

AFPC Rock Check Program

Sample No. 2008-03

	Method #	# of Anal.	Grand Median	Std Dev
Moisture				
Ground Sample AFPC 9-2	101	14	0.78	0.091
Other (describe)	102	2	0.68	0.063
Method Group 100		16	0.76	0.09
BPL or P₂O₅				
Gravimetric AFPC 9-5	201	1	28.77	0.000
ICP-induced coupled plasma	202	3	28.99	0.127
Photometric-AFPC 9-6	203	9	28.83	0.183
Automated -AOAC 978.01-15th	204	6	28.75	0.140
Other(describe)	205	2	29.06	0.179
Method Group 200		21	28.82	0.19
BPL or P₂O₅ (on Dry Basis)				
Gravimetric AFPC 9-5	211			
ICP-induced coupled plasma	212	3	29.22	0.132
Photometric-AFPC 9-6	213	6	29.04	0.138
Automated -AOAC 978.01-15th	214	6	28.96	0.134
Other(describe)	215	1	29.06	0.000
Method Group 210		16	29.04	0.21
Fe₂O₃				
Atomic Absorption-AFPC 9-12,13	301	2	1.14	0.160
ICP-induced coupled plasma	302	13	1.25	0.071
Other(describe)	303	2	1.25	0.004
Method Group 300		17	1.25	0.07
Al₂O₃				
Atomic Absorption-AFPC 9-16,17	401	2	0.91	0.041
ICP-induced coupled plasma	402	13	0.91	0.037
Other(describe)	403	2	1.06	0.045
Method Group 400		17	0.92	0.05
MgO				
Atomic Absorption-AFPC 9-18,19	501	3	0.56	0.037
ICP-induced coupled plasma	502	12	0.56	0.058
Other(describe)	503	1	0.59	0.000
Method Group 500		16	0.56	0.06
Acid Insoluble				
Insoluble-AFPC 9-8	601	15	11.66	0.213
Other(describe)	602	1	11.50	0.000
Method Group 600		16	11.63	0.22
CaO				
Gravimetric sulfate	701			
ICP-induced coupled plasma	702	5	43.95	0.445
Ceric Sulfate volumetric	703	1	43.64	0.000
Permanganate	704	1	42.28	0.000
EDTA Volumetric	705	3	43.16	12.776
Other(describe)	706	7	43.79	0.685
Method Group 700		17	43.56	0.63
CaO (on Dry Basis)				
Gravimetric sulfate	711			
ICP-induced coupled plasma	712	2	43.87	0.020
Ceric Sulfate volumetric	713	1	43.90	0.000
Permanganate	714	1	42.56	0.000
EDTA Volumetric	715	3	43.53	12.885
Other(describe)	716	7	44.12	0.575
Method Group 710		16	43.87	0.55

	Method #	# of Anal.	Grand Median	Std Dev
Fluorine, F				
Volumetric-AFPC 9-37	801	1	3.53	0.000
Specific Ion Electrode	802	11	3.40	0.063
Other (describe)	803			
Method Group 800		12	3.40	0.06
Arsenic, As				
Atomic Absorption	911	2	6.3	3.54
ICP-induced coupled plasma	912	1	16.5	0.00
Other(describe)	913	1	9.7	0.00
Method Group 900		4	10.3	3.55
Cadmium, Cd				
Atomic Absorption	921	1	7	0.0
ICP-induced coupled plasma	922	3	4	0.2
Other(describe)	923	1	4	0.0
Method Group 910		5	4	0.4
Cobalt, Co				
Atomic Absorption	931	1	16	0.0
ICP-induced coupled plasma	932	3	5	0.1
Other(describe)	933	1	6	0.0
Method Group 920		5	5	1.0
Mercury, Hg				
Atomic Absorption	941	1	0.1	0.00
ICP-induced coupled plasma	942			
Other(describe)	943			
Method Group 930		1	0.1	0.00
Molybdenum, Mo				
Atomic Absorption	951			
ICP-induced coupled plasma	952	1	13	0.0
Other(describe)	953	1	12	0.0
Method Group 940		2	13	0.2
Nickel, Ni				
Atomic Absorption	961	1	66	0.0
ICP-induced coupled plasma	962	3	21	1.9
Other(describe)	963	2	32	5.8
Method Group 950		6	24	10.9
Lead, Pb				
Atomic Absorption	971	1	32	0.0
ICP-induced coupled plasma	972	1	10	0.0
Other(describe)	973	1	12	0.0
Method Group 960		3	12	8.0
Selenium, Se				
Atomic Absorption	981			
ICP-induced coupled plasma	982			
Other(describe)	983	1	3	0.0
Method Group 970		1	3	0.0
Zinc, Zn				
Atomic Absorption	991	1	50	0
ICP-induced coupled plasma	992	3	52	3
Other(describe)	993	2	56	2
Method Group 980		6	52	3

101 Ground Sample AFPC 9-2			
Lab	%	H ₂ O	
13	1.01		-2.516
Std Dev	0.87		-1.000
13	0.85		-0.766
9	0.84		-0.656
49	0.84		-0.656
24	0.82		-0.438
9	0.81		-0.328
10	0.80		-0.219
Median	0.78		0.000
10	0.76		0.219
24	0.76		0.273
6	0.72		0.656
75	0.71		0.766
Std Dev	0.69		1.000
35	0.67		1.203
75	0.67		1.203
27	0.67		1.258

102 Other (describe)			
Lab	%	H ₂ O	
33	0.76		-1.340
Std Dev	0.74		-1.000
Median	0.68		0.000
Std Dev	0.61		1.000
30	0.59		1.340

201 Gravimetric AFPC 9-5			
Lab	%	P2O5	
50	28.77		0.000
Median	28.77		0.000

202 ICP-induced coupled plasma			
Lab	%	P2O5	
10	29.09		-0.788
10	28.99		0.000
Median	28.99		0.000
Std Dev	28.86		1.000
6	28.75		1.892

203 Photometric-AFPC 9-6			
Lab	%	P2O5	
35	29.30		-2.571

30	29.05		-1.203
70	29.02		-1.039
Std Dev	29.01		-1.000
70	28.88		-0.273
9	28.83		0.000
Median	28.83		0.000
9	28.78		0.273
244	28.78		0.301
33	28.77		0.328
Std Dev	28.65		1.000
27	28.47		1.969

204 Automated -AOAC 978.01-15th			
Lab	%	P2O5	
75	29.37		-4.431
Std Dev	28.88		-1.000
24	28.87		-0.858
75	28.81		-0.429
Median	28.75		0.000
24	28.69		0.429
13	28.66		0.643
Std Dev	28.61		1.000
13	28.54		1.501

205 Other(describe)			
Lab	%	P2O5	
19	29.30		-1.340
Std Dev	29.24		-1.000
Median	29.06		0.000
Std Dev	28.88		1.000
49	28.82		1.340

211 Gravimetric AFPC 9-5			
Lab	%	P2O5	
Median	0.00		0.000

212 ICP-induced coupled plasma			
Lab	%	P2O5	
10	29.31		-0.673
10	29.22		0.000
Median	29.22		0.000
Std Dev	29.09		1.000
6	28.96		2.007

213 Photometric-AFPC 9-6			
Lab	%	P2O5	
35	29.50		-3.291
30	29.22		-1.292
Std Dev	29.18		-1.000
9	29.07		-0.151
Median	29.04		0.000
9	29.02		0.151
33	28.99		0.394
Std Dev	28.91		1.000
27	28.66		2.790

214 Automated -AOAC 978.01-15th			
Lab	%	P2O5	
75	29.56		-4.532
24	29.10		-1.096
Std Dev	29.09		-1.000
75	29.01		-0.403
Median	28.96		0.000
24	28.90		0.403
13	28.90		0.422
13	28.83		0.979

215 Other(describe)			
Lab	%	P2O5	
49	29.06		0.000
Median	29.06		0.000

301 Atomic Absorption-AFPC 9-12,13			
Lab	%	Fe2O3	
33	1.35		-1.340
Std Dev	1.30		-1.000
Median	1.14		0.000
Std Dev	0.97		1.000
27	0.92		1.340

302 ICP-induced coupled plasma			
Lab	%	Fe2O3	
35	1.42		-2.468
49	1.36		-1.622
Std Dev	1.32		-1.000
75	1.31		-0.970
6	1.31		-0.917
9	1.28		-0.494

75	1.27		-0.305
13	1.25		0.000
Median	1.25		0.000
9	1.24		0.071
10	1.22		0.423
10	1.22		0.423
13	1.19		0.846
24	1.18		0.917
Std Dev	1.17		1.000
24	1.17		1.058

303 Other(describe)			
Lab	%	Fe2O3	
19	1.25		-1.340
Std Dev	1.25		-1.000
Median	1.25		0.000
Std Dev	1.24		1.000
30	1.24		1.340

401 Atomic Absorption-AFPC 9-16,17			
Lab	%	Al2O3	
33	0.96		-1.340
Std Dev	0.95		-1.000
Median	0.91		0.000
Std Dev	0.86		1.000
27	0.85		1.340

402 ICP-induced coupled plasma			
Lab	%	Al2O3	
35	0.99		-2.024
6	0.97		-1.488
Std Dev	0.95		-1.000
75	0.95		-0.886
9	0.94		-0.684
9	0.92		-0.148
24	0.92		-0.148
75	0.91		0.000
Median	0.91		0.000
10	0.90		0.388
13	0.89		0.656
13	0.89		0.656
10	0.89		0.790
24	0.88		0.924
Std Dev	0.88		1.000

49 0.87 1.192

403 Other(describe)			
Lab	%	Al2O3	
19	1.12		-1.340
Std Dev	1.10		-1.000
Median	1.06		0.000
Std Dev	1.02		1.000
30	1.00		1.340

501 Atomic Absorption-AFPC 9-18,19			
Lab	%	MgO	
35	0.65		-2.412
Std Dev	0.60		-1.000
33	0.56		0.000
Median	0.56		0.000
27	0.55		0.268

502 ICP-induced coupled plasma			
Lab	%	MgO	
9	0.60		-0.727
13	0.60		-0.642
9	0.59		-0.556
10	0.57		-0.214
49	0.57		-0.214
10	0.57		-0.128
Median	0.56		0.000
13	0.55		0.128
75	0.51		0.875
24	0.50		0.967
Std Dev	0.50		1.000
75	0.48		1.261
24	0.48		1.412
6	0.44		2.011

503 Other(describe)			
Lab	%	MgO	
19	0.59		0.000
Median	0.59		0.000

601 Insoluble-AFPC 9-8			
Lab	%	Al	
6	13.25		-7.499
27	12.15		-2.327

Std Dev	11.87		-1.000
24	11.81		-0.705
9	11.80		-0.682
10	11.79		-0.635
13	11.76		-0.494
10	11.67		-0.047
13	11.66		0.000
Median	11.66		0.000
35	11.61		0.212
24	11.61		0.235
70	11.52		0.635
70	11.50		0.729
Std Dev	11.44		1.000
33	11.35		1.434
9	11.22		2.045
30	11.10		2.609

602 Other(describe)			
Lab	%	Al	
19	11.50		0.000
Median	11.50		0.000

701 Gravimetric sulfate			
Lab	%	CaO	
Median	0.00		0.000

702 ICP-induced coupled plasma			
Lab	%	CaO	
75	45.32		-3.076
Std Dev	44.39		-1.000
75	44.16		-0.463
49	43.95		0.000
Median	43.95		0.000
10	43.56		0.877
Std Dev	43.51		1.000
10	43.49		1.034

703 Ceric Sulfate volumetric			
Lab	%	CaO	
30	43.64		0.000
Median	43.64		0.000

704 Permanganate			
Lab	%	CaO	

27	42.28		0.000
Median	42.28		0.000

705 EDTA Volumetric			
Lab	%	CaO	
9	43.34		-0.014
9	43.16		0.000
Median	43.16		0.000
Std Dev	30.38		1.000
35	9.10		2.666

706 Other(describe)			
Lab	%	CaO	
19	44.30		-0.745
24	44.12		-0.482
33	43.83		-0.058
24	43.79		0.000
Median	43.79		0.000
Std Dev	43.11		1.000
13	43.11		1.000
13	43.01		1.139
6	42.74		1.534

711 Gravimetric sulfate			
Lab	%	CaO	dB
Median	0.00		0.000

712 ICP-induced coupled plasma			
Lab	%	CaO	dB
10	43.89		-1.340
Std Dev	43.89		-1.000
Median	43.87		0.000
Std Dev	43.85		1.000
10	43.84		1.340

713 Ceric Sulfate volumetric			
Lab	%	CaO	dB
30	43.90		0.000
Median	43.90		0.000

714 Permanganate			
Lab	%	CaO	dB
27	42.56		0.000
Median	42.56		0.000

715 EDTA Volumetric			
Lab	%	CaO	dB
9	43.69		-0.013
9	43.53		0.000
Median	43.53		0.000
Std Dev	30.64		1.000
35	9.16		2.667

716 Other(describe)			
Lab	%	CaO	dB
24	44.48		-0.628
19	44.30		-0.307
33	44.17		-0.074
24	44.12		0.000
Median	44.12		0.000
Std Dev	43.55		1.000
13	43.47		1.127
13	43.45		1.172
6	43.05		1.865

801 Volumetric-AFPC 9-37			
Lab	%	Fluorine, F	
33	3.53		0.000
Median	3.53		0.000

802 Specific Ion Electrode			
Lab	%	Fluorine, F	
13	3.46		-0.946
9	3.45		-0.867
75	3.45		-0.867
9	3.44		-0.709
13	3.40		-0.079
24	3.40		0.000
Median	3.40		0.000
24	3.38		0.236
49	3.38		0.236
75	3.34		0.867
Std Dev	3.33		1.000
35	3.26		2.128
27	3.25		2.365

803 Other(describe)			
Lab	%	Fluorine, F	

Median 0.00 0.000

911 Atomic Absorption-AFPC 9-18,19			
Lab	ppm	Arsenic, As	
33	11.0		-1.340
Std Dev	9.8		-1.000
Median	6.3		0.000
Std Dev	2.7		1.000
27	1.5		1.340

912 ICP-induced coupled plasma			
Lab	ppm	Arsenic, As	
6	16.5		0.000
Median	16.5		0.000

913 Other(describe)			
Lab	ppm	Arsenic, As	
13	9.7		0.000
Median	9.7		0.000

921 Atomic Absorption-AFPC 9-12,13			
Lab	ppm	Cadmium, Cd	
27	7		0.000
Median	7		0.000

922 ICP-induced coupled plasma			
Lab	ppm	Cadmium, Cd	
75	4		-2.233
Std Dev	4		-1.000
75	4		0.000
Median	4		0.000
6	3		0.447

923 Other(describe)			
Lab	ppm	Cadmium, Cd	
13	4		0.000
Median	4		0.000

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

932 ICP-induced coupled plasma			
Lab	ppm	Cobalt, Co	
6	5		-2.680
Std Dev	5		-1.000
75	5		0.000
75	5		0.000
Median	5		0.000

933 Other(describe)			
Lab	ppm	Cobalt, Co	
13	6		0.000
Median	6		0.000

941 Atomic Absorption-AFPC 9-18,19			
Lab	ppm	Mercury, Hg	
33	0.1		0.000
Median	0.1		0.000

942 ICP-induced coupled plasma			
Lab	ppm	Mercury, Hg	
Median	0.0		0.000

943 Other(describe)			
Lab	ppm	Mercury, Hg	
13	<0.12		0.000
Median	0.0		0.000

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	13		0.000
Median	13		0.000

953 Other(describe)			
Lab	ppm	Iolybdenum, Mo	
13	12		0.000
Median	12		0.000

961 Atomic Absorption-AFPC 9-12,13			
Lab	ppm	Nickel, Ni	
27	66		0.000

Median 66 0.000

962 ICP-induced coupled plasma			
Lab	ppm	Nickel, Ni	
6	25		-2.144
Std Dev	22		-1.000
75	21		0.000
Median	21		0.000
75	20		0.536

963 Other(describe)			
Lab	ppm	Nickel, Ni	
19	40		-1.340
Std Dev	38		-1.000
Median	32		0.000
Std Dev	26		1.000
13	24		1.340

971 Atomic Absorption-AFPC 9-16,17			
Lab	ppm	Lead, Pb	
27	32		0.000
Median	32		0.000

972 ICP-induced coupled plasma			
Lab	ppm	Lead, Pb	
6	10		0.000
Median	10		0.000

973 Other(describe)			
Lab	ppm	Lead, Pb	
13	12		0.000
Median	12		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	
Median	0		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	50		0.000
Median	50		0.000

992 ICP-induced coupled plasma			
Lab	ppm	Zinc, Zn	
75	55		-0.946
75	52		0.000
Median	52		0.000
Std Dev	48		1.000
6	46		1.734

993 Other(describe)			
Lab	ppm	Zinc, Zn	
19	59		-1.340
Std Dev	58		-1.000
Median	56		0.000
Std Dev	53		1.000
13	52		1.340

