

Table V-4a. The average compositions of basalts (B), granites (G), and the Earth's upper crust (all in unit of ppm, indicated otherwise).

	Basalts (B)		Granites (G)		1/3B+2/3G	Upper continental crust	
	Ave. (1)	W1 (2)	Ave. (1)	GA (2)		(3)	(4)
Ag-47	0.1	(0.06)	0.04	0.016L	0.06	0.05	
Al-13 %	8.33	7.94	7.58	7.67	7.8	8	7.9
As-33	1.5w	2.2	1.6w	1.7	1.6	1.5	
Au-79 ppb	3.6w	4.3	1.7w		2.3	2s	
B-5	5	13	15	26	12	15	
Ba-56	250	162	730w	840	570	550	630
Be-4	0.5	0.76	4.5w	3.6	3.2	3	
Bi-83	0.031m	(0.048)	0.065m		0.054	0.13	
Br-35	3.6	(0.36)	1.3		2.1		
C-6	300	(160)	200w	300	230	300s	
Ca-20 %	6.8	7.86	1.32	1.75	3.2	3	2.57
Cd-48	0.13m	0.15	0.09m	(0.13)	0.1	0.1	
Ce-58		23.5		76	58	64	58
Cl-17	60	205	200	(250)	150	100s	
Co-27	48	47	1	5	17	10	18
Cr-24	200	119	4	12	69	35	100
Cs-55	1	0.96	5	6	3.7	3.7	
Cu-29	90w	113	13w	16	39	25	
Dy-66		4		3.3	3.5	3.5	
Er-68		2.3		1.9	2	2.3	
Eu-63		1.12		1.1	1.1	0.88	1.1
F-9	400	220	850	500	700	500s	
Fe-26 %	8.3	7.81	2.11	1.98	4.2	3.5	3.7
Ga-31	17w	17	19w	16	18	17	
Gd-64		4		3.8	3.9	3.8	4.2
Ge-32	1.5	(1.65)	1.6	(1.7)g	1.5	1.6	
Hf-72	3.4	2.5	4	4	(4)	5.8	4.3
Hg-80	0.08	0.2	0.08	0.03f	0.08		
Ho-67		0.81		0.7	0.74	0.8	
I-53	0.5	(0.054)	0.5		0.5		
In-49	0.06w	(0.064)	0.04w	(0.03)	0.05	0.05	
Ir-77 ppb		(0.3)			*0.05	0.02s	
K-19 %	0.91	0.53	3.4	3.34	2.6	2.8	2.3
La-57	10	11	40	40	30	30	28
Li-3	10	13	30	90	23	20	
Lu-71		(0.32)		0.3	0.32	0.32	0.32
Mg-12 %	4.05	3.99	0.43	0.57	1.6	1.3	1.5
Mn-25	1550	1290	390	700	770	600	
Mo-42	1.2w	(0.75)	1.8w	0.5	1.6	1.5	
N-7	20	(23)	20		20		
Na-11 %	2.16	1.6	2.73	2.63	2.54	2.89	2.6
Nb-41	10w	9.9	18w	12	15	25?	9.8

	Basalts (B)		Granites (G)		1/3B+2/3G	Upper continental crust	
	Ave. (1)	W1 (2)	Ave. (1)	GA (2)		(3)	(4)
Nd-60		14.6		27	23	26	26
Ni-28	150	75	0.5?	7	55	20	56
Os-76 ppb		(0.2)			*0.05		
P-15	1530	570	520	520	860	650s	520
Pb-82	5	(7.5)	23w	30	17	20	17
Pd-46 ppb		12 L		0.2 L	*1	0.5	
Pr-59		3.2		8.3g	6.6	7.1	
Pt-78 ppb		(13)?			*1		
Rb-37	30	21.4	150	175	110	110	83
Re-75 ppb		(0.5)			*0.4	0.5	
Rh-45 ppb							
Ru-44 ppb		(0.2)			0.07		
S-16	1000w	(130)	300w	(80)	530		
Sb-51	0.2	1.04	0.2	(0.2)	0.2	0.2	
Sc-21	33w	35	5	7	14	11	13
Se-34	0.13w	(0.12)	0.14w		0.14	0.05	
Si-14 %	23	24.5	33.3	32.7	30	30.8	30.9
Sm-62		3.68		5	4.5	4.5	4.6
Sn-50	2w	2.7	4w	2.7g	3.3	5.5	
Sr-38	470	186	290	310	350	350	290
Ta-73	0.5	0.48	2.0w	1.3	1.5	2.2	0.79
Tb-65		0.63		0.6	0.6	0.64	0.66
Te-52		(0.0074)	0.0013	0.0013	0.003		
Th-90	2w	2.4	15w	17	11	11	8.6
Ti-22	6000w	6400	1900	2300	3300	3000	3300
Tl-81	0.1	0.11	0.75	(0.008)?	0.53	0.75	
Tm-69		(0.34)		0.31	0.32	0.33	
U-92	0.5w	0.57	4w	5	2.8	2.8	2.2
V-23	270w	257	72w	38	140	60	86
W-74	0.8w	(0.46)	1.5w	(1.5)g	1.3	2	
Y-39	25	26	33?	21	22	22	24
Yb-70		2.03		2	2	2.2	1.9
Zn-30	100	84	50w	80	67	71	
Zr-40	150	99	180	150	170	190	160

Data sources: 1) Taylor (1964) except major ions by Le Maitre (1976); 2) Govindaraju (1989). 3) Taylor and McLennan (1985); 4) Condie (1993). f) Flanagan et al. (1982); g) Govindaraju (1994); L) Loss et al. (1983); m) Marowsky and Wedepohl (1971); s) Shaw et al. (1967, 1976); w) Wedepohl (1969-1978). Question marks: doubtful data. Values with asterisk are adopted from the average shale (Table VI-5a). Values in parentheses for W1 and GA are uncertified, thus, may be less reliable.

