

AFPC Rock Check Program

Sample No. 2010-04

	Method #	# of Anal.	Grand Median	Std Dev
Moisture				
Ground Sample AFPC IX.2.A	101	15	1.12	0.541
Other (describe)	102	2		
Method Group 100		17	1.00	0.59
P₂O₅				
Gravimetric AFPC IX.3.B	201	2	32.82	0.049
ICP-induced coupled plasma AFPC IX.3.D	202	5	32.64	0.086
Photometric-AFPC IX.3.C	203	8	32.69	0.222
Automated -AOAC 978.01-15th	204	8	32.65	0.061
Other(describe)	205	6	32.73	0.166
Method Group 200		29	32.68	0.11
P₂O₅ (on Dry Basis)				
Gravimetric AFPC IX.3.B	211	1	32.90	0.000
ICP-induced coupled plasma AFPC IX.3.D	212	2	32.50	0.223
Photometric-AFPC IX.3.C	213	4	32.73	1.042
Automated -AOAC 978.01-15th	214	7	33.02	0.122
Other(describe)	215	3	32.60	0.252
Method Group 210		18	32.85	0.43
Fe₂O₃				
Atomic Absorption-AFPC IX.6.B	301	3	1.08	0.076
ICP-induced coupled plasma-AFPC IX.6.C	302	20	1.16	0.032
Other(describe)	303	5	1.13	0.101
Method Group 300		28	1.15	0.04
Al₂O₃				
Atomic Absorption-AFPC IX.7.B	401	3	1.36	0.160
ICP-induced coupled plasma-AFPC IX.7.C	402	20	1.17	0.040
Other(describe)	403	4	1.16	0.035
Method Group 400		27	1.17	0.07
MgO				
Atomic Absorption-AFPC IX.8.A	501	3	0.47	0.041
ICP-induced coupled plasma-AFPC IX.8.B	502	19	0.44	0.015
Other(describe)	503	5	0.45	0.015
Method Group 500		27	0.44	0.01
Acid Insoluble				
Insoluble-AFPC IX.4.A	601	15	3.01	0.284
Other(describe)	602	4	3.13	0.236
Method Group 600		19	3.07	0.28
Carbon Dioxide				
Gasometric-AFPC IX.13.B	651	8	3.54	0.000
Other(describe)	652	4	5.89	0.000
Method Group 650		12	3.58	0.29
CaO				
Gravimetric sulfate-AFPC IX.12.A	701			
ICP-induced coupled plasma-AFPC IX.12.D	702	14	47.83	0.790
Ceric Sulfate volumetric-AFPC IX.12.B	703	1	41.37	0.000
Permanganate	704	2	47.81	0.026
EDTA Volumetric-AFPC IX.12.C	705	3	47.29	0.970
Other(describe)	706	8	47.74	0.360
Method Group 700		28	47.77	0.56
CaO (on Dry Basis)				
Gravimetric sulfate-AFPC IX.12.A	711			
ICP-induced coupled plasma-AFPC IX.12.D	712	7	48.86	1.057
Ceric Sulfate volumetric-AFPC IX.12.B	713			
Permanganate	714	2	48.23	0.110
EDTA Volumetric-AFPC IX.12.C	715	2	48.12	1.006
Other(describe)	716	6	48.06	0.724
Method Group 710		17	48.09	32.29

	Method #	# of Anal.	Grand Median	Std Dev
Fluorine, F				
Volumetric-AFPC IX.14.A	801			
Specific Ion Electrode-AFPC IX.14.B	802	17	3.64	0.138
Other (describe)	803	2	3.88	0.007
Method Group 800		19	3.71	0.21
Arsenic, As				
Atomic Absorption	911			
ICP-induced coupled plasma-AFPC IX.15.B	912	4	13.0	4.25
Other(describe)	913	1	5.5	0.00
Method Group 900		5	11.0	3.06
Cadmium, Cd				
Atomic Absorption-AFPC IX.11.A	921			
ICP-induced coupled plasma-AFPC IX.11.B	922	6	4	0.1
Other(describe)	923	1	29	0.0
Method Group 910		7	4	9.4
Cobalt, Co				
Atomic Absorption-AFPC IX.16.B	931			
ICP-induced coupled plasma-AFPC IX.16.A	932	8	4	0.8
Other(describe)	933			
Method Group 920		8	4	0.8
Mercury, Hg				
Atomic Absorption-AFPC IX.16.B	941			
ICP-induced coupled plasma-AFPC IX.16.A	942	1	0.1	0.00
Other(describe)	943	1	16.0	0.00
Method Group 930		2	8.0	5.94
Molybdenum, Mo				
Atomic Absorption-AFPC IX.16.B	951	1	34	0.0
ICP-induced coupled plasma-AFPC IX.16.A	952	6	14	1.8
Other(describe)	953			
Method Group 940		7	14	2.2
Nickel, Ni				
Atomic Absorption-AFPC IX.16.B	961	1	24	0.0
ICP-induced coupled plasma-AFPC IX.16.A	962	8	9	6.6
Other(describe)	963	1	43	0.0
Method Group 950		10	13	10.8
Lead, Pb				
Atomic Absorption-AFPC IX.16.B	971			
ICP-induced coupled plasma-AFPC IX.16.A	972	6	17	12.9
Other(describe)	973			
Method Group 960		6	17	12.9
Selenium, Se				
Atomic Absorption-AFPC IX.16.B	981			
ICP-induced coupled plasma-AFPC IX.16.A	982	1	4	0.0
Other(describe)	983	2	45	2.1
Method Group 970		3	43	16.3
Zinc, Zn				
Atomic Absorption-AFPC IX.16.B	991			
ICP-induced coupled plasma-AFPC IX.16.A	992	8	45	9
Other(describe)	993	2	48	2
Method Group 980		10	46	6

101 Ground Sample AFPC IX.2.A			
Lab	%	H ₂ O	
24	1.26	-0.250	
13	1.22	-0.185	
75	1.21	-0.166	
75	1.21	-0.166	
49	1.17	-0.092	
13	1.16	-0.074	
35	1.14	-0.037	
30	1.12	0.000	
Median	1.12	0.000	
266	1.00	0.222	
27	0.66	0.850	
Std Dev	0.58	1.000	
77	0.47	1.201	
77	0.46	1.220	
15	0.38	1.368	
15	0.35	1.423	
69	0.21	1.682	

102 Other (describe)			
Lab	%	H ₂ O	
16	0.00	0.000	
16	0.00	0.000	
Median	0.00	0.000	

201 Gravimetric AFPC IX.3.B			
Lab	%	P2O5	
241	32.88	-1.340	
Std Dev	32.86	-1.000	
Median	32.82	0.000	
Std Dev	32.77	1.000	
77	32.75	1.340	

202 ICP-induced coupled plasma AFPC IX.3.D			
Lab	%	P2O5	
6	32.79	-1.748	
Std Dev	32.73	-1.000	
15	32.68	-0.408	
10	32.64	0.000	
Median	32.64	0.000	
10	32.56	0.932	
Std Dev	32.55	1.000	
266	31.88	8.856	

203 Photometric-AFPC IX.3.C			
Lab	%	P2O5	
9	32.74	-0.248	
49	32.71	-0.113	
30	32.70	-0.068	
92	32.70	-0.068	
Median	32.69	0.000	
9	32.67	0.068	
270	32.48	0.923	
Std Dev	32.46	1.000	
27	32.18	2.275	
69	29.48	14.436	

204 Automated -AOAC 978.01-15th			
Lab	%	P2O5	
24	32.90	-4.041	
24	32.72	-1.154	
Std Dev	32.71	-1.000	
15	32.69	-0.660	
13	32.66	-0.165	
Median	32.65	0.000	
75	32.64	0.165	
75	32.63	0.412	
13	32.59	0.990	
Std Dev	32.59	1.000	
77	32.23	6.927	

205 Other(describe)			
Lab	%	P2O5	
19	33.70	-5.872	
Std Dev	32.89	-1.000	
35	32.88	-0.933	
60	32.75	-0.151	
Median	32.73	0.000	
92	32.70	0.151	
16	32.60	0.753	
16	32.59	0.843	

211 Gravimetric AFPC IX.3.B			
Lab	%	P2O5	dB
77	32.90	0.000	
Median	32.90	0.000	

212 ICP-induced coupled plasma AFPC IX.3.D			
Lab	%	P2O5	dB
15	32.80	-1.340	
Std Dev	32.72	-1.000	
Median	32.50	0.000	
Std Dev	32.28	1.000	
266	32.20	1.340	

213 Photometric-AFPC IX.3.C			
Lab	%	P2O5	dB
49	33.10	-0.350	
30	33.07	-0.325	
Median	32.73	0.000	
27	32.39	0.325	
Std Dev	31.69	1.000	
69	29.54	3.062	

214 Automated -AOAC 978.01-15th			
Lab	%	P2O5	dB
24	33.14	-0.915	
13	33.06	-0.319	
75	33.04	-0.125	
75	33.02	0.000	
Median	33.02	0.000	
13	32.97	0.429	
Std Dev	32.90	1.000	
15	32.80	1.808	
77	32.38	5.283	

215 Other(describe)			
Lab	%	P2O5	dB
35	33.26	-2.620	
Std Dev	32.85	-1.000	
16	32.60	0.000	
Median	32.60	0.000	
16	32.59	0.060	

301 Atomic Absorption-AFPC IX.6.B			
Lab	%	Fe2O3	
27	1.21	-1.634	
Std Dev	1.16	-1.000	
30	1.08	0.000	
Median	1.08	0.000	
Std Dev	1.00	1.000	

241 1.00 1.046

302 ICP-induced coupled plasma-AFPC IX.6.C			
Lab	%	Fe2O3	
77	1.28	-3.803	
77	1.28	-3.803	
266	1.25	-2.872	
Std Dev	1.19	-1.000	
10	1.19	-0.854	
13	1.18	-0.698	
13	1.17	-0.388	
10	1.17	-0.233	
9	1.16	-0.078	
9	1.16	-0.078	
15	1.16	-0.078	
Median	1.16	0.000	
15	1.16	0.078	
49	1.15	0.233	
270	1.14	0.543	
6	1.13	0.854	
92	1.13	0.854	
75	1.13	0.936	
Std Dev	1.13	1.000	
75	1.12	1.041	
24	1.10	1.940	
35	1.03	3.958	
69	0.67	15.134	

303 Other(describe)			
Lab	%	Fe2O3	
16	1.18	-0.447	
16	1.17	-0.347	
92	1.13	0.000	
Median	1.13	0.000	
19	1.03	0.993	
Std Dev	1.03	1.000	
60	1.02	1.141	

401 Atomic Absorption-AFPC IX.6.B			
Lab	%	Al2O3	
241	1.58	-1.371	
Std Dev	1.52	-1.000	
27	1.36	0.000	
Median	1.36	0.000	

Std Dev	1.20	1.000
30	1.15	1.309

402 ICP-induced coupled plasma-AFPC IX.6.C			
Lab	%	Al2O3	
266	1.48		-7.728
77	1.41		-5.983
77	1.41		-5.983
270	1.28		-2.742
24	1.22		-1.247
Std Dev	1.21		-1.000
35	1.21		-0.997
75	1.21		-0.922
75	1.20		-0.755
6	1.18		-0.249
10	1.17		0.000
13	1.17		0.000
Median	1.17		0.000
9	1.17		0.125
13	1.16		0.249
15	1.16		0.249
15	1.16		0.249
10	1.16		0.374
9	1.15		0.499
92	1.14		0.748
Std Dev	1.13		1.000
49	1.12		1.247
69	0.43		18.448

403 Other(describe)			
Lab	%	Al2O3	
19	1.33		-4.925
Std Dev	1.19		-1.000
16	1.16		0.000
92	1.16		0.000
Median	1.16		0.000
16	1.15		0.435

501 Atomic Absorption-AFPC IX.8.A			
Lab	%	MgO	
30	0.52		-1.218
Std Dev	0.51		-1.000
35	0.47		0.000
Median	0.47		0.000

Std Dev	0.43	1.000
27	0.41	1.462

502 ICP-induced coupled plasma-AFPC IX.8.B			
Lab	%	MgO	
69	0.59		-10.050
92	0.49		-3.350
Std Dev	0.45		-1.000
6	0.45		-0.670
9	0.45		-0.670
9	0.45		-0.670
49	0.45		-0.670
10	0.44		0.000
10	0.44		0.000
13	0.44		0.000
15	0.44		0.000
15	0.44		0.000
Median	0.44		0.000
13	0.43		0.670
24	0.43		0.670
77	0.43		0.670
77	0.43		0.670
Std Dev	0.43		1.000
266	0.42		1.340
75	0.40		2.481
75	0.40		2.997
270	0.34		6.700

503 Other(describe)			
Lab	%	MgO	
92	0.48		-2.345
19	0.46		-1.005
Std Dev	0.46		-1.000
16	0.45		0.000
Median	0.45		0.000
16	0.44		0.335
Std Dev	0.43		1.000
60	0.40		3.015

601 Insoluble-AFPC IX.4.A			
Lab	%	Al	
69	12.25		-32.583
27	4.16		-4.055
24	3.45		-1.552

24	3.42	-1.428
Std Dev	3.29	-1.000
15	3.13	-0.423
9	3.10	-0.300
15	3.09	-0.282
6	3.01	0.000
Median	3.01	0.000
35	2.96	0.176
10	2.95	0.229
10	2.90	0.406
9	2.89	0.423
30	2.83	0.635
13	2.80	0.741
13	2.74	0.952

602 Other(describe)			
Lab	%	Al	
19	4.00		-3.708
Std Dev	3.36		-1.000

651 Gasometric-AFPC IX.13.B			
Lab	%	CO2	
9	3.63		-0.335
9	3.63		-0.335
6	3.60		-0.220
15	3.57		-0.086
Median	3.54		0.000
15	3.52		0.086
77	3.41		0.507
Std Dev	3.28		1.000
30	2.80		2.843
69	2.13		5.408

652 Other(describe)			
Lab	%	CO2	
19	46.90		-3.668
Std Dev	17.07		-1.000
35	8.06		-0.194
Median	5.89		0.000
266	3.72		0.194
16	0.00		0.527

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

702 ICP-induced coupled plasma-AFPC IX.12.			
Lab	%	CaO	
75	49.26		-1.809
77	49.22		-1.759
75	49.03		-1.516
77	48.64		-1.025
Std Dev	48.62		-1.000
92	48.49		-0.835
92	48.04		-0.266
49	47.90		-0.089
Median	47.83		0.000
10	47.76		0.089
6	47.61		0.278
15	47.60		0.291
10	47.53		0.386
9	47.47		0.462
9	47.41		0.538
Std Dev	47.04		1.000
69	25.20		28.642

703 Ceric Sulfate volumetric-AFPC IX.12.B			
Lab	%	CaO	
241	41.37		0.000
Median	41.37		0.000

704 Permanganate			
Lab	%	CaO	
30	47.84		-1.340
Std Dev	47.83		-1.000
Median	47.81		0.000
Std Dev	47.78		1.000
27	47.77		1.340

705 EDTA Volumetric-AFPC IX.12.C			
Lab	%	CaO	
35	48.90		-1.660
Std Dev	48.26		-1.000
270	47.29		0.000
Median	47.29		0.000
Std Dev	46.32		1.000
266	46.30		1.020

706 Other(describe)		
Lab	%	CaO
13	48.73	-2.749
24	48.13	-1.083
Std Dev	48.10	-1.000
24	48.01	-0.736
13	47.82	-0.222
Median	47.74	0.000
16	47.66	0.222
15	47.58	0.444
16	47.48	0.736
Std Dev	47.38	1.000
60	46.90	2.333

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
75	49.86	-0.944	
75	49.63	-0.723	
77	49.45	-0.556	
77	48.86	0.000	
Median	48.86	0.000	
49	48.47	0.376	
Std Dev	47.81	1.000	
15	47.78	1.025	
69	25.25	22.342	

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

714 Permanganate			
Lab	%	CaO	dB
30	48.38	-1.340	
Std Dev	48.34	-1.000	
Median	48.23	0.000	
Std Dev	48.12	1.000	
27	48.09	1.340	

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

35	49.46	-1.340
Std Dev	49.12	-1.000
Median	48.12	0.000
Std Dev	47.11	1.000
266	46.77	1.340

716 Other(describe)			
Lab	%	CaO	dB
13	49.33	-1.752	
Std Dev	48.79	-1.000	
24	48.74	-0.936	
13	48.38	-0.438	
Median	48.06	0.000	
15	47.75	0.438	
16	47.66	0.558	
16	47.48	0.814	

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	
69	5.46	-13.183	
9	4.06	-3.042	
35	4.05	-2.970	
9	4.03	-2.789	
Std Dev	3.78	-1.000	
13	3.77	-0.942	
49	3.77	-0.942	
30	3.76	-0.869	
13	3.71	-0.507	
15	3.64	0.000	
Median	3.64	0.000	
24	3.64	0.000	
15	3.62	0.145	
270	3.60	0.290	
24	3.59	0.398	
75	3.52	0.905	
Std Dev	3.50	1.000	
27	3.50	1.014	
75	3.46	1.340	
266	3.32	2.318	

803 Other(describe)		
Lab	%	Fluorine, F
77	3.89	-1.340
Std Dev	3.89	-1.000
Median	3.88	0.000
Std Dev	3.87	1.000
77	3.87	1.340

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

912 ICP-induced coupled plasma-AFPC IX.15.B		
Lab	ppm	Arsenic, As
69	21.7	-2.045
Std Dev	17.3	-1.000
6	15.0	-0.470
Median	13.0	0.000
270	11.0	0.470
266	10.9	0.494

913 Other(describe)		
Lab	ppm	Arsenic, As
27	5.5	0.000
Median	5.5	0.000

921 Atomic Absorption-AFPC IX.11.A		
Lab	ppm	Cadmium, Cd
Median	0	0.000

922 ICP-induced coupled plasma-AFPC IX.11.B		
Lab	ppm	Cadmium, Cd
69	30	-235.483
270	4	-1.787
Std Dev	4	-1.000
6	4	0.000
75	4	0.000
77	4	0.000
Median	4	0.000
Std Dev	4	1.000
266	4	2.233

923 Other(describe)		
Lab	ppm	Cadmium, Cd

27	29	0.000
Median	29	0.000

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

932 ICP-induced coupled plasma-AFPC IX.16.		
Lab	ppm	Cobalt, Co
270	4	-0.392
6	4	-0.131
75	4	0.000
75	4	0.000
266	4	0.000
Median	4	0.000
Std Dev	3	1.000
77	3	1.307
77	3	1.307
69	0	5.112

933 Other(describe)		
Lab	ppm	Cobalt, Co
Median	0	0.000

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

942 ICP-induced coupled plasma-AFPC IX.16.		
Lab	ppm	Mercury, Hg
266	0.1	0.000
Median	0.1	0.000

943 Other(describe)		
Lab	ppm	Mercury, Hg
270	16.0	0.000
Median	16.0	0.000

951 Atomic Absorption-AFPC IX.16.B		
Lab	ppm	Iolbdenum, Mo
27	34	0.000
Median	34	0.000

952 ICP-induced coupled plasma-AFPC IX.16.A		
Lab	ppm	lolybdenum, Mo
6	16	-1.299
266	16	-1.188
Std Dev	15	-1.000
69	14	-0.359
Median	14	0.000
77	13	0.359
77	13	0.359
270	12	0.912

953 Other(describe)		
Lab	ppm	lolybdenum, Mo
Median	0	0.000

961 Atomic Absorption-AFPC IX.16.B		
Lab	ppm	Nickel, Ni
27	24	0.000
Median	24	0.000

962 ICP-induced coupled plasma-AFPC IX.16.A		
Lab	ppm	Nickel, Ni
270	25	-2.450
69	20	-1.674
266	16	-1.153
Std Dev	15	-1.000
6	9	-0.038
Median	9	0.000
75	9	0.038
75	9	0.038
77	8	0.113
77	8	0.113

963 Other(describe)		
Lab	ppm	Nickel, Ni
19	43	0.000
Median	43	0.000

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

972 ICP-induced coupled plasma-AFPC IX.16.A		
Lab	ppm	Lead, Pb

266	34	-1.297
Std Dev	30	-1.000
6	24	-0.544
77	17	0.000
77	17	0.000
Median	17	0.000
Std Dev	4	1.000
270	1	1.243
69	1	1.250

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

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
266	4	0.000
Median	4	0.000

983 Other(describe)		
Lab	ppm	Selenium, Se
270	48	-1.340
Std Dev	47	-1.000
Median	45	0.000
Std Dev	43	1.000
27	43	1.340

991 Atomic Absorption-AFPC IX.16.B		
Lab	ppm	Zinc, Zn
Median	0	0.000

992 ICP-induced coupled plasma-AFPC IX.16.A		
Lab	ppm	Zinc, Zn
69	265	-23.278
266	65	-2.103
Std Dev	55	-1.000
24	54	-0.874
6	46	-0.079
Median	45	0.000
75	45	0.079

75	44	0.132
77	43	0.238
77	41	0.450

993 Other(describe)		
Lab	ppm	Zinc, Zn
60	50	-1.340
Std Dev	49	-1.000
Median	48	0.000
Std Dev	46	1.000
19	45	1.340

