

1 **Table S2.** Microbial community diversity indices, DNA extract concentrations, and soil organic  
 2 carbon content for 40 samples included in the microbial analysis.

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Transect	Soil Pit ID	Shannon	Simpson	DNA extract concentration (ng ul <sup>-1</sup> )	SOC (mg C g dry soil <sup>-1</sup> )
Baquedano	BAQ2838.1	8.742	0.994	0.467	0.353
	BAQ2838.2	8.747	0.994	0.309	0.26
	BAQ2838.3	7.938	0.989	0.145	0.369
	BAQ2420.1.2	8.693	0.992	0.108	0.166
	BAQ2420.2	7.764	0.986	0.089	0.337
	BAQ2420.3	7.711	0.989	0.083	0.574
	BAQ2462.1	7.653	0.981	1.166	0.173
	BAQ2462.2	7.029	0.978	0.049	0.331
	BAQ2462.3	7.566	0.988	0.066	0.634
	BAQ2687.1	9.304	0.995	1.223	0.554
	BAQ2687.2	6.800	0.977	0.251	0.35
	BAQ2687.3	8.482	0.993	1.176	0.4
	BAQ3473.1	9.540	0.993	16.374	3.675
	BAQ3473.2	9.694	0.996	5.17	0.838
	BAQ3473.3	8.666	0.991	0.91	16.449*
	BAQ4166.1.2	9.302	0.995	16.086	2.085
	BAQ4166.2	9.453	0.996	2.958	3.692
	BAQ4166.3	9.420	0.995	28.92	2.271
	Yungay	YUN1242.1	4.563	0.905	0.228
YUN1242.3		5.491	0.948	0.05	0.452
YUN2029.2		6.035	0.957	0.232	0.241
YUN1005.3		4.828	0.918	0.028	0.223
YUN1609.1		4.340	0.788	0.031	0.361
YUN3153.2		6.671	0.970	0.493	0.185
YUN3153.3		6.189	0.962	0.22	0.391
YUN3346.1		7.023	0.970	0.314	0.429
YUN3346.2		7.711	0.984	0.318	0.666
YUN3346.3		7.573	0.967	1.218	0.387
YUN3259.1.2		8.023	0.987	1.543	0.419
YUN3259.2		9.629	0.997	1.935	0.342
YUN3259.3		8.620	0.984	3.53	0.539
YUN3428.1		9.096	0.993	1.764	0.623
YUN3428.2		9.155	0.994	1.988	0.621
YUN3428.3		9.311	0.995	2.782	0.658
YUN3533.1.2		9.639	0.996	3.21	0.521
YUN3533.2		6.921	0.893	9.236	0.773
YUN3533.3		9.288	0.994	3.642	0.664
YUN3856.1.2		7.823	0.959	6.23	0.713
YUN3856.2		8.993	0.994	4.178	0.404
YUN3856.3	9.073	0.995	6.695	0.988	

4 SOC: Soil organic carbon

5 \* Nomadic grazing in this region contributed elevated allochthonous SOC levels at this site from animal feces.