AFPC Rock Check Program

Sample No. 2012-06

	Method #	# of Anal.	Grand Median	Std Dev
Moisture				
Ground Sample AFPC IX.2.A	101	28	0.63	0.099
Other (describe)	102			
Method Group 100		28	0.63	0.10
P_2O_5				
Gravimetric AFPC IX.3.B	201	2	31.50	0.183
ICP-inducted coupled plasma AFPC IX.3.D	202	7	31.26	0.097
Photometric-AFPC IX.3.C	203	10	31.36	0.103
Automated -AOAC 978.01-15th	204	13	31.30	0.146
Other(describe)	205	1	30.47	0.000
Method Group 200		33	31.30	0.08
P_2O_5 (on Dry Basis)				
Gravimetric AFPC IX.3.B	211	2	31.62	0.172
ICP-inducted coupled plasma AFPC IX.3.D	212	7	31.50	0.089
Photometric-AFPC IX.3.C	213	6	31.55	0.050
Automated -AOAC 978.01-15th	214	13	31.50	0.170
Other(describe)	215			
Method Group 210		28	31.50	0.10
Fe_2O_3				
Atomic Absorption-AFPC IX.6.B	301	4	1.25	0.069
ICP-inducted coupled plasma-AFPC IX.6.C	302	25	1.23	0.037
Other(describe)	303	3	1.39	0.108
Method Group 300		32	1.23	0.05
Al_2O_3				
Atomic Absorption-AFPC IX.7.B	401	2	1.04	0.007
ICP-inducted coupled plasma-AFPC IX.7.C	402	25	1.11	0.052
Other(describe)	403	3	1.41	0.052
Method Group 400		30	1.11	0.06
MgO				
Atomic Absorption-AFPC IX.8.A	501	4	0.50	0.043
ICP-inducted coupled plasma-AFPC IX.8.B	502	25	0.54	0.022
Other(describe)	503	3	0.54	0.015
Method Group 500		32	0.54	0.02
Acid Insoluble				
Insoluble-AFPC IX.4.A	601	17	7.86	0.112
Other(describe)	602	4	8.12	0.337
Method Group 600		21	7.87	0.11
Carbon Dioxide				
Gasometric-AFPC IX.13.B	651	12	3.43	0.237
Other(describe)	652	3	3.57	0.099
Method Group 650		15	3.46	0.24
CaO				
Gravimetric sulfate-AFPC IX.12.A	701			
ICP-inducted coupled plasma-AFPC IX.12.D	702	18	45.73	0.793
Ceric Sulfate volumetric-AFPC IX.12.B	703			
Permanganate	704	3	46.02	0.246
EDTA Volumetric-AFPC IX.12.C	705	1	45.50	0.000
Other(describe)	706	10	46.10	0.993
Method Group 700		32	45.83	0.74
CaO (on Dry Basis)				
Gravimetric sulfate-AFPC IX.12.A	711			
ICP-inducted coupled plasma-AFPC IX.12.D	712	15	45.97	0.389
Ceric Sulfate volumetric-AFPC IX.12.B	713			
Permanganate	714	2	46.60	0.275
EDTA Volumetric-AFPC IX.12.C	715	1	45.96	0.000
Other(describe)	716	9	46.51	1.016
Method Group 710		26	46.05	0.44

	Method #	# of Anal.	Grand Median	Std Dev
Fluorine, F				
Volumetric-AFPC IX.14.A	801	1	3.61	0.000
Specific Ion Electrode-AFPC IX.14.B	802	16	3.50	0.166
Oher(describe)	803	3	3.66	0.112
Method Group 800		20	3.54	0.17
Arsenic, As				
Atomic Absorption	911			
ICP-inducted coupled plasma-AFPC IX.15.B	912	5	15.0	3.28
Other(describe)	913	2	9.6	2.71
Method Group 900		7	13.3	3.36
Cadmium, Cd				
Atomic Absorption-AFPC IX.11.A	921	1	3	0.0
ICP-inducted coupled plasma-AFPC IX.11.B	922	8	3	0.3
Other(describe)	923	2	4	0.5
Method Group 910		11	3	0.4
Cobalt, Co				
Atomic Absorption-AFPC IX.16.B	931			
ICP-inducted coupled plasma-AFPC IX.16.A	932	9	8	0.9
Other(describe)	933	1	9	0.0
Method Group 920		10	8	0.8
Mercury, Hg				
Atomic Absorption-AFPC IX.16.B	941			
ICP-inducted coupled plasma-AFPC IX.16.A	942	2	0.2	0.01
Other(describe)	943	1	0.2	0.00
Method Group 930		3	0.2	0.03
Molybdenum, Mo				
Atomic Absorption-AFPC IX.16.B	951			
ICP-inducted coupled plasma-AFPC IX.16.A	952	7	6	1.2
Other(describe)	953	2	8	0.9
Method Group 940		9	6	1.7
Nickel, Ni				
Atomic Absorption-AFPC IX.16.B	961	1	14	0.0
ICP-inducted coupled plasma-AFPC IX.16.A	962	8	15	1.6
Other(describe)	963	3	23	4.6
Method Group 950		12	16	4.2
Lead, Pb				
Atomic Absorption-AFPC IX.16.B	971	1	20	0.0
ICP-inducted coupled plasma-AFPC IX.16.A	972	6	17	3.2
Other(describe)	973	1	17	0.0
Method Group 960		8	17	2.9
Selenium, Se				
Atomic Absorption-AFPC IX.16.B	981	1	6	0.0
ICP-inducted coupled plasma-AFPC IX.16.A	982	3	1	1.7
Other(describe)	983	1	5	0.0
Method Group 970		5	5	2.9
Zinc, Zn				
Atomic Absorption-AFPC IX.16.B	991	2	52	12
ICP-inducted coupled plasma-AFPC IX.16.A	992	8	38	8
Other(describe)	993	3	37	4
Method Group 980		13	37	8

101	Ground Sample AFPC IX.2.A	
Lab	%	H_2O
266	1.00	-3.742
13	0.82	-1.922
15	0.81	-1.820
13	0.80	-1.719
15	0.78	-1.466
16	0.76	-1.315
16	0.74	-1.112
Std Dev	0.73	-1.000
10	0.72	-0.860
61	0.67	-0.405
21	0.67	-0.354
30	0.65	-0.202
24	0.65	-0.152
10	0.64	-0.101
6	0.63	0.000
24	0.63	0.000
Median	0.63	0.000
9	0.63	0.051
49	0.61	0.202
9	0.60	0.303
33	0.60	0.303
26	0.60	0.354
21	0.59	0.405
6	0.59	0.455
75	0.59	0.455
75	0.56	0.708
Std Dev	0.53	1.000
61	0.49	1.466
241	0.45	1.820
77	0.35	2.832
77	0.35	2.832

102	Other (describe)	
Lab	%	H_2O
Median	0.00	0.000

201	Gravimetric AFPC IX.3.B	
Lab	%	P2O5
77	31.74	-1.340
Std Dev	31.68	-1.000
Median	31.50	0.000
Std Dev	31.31	1.000
241	31.25	1.340

202	ICP-inducted coupled plasma AFPC IX.3.D	
Lab	%	P2O5
10	31.37	-1.082
Std Dev	31.36	-1.000
6	31.33	-0.722
10	31.29	-0.258
16	31.26	0.000
Median	31.26	0.000
16	31.25	0.103
Std Dev	31.16	1.000
6	31.11	1.598
266	29.66	16.492

203	Photometric-AFPC IX.3.C	
Lab	%	P2O5
270	31.78	-4.147
33	31.59	-2.266
Std Dev	31.46	-1.000
92	31.40	-0.414
49	31.39	-0.317
9	31.36	-0.024
Median	31.36	0.000
26	31.36	0.024
30	31.29	0.658
Std Dev	31.25	1.000
60	31.25	1.048
92	31.25	1.048
9	31.24	1.194

204	Automated -AOAC 978.01-15th	
Lab	%	P2O5
21	31.48	-1.271
Std Dev	31.44	-1.000
77	31.35	-0.378
15	31.35	-0.344
15	31.35	-0.344
61	31.35	-0.344
24	31.33	-0.241
13	31.30	0.000
13	31.30	0.000
Median	31.30	0.000
24	31.28	0.137
75	31.15	0.996
Std Dev	31.15	1.000
61	31.10	1.340
75	31.10	1.340
21	31.09	1.409

205	Other(describe)	
Lab	%	P2O5
19	30.47	0.000
Median	30.47	0.000

211	Gravimetric AFPC IX.3.B	
Lab	%	P2O5 dB
77	31.85	-1.340
Std Dev	31.79	-1.000
Median	31.62	0.000
Std Dev	31.45	1.000
241	31.39	1.340

212	ICP-inducted coupled plasma AFPC IX.3.D	
Lab	%	P2O5 dB
10	31.57	-0.757
6	31.51	-0.167
10	31.51	-0.122
16	31.50	0.000
Median	31.50	0.000
16	31.48	0.184
Std Dev	31.41	1.000
6	31.30	2.207
266	29.96	17.232

213	Photometric-AFPC IX.3.C	
Lab	%	P2O5 dB
33	31.78	-4.652
Std Dev	31.60	-1.000
49	31.58	-0.727
9	31.55	-0.066
Median	31.55	0.000
26	31.54	0.066
Std Dev	31.50	1.000
30	31.49	1.016
9	31.43	2.270

214	Automated -AOAC 978.01-15th		
Lab	%	P2O5	dB
21	31.67		-0.992
15	31.60		-0.606
15	31.59		-0.540
13	31.55		-0.329
13	31.55		-0.291
24	31.53		-0.209
61	31.50		0.000
Median	31.50		0.000
24	31.47		0.144
77	31.46		0.221
Std Dev	31.33		1.000
75	31.33		1.011
61	31.31		1.103
21	31.30		1.172
75	31.28		1.260

215	Other(describe)		
Lab	%	P2O5	dB
Median	0.00		0.000

301	Atomic Absorption-AFPC IX.6.B	
Lab	%	Fe2O3
241	1.51	-3.843
Std Dev	1.31	-1.000
60	1.25	-0.072
Median	1.25	0.000
33	1.24	0.072
Std Dev	1.18	1.000
30	1.17	1.084

302	ICP-inducted coupled plasma-AFPC IX.6.C	
Lab	%	Fe2O3
266	1.35	-3.216
Std Dev	1.27	-1.000
13	1.26	-0.804
15	1.26	-0.804
15	1.26	-0.804
270	1.25	-0.536
9	1.25	-0.402
10	1.24	-0.268
16	1.24	-0.268
16	1.24	-0.268

6	1.23	0.000
6	1.23	0.000
9	1.23	0.000
10	1.23	0.000
13	1.23	0.000
49	1.23	0.000
Median	1.23	0.000
24	1.23	0.134
61	1.21	0.536
Std Dev	1.19	1.000
75	1.19	1.040
24	1.19	1.072
61	1.17	1.608
92	1.17	1.608
92	1.16	1.876
21	1.13	2.680
75	1.10	3.368
21	1.09	3.886

303 Other(describe)

Lab	%	Fe2O3
77	1.44	-0.462
77	1.39	0.000
Median	1.39	0.000
Std Dev	1.28	1.000
19	1.15	2.218

401 Atomic Absorption-AFPC IX.6.B

Lab	%	Al2O3
33	1.05	-1.340
Std Dev	1.05	-1.000
Median	1.04	0.000
Std Dev	1.03	1.000
30	1.03	1.340

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

Lab	%	Al2O3
266	1.45	-6.604
24	1.30	-3.733
24	1.28	-3.350
61	1.19	-1.531
92	1.17	-1.244
92	1.16	-1.053
Std Dev	1.16	-1.000
61	1.16	-0.957
21	1.14	-0.670
270	1.14	-0.670
9	1.12	-0.191
15	1.11	-0.096
13	1.11	0.000
15	1.11	0.000
21	1.11	0.000
Median	1.11	0.000
16	1.10	0.096
16	1.09	0.287
6	1.09	0.383
9	1.09	0.383
10	1.09	0.383
10	1.08	0.479
49	1.08	0.479
6	1.07	0.670
13	1.07	0.670
Std Dev	1.05	1.000
75	1.02	1.686
75	0.98	2.371

403 Other(describe)

Lab	%	Al2O3
19	1.53	-2.297
Std Dev	1.46	-1.000
77	1.41	0.000
Median	1.41	0.000
77	1.39	0.383

501 Atomic Absorption-AFPC IX.8.A

Lab	%	MgO
33	0.53	-0.658
60	0.53	-0.658
Median	0.50	0.000
241	0.47	0.658
30	0.47	0.752

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

Lab	%	MgO
92	0.60	-2.903
92	0.59	-2.457
24	0.57	-1.340
Std Dev	0.56	-1.000
10	0.55	-0.670
16	0.55	-0.670
24	0.55	-0.670
49	0.55	-0.670
15	0.55	-0.447
15	0.55	-0.447
10	0.54	-0.223
16	0.54	-0.223
61	0.54	-0.223
6	0.54	0.000
6	0.54	0.000
9	0.54	0.000
Median	0.54	0.000
270	0.53	0.170
9	0.53	0.223
61	0.53	0.447
13	0.52	0.670
266	0.52	0.670
13	0.52	0.893
21	0.52	0.893
Std Dev	0.51	1.000
21	0.51	1.340
75	0.49	2.172
75	0.47	2.776

503 Other(describe)

Lab	%	MgO
77	0.56	-1.340
Std Dev	0.55	-1.000
77	0.54	0.000
Median	0.54	0.000
Std Dev	0.53	1.000
19	0.52	1.340

601 Insoluble-AFPC IX.4.A

Lab	%	Al
10	8.11	-2.189
16	8.10	-2.144
16	8.01	-1.340
Std Dev	7.97	-1.000
9	7.97	-0.983
33	7.96	-0.893
9	7.90	-0.313
10	7.89	-0.223
6	7.87	-0.089
13	7.86	0.000
Median	7.86	0.000
24	7.84	0.179
24	7.84	0.179
13	7.83	0.313
21	7.81	0.447
15	7.76	0.893
30	7.75	0.983
Std Dev	7.75	1.000
15	7.68	1.653
21	6.76	9.827

602 Other(describe)

Lab	%	Al
19	8.67	-1.648
Std Dev	8.45	-1.000

651 Gasometric-AFPC IX.13.B

Lab	%	CO2
61	4.10	-2.813
Std Dev	3.67	-1.000
49	3.57	-0.579
9	3.56	-0.537
61	3.55	-0.512
9	3.46	-0.116
30	3.45	-0.074
Median	3.43	0.000
6	3.42	0.074
15	3.25	0.769
15	3.24	0.811
77	3.23	0.853
Std Dev	3.20	1.000
13	2.94	2.075
13	2.94	2.096

652 Other(describe)

Lab	%	CO2
24	3.75	-1.820
Std Dev	3.67	-1.000
266	3.57	0.000
Median	3.57	0.000
6	3.49	0.860

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
61	49.20	-4.383
61	47.80	-2.617
92	46.88	-1.457
92	46.58	-1.078
Std Dev	46.52	-1.000
270	46.52	-0.996
21	46.17	-0.561
9	45.87	-0.183
9	45.78	-0.069
10	45.76	-0.044
Median	45.73	0.000
16	45.69	0.044
10	45.68	0.057
49	45.67	0.069
16	45.40	0.410
21	45.36	0.467
6	45.28	0.561
6	45.09	0.807
Std Dev	44.93	1.000
75	43.16	3.241
75	42.43	4.151

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

704	Permanganate	
Lab	%	CaO
30	46.66	-2.599
Std Dev	46.27	-1.000
241	46.02	0.000
Median	46.02	0.000
60	46.00	0.081

705	EDTA Volumetric-AFPC IX.12.C	
Lab	%	CaO
266	45.50	0.000
Median	45.50	0.000

706	Other(describe)	
Lab	%	CaO
33	49.70	-3.632
77	47.73	-1.647
77	47.20	-1.113
Std Dev	47.09	-1.000
15	46.15	-0.050
15	46.14	-0.040
Median	46.10	0.000
24	46.06	0.040
24	45.72	0.383
13	45.57	0.529
13	45.55	0.554
Std Dev	45.10	1.000
19	45.10	1.002

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
61	49.44		-8.905
61	48.12		-5.520
21	46.44		-1.207
Std Dev	46.36		-1.000
9	46.16		-0.473
10	46.09		-0.296
9	46.06		-0.211
16	46.04		-0.169
10	45.97		0.000
Median	45.97		0.000
49	45.95		0.062
16	45.74		0.606
21	45.66		0.811
Std Dev	45.59		1.000
6	45.55		1.099
6	45.37		1.551
75	43.41		6.592
75	42.67		8.483

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

714	Permanganate		
Lab	%	CaO	dB
30	46.97		-1.340
Std Dev	46.87		-1.000
Median	46.60		0.000
Std Dev	46.32		1.000
241	46.23		1.340

715	EDTA Volumetric-AFPC IX.12.C		
Lab	%	CaO	dB
266	45.96		0.000
Median	45.96		0.000

716	Other(describe)		
Lab	%	CaO	dB
33	50.00		-3.441
77	47.90		-1.371
Std Dev	47.52		-1.000
77	47.37		-0.847
15	46.51		-0.006
15	46.51		0.000
Median	46.51		0.000
24	46.35		0.149
24	46.00		0.493
13	45.94		0.559
13	45.92		0.575

801	Volumetric-AFPC IX.14.A	
Lab	%	Fluorine, F
33	3.61	0.000
Median	3.61	0.000

802	Specific Ion Electrode-AFPC IX.14.B	
Lab	%	Fluorine, F
49	3.63	-0.768
9	3.61	-0.647
9	3.59	-0.527
13	3.58	-0.437
21	3.56	-0.346
30	3.55	-0.286
13	3.52	-0.105
21	3.52	-0.075
Median	3.50	0.000
266	3.49	0.075
24	3.41	0.587
24	3.38	0.738
75	3.35	0.949
Std Dev	3.34	1.000
75	3.33	1.039
270	3.20	1.822
15	3.14	2.213
15	3.13	2.273

803	Oher(describe)	
Lab	%	Fluorine, F
19	3.90	-2.144
Std Dev	3.77	-1.000
77	3.66	0.000
Median	3.66	0.000
77	3.60	0.536

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

912	ICP-inducted coupled plasma-AFPC IX.15.I	
Lab	ppm	Arsenic, As
266	17.7	-0.822
61	15.8	-0.228
61	15.0	0.000
Median	15.0	0.000
Std Dev	11.7	1.000
270	11.4	1.112
24	10.4	1.401

913	Other(describe)	
Lab	ppm	Arsenic, As
13	13.3	-1.340
Std Dev	12.3	-1.000
Median	9.6	0.000
Std Dev	6.9	1.000
33	6.0	1.340

921	Atomic Absorption-AFPC IX.11.A	
Lab	ppm	Cadmium, Cd
33	3	0.000

Median	3	0.000

922	ICP-inducted coupled plasma-AFPC IX.11.B	
Lab	ppm	Cadmium, Cd
77	4	-2.808
Std Dev	4	-1.000
61	3	-0.788
270	3	-0.311
75	3	-0.076
Median	3	0.000
75	3	0.076
77	3	0.864
Std Dev	3	1.000
61	3	1.047
266	3	1.304

923	Other(describe)	
Lab	ppm	Cadmium, Cd
19	5	-1.340
Std Dev	5	-1.000
Median	4	0.000
Std Dev	4	1.000
13	4	1.340

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
266	8	-0.536
77	8	-0.107
77	8	-0.107
270	8	-0.107
61	8	0.000
Median	8	0.000
61	8	0.321
Std Dev	7	1.000
75	7	1.233
75	7	1.247
24	2	5.894

933	Other(describe)	
Lab	ppm	Cobalt, Co
13	9	0.000
Median	9	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
270	0.2	-1.340
Std Dev	0.2	-1.000
Median	0.2	0.000
Std Dev	0.2	1.000
266	0.2	1.340

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	Iolybdenum, Mo
Median	0	0.000

952	ICP-inducted coupled plasma-AFPC IX.16.A	
Lab	ppm	Iolybdenum, Mo
270	9	-2.887
77	8	-1.980
Std Dev	7	-1.000
77	6	-0.251
266	6	0.000
Median	6	0.000
61	6	0.009
61	5	0.441
Std Dev	5	1.000
24	4	1.651

953	Other(describe)	
Lab	ppm	Iolybdenum, Mo
33	9	-1.340
Std Dev	9	-1.000
Median	8	0.000
Std Dev	7	1.000
13	6	1.340

961	Atomic Absorption-AFPC IX.16.B	
Lab	ppm	Nickel, Ni
33	14	0.000
Median	14	0.000

962	ICP-inducted coupled plasma-AFPC IX.16.A	
Lab	ppm	Nickel, Ni
266	25	-6.627
77	17	-1.484
Std Dev	16	-1.000
77	16	-0.864
61	15	-0.245
Median	15	0.000
75	14	0.245
75	14	0.313
61	14	0.344
270	14	0.375

963	Other(describe)	
Lab	ppm	Nickel, Ni
19	31	-1.729
Std Dev	28	-1.000
19	23	0.000
Median	23	0.000
13	19	0.951

971	Atomic Absorption-AFPC IX.16.B	
Lab	ppm	Lead, Pb
33	20	0.000
Median	20	0.000

972	ICP-inducted coupled plasma-AFPC IX.16.A	
Lab	ppm	Lead, Pb
61	20	-0.965
61	19	-0.857
266	17	-0.178
Median	17	0.000
270	16	0.178
77	14	0.811
Std Dev	13	1.000
77	13	1.120

973	Other(describe)	
Lab	ppm	Lead, Pb
13	17	0.000
Median	17	0.000

981	Atomic Absorption-AFPC IX.16.B	
Lab	ppm	Selenium, Se
33	6	0.000
Median	6	0.000

982	ICP-inducte coupled plasma-AFPC IX.16.A	
Lab	ppm	Selenium, Se
266	5	-2.242
Std Dev	3	-1.000
61	1	0.000
Median	1	0.000
61	0	0.438

983	Other(describe)	
Lab	ppm	Selenium, Se
13	5	0.000
Median	5	0.000

991	Atomic Absorption-AFPC IX.16.B	
Lab	ppm	Zinc, Zn
60	68	-1.340
Std Dev	64	-1.000
Median	52	0.000
Std Dev	40	1.000
33	36	1.340

992	ICP-inducted coupled plasma-AFPC IX.16.A	
Lab	ppm	Zinc, Zn
75	47	-1.064
75	47	-1.028
Std Dev	46	-1.000
61	43	-0.539
61	39	-0.120
Median	38	0.000
77	37	0.120
77	33	0.598
266	30	0.921
Std Dev	30	1.000
270	27	1.316

993	Other(describe)		
Lab	ppm	Zinc, Zn	
13	49		-2.680
Std Dev	41		-1.000
19	37		0.000
19	37		0.000
Median	37		0.000