1 Question 2

Expand on the background expected from ^{9}Li. KamLAND has a number but how does it extrapolate with depth (muon energy)?

2 Question 4

As an exercise and to understand the importance of v arious overburdon patterns, please provide a calculation of the background for twice as much overburdon over the far detector as was assumed so far. (This is NOT a suggestion to go deeper!)

Depth (mwe)	Overburdon Type	Muons ($/m^2/s$)	Avg. E_μ (GeV)	Neutrons (/ton/day)	^{9}Li (/ton/day)	Comment
300	flat	0.58	63	394	0.17	
300	mountain	1.27	55	793	0.35	CHOOZ
450	flat	0.21	84	178	0.078	Braidwood
450	mountain	0.56	68	404	0.18	
900	flat	0.029	134	35	0.015	Twice Braidwood
900	mountain	0.090	114	97	0.042	
2700	mountain	0.0021	214	3.6	0.0015	KamLAND calculated
2700	mountain	0.0026			0.003	KamLAND measured

Table 1:

Note to Braidwood Collaboration: Both questions are closely related and will use this table. Text is needed to describe our extrapolation from KamLAND (Q2) (I'll do that), and to explain that at 450 mwe backgrounds are not our limiting systematic (Q4) (Mike and I should be able to provide this text).