Tables and figures

Table 1. Silicates from groups VIIID17-VIIID21 [91N1] and related ones.

Silicate	Composition	Group
Alamosite	$PbSiO_3$ (see chap. 8.1.4.1)	VIIID17
Fenaksite	$KNaFeSi_4O_{10}$	VIIID18
Litidionite	$KNaCuSi_4O_{10}$	VIIID18
$Na_2CoSi_4O_{10}$	$Na_2CoSi_4O_{10}$	
$Na_2NiSi_4O_{10}$	$Na_2NiSi_4O_{10}$	
$Na_2CuSi_4O_{10}$	$Na_2CuSi_4O_{10}$	
$Na_2Cu_2Si_4O_{11}\cdot 2H_2O$		
$Na_2Cu_2Si_4O_{11}$		
Vlasovite	$Na_2ZrSi_4O_{11}$	VIIID18
Agrellite	$NaCa_2Si_4O_{10}F$	VIIID18
Miserite	$KCa_5\square(Si_2O_7)(Si_6O_{15})(OH)F$	VIIID18
Canasite	$K_3Na_3Ca_5Si_{12}O_{30}(O,OH,F)_4$	VIIID18
Lemoynite	$(Na,K)_2CaZr_2Si_{10}O_{26}\cdot(5\text{-}6)H_2O$	VIIID18
Natrolemoynite	$Na_4Zr_2Si_{10}O_{26}\cdot 9H_2O$	[01M1]
Altisite	$Na_3K_6Ti_2[Al_2Si_8O_{26}]Cl_3$	[95F1]
Penkvilksite	$Na_4Ti_2Si_8O_{22}\cdot 5H_2O$	VIIID18
Tumchaite	$Na_2(Zr,Sn)Si_4O_{11}\cdot 2H_2O$	[00S1]
Charoite	$(K,Na)_5(Ca,Ba,Sr)_8Si_{18}O_{46}(OH,F)\cdot nH_2O$	VIIID18
Narsarsukite	$Na_2(Ti,Fe)Si_4(O,F)_{11}$	VIIID18
Caysichite-(Y)	$(Ca,Yb,Er)_4Y_4Si_8O_{20}(CO_3)_6(OH)\cdot 7H_2O$	VIIID18
Leucosphenite	$Na_4BaTi_2B_2Si_{10}O_{30}$	VIIID19
Howieite	$Na(Fe,Mg,Al)_{12}(Si_6O_{17})_2(O,OH)_{10}$	VIIID20
Deerite	$(Fe,Mn)_6(Fe,Al)_3(Si_6O_{17})O_3(OH)_5$	VIIID20
Taneyamalite	$(Na,Ca)(Mn,Mg)_{12}(Si,Al)_{12}(O,OH)_{44}$	VIIID20
Haradaite	$SrVSi_2O_7$	VIIID21
Suzukiite	$BaVSi_2O_7$	VIIID21
$BaCu_2Si_2O_7$		
Ohmilite	$Sr_3(Ti,Fe)(Si_2O_6)_2(O,OH)\cdot 2H_2O$	VIIID21
$Cu_3Na_2Si_4O_{12}$		

Table 2. Atomic sites and thermal parameters.

a) Litidionite, $KNaCuSi_4O_{10}$ having triclinic structure, space group P$\bar{1}$ [75P1].

Atom	*x*	*y*	*z*	B_{eq} [Å^2]
Cu	0.4122(1)	0.1287(1)	0.1624(1)	0.74
Si1	0.8593(1)	0.1742(2)	0.8119(2)	0.65
Si2	0.7222(1)	0.3545(2)	0.5664(2)	0.66
Si3	0.2110(1)	0.2877(2)	0.9582(2)	0.59
Si4	0.7256(1)	0.3825(2)	0.1557(2)	0.68
O1	0.5682(3)	0.2072(4)	0.0323(4)	1.25
O2	0.2716(3)	0.1161(4)	0.9166(5)	1.04
O3	0.8535(3)	0.3320(4)	0.0452(5)	1.22
O4	0.0302(3)	0.1851(4)	0.8549(5)	1.64
O5	0.2521(3)	0.0432(4)	0.2803(5)	1.34
O6	0.7943(3)	0.4314(4)	0.4102(4)	1.20
O7	0.5561(3)	0.2017(4)	0.4459(5)	1.30
O8	0.2562(4)	0.4471(5)	0.2155(5)	1.76
O9	0.8331(3)	0.2535(4)	0.6323(5)	1.30
O10	0.2716(3)	0.4072(4)	0.8286(5)	1.61
K	0.0038(1)	0.2033(1)	0.3348(2)	1.58
Na	0.4090(2)	0.1295(3)	0.6633(4)	1.57

b) $Na_2CoSi_4O_{10}$, having triclinic structure, space group P1 [97D1].

Atom	*x*	*y*	*z*	B_{eq} [Å^2]
Co	0.4198(7)	0.306(1)	0.478(1)	1.1(2)
Si1	0.804(1)	0.072(2)	0.113(2)	1.9(3)
Si2	0.138(1)	0.283(2)	0.510(2)	2.7(3)
Si3	0.738(1)	0.365(2)	0.494(2)	3.3(4)
Si4	0.751(1)	0.381(2)	0.943(2)	2.9(4)
O1	0.976(3)	0.090(3)	0.293(5)	5.8(9)
O2	0.736(2)	0.151(3)	0.276(4)	2.9(7)
O3	0.280(2)	0.157(3)	0.104(4)	1.1(6)
O4	0.273(2)	0.214(3)	0.551(4)	1.4(6)
O5	0.585(2)	0.415(3)	0.431(4)	2.2(6)
O6	0.578(3)	0.356(3)	0.824(4)	3.0(8)
O7	0.128(2)	0.396(3)	0.786(4)	1.5(6)
O8	0.807(2)	0.352(3)	0.745(4)	1.0(6)
O9	0.128(2)	0.450(3)	0.435(4)	0.7(6)
O10	0.797(3)	0.208(4)	0.994(5)	5.8(8)
Na1	0.016(1)	0.238(2)	0.905(2)	2.0(3)
Na2	0.422(1)	0.272(2)	0.953(2)	2.0(3)

Table 2 (cont.)

c) Agrellite[3)], having triclinic structure, space group P $\bar{1}$ [79G1].

Atom	x	y	z	B_{eq} [Å^2]
Ca1A	0.99796(14)	0.21554(5)	0.99620(15)	1.16(3)
Ca1B	0.54176(12)	0.28461(4)	0.01966(13)	0.92(3)
Ca2A	0.45521(12)	0.72007(4)	0.48010(13)	0.94(3)
Ca2B	0.00155(13)	0.78166(5)	0.50022(14)	1.27(3)
NaA	0.23539(28)	0.99102(11)	0.86794(34)	2.49(7)
NaB	0.26104(29)	0.50234(12)	0.13576(36)	2.84(8)
Si1A	0.20870(16)	0.93103(6)	0.35569(17)	0.81(3)
Si1B	0.30739(16)	0.56807(6)	0.65542(18)	0.79(3)
Si2A	0.48573(16)	0.87795(6)	0.21377(17)	0.80(4)
Si2B	0.02460(16)	0.61933(6)	0.79397(17)	0.75(4)
Si3A	0.16705(16)	0.08998(6)	0.33394(17)	0.78(3)
Si3B	0.67404(16)	0.59022(6)	0.34109(17)	0.75(3)
Si4A	0.48619(16)	0.87771(6)	0.77347(18)	0.80(4)
Si4B	0.02139(16)	0.61974(6)	0.23430(18)	0.72(4)
FA	0.7607(4)	0.7610(2)	0.1268(5)	2.7(1)
FB	0.2353(4)	0.2451(2)	0.3595(5)	2.5(1)
O1A	0.3493(4)	0.9351(2)	0.6138(5)	1.3(1)
O1B	0.1641(4)	0.5639(2)	0.3974(5)	1.3(1)
O2A	0.1028(4)	0.0048(1)	0.3023(5)	1.1(1)
O2B	0.5891(4)	0.5065(1)	0.2960(5)	1.0(1)
O3A	0.3483(4)	0.9352(2)	0.2356(5)	1.2(1)
O3B	0.1722(4)	0.5640(2)	0.7804(5)	1.3(1)
O4A	0.0620(4)	0.8634(2)	0.2822(5)	1.3(1)
O4B	0.4543(4)	0.6355(1)	0.7256(5)	1.1(1)
O5A	0.3938(4)	0.7990(1)	0.1901(5)	1.1(1)
O5B	0.1102(4)	0.6991(2)	0.8169(5)	1.4(1)
O6A	0.5130(4)	0.9064(1)	0.0072(4)	1.1(1)
O6B	0.9958(4)	0.5913(2)	0.0012(5)	1.2(1)
O7A	0.7013(4)	0.8924(2)	0.4117(5)	1.6(1)
O7B	0.8136(4)	0.6001(2)	0.5964(5)	1.5(1)
O8A	0.9743(4)	0.1295(2)	0.2368(5)	1.1(1)
O8B	0.4984(4)	0.6382(2)	0.2562(5)	1.2(1)
O9A	0.7019(4)	0.8922(2)	0.7911(5)	1.6(1)
O9B	0.8079(4)	0.6032(2)	0.2180(5)	1.5(1)
O10A	0.3947(4)	0.7986(1)	0.7067(5)	1.3(1)
O10B	0.1082(4)	0.6993(1)	0.2962(5)	1.2(1)

Table 2 (cont.)

d) Deerite[23)], having monoclinic structure, space group $P2_1/a$ [77F1].

Atom	*x*	*y*	*z*	B_{eq} [Å^2]
M1	0.3209(5)	0.1756(3)	0.0238(6)	1.1(1)
M2	0.3209(5)	0.1756(3)	0.3572(6)	1.1(1)
M3	0.3209(5)	0.1756(3)	0.6905(6)	1.1(1)
M4	0.1669(5)	0.3042(3)	0.1388(6)	1.1(1)
M5	0.1669(5)	0.3042(3)	0.4722(6)	1.1(1)
M6	0.1669(5)	0.3042(3)	0.8055(6)	1.1(1)
M7	0.0443(5)	0.4290(3)	0.2654(6)	1.0(1)
M8	0.0443(5)	0.4290(3)	0.5987(6)	1.0(1)
M9	0.0443(5)	0.4290(3)	0.9321(6)	1.0(1)
Si1	0.258(1)	0.5325(8)	0.170(2)	1.4(3)
Si2	0.258(1)	0.5325(8)	0.836(2)	1.4(3)
Si3	0.362(1)	0.4156(8)	0.371(2)	1.1(3)
Si4	0.362(1)	0.4156(8)	0.705(2)	1.1(3)
Si5	0.486(2)	0.3057(9)	0.245(2)	1.6(3)
Si6	0.486(2)	0.3057(9)	0.911(2)	1.6(3)
O1	0.253(2)	0.118(1)	0.164(3)	1.2(4)
O2	0.253(2)	0.118(1)	0.497(3)	1.2(4)
O3	0.253(2)	0.118(1)	0.830(3)	1.2(4)
O4	0.132(2)	0.230(1)	0.298(3)	1.2(4)
O5	0.132(2)	0.230(1)	0.631(3)	1.2(4)
O6	0.132(2)	0.230(1)	0.964(3)	1.2(4)
O7	0.492(2)	0.135(1)	0.080(3)	1.1(4)
O8	0.492(2)	0.135(1)	0.414(3)	1.1(4)
O9	0.492(2)	0.135(1)	0.746(3)	1.1(4)
O10	0.356(2)	0.250(1)	0.203(3)	1.9(5)
O11	0.356(2)	0.250(1)	0.536(3)	1.9(5)
O12	0.356(2)	0.250(1)	0.870(3)	1.9(5)
O13	0.222(2)	0.374(1)	0.323(3)	1.1(4)
O14	0.222(2)	0.374(1)	0.656(3)	1.1(4)
O15	0.222(2)	0.374(1)	0.990(3)	1.1(4)
O16	0.110(2)	0.498(1)	0.122(3)	1.0(4)
O17	0.110(2)	0.498(1)	0.455(3)	1.0(4)
O18	0.110(2)	0.498(1)	0.788(3)	1.0(4)
O19	0.471(6)	0.343(4)	0.083(8)	
O20	0.477(6)	0.375(4)	0.346(7)	
O21	0.466(6)	0.368(4)	0.801(8)	
O22	0.414(5)	0.432(4)	0.551(8)	
O23	0.354(6)	0.491(3)	0.775(8)	
O24	0.356(6)	0.493(3)	0.303(8)	
O25	0.321(6)	0.516(3)	0.023(9)	

Table 2 (cont.)

e) Haradaite, $SrVSi_2O_7$, having orthorhombic structure, space group Amam [67T1].

Atom	*x*	*y*	*z*	B_{eq} [Å^2]
Sr	0.2500	0.2058(1)	0	1.27(5)
V	0.2500	0.3931(3)	0.5000	1.35(12)
Si	0.0228(11)	0.1073(4)	0.5000	1.41(14)
O1	–0.0587(19)	0.1511(6)	0.2528(39)	1.36(27)
O2	0	0	0.5000	0.50(0)
O3	0.2500	–0.0003(15)	0	0.50(0)
O4	0.2500	0.1366(14)	05000	0.50(0)

Table 3. Crystal structure and lattice parameters at RT.

Silicate	Space group	Lattice parameters				Refs.
		a [Å]	*b* [Å]	*c* [Å]	*α, β, γ*	
Fenaksite[1)]	$P\bar{1}$	10.00	8.18	6.98	α = 114.7° β = 100.7° γ = 105.0°	76G1
Litidionite[2)]	$P\bar{1}$	9.80(1)	8.01(1)	6.97(1)	α = 114.12(8)° β = 99.52(6)° γ = 105.59(8)°	75P1
$Na_2CoSi_4O_{10}$	P1	10.7173(6)	7.8782(5)	6.9402(4)	α = 117.394(3)° β = 116.842(4)° γ = 93.561(4)°	97D1
$Na_2NiSi_4O_{10}$	P1	10.6512(4)	7.8295(3)	6.9454(3)	α = 117.849(3)° β = 116.706(3)° γ = 93.214(3)°	97D1
Vlasovite ($Na_2ZrSi_4O_{11}$)	C2/c	10.98	10.00	8.52	β = 100.4°	74V1
Agrellite[3)]	P	7.773(1)	18.942(1)	6.984(1)	α = 90.148(5)° β = 116.84(1)° γ = 94.145(7)°	76G1
Agrellite[3)]	$P\bar{1}$	7.759(2)	18.946(3)	6.986(1)	α = 89.88(2)° β = 116.65(2)° γ = 94.32(2)°	79G1
Miserite[4)]	$P\bar{1}$	10.100(5)	16.014(7)	7.377(5)	α = 96°25(3)' β = 111°9(3)' γ = 76°34(2)'	76S1
Miserite[5)]		10.076(30)	15.998(33)	7.329(24)	α = 96°31(16)' β = 111°21(17)' γ = 76°10(13)'	67K1
Miserite[6)]		9.96(5)	15.87(7)	7.33(4)	α = 95°45(24)' β = 110°52(24)' γ = 76°25(9)'	60R1
Miserite[7)]		9.98(4)	16.00(7)	7.46(3)	α = 95°41(33)' β = 111°3(19)' γ = 76°54(23)'	62K1

Table 3 (cont.)

Silicate	Space group	Lattice parameters				Refs.
		a [Å]	*b* [Å]	*c* [Å]	*α, β, γ*	
Canasite[8)]	C2/m, C2 or Cm	18.87	7.24	12.60	*β* = 112°	59D2
Canasite[9)]	Cm	18.836(4)	7.244(1)	12.636(2)	*β* = 111.76(2)°	87R1
Altisite[10)]	C2/m	10.363(2)	16.310(2)	9.132(2)	*β* = 105.34(3)°	95F1
T = 973K	C2/m	10.423(3)	16.333(3)	9.160(2)	*β* = 105.62(2)°	95F1
Lemoynite[11a)]	C2/c	10.384(3)	15.947(9)	18.601(6)	*β* = 104.59(3)°	76L1
Natrolemoynite[11b)]	C2/m	10.5150(2)	16.2534(4)	9.1029(3)	*β* = 105.462(2)°	01M1
Penkvilksite-2O [12a)]	Pnca	16.3721(5)	8.7492(3)	7.4020(2)		94M1
Penkvilksite-1M[12b)]	$P2_1/c$	8.956(4)	8.727(3)	7.387(3)	*β* = 112.74(3)°	94M1
Tumchaite[13)]	$P2_1/c$	9.144(4)	8.813(3)	7.537(3)	*β* = 113.22(3)°	00S1
Charoite[14)]	monoclinic	31.82(5)	7.13(3)	no data	no data	78R1
Caysichite[15)]	$Ccm2_1$ or Ccmm	13.282(3)	13.925(3)	9.724(4)		74H1
Caysichite[16)]	$Ccm2_1$	13.27(1)	13.91(1)	9.73(1)		78M1
Narsarsukite[17)]	I4/m	10.726_9		7.947_6		62P1
Narsarsukite[18)]	I4/m	10.80		8.01		32G1
Narsarsukite[18)]	I4/m	10.76		7.92		34W1
Narsarsukite[18)]	I4/m	10.72_0		7.94_8		59S1
Narsarsukite[18)]	I4/m	10.72(4)		7.99(2)		60P1
Leucosphenite[19)]	C2/m	9.799	16.840	7.199	*β* = 93°22’	71S1
Leucosphenite[20)]	C2/m	9.781	16.854	7.208	*β* = 93°16(1)’	72C1
Leucosphenite[21)]	C2/m or Cm	9.788	16.826	7.198	*β* = 93°27’	72P1
Leucosphenite[22)]	C2/m or Cm	9.789	16.818	7.191	*β* = 93°23’	72P1
Deerite[23)]	$P2_1/a$	10.786(8)	18.88(2)	9.564(9)	*β* = 107.45(5)°	77F1
Deerite[24)]	$P2_1/a$	10.755(2)	18.870(6)	9.568(2)	*β* = 107.12(4)°	65A1, 67A1
Howieite[25)]	P1	10.170(4)	9.774(4)	9.589(4)	*α* = 91.22(5)° *β* = 70.76(5)° *γ* = 108.09(5)°	74W1
Haradaite[26)]	Amam or Ama2	7.06	14.64	5.33		67T1
Haradaite[26)]	Ama2	7.001	14.67	5.324		74W2
Suzukiite[27)]	Amam or Ama2	7.089	15.261	5.364		82M1
Ohmilite[28)]	$P2_1/m$	10.979(6)	7.799(5)	7.818(4)	*β* = 100.90(3)°	83M1
$BaCu_2Si_2O_7$	Pnma	6.862(2)	13.178(1)	6.891(1)		02Z1
$Cu_3Na_2Si_4O_{12}$	Pnma	7.519(4)	10.203(5)	13.567(8)		76K1

1) $NaKFeSi_4O_{10}$. The data of [71G1] were transformed through the matrix $(011/\bar{1}\bar{1}0/100)$;

2) $NaKCuSi_4O_{10}$;

3) $(Na_{4.06}K_{0.07})(Ca_{7.30}R_{0.47})(Mn,Fe,Sr,Ba,Mg,Zr)_{0.14}(Si_{15.61}Al_{0.03})O_{39.70}(F_{3.73}OH_{0.71})$;

4) $KCa_5\square(Si_2O_7)(Si_6O_{15})(OH)F$ (ideal formula);

5) Natural sample (Yakutia);

6) Natural sample (Central Asia);

7) Natural sample (Talassk Range) ;

Table 3 (cont.)

8) Composition [%]: SiO_2 – 56.08; TiO_2 – 0.10; Al_2O_3 – 0.55; Fe_2O_3 – 1.41; FeO – 0.71; MgO – 0.05; MnO – 0.38; CaO – 20.95; Na_2O – 8.01; K_2O – 8.47; H_2O^- – 0.49; H_2O^+ – 1.11; F – 2.21; Cl – 0.22; CO_2 – 0.20; P_2O_5 – 0.04;

9) $K_3Na_3Ca_5Si_{12}O_{30}(O,OH,F)_4$;

10) $Na_{3.00}(K_{5.23}Na_{0.57}Ba_{0.08})(Ti_{1.95}Nb_{0.04}Zr_{0.01})Al_{2.03}Si_{7.98}O_{26.10}Cl_{2.90}$;

11a) $(K_{3.39}Na_{4.21}Rb_{0.01})(Ca_{3.39}Mn_{0.02}Fe^{3+}{}_{0.31}Zn_{0.10}Cu_{0.04}Sr_{0.02}Mg_{0.17})(Zr_{7.11}Nb_{0.28}Ti_{0.26})(Si_{39.81}Al_{0.19})O_{103.36}{\cdot}22.77H_2O$;

11b) $(Na_{2.66}K_{0.30}Ca_{0.07}Mn_{0.02})(Zr_{1.96}Nb_{0.08}Ti_{0.05})(Si_{9.99}Al_{0.01})O_{25.79}{\cdot}9H_2O$; ideal formula $Na_4Zr_2Si_{10}O_{26}{\cdot}9H_2O$;

12a) $(Na_{3.66}Ca_{0.25}K_{0.02})(Ti_{1.72}Zr_{0.15}Nb_{0.07}Fe_{0.02})(Si_{7.87}Al_{0.13})O_{21.98}F_{0.02}{\cdot}4H_2O$;

12b) $Na_{4.04}(Ti_{1.93}Nb_{0.05}Fe_{0.02})Si_{7.99}O_{22}{\cdot}4H_2O$;

13) $(Na_{2.03}Ca_{0.01})(Zr_{0.76}Sr_{0.17}Ti_{0.02}Hf_{0.01})Si_{4.02}O_{11}{\cdot}2H_2O$;

14) $(Ca_{1.57}Na_{0.51}K_{0.93}Sr_{0.03}Ba_{0.07})Si_4O_{10}(OH_{0.58}F_{0.28}){\cdot}0.72H_2O$;

15) $Y_{2.05}Ca_{1.47}R_{0.35}Si_{3.95}Al_{0.09}O_{10.19}(CO_3)_{2.94}{\cdot}3.93H_2O$, R is a rare-earth element;

16) $Y_4(Ca_3R_1)(OH)(H_2O)_5[Si_8O_{20}](CO_3)_6{\cdot}2H_2O$, R is a rare-earth element;

17) $(Na_{7.58}K_{0.14}Ca_{0.05})(Ti_{3.22}Fe^{3+}{}_{0.60}Mg_{0.18}Fe^{2+}{}_{0.10})(Si_{15.90}Al_{0.10})O_{43.4}$;

18) Natural sample;

19) $Na_{7.64}K_{0.37}Ba_{1.88}Mg_{0.08}Fe_{0.08}B_{4.037}Ti_{3.85}Si_{20.003}O_{59.90}$;

20) $Na_{8.21}K_{0.24}Ba_{1.71}Fe_{0.01}B_{4.15}Ti_{3.98}Nb_{0.13}Si_{19.57}O_{59.80}$;

21) $Na_{7.36}Ba_{1.77}B_{4.12}Ti_{4.16}Si_{20.24}O_{59.32}$;

22) $Na_{7.04}Ba_{1.85}B_{4.19}Ti_{4.15}Si_{19.98}O_{59.86}$;

23) Natural sample (California): $Fe^{2+}{}_6Fe^{3+}{}_3O_3[Si_6O_{17}](OH)_5$ with 3.4 wt % MnO which substitutes Fe;

24) $(Mg_{0.08}Mn_{0.86}Fe^{2+}{}_{10.90})(Fe^{3+}{}_{5.89}Al_{0.38})Si_{11.86}O_{39.95}(OH)_{10.05}$;

25) $(Na_{1.03}Ca_{0.02})(Mg_{0.45}Mn_{2.98}Fe^{2+}{}_{6.41})(Fe^{3+}{}_{1.59}Al_{0.62})(Si_{11.96}Ti_{0.04})O_{31.3}(OH)_{12.69}$;

26) $SrVSi_2O_7$;

27) $(Ba_{1.78}Sr_{0.22})(V^{4+}{}_{2.02}Ti_{0.02})Si_{3.97}O_{14}$;

28) Composition [wt %]: SiO_2 – 34.79; TiO_2 – 10.27; Fe_2O_3 – 0.20; SrO – 47.37; H_2O^+ - 6.68;

29) $(K,Na)_4(Fe^{2+},Mn)_2(Si_4O_{10})_2(OH,F)$ with K/Na ≅ 1;

30) $(Na_{3.7}Ca_{0.3})(Ti_{1.7}Zr_{0.2})(Nb,Fe,Al)_{0.1}(Si_{7.9}Al_{0.1})O_{22}{\cdot}5H_2O$.

Table 4. Magnetic properties**.**

Silicate	*C* [emu K/mol]	*Θ* [K]	T_{max} [K]	Refs.
$Na_2NiSi_4O_{10}$	1.01	19.0	35	97D1
$Na_2CoSi_4O_{10}$	2.68	14.3	10	97D1
Deerite		36		66C1, 81P1

Table 5. Data obtained by ^{57}Fe NGR method [80A1].

Silicate	T [K]	Site	δ [1)] [mm/s]	ΔQ [mm/s]	DH [mm/s]	A [%]
Deerite[2)]	77	Fe^{2+}	1.34(1)	3.10(1)	0.30	19.4
		Fe^{2+}	1.34(1)	2.79(1)	0.30	25.4
		Fe^{2+}	1.31(1)	2.53(1)	0.30	18.0
		Fe^{3+}	0.63(1)	1.05(1)	0.29	7.9
		Fe^{3+}	0.59(1)	0.80(1)	0.29	18.1
		Fe^{3+}	0.60(1)	0.51(1)	0.29	11.2
	259	Fe^{2+}	1.12(1)	2.89(1)	0.23	11.0
		Fe^{2+}	1.13(1)	2.57(1)	0.27	29.7
		Fe^{n+}	0.92(1)	1.86(1)	0.34	5.2
		Fe^{n+}	0.97(1)	0.98(1)	0.66	18.2
		Fe^{3+}	0.50(1)	0.56(1)	0.46	35.9
	335	Fe^{2+}	1.09(1)	2.78(1)	0.25	10.2
		Fe^{2+}	1.09(1)	2.47(1)	0.29	29.8
		Fe^{n+}	0.72(1)	1.13(1)	0.62	23.6
		Fe^{3+}	0.56(1)	0.36(1)	0.48	36.5
	375	Fe^{2+}	1.07(1)	2.68(1)	0.24	16.3
		Fe^{2+}	1.08(1)	2.35(1)	0.27	24.3
		Fe^{n+}	0.63(1)	1.03(1)	0.54	24.5
		Fe^{3+}	0.56(1)	0.29(1)	0.38	34.9
Deerite[3)]	77	Fe^{2+}	1.34(1)	3.08(1)	0.29	18.9
		Fe^{2+}	1.34(1)	2.81(1)	0.29	27.3
		Fe^{2+}	1.33(1)	2.49(1)	0.29	15.3
		Fe^{3+}	0.62(1)	1.09(1)	0.31	6.7
		Fe^{3+}	0.62(1)	0.81(1)	0.31	20.3
		Fe^{3+}	0.61(1)	0.52(1)	0.31	11.5
	295	Fe^{2+}	1.13(1)	2.89(1)	0.22	7.7
		Fe^{2+}	1.14(1)	2.58(1)	0.32	34.6
		Fe^{n+}	0.93(1)	1.84(1)	0.43	12.4
		Fe^{n+}	1.04(1)	0.89(1)	0.36	4.4
		Fe^{3+}	0.52(1)	0.53(1)	0.48	40.9
	325	Fe^{2+}	1.10(1)	2.76(1)	0.26	11.8
		Fe^{2+}	1.11(1)	2.45(1)	0.30	31.0
		Fe^{n+}	0.77(1)	1.42(1)	0.56	16.4
		Fe^{3+}	0.55(1)	0.43(1)	0.47	40.8
	375	Fe^{2+}	1.06(1)	2.64(1)	0.26	16.9
		Fe^{2+}	1.07(1)	2.32(1)	0.30	24.3
		Fe^{n+}	0.65(1)	1.20(1)	0.50	15.9
		Fe^{3+}	0.54(1)	0.37(1)	0.46	42.9

1) Relative to α-Fe;
2) $Fe^{2+}_{11.27}Mn_{0.03}Mg_{0.48}Fe^{3+}_{5.80}Al_{0.35}Ti_{0.01}Si_{12.07}O_{40}(OH)_{8.68}$;
3) $Fe^{2+}_{11.03}Mn_{1.14}Mg_{0.03}Fe^{3+}_{5.49}Al_{0.25}Si_{12.06}O_{40}(OH)_{10.04}$.

Table 6. Refractive indices

Silicate[a)]	n_α	n_β	n_γ	$2V^o$		Refs.
Fenaksite[29)]	1.541	1.560	1.567	80°	biaxial, positive	59D1
Litidionite[2)]	1.548	1.574		56°	biaxial, positive	35Z1
Agrellite[3)]	1.567	1.579	1.581	47°	biaxial, negative	76G1
Canasite[8)]	1.534	1.538	1.543	58°	biaxial, negative	59D2
Natrolemoynite[11b)]	1.533(1)	1.559(1)	1.567(1)	63(1)°	biaxial, negative	01M1
Penkvilksite 2O[30)]	1.637	1.640	1.662	42°	biaxial, positive	74B2
Penkvilksite 1M[12b)]	1.640(2)	1.646(2)	1.675(2)	50(1)°	biaxial, positive	94M1
Tumchaite[13)]	1.570(2)	1.588(2)	1.594(2)	60(5)°	biaxial, negative	00S1
Charoite[14)]	1.550(2)	1.553(2)	1.559(2)	28°… 30°	biaxial, positive	78R1
Caysichite[15)]	1.586(4)	1.614(1)	1.621(1)	53°	biaxial, negative	74H1
Leucosphenite[20)]	1.643	1.657	1.681	76°		72C1
Leucosphenite[22)]	1.644	1.6595	1.687	75°		72P1
Howieite[25)]	1.701	1.720	1.734	65°	biaxial, negative	74W1
Haradaite[26)]	1.713(2)	1.721(2)	1.734(2)		biaxial, negative	74W1, 75F1
Suzukiite[27)]	1.730	1.739	1.748	≅90°	biaxial, negative	82M1

a) For compositions see Table 3.