60	23.30	4.751	

204 Automated -AOAC 978.01-15th			
Lab	%	P2O5	
26	24.51	-3.738	
26	24.12	-1.904	
Std Dev	23.93	-1.000	
75	23.75	-0.165	
75	23.75	-0.165	
24	23.72	0.000	
Median	23.72	0.000	
24	23.63	0.400	
Std Dev	23.50	1.000	
13	23.47	1.175	
77	23.32	1.857	
13	23.26	2.163	

205 Other(describe)			
Lab	%	P2O5	
51	24.01	-0.051	
34	23.97	0.000	
Median	23.97	0.000	
Std Dev	23.18	1.000	
57	21.90	2.629	

211 Gravimetric AFPC 9-5			
Lab	%	P2O5	dB
77	24.13	-0.669	
51	24.07	0.000	
Median	24.07	0.000	
Std Dev	23.99	1.000	
241	23.90	2.011	

212 ICP-induced coupled plasma			
Lab	%	P2O5	dB
10	24.18	0.000	
Median	24.18	0.000	

213 Photometric-AFPC 9-6			
Lab	%	P2O5	dB
69	24.11	-2.694	
69	24.03	-1.499	
Std Dev	23.99	-1.000	
61	23.96	-0.430	
61	23.95	-0.387	
9	23.93	0.000	
Median	23.93	0.000	
270	23.87	0.855	
9	23.87	0.910	
Std Dev	23.86	1.000	
6	23.81	1.777	
6	23.81	1.777	

214 Automated -AOAC 978.01-15th			
Lab	%	P2O5	dB
26	24.30	-1.515	
Std Dev	24.17	-1.000	
75	24.00	-0.306	
75	23.98	-0.224	
24	23.96	-0.165	
Median	23.92	0.000	
24	23.88	0.165	
13	23.71	0.850	
Std Dev	23.67	1.000	
13	23.46	1.832	
77	23.42	1.998	

215 Other(describe)			
Lab	%	P2O5	dB
77	24.13	-0.669	
51	24.07	0.000	
Median	24.07	0.000	
Std Dev	23.99	1.000	
241	23.90	2.011	

34	24.19	-1.340	
Std Dev	23.91	-1.000	
Median	23.08	0.000	
Std Dev	22.25	1.000	
57	21.97	1.340	

301 Atomic Absorption-AFPC 9-12,13			
Lab	%	Fe2O3	
60	1.10	-0.071	
51	1.08	0.000	
Median	1.08	0.000	
Std Dev	0.87	1.000	
241	0.53	2.609	

302 ICP-induced coupled plasma			
Lab	%	Fe2O3	
77	1.28	-0.724	
51	1.24	-0.435	
34	1.23	-0.362	
26	1.22	-0.290	
77	1.22	-0.290	
6	1.20	-0.109	
9	1.19	-0.072	
75	1.18	-0.011	
6	1.18	0.000	
9	1.18	0.000	
Median	1.18	0.000	
75	1.11	0.523	
13	1.06	0.869	
Std Dev	1.04	1.000	
61	1.04	1.014	
61	1.03	1.123	
10	1.01	1.231	
13	1.01	1.231	
24	0.98	1.449	
24	0.93	1.811	

303 Other(describe)			
Lab	%	Fe2O3	
69	1.16	-1.340	
Std Dev	1.15	-1.000	
Median	1.15	0.000	
Std Dev	1.14	1.000	
69	1.14	1.340	

401 Atomic Absorption-AFPC 9-16,17			
Lab	%	Al2O3	
241	2.30		-1.340
Std Dev	2.14		-1.000
Median	1.68		0.000
Std Dev	1.22		1.000
51	1.06		1.340

402 ICP-induced coupled plasma			
Lab	%	Al2O3	
77	1.52		-16.080
77	1.51		-15.745
75	1.08		-1.310
26	1.07		-1.005
Std Dev	1.07		-1.000
6	1.06		-0.502
6	1.05		-0.335
24	1.05		-0.335
9	1.04		0.000
9	1.04		0.000
61	1.04		0.000
Median	1.04		0.000
75	1.03		0.238
13	1.03		0.503
69	1.02		0.670
10	1.02		0.838
Std Dev	1.01		1.000
34	1.01		1.005
61	1.01		1.005
69	1.01		1.005
24	0.99		1.675
13	0.98		2.010

403 Other(describe)			
Lab	%	Al2O3	
Median	0.00		0.000

501 Atomic Absorption-AFPC 9-18,19			
Lab	%	MgO	
57	1.45		-0.383
51	1.43		0.000
Median	1.43		0.000
Std Dev	1.38		1.000

60 1.31 2.297

502 ICP-induced coupled plasma			
Lab	%	MgO	
61	1.64		-1.012
Std Dev	1.63		-1.000
9	1.63		-0.953
13	1.63		-0.893
61	1.62		-0.834
9	1.61		-0.715
10	1.60		-0.596
13	1.60		-0.596
75	1.57		-0.247
34	1.55		0.000
51	1.55		0.000
69	1.55		0.000
77	1.55		0.000
77	1.55		0.000
Median	1.55		0.000
69	1.53		0.238
24	1.49		0.715
26	1.49		0.715
Std Dev	1.47		1.000
6	1.47		1.012
6	1.46		1.072
75	1.45		1.161
24	1.40		1.787

503 Other(describe)			
Lab	%	MgO	
Median	0.00		0.000

601 Insoluble-AFPC 9-8			
Lab	%	Al	
51	21.23		-2.208
6	20.81		-1.306
6	20.72		-1.114
61	20.68		-1.040
Std Dev	20.66		-1.000
61	20.47		-0.584
24	20.25		-0.127
9	20.21		-0.042
Median	20.19		0.000
13	20.17		0.042

24	20.16		0.064
9	20.13		0.127
10	19.95		0.509
13	19.73		0.976
Std Dev	19.72		1.000
69	7.65		26.620
69	7.64		26.641

602 Other(describe)			
Lab	%	Al	
57	21.00		-1.340
Std Dev	20.95		-1.000
Median	20.80		0.000
Std Dev	20.65		1.000
26	20.60		1.340

701 Gravimetric sulfate			
Lab	%	CaO	
Median	0.00		0.000

702 ICP-induced coupled plasma			
Lab	%	CaO	
75	39.44		-4.186
75	38.16		-1.624
Std Dev	37.85		-1.000
26	37.79		-0.890
34	37.68		-0.670
61	37.67		-0.640
77	37.55		-0.410
61	37.35		0.000
Median	37.35		0.000
6	37.22		0.260
6	37.17		0.360
77	37.01		0.670
10	36.96		0.770
Std Dev	36.85		1.000
69	34.44		5.810
69	32.44		9.820

703 Ceric Sulfate volumetric			
Lab	%	CaO	
241	37.64		0.000
Median	37.64		0.000

704 Permanganate			
Lab	%	CaO	
60	36.85		0.000
Median	36.85		0.000

705 EDTA Volumetric			
Lab	%	CaO	
9	37.65		-1.787
Std Dev	37.61		-1.000
51	37.57		0.000
Median	37.57		0.000
9	37.53		0.893

706 Other(describe)			
Lab	%	CaO	
270	37.80		-1.495
24	37.71		-1.149
Std Dev	37.66		-1.000
24	37.49		-0.346
13	37.39		0.000
Median	37.39		0.000
270	37.36		0.109
Std Dev	37.12		1.000
13	37.10		1.076
57	34.00		12.361

711 Gravimetric sulfate			
Lab	%	CaO	dB
Median	0.00		0.000

712 ICP-induced coupled plasma			
Lab	%	CaO	dB
61	38.10		-0.696
26	38.08		-0.666
61	37.76		-0.282
6	37.56		-0.031
Median	37.54		0.000
6	37.51		0.031
10	37.42		0.144
Std Dev	36.72		1.000
69	34.77		3.414
69	32.74		5.908

713 Ceric Sulfate volumetric			
Lab	%	CaO	dB
Median	0.00		0.000

714 Permanganate			
Lab	%	CaO	dB
Median	0.00		0.000

715 EDTA Volumetric			
Lab	%	CaO	dB
9	38.01		-2.351
Std Dev	37.94		-1.000
9	37.89		0.000
Median	37.89		0.000
51	37.87		0.329

716 Other(describe)			
Lab	%	CaO	dB
24	38.10		-1.266
Std Dev	38.02		-1.000
24	37.88		-0.540
13	37.72		0.000
Median	37.72		0.000
13	37.48		0.800
Std Dev	37.42		1.000
57	34.10		12.000

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

802 Specific Ion Electrode			
Lab	%	Fluorine, F	
69	3.20		-4.544
69	3.20		-4.486
24	2.99		-2.097
Std Dev	2.90		-1.000
9	2.86		-0.583
9	2.85		-0.466
51	2.84		-0.350
34	2.81		0.000
Median	2.81		0.000
13	2.81		0.058
13	2.79		0.233

24	2.75	0.757
Std Dev	2.72	1.000
75	2.72	1.107
75	2.71	1.165
270	2.40	4.777

803 Other(describe)			
Lab	%	Fluorine, F	
77	2.88		-1.340
Std Dev	2.88		-1.000
Median	2.87		0.000
Std Dev	2.86		1.000
77	2.86		1.340

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	
69	21.5		-0.900
69	21.0		-0.661
6	20.7		-0.532
Median	19.6		0.000
270	18.5		0.532
270	18.0		0.771
Std Dev	17.5		1.000
24	10.5		4.374

913 Other(describe)			
Lab	ppm	Arsenic, As	
77	19.0		-0.959
77	18.0		-0.567
Median	16.6		0.000
13	15.1		0.567
51	14.0		0.998

921 Atomic Absorption-AFPC 9-12,13			
Lab	ppm	Cadmium, Cd	
51	1		0.000
Median	1		0.000

922 ICP-induced coupled plasma			
Lab	ppm	Cadmium, Cd	

270	3	-15.075
270	2	-5.025
Std Dev	2	-1.000
51	2	0.000
75	2	0.000
75	2	0.000
77	2	0.000
77	2	0.000
Median	2	0.000
Std Dev	2	1.000
6	2	1.787
61	1	6.700
61	0	19.542

923 Other(describe)			
Lab	ppm	Cadmium, Cd	
13	2		-0.467
69	2		-0.123
Median	2		0.000
69	2		0.123
Std Dev	2		1.000
57	1		4.155

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

932 ICP-induced coupled plasma			
Lab	ppm	Cobalt, Co	
270	6		-8.933
6	4		-1.787
Std Dev	4		-1.000
75	4		0.000
77	4		0.000
77	4		0.000
Median	4		0.000
Std Dev	4		1.000
75	4		2.291

933 Other(describe)			
Lab	ppm	Cobalt, Co	
69	5		-1.634
Std Dev	5		-1.000
69	5		0.000

Median	5	0.000
Std Dev	5	1.000
13	5	1.046

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	
270	0.0		0.000
Median	0.0		0.000

943 Other(describe)			
Lab	ppm	Mercury, Hg	
13	<0.12		0.000
69	1.0		-1.340
Std Dev	1.0		-1.000
Median	1.0		0.000
Std Dev	0.9		1.000
69	0.9		1.340

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

952 ICP-induced coupled plasma			
Lab	ppm	Iolybdenum, Mo	
6	10		-1.340
Std Dev	10		-1.000
270	9		-0.447
Median	9		0.000
77	8		0.447
Std Dev	7		1.000
77	7		1.340

953 Other(describe)			
Lab	ppm	Iolybdenum, Mo	
13	11		-2.664
Std Dev	5		-1.000
69	2		0.000
Median	2		0.000
69	2		0.016

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

962 ICP-induced coupled plasma			
Lab	ppm	Nickel, Ni	
51	17		-1.276
Std Dev	16		-1.000
270	16		-0.766
270	16		-0.766
6	15		-0.255
Median	15		0.000
77	14		0.255
75	14		0.510
75	13		0.766
77	13		0.766

963 Other(describe)			
Lab	ppm	Nickel, Ni	
13	18		-2.680
Std Dev	14		-1.000
51	13		-0.350
Median	12		0.000
69	12		0.350
69	11		0.583

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

972 ICP-induced coupled plasma			
Lab	ppm	Lead, Pb	
270	13		-0.563
270	13		-0.295
6	12		0.000
Median	12		0.000
Std Dev	10		1.000
77	10		1.045
77	9		1.581

973 Other(describe)			
Lab	ppm	Lead, Pb	
69	20		-0.583
69	20		-0.583

Median	16		0.000
13	13		0.583
Std Dev	10		1.000
51	8		1.282

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

982 ICP-induced coupled plasma			
Lab	ppm	Selenium, Se	
270	3		-1.340
Std Dev	2		-1.000
Median	2		0.000
Std Dev	2		1.000
24	2		1.340

983 Other(describe)			
Lab	ppm	Selenium, Se	
13	3		-3.680
Std Dev	1		-1.000
77	1		-0.235
Median	1		0.000
69	1		0.235
69	1		0.269

991 Atomic Absorption-AFPC 9-18,19			
Lab	ppm	Zinc, Zn	
60	38		-1.340
Std Dev	37		-1.000
Median	37		0.000
Std Dev	36		1.000
57	36		1.340

992 ICP-induced coupled plasma			
Lab	ppm	Zinc, Zn	
51	33		-2.382
270	31		-1.191
Std Dev	31		-1.000
75	30		-0.596
75	29		0.000
270	29		0.000
Median	29		0.000
77	28		0.596

77	28		0.596
Std Dev	27		1.000
6	18		6.307

993 Other(describe)			
Lab	ppm	Zinc, Zn	
13	40		-2.680
Std Dev	27		-1.000
69	19		0.000
69	19		0.000
Median	19		0.000

