

**S3 Table.**

<b>Sample ID</b>	<b>Lab number</b>	<b>Tufa type</b>	<b><sup>238</sup>U ng/g</b>	<b><sup>230</sup>Th/<sup>238</sup>U</b>	<b>2s</b>	<b><sup>234</sup>U/<sup>238</sup>U</b>	<b>2s</b>	<b><sup>232</sup>Th/<sup>238</sup>U</b>	<b>2s</b>	<b><sup>230</sup>Th/<sup>232</sup>Th</b>	<b>U-Th age (ka)</b>	<b>2s</b>	<b>Estimated upper limit (ka)</b>
<b>GHN3.1</b>	UMD160926-405	dome	209	0.238	0.004	2.396	0.007	0.202472	0.005325	1.2	-3.7	16.2	<b>&lt;12.5</b>
<b>GHN3.2</b>	UMD160926-388	dome	149	0.283	0.007	2.263	0.007	0.263966	0.007649	1.1	-7.2	24.0	<b>&lt;16.8</b>
<b>GHS4</b>	UMD160926-418	dome	207	0.242	0.003	1.75	0.007	0.314020	0.006247	0.8	-20.8	46.4	<b>&lt;25.8</b>
<b>17-6.1</b>	UMD180821-621	barrage	196	0.295	0.002	1.949	0.003	0.315837	0.003331	0.9	-14.5	38.1	<b>&lt;23.6</b>
<b>17-6.2</b>	UME190516-254	barrage	219	0.162	0.001	2.009	0.004	0.098911	0.001978	1.6	0.7	8.8	<b>&lt;9.5</b>
<b>18-4</b>	UME190515-538	cascade	28	0.199	0.006	1.752	0.01	0.170880	0.003418	1.2	-4.6	19.1	<b>&lt;14.5</b>
<b>18-6</b>	UME190516-328	barrage	68	0.601	0.004	1.739	0.004	0.835852	0.016717	0.7	-	-	<i>infinity</i>
<b>18-10.1</b>	UME190515-617	dome	86	0.484	0.003	2.393	0.007	0.627906	0.012558	0.8	-	-	<i>infinity</i>
<b>18-12.1</b>	UME190516-286	cascade	379	7.29	0.017	2.296	0.005	1.371873	0.027437	5.3	-1532.0	11145.3	<i>no age</i>
<b>18-12.2</b>	UME190516-295	cascade	414	0.223	0.002	2.49	0.005	0.075426	0.001509	3	5.1	5.1	<b>&lt;10.2</b>