

**Archive Data****Low U Mineral U/Pb Data:**

Fraction	Wt. (mg)	U (ppm)	Pb (ppm)	Corrected Ratios‡		
				$\frac{^{206}\text{Pb}}{^{204}\text{Pb}}$	$\frac{^{207}\text{Pb}}{^{204}\text{Pb}}$	$\frac{^{208}\text{Pb}}{^{204}\text{Pb}}$
<b>Low U Minerals</b>						
Apatite 1	.39	14.98	10.98	23.31(2)	15.72(2)	36.43(5)
Apatite 2	.17	25.62	20.03	22.93(6)	15.69(4)	36.42(10)
Feldspar 1	.70	0.60	11.94	17.63(1)	15.44(2)	36.45(6)
Feldspar 2	1.33	0.19	45.44	17.60(1)	15.40(1)	36.37(4)
Feldspar 3	1.06	0.08	40.55	17.60(1)	15.41(1)	36.38(4)

U/Pb data for low U mineral fractions from the biotite-amphibolite. Errors listed in parenthesis are  $2\sigma$  magnitude errors corresponding to variability in the last reported decimal place.

‡=Corrected for mass fractionation (.08±.03/a.m.u.), blank Pb (15 pg), and spike Pb contributions.

**Electron Microprobe Data:**

	Plate A Core	Plate A Overgrowth	Plate A Overgrowth	Lentil A1 Core	Lentil A1 Overgrowth	Lentil A2 Core	Lentil A2 Overgrowth
<b>SiO<sub>2</sub></b>	30.239±.095	29.955±.191	30.21±.279	30.426±.075	30.263±.078	30.338±.035	30.094±.150
<b>Al<sub>2</sub>O<sub>3</sub></b>	1.268±.022	1.243±.022	1.387±.014	1.187±.047	1.301±.127	1.105±.020	1.292±.102
<b>TiO<sub>2</sub></b>	37.687±.164	37.055±.338	36.728±.096	37.754±.165	36.610±.168	37.571±.137	36.747±.168
<b>CaO</b>	29.249±.272	28.758±.049	29.007±.108	29.300±.129	28.297±.210	29.048±.173	28.166±.123
<b>Nb<sub>2</sub>O<sub>5</sub></b>	0.121±.128	0.274±.101	0.187±.022	0.285±.267	0.352±.029	0.335±.255	0.325±.096
<b>FeO</b>	0.495±.037	0.822±.030	0.924±.087	0.462±.048	0.784±.076	0.450±.048	0.717±.047
<b>MnO</b>	0.089±.019	0.060±.024	0.065±.051	0.072±.023	0.076±.019	0.105±.031	0.089±.022
<b>Sum</b>	99.15%	98.17%	98.51%	99.49%	97.68%	98.95%	97.43%

Electron microprobe data for selected areas of titanite grains. All data are reported in units of wt% oxide and uncertainties are reported as  $1\sigma$  absolute errors. Lentil A1 refers to the grain shown in Figure 2A and Lentil A2 is not shown. Plate A refers to the titanite grain shown in figure 2B.