

GSA Data Repository Item # 7514

Title of article Mineralogic composition of sand-sized sediment on the outer margin off the Mid-Atlantic states; assessment of the influence of the ancestral Hudson and other fluvial systems

Author(s) G. Kelling et al.

see GSA Bulletin v. 86, p. 853 - 862

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Sample Location Data - Table 2 A,B,C, & D.

SAMPLE LOCATION DATA

— Keiling and others
Page 1 (Table)

Station (on Fig. 1)	Grab or Type of Sampler	Core Number	Water Depth Meters	Water Depth Fathoms	Position Lat. N.	Position Long. W.	Depth of Sample in Core (cm)	Total Core Length (cm)
1	Corer	V15-210	664	363	37°01'	74°37'	0-5	595
							39-40	
2	Grab	RoS9-59	79	43	37°01'	74°41'	-	-
3	Corer	C8-9	504	276	37°05'	74°40'	8-10	503
							100-102	
							203-205	
							290-292	
							398-400	
							501-503	
4	Grab	RoS9-40	84	46	37°04'	74°46'	-	-
5	Corer	C8-10	92	50	37°10'	74°40'	0-2	95
							85-95	
6	Grab	RoS9-18	90	49	37°10'	74°42'	-	-
7	Grab	RoS9-10	86	47	37°07'	74°38'	-	-
8	Grab	RoS9-76	90	49	37°17'	74°33'	-	-
9	Grab	RoS9-97	101	55	37°23'	74°31'	-	-
10	Grab	RoS9-86	90	49	37°29'	74°29'	-	-
11	Grab	RoS10-6	88	48	37°31'	74°24'	-	-
12	Corer	V15-211	384	210	37°41'	74°09'	0-5	313
							73-75	
							154-159	
							168-170	
							270-280	
							340-347	
13	Grab	RoS10-35	99	54	37°46'	74°15'	-	-
14	Grab	RoS10-65	101	55	38°01'	74°02'	-	-
15	Grab	RoS10-86	108	59	38°10'	73°54'	-	-
16	Corer	A156-6	530	289	38°11'	73°52'	0-3	750
							103-105	
							198-203	
							418-420	
							562-565	
							659-661	
							748-750	
17	Grab	RoS10-103	77	42	38°15'	73°52'	-	-
18	Grab	RoS10-99	106	58	38°13'	73°47'	-	-
19	Corer	V7-77	670	366	38°22'	73°39'	0-15	595
							497-499	
20	Corer	V7-76	1116	610	38°22'	73°39'	592-593	650
21	Grab	RoS3-19	108	59	38°24'	73°36'	-	-
22	Grab	RoS3-7	82	45	38°30'	73°33'	-	-
23	Grab	RoS3-15	97	53	38°27'	73°27'	-	-
24	Corer	V15-1	1287	704	38°50'	72°46'	370-372	530
							501-502	
25	Corer	V21-1	2180	1192	38°43'	72°39'	227-228	926
							370-373	
							542-543	
							664-665	

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26	Corer	V16-1	132	72	39°38'	72°27'	0-10	100
							48-50	
							88-90	
27	Corer	V19-1	2582	1390	38°21'	72°55'	70-72	751
							80-82	
							100-106	
							158-160	
							330-334	
							338-340	
28	Corer	A167-1	2707	1480	37°39'	72°58'	710-715	780
29	Corer	A164-33	2506	1370	36°55'	73°59'	45-50	216
							118-119	
							171-172	
							185-190	
30	Corer	RC9-1	1528	835	38°30'	71°35'	118-125	1093
							335-338	
							460-461	
							621-623	
							913-915	
31	Corer	RC10-290	3371	1843	37°32'	72°13'	285-287	321
32	Corer	A185-62	3493	1910	37°23'	72°16'	60-62	245
							74-76	
							162-164	
33	Corer	A164-5	3329	1820	37°46'	71°15'	616-618	915
34	Corer	RC10-1	3803	2079	37°41'	70°51'	225-230	1059
							295-300	
							570-573	
							815-820	
35	Corer	RC9-2	4353	2381	36°34'	69°10'	97-100	809
							647-648	
36	Corer	A164-23	4370	2390	36°13'	69°24'	73-90	880
							685-690	
							706-708	
							718-720	
							766-768	
							783-785	
							809-810	
37	Corer	A164-16	4481	2450	36°19'	69°09'	100-102	735
							114-115	
							236-238	
							256-258	
38	Corer	A179-24	4663	2550	35°46'	69°05'	173-176	310

HEAVY NONOPAQUE NONMICAECOUS MINERALS

Kelling and oth

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Sample	Magnetite	Actinolite	Tremolite	Augite	Dioptase	Hypopyroxene	Rutile	Tourmaline	Zircon	Rutile	Epidote	Zoisite	Clinzoisite	Ryanite	Staurolite	Sillimanite	Andalusite	Chloritoid	Analcite	Sphene	Apatite	Olivine	Cordierite	Others	
11.7	39.0	8.1	-	9.9	0.5	6.7	-	0.9	0.9	0.9	8.1	-	-	-	0.9	-	1.4	-	-	1.8	3.6	-	-	5.6	
14.0	40.4	2.9	0.7	11.8	0.7	2.9	-	-	2.2	-	9.6	0.7	-	-	1.5	-	2.9	0.7	-	1.5	2.2	-	-	5.3	
20.0	29.0	0.5	-	4.0	1.0	3.5	-	5.5	3.5	-	11.5	1.0	0.5	-	0.5	-	1.0	-	-	-	1.5	-	-	5.0	
17.5	32.5	1.5	-	10.7	3.4	3.4	-	1.9	4.4	-	6.3	1.5	0.5	-	0.5	-	2.4	0.5	-	-	3.4	-	-	9.6	
18.6	25.4	6.5	-	11.7	1.2	4.4	-	8.9	4.0	0.4	5.2	1.2	0.4	-	0.8	0.8	0.8	-	-	0.8	3.6	-	-	5.3	
18.6	31.4	3.8	-	8.8	0.4	4.6	0.4	5.4	6.7	1.3	5.9	1.3	0.4	-	0.8	-	-	0.8	-	0.4	2.9	-	-	3.9	
15.2	26.5	5.7	-	14.7	3.3	3.8	0.5	8.1	3.3	0.5	8.1	1.4	0.5	-	1.0	1.4	1.0	-	-	1.0	1.9	-	-	5.9	
15.5	44.0	3.4	0.5	9.7	2.4	2.4	-	3.9	2.9	-	6.8	1.9	-	-	0.5	0.5	1.5	-	-	-	3.4	-	-	0.7	
17.2	25.8	3.6	-	13.1	0.5	5.9	-	4.5	5.0	0.5	9.1	0.9	0.9	-	-	0.9	0.5	1.4	0.5	0.5	0.5	3.6	-	-	5.6
24.5	23.0	0.5	0.5	6.0	1.5	3.5	0.5	4.0	9.0	-	14.0	0.5	0.5	-	1.0	0.5	-	0.5	-	0.5	3.0	-	-	4.5	
32.8	23.0	1.5	0.5	7.8	2.0	2.5	-	3.9	9.8	1.5	3.4	1.5	0.5	-	2.9	-	-	0.5	0.5	1.5	-	-	-	3.9	
34.2	16.9	3.6	-	8.0	1.8	4.5	-	4.5	6.7	1.8	6.7	0.9	-	-	1.8	0.4	-	0.4	0.4	-	1.8	-	-	6.0	
27.0	20.5	1.0	1.0	5.5	-	4.0	-	7.0	8.5	-	11.0	2.0	0.5	-	0.5	-	0.5	0.5	-	3.0	2.0	-	0.5	5.0	
36.6	17.1	1.5	-	5.9	1.0	7.3	-	8.8	1.5	-	13.2	1.0	-	-	1.5	0.5	-	-	-	1.0	0.5	-	-	2.6	
41.5	13.0	0.5	1.0	7.5	0.5	9.0	0.5	7.0	4.0	0.5	18.0	-	0.5	-	0.5	3.5	1.0	-	-	0.5	1.0	-	0.5	3.5	
28.4	27.9	1.5	1.5	3.6	-	7.6	-	4.1	3.6	-	10.2	-	0.5	0.5	-	1.5	-	-	0.5	1.5	0.5	-	-	6.6	
28.8	11.1	0.5	1.4	6.3	1.4	4.8	1.0	9.1	6.7	-	14.9	0.5	1.0	-	1.0	0.5	-	0.5	-	-	4.3	-	-	6.2	
41.6	15.0	0.4	1.3	3.9	0.4	2.1	0.4	4.3	3.4	0.4	16.3	0.4	1.3	-	2.1	-	-	0.6	0.4	0.9	2.1	-	-	2.9	
13.8	46.9	2.2	-	4.9	-	4.0	-	5.8	2.7	-	7.6	-	-	-	1.3	-	0.9	0.5	-	0.9	1.8	-	-	6.7	
16.7	37.8	5.0	-	7.7	-	1.4	-	1.8	0.5	-	12.2	0.9	-	0.5	1.8	0.5	2.7	-	-	2.7	3.2	-	-	4.6	
21.1	36.6	4.2	0.5	3.8	0.5	3.6	0.9	2.8	0.5	-	9.9	0.9	-	-	0.5	-	3.8	0.5	-	1.4	2.4	-	-	4.1	
18.1	38.5	6.6	-	3.1	0.4	4.9	-	1.3	3.1	0.4	7.5	2.2	-	-	-	-	1.8	-	-	2.2	3.5	-	-	3.4	
12.5	44.7	4.8	-	4.8	-	5.8	-	2.9	4.3	-	6.3	-	0.5	-	1.4	-	1.4	-	-	2.4	0.5	-	-	7.7	
13.1	38.5	5.3	-	10.3	0.4	7.8	1.2	3.3	2.5	0.4	4.1	0.4	-	0.4	-	2.1	0.8	-	0.4	4.9	0.4	-	-	3.5	
37.7	12.7	0.9	0.9	3.8	0.5	2.4	-	8.0	3.8	-	21.7	0.5	0.5	-	1.9	-	0.5	-	-	0.5	1.4	-	-	2.3	
26.0	21.0	2.5	-	4.5	1.0	5.5	-	9.5	3.0	-	16.0	0.5	1.5	-	2.0	-	1.5	-	1.0	-	2.0	-	0.5	2.0	
25.5	26.0	0.5	-	5.5	1.0	7.5	0.5	6.0	1.5	-	11.0	-	1.0	1.5	-	1.0	0.5	-	-	2.5	2.0	-	-	6.5	
14.3	24.3	2.9	1.4	10.5	-	1.9	0.5	9.5	1.9	-	9.1	0.5	-	0.5	1.9	1.4	1.0	0.5	-	1.0	3.3	-	1.4	12.2	
13.2	28.8	5.4	1.5	8.8	2.0	3.9	0.5	5.9	3.9	0.5	5.9	1.5	-	1.0	2.0	0.5	0.5	1.5	-	1.5	1.0	-	-	10.2	
12.3	29.7	6.4	0.9	9.1	2.7	5.5	-	5.0	2.7	-	4.6	1.4	-	0.5	2.3	0.5	0.9	-	-	0.5	0.9	-	-	14.1	
25.0	23.0	2.5	1.0	10.0	0.5	7.5	0.5	5.0	3.0	0.5	8.0	1.0	-	-	2.5	-	0.5	-	-	1.0	2.5	-	-	6.0	
21.4	30.2	-	-	8.4	2.3	6.1	-	7.0	2.3	-	7.9	1.4	-	-	0.5	-	1.9	0.5	0.5	0.5	2.3	-	-	6.8	
21.5	29.5	4.0	-	14.0	-	3.5	-	4.5	2.0	0.5	3.5	-	-	-	0.5	0.5	-	-	-	3.0	-	-	11.0		
22.4	30.5	4.5	-	6.7	2.7	6.3	-	3.1	4.0	0.9	5.4	0.5	0.9	0.5	1.4	-	0.5	-	-	0.5	4.0	-	-	5.2	
32.0	12.0	0.5	1.5	7.0	1.5	4.0	-	8.5	3.0	-	15.5	1.0	1.5	0.5	2.5	0.5	0.5	-	-	0.5	1.5	-	-	4.0	
29.4	20.9	2.0	1.0	5.0	2.0	4.5	0.5	3.0	3.0	-	15.4	-	2.0	-	1.5	-	0.5	0.5	-	0.5	2.0	1.0	-	5.3	
16.2	44.9	3.2	0.5	7.4	1.4	3.2	-	1.9	5.1	-	7.9	0.5	1.4	-	-	0.5	0.9	0.5	-	0.5	2.3	-	-	1.7	
14.6	37.9	1.9	-	2.9	-	6.9	1.9	2.9	3.9	-	8.7	1.0	-	-	2.9	-	1.9	1.0	-	2.9	1.9	1.0	-	5.8	
7.7	47.1	3.4	1.4	11.5	-	4.8	-	2.4	1.9	-	5.3	-	-	-	0.5	-	3.4	0.5	-	1.4	1.9	0.5	-	6.3	
26.5	23.5	2.5	0.5	9.0	0.5	2.0	0.5	3.5	5.0	-	9.0	-	1.5	-	1.5	1.5	2.5	-	-	1.0	4.0	-	-	5.5	
47.0	6.5	-	-	3.0	2.5	1.5	0.5	7.0	5.5	0.5	18.0	0.5	-	-	0.5	0.5	0.5	0.5	0.5	0.5	0.5	-	-	5.5	
48.5	8.0	0.5	-	9.5	3.5	3.0	-	2.0	1.0	1.0	9.0	0.5	-	-	3.5	2.0	-	-	-	0.5	0.5	-	-	7.0	

Page 3 (Table 2C)

OPAQUES
(% of Heavy Fraction)

LIGHT MINERALS

Kelling and others
Page 3 (Continued)

	Quartz, Total	Quartz, Igneous	Quartz, Metamorphic	Feldspar, Total	Plagioclase	K-feldspar	Micas, Total	Muscovite	Biotite	Chlorite	Rock Fragments	Carbonates	Shell	Terrene	Sediments	Plant Fragments	Glaucosphaera	Median Grain Size (μ)
20.7	33.2	19.6	13.6	31.3	23.4	7.9	21.4	14.5	6.5	0.5	-	12.2	-	-	-	-	3.55	
21.7	33.2	21.3	11.9	33.2	31.3	1.9	16.6	10.4	6.2	-	-	14.2	-	-	tr	-	3.55	
31.7	32.5	25.5	37.0	30.5	29.5	1.0	3.0	2.0	1.0	-	1.0	1.0	-	C	-	-	2.10	
33.7	28.7	19.1	9.6	23.4	22.0	1.4	20.7	8.1	18.7	1.9	-	11.0	-	C	-	tr	2.85	
31.7	34.5	13.1	21.4	41.7	39.3	2.4	9.7	9.2	0.5	-	-	7.8	tr	-	-	-	3.10	
31.0	23.0	14.2	8.8	32.4	27.5	4.9	26.0	26.0	-	-	-	9.8	-	-	tr	-	2.90	
32.7	26.1	5.8	20.3	31.4	28.5	2.9	29.5	26.6	2.9	-	-	10.6	-	A	R	r	3.00	
21.0	33.5	18.9	14.6	25.3	24.8	0.5	23.3	16.5	8.3	0.5	-	11.7	R	R	-	-	3.15	
31.3	42.3	18.1	24.4	24.9	23.5	1.4	18.4	11.8	5.9	0.9	-	10.9	-	C	tr	-	3.00	
36.0	48.3	12.4	35.9	45.9	44.0	1.9	1.0	1.0	-	-	0.5	2.4	-	-	-	-	2.63	
49.0	42.3	24.8	17.3	27.4	27.1	0.3	24.8	21.6	2.9	0.3	1.6	1.0	R	-	-	-	2.40	
52.7	33.9	21.0	12.9	29.3	27.7	1.6	26.4	25.2	1.0	0.3	0.3	3.6	R	tr	-	-	2.05	
35.0	60.8	18.2	42.6	33.0	26.3	6.7	1.0	1.0	-	-	1.0	1.4	-	-	-	-	2.80	
28.7	75.2	29.8	45.4	21.0	18.1	2.9	-	-	-	-	1.5	1.5	-	-	-	tr	1.90	
30.3	67.9	32.7	35.2	21.8	19.3	2.5	5.9	5.9	-	-	3.4	1.0	-	tr	-	-	1.70	
31.3	59.9	25.5	34.4	32.6	28.8	3.8	1.0	1.0	-	-	4.7	0.9	-	tr	-	-	2.10	
41.7	68.7	28.9	39.8	15.9	14.9	1.0	11.9	11.9	-	-	3.0	-	-	-	-	-	1.80	
34.0	74.0	42.5	31.5	18.0	17.0	1.0	5.0	5.0	-	-	1.0	1.3	tr	C	-	tr	1.02	
26.3	32.4	15.7	16.7	33.8	32.4	1.4	22.6	15.6	4.2	2.8	-	8.8	-	C	-	-	3.10	
25.0	47.6	26.9	20.7	26.0	25.5	0.5	17.3	14.9	1.9	0.5	-	7.7	-	tr	-	-	3.10	
24.7	39.0	20.9	18.1	29.3	28.8	0.3	17.2	13.5	3.7	-	-	12.6	-	-	-	-	3.00	
26.3	41.3	26.4	14.9	29.4	25.5	3.9	15.8	11.1	4.3	0.5	-	11.5	-	tr	-	-	2.90	
24.0	32.3	17.7	14.6	29.1	22.7	6.4	17.3	14.1	2.7	0.5	-	21.4	tr	A	-	-	3.25	
22.3	46.8	27.8	19.0	25.9	21.5	4.4	19.0	18.0	1.0	-	-	7.8	-	R	-	-	2.75	
30.0	70.6	38.3	32.3	22.4	20.4	2.0	0.5	0.5	-	-	4.5	1.0	-	C	-	-	1.40	
32.3	60.0	29.8	30.2	28.4	21.3	7.1	1.8	1.8	-	-	5.3	1.8	-	C	-	-	1.80	
29.0	57.5	23.7	33.8	29.7	27.4	2.3	5.3	5.3	-	-	2.7	1.4	tr	tr	-	-	2.10	
32.3	48.1	16.4	31.7	40.7	40.4	0.3	8.3	8.3	-	-	-	1.9	-	tr	-	tr	2.60	
24.3	45.9	27.7	18.2	34.5	33.2	0.6	11.1	9.5	1.6	-	0.3	2.2	tr	-	-	R	2.00	
29.3	54.7	15.9	38.8	23.9	20.7	3.2	18.1	18.1	-	-	-	1.0	-	-	-	-	1.95	
32.0	51.0	29.7	21.3	30.3	30.0	0.3	13.7	11.7	2.0	-	-	0.3	-	-	-	R	1.95	
31.0	52.0	22.6	29.4	27.5	27.5	-	13.0	11.1	1.3	0.7	-	0.3	-	-	-	R	2.20	
25.0	34.1	22.2	11.9	34.8	32.1	2.7	18.2	18.2	-	-	-	0.7	-	-	-	tr	2.10	
32.7	53.9	45.6	8.3	28.7	28.2	0.5	11.5	8.7	2.4	0.3	1.0	2.4	-	-	-	-	2.20	
36.7	68.1	24.7	43.4	26.1	22.4	3.7	1.0	0.9	-	-	2.3	1.4	-	tr	-	-	1.70	
29.3	58.0	21.5	36.5	34.0	29.5	4.5	1.0	1.0	-	-	3.0	2.0	R	A	-	tr	1.70	
21.0	42.3	24.3	17.8	38.5	38.0	0.3	7.7	4.8	2.9	-	1.0	9.1	-	R	tr	-	3.20	
18.7	48.1	28.1	20.0	42.4	41.9	0.5	5.2	4.3	1.0	-	-	3.3	-	-	-	-	3.45	
13.3	33.5	25.0	8.3	43.5	41.0	2.5	8.5	2.0	3.5	3.0	0.5	12.5	R	R	R	tr	3.55	
41.3	78.0	37.0	41.0	18.5	14.0	4.5	0.5	0.5	-	-	1.5	1.0	-	-	-	tr	2.30	
44.7	43.0	26.0	17.0	48.5	42.5	6.0	4.0	4.0	-	-	-	1.5	-	-	-	-	2.02	

14.4	38.4	3.2	-	10.4	3.2	3.2	0.8	8.8	4.0	0.8	2.4	-	-	-	-	0.8	0.8	-	-	0.8	3.2	-	-	4.8	
12.9	40.2	4.0	-	14.1	0.8	2.4	0.8	-	4.0	0.8	4.0	-	-	-	-	0.8	-	-	-	0.8	5.6	-	-	8.8	
27.0	30.7	0.7	0.7	10.2	-	2.9	-	2.9	4.4	2.2	6.6	2.2	-	-	-	1.3	1.3	-	-	3.7	0.7	-	-	2.1	
20.4	31.9	4.3	-	16.6	0.6	5.1	-	2.6	5.7	-	2.6	0.6	-	-	-	1.3	-	1.3	-	-	1.3	1.3	-	-	4.2
19.2	32.0	3.7	-	16.4	2.7	4.6	-	4.6	3.7	0.9	0.9	-	0.5	-	1.8	-	-	-	0.9	1.8	-	-	6.3		
15.0	28.6	0.6	-	11.4	-	1.0	-	1.9	3.8	-	7.6	-	-	-	1.9	-	1.9	-	-	1.9	-	-	16.4		
11.3	37.6	2.3	0.8	6.0	-	2.3	0.8	4.3	5.3	0.8	6.8	-	0.8	-	4.5	0.8	1.3	2.3	-	3.0	3.0	-	-	5.6	
23.0	33.1	2.0	-	8.1	1.6	1.4	-	4.7	5.4	-	2.0	0.7	-	-	0.7	0.7	0.7	-	0.7	2.0	4.1	-	-	4.6	
8.2	45.5	4.6	2.7	5.3	-	0.9	-	0.9	4.6	-	4.6	-	2.7	-	3.6	1.8	0.9	-	-	2.7	4.6	-	-	6.2	
20.2	29.6	4.9	-	6.3	-	1.8	1.4	3.6	6.7	-	8.5	0.9	-	-	1.8	-	1.8	0.9	0.5	0.9	3.1	-	-	7.1	
45.4	11.0	3.2	0.5	7.8	-	1.8	0.5	4.6	0.9	0.5	7.8	0.9	0.5	-	1.8	-	-	-	0.5	0.5	-	-	11.8		
41.1	17.1	3.1	-	13.2	1.6	0.8	-	4.7	1.6	0.8	7.0	-	-	0.8	-	-	-	-	0.8	-	-	-	7.4		
30.0	13.0	3.1	-	9.4	-	2.2	-	5.8	1.3	0.5	1.8	0.5	-	-	1.3	0.5	-	0.5	-	0.9	-	-	-	9.2	
15.0	32.4	5.6	0.9	7.0	-	4.7	0.5	2.8	3.3	0.5	9.9	1.9	-	0.5	0.5	0.5	1.4	-	0.5	-	3.3	0.9	-	-	7.9
29.3	33.1	1.3	0.6	14.0	-	0.6	1.3	2.6	2.6	0.6	3.8	0.6	-	-	0.6	0.6	1.3	-	-	1.3	2.6	-	-	3.2	
11.2	44.4	2.9	-	10.7	1.0	6.8	-	3.9	2.0	-	2.9	1.0	0.5	-	-	0.5	2.0	-	-	-	2.9	-	-	7.3	
7.0	27.0	11.0	1.0	11.0	-	4.0	-	1.0	2.0	-	5.0	-	-	2.0	4.0	-	4.0	-	1.0	-	1.0	-	1.0	18.0	
4.6	36.7	8.3	-	7.3	-	10.1	0.9	1.8	4.6	0.9	5.5	-	-	-	-	-	2.8	0.9	-	-	2.8	-	-	-	12.8
6.4	39.1	10.9	0.9	5.5	-	4.6	0.9	1.8	2.7	2.7	4.6	1.8	-	-	1.8	-	0.9	-	-	0.9	0.9	-	-	13.6	
4.5	36.6	16.1	-	7.1	-	7.1	0.9	1.8	0.9	-	1.8	0.9	-	-	0.9	-	2.7	-	-	0.9	4.5	-	-	13.3	
6.3	34.1	17.4	-	3.8	-	-	-	6.5	3.6	-	5.1	-	-	-	2.9	-	0.7	0.7	-	1.5	2.2	-	-	13.0	
6.8	36.9	17.5	-	1.9	-	3.9	1.9	4.9	7.8	-	3.8	1.0	1.0	-	-	1.0	-	-	-	2.9	1.8	-	-	5.7	
9.1	34.3	6.2	-	5.7	-	1.9	1.4	3.3	4.8	0.5	12.9	0.5	-	0.5	-	2.4	3.3	0.5	-	1.9	3.3	1.0	-	6.3	
6.0	32.0	9.0	1.0	5.0	1.0	2.0	1.0	3.0	1.0	-	4.0	1.0	2.0	-	1.0	3.0	1.0	-	-	2.0	2.0	-	-	23.0	
3.9	38.8	12.6	-	2.9	-	1.9	-	3.9	5.8	-	6.8	1.0	1.0	-	1.9	1.0	1.9	-	-	-	2.9	-	-	13.7	
13.0	36.1	3.4	-	8.7	-	5.8	1.0	5.8	5.3	1.0	7.7	1.0	-	-	-	1.0	1.0	-	1.0	1.9	1.4	0.5	-	4.4	
9.7	39.9	3.5	-	8.8	1.8	5.3	-	3.1	1.8	0.4	7.5	1.3	0.9	-	0.4	1.3	0.9	-	-	1.3	0.6	-	-	3.5	
11.7	32.7	4.5	-	13.0	2.2	3.1	0.5	3.6	3.1	0.5	3.8	4.5	-	-	1.4	-	1.4	-	-	0.5	2.7	-	-	3.8	
6.1	45.2	3.7	-	8.3	-	6.4	-	2.6	4.0	-	3.3	1.8	1.3	0.4	0.4	1.3	-	-	2.2	4.8	-	-	5.8		
17.7	33.0	6.4	0.5	6.4	-	3.0	0.5	2.3	1.0	0.5	6.4	1.0	1.0	-	1.5	1.5	1.0	2.5	0.5	1.0	2.3	-	-	9.6	
12.3	32.6	4.5	-	8.9	-	5.4	-	6.7	3.6	0.5	8.5	1.3	0.5	0.5	2.2	-	0.9	-	-	3.8	-	-	-	5.6	
7.5	41.0	7.5	-	10.0	0.5	3.0	-	4.0	1.0	-	7.0	1.0	1.0	-	1.5	1.0	2.5	0.5	-	0.5	5.0	-	-	5.3	
13.5	30.9	1.9	-	15.0	1.9	2.9	0.5	11.1	2.9	-	3.4	2.4	0.5	-	0.5	0.5	2.4	0.5	-	-	1.9	-	-	7.3	
5.4	35.7	13.2	-	13.2	-	3.9	-	4.7	1.6	1.6	3.1	0.8	0.8	-	0.8	0.8	0.8	0.8	-	0.8	3.1	-	-	8.9	
22.7	18.9	3.0	-	5.3	1.5	0.8	-	6.8	3.8	-	11.4	-	-	0.8	9.1	1.5	0.8	-	-	0.8	-	-	-	12.8	
19.5	20.0	3.9	1.5	11.2	2.4	4.9	0.5	9.3	6.3	-	5.9	1.0	0.5	-	4.9	-	-	1.5	-	0.5	2.4	-	-	3.8	
25.5	15.0	2.0	1.0	5.5	-	3.5	1.5	9.5	8.5	1.5	5.5	2.0	1.0	-	4.5	1.5	1.0	-	-	0.5	1.0	-	-	9.5	
13.2	43.2	2.4	-	14.1	-	4.7	0.9	1.4	1.4	-	1.9	-	0.9	0.5	0.5	0.5	0.9	0.5	-	0.5	2.4	-	-	10.1	
21.2	41.4	2.0	-	6.9	-	6.9	0.5	0.5	4.4	1.5	3.1	-	0.5	0.5	1.0	0.5	1.5	-	-	0.5	3.5	-	-	3.6	
24.9	38.5	2.8	-	7.5	0.9	3.3	0.5	2.4	1.9	0.5	3.8	0.5	0.5	-	0.5	0.9	1.4	-	-	0.5	3.3	-	-	3.4	
11.2	30.1	7.3	-	10.7	-	3.4	1.5	1.9	3.9	1.0	7.8	1.0	-	-	1.5	-	0.5	0.5	0.5	3.4	2.4	-	-	11.4	
12.3	25.0	5.7	-	10.4	-	3.8	-	6.1	4.7	1.4	5.7	1.9	-	-	4.3	1.9	3.3	-	-	0.5	1.4	-	-	11.6	
9.1	41.6	3.8	-	8.1	-	6.7	-	4.8	4.3	1.0	7.0	-	0.5	-	1.0	-	0.5	-	1.0	3.4	-	-	7.2		
17.0	21.0	4.0	-	8.5	-	6.0	-	5.5	6.0	-	8.5	1.0	0.5	0.5	2.5	-	3.0	-	-	4.0	3.5	-	-	8.5	
16.3	18.2	9.4	0.5	9.9	-	4.9	0.5	10.8	2.5	-	9.9	0.5	-	0.5	0.5	0.5	2.5	0.5	1.0	-	0.5	0.5	0.5	0.5	11.1
10.5	27.9	3.5	-	11.4	-	6.3	1.0	6.0	5.5	0.5	5.0	0.5	-	1.0	1.5	1.0	1.5	-	0.5	0.5	3.0	0.5	-	-	8.7
14.3	20.0	6.0	-	11.5	-	8.5	1.0	6.0	5.5	0.5	5.0	0.5	-	1.0	1.5	1.0	1.5	-	0.5	0.5	3.0	0.5	-	-	10.0
13.7	39.8	1.3	0.4	15.8	2.7	6.6	-	0.9	3.5	0.4	2.7	0.4	0.9	-	1.3	0.4	1.3	-	-	0.4	4.4	-	-	3.9	

32.7	48.3	35.0	13.3	41.9	32.5	9.4	8.4	7.9	0.5	-	-	0.5	-	-	-	-	0.84
20.3	49.3	41.0	8.3	38.0	35.6	2.4	8.2	7.3	0.5	0.4	0.5	0.5	-	-	-	-	2.90
28.3	42.4	32.2	10.2	47.3	47.3	-	2.9	2.9	-	-	1.0	4.4	-	-	-	-	2.95
35.2	53.3	35.4	20.1	29.2	26.8	2.4	12.9	12.4	0.5	-	0.5	-	-	-	-	-	2.75
25.5	42.6	23.0	19.6	37.3	34.9	2.4	14.8	12.9	1.9	-	0.5	3.4	-	-	-	-	2.90
31.7	45.8	24.3	21.3	30.8	34.6	4.2	12.6	12.2	0.5	-	0.5	1.4	-	-	-	-	2.80
22.7	44.7	21.9	22.8	29.6	25.7	3.9	22.8	20.9	1.9	-	1.0	1.9	-	-	-	-	3.30
16.7	41.8	23.0	16.8	40.8	36.5	4.3	14.4	13.9	0.5	-	-	1.9	-	-	-	-	3.10
35.3	50.0	30.8	19.2	31.3	29.6	1.9	13.1	12.2	0.9	-	-	3.3	-	-	-	-	3.20
7.7	55.5	30.1	23.4	33.0	28.7	4.3	8.6	8.6	-	-	-	1.9	-	-	-	-	3.35
36.3	51.3	22.2	29.1	25.6	24.1	1.5	18.2	17.2	1.0	-	-	4.4	tr	-	-	-	2.40
43.0	45.2	15.2	30.0	24.4	18.9	5.5	20.6	17.5	2.8	0.5	0.5	7.4	-	A	-	C	1.50
40.0	37.0	24.0	13.0	43.0	40.3	2.3	8.0	6.0	2.0	-	1.5	9.0	-	C	-	-	1.50
47.3	40.9	9.4	31.5	33.8	30.5	3.3	21.1	20.2	0.9	-	-	3.3	-	tr	-	-	1.55
27.0	35.6	11.4	24.2	38.4	37.4	1.0	23.2	21.8	1.0	0.5	-	2.8	-	tr	-	-	2.90
32.3	49.7	36.2	13.5	42.5	49.1	3.4	4.4	3.9	0.5	-	1.5	1.5	-	-	-	-	2.60
19.0	30.3	40.0	10.3	30.0	30.0	-	9.5	1.3	7.5	0.5	-	7.5	tr	-	tr	-	2.85
29.3	38.4	5.7	30.7	29.3	29.3	-	30.7	22.6	3.7	2.4	-	0.9	-	-	-	-	4.23
27.3	45.1	3.2	41.9	12.9	12.9	-	36.8	18.4	7.8	10.6	-	1.8	-	-	-	-	3.85
19.0	32.2	3.8	26.4	23.1	22.6	0.3	39.0	24.0	10.2	4.8	-	1.0	-	-	-	-	4.55
31.7	34.6	12.7	21.3	23.5	23.5	-	39.2	26.2	7.2	4.1	-	2.7	-	-	-	-	3.33
11.3	42.4	23.9	18.3	37.0	26.8	10.2	20.0	19.3	0.5	-	-	-	-	-	-	-	3.70
12.3	43.4	32.2	11.2	30.8	28.8	2.0	24.4	20.3	2.4	1.5	-	-	-	-	-	-	4.10
26.0	43.7	17.5	26.2	33.9	32.0	1.9	20.0	19.4	0.6	-	-	1.0	-	-	-	-	4.30
7.3	34.6	21.4	11.6	20.3	29.8	0.5	26.1	22.8	2.3	0.9	-	3.3	-	-	-	-	3.75
42.0	26.7	20.9	3.8	36.9	31.1	3.8	28.9	24.9	2.2	1.8	-	4.4	-	-	-	-	4.10
28.0	44.8	26.0	18.8	28.9	28.9	-	16.4	13.0	2.4	1.0	-	7.7	R	C	-	-	3.10
21.3	38.9	18.6	19.9	22.3	21.2	1.3	21.2	16.3	1.3	3.5	-	17.3	A	A	-	-	3.35
36.3	34.2	19.8	14.6	18.3	17.8	0.5	31.7	11.9	11.9	7.9	-	13.4	C	R	tr	-	2.23
21.3	37.8	9.4	18.4	36.3	33.3	2.8	26.4	16.4	7.6	2.8	-	3.3	tr	tr	-	-	2.90
39.7	30.6	22.4	8.4	47.2	44.7	0.3	11.2	3.6	4.2	1.4	0.9	4.7	-	-	-	-	2.85
22.3	28.9	13.5	15.4	32.6	31.2	1.4	8.4	8.4	-	-	-	29.8	tr	A	R	-	3.20
40.0	33.4	13.3	20.1	34.9	29.7	4.8	13.9	13.9	-	-	-	14.8	tr	A	-	tr	3.30
13.3	45.8	19.0	26.8	39.6	38.1	1.5	3.9	3.9	-	-	0.5	8.8	-	-	-	-	3.30
19.0	25.1	12.3	12.8	53.2	52.7	0.5	17.2	7.9	8.9	0.5	-	2.5	-	-	-	-	4.60
51.3	57.1	33.2	23.9	23.9	23.9	-	6.4	5.4	1.0	-	-	9.3	tr	A	-	-	1.40
48.7	57.9	41.1	16.8	28.2	27.2	1.0	9.4	5.9	3.5	-	-	3.5	-	-	-	-	2.23
56.3	63.3	54.0	11.5	16.5	15.5	1.0	12.5	11.0	1.5	-	0.5	2.0	-	-	-	R	1.35
21.3	38.5	24.5	13.5	33.0	33.0	-	19.0	0.5	18.5	-	-	8.5	tr	-	-	-	3.20
35.3	46.0	36.0	10.0	33.5	33.5	-	5.5	1.5	4.0	-	-	12.5	-	-	-	-	3.20
23.0	47.8	35.5	12.3	32.0	31.5	0.5	11.8	4.9	6.4	0.5	-	5.9	-	-	tr	tr	2.60
26.7	46.1	37.3	8.8	35.3	34.3	0.5	10.8	4.9	5.9	-	-	6.4	-	-	-	-	1.90
34.7	57.0	45.3	11.5	24.5	23.5	1.0	12.5	4.5	7.0	1.0	-	6.0	-	-	-	-	2.35
20.7	41.3	32.5	9.0	38.0	37.0	1.0	12.0	5.5	6.0	0.5	-	7.0	-	-	-	tr	3.33
34.7	54.1	21.9	32.2	19.8	18.9	0.9	18.0	15.0	1.7	1.3	0.4	2.6	tr	R	-	-	2.90
36.3	49.8	12.7	37.1	19.0	19.0	-	8.7	6.8	1.5	0.5	2.0	15.1	R	R	-	-	2.75
34.0	54.4	16.2	40.2	11.9	11.9	-	18.2	12.3	5.9	-	-	10.5	R	-	-	tr	2.30
23.0	42.9	9.4	33.5	19.6	19.6	-	23.2	20.1	2.2	0.9	-	13.0	tr	C	-	-	2.30
18.7	39.3	33.5	6.0	34.3	34.0	0.5	4.5	4.0	0.5	-	1.0	0.9	-	-	-	-	2.30

TABLE 1. LOCATION OF MID-ATLANTIC STATES SAMPLES ANALYZED

Notes:

+ OTHERS includes altered heavy mineral grains together with species occurring in less than 5 samples.

++ MICAS, TOTAL includes muscovite, biotite and chlorite.

+++ OTHERS includes non-terrigenous components. Abundance is indicated by tr (trace, 1 grain); R (= rare, 2-4 grains); C (= common, 5-8 grains); and A (= abundant, > 8 grains).