AFPC Rock Check Program

Sample No. 2011-06

	Method #	# of Anal.	Grand Median	Std Dev
Moisture				
Ground Sample AFPC IX.2.A	101	21	1.15	0.101
Other (describe)	102	6	1.08	0.153
Method Group 100		27	1.13	0.12
P_2O_5				
Gravimetric AFPC IX.3.B	201	2	31.39	0.127
ICP-inducted coupled plasma AFPC IX.3.D	202	3	31.14	0.425
Photometric-AFPC IX.3.C	203	14	31.11	0.115
Automated -AOAC 978.01-15th	204	13	31.03	0.097
Other(describe)	205	1	31.80	0.000
Method Group 200		33	31.11	0.14
P_2O_5 (on Dry Basis)				
Gravimetric AFPC IX.3.B	211	2	31.60	0.106
ICP-inducted coupled plasma AFPC IX.3.D	212	3	31.53	0.445
Photometric-AFPC IX.3.C	213	8	31.52	0.051
Automated -AOAC 978.01-15th	214	13	31.38	0.106
Other(describe)	215	1	32.14	0.000
Method Group 210		27	31.48	0.14
Fe_2O_3				
Atomic Absorption-AFPC IX.6.B	301	1	1.33	0.000
ICP-inducted coupled plasma-AFPC IX.6.C	302	31	1.48	0.049
Other(describe)	303			
Method Group 300		32	1.48	0.05
Al_2O_3				
Atomic Absorption-AFPC IX.7.B	401			
ICP-inducted coupled plasma-AFPC IX.7.C	402	30	0.84	0.080
Other(describe)	403			
Method Group 400		30	0.84	0.08
MgO				
Atomic Absorption-AFPC IX.8.A	501	2	0.95	0.030
ICP-inducted coupled plasma-AFPC IX.8.B	502	30	0.97	0.041
Other(describe)	503			
Method Group 500		32	0.97	0.05
Acid Insoluble				
Insoluble-AFPC IX.4.A	601	16	2.68	0.211
Other(describe)	602	4	2.55	0.438
Method Group 600		20	2.68	0.23
Carbon Dioxide				
Gasometric-AFPC IX.13.B	651	11	4.69	0.313
Other(describe)	652	8	5.00	0.659
Method Group 650		19	4.71	0.29
CaO				
Gravimetric sulfate-AFPC IX.12.A	701			
ICP-inducted coupled plasma-AFPC IX.12.D	702	20	47.43	1.139
Ceric Sulfate volumetric-AFPC IX.12.B	703	1	48.86	0.000
Permanganate	704	3	48.27	0.392
EDTA Volumetric-AFPC IX.12.C	705	2	41.23	5.392
Other(describe)	706	6	47.55	0.509
Method Group 700		32	47.52	0.94
CaO (on Dry Basis)				
Gravimetric sulfate-AFPC IX.12.A	711			
ICP-inducted coupled plasma-AFPC IX.12.D	712	15	47.77	0.570
Ceric Sulfate volumetric-AFPC IX.12.B	713	1	49.23	0.000
Permanganate	714	2	48.88	0.096
EDTA Volumetric-AFPC IX.12.C	715	2	41.72	5.495
Other(describe)	716	6	48.10	0.533
Method Group 710		26	47.89	0.85

	Method #	# of Anal.	Grand Median	Std Dev
Fluorine, F				
Volumetric-AFPC IX.14.A	801			
Specific Ion Electrode-AFPC IX.14.B	802	17	3.59	0.164
Oher(describe)	803	2	3.56	0.022
Method Group 800		19	3.59	0.14
Arsenic, As				
Atomic Absorption	911			
ICP-inducted coupled plasma-AFPC IX.15.B	912	9	24.8	9.70
Other(describe)	913	2	26.2	2.84
Method Group 900		11	24.8	7.07
Cadmium, Cd				
Atomic Absorption-AFPC IX.11.A	921			
ICP-inducted coupled plasma-AFPC IX.11.B	922	12	3	1.2
Other(describe)	923	1	3	0.0
Method Group 910		13	3	1.3
Cobalt, Co				
Atomic Absorption-AFPC IX.16.B	931			
ICP-inducted coupled plasma-AFPC IX.16.A	932	12	3	0.8
Other(describe)	933	1	4	0.0
Method Group 920		13	3	0.5
Mercury, Hg				
Atomic Absorption-AFPC IX.16.B	941			
ICP-inducted coupled plasma-AFPC IX.16.A	942	1	0.1	0.00
Other(describe)	943	1	0.2	0.00
Method Group 930		2	0.1	0.03
Molybdenum, Mo				
Atomic Absorption-AFPC IX.16.B	951			
ICP-inducted coupled plasma-AFPC IX.16.A	952	8	9	1.4
Other(describe)	953	1	10	0.0
Method Group 940		9	9	1.5
Nickel, Ni				
Atomic Absorption-AFPC IX.16.B	961			
ICP-inducted coupled plasma-AFPC IX.16.A	962	12	15	2.3
Other(describe)	963	2	14	0.4
Method Group 950		14	15	1.6
Lead, Pb				
Atomic Absorption-AFPC IX.16.B	971			
ICP-inducted coupled plasma-AFPC IX.16.A	972	10	16	3.9
Other(describe)	973	2	17	0.8
Method Group 960		12	16	2.8
Selenium, Se				
Atomic Absorption-AFPC IX.16.B	981			
ICP-inducted coupled plasma-AFPC IX.16.A	982	6	0	0.6
Other(describe)	983	1	2	0.0
Method Group 970		7	0	1.3
Zinc, Zn				
Atomic Absorption-AFPC IX.16.B	991	1	28	0
ICP-inducted coupled plasma-AFPC IX.16.A	992	12	37	2
Other(describe)	993	1	51	0
Method Group 980		14	37	4

101	Ground Sample AFPC IX.2.A	
Lab	%	H_2O
266	1.30	-1.489
16	1.28	-1.290
Std Dev	1.25	-1.000
16	1.23	-0.794
10	1.23	-0.744
15	1.22	-0.645
10	1.19	-0.347
24	1.19	-0.347
75	1.18	-0.248
75	1.17	-0.149
24	1.16	-0.099
13	1.15	0.000
Median	1.15	0.000
13	1.12	0.298
49	1.12	0.298
9	1.09	0.596
9	1.07	0.844
35	1.05	0.993
Std Dev	1.05	1.000
15	1.05	1.042
77	0.64	5.062
77	0.57	5.757
61	0.01	11.316
61	0.01	11.325

102	Other (describe)	
Lab	%	H_2O
26	1.25	-1.079
Std Dev	1.23	-1.000
69	1.22	-0.915
21	1.13	-0.327
Median	1.08	0.000
6	1.03	0.327
21	0.98	0.654
Std Dev	0.93	1.000
241	0.75	2.157

201	Gravimetric AFPC IX.3.B	
Lab	%	P2O5
77	31.56	-1.340
Std Dev	31.52	-1.000
Median	31.39	0.000
Std Dev	31.26	1.000
241	31.22	1.340

202	ICP-inducted coupled plasma AFPC IX.3.D	
Lab	%	P2O5
266	32.18	-2.445
Std Dev	31.57	-1.000
10	31.14	0.000
Median	31.14	0.000
10	31.04	0.235

203	Photometric-AFPC IX.3.C	
Lab	%	P2O5
270	31.23	-1.051
Std Dev	31.23	-1.000
9	31.23	-0.980
49	31.19	-0.675
16	31.19	-0.632
16	31.16	-0.414
9	31.14	-0.240
69	31.12	-0.065
Median	31.11	0.000
26	31.11	0.065
78	31.11	0.065
92	31.10	0.109
92	31.00	0.980
Std Dev	31.00	1.000
6	30.92	1.721
78	30.90	1.896
60	29.00	18.411

204	Automated -AOAC 978.01-15th	
Lab	%	P2O5
21	31.40	-3.814
21	31.39	-3.762
13	31.13	-1.082
77	31.13	-1.082
Std Dev	31.12	-1.000
13	31.11	-0.876
15	31.03	-0.052
24	31.03	0.000
Median	31.03	0.000
24	31.01	0.155
15	31.01	0.206
61	31.00	0.258
61	31.00	0.258
75	31.00	0.309
Std Dev	30.93	1.000
75	30.69	3.505

205	Other(describe)	
Lab	%	P2O5
35	31.80	0.000
Median	31.80	0.000

211	Gravimetric AFPC IX.3.B		
Lab	%	P2O5	dB
77	31.74		-1.340
Std Dev	31.70		-1.000
Median	31.60		0.000
Std Dev	31.49		1.000
241	31.46		1.340

212	ICP-inducted coupled plasma AFPC IX.3.D		
Lab	%	P2O5	dB
266	32.60		-2.424
Std Dev	31.97		-1.000
10	31.53		0.000
Median	31.53		0.000
10	31.41		0.256

213	Photometric-AFPC IX.3.C		
Lab	%	P2O5	dB
16	31.57		-0.973
16	31.56		-0.790
9	31.56		-0.733
49	31.54		-0.382
Median	31.52		0.000
69	31.50		0.382
26	31.50		0.524
9	31.48		0.799
Std Dev	31.47		1.000
6	31.24		5.640

214	Automated -AOAC 978.01-15th		
Lab	%	P2O5	dB
21	31.75		-3.477
21	31.71		-3.069
Std Dev	31.49		-1.000
13	31.48		-0.955
13	31.47		-0.853
24	31.39		-0.069
15	31.39		-0.042
24	31.38		0.000
Median	31.38		0.000
75	31.36		0.204
15	31.36		0.229
77	31.33		0.487
Std Dev	31.28		1.000
75	31.05		3.146
61	31.00		3.589
61	31.00		3.592

215	Other(describe)		
Lab	%	P2O5	dB
35	32.14		0.000
Median	32.14		0.000

301	Atomic Absorption-AFPC IX.6.B	
Lab	%	Fe2O3
60	1.33	0.000
Median	1.33	0.000

302	ICP-inducted coupled plasma-AFPC IX.6.C	
Lab	%	Fe2O3
24	3.00	-31.335
24	2.90	-29.274
241	1.67	-3.917
77	1.56	-1.649
77	1.56	-1.649
266	1.54	-1.237
15	1.53	-1.031
78	1.53	-1.031
Std Dev	1.53	-1.000
15	1.52	-0.825
78	1.52	-0.825
9	1.49	-0.206
13	1.49	-0.206
61	1.49	-0.206
9	1.49	-0.103
49	1.48	0.000
92	1.48	0.000

Median	1.48	0.000
75	1.48	0.036
10	1.48	0.103
10	1.48	0.103
16	1.47	0.206
6	1.47	0.309
13	1.46	0.412
16	1.46	0.412
61	1.46	0.412
92	1.45	0.618
270	1.44	0.825
Std Dev	1.43	1.000
69	1.39	1.855
75	1.35	2.637
21	1.29	4.020
21	1.26	4.638
35	0.85	12.988

303 Other(describe)

Lab	%	Fe2O3
Median	0.00	0.000

401 Atomic Absorption-AFPC IX.6.B

Lab	%	Al2O3
Median	0.00	0.000

402 ICP-inducted coupled plasma-AFPC IX.6.C

Lab	%	Al2O3
24	2.00	-14.491
24	1.82	-12.247
266	1.04	-2.524
78	1.01	-2.088
78	1.00	-1.963
77	0.94	-1.278
77	0.94	-1.278
Std Dev	0.92	-1.000
61	0.91	-0.904
92	0.90	-0.779
92	0.89	-0.654
15	0.85	-0.156
21	0.85	-0.093
9	0.84	-0.031
9	0.84	-0.031
15	0.84	-0.031

Median	0.84	0.000
21	0.84	0.031
13	0.83	0.093
10	0.81	0.343
16	0.81	0.343
49	0.81	0.343
75	0.80	0.456
10	0.80	0.467
16	0.80	0.467
13	0.79	0.592
75	0.78	0.668
6	0.77	0.841
270	0.77	0.904
Std Dev	0.76	1.000
69	0.69	1.901
35	0.55	3.584
61	0.50	4.207

403 Other(describe)

Lab	%	Al2O3
Median	0.00	0.000

501 Atomic Absorption-AFPC IX.8.A

Lab	%	MgO
35	0.99	-1.340
Std Dev	0.98	-1.000
Median	0.95	0.000
Std Dev	0.92	1.000
60	0.91	1.340

502 ICP-inducted coupled plasma-AFPC IX.8.B

Lab	%	MgO
92	1.07	-2.424
69	1.04	-1.697
241	1.03	-1.455
Std Dev	1.01	-1.000
92	1.01	-0.970
16	1.00	-0.727
61	0.99	-0.485
10	0.99	-0.364
10	0.98	-0.242
15	0.98	-0.242
15	0.98	-0.242
16	0.98	-0.242
9	0.98	-0.121
21	0.98	-0.121
24	0.98	-0.121
9	0.97	0.000
49	0.97	0.000
61	0.97	0.000
78	0.97	0.000
Median	0.97	0.000
21	0.96	0.242
24	0.96	0.242
78	0.96	0.242
6	0.94	0.848
Std Dev	0.93	1.000
270	0.92	1.181
13	0.91	1.455
77	0.91	1.455
77	0.91	1.455
13	0.88	2.182
75	0.85	2.962
75	0.79	4.335
266	0.03	22.836

503 Other(describe)

Lab	%	MgO
Median	0.00	0.000

601 Insoluble-AFPC IX.4.A

Lab	%	Al
21	3.91	-5.822
9	2.93	-1.198
9	2.90	-1.055
Std Dev	2.89	-1.000
13	2.87	-0.913
10	2.86	-0.842
16	2.75	-0.344
10	2.75	-0.320
16	2.70	-0.083
Median	2.68	0.000
35	2.66	0.083
26	2.63	0.225
21	2.61	0.320
24	2.59	0.439
13	2.55	0.605
15	2.55	0.605
24	2.54	0.676

602 Other(describe)

Lab	%	Al
266	3.70	-2.623
Std Dev	2.99	-1.000

651 Gasometric-AFPC IX.13.B

Lab	%	CO2
9	4.93	-0.766
69	4.84	-0.495
9	4.82	-0.431
77	4.82	-0.431
15	4.69	0.000
15	4.69	0.000
Median	4.69	0.000
49	4.62	0.207
13	4.49	0.622
Std Dev	4.37	1.000
13	4.31	1.196
61	4.03	2.075
61	4.03	2.075

652 Other(describe)

Lab	%	CO2
35	8.41	-5.182
Std Dev	5.66	-1.000
78	5.61	-0.922
78	5.52	-0.786
21	5.26	-0.399
Median	5.00	0.000
6	4.74	0.399
21	4.71	0.437
24	4.49	0.771
266	4.36	0.968

701 Gravimetric sulfate-AFPC IX.12.A

Lab	%	CaO
Median	0.00	0.000

702 ICP-inducted coupled plasma-AFPC IX.12.

Lab	%	CaO
92	49.53	-1.848
92	49.19	-1.550

78	48.93	-1.322
69	48.83	-1.234
78	48.79	-1.199
Std Dev	48.56	-1.000
270	48.39	-0.849
9	47.87	-0.386
9	47.82	-0.342
77	47.50	-0.066
77	47.50	-0.066
Median	47.43	0.000
49	47.35	0.066
10	47.34	0.079
16	47.18	0.215
10	47.05	0.334
61	46.99	0.382
16	46.89	0.470
6	46.78	0.566
Std Dev	46.29	1.000
75	45.05	2.084
75	44.91	2.213
61	42.00	4.764

703 Ceric Sulfate volumetric-AFPC IX.12.B

Lab	%	CaO
241	48.86	0.000
Median	48.86	0.000

704 Permanganate

Lab	%	CaO
21	48.45	-0.459
21	48.27	0.000
Median	48.27	0.000
Std Dev	47.88	1.000
60	47.40	2.221

705 EDTA Volumetric-AFPC IX.12.C

Lab	%	CaO
266	48.45	-1.340
Std Dev	46.62	-1.000
Median	41.23	0.000
Std Dev	35.83	1.000
35	34.00	1.340

706 Other(describe)

Lab	%	CaO
24	48.31	-1.487
24	48.24	-1.340
Std Dev	48.06	-1.000
15	47.58	-0.044
Median	47.55	0.000
15	47.53	0.044
13	47.34	0.417
13	47.27	0.555

711 Gravimetric sulfate-AFPC IX.12.A

Lab	%	CaO	dB
Median	0.00		0.000

712 ICP-inducted coupled plasma-AFPC IX.12.D

Lab	%	CaO	dB
69	49.43		-2.914
9	48.38		-1.067
Std Dev	48.34		-1.000
9	48.34		-0.999
10	47.90		-0.229
49	47.89		-0.200
77	47.81		-0.059
16	47.79		-0.034
77	47.77		0.000
Median	47.77		0.000
10	47.63		0.252
16	47.47		0.524
6	47.27		0.887
Std Dev	47.20		1.000
61	46.99		1.364
75	45.59		3.833
75	45.43		4.102
61	42.00		10.121

713 Ceric Sulfate volumetric-AFPC IX.12.B

Lab	%	CaO	dB
241	49.23		0.000
Median	49.23		0.000

714 Permanganate

Lab	%	CaO	dB
21	49.00		-1.340
Std Dev	48.97		-1.000
Median	48.88		0.000
Std Dev	48.78		1.000
21	48.75		1.340

715 EDTA Volumetric-AFPC IX.12.C

Lab	%	CaO	dB
266	49.09		-1.340
Std Dev	47.22		-1.000
Median	41.72		0.000
Std Dev	36.23		1.000
35	34.36		1.340

716 Other(describe)

Lab	%	CaO	dB
24	48.89		-1.487
24	48.80		-1.322
Std Dev	48.63		-1.000
15	48.16		-0.120
Median	48.10		0.000
15	48.03		0.120
13	47.89		0.385
13	47.81		0.545

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
266	4.43	-5.147
69	3.97	-2.345
35	3.82	-1.431
Std Dev	3.75	-1.000
9	3.70	-0.700
270	3.70	-0.700
21	3.68	-0.579
9	3.67	-0.487
24	3.63	-0.274
24	3.59	0.000
Median	3.59	0.000
13	3.55	0.213
13	3.55	0.213
21	3.55	0.213
49	3.48	0.640
15	3.48	0.670
15	3.47	0.731
75	3.44	0.914
Std Dev	3.42	1.000
75	3.37	1.310

803 Oher(describe)

Lab	%	Fluorine, F
77	3.59	-1.340
Std Dev	3.58	-1.000
Median	3.56	0.000
Std Dev	3.54	1.000
77	3.53	1.340

911 Atomic Absorption-AFPC

Lab	ppm	Arsenic, As
Median	0.0	0.000

912 ICP-inducted coupled plasma-AFPC IX.15.

Lab	ppm	Arsenic, As
61	28.5	-0.381
61	28.1	-0.335
270	27.0	-0.227
78	26.5	-0.175
78	24.8	0.000
Median	24.8	0.000
266	22.1	0.278
Std Dev	15.1	1.000
35	14.0	1.113
77	8.0	1.732
77	7.0	1.835

913 Other(describe)

Lab	ppm	Arsenic, As
6	30.0	-1.340
Std Dev	29.0	-1.000
Median	26.2	0.000
Std Dev	23.4	1.000
13	22.4	1.340

921 Atomic Absorption-AFPC IX.11.A

Lab	ppm	Cadmium, Cd
Median	0	0.000

922 ICP-inducted coupled plasma-AFPC IX.11.B		
Lab	ppm	Cadmium, Cd
69	5	-1.851
266	5	-1.708
78	5	-1.471
78	4	-1.176
Std Dev	4	-1.000
61	3	-0.200
75	3	-0.007
Median	3	0.000
61	3	0.007
77	3	0.007
77	3	0.007
75	3	0.342
270	2	0.724
Std Dev	2	1.000
35	1	1.696

923 Other(describe)		
Lab	ppm	Cadmium, Cd
13	3	0.000
Median	3	0.000

931 Atomic Absorption-AFPC IX.16.B		
Lab	ppm	Cobalt, Co
Median	0	0.000

932 ICP-inducted coupled plasma-AFPC IX.16.A		
Lab	ppm	Cobalt, Co
61	6	-3.229
Std Dev	4	-1.000
69	4	-0.766
270	4	-0.638
61	4	-0.383
78	4	-0.383
266	3	-0.255
Median	3	0.000
77	3	0.255
77	3	0.255
78	3	0.255
Std Dev	2	1.000
35	1	2.808
75	1	3.056
75	0	3.510

933 Other(describe)		
Lab	ppm	Cobalt, Co
13	4	0.000
Median	4	0.000

941 Atomic Absorption-AFPC IX.16.B		
Lab	ppm	Mercury, Hg
Median	0.0	0.000

942 ICP-inducted coupled plasma-AFPC IX.16.A		
Lab	ppm	Mercury, Hg
35	<1	0.000
266	0.1	0.000
Median	0.1	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
Median	0	0.000

952 ICP-inducted coupled plasma-AFPC IX.16.A		
Lab	ppm	lolybdenum, Mo
61	196	-130.170
Std Dev	10	-1.000
78	9	-0.346
78	9	-0.277
61	9	-0.050
Median	9	0.000
266	8	0.050
Std Dev	7	1.000
77	7	1.046
270	7	1.046
77	6	1.742

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

961 Atomic Absorption-AFPC IX.16.B		
Lab	ppm	Nickel, Ni
Median	0	0.000

962 ICP-inducted coupled plasma-AFPC IX.16.A		
Lab	ppm	Nickel, Ni
69	25	-4.245
266	22	-3.173
270	18	-1.286
Std Dev	17	-1.000
77	16	-0.429
61	15	0.000
61	15	0.000
77	15	0.000
Median	15	0.000
75	14	0.476
78	14	0.643
78	13	0.858
75	13	0.924
Std Dev	13	1.000
35	6	3.859

963 Other(describe)		
Lab	ppm	Nickel, Ni
6	15	-1.340
Std Dev	15	-1.000
Median	14	0.000
Std Dev	14	1.000
13	14	1.340

971 Atomic Absorption-AFPC IX.16.B		
Lab	ppm	Lead, Pb
Median	0	0.000

972 ICP-inducted coupled plasma-AFPC IX.16.A		
Lab	ppm	Lead, Pb
69	52	-9.257
266	20	-1.075
Std Dev	20	-1.000
270	18	-0.453
61	18	-0.375
61	17	-0.065
Median	16	0.000
78	16	0.065
78	15	0.324
Std Dev	12	1.000
77	12	1.100
77	12	1.100
35	6	2.654

973 Other(describe)		
Lab	ppm	Lead, Pb
6	18	-1.340
Std Dev	18	-1.000
Median	17	0.000
Std Dev	16	1.000
13	16	1.340

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

982 ICP-inducte coupled plasma-AFPC IX.16.A		
Lab	ppm	Selenium, Se
69	<0.05	0.000
266	5	-8.543
270	1	-1.508
Std Dev	1	-1.000
61	0	-0.168
Median	0	0.000
61	0	0.168
77	0	0.168
77	0	0.168

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
60	28	0.000
Median	28	0.000

992 ICP-inducted coupled plasma-AFPC IX.16.		
Lab	ppm	Zinc, Zn
61	44	-3.002

75	40		-1.175
61	40		-1.008
Std Dev	39		-1.000
75	39		-0.927
78	38		-0.403
78	37		0.000
270	37		0.000
Median	37		0.000
266	37		0.081
69	37		0.121
Std Dev	35		1.000
77	34		1.209
77	33		1.612
35	20		6.851

993	Other(describe)		
Lab	ppm	Zinc, Zn	
13	51		0.000
Median	51		0.000