AFPC Rock Check Program

Sample No. 2012-01

	Method #	# of Anal.	Grand Median	Std Dev
Moisture				
Ground Sample AFPC IX.2.A	101	23	1.34	0.149
Other (describe)	102	3	1.22	0.216
Method Group 100		26	1.33	0.15
P_2O_5				
Gravimetric AFPC IX.3.B	201	2	30.13	0.243
ICP-inducted coupled plasma AFPC IX.3.D	202	4	30.33	0.029
Photometric-AFPC IX.3.C	203	13	30.30	0.254
Automated -AOAC 978.01-15th	204	11	30.27	0.032
Other(describe)	205	3	30.32	0.071
Method Group 200		33	30.29	0.10
P_2O_5 (on Dry Basis)				
Gravimetric AFPC IX.3.B	211	2	30.33	0.205
ICP-inducted coupled plasma AFPC IX.3.D	212	4	30.74	0.024
Photometric-AFPC IX.3.C	213	7	30.95	0.325
Automated -AOAC 978.01-15th	214	11	30.65	0.106
Other(describe)	215	2	30.63	0.051
Method Group 210		26	30.70	0.12
Fe_2O_3				
Atomic Absorption-AFPC IX.6.B	301	2	1.23	0.545
ICP-inducted coupled plasma-AFPC IX.6.C	302	25	0.69	0.041
Other(describe)	303	5	0.67	0.157
Method Group 300		32	0.68	0.05
Al_2O_3				
Atomic Absorption-AFPC IX.7.B	401	2	1.15	0.153
ICP-inducted coupled plasma-AFPC IX.7.C	402	25	0.58	0.119
Other(describe)	403	5	0.89	0.224
Method Group 400		32	0.59	0.21
MgO				
Atomic Absorption-AFPC IX.8.A	501	4	0.62	0.131
ICP-inducted coupled plasma-AFPC IX.8.B	502	23	0.60	0.022
Other(describe)	503	5	0.58	0.022
Method Group 500		32	0.59	0.03
Acid Insoluble				
Insoluble-AFPC IX.4.A	601	17	3.25	0.284
Other(describe)	602	3	4.09	0.306
Method Group 600		20	3.30	0.33
Carbon Dioxide				
Gasometric-AFPC IX.13.B	651	11	4.09	0.256
Other(describe)	652	6	7.38	2.073
Method Group 650		17	4.20	0.23
CaO				
Gravimetric sulfate-AFPC IX.12.A	701			
ICP-inducted coupled plasma-AFPC IX.12.D	702	17	46.12	0.601
Ceric Sulfate volumetric-AFPC IX.12.B	703			
Permanganate	704	4	46.42	2.656
EDTA Volumetric-AFPC IX.12.C	705	2	45.43	0.567
Other(describe)	706	9	46.28	0.474
Method Group 700		32	46.22	0.62
CaO (on Dry Basis)				
Gravimetric sulfate-AFPC IX.12.A	711			
ICP-inducted coupled plasma-AFPC IX.12.D	712	11	46.70	2.298
Ceric Sulfate volumetric-AFPC IX.12.B	713			
Permanganate	714	4	46.78	2.751
EDTA Volumetric-AFPC IX.12.C	715	2	46.08	0.575
Other(describe)	716	8	46.81	0.398
Method Group 710		25	46.70	0.48

	Method #	# of Anal.	Grand Median	Std Dev
Fluorine, F				
Volumetric-AFPC IX.14.A	801			
Specific Ion Electrode-AFPC IX.14.B	802	15	2.75	0.134
Oher(describe)	803	4	2.87	0.101
Method Group 800		19	2.76	0.13
Arsenic, As				
Atomic Absorption	911			
ICP-inducted coupled plasma-AFPC IX.15.B	912	9	6.0	1.60
Other(describe)	913	2	3.2	2.36
Method Group 900		11	6.0	2.07
Cadmium, Cd				
Atomic Absorption-AFPC IX.11.A	921	1	59	0.0
ICP-inducted coupled plasma-AFPC IX.11.B	922	11	43	3.6
Other(describe)	923	1	40	0.0
Method Group 910		13	43	3.5
Cobalt, Co				
Atomic Absorption-AFPC IX.16.B	931			
ICP-inducted coupled plasma-AFPC IX.16.A	932	11	1	0.4
Other(describe)	933	2	6	3.7
Method Group 920		13	1	0.4
Mercury, Hg				
Atomic Absorption-AFPC IX.16.B	941			
ICP-inducted coupled plasma-AFPC IX.16.A	942	1	0.0	0.00
Other(describe)	943			
Method Group 930		1	0.0	0.00
Molybdenum, Mo				
Atomic Absorption-AFPC IX.16.B	951			
ICP-inducted coupled plasma-AFPC IX.16.A	952	6	5	2.4
Other(describe)	953	1	6	0.0
Method Group 940		7	5	2.0
Nickel, Ni				
Atomic Absorption-AFPC IX.16.B	961	1	43	0.0
ICP-inducted coupled plasma-AFPC IX.16.A	962	11	13	1.0
Other(describe)	963	2	20	3.2
Method Group 950		14	13	3.1
Lead, Pb				
Atomic Absorption-AFPC IX.16.B	971			
ICP-inducted coupled plasma-AFPC IX.16.A	972	7	3	1.9
Other(describe)	973	1	6	0.0
Method Group 960		8	4	2.0
Selenium, Se				
Atomic Absorption-AFPC IX.16.B	981			
ICP-inducted coupled plasma-AFPC IX.16.A	982	4		0.0
Other(describe)	983	1	2	0.0
Method Group 970		5	0	0.0
Zinc, Zn				
Atomic Absorption-AFPC IX.16.B	991	1	78	0
ICP-inducted coupled plasma-AFPC IX.16.A	992	11	73	5
Other(describe)	993	3	63	9
Method Group 980		15	73	6

101	Ground Sample AFPC IX.2.A	
Lab	%	H_2O
9	1.58	-1.608
15	1.50	-1.072
Std Dev	1.48	-1.000
9	1.47	-0.871
15	1.46	-0.838
35	1.41	-0.503
35	1.41	-0.503
13	1.41	-0.469
16	1.36	-0.168
10	1.35	-0.101
61	1.35	-0.101
49	1.34	-0.034
10	1.34	0.000
Median	1.34	0.000
13	1.33	0.033
24	1.32	0.100
16	1.30	0.235
24	1.30	0.235
75	1.23	0.737
75	1.19	0.972
Std Dev	1.19	1.000
61	1.18	1.039
27	0.89	3.015
241	0.84	3.317
77	0.72	4.121
77	0.50	5.595

102	Other (describe)	
Lab	%	H_2O
26	1.26	-0.185
280	1.22	0.000
Median	1.22	0.000
Std Dev	1.00	1.000
280	0.68	2.495

201	Gravimetric AFPC IX.3.B	
Lab	%	P2O5
77	30.45	-1.340
Std Dev	30.37	-1.000
Median	30.13	0.000
Std Dev	29.88	1.000
241	29.80	1.340

202	ICP-inducted coupled plasma AFPC IX.3.D	
Lab	%	P2O5
10	30.40	-2.334
Std Dev	30.36	-1.000
16	30.34	-0.259
Median	30.33	0.000
16	30.33	0.259
Std Dev	30.30	1.000
10	30.29	1.470

203	Photometric-AFPC IX.3.C	
Lab	%	P2O5
35	30.97	-2.641
35	30.81	-2.010
270	30.58	-1.104
Std Dev	30.55	-1.000
9	30.51	-0.808
9	30.47	-0.650
49	30.32	-0.079
92	30.30	0.000
92	30.30	0.000
Median	30.30	0.000
26	30.22	0.315
78	30.17	0.532
78	30.12	0.709
6	30.10	0.808
Std Dev	30.05	1.000
27	29.22	4.276

204	Automated -AOAC 978.01-15th	
Lab	%	P2O5
13	30.40	-4.256
24	30.32	-1.576
Std Dev	30.30	-1.000
75	30.29	-0.631
15	30.28	-0.315
77	30.27	-0.158
75	30.27	0.000
Median	30.27	0.000
15	30.26	0.158
24	30.26	0.158
Std Dev	30.23	1.000
61	30.22	1.576
13	30.15	3.626
61	30.05	6.779

205	Other(describe)	
Lab	%	P2O5
280	30.35	-0.423
280	30.32	0.000
Median	30.32	0.000
Std Dev	30.25	1.000
19	30.16	2.257

211	Gravimetric AFPC IX.3.B		
Lab	%	P2O5	dB
77	30.60		-1.340
Std Dev	30.53		-1.000
Median	30.33		0.000
Std Dev	30.12		1.000
241	30.05		1.340

212	ICP-inducted coupled plasma AFPC IX.3.D		
Lab	%	P2O5	dB
10	30.82		-3.160
Std Dev	30.76		-1.000
16	30.74		-0.074
Median	30.74		0.000
16	30.74		0.074
Std Dev	30.72		1.000
10	30.70		1.757

213	Photometric-AFPC IX.3.C		
Lab	%	P2O5	dB
35	31.41		-1.415
Std Dev	31.28		-1.000
35	31.25		-0.917
9	30.96		-0.019
9	30.95		0.000
Median	30.95		0.000
49	30.73		0.678
Std Dev	30.63		1.000
26	30.61		1.066
27	29.48		4.540

214	Automated -AOAC 978.01-15th		
Lab	%	P2O5	dB
13	30.81		-1.508
Std Dev	30.76		-1.000
15	30.72		-0.696
24	30.72		-0.667
15	30.72		-0.655
24	30.66		-0.083
75	30.65		0.000
Median	30.65		0.000
75	30.64		0.088
13	30.58		0.661
61	30.58		0.697
Std Dev	30.54		1.000
77	30.49		1.510
61	30.46		1.777

215	Other(describe)		
Lab	%	P2O5	dB
280	30.69		-1.340
Std Dev	30.68		-1.000
Median	30.63		0.000
Std Dev	30.58		1.000
280	30.56		1.340

301	Atomic Absorption-AFPC IX.6.B	
Lab	%	Fe2O3
241	1.96	-1.340
Std Dev	1.77	-1.000
Median	1.23	0.000
Std Dev	0.69	1.000
27	0.50	1.340

302	ICP-inducted coupled plasma-AFPC IX.6.C	
Lab	%	Fe2O3
270	0.73	-0.975
61	0.72	-0.609
75	0.71	-0.451
6	0.71	-0.365
78	0.71	-0.365
78	0.71	-0.365
15	0.70	-0.244
15	0.70	-0.244
35	0.70	-0.244
92	0.70	-0.244
75	0.69	-0.088

61	0.69	0.000
92	0.69	0.000
Median	0.69	0.000
9	0.66	0.731
9	0.65	0.975
16	0.65	0.975
Std Dev	0.65	1.000
10	0.65	1.096
13	0.65	1.096
16	0.65	1.096
49	0.64	1.218
10	0.64	1.340
13	0.63	1.462
24	0.63	1.462
24	0.63	1.462
35	0.43	6.335

303 Other(describe)

Lab	%	Fe2O3
77	0.78	-0.702
77	0.77	-0.638
19	0.67	0.000
Median	0.67	0.000
280	0.56	0.702
280	0.52	0.957

401 Atomic Absorption-AFPC IX.6.B

Lab	%	Al2O3
241	1.35	-1.340
Std Dev	1.30	-1.000
Median	1.15	0.000
Std Dev	0.99	1.000
27	0.94	1.340

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

Lab	%	Al2O3
78	0.94	-2.973
78	0.93	-2.931
61	0.86	-2.345
61	0.83	-2.094
24	0.71	-1.089
24	0.71	-1.047
35	0.70	-1.005
Std Dev	0.70	-1.000
270	0.63	-0.377
92	0.60	-0.168
15	0.59	-0.084
92	0.59	-0.084
9	0.59	-0.042
15	0.58	0.000
Median	0.58	0.000
75	0.57	0.073
9	0.57	0.084
49	0.57	0.084
16	0.57	0.126
16	0.56	0.167
6	0.54	0.335
10	0.53	0.419
75	0.53	0.427
10	0.53	0.461
13	0.51	0.586
13	0.48	0.838
Std Dev	0.46	1.000
35	0.38	1.675

403 Other(describe)

Lab	%	Al2O3
19	1.09	-0.893
77	0.90	-0.045
77	0.89	0.000
Median	0.89	0.000
Std Dev	0.67	1.000
280	0.60	1.295
280	0.48	1.831

501 Atomic Absorption-AFPC IX.8.A

Lab	%	MgO
241	1.27	-4.978
Std Dev	0.75	-1.000
27	0.62	-0.015
Median	0.62	0.000
35	0.62	0.015
35	0.58	0.290

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

Lab	%	MgO
75	0.82	-9.841
13	0.66	-2.903
92	0.64	-2.010
92	0.64	-2.010
Std Dev	0.62	-1.000
24	0.61	-0.670
10	0.61	-0.447
24	0.61	-0.447
49	0.60	-0.223
15	0.60	0.000
15	0.60	0.000
16	0.60	0.000
61	0.60	0.000
Median	0.60	0.000
9	0.59	0.223
10	0.59	0.223
16	0.59	0.223
9	0.59	0.447
6	0.58	0.670
Std Dev	0.57	1.000
61	0.57	1.117
78	0.57	1.117
78	0.57	1.117
270	0.57	1.117
13	0.57	1.340
75	0.50	4.378

503 Other(describe)

Lab	%	MgO
280	0.67	-4.020
Std Dev	0.60	-1.000
280	0.59	-0.447
19	0.58	0.000
Median	0.58	0.000
77	0.56	0.893
Std Dev	0.56	1.000
77	0.53	2.233

601 Insoluble-AFPC IX.4.A

Lab	%	AI
27	4.25	-3.526
Std Dev	3.53	-1.000
10	3.48	-0.793
49	3.47	-0.776
10	3.44	-0.670
16	3.38	-0.458
16	3.34	-0.300
9	3.31	-0.194
9	3.30	-0.176
13	3.25	0.000
Median	3.25	0.000
13	3.16	0.335
15	3.06	0.670
15	3.04	0.741
24	3.00	0.882
Std Dev	2.97	1.000
26	2.88	1.322
35	2.80	1.587
24	2.79	1.640
35	2.70	1.939

602 Other(describe)

Lab	%	AI
280	4.70	-1.994
Std Dev	4.40	-1.000

651 Gasometric-AFPC IX.13.B

Lab	%	CO2
77	4.35	-1.016
Std Dev	4.35	-1.000
15	4.32	-0.879
15	4.30	-0.801
61	4.23	-0.531
61	4.20	-0.422
9	4.09	0.000
9	4.09	0.000
Median	4.09	0.000
49	4.04	0.195
Std Dev	3.83	1.000
24	3.80	1.152
13	3.79	1.192
13	3.73	1.426

652 Other(describe)

Lab	%	CO2
35	10.21	-1.368
Std Dev	9.45	-1.000
35	7.78	-0.195
78	7.44	-0.031
Median	7.38	0.000
78	7.31	0.031

Std Dev	5.30	1.000
280	4.12	1.570
280	2.85	2.183

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

702	ICP-inducted coupled plasma-AFPC IX.12.D	
Lab	%	CaO
92	48.01	-3.154
92	47.23	-1.856
270	47.03	-1.523
Std Dev	46.72	-1.000
78	46.59	-0.782
78	46.57	-0.757
9	46.46	-0.574
49	46.30	-0.308
9	46.29	-0.291
16	46.12	0.000
Median	46.12	0.000
16	46.10	0.033
10	46.09	0.050
10	46.06	0.100
6	45.77	0.583
Std Dev	45.51	1.000
75	43.27	4.729
75	43.19	4.869
61	39.43	11.128
61	37.05	15.090

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

704	Permanganate	
Lab	%	CaO
280	46.66	-0.090
241	46.60	-0.068
Median	46.42	0.000
280	46.24	0.068
Std Dev	43.76	1.000
27	33.51	4.863

705	EDTA Volumetric-AFPC IX.12.C	
Lab	%	CaO
35	46.19	-1.340
Std Dev	46.00	-1.000
Median	45.43	0.000
Std Dev	44.86	1.000
35	44.67	1.340

706	Other(describe)	
Lab	%	CaO
77	46.90	-1.319
77	46.80	-1.108
Std Dev	46.75	-1.000
19	46.60	-0.686
15	46.36	-0.179
15	46.28	0.000
Median	46.28	0.000
24	46.03	0.517
24	45.97	0.654
Std Dev	45.80	1.000
13	45.75	1.108
13	45.72	1.182

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
9	47.20		-0.218
9	46.98		-0.120
49	46.93		-0.099
16	46.75		-0.021
10	46.71		-0.003
16	46.70		0.000
Median	46.70		0.000
10	46.69		0.007
Std Dev	44.40		1.000
75	43.80		1.265
75	43.73		1.295
61	39.90		2.960
61	37.56		3.979

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

714	Permanganate		
Lab	%	CaO	dB
280	47.24		-0.167
241	46.99		-0.080
Median	46.78		0.000
280	46.56		0.080
Std Dev	44.02		1.000
27	33.80		4.715

715	EDTA Volumetric-AFPC IX.12.C		
Lab	%	CaO	dB
35	46.85		-1.340
Std Dev	46.65		-1.000
Median	46.08		0.000
Std Dev	45.50		1.000
35	45.31		1.340

716	Other(describe)		
Lab	%	CaO	dB
77	47.14		-0.835
77	47.14		-0.826
15	47.05		-0.603
15	46.98		-0.428
Median	46.81		0.000
24	46.64		0.428
24	46.58		0.570
Std Dev	46.41		1.000
13	46.40		1.016
13	46.33		1.194

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
35	3.71	-7.147
35	3.19	-3.276
270	2.90	-1.117
Std Dev	2.88	-1.000
9	2.86	-0.782
9	2.85	-0.707
13	2.82	-0.521
13	2.75	0.000
49	2.75	0.000
Median	2.75	0.000
15	2.73	0.186
15	2.71	0.335
24	2.70	0.372
75	2.64	0.819
24	2.64	0.819
Std Dev	2.62	1.000
75	2.61	1.042
27	2.45	2.271

803	Oher(describe)	
Lab	%	Fluorine, F
280	3.18	-3.077
Std Dev	2.97	-1.000
19	2.89	-0.199
Median	2.87	0.000
77	2.85	0.199
Std Dev	2.77	1.000
77	2.76	1.092

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
24	9.5	-2.150
Std Dev	7.6	-1.000
270	7.4	-0.873
78	6.7	-0.405
78	6.5	-0.280
61	6.0	0.000
Median	6.0	0.000
61	5.8	0.156
35	4.5	0.935
Std Dev	4.4	1.000
35	3.1	1.832
77	0.0	3.740

913 Other(describe)		
Lab	ppm	Arsenic, As
13	6.3	-1.340
Std Dev	5.5	-1.000
Median	3.2	0.000
Std Dev	0.8	1.000
77	0.0	1.340

921 Atomic Absorption-AFPC IX.11.A		
Lab	ppm	Cadmium, Cd
27	59	0.000
Median	59	0.000

922 ICP-inducted coupled plasma-AFPC IX.11.B		
Lab	ppm	Cadmium, Cd
77	45	-0.560
78	45	-0.476
78	45	-0.420
75	44	-0.360
77	44	-0.280
270	43	0.000
Median	43	0.000
61	42	0.420
75	40	0.781
Std Dev	39	1.000
35	39	1.120
35	33	2.799
61	13	8.397

923 Other(describe)		
Lab	ppm	Cadmium, Cd
13	40	0.000
Median	40	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
35	1	-0.791
77	1	-0.791
77	1	-0.791
270	1	-0.791
61	1	-0.080
61	1	0.000
Median	1	0.000
35	1	0.094
78	1	0.549
78	1	0.549
Std Dev	0	1.000
75	0	1.307
75	0	1.776

933 Other(describe)		
Lab	ppm	Cobalt, Co
27	11	-1.340
Std Dev	10	-1.000
Median	6	0.000
Std Dev	2	1.000
13	1	1.340

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
270	0.0	0.000
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 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	6	-0.455
61	5	-0.290
78	5	-0.041
Median	5	0.000
78	4	0.041
Std Dev	2	1.000
77	1	1.469
77	1	1.469

953 Other(describe)		
Lab	ppm	Molybdenum, Mo
13	6	0.000
Median	6	0.000

961 Atomic Absorption-AFPC IX.16.B		
Lab	ppm	Nickel, Ni
27	43	0.000
Median	43	0.000

962 ICP-inducted coupled plasma-AFPC IX.16.A		
Lab	ppm	Nickel, Ni
35	19	-5.733
270	17	-3.822
Std Dev	14	-1.000
35	14	-0.955
61	13	-0.096
61	13	0.000
77	13	0.000
77	13	0.000
Median	13	0.000
75	12	0.674
78	12	0.955
78	12	0.955
Std Dev	12	1.000
75	12	1.170

963 Other(describe)		
Lab	ppm	Nickel, Ni
19	24	-1.340
Std Dev	23	-1.000
Median	20	0.000
Std Dev	16	1.000
13	15	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
270	6	-1.592
Std Dev	5	-1.000
61	5	-0.955
61	5	-0.876
78	3	0.000
Median	3	0.000
78	3	0.212
77	2	0.637
77	2	0.637

973 Other(describe)		
Lab	ppm	Lead, Pb
13	6	0.000
Median	6	0.000

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
61	0	0.000
61	0	0.000
77	0	0.000
77	0	0.000
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
27	78	0.000
Median	78	0.000

992 ICP-inducted coupled plasma-AFPC IX.16.		
Lab	ppm	Zinc, Zn
24	464	-80.318
24	447	-76.821
Std Dev	78	-1.000
61	77	-0.823
61	77	-0.720

78	74	-0.206
78	73	0.000
Median	73	0.000
75	72	0.255
75	70	0.520
77	70	0.617
Std Dev	68	1.000
77	68	1.028
35	64	1.851

993	Other(describe)	
Lab	ppm	Zinc, Zn
19	76	-1.462
Std Dev	72	-1.000
13	63	0.000
Median	63	0.000
Std Dev	55	1.000
19	53	1.218