Table 1. ***Alkali-Feldspar Compositions (wt%)***

Sample	HD01-6	HD01-30	HD01-39	HD01-40	HD01-43	HD01-55
Unit	Half Dome equi.	Half Dome equi.	Half Dome equi.	Half Dome equi.	Half Dome equi.	Kuna Crest
n	6	5	5	5	9	5
SiO_2	63.78(34)	63.97(20)	64.39(29)	65.10(17)	64.81(18)	64.48(11)
Al_2O_3	19.40(25)	19.11(3)	19.67(39)	19.20(6)	19.40(10)	19.27(5)
FeO	0.07(1)	0.07(1)	0.06(2)	0.10(2)	0.07(1)	0.09(2)
CaO	0.02(0)	0.04(1)	0.02(1)	0.01(0)	0.04(1)	0.03(1)
Na_2O	1.07(6)	1.16(19)	1.21(7)	1.12(6)	1.30(7)	1.31(5)
K_2O	14.79(13)	14.80(26)	14.78(12)	14.29(7)	14.52(12)	14.16(12)
Total	99.13	99.16	100.13	99.81	100.14	99.35
Si	2.971	2.968	2.957	2.986	2.971	2.974
Al	1.048	1.045	1.064	1.038	1.048	1.048
Fe	0.003	0.003	0.002	0.004	0.003	0.004
Ca	0.002	0.002	0.001	0.000	0.002	0.002
Na	0.097	0.105	0.108	0.099	0.115	0.117
K	0.867	0.876	0.866	0.836	0.849	0.833
Or %	89.7	89.1	88.9	89.4	87.8	87.5
Ab %	10.0	10.7	11.0	10.6	11.9	12.3
An %	0.2	0.2	0.1	0.0	0.2	0.2

Sample	HD01-71	HD01-77	HD01-80	HD01-81	HD01-82	HD01-83
Unit	Glen Aulin	Half Dome porp.	Half Dome porp.	Cathedral Peak	Cathedral Peak	Johnson Granite
n	5	5	10	8	5	8
SiO_2	64.34(20)	65.05(22)	64.85(17)	65.06(21)	65.12(34)	64.57(14)
Al_2O_3	19.68(22)	19.01(7)	18.67(4)	19.04(2)	19.08(12)	19.25(8)
FeO	0.06(1)	0.08(1)	0.08(1)	0.08(1)	0.10(1)	0.07(1)
CaO	0.03(0)	0.01(0)	0.02(0)	0.02(0)	0.03(1)	0.06(2)
Na_2O	1.44(2)	1.13(5)	0.94(8)	1.31(25)	1.13(6)	1.23(7)
K_2O	13.77(8)	14.42(11)	15.04(14)	14.95(33)	14.62(16)	14.89(16)
Total	99.32	99.70	99.59	100.46	100.08	100.07
Si	2.963	2.990	2.994	2.980	2.985	2.969
Al	1.068	1.029	1.016	1.028	1.031	1.043
Fe	0.002	0.003	0.003	0.003	0.004	0.003
Ca	0.001	0.001	0.001	0.001	0.002	0.003
Na	0.129	0.101	0.084	0.117	0.100	0.110
K	0.809	0.846	0.886	0.874	0.855	0.873
Or %	86.2	89.3	91.3	88.2	89.4	88.6
Ab %	13.7	10.6	8.6	11.8	10.5	11.1
An %	0.2	0.1	0.1	0.1	0.2	0.3

n = number of analyses; number in parentheses is one standard error in terms of least units cited
Molecular abundances based on 8 oxygens

Table 2. ***Plagioclase Compositions (wt%)***

Sample	HD01-6	HD01-21	HD01-30	HD01-39	HD01-40	HD01-43	HD01-48	HD01-53
Unit	Half Dome equi	Enclave	Half Dome equi.	Half Dome equi.	Half Dome equi.	Half Dome equi.	Kuna Crest	Enclave
n	5	5	14	9	13	16	5	5
SiO_2	58.51(21)	59.48(37)	58.68(16)	59.67(83)	60.64(35)	60.33(41)	58.27(43)	58.53(23)
Al_2O_3	25.39(18)	25.36(22)	25.58(11)	25.14(48)	25.35(25)	25.22(24)	26.51(16)	25.91(12)
FeO	0.23(2)	0.16(2)	0.21(1)	0.15(2)	0.14((1)	0.20(1)	0.11(1)	0.12(2)
CaO	7.42(29)	7.11(24)	7.29(12)	6.60(16)	6.70(28)	6.83(25)	7.87(25)	7.77(15)
Na_2O	7.04(15)	7.30(13)	7.31(7)	7.68(41)	7.27(16)	7.20(19)	6.67(19)	7.02(6)
K_2O	0.38(3)	0.21(1)	0.24(1)	0.21(2)	0.18(1)	0.26(2)	0.13(2)	0.21(1)
Total	98.97	99.62	99.31	99.44	100.28	100.05	99.56	99.56
Si	2.643	2.662	2.640	2.674	2.687	2.683	2.612	2.627
Al	1.351	1.338	1.356	1.327	1.324	1.322	1.400	1.371
Fe	0.009	0.006	0.008	0.006	0.005	0.008	0.004	0.005
Ca	0.359	0.341	0.351	0.317	0.318	0.325	0.378	0.374
Na	0.617	0.634	0.638	0.667	0.625	0.621	0.579	0.611
K	0.022	0.012	0.014	0.012	0.010	0.015	0.007	0.012
Or %	2.2	1.2	1.4	1.2	1.0	1.5	0.8	1.2
Ab %	61.8	64.2	63.6	67.0	65.6	64.6	60.0	61.3
An %	36.0	34.6	35.0	31.8	33.4	33.9	39.2	37.5

Sample	HD01-55	HD01-71	HD01-77	HD01-80.	HD01-81	HD01-82	HD01-83
Unit	Kuna Crest	Kuna Crest	Half Dome porp.	Half Dome porp.	Cathedral Peak	Cathedral Peak	Johnson Granite
n	6	5	5	5	5	5	6
SiO_2	59.16(36)	60.20(29)	60.40(12)	60.33(42)	61.05(11)	61.13(7)	64.53(91)
Al_2O_3	25.88(24)	24.99(22)	25.08(3)	24.97(37)	23.98(7)	24.06(10)	22.35(59)
FeO	0.17(1)	0.14(2)	0.18(0)	0.12(3)	0.16(1)	0.14(1)	0.10(21)
CaO	6.97(26)	6.14(17)	5.92(9)	6.20(33)	5.41(7)	5.60(5)	3.22(62)
Na_2O	7.09(16)	7.70(14)	7.76(9)	7.67(22)	8.37(4)	8.11(4)	9.52(39)
K_2O	0.13(1)	0.13(2)	0.20(3)	0.16(1)	0.24(2)	0.18(1)	0.13(1)
Total	99.41	99.29	99.53	99.45	99.21	99.22	99.85
Si	2.649	2.693	2.695	2.695	2.733	2.734	2.846
Al	1.366	1.318	1.319	1.315	1.265	1.268	1.162
Fe	0.006	0.005	0.007	0.005	0.006	0.005	0.004
Ca	0.335	0.294	0.283	0.297	0.260	0.268	0.152
Na	0.616	0.668	0.671	0.664	0.726	0.703	0.814
K	0.008	0.007	0.011	0.009	0.014	0.010	0.007
Or %	0.8	0.8	1.2	1.0	1.4	1.1	0.7
Ab %	64.3	68.9	69.5	68.5	72.7	71.6	83.6
An %	34.9	30.3	29.3	30.6	26.0	27.3	15.6

n = number of analyses; number in parentheses is one standard error in terms of least units cited
Molecular abundances based on 8 oxygens

Table 3. ***Titanite Compositions (wt%)***

Sample	HD01-21	HD01-40	HD01-55	HD01-77	HD01-81
Unit	Enclave	Half Dome equi.	Kuna Crest	Half Dome porp.	Cathedral Peak
n	5	5	5	5	5
SiO_2	28.91(17)	29.35(10)	29.36(12)	28.84(14)	28.81(8)
TiO_2	39.50(27)	39.95(14)	39.51(14)	39.74(14)	39.72(11)
Al_2O_3	1.17(10)	1.04(2)	1.03(5)	1.05(2)	1.05(3)
FeO	1.18(5)	1.26(5)	1.22(4)	1.23(2)	1.22(4)
MnO	0.11(0)	0.09(1)	0.13(1)	0.13(2)	0.14(1)
MgO	ND	ND	ND	ND	ND
CaO	26.33(12)	26.54(3)	26.26(8)	26.28(6)	26.20(12)
Total	97.20	98.22	97.51	97.27	97.13
Si	0.778	0.782	0.787	0.776	0.776
Ti	0.800	0.800	0.797	0.805	0.805
Al	0.037	0.033	0.033	0.033	0.033
Fe	0.027	0.028	0.027	0.028	0.027
Mn	0.003	0.002	0.003	0.003	0.003
Mg	0.000	0.000	0.000	0.000	0.000
Ca	0.759	0.757	0.754	0.758	0.756

n = number of analyses
number in parentheses is one standard error in terms of least units cited
ND = not detected
Molecular abundances based on 4 oxygens

Table 4. ***Hornblende Compositions (wt%)***

Sample	HD01-6	HD01-21	HD01-30	HD01-39	HD01-40	HD01-43	HD01-48
Unit	Half Dome equi.	Enclave	Half Dome equi.	Half Dome equi.	Half Dome equi.	Half Dome equi.	Kuna Crest
n	5	5	5	5	6	8	6
SiO_2	49.78(44)	47.67(61)	48.12(114)	50.35(88)	50.74(89)	51.34(71)	47.42(72)
TiO_2	0.80(9)	1.04(22)	0.70(15)	0.61(17)	0.44(14)	0.32(10)	1.09(10)
Al_2O_3	5.26(42)	6.74(38)	8.52(142)	5.37(87)	4.84(50)	4.13(51)	6.87(51)
FeO	13.60(27)	14.38(31)	12.99(39)	13.35(39)	12.75(45)	12.46(38)	15.17(56)
MnO	0.60(2)	0.32(2)	0.29(0)	0.10(1)	0.56(2)	0.78(3)	0.49(3)
MgO	13.84(35)	13.31(34)	13.66(41)	13.86(54)	14.83(36)	15.04(38)	12.47(49)
CaO	11.96(1)	11.87(7)	11.44(19)	12.11(16)	12.22(6)	12.22(5)	11.75(10)
Na_2O	0.92(8)	1.19(9)	0.81(10)	0.76(9)	0.78(10)	0.77(10)	1.06(3)
K_2O	0.34(5)	0.58(6)	0.39(10)	0.33(7)	0.33(7)	0.29(6)	0.58(7)
F	0.11(2)	0.20(2)	0.08(7)	0.07(4)	0.16(4)	0.16(5)	0.07(2)
Cl	0.02(0)	0.03(1)	0.03(3)	0.03(1)	0.02(1)	0.05(1)	0.08(2)
Total	97.22	97.33	97.02	96.94	97.67	97.54	97.06
			T Site				
Si	7.264	7.000	6.938	7.351	7.327	7.421	7.001
Al^{IV}	0.736	1.000	1.062	0.649	0.673	0.579	0.999
			M1 M2 M3 Sites				
Al^{VI}	0.169	0.165	0.386	0.274	0.151	0.125	0.198
Fe^{3+}	0.330	0.417	0.694	0.176	0.398	0.333	0.429
Fe^{2+}	1.330	1.349	0.872	1.454	1.172	1.172	1.444
Ti	0.087	0.115	0.075	0.067	0.048	0.035	0.121
Mg	3.010	2.914	2.937	3.016	3.192	3.240	2.746
Mn	0.076	0.039	0.035	0.013	0.069	0.095	0.062
			M4 Site				
Ca	1.870	1.870	1.766	1.893	1.890	1.892	1.858
Na	0.130	0.130	0.239	0.107	0.110	0.108	0.142
			A Site				
Na	0.130	0.209	0.099	0.110	0.108	0.107	0.162
K	0.063	0.110	0.072	0.062	0.060	0.053	0.109
			OH Site				
OH	1.942	1.901	1.967	1.961	1.923	1.916	1.949
F	0.053	0.092	0.037	0.032	0.073	0.073	0.031
Cl	0.005	0.007	0.006	0.007	0.004	0.012	0.020
Al^T	0.904	1.166	1.448	0.922	0.823	0.703	1.196
$Fe^T/(Fe^T+Mg)$	0.355	0.377	0.348	0.351	0.325	0.317	0.406
Fe^T/Mg	0.551	0.606	0.533	0.540	0.482	0.464	0.682
$Mn/(Mn+Fe^T)$	0.046	0.023	0.022	0.007	0.044	0.063	0.033

n = number of analyses
number in parentheses is one standard error in terms of least units cited
$Al^T = Al^{IV} + Al^{VI}$; $Fe^T = Fe^{+3} + Fe^{+2}$
Molecular abundances based on 24 oxygens

Table 4 Continued. ***Hornblende Compositions (wt%)***

Sample	HD01-53	HD01-55	HD01-71	HD01-77	HD01-80	HD01-81	HD01-82
Unit	Enclave	Kuna Crest	Kuna Crest	Half Dome porp.	Half Dome porp.	Cathedral Peak	Cathedral Peak
n	5	5	5	5	5	5	5
SiO_2	48.40(66)	47.50(23)	47.53(52)	49.62(65)	49.63(108)	47.97(55)	49.75(76)
TiO_2	1.08(16)	0.90(14)	0.66(14)	1.27(6)	0.50(6)	1.58(8)	0.38(10)
Al_2O_3	6.82(43)	6.85(15)	6.64(39)	6.14(120)	5.47(120)	6.57(33)	4.65(29)
FeO	14.94(40)	15.61(13)	15.54(17)	12.34(27)	12.98(41)	13.99(41)	12.69(54)
MnO	0.45(2)	0.46(2)	0.47(2)	0.31(5)	0.70(3)	0.14(1)	0.75(5)
MgO	12.66(34)	12.41(7)	12.64(26)	14.18(30)	14.61(51)	13.12(27)	14.60(20)
CaO	11.46(9)	11.83(6)	11.99(11)	12.08(18)	11.64(27)	11.92(4)	12.03(9)
Na_2O	0.96(7)	1.03(6)	0.98(10)	0.89(4)	0.92(140	1.05(6)	0.79(9)
K_2O	0.56(7)	0.59(4)	0.58(8)	0.40(2)	0.30(6)	0.60(5)	0.32(5)
F	0.08(3)	0.12(4)	0.13(2)	0.23(3)	0.26(8)	0.22(5)	0.21(4)
Cl	0.03(1)	0.06(1)	0.04(1)	0.02(0)	0.01(0)	0.02(0)	0.01(1)
Total	97.43	97.37	97.18	97.46	97.02	97.20	96.18
				T Site			
Si	7.070	7.001	7.015	7.206	7.193	7.064	7.306
Al^{IV}	0.930	0.999	0.985	0.794	0.807	0.936	0.694
				M1 M2 M3 Sites			
Al^{VI}	0.244	0.191	0.170	0.256	0.128	0.205	0.111
Fe^{3+}	0.485	0.466	0.491	0.181	0.643	0.206	0.429
Fe^{2+}	1.339	1.458	1.426	1.318	0.931	1.516	1.129
Ti	0.119	0.090	0.073	0.138	0.054	0.175	0.042
Mg	2.757	2.728	2.781	3.069	3.158	2.880	3.196
Mn	0.055	0.057	0.059	0.038	0.086	0.018	0.093
				M4 Site			
Ca	1.794	1.868	1.865	1.879	1.807	1.881	1.892
Na	0.206	0.132	0.105	0.121	0.193	0.119	0.108
				A Site			
Na	0.065	0.164	0.174	0.128	0.065	0.182	0.118
K	0.104	0.111	0.109	0.074	0.056	0.113	0.060
				OH Site			
OH	1.959	1.927	1.930	1.890	1.878	1.891	1.898
F	0.035	0.058	0.061	0.106	0.120	0.105	0.099
Cl	0.007	0.015	0.009	0.004	0.002	0.004	0.003
Al^T	1.174	1.190	1.155	1.050	0.935	1.140	0.805
$Fe^T/(Fe^T+Mg)$	0.434	0.414	0.408	0.328	0.333	0.374	0.328
Fe^T/Mg	0.767	0.706	0.689	0.488	0.498	0.598	0.487
$Mn/(Mn+Fe^T)$	0.026	0.029	0.030	0.025	0.052	0.010	0.056

n = number of analyses

number in parentheses is one standard error in terms of least units cited

$Al^T = Al^{IV} + Al^{VI}$; $Fe^T = Fe^{+3} + Fe^{+2}$

Molecular Abundances based on 24 oxygens

Table 5. ***Biotite Compositions (wt %)***

Sample	HD01-6	HD01-21	HD01-30	HD01-39	HD01-40	HD01-43	HD01-48	HD01-53
Unit	Half Dome equi.	Enclave	Half Dome equi.	Half Dome equi.	Half Dome equi.	Half Dome equi.	Ton. Glacier Point	Enclave
n	5	5	6	5	5	5	5	5
SiO_2	36.66(13)	37.35(14)	37.24(18)	37.22(16)	37.23(9)	37.43(9)	36.66(23)	37.02(4)
TiO_2	3.08(2)	2.54(30)	2.62(16)	2.81(11)	2.30(4)	2.58(4)	3.26(26)	3.12(2)
Al_2O_3	14.47(7)	14.49(7)	14.91(24)	14.64(8)	14.77(4)	14.59(4)	14.99(11)	14.86(7)
FeO	17.56(11)	17.17(18)	16.93(10)	17.13(12)	17.04(15)	16.79(15)	18.95(8)	18.16(7)
MnO	0.19(2)	0.22(2)	0.29(2)	0.29(2)	0.41(1)	0.52(1)	0.12(1)	0.31(3)
MgO	12.18(6)	12.56(7)	12.30(2)	12.11(4)	12.62(1)	12.38(1)	11.15(16)	10.95(7)
CaO	0.00(0)	0.01(0)	0.01(1)	0.00(0)	0.00(0)	0.01(0)	0.00(0)	0.04(4)
Na_2O	0.11(1)	0.07(1)	0.09(1)	0.11(1)	0.10(0)	0.07(0)	0.10(1)	0.09(1)
K_2O	9.60(3)	9.49(12)	9.70(9)	9.59(3)	9.69(2)	9.81(2)	9.63(4)	9.61(12)
F	0.21(3)	0.44(2)	0.25(2)	0.23(5)	0.21(3)	0.29(3)	0.15(2)	0.20(4)
Cl	0.03(1)	0.02(0)	0.03(0)	0.04(1)	0.02(0)	0.01(0)	0.08(1)	0.04(1)
Total	94.08	94.35	94.38	94.18	94.40	94.46	95.09	94.39
Si	5.650	5.725	5.697	5.710	5.699	5.726	5.619	5.694
Al^{IV}	2.350	2.275	2.303	2.290	2.301	2.274	2.381	2.306
Al^{VI}	0.278	0.343	0.385	0.357	0.363	0.358	0.326	0.388
Ti	0.357	0.293	0.301	0.324	0.265	0.296	0.376	0.361
Mn	0.024	0.028	0.038	0.037	0.053	0.067	0.016	0.041
Fe	2.263	2.201	2.166	2.197	2.181	2.148	2.429	2.336
Mg	2.798	2.869	2.806	2.770	2.881	2.824	2.548	2.511
Ca	0.000	0.001	0.002	0.001	0.001	0.001	0.000	0.007
Na	0.032	0.020	0.027	0.033	0.029	0.021	0.031	0.025
K	1.887	1.855	1.894	1.877	1.892	1.914	1.882	1.887
F	0.100	0.213	0.121	0.109	0.100	0.138	0.074	0.097
Cl	0.008	0.006	0.007	0.010	0.004	0.003	0.021	0.010
OH	3.892	3.780	3.817	3.881	3.896	3.859	3.905	3.894
Fe/(Fe+Mg)	0.447	0.434	0.436	0.442	0.431	0.432	0.488	0.482
Fe/Mg	0.809	0.767	0.772	0.793	0.757	0.761	0.953	0.930
Mn/(Mn+Fe)	0.010	0.013	0.017	0.017	0.024	0.030	0.007	0.017

n = number of analyses
Number in parentheses is one standard error in terms of least units cited.
Molecular abundances based on 22 oxygens

Table 5 Continued. ***Biotite Compositions (wt%)***

Sample	HD01-55	HD01-71	HD01-77	HD01-80	HD01-81	HD01-82	HD01-83
Unit	Kuna Crest	Glen Aulin	Half Dome porp.	Half Dome prop.	Cathedral Peak	Cathedral Peak	Johnson Granite
n	6	6	5	5	5	5	5
SiO_2	36.96(9)	36.87(6)	37.72(18)	37.24(21)	37.66(8)	37.85(12)	36.91(13)
TiO_2	2.84(13)	2.24(10)	2.57(11)	2.77(11)	2.49(9)	1.60(10)	2.64(5)
Al_2O_3	14.75(5)	14.56(3)	14.40(9)	14.38(12)	14.44(2)	14.40(17)	14.26(12)
FeO	17.07(15)	18.79(17)	16.05(18)	16.55(8)	16.70(18)	16.59(12)	16.68(20)
MnO	0.20(2)	0.22(1)	0.47(2)	0.27(2)	0.31(3)	0.39(3)	0.35(3)
MgO	12.33(7)	11.57(5)	12.95(4)	13.15(11)	12.77(7)	13.15(1)	12.14(18)
CaO	0.01(0)	0.00(0)	0.02(1)	0.04(3)	0.02(1)	0.00(0)	0.00(0)
Na_2O	0.10(1)	0.09(1)	0.09(1)	0.08(1)	0.09(1)	0.09(1)	0.06(1)
K_2O	9.79(3)	9.56(4)	9.96(3)	9.48(24)	9.62(17)	9.78(1)	9.81(7)
F	0.22(2)	0.24(2)	0.57(6)	0.44(4)	0.44(2)	0.46(8)	1.38(23)
Cl	0.06(1)	0.06(0)	0.03(1)	0.02(1)	0.04(1)	0.02(1)	0.01(0)
Total	94.32	94.21	94.82	94.41	94.58	94.33	94.26
Si	5.668	5.705	5.749	5.693	5.749	5.798	5.732
Al^{IV}	2.332	2.295	2.251	2.307	2.251	2.205	2.268
Al^{VI}	0.335	0.360	0.336	0.284	0.348	0.394	0.342
Ti	0.327	0.261	0.295	0.318	0.286	0.184	0.309
Mn	0.029	0.029	0.060	0.035	0.041	0.051	0.046
Fe	2.189	2.431	2.064	2.116	2.132	2.124	2.166
Mg	2.820	2.669	2.942	2.997	2.906	3.001	2.881
Ca	0.001	0.000	0.003	0.006	0.004	0.000	0.000
Na	0.030	0.028	0.026	0.025	0.026	0.028	0.020
K	1.914	1.888	1.936	1.849	1.873	1.909	1.943
F	0.106	0.118	0.276	0.211	0.210	0.225	0.980
Cl	0.016	0.016	0.008	0.005	0.010	0.004	0.003
OH	3.878	3.866	3.717	3.785	3.780	3.771	3.317
Fe/(Fe+Mg)	0.437	0.477	0.412	0.414	0.423	0.414	0.429
Fe/Mg	0.776	0.911	0.702	0.706	0.734	0.708	0.752
Mn/(Mn+Fe)	0.013	0.012	0.028	0.016	0.019	0.023	0.021

n = number of analyses
Number in parentheses is one standard error in terms of least units cited.
Molecular abundances based on 22 oxygens

Table 6. ***Major Element Compositions for Selected Samples from the Tuolumne Intrusive Suite***

SAMPLE	Unit	SiO_2 wt %	Al_2O_3 wt %	Fe_2O_3 wt %	MnO wt %	MgO wt %	CaO wt %	Na_2O wt %	K_2O wt %	TiO_2 wt %	P_2O_5 wt %	LOI	TOTAL
Y01-5	Half Dome-equi	64.20	16.12	4.66	0.074	2.01	4.16	3.66	3.51	0.596	0.18	0.64	99.82
HD01-2	Half Dome-equi	68.61	14.46	3.89	0.068	1.41	3.18	3.45	3.71	0.525	0.15	0.80	100.25
HD01-6	Half Dome-equi	66.50	15.38	4.38	0.086	1.78	3.76	3.89	2.84	0.463	0.20	0.85	100.12
HD01-6 /R	Half Dome-equi	66.57	15.37	4.42	0.085	1.78	3.76	3.93	2.87	0.463	0.20	0.85	100.29
HD01-10	Half Dome-equi	66.16	15.94	4.11	0.087	1.60	3.35	3.67	3.90	0.574	0.20	0.77	100.35
HD01-21	Enclave	56.40	17.24	7.37	0.179	3.59	6.46	4.53	2.21	1.137	0.42	0.79	100.32
HD01-29	Half Dome-equi	70.29	14.87	2.66	0.055	0.99	2.87	3.60	3.73	0.321	0.12	0.74	100.25
HD01-30	Half Dome-equi	65.23	16.17	4.28	0.078	1.73	4.04	3.69	3.19	0.588	0.21	0.79	99.99
HD01-32	Half Dome-equi	68.82	15.58	2.98	0.063	1.10	3.14	3.63	3.59	0.463	0.14	0.67	100.17
HD01-35	Kuna Crest	60.34	16.49	6.54	0.100	3.05	5.16	3.21	3.05	0.868	0.21	1.00	100.01
HD01-39	Half Dome-equi	67.34	15.69	3.68	0.071	1.48	3.72	3.69	3.31	0.477	0.16	0.72	100.34
HD01-40	Half Dome-equi	67.12	15.62	3.63	0.068	1.45	3.61	3.55	3.70	0.499	0.17	0.68	100.10
HD01-41	Half Dome-equi	69.31	14.98	3.12	0.065	1.20	2.98	3.46	3.70	0.417	0.13	0.62	99.98
HD01-43	Half Dome-equi	71.10	14.01	2.78	0.061	1.13	2.57	3.19	3.91	0.371	0.10	0.71	99.93
HD01-48	Kuna Crest.	59.63	15.70	7.54	0.114	3.44	5.62	3.20	2.65	0.943	0.22	0.94	99.99
HD01-49	Half Dome-equi	67.50	15.15	3.48	0.078	1.43	3.06	3.66	3.86	0.424	0.13	0.75	99.50
HD01-50	Kuna Crest	60.20	16.43	6.37	0.098	3.03	5.63	3.29	2.69	0.835	0.20	0.90	99.67
HD01-53	Enclave	57.90	17.58	7.04	0.126	3.27	6.00	4.13	1.79	0.856	0.27	1.00	99.96
HD01-55	Kuna Crest	57.22	13.57	10.91	0.163	4.34	4.77	2.48	4.30	1.322	0.38	0.90	100.36
HD01-58	Cathedral Peak	66.75	16.56	3.12	0.072	1.11	3.35	4.33	3.34	0.462	0.19	0.72	99.99
HD01-64	Half Dome-porp.	66.98	15.80	3.18	0.058	1.19	3.38	3.91	3.59	0.488	0.19	0.65	99.41
HD01-67	Half Dome-equi	65.98	15.57	4.48	0.082	1.83	3.89	3.35	3.47	0.560	0.18	0.80	100.19
HD01-67 /R	Half Dome-equi	65.84	15.52	4.49	0.082	1.83	3.88	3.34	3.45	0.557	0.18	0.80	99.96
HD01-70	Kuna Crest	67.80	14.71	4.05	0.065	1.70	3.09	2.80	4.33	0.478	0.13	0.88	100.04
HD01-71	Kuna Crest	61.99	15.58	5.38	0.104	2.70	4.65	3.10	3.57	0.724	0.18	0.88	98.86
HD01-72	Kuna Crest	62.51	16.75	5.39	0.086	2.36	4.64	3.36	3.27	0.691	0.18	0.84	100.08
HD01-73	Kuna Crest	62.80	16.01	5.69	0.097	2.47	4.78	3.51	2.66	0.717	0.21	1.05	99.99
HD01-74	Half Dome-equi	66.40	15.31	3.95	0.074	1.64	3.43	3.03	4.19	0.565	0.15	0.94	99.67
HD01-75	Half Dome-equi	66.18	15.99	3.75	0.070	1.61	3.56	3.22	4.16	0.449	0.14	0.99	100.11
HD01-77A	Half Dome-porp.	68.90	15.35	2.95	0.054	0.94	3.25	4.04	3.14	0.500	0.19	0.77	100.09
HD01-78	Aplite	76.77	12.96	0.92	0.027	0.12	0.79	3.55	4.69	0.096	0.04	0.45	100.40

Table 6. ***Major Element Compositions for Selected Samples from the Tuolumne Intrusive Suite***

SAMPLE	Unit	SiO_2 wt %	Al_2O_3 wt %	Fe_2O_3 wt %	MnO wt %	MgO wt %	CaO wt %	Na_2O wt %	K_2O wt %	TiO_2 wt %	P_2O_5 wt %	LOI	TOTAL
HD01-80	Half Dome-porp.	68.07	15.57	2.82	0.052	0.87	3.01	3.88	3.99	0.430	0.16	0.72	99.57
HD01-81	Cathedral Peak	69.61	15.44	2.70	0.050	0.86	3.54	4.34	2.17	0.407	0.17	0.63	99.91
HD01-82	Cathedral Peak	66.38	16.56	2.90	0.057	0.92	3.19	4.13	3.95	0.440	0.17	0.79	99.50
HD01-83	Johnson Granite	74.84	13.80	1.04	0.027	0.18	0.98	3.55	5.05	0.125	0.04	0.68	100.32
HD01-84	Half Dome-porp.	68.29	15.08	3.46	0.081	1.29	3.20	3.77	3.22	0.601	0.15	0.88	100.01
HD02-92	Kuna Crest	61.62	16.42	5.61	0.090	2.63	5.12	3.44	3.06	0.718	0.18	0.86	99.76
HD02-93	Cathedral Peak	69.27	15.39	2.27	0.069	0.66	2.34	4.25	3.69	0.373	0.14	0.82	99.27
HD02-94	Cathedral Peak	69.27	14.27	3.14	0.063	0.97	3.03	3.92	2.99	0.504	0.19	0.59	98.94
HD02-96	Johnson Granite	74.95	13.59	0.99	0.044	0.14	0.92	3.45	5.21	0.123	0.03	0.51	99.96
HD02-97	Half Dome-equi	64.53	16.43	4.24	0.083	1.56	4.24	4.26	2.55	0.615	0.23	0.74	99.48
HD02-102	Half Dome-porp.	67.83	15.41	2.99	0.053	1.03	3.14	3.88	3.56	0.491	0.19	0.69	99.26
HD02-105	Kuna Crest	60.51	16.95	5.93	0.086	2.60	5.25	3.52	2.93	0.713	0.21	0.76	99.45
HD02-106	Half Dome-equi	60.61	17.79	5.74	0.091	2.43	5.59	3.97	2.25	0.736	0.24	0.76	100.20
HD02-107	Enclave	58.15	16.73	6.44	0.178	2.50	5.36	4.88	2.73	0.980	0.45	1.09	99.47
HD02-109	Half Dome-porp.	68.37	15.58	2.75	0.081	1.06	2.96	3.93	3.95	0.435	0.15	0.70	99.97
HD02-110	Cathedral Peak	68.97	15.25	2.87	0.059	0.94	3.32	4.25	2.74	0.462	0.17	0.64	99.67
HD02-111	Half Dome-porp.	67.82	15.87	2.71	0.069	1.08	3.01	4.01	3.99	0.406	0.16	0.93	100.05
HD02-112	Half Dome-equi	64.09	16.54	4.06	0.071	1.63	4.18	3.95	3.22	0.567	0.21	0.71	99.23
HD02-113	Half Dome-equi	64.54	16.32	3.81	0.077	1.82	4.37	3.74	2.96	0.503	0.14	0.75	99.03
HD02-114	Half Dome-equi	59.08	17.32	6.41	0.106	2.89	5.69	3.92	1.92	0.866	0.23	1.12	99.56
HD02-115	Half Dome-equi	60.39	17.55	5.48	0.084	2.30	5.29	4.03	2.60	0.708	0.24	0.72	99.39
HD02-116	Cathedral Peak	68.88	15.39	3.09	0.062	1.06	3.39	4.23	2.44	0.471	0.20	0.85	100.06
HD02-117	Cathedral Peak	71.62	14.71	1.66	0.046	0.45	1.95	4.24	3.71	0.258	0.09	0.82	99.56
HD02-118	Cathedral Peak	71.10	14.96	1.77	0.050	0.49	2.10	4.41	3.74	0.291	0.12	0.63	99.66
HD02-119	Kuna Crest	59.08	16.65	7.11	0.109	3.31	5.80	3.31	2.47	0.887	0.24	1.12	100.08
HD02-120	Half Dome-equi	64.87	16.45	4.28	0.074	1.66	4.13	4.02	3.20	0.597	0.23	0.73	100.22

Table 7. ***Trace-Element Concentrations for Samples from the Tuolumne Intrusive Suite***

SAMPLE	Unit	Ba	Sr	Y	Zr	V	Co	Cr	Sc	Ni	Pb	Zn	Ga	Rb	Nb	Cs	Hf	Ta	Th	U
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Y01-5	Half Dome-equi	875	538	13	106	94	14.1	14.2	7.85	8	86	218	19	126	6.1	10.1	3.1	0.73	15.5	5.86
HD01-2	Half Dome-equi	734	428	12	104	74	9.2	8.3	5.99	3	51	218	18	147	9.6	8.2	3.2	1.26	30.0	9.76
HD01-6	Half Dome-equi	689	494	7	129	85	12.2	9.6	7.53	4	29	165	20	117	5.7	5.3	3.6	0.58	21.8	8.77
HD01-10	Half Dome-equi	1134	565	7	130	75	10.3	7.8	5.37	5	26	164	21	158	7.4	7.2	3.7	0.63	20.1	9.75
HD01-21	Enclave	336	502	14	152	162	21.8	45.9	13.8	20	42	223	24	104	10.6	5.3	4.3	0.75	16.9	8.37
HD01-29	Half Dome-equi	626	372	7	97	46	4	ND	4	ND	25	69	16	159	7.7	8.3	3.5	0.71	21.1	10.30
HD01-30	Half Dome-equi	1045	629	9	130	77	11.5	6	6.26	4	26	123	20	104	7.4	5.3	3.5	0.69	14.8	5.07
HD01-32	Half Dome-equi	788	485	8	105	56	7.8	6.7	4.13	4	20	94	19	137	8.0	6.3	3.2	0.71	16.8	4.82
HD01-35	Kuna Crest	831	489	20	149	151	21	21.3	13.5	13	14	110	20	137	9.0	9.9	4.2	0.93	16.1	7.28
HD01-39	Half Dome-equi	824	513	10	112	62	9.8	11	5.91	5	31	114	19	116	8.0	6.4	3.5	0.92	33.3	9.59
HD01-40	Half Dome-equi	975	523	10	123	68	9	9.9	5.86	4	22	90	18	121	8.2	7.1	3.6	0.96	24.8	7.02
HD01-41	Half Dome-equi	805	441	8	90	54	8.6	5.2	4.06	3	18	87	18	134	7.4	8.5	3.0	0.97	13.8	15.0
HD01-43	Half Dome-equi	596	329	8	69	49	8.6	8.9	4.51	4	24	80	17	168	7.0	13.2	2.4	0.77	26.4	18.8
HD01-48	Ton. Glacier Pt.	752	500	22	151	164	23.6	30	16.8	13	11	116	18	110	8.3	4.1	4.4	0.49	13.3	3.14
HD01-49	Half Dome-equi	645	363	8	97	60	7	ND	5	ND	22	82	18	175	7.9	15.5	3.5	0.78	23.3	10.50
HD01-50	Ton. Glacier Pt.	730	524	15	123	144	20.8	30.8	15.1	14	18	97	19	104	7.1	7.2	3.6	0.62	17.7	7.38
HD01-53	Enclave	315	548	12	112	143	21.6	14.8	12.7	8	7	113	23	103	7.9	5.1	3.0	0.65	7.41	3.74
HD01-55	Kuna Crest	1306	409	23	272	232	27	24	18	26	13	136	22	162	15.9	5.4	8.2	1.47	22.4	7.56
HD01-58	Cathedral Peak	611	655	6	125	52	7.6	2.8	4.34	3	20	90	22	116	6.7	5.5	3.4	0.52	20.7	3.59
HD01-64	Half Dome-porp.	1058	676	7	106	61	8.5	5.7	4.36	4	23	90	20	108	6.2	2.9	3.1	0.55	8.57	2.78
HD01-67	Half Dome-equi	894	486	11	114	82	12.4	12.7	7.61	6	13	86	19	120	7.5	7.2	3.5	0.84	27.4	5.97
HD01-70	Glen Aulin	738	353	10	119	77	11.3	13.8	7.23	8	26	80	17	181	5.6	8.3	3.7	0.48	71.4	22.4
HD01-71	Glen Aulin	854	428	21	164	124	18.5	20.9	15.9	8	14	95	19	154	8.7	9.0	5.0	0.93	29.5	8.71
HD01-72	Glen Aulin	907	523	7	158	106	17	27.1	8.96	8	12	93	20	127	4.5	5.5	4.4	0.34	4.85	4.27
HD01-73	Glen Aulin	579	484	13	156	116	17	21.3	10.6	7	20	97	22	123	8.6	4.9	4.6	0.80	13.4	5.05
HD01-74	Half Dome	918	444	15	103	79	11	7.4	7.77	4	22	81	18	149	9.9	6.6	3.3	1.19	21.9	13.6
HD01-75	Half Dome-equi	1228	530	7	102	68	11	5	5.71	6	25	81	19	130	5.6	4.2	3.1	0.53	14.5	4.54
HD01-77	Half Dome-porp.	697	629	7	132	54	5.8	9.9	3.85	2	13	70	21	103	7.8	2.8	3.9	0.68	17.4	4.75

Table 7. ***Trace-Element Concentrations for Samples from the Tuolumne Intrusive Suite***

SAMPLE	Unit	Ba	Sr	Y	Zr	V	Co	Cr	Sc	Ni	Pb	Zn	Ga	Rb	Nb	Cs	Hf	Ta	Th	U
		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
HD01-78	Aplite	95	57	2	74	12	1.9	4.5	1.11	2	35	34	18	201	7.1	3.6	3.9	0.80	28.3	12.0
HD01-80	Half Dome-porp.	1127	618	6	113	51	5.9	3.1	3.9	3	25	70	20	126	6.9	2.9	3.5	0.56	18.5	5.07
HD01-81	Cathedral Peak	422	667	6	119	48	5.8	2.3	3.28	4	17	71	21	79	6.2	3.3	3.6	0.52	5.50	3.88
HD01-82	Cathedral Peak	949	695	6	112	52	7.2	1.7	3.64	ND	13	71	22	145	6.8	4.9	3.4	0.55	8.24	4.84
HD01-83	Johnson Granite	820	167	6	107	9	1.5	2.3	2.18	ND	25	43	19	250	6.1	9.4	3.6	0.56	21.6	4.88
HD01-84	Half Dome-porp.	964	345	28	154	60	8.3	4.3	8.28	4	31	76	19	121	12.1	7.0	4.6	1.25	12.8	3.65
HD02-92	Kuna Crest	714	491	16	125	129	17.6	19.3	12.7	12	23	78	20	131	7.5	6.8	3.7	0.87	18.8	7.23
HD02-93	Cathedral Peak	972	605	6	120	35	4.4	4.4	2.88	2	18	88	22	164	7.9	7.5	3.5	0.64	17.0	3.64
HD02-94	Cathedral Peak	471	541	9	131	57	6.1	2.8	4.15	2	13	74	20	128	8.4	9.5	3.8	0.71	16.5	5.84
HD02-96	Johnson Granite	751	146	12	103	-5	1.1	4.1	2.59	ND	33	45	19	197	12.0	5.7	3.9	1.86	19.3	11.3
HD02-97	Half Dome-equi	840	647	11	128	79	9	0.7	6.18	8	25	97	21	132	10.4	15.7	3.5	0.94	13.8	5.69
HD02-102	Half Dome-porp.	883	630	8	113	53	5	ND	4	ND	14	55	18	111	7.7	6.7	3.3	0.57	17	3.87
HD02-105	Glen Aulin	1178	623	9	139	122	16.6	14.2	10.4	8	16	83	20	100	4.9	4.7	3.9	0.24	11.3	3.35
HD02-106	Half Dome-equi	1356	745	12	140	108	15.1	7.3	9.2	9	16	92	21	74	6.2	4.6	3.9	0.41	6.46	3.20
HD02-107	Enclave	225	570	16	170	114	12.2	5.3	19.8	7	23	139	27	123	15.9	5.6	5.3	1.29	13.9	24.7
HD02-109	Half Dome-porp.	842	545	6	88	45	6.7	3.3	3.41	3	27	81	19	150	6.8	7.0	2.7	0.51	15.9	4.30
HD02-110	Cathedral Peak	531	620	7	132	49	5.6	7.4	3.96	7	12	76	21	106	7.8	5.2	4.1	0.61	18.4	7.63
HD02-111	Half Dome-porp.	1017	598	7	113	49	6.8	4.8	4.01	4	25	76	20	140	6.0	4.5	3.3	0.47	13.0	5.31
HD02-112	Half Dome-equi	1133	679	9	103	74	11	3.8	5.66	4	19	81	20	95	7.0	2.1	3.0	0.67	16.9	4.91
HD02-113	Half Dome-equi	984	572	11	91	72	11	5.2	7.74	6	11	73	17	95	6.2	4.6	2.8	0.69	16.8	6.52
HD02-114	Half Dome-equi	790	583	17	174	140	18.8	15.4	12.1	7	8	99	23	108	8.9	9.7	5.2	0.92	12.5	10.7
HD02-115	Half Dome-equi	959	701	12	137	110	14.8	7.2	8.94	6	13	89	22	92	7.6	3.5	4.0	0.82	23.4	6.23
HD02-116	Cathedral Peak	492	673	5	129	52	7.2	2.5	3.81	3	15	77	23	102	7.3	5.7	3.8	0.55	32.5	8.61
HD02-117	Cathedral Peak	867	510	5	124	23	2.6	3.3	2.79	1	16	60	21	139	7.0	4.2	3.7	0.55	10.8	2.93
HD02-118	Cathedral Peak	625	497	5	108	24	3.2	5.2	2.6	2	23	66	22	149	7.4	6.3	3.5	0.66	14.7	3.51
HD02-119	Ton. Glacier Pt.	715	538	18	120	159	21.1	19.7	16.2	14	12	93	21	104	7.7	7.0	3.6	0.82	14.3	6.07
HD02-120	Half Dome-equi	1044	653	8	142	78	11.8	6.2	5.82	5	25	78	21	113	7.6	4.4	3.9	0.71	16.3	5.32

ND = not detected

Table 8. ***Rb and Sr Isotopic Data***

Sample	Unit	Measured $^{87}Sr/^{86}Sr$	Rb ppm	Sr ppm	Age Ma	Calculated $^{87}Rb/^{86}Sr$	Uncertainty (±)	Initial $^{87}Sr/^{86}Sr$	Uncertainty (±)
Y01-5	Half Dome-equi	0.706971	126	538	93	0.678	0.016	0.706076	0.000022
HD01-2	Half Dome-equi	0.707428	147	428	91	0.994	0.020	0.706143	0.000026
HD01-6	Half Dome-equi	0.707063	118	494	91	0.691	0.017	0.706169	0.000023
HD01-10	Half Dome-equi	0.707403	158	565	91	0.809	0.015	0.706357	0.000020
HD01-21	Enclave	0.707023	104	502	91	0.599	0.017	0.706248	0.000023
HD01-30	Half Dome-equi	0.706828	104	629	91	0.478	0.013	0.706209	0.000019
HD01-35	Kuna Crest	0.706771	137	489	94	0.811	0.017	0.705689	0.000024
HD01-39	Half Dome-equi	0.707072	116	513	91	0.654	0.016	0.706226	0.000022
HD01-40	Half Dome-equi	0.706999	121	523	91	0.669	0.016	0.706134	0.000022
HD01-43	Half Dome-equi	0.708039	168	329	91	1.477	0.026	0.706129	0.000035
HD01-48	Ton. Glacier Pt.	0.706603	110	500	94	0.636	0.017	0.705753	0.000023
HD01-55	Kuna Crest	0.707443	162	415	94	1.129	0.020	0.705934	0.000028
HD01-64	Half Dome-porp.	0.707000	108	676	91	0.462	0.012	0.706402	0.000018
HD01-71	Glen Aulin	0.707229	154	428	94	1.041	0.020	0.705838	0.000027
HD01-77A	Half Dome-porp.	0.707062	103	629	91	0.474	0.013	0.706449	0.000019
HD01-80	Half Dome-porp.	0.707164	126	618	91	0.590	0.014	0.706402	0.000019
HD01-83	Johnson Granite	0.711652	250	167	91	4.333	0.123	0.706419	0.000159
HD01-84	Half Dome-equi	0.708187	121	345	91	1.015	0.024	0.706875	0.000032
HD02-94	Cathedral Peak	0.707198	128	541	85	0.685	0.016	0.706342	0.000020
HD02-97	Half Dome-equi	0.706997	132	647	91	0.590	0.013	0.706234	0.000018
HD02-107	Enclave	0.707331	123	570	88	0.624	0.015	0.706551	0.000020
HD02-109	Half Dome-porp.	0.707445	150	545	91	0.796	0.015	0.706416	0.000021
HD02-110	Cathderal Peak	0.707015	106	620	88	0.495	0.014	0.706396	0.000018
HD02-111	Half Dome-porp.	0.707326	140	598	91	0.677	0.014	0.706450	0.000019
HD02-112	Half Dome-equi	0.706768	95	679	91	0.405	0.012	0.706245	0.000017
HD02-119	Ton. Glacier Pt.	0.706498	104	538	94	0.559	0.016	0.705751	0.000022

Uncertainty in measure ratios = ±.0010%, normalized to naturally occurring $^{86}Sr/^{88}Sr = 0.1194$.
Factionation corrected to NBS 987 ($^{87}Sr/^{86}Sr = 0.71025$)
Decay constant; $^{87}Rb = 1.42 \times 10^{-11}$/yr (Faure, 1986)

Table 9. ***Sm and Nd Isotopic Data***

Sample	Unit	Measured $^{143}Nd/^{144}Nd$	Sm ppm	Nd ppm	Age Ma	Calculated $^{147}Sm/^{144}Nd$	Uncertainty (±)	Initial $^{143}Nd/^{144}Nd$	Uncertainty (±)	ε(Nd)
HD01-6	Half Dome	0.512374	2.17	12.4	91	0.106	0.029	0.512311	0.000005	-4.10
HD01-10	Half Dome	0.512272	2.93	17.9	91	0.099	0.020	0.512213	0.000005	-6.02
HD01-21	Enclave	0.512234	5.98	34	91	0.106	0.011	0.512170	0.000005	-6.84
HD01-30	Half Dome	0.512317	2.98	18.8	91	0.096	0.019	0.512260	0.000005	-5.09
HD01-35	Kuna Crest	0.512442	4.72	23.7	94	0.120	0.015	0.512367	0.000005	-2.92
HD01-39	Half Dome	0.512337	2.98	18.3	91	0.098	0.020	0.512279	0.000005	-4.72
HD01-40	Half Dome	0.512360	3.54	20	91	0.107	0.018	0.512296	0.000005	-4.38
HD01-43	Half Dome	0.512387	2.22	13.7	91	0.098	0.027	0.512328	0.000005	-3.76
HD01-48	Ton. Glacier Pt.	0.512423	5.82	28.7	94	0.123	0.013	0.512348	0.000005	-3.30
HD01-55	Kuna Crest	0.512409	7.67	45.2	94	0.103	0.008	0.512345	0.000005	-3.35
HD01-71	Glen Aulin	0.512423	5.64	28.4	94	0.120	0.013	0.512349	0.000005	-3.28
HD01-77A	Half Dome-porp.	0.512211	3.56	23	91	0.094	0.016	0.512156	0.000005	-7.13
HD01-80	Half Dome-porp.	0.512292	2.97	19.7	91	0.091	0.019	0.512237	0.000005	-5.53
HD01-84	Half Dome-porp.	0.512346	7.08	39.1	91	0.109	0.009	0.512281	0.000005	-4.69
HD02-94	Cathedral Peak	0.512261	3.58	23.4	88	0.092	0.016	0.512207	0.000005	-6.19
HD02-97	Half Dome	0.512335	3.66	22.2	91	0.100	0.016	0.512275	0.000005	-4.79
HD02-107	Felsic Enclave	0.512246	6.51	44	88	0.089	0.008	0.512195	0.000005	-6.44
HD02-109	Half Dome-porp.	0.512298	2.33	15.1	91	0.093	0.024	0.512243	0.000005	-5.42
HD02-110	Cathedral Peak	0.512278	2.93	19.3	88	0.092	0.019	0.512225	0.000005	-5.85
HD02-111	Half Dome-porp.	0.512326	2.33	14.6	91	0.096	0.025	0.512269	0.000005	-4.92
HD02-112	Half Dome	0.512309	3.34	19.5	91	0.104	0.019	0.512247	0.000005	-5.35
HD02-119	Ton. Glacier Pt.	0.512410	4.31	20	94	0.130	0.018	0.512330	0.000005	-3.65

Uncertainty in measure ratios = ± 0.0010%, normalized to naturally occurring $^{146}Nd/^{144}Md = 0.7219$.
Fractionation corrected to UNC Ames standard ($^{143}Nd/^{144}Nd = 0.5214$)
Decay constant; $^{147}Sm = 6.54 \times 10^{-12}$/yr (Faure, 1986)

Table 10. ***U and Pb Isotopic Data***

Sample	Unit	Measured										Initial		
		$\frac{^{206}Pb}{^{204}Pb}$	$\frac{^{207}Pb}{^{204}Pb}$	$\frac{^{208}Pb}{^{204}Pb}$	U ppm	Pb ppm	Th ppm	Age Ma	$\frac{^{238}U}{^{204}Pb}$	$\frac{^{235}U}{^{204}Pb}$	$\frac{^{232}Th}{^{204}Pb}$	$\frac{^{206}Pb}{^{204}Pb}$	$\frac{^{207}Pb}{^{204}Pb}$	$\frac{^{208}Pb}{^{204}Pb}$
Y01-5	Half Dome-equi	19.294	15.663	38.636	5.86	86	15.5	93	4.392	0.032	12.005	19.230	15.660	38.581
HD01-2	Half Dome-equi	19.515	15.717	38.881	9.76	51	30	91	12.421	0.090	39.453	19.338	15.708	38.703
HD01-6	Half Dome-equi	19.581	15.707	38.819	8.77	29	21.8	91	19.627	0.142	50.414	19.302	15.694	38.591
HD01-10	Half Dome-equi	19.642	15.791	38.669	9.75	26	20.1	91	24.337	0.177	51.842	19.296	15.775	38.435
HD01-21	Enclave	19.314	15.669	38.611	8.37	42	16.9	91	12.846	0.093	26.802	19.132	15.660	38.490
HD01-30	Half Dome	19.245	15.654	38.602	5.07	26	14.8	91	12.554	0.091	37.868	19.067	15.646	38.431
HD01-35	Kuna Crest	19.594	15.766	39.001	7.28	14	16.1	94	33.863	0.246	77.385	19.097	15.742	38.640
HD01-39	Half Dome-equi	19.403	15.660	38.803	9.59	31	33.3	91	20.014	0.145	71.810	19.119	15.646	38.479
HD01-40	Half Dome-equi	19.295	15.684	38.822	7.02	22	24.8	91	20.626	0.150	75.294	19.002	15.670	38.483
HD01-43	Half Dome-equi	19.696	15.717	38.798	18.8	24	26.4	91	50.910	0.369	73.873	18.973	15.682	38.465
HD01-48	Ton. Glacier Pt.	19.298	15.708	38.878	3.14	11	13.3	94	18.472	0.134	80.849	19.027	15.695	38.501
HD01-55	Kuna Crest	19.480	15.699	38.962	7.56	13	22.4	94	37.761	0.274	115.612	18.926	15.672	38.423
HD01-64	Half Dome-porp.	19.119	15.654	38.526	2.78	23	8.57	91	7.761	0.056	24.721	19.009	15.649	38.414
HD01-71	Glen Aulin	19.577	15.484	38.980	8.71	14	29.5	94	40.344	0.293	141.193	18.985	15.456	38.322
HD01-77	Half Dome-porp.	19.253	15.673	38.635	4.75	13	17.4	91	23.542	0.171	89.112	18.918	15.657	38.233
HD01-80	Half Dome-porp.	19.075	15.642	38.536	5.07	25	18.5	91	13.013	0.094	49.064	18.890	15.633	38.314
HD01-83	Johnson Granite	19.061	15.671	38.556	4.88	25	21.6	85	12.531	0.091	57.313	18.895	15.663	38.314
HD01-84	Half Dome-porp.	19.453	15.746	38.891	4.88	31	21.6	91	10.215	0.074	46.719	19.307	15.739	38.681
HD02-94	Cathedral Peak	19.222	15.659	38.611	5.84	13	16.5	88	28.918	0.210	84.425	18.825	15.640	38.243
HD02-97	Half Dome-equi	19.253	15.652	38.556	5.69	25	13.8	91	14.645	0.106	36.702	19.044	15.642	38.391
HD02-107	Enclave	19.785	15.883	39.047	24.7	23	13.9	88	70.263	0.510	40.858	18.819	15.836	38.869
HD02-109	Half Dome-porp.	19.200	15.662	38.577	4.3	27	15.9	91	10.245	0.074	39.143	19.054	15.655	38.400
HD02-110	Cathedral Peak	19.436	15.659	38.624	7.63	12	18.4	88	41.054	0.298	102.301	18.872	15.632	38.178
HD02-111	Half Dome-porp.	19.200	15.651	38.507	5.31	25	13	91	13.648	0.099	34.526	19.006	15.642	38.351
HD02-112	Half Dome-equi	19.258	15.733	38.827	4.91	19	16.9	91	16.708	0.121	59.424	19.020	15.721	38.559
HD02-119	Ton. Glacier Pt.	19.409	15.585	38.708	6.07	12	14.3	94	32.653	0.237	79.489	18.930	15.562	38.338

Uncertainty: $^{206}Pb/^{204}Pb$ =0. 12%; $^{207}Pb/^{204}Pb$ = 0.18%; $^{208}Pb/^{204}Pb$ = 0.24%

Decay constants; $^{238}U = 1.55125 \times 10^{-10}$ /yr, $^{235}U = 9.84585 \times 10^{-10}$ /yr, $^{232}Th = 4.9475 \times 10^{-11}$/yr (Steiger and Jäger, 1977)

APPENDIX 1. SAMPLE DESCRIPTIONS AND LOCATIONS

Sample No.	Unit	Date	E UTM	N UTM	Elev. (m)	Location
HD01-1	Half Dome-equi	17-Jul-01	275030	4180100	1220	Valley-Tenaya Canyon
HD01-2	Half Dome-equi	17-Jul-01	275819	4180869	1386	Valley-Tenaya Canyon
HD01-3	Enclave	17-Jul-01	275819	4180869	1386	Valley-Tenaya Canyon
HD01-4	Half Dome-equi	17-Jul-01	276697	4181770	1321	Valley-Tenaya Canyon
HD01-5	Half Dome-equi	18-Jul-01	276830	4182130	1341	Valley-Tenaya Canyon
HD01-6	Half Dome-equi	18-Jul-01	276300	4182150	1372	Valley-Tenaya Canyon
HD01-7	Half Dome-equi	18-Jul-01	275461	4181661	1342	Valley-Tenaya Canyon
HD01-8	Half Dome-equi	18-Jul-01	275300	4181130	1341	Valley-Tenaya Canyon
HD01-9	Half Dome-equi	20-Jul-01	283733	4179336	2219	East of Bunnell Point
HD01-10	Half Dome-equi	20-Jul-01	282730	4180200	2007	Bunnell Cascade
HD01-11	Half Dome-equi	20-Jul-01	281691	4179400	2034	Lost Valley-West End
HD01-12	Half Dome-equi	20-Jul-01	279965	4178870	2009	Little Yosemite Valley
HD01-13	Half Dome-equi	20-Jul-01	277573	4178673	2082	Little Yosemite Valley
HD01-14	Kuna Crest	23-Jul-01	302197	4193672	2108	East of Mammoth Peak
HD01-15	Schileren	24-Jul-01	282749	4190115	2532	Tenaya Lake
HD01-16	Enclave	24-Jul-01	282749	4190115	2532	Tenaya Lake
HD01-17	Felsic Dike	24-Jul-01	282749	4190115	2532	Tenaya Lake
HD01-18	Half Dome-equi	24-Jul-01	282749	4190115	2532	Tenaya Lake
HD01-19	Half Dome-equi	24-Jul-01	282680	4189850	2536	Tenaya Lake
HD01-20	Composite Dike	25-Jul-01	282550	4186920	2344	Upper Tenaya Canyon
HD01-21	Enclave	25-Jul-01	282550	4186920	2344	Upper Tenaya Canyon
HD01-22	Schileren	25-Jul-01	282680	4187210	2512	Upper Tenaya Canyon
HD01-23	Half Dome-equi	25-Jul-01	282750	4187590	2518	Upper Tenaya Canyon
HD01-24	Half Dome-porp.	26-Jul-01	297545	4192877	2691	Lyell Canyon
HD01-25	Glen Aulin	27-Jul-01	281001	4191226	2854	May Lake
HD01-26	Half Dome-equi.	27-Jul-01	281259	4191442	2800	May Lake
HD01-27	Aplite	28-Jul-01	275059	4184612	2524	Indian Rock
HD01-28	Aplite	28-Jul-01	275059	4184612	2524	Indian Rock
HD01-29	Half Dome-equi	28-Jul-01	274558	4181716	2296	North Dome
HD01-30	Half Dome-equi	29-Jul-01	282663	4188636	2495	South end Tenaya Lake
HD01-31	Half Dome-equi	29-Jul-01	283659	4186112	2778	Sunrise trail
HD01-32	Half Dome-equi	29-Jul-01	280925	4182973	2999	Clouds Rest
HD01-33	Half Dome-equi	29-Jul-01	281877	4183729	2878	North of Clouds Rest
HD01-34	Half Dome-porp.	29-Jul-01	284236	4186576	2819	Sunrise Lakes
HD01-35	Kuna Crest	30-Jul-01	300844	4197758	3267	Gaylor Lakes
HD01-36	Pseudotachylyte	30-Jul-01	300638	4197214	3273	Gaylor Lakes
HD01-37	Half Dome	30-Jul-01	300600	4197214	3273	Gaylor Lakes
HD01-38	Johnson Granite	30-Jul-01	292876	4194755	2771	Lembert Dome
HD01-39	Half Dome-equi	30-Jul-01	281200	4187618	2572	Olmsted Point
HD01-40	Half Dome-equi	31-Jul-01	278400	4179230	1890	Little Yosemite Valley
HD01-41	Half Dome-equi	1-Aug-01	277332	4180443	2499	Trail to Half Dome
HD01-42	Aplite	1-Aug-01	277232	4180599	2554	Trail to Half Dome
HD01-43	Half Dome-equi	1-Aug-01	276872	4180443	2700	Top of Half Dome
HD01-44	Enclave	1-Aug-01	276711	4180184	2668	South Top of Half Dome

Sample No.	Unit	Date	E UTM	N UTM	Elev. (m)	Location
HD01-45	Half Dome-equi	1-Aug-01	274215	4177865	1792	Nevada Falls Trail
HD01-46	Half Dome-equi	1-Aug-01	275770	4178250	1671	Nevada Falls Trail
HD01-47	Half Dome-equi	1-Aug-01	275165	4178345	1478	Nevada Falls Trail
HD01-48	Ton. Glacier Pt.	2-Aug-01	273450	4180830	1360	Ahwahnee Hotel
HD01-49	Half Dome-equi	2-Aug-01	273500	4180690	1281	Ahwahnee Hotel
HD01-50	Ton. Glacier Pt.	2-Aug-01	273110	4179450	1341	Behind Curry Village
HD01-51	Half Dome-equi	2-Aug-01	273350	4179260	1341	Behind Curry Village
HD01-52	Half Dome-equi	6-Aug-01	299974	4193240	3129	Mammoth Peak
HD01-53	Enclave	6-Aug-01	299974	4193240	3129	Mammoth Peak
HD01-54	Kuna Crest	6-Aug-01	300543	4192779	3320	Mammoth Peak
HD01-55	Kuna Crest	6-Aug-01	300543	4192779	3320	Mammoth Peak
HD01-56	Half Dome-equi	6-Aug-01	300446	4192749	3348	Mammoth Peak
HD01-57	Half Dome-equi	6-Aug-01	300446	4192749	3348	Mammoth Peak
HD01-58	Cathedral Peak	6-Aug-01	297377	4192937	2705	Lyell Canyon
HD01-59	Half Dome-equi	7-Aug-01	298940	4189616	2798	Lyell Canyon
HD01-60	Enclave	7-Aug-01	298940	4189616	2798	Lyell Canyon
HD01-61	Half Dome-equi	7-Aug-01	298889	4190626	2708	Lyell Canyon
HD01-62	Aplite	7-Aug-01	298802	4190954	2702	Lyell Canyon
HD01-63	Half Dome-equi	7-Aug-01	298462	4191445	2696	Lyell Canyon
HD01-64	Half Dome-porp.	7-Aug-01	298071	4191991	2687	Lyell Canyon
HD01-65	Enclave	8-Aug-01	301620	4197245	3268	Gaylor Lakes
HD01-66	Pseudotachylyte	8-Aug-01	299708	4198508	3147	Gaylor Lakes
HD01-67	Half Dome	8-Aug-01	299708	4198508	3147	Granite Lakes
HD01-68	Kuna Crest	8-Aug-01	299778	4198574	3169	Granite Lakes
HD01-69	Kuna Crest	9-Aug-01	300254	4187160	2742	Lyell Canyon
HD01-70	Glen Aulin	10-Aug-01	281044	4191557	2843	May Lake Traverse
HD01-71	Glen Aulin	10-Aug-01	281105	4191545	2831	May Lake Traverse
HD01-72	Glen Aulin	10-Aug-01	281183	4191525	2817	May Lake Traverse
HD01-73	Glen Aulin	10-Aug-01	281365	4191470	2736	May Lake Traverse
HD01-74	Half Dome-equi	10-Aug-01	281432	4191403	2715	May Lake Traverse
HD01-75	Half Dome-equi	10-Aug-01	281509	4191342	2692	May Lake Traverse
HD01-76	Half Dome-equi	10-Aug-01	281588	4191280	2700	May Lake Traverse
HD01-77	Half Dome-porp.	11-Aug-01	284575	4190799	2490	Pywiack Dome
HD01-78	Aplite	12-Aug-01	281223	4190674	2724	May Lake
HD01-79	Half Dome-equi	12-Aug-01	281403	4190626	2729	May Lake
HD01-80	Half Dome-porp.	12-Aug-01	284326	4190557	2480	Pywiack Dome
HD01-81	Cathedral Peak	12-Aug-01	284928	4191535	2536	Pywiack Dome
HD01-82	Cathedral Peak	12-Aug-01	284969	4191582	2558	Pywiack Dome
HD01-83	Johnson Granite	13-Aug-01	291200	4191050	2989	Elizabeth Lake
HD01-84	Half Dome-porp.	20-Jul-01	288189	4179781	2251	Merced lake
HD01-85	Half Dome-equi	19-Oct-01	274510	4181543	2263	North Dome - oriented
HD01-86	Half Dome-equi	19-Oct-02	274717	4182310	2298	North Dome - oriented
HD01-87	Half Dome-equi	19-Oct-02	274693	4182808	2444	North Dome - oriented
HD02-88	Cathedral Peak	23-Jun-02	287429	4224674	2409	Twin Lakes - cirque
HD02-89	Cathedral Peak	24-Jun-02	290767	4190767	3024	Unicorn Peak
HD02-90	Half Dome-equi	25-Jun-02	279091	4187553	2610	Quarry near May Lake

Sample No.	Unit	Date	E UTM	N UTM	Elev. (m)	Location
HD02-91	Half Dome-equi	26-Jun-02	298615	4198968	3280	Granite Lakes
HD02-92	Kuna Crest	27-Jun-02	275105	4187167	2439	Porcupine Flat
HD02-93	Cathedral Peak	28-Jun-02	293566	4189829	3231	East of Johnson Peak
HD02-94	Cathedral Peak	30-Jun-02	286459	4185706	2857	Sunrise HSC
HD02-95	Mafic Dike	1-Jul-02	282546	4186745	2503	Upper Tenaya Canyon
HD02-96	Johnson Granite	28-Jun-02	293236	4189469	3247	Johnson Peak
HD02-97	Half Dome-equi	4-Jul-02	298300	4205074	3381	Near Conness Lakes
HD02-98	Kuna Crest	5-Jul-02	300746	4197672	3262	Gaylor Lakes
HD02-99	Kuna Crest	5-Jul-02	300757	4197220	3303	Gaylor Lakes
HD02-100	Half Dome-equi	6-Jul-02	298568	4202567	3266	Finger Lake
HD02-101	Enclave	7-Jul-02	299063	4199472	3390	Above Granite Lakes
HD02-102	Half Dome-porp.	7-Jul-02	298126	4199461	3308	Above Granite Lakes
HD02-103	Indep.Dike?	8-Jul-02	298243	4206097	3151	Near Conness Lake
HD02-104	Cathedral Peak	8-Jul-02	298685	4207074	3145	Cascade Lake
HD02-105	Glen Aulin	9-Jul-02	287488	4198060	2459	Tuolumne Falls
HD02-106	Half Dome	9-Jul-02	287510	4197827	2479	Tuolumne Falls
HD02-107	Enclave	10-Jul-02	287679	4195150	2599	near Baby Half Dome
HD02-108	Kuna Crest	15-Jul-02	300770	4193491	3064	Mammoth Peak
HD02-109	Half Dome-porp	17-Jul-02	292302	4175478	2375	East of Washburn Lake
HD02-110	Cathedral Peak	18-Jul-02	289645	4180769	2543	NE. of Merced Lake
HD02-111	Half Dome-porp.	18-Jul-02	289783	4180011	2481	NE. of Merced Lake
HD02-112	Half Dome-equi	22-Jul-02	279263	4214305	2785	North of Seavey Pass
HD02-113	Half Dome-equi	22-Jul-02	278659	4213583	2776	Seavey Pass
HD02-114	Half Dome-equi	22-Jul-02	278145	4212630	2649	South of Seavey Pass
HD02-115	Half Dome-equi	22-Jul-02	278605	4213285	2756	South of Seavey Pass
HD02-116	Cathedral Peak	22-Jul-02	279648	4215426	2748	Near Arndt lake
HD02-117	Cathedral Peak	23-Jul-02	283941	4222117	2911	Peeler Lake
HD01-118	Cathedral Peak	19-Jul-02	292909	4194888	2618	Lembert Dome
HD01-119	Ton. Glacier Pt.	20-Oct-01	273585	4177815	2195	Glacier Point
HD01-120	Half Dome-equi	7-Jul-02	298685	4199146	3310	Granite Lakes
YO1-5	Half Dome-equi		300748	4193450	3070	Mammoth Peak

Location coordinates in Universal Transverse Mercator projection, zone 11, North American datum of 1927.