$d_1=0.1b\omega l$, (Å)$^{-3}$	X
47.9	0.59
141	1.02
78	0.75
67.3	0.70
35.2	0.51
55.7	0.64
82	0.77
73	0.73
40	0.54
111	0.59
85	0.79
200	1.21
141	1.01
86	0.81
76	0.75
91	0.82
135	1.00
97	0.84
88	0.80
100	0.85
100	0.85
94	0.83
78	0.76
80	0.77
133	0.99
97	0.85
118	0.94
90	0.81
108	0.90
79	0.78
72	0.73
59	0.66
114	0.91
103	0.87
77	0.76

Table 1 (Continued)

No.	Mineral and formula	ρ, g/cm^3	M, g/mole	$\nu=\frac{M}{\rho}$, cm^3/mole	$\bar{M}=\frac{M}{n}$, g	$\bar{\nu}=\frac{M}{\rho n}$, cm^3	v_0, (Å)^3	$l=\frac{1}{v_0}$	b	$K\cdot 10^{-5}$, kg/cm^3	$\Phi=\frac{K}{\rho}$, (km/sec)^2	$d_1=0.1b\omega l$, (Å)$^{-3}$	X
36	Pyrope $Mg_3Al_2Si_3O_{12}$	3.58	403.19	112.5	20.1	5.62	11.5	8.7	4.2	~1 ,	46	111	0.91
37	Almandine $Fe_3Al_2Si_3O_{12}$	4.32	497.78	115.2	24.88	5.76	11.80	8.5	4.2	~16	37	107	0.88
38	Spessartine $Mn_3Al_2Si_3O_{12}$	4.19	495.02	118.0	24.75	5.9	12.1	8.2	4.1	~15.5	37	102	0.86
39	Grossularite $Ca_3Al_2Si_3O_{12}$	3.59	450.47	126.3	22.70	6.3	12.8	7.8	3.8	~15	42	90	0.81
40	Andradite $Ca_3Fe_2Si_3O_{12}$	3.86	508.21	131.67	25.4	6.6	13.5	7.4	3.6	~15	39	81	0.77
41	Kyanite Al_2SiO_5	3.66	162.05	44.1	20.2	5.52	10.8	9.3	4.1	19*	52*	125	0.97
42	Sillimanite Al_2SiO_5	3.24	162.05	49.91	20.2	6.23	12.2	8.2	3.6	13*	40*	97	0.85
43	Andalusite Al_2SiO_5	3.14	162.05	51.54	20.2	6.43	12.6	7.9	3.5	11*	35*	91	0.82
44	Staurolite $Fe(OH)_2\cdot Al_2SiO_5$	3.65	413.8	114	21.8	6.0	—	—	—	12.8	34	—	0.52
45	Cordierite $Mg_2Al_3[AlSi_5O_{18}]$	2.51	585	232.8	20.17	8.0	15.9	6.3	2.8	—	—	—	0.65
46	Enstatite $MgSiO_3$	3.20	100.41	32.50	20.0	6.5	12.9	7.8	3.8	11	34	89	0.79
47	Enstatite-II $MgSiO_3$	4.0*	100.41	25.0	20.0	5.0	10.0*	10	4.9*	32*	80*	147	1.02
48	Ferrosilite $FeSiO_3$	3.99	131.94	33.07	26.4	6.6	13.5	7.4	3.7	10*	25*	82	0.77
49	Ferrosilite-II $FeSiO_3$	5.10*	131.94	25.85	26.4	5.3	10.8*	9.3	4.6*	29.7*	58*	128	0.99
50	Hypersthene $Mg, Fe)SiO_3$	3.5	116.0	33.0	34	6.8	13.2	7.6	3.7	9.6	28	84	0.77
51	Diopside $CaMgSi_2O_6$	3.26	216.58	66.4	21.66	6.64	13.5	7.4	3.6	12	37	80	0.77
52	Jadeite $NaAlSi_2O_6$	3.33	202.15	60.98	20.2	6.1	12.5	8.0	4.0	13.5	41	96	0.83
53	Hornblende $Ca_2(Mg,Fe)_5\times[Si_4O_{11}]_2(OH)_2$	3.15	820	260	20.3	6.8	—	—	—	9.5	30	—	0.78
54	Orthoclase $KAlSi_3O_8$	2.56	278.35	109	21.40	8.4	16.7	6.0	2.7	5.2	21.8	53	0.63
55	Albite $NaAlSi_3O_8$	2.61	262.2	100.2	20.2	7.72	15.5	6.4	3.0	5.7	21.8	62	0.68
56	Anorthite $CaAl_2Si_2O_8$	2.76	278.2	100.7	21.4	7.72	15.5	6.4	3.0	8.7	31.5	62	0.68

**n was deduced by an additivity calculation.

EFFECTS OF OXYGEN PACKING DENSITY ON PHYSICAL AND THERMODYNAMIC PARAMETERS

Figure 1 shows the bulk modulus K as a function of v_0. The oxides and silicates form two independent groups as parallel lines, the oxides having the higher K for a given v_0. Quartz has a somewhat special position, since its K is too low for an oxide which is related to the lower K for silicates. There is no exact relation of K to ρ for oxides. For