Table 2. Calculated chemical analyses, modes, modified standard cells, and percentage gains and losses in principal constituents for an idealized suite of rocks across the contact of a steatitized ultramafic body.

A. Calculated chemical analyses (weight percent and cation percent) 1/ 2/

		CA-5	CA-6	CA-7	CA-8	CA-9	CA-10
SiO_2	Wt. %	65.44	58.63	27.11	61.56	35.98	40.09
	Cation %	60.86	50.32	26.99	56.50	30.08	38.43
Al_2O_3	Wt. %	16.53	17.59	21.35	0.79	0.43	1.48
	Cation %	18.12	17.79	25.04	0.85	0.42	1.67
Fe_2O_3	Wt. %	0.57	0.59	0.53	0.26	0.65	2.97
	Cation %	0.40	0.38	0.40	0.18	0.41	2.14
FeO	Wt. %	4.69	6.10	13.67	3.02	5.96	5.87
	Cation %	3.65	4.38	11.38	2.32	4.16	4.70
MgO	Wt. %	1.54	2.24	22.86	29.03	32.95	36.72
	Cation %	2.14	2.86	33.90	39.68	41.03	52.43
CaO	Wt. %	0.66	0.62	0.91	0.00	0.00	0.00
	Cation %	0.66	0.57	0.97	0.00	0.00	0.00
Na_2O	Wt. %	1.72	7.04	0.01	0.00	0.00	0.00
	Cation %	3.10	11.71	0.01	0.00	0.00	0.00
K_2O	Wt. %	3.70	2.05	0.02	0.00	0.00	0.00
	Cation %	4.39	2.25	0.02	0.00	0.00	0.00
H_2O +	Wt. %	2.38	1.53	11.69	4.66	2.73	12.03
	Cation %	(14.75)	(8.74)	(77.57)	(28.54)	(15.20)	(76.90)
TiO_2	Wt. %	0.82	0.84	1.26	0.02	0.02	0.01
	Cation %	0.57	0.54	0.94	0.015	0.01	0.01
CO_2	Wt. %	0.09	0.06	0.00	0.00	20.45	0.00
	Cation %	0.11	0.07	0.00	0.00	23.32	0.00
P_2O_5	Wt. %	0.14	0.14	0.11	0.03	0.01	0.02
	Cation %	0.11	0.10	0.09	0.02	0.01	0.02
S	Wt. %	0.29	0.29	0.28	0.06	0.06	0.07
	Cation %	(0.50)	(0.46)	(0.52)	(0.10)	(0.09)	(0.12)
Cr_2O_3	Wt. %	0.03	0.03	0.02	0.26	0.18	0.46
	Cation %	0.02	0.02	0.02	0.19	0.12	0.35
NiO	Wt. %	0.03	0.03	0.02	0.22	0.21	0.23
	Cation %	0.02	0.02	0.02	0.16	0.14	0.18
MnO	Wt. %	0.25	0.28	0.25	0.09	0.41	0.07
	Cation %	0.20	0.20	0.21	0.07	0.29	0.06
CoO	Wt. %	0.01	0.01	0.01	0.02	0.01	0.01
	Cation %	0.01	0.01	0.01	0.015	0.01	0.01
As_2O_3	Wt. %	0.00	0.00	0.00	0.004	0.004	0.003
	Cation %	(0.00)	(0.00)	(0.00)	(0.002)	(0.002)	(0.002)
C (free)	Wt. %	1.21	2.04	0.00	0.00	0.00	0.00
	Cation %	5.64	8.78	0.00	0.00	0.00	0.00
Sum	Wt. %	100.10	100.11	100.10	100.02	100.05	100.05
O for (As+S)	Wt. %	0.11	0.11	0.10	0.02	0.05	0.05
Total	Wt. %	99.99	100.00	100.00	100.00	100.00	100.00
	Cation %	100.00	100.00	100.00	100.00	100.00	100.00
Fc 3/		1.0287	1.1011	0.9856	1.0627	1.2247	0.9583

B. Calculated modes (volume percent) 1/

	CA-5	CA-6	CA-7	CA-8	CA-9	CA-10
Quartz	39.60	8.08				
Sericite	27.65	4.95				
Albite	15.43	62.45				
Chlorite	7.97	6.05	97.18			
Biotite	3.57	12.90				
Garnet	2.00	0.96				
Carbonate	0.20	0.14			38.32	
Apatite	0.30	0.30	0.23			
Epidote	0.20	0.10				
Sphene	0.85	0.88	2.19			
Ilmenite	0.43	0.37				
Rutile		0.02	0.10			
Graphite (free carbon)	1.50	2.50				
Talc				99.92	61.55	
Serpentine						97.34
Magnetite				0.02	0.03	2.56
Pyrite and pyrrhotite	0.30	0.30	0.30	0.06	0.10	0.10
Total	100.00	100.00	100.00	100.00	100.00	100.00
Density	2.783	2.749	2.854	2.837	2.978	2.672

C. Rock formulas (contents of modified standard cell)

CA-5. Quartz-sericite-albite-chlorite schist, graphitic.

K Na Ca Mg Fe" Mn Ni Co Al Fe''' Cr Ti Si
4.52 3.19 .68 2.20 3.75 .21 .02 .01 18.64 .41 .02 .59 62.61

P S As C O (OH) (CO_2)) Cations = 102.87
.11 .51 .00 5.80 158.04 15.17 .11) O_{eq} 4/ = 176.84

CA-6. Albite porphyroblast rock.

K Na Ca Mg Fe" Mn Ni Co Al Fe''' Cr Ti Si
2.48 12.89 .63 3.15 4.82 .22 .02 .01 19.59 .42 .02 .59 55.41

P S As C O (OH) (CO_2)) Cations = 110.11
.11 .51 .00 9.67 153.68 9.62 .08) O_{eq} 4/ = 168.80

CA-7. Blackwall chlorite rock.

K Na Ca Mg Fe" Mn Ni Co Al Fe''' Cr Ti Si
.02 .01 .96 33.41 11.22 .21 .02 .01 24.68 .39 .02 .93 26.60

P S As C O (OH) (CO_2)) Cations = 98.56
.09 .51 .00 .00 100.16 76.45 .00) O_{eq} 4/ = 177.31

CA-8. Steatite.

K Na Ca Mg Fe" Mn Ni Co Al Fe''' Cr Ti Si
.00 .00 .00 42.17 2.47 .07 .16 .02 .90 .19 .20 .02 60.04

P S As C O (OH) (CO_2)) Cations = 106.27
.02 .11 .002 .00 151.74 30.33 .00) O_{eq} 4/ = 182.18

CA-9. Talc-carbonate rock.

K Na Ca Mg Fe" Mn Ni Co Al Fe''' Cr Ti Si
.00 .00 .00 50.24 5.13 .36 .17 .01 .51 .50 .12 .01 36.83

P S As C O (OH) (CO_2)) Cations = 122.46
.01 .11 .003 .00 121.87 18.61 28.56) O_{eq} 4/ = 197.71

CA-10. Serpentinite.

K Na Ca Mg Fe" Mn Ni Co Al Fe''' Cr Ti Si
.00 .00 .00 50.24 4.50 .06 .17 .01 1.60 2.05 .34 .01 36.83

P S As C O (OH) (CO_2)) Cations = 95.83
.02 .11 .002 .00 97.68 73.69 .00) O_{eq} 4/ = 171.49

D. Percentage gains and losses of the principal constituents, relative to the original content of each in the parent rock for the rocks formed during steatitization: based upon the content of the modified standard cell.

Zone	Blackwall	Steatite		Combined steatite and blackwall	Talc-carbonate rock
Calculated thickness of zone (ft.)	0.456	0.250	3.000	3.706	--
Parent rock	Schist	Schist	Serpentinite	--	Serpentinite
Mg	1,422 %	1,816 %	-16 %	0.0 %	0.0 %
Fe"	200	-34	-45	-19	14
Al	32	-95	-44	-21	-68
Si	-58	- 4	63	34	0.0
OH	404	100	-59	-42	-75
CO_2	-100	-100	0.0	-100	Very large gain
O_{eq}	0.3	3	6	5	15

1/ See part C of this table for identification of specimens.

2/ Anion values, which are calculated to the same base as the cation percentages, are in parentheses.

3/ F_c = cell factor. Cation percentages are converted to ions per modified standard cell by multiplying by F_c.

4/ O_{eq} (oxygen equivalent) = O+As+S+C/2.