

AFPC Rock Check Program

Sample No. 2017-06

	Method #	# of Anal.	Grand Median	Std Dev
Moisture				
Ground Sample AFPC IX.2.A	101	24	1.07	0.190
Other (describe)	102	2	0.68	0.073
Method Group 100		26	1.05	0.28
P₂O₅				
Gravimetric AFPC IX.3.B	201	3	33.18	0.045
ICP-induced coupled plasma AFPC IX.3.D	202	2	33.14	0.019
Photometric-AFPC IX.3.C	203	11	33.07	0.106
Automated -AOAC 978.01-15th	204	11	33.08	0.129
Other(describe)	205	3	33.13	0.489
Method Group 200		30	33.08	0.13
P₂O₅ (on Dry Basis)				
Gravimetric AFPC IX.3.B	211	2	33.36	0.081
ICP-induced coupled plasma AFPC IX.3.D	212	2	33.52	0.018
Photometric-AFPC IX.3.C	213	9	33.43	0.118
Automated -AOAC 978.01-15th	214	11	33.42	0.211
Other(describe)	215	2	33.19	0.472
Method Group 210		26	33.43	0.16
Fe₂O₃				
Atomic Absorption-AFPC IX.6.B	301	2	0.99	0.071
ICP-induced coupled plasma-AFPC IX.6.C	302	21	1.10	0.007
Other(describe)	303	5	1.10	0.179
Method Group 300		28	1.10	0.02
Al₂O₃				
Atomic Absorption-AFPC IX.7.B	401	2	1.41	0.071
ICP-induced coupled plasma-AFPC IX.7.C	402	21	1.40	0.041
Other(describe)	403	5	1.54	0.082
Method Group 400		28	1.40	0.11
MgO				
Atomic Absorption-AFPC IX.8.A	501	2	0.33	0.009
ICP-induced coupled plasma-AFPC IX.8.B	502	21	0.35	0.007
Other(describe)	503	5	0.36	0.004
Method Group 500		28	0.35	0.01
Acid Insoluble				
Insoluble-AFPC IX.4.A	601	15	3.32	0.112
Other(describe)	602	4	4.11	1.088
Method Group 600		19	3.34	0.14
Carbon Dioxide				
Gasometric-AFPC IX.13.B	651	15	3.52	0.073
Other(describe)	652	4	3.79	0.051
Method Group 650		19	3.56	0.14
CaO				
Gravimetric sulfate-AFPC IX.12.A	701			
ICP-induced coupled plasma-AFPC IX.12.D	702	17	47.71	0.112
Ceric Sulfate volumetric-AFPC IX.12.B	703			
Permanganate	704	1	46.91	0.000
EDTA Volumetric-AFPC IX.12.C	705			
Other(describe)	706	10	47.96	0.533
Method Group 700		28	47.77	0.35
CaO (on Dry Basis)				
Gravimetric sulfate-AFPC IX.12.A	711			
ICP-induced coupled plasma-AFPC IX.12.D	712	15	48.26	0.173
Ceric Sulfate volumetric-AFPC IX.12.B	713			
Permanganate	714	1	47.18	0.000
EDTA Volumetric-AFPC IX.12.C	715			
Other(describe)	716	9	48.32	0.416
Method Group 710		25	48.26	0.26

	Method #	# of Anal.	Grand Median	Std Dev
Fluorine, F				
Volumetric-AFPC IX.14.A	801			
Specific Ion Electrode-AFPC IX.14.B	802	19	3.74	0.110
Other (describe)	803	4	3.78	0.186
Method Group 800		23	3.74	0.13
Arsenic, As				
Atomic Absorption	911			
ICP-induced coupled plasma-AFPC IX.15.B	912	3	9.6	0.41
Other(describe)	913	3	9.0	0.41
Method Group 900		6	9.1	0.35
Cadmium, Cd				
Atomic Absorption-AFPC IX.11.A	921	1	6	0.0
ICP-induced coupled plasma-AFPC IX.11.B	922	6	5	0.8
Other(describe)	923	3	8	0.8
Method Group 910		10	6	2.0
Cobalt, Co				
Atomic Absorption-AFPC IX.16.B	931	1	3	0.0
ICP-induced coupled plasma-AFPC IX.16.A	932	5	2	4.0
Other(describe)	933	3	4	0.7
Method Group 920		9	3	1.6
Mercury, Hg				
Atomic Absorption-AFPC IX.16.B	941			
ICP-induced coupled plasma-AFPC IX.16.A	942			
Other (describe)	943	1	0.2	0.00
Method Group 930		1	0.2	0.00
Molybdenum, Mo				
Atomic Absorption-AFPC IX.16.B	951	1	6	0.0
ICP-induced coupled plasma-AFPC IX.16.A	952	5	5	2.3
Other (describe)	953	1	8	0.0
Method Group 940		7	6	2.2
Nickel, Ni				
Atomic Absorption-AFPC IX.16.B	961	1	9	0.0
ICP-induced coupled plasma-AFPC IX.16.A	962	6	20	15.5
Other (describe)	963	3	9	0.7
Method Group 950		10	10	12.1
Lead, Pb				
Atomic Absorption-AFPC IX.16.B	971	1	14	0.0
ICP-induced coupled plasma-AFPC IX.16.A	972	3	9	1.3
Other (describe)	973	3	5	4.7
Method Group 960		7	9	4.7
Selenium, Se				
Atomic Absorption-AFPC IX.16.B	981			
ICP-induced coupled plasma-AFPC IX.16.A	982			
Other (describe)	983	1	2	0.0
Method Group 970		1	2	0.0
Zinc, Zn				
Atomic Absorption-AFPC IX.16.B	991	1	67	0
ICP-induced coupled plasma-AFPC IX.16.A	992	6	102	33
Other (describe)	993	3	111	42
Method Group 980		10	97	39

101	Ground Sample AFPC IX.2.A		
Lab	%	H ₂ O	
9	1.28		-1.092
Std Dev	1.26		-1.000
21	1.21		-0.750
49	1.21		-0.750
21	1.21		-0.724
49	1.19		-0.619
26	1.16		-0.487
9	1.15		-0.435
10	1.15		-0.435
10	1.14		-0.382
24	1.12		-0.251
24	1.11		-0.198
6	1.07		-0.012
Median	1.07		0.000
13	1.07		0.012
15	1.04		0.143
15	1.03		0.196
6	1.00		0.380
13	0.97		0.511
52	0.93		0.721
Std Dev	0.88		1.000
55	0.80		1.404
75	0.75		1.667
75	0.75		1.693
20	0.62		2.377
77	0.51		2.928
77	0.45		3.244

102	Other (describe)		
Lab	%	H ₂ O	
20	0.78		-1.340
Std Dev	0.75		-1.000
Median	0.68		0.000
Std Dev	0.60		1.000
241	0.58		1.340

201	Gravimetric AFPC IX.3.B		
Lab	%	P2O5	
55	33.20		-0.558
56	33.18		0.000
Median	33.18		0.000
Std Dev	33.13		1.000

77	33.08	2.122	
202 ICP-induced coupled plasma AFPC IX.3.D			
Lab	%	P2O5	
10	33.16		-1.340
Std Dev	33.15		-1.000
Median	33.14		0.000
Std Dev	33.12		1.000
10	33.11		1.340

203	Photometric-AFPC IX.3.C		
Lab	%	P2O5	
241	33.58		-4.796
Std Dev	33.18		-1.000
26	33.18		-0.987
49	33.16		-0.799
49	33.11		-0.376
6	33.09		-0.141
6	33.07		0.000
Median	33.07		0.000
92	33.02		0.470
9	33.01		0.564
92	32.97		0.940
Std Dev	32.96		1.000
9	32.90		1.599
52	28.30		44.855

204	Automated -AOAC 978.01-15th		
Lab	%	P2O5	
13	33.25		-1.321
Std Dev	33.20		-1.000
24	33.19		-0.854
24	33.13		-0.388
21	33.09		-0.078
13	33.08		0.000
15	33.08		0.000
Median	33.08		0.000
15	33.04		0.272
Std Dev	32.95		1.000
77	32.94		1.049
21	32.93		1.165
75	29.69		26.334
75	29.67		26.450

205	Other(describe)		
Lab	%	P2O5	
20	33.61		-0.982
56	33.13		0.000
Median	33.13		0.000
Std Dev	32.64		1.000
20	32.30		1.698

211	Gravimetric AFPC IX.3.B		
Lab	%	P2O5	dB
55	33.47		-1.340
Std Dev	33.44		-1.000
Median	33.36		0.000
Std Dev	33.28		1.000
77	33.25		1.340

212	ICP-induced coupled plasma AFPC IX.3.D		
Lab	%	P2O5	dB
10	33.54		-1.340
Std Dev	33.54		-1.000
Median	33.52		0.000
Std Dev	33.50		1.000
10	33.50		1.340

213	Photometric-AFPC IX.3.C		
Lab	%	P2O5	dB
241	33.78		-2.944
26	33.56		-1.156
49	33.55		-1.057
Std Dev	33.55		-1.000
49	33.52		-0.744
6	33.43		0.000
Median	33.43		0.000
6	33.42		0.085
9	33.39		0.283
9	33.32		0.867
Std Dev	33.31		1.000
52	28.57		41.086

214	Automated -AOAC 978.01-15th		
Lab	%	P2O5	dB
13	33.57		-0.700
24	33.56		-0.646
24	33.50		-0.343

21	33.49		-0.312
13	33.43		-0.040
15	33.42		0.000
Median	33.42		0.000
15	33.38		0.183
21	33.33		0.446
Std Dev	33.21		1.000
77	33.09		1.579
75	29.91		16.628
75	29.89		16.693

215	Other(describe)		
Lab	%	P2O5	dB
20	33.82		-1.340
Std Dev	33.66		-1.000
Median	33.19		0.000
Std Dev	32.71		1.000
20	32.55		1.340

301	Atomic Absorption-AFPC IX.6.B		
Lab	%	Fe2O3	
241	1.08		-1.340
Std Dev	1.06		-1.000
Median	0.99		0.000
Std Dev	0.91		1.000
55	0.89		1.340

302	ICP-induced coupled plasma-AFPC IX.6.C		
Lab	%	Fe2O3	
75	1.14		-5.312
13	1.12		-2.010
21	1.12		-2.010
21	1.12		-2.010
75	1.11		-1.910
Std Dev	1.11		-1.000
6	1.10		0.000
9	1.10		0.000
9	1.10		0.000
10	1.10		0.000
10	1.10		0.000
15	1.10		0.000
49	1.10		0.000
Median	1.10		0.000
15	1.10		0.670

Std Dev	1.09	1.000
6	1.09	1.005
13	1.09	1.340
49	1.09	1.340
92	1.08	2.680
92	1.07	4.020
24	1.01	12.730
24	0.99	14.740
52	0.58	69.680

303 Other(describe)		
Lab	%	Fe2O3
77	1.25	-0.838
77	1.24	-0.782
56	1.10	0.000
Median	1.10	0.000
20	1.00	0.558
Std Dev	0.92	1.000
20	0.74	2.038

401 Atomic Absorption-AFPC IX.6.B		
Lab	%	Al2O3
241	1.50	-1.340
Std Dev	1.48	-1.000
Median	1.41	0.000
Std Dev	1.33	1.000
55	1.31	1.340

402 ICP-induced coupled plasma-AFPC IX.6.C		
Lab	%	Al2O3
52	2.18	-19.004
92	1.58	-4.385
92	1.55	-3.655
24	1.46	-1.462
Std Dev	1.44	-1.000
6	1.41	-0.244
10	1.41	-0.244
24	1.41	-0.244
49	1.41	-0.122
6	1.40	0.000
9	1.40	0.000
10	1.40	0.000
Median	1.40	0.000
49	1.39	0.244

13	1.39	0.365
13	1.38	0.487
9	1.38	0.609
Std Dev	1.36	1.000
15	1.36	1.096
15	1.35	1.218
21	1.35	1.218
21	1.34	1.584
75	0.78	15.171
75	0.76	15.695

403 Other(describe)		
Lab	%	Al2O3
77	1.63	-1.096
Std Dev	1.62	-1.000
77	1.61	-0.853
56	1.54	0.000
Median	1.54	0.000
20	1.50	0.487
Std Dev	1.46	1.000
20	0.92	7.553

501 Atomic Absorption-AFPC IX.8.A		
Lab	%	MgO
241	0.34	-1.340
Std Dev	0.34	-1.000
Median	0.33	0.000
Std Dev	0.32	1.000
55	0.32	1.340

502 ICP-induced coupled plasma-AFPC IX.8.B		
Lab	%	MgO
52	0.59	-32.830
75	0.41	-9.246
75	0.40	-7.380
92	0.39	-6.030
Std Dev	0.35	-1.000
6	0.35	-0.670
13	0.35	-0.670
13	0.35	-0.670
15	0.35	-0.670
21	0.35	-0.670
9	0.35	0.000
15	0.35	0.000

21	0.35	0.000
Median	0.35	0.000
6	0.34	0.670
9	0.34	0.670
10	0.34	0.670
10	0.34	0.670
24	0.34	0.670
24	0.34	0.670
49	0.34	0.670
49	0.34	0.670
Std Dev	0.34	1.000
92	0.33	2.010

503 Other(describe)		
Lab	%	MgO
77	0.37	-2.680
20	0.37	-1.340
Std Dev	0.36	-1.000
56	0.36	0.000
77	0.36	0.000
Median	0.36	0.000
Std Dev	0.36	1.000
20	0.31	13.400

601 Insoluble-AFPC IX.4.A		
Lab	%	Al
55	3.80	-4.333
Std Dev	3.43	-1.000
15	3.40	-0.759
15	3.38	-0.536
49	3.36	-0.357
10	3.35	-0.313
13	3.35	-0.313
9	3.34	-0.223
49	3.32	0.000
Median	3.32	0.000
13	3.26	0.491
9	3.24	0.715
10	3.21	0.938
Std Dev	3.20	1.000
21	3.20	1.072
26	3.06	2.278
24	2.97	3.082
24	2.93	3.484

602 Other(describe)		
Lab	%	Al
20	4.83	-0.667
20	4.78	-0.621
Median	4.11	0.000
6	3.43	0.621
6	3.05	0.970

651 Gasometric-AFPC IX.13.B		
Lab	%	CO2
13	3.72	-2.680
13	3.69	-2.268
9	3.67	-2.062
15	3.60	-1.099
Std Dev	3.59	-1.000
15	3.59	-0.962
9	3.56	-0.550
6	3.54	-0.206
21	3.52	0.000
Median	3.52	0.000
24	3.50	0.275
24	3.50	0.275
52	3.50	0.275
49	3.50	0.344
49	3.45	0.962
Std Dev	3.45	1.000
6	3.45	1.031
77	3.38	1.924

652 Other(describe)		
Lab	%	CO2
20	3.91	-2.241
Std Dev	3.84	-1.000
55	3.80	-0.195
Median	3.79	0.000
20	3.78	0.195
Std Dev	3.74	1.000
56	3.69	1.949

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

702 ICP-induced coupled plasma-AFPC IX.12.D			
Lab	%	CaO	
13	48.19		-4.333
92	48.10		-3.529
21	48.06		-3.127
49	47.83		-1.072
Std Dev	47.82		-1.000
92	47.81		-0.938
10	47.80		-0.849
6	47.79		-0.782
13	47.75		-0.402
6	47.71		0.000
9	47.71		0.000
Median	47.71		0.000
10	47.69		0.134
49	47.69		0.179
21	47.66		0.402
Std Dev	47.59		1.000
9	47.41		2.680
75	42.09		50.152
75	41.78		52.966
52	38.00		86.698

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

704 Permanganate			
Lab	%	CaO	
241	46.91		0.000
Median	46.91		0.000

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

706 Other(describe)			
Lab	%	CaO	
77	48.60		-1.211
20	48.50		-1.023
Std Dev	48.49		-1.000
77	48.40		-0.835
20	48.30		-0.648
56	48.11		-0.291

Median 47.96 0.000			
55	47.80		0.291
24	47.79		0.319
15	47.62		0.629
15	47.53		0.807
24	47.53		0.807

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
13	48.66		-2.324
21	48.64		-2.217
Std Dev	48.43		-1.000
49	48.40		-0.801
10	48.36		-0.556
6	48.31		-0.284
49	48.27		-0.052
13	48.26		-0.023
9	48.26		0.000
Median	48.26		0.000
21	48.24		0.108
10	48.24		0.116
6	48.18		0.437
Std Dev	48.09		1.000
9	48.02		1.403
75	42.41		33.835
75	42.09		35.657
52	38.36		57.248

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

714 Permanganate			
Lab	%	CaO	dB
241	47.18		0.000
Median	47.18		0.000

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

716 Other(describe)			
Lab	%	CaO	dB
77	48.82		-1.193
20	48.80		-1.146
Std Dev	48.74		-1.000
20	48.68		-0.851
77	48.65		-0.780
24	48.32		0.000
Median	48.32		0.000
55	48.19		0.333
15	48.12		0.489
24	48.06		0.644
15	48.02		0.732

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	
6	3.95		-1.908
21	3.94		-1.817
13	3.86		-1.090
Std Dev	3.85		-1.000
21	3.85		-0.999
6	3.83		-0.818
9	3.83		-0.818
13	3.82		-0.727
49	3.77		-0.227
26	3.74		0.000
49	3.74		0.000
Median	3.74		0.000
9	3.73		0.091
24	3.73		0.091
24	3.72		0.182
15	3.72		0.227
15	3.65		0.818
Std Dev	3.63		1.000
75	3.40		3.134
55	3.39		3.180
75	3.34		3.634
52	2.47		11.538

803 Other(describe)			
Lab	%	Fluorine, F	
77	3.91		-0.687
77	3.89		-0.579
Median	3.78		0.000
20	3.68		0.579
Std Dev	3.60		1.000
20	3.56		1.199

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

912 ICP-induced coupled plasma-AFPC IX.15.I			
Lab	ppm	Arsenic, As	
52	10.3		-1.827
Std Dev	10.0		-1.000
24	9.6		0.000
Median	9.6		0.000
24	9.2		0.853

913 Other(describe)			
Lab	ppm	Arsenic, As	
20	9.0		0.000
20	9.0		0.000
Median	9.0		0.000
Std Dev	8.6		1.000
13	7.9		2.680

921 Atomic Absorption-AFPC IX.11.A			
Lab	ppm	Cadmium, Cd	
55	6		0.000
Median	6		0.000

922 ICP-induced coupled plasma-AFPC IX.11.I			
Lab	ppm	Cadmium, Cd	
52	99		#####
Std Dev	6		-1.000
24	6		-0.542
24	5		-0.422
Median	5		0.000
77	5		0.422
75	4		0.964
Std Dev	4		1.000

75 4 1.084

923 Other(describe)		
Lab	ppm	Cadmium, Cd
20	8	0.000
20	8	0.000
Median	8	0.000
Std Dev	7	1.000
13	6	2.680

931 Atomic Absorption-AFPC IX.16.B		
Lab	ppm	Cobalt, Co
55	3	0.000
Median	3	0.000

932 ICP-induced coupled plasma-AFPC IX.16.A		
Lab	ppm	Cobalt, Co
75	7	-1.328
75	7	-1.241
Std Dev	6	-1.000
77	2	0.000
Median	2	0.000
24	2	0.099
24	1	0.112

933 Other(describe)		
Lab	ppm	Cobalt, Co
20	4	-0.610
13	4	0.000
Median	4	0.000
Std Dev	3	1.000
20	2	2.070

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
13	0.2	0.000

Median 0.2 0.000

951 Atomic Absorption-AFPC IX.16.B		
Lab	ppm	lolybdenum, Mo
55	6	0.000
Median	6	0.000

952 ICP-induced coupled plasma-AFPC IX.16.A		
Lab	ppm	lolybdenum, Mo
24	7	-1.232
24	7	-1.124
Std Dev	7	-1.000
77	5	0.000
Median	5	0.000
20	4	0.216
20	3	0.648

953 Other(describe)		
Lab	ppm	lolybdenum, Mo
13	8	0.000
Median	8	0.000

961 Atomic Absorption-AFPC IX.16.B		
Lab	ppm	Nickel, Ni
55	9	0.000
Median	9	0.000

962 ICP-induced coupled plasma-AFPC IX.16.A		
Lab	ppm	Nickel, Ni
52	97	-4.983
Std Dev	35	-1.000
75	31	-0.697
75	30	-0.642
Median	20	0.000
24	10	0.642
24	10	0.662
77	8	0.768

963 Other(describe)		
Lab	ppm	Nickel, Ni
13	11	-2.680
Std Dev	10	-1.000
20	9	0.000
20	9	0.000

Median 9 0.000

971 Atomic Absorption-AFPC IX.16.B		
Lab	ppm	Lead, Pb
55	14	0.000
Median	14	0.000

972 ICP-induced coupled plasma-AFPC IX.16.A		
Lab	ppm	Lead, Pb
77	12	-2.603
Std Dev	10	-1.000
24	9	0.000
Median	9	0.000
24	9	0.077

973 Other(describe)		
Lab	ppm	Lead, Pb
13	17	-2.466
Std Dev	10	-1.000
20	5	0.000
Median	5	0.000
20	4	0.214

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

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

983 Other(describe)		
Lab	ppm	Selenium, Se
13	2	0.000
Median	2	0.000

991 Atomic Absorption-AFPC IX.16.B		
Lab	ppm	Zinc, Zn
55	67	0.000
Median	67	0.000

992 ICP-induced coupled plasma-AFPC IX.16.A		
Lab	ppm	Zinc, Zn
52	962	-26.050

Std Dev	135	-1.000
24	122	-0.594
24	121	-0.553
Median	102	0.000
75	84	0.553
75	75	0.824
Std Dev	69	1.000
77	67	1.068

993 Other(describe)		
Lab	ppm	Zinc, Zn
20	175	-1.536
Std Dev	152	-1.000
20	111	0.000
Median	111	0.000
Std Dev	69	1.000
13	62	1.144

