(200)
R290
no.78-1076

Table 1. Range and median values for 41 elements in rock and stream sediment samples from Mill Creek, Mountain Lake, and Peters Mountain Wilderness Study areas and for 24 elements in soil samples from Mountain Lake and Peters Mountain areas. All analyses of rock and stream sediment samples are by semiquantitative spectrographic methods by Leung Mei, Norma Rait, and J. D. Fletcher, U. S. Geological Survey laboratories, Reston, Virginia; analyses of soils are by semiquantitative spectrographic methods by J. M. Motooka for all elements except Zn, which is by atomic absorption methods by C. A. Curtis in Geol. Survey laboratories, Denver, Colorado. Symbols used: <, less than lower limit of determination; >, greater than upper limit of determination; N, not detected. Elements looked for spectrographically in rock and stream sediments but not found, except as noted, and their lower limit of determination in parts per million (ppm): Au(10), Bi(4), Cd(10), Dy(6), Er(4), Ge(3), Hf(21), Ir(6), Os(6), Pd(0.6), Pt(6), Re(10), Rh(0.6), Ru(0.6), Sb(68), Sn(14), Ta(460), Tb(10), Te(460), Tl(4), Tm(3), U(140), and W(10). Elements looked for, but not found, in soils and their lower limit of determination: As(200), Au(10), Cd(20), Sb(100), Sn(10), and W(50).

		Juniata Formation			Tuscarora Sandstone			Rose Hill Formation			Keefer Sandstone			Rocky Gap Sandstone			Stream Sediments									Soil					
		Sandstone 20 samples			Quartzite 72 samples			Hematitic sandstone 68 samples			Quartzite 51 samples			Limonitic sandstone 31 samples			Mill Creek Area 62 samples			Mountain Lake Area 98 samples			Peters Mountain Area 43 samples			Mountain Lake Area 50 samples			Peters Mountain Area 48 samples		
Major Elements in percent	Average Sandstone 1/	Low	High	Median	Low	High	Median	Low	High	Median	Low	High	Median	Low	High	Median	Low	High	Median	Low	High	Median	Low	High	Median	Low	High	Median	Low	High	Median
Si	36.8	>34	>34	>34	>34	>34	>34	8.0	>34	>34	14	>34	>34	3.8	>34	21	>34	>34	>34	9	>34	>34	23	>34	>34	-	-	-	-	-	-
Al	2.5	.18	7.5	1.5	.031	1.7	.31	.43	3.2	1.0	<.031	2.3	.2	.22	2.4	.7	0.06	5.1	1.3	0.06	6.1	1.3	0.06	5.6	1.3	-	-	-	-	-	-
Fe	.98	.11	5.0	1.5	.064	11	.48	4.8	>23	>23	.18	23.0	.7	1.0	>23	>23	0.2	5.1	1.5	0.14	5.3	1.5	0.25	14	1.6	0.15	5	1.5	0.3	7	1.0
Mg	.7	.013	.88	.12	.0039	.097	.019	.028	.34	.093	.0064	1.0	.022	.0021	.091	.013	0.007	0.9	0.15	0.01	1.3	0.1	0.009	0.88	0.09	0.03	0.5	0.1	0.03	0.3	0.1
Ca	3.91	.009	.15	.03	.0039	.076	.016	<.014	1.1	.10	.0046	.073	.012	<.0006	.19	.026	0.003	2.6	0.03	0.01	1.7	0.06	0.008	0.92	0.04	N	0.1	< 0.05	N	0.1	0.05
Na	.33	<.004	>.31	.0062	<.0046	.021	<.0046	<.0046	.044	<.0046	<.0046	.031	<.0046	<.0046	<.0046	<.0046	<0.004	>0.3	0.01	<0.004	>0.3	0.02	<0.004	0.26	0.01	-	-	-	-	-	-
K	1.07	.076	>1.4	.68	<.068	1.0	.12	<.068	.7	.43	<.068	.99	<.068	<.068	>1.40	<.068	<0.06	>1.4	0.3	<0.06	>1.4	0.5	<0.06	>1.4	0.4	-	-	-	-	-	-
Ti	.15	.023	.77	.22	.018	.27	.074	.042	.26	.12	.011	.41	.055	<.0003	.11	.020	0.02	0.5	0.15	0.01	0.6	0.13	0.03	0.6	0.11	0.15	1.0	0.5	0.1	0.7	0.5
P	.017	<.068	.11	.07	<.068	.33	<.068	<.068	1.7	<.068	<.068	.70	<.068	<.068	1.3	<.068	<0.06	0.2	0.07	<0.06	0.17	0.07	<0.06	0.14	0.06	-	-	-	-	-	-
Mn	.05	.002	.58	.011	.0012	7.1	.0064	.0038	.33	.01	.0006	4.9	.0089	<.0068	16	.021	0.001	0.15	0.025	0.003	0.32	0.07	0.001	0.41	0.035	0.001	0.5	0.015	0.002	0.5	0.03
Minor Elements in PPM																															
Ag	.ox 2/	<.4	<.4	<.4	<.4	6	<.4	<.4	.9	<.4	<.4	4	<.4	<.4	4	<.4	<0.4	0.9	<0.4	<0.4	0.7	<0.4	<0.4	0.6	<0.4	N	2	N	N	0.7	N
As	1	<68	<68	<68	<68	93	<68	<68	84	<68	<68	<68	<68	<68	280	<68	<68	<68	<68	<68	<68	<68	<68	<68	<68	N	N	N	N	N	N
B	20-30	31	190	70	13	190	70	<14	160	72	19	320	95	<14	75	<14	3	210	65	4	150	66	38	110	71	20	150	70	15	100	70
Ba	300	11	350	150	12	980	54	25	640	150	6	1700	40	<14	>2100	110	13	410	110	30	600	160	20	440	150	N	1500	150	N	5000	150
Be	2	<1	2	<1	<1	7	<1	<1	10	2	<1	20	<1	<1	29	4	<1	4	1	<1	11	1	<1	9	2	N	5	<1	N	3	1.0
Ce	92	<43	110	46	<43	270	<43	<43	500	200	<43	320	<43	<43	390	<43	<43	110	55	<43	100	<43	<43	170	54	-	-	-	-	-	-
Co	.3	<1	14	2	<1	420	<1	<1	21	2	<1	780	< 1	<1	870	12	<1	30	5	<1	50	10	<1	140	11	N	20	< 5	N	30	< 5
Cr	10-20	3	57	19	2	33	11	<14	51	30	2	34	8	6	78	18	1	52	17	3	59	18	2	48	16	< 10	70	20	< 10	50	20
Cu	10-20	<1	220	6	<1	930	1	<1	200	3	<1	150	<1	9	530	46	<1	32	6	<1	100	15	<1	90	13	N	70	5	N	20	5
Eu	1.6	<1	1	<1	<1	12	<1	<1	7	1	<1	3	<1	<1	7	<1	<1	2	<1	<1	1.7	<1	<1	2	<1	-	-	-	-	-	-
Ga	12	<2	15	3	<2	7	<2	<2	23	11	<2	8	<2	<2	46	10	<2	16	3	2	16	3	<2	15	3	-	-	-	-	-	-
Gd	10	<14	20	<14	<4	68	<4	<4	63	<14	<4	46	<4	<4	36	<4	<14	19	<14	<14	20	<14	<14	14	<14	-	-	-	-	-	-
Ho	2	<3	<3	<3	<10	22	<10	<3	21	<10	<3	<10	<3	<3	8	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	-	-	-	-	-	-
In	.ox 2/	<4	5	<4	<4	<4	<4	<4	<4	<4	<4	7	<4	<4	7	<4	<4	<4	<4	<4	5	<4	<4	<4	<4	-	-	-	-	-	-
La	30	<4	52	14	<4	100	13	<4	94	48	<4	47	5	<4	90	<4	<4	54	18	<4	50	17	<4	48	16	N	150	20	N	50	< 20
Lu	1.2	<3	4	<3	<3	5	<3	<3	4	<3	<3	5	<3	<3	<3	<3	<3	4	<3	<3	<3	<3	<3	3	<3	-	-	-	-	-	-
Mo	.2	<1	<1	<1	<1	33	<1	<1	13	<1	<1	3	<1	<1	29	<1	<1	1	<1	<1	12	<1	<1	2	<1	N	50	N	N	7	N
Nb	.ox 2/	<10	16	<10	<10	20	<10	<10	20	12	<10	26	<10	<10	20	<10	<10	17	10	<10	22	<10	<10	18	<10	N	20	< 20	N	20	< 20
Nd	37	<68	100	<68	<68	190	<68	<68	220	<68	<68	160	<68	<68	<68	<68	<68	130	<68	<68	120	<68	<68	160	<68	-	-	-	-	-	-
Ni	2	1	45	11	1	> 1000	4	2	52	11	1	360	4	2	360	86	<1	38	4	<1	100	12	1	81	10	< 5	70	7	< 5	50	10
Pb	9	<6	33	<6	<6	350	<6	<6	650	16	<6	210	10	11	1000	35	<6	78	14	<6	140	21	<6	140	16	N	100	< 10	N	30	10
Pr	8.8	<3	7	<3	<3	21	<3	6	20	13	<3	16	<3	<3	22	6	<3	9	3	<3	7	<3	<3	9	<3	-	-	-	-	-	-
Sc	1	<1	11	2	<1	8	1	5	17	11	<1	10	1	<1	34	5	1	12	3	<1	17	3	<1	12	3	< 5	15	7	N	10	7
Sm	10	<4	7	<4	<4	71	<4	<4	60	9	<1	19	<4	<4	19	<4	<4	7	<4	<4	7	<4	<4	8	<4	-	-	-	-	-	-
Sr	20	4	130	24	2	180	6	20	330	150	1	160	5	2	100	8	2	150	17	3	160	18	2	130	16	N	200	< 100	N	200	N
Th	1.7	<21	25	<21	<21	40	<21	<21	130	51	<21	32	<21	<21	110	<21	<21	53	<21	<21	53	<21	<21	48	<21	-	-	-	-	-	-
V	10-20	3	60	23	1	110	7	21	130	85	2	39	6	10	580	50	5	75	29	8	180	33	3	85	29	10	500	50	10	150	30
Y	40	3	56	18	2	540	11	13	380	63	2	100	9	5	170	13	5	100	22	2	120	20	4	60	22	10	70	30	N	50	20
Yb	4	<1	5	2	0.2	35	1	1	72	4	.2	9	1	1	10	1	0.3	8	2	<0.15	11	2	0.7	5	2	-	-	-	-	-	-
Zn	16	<14	24	<14	<14	780	<14	<14	1000	50	<14	1700	<14	110	4600	580	<14	140	<14	<14	300	24	<14	700	<14	15	200	30	10	300	50
Zr	200-250	120	1400	360	<46	2400	772	280	2300	810	100	>2100	820	17	600	140	93	>2100	360	64	2400	280	110	> 2100	450	100	1000	500	700	1000	500

1/ Pettijohn (1963, p. S11) and Turekian and Wedepohl (1961, table 2). 2/ Order of magnitude estimated by Turekian and Wedepohl (1961, table 2)