Table S1. Rock magnetic and paleomagnetic properties of samples from the Horseshoe section

Depth (cm)	k	NRM (A/m)	ARM (A/m)	Incl ChRM (°)	Decl ChRM (°)	MAD (°)	RPI (norm-max)	ΔGRM/ΔNRM
0	1.60E-06	5.57E-04	2.00E-03	59.7	-2.6	4.3	7.52E-01	3.65E-03
2	2.70E-06	7.01E-04	2.43E-03	61.0	-2.9	2.8	8.09E-01	0.00E+00
4	3.70E-06	6.45E-04	2.45E-03	62.8	-4.7	1.6	7.42E-01	0.00E+00
6	5.20E-06	8.66E-04	3.16E-03	65.0	-3.9	2.9	7.74E-01	4.10E-03
8	3.00E-06	6.60E-04	2.54E-03	65.8	-11.5	5.7	6.87E-01	0.00E+00
10	2.40E-06	5.59E-04	2.17E-03	63.9	-11.5	2.3	6.92E-01	1.09E-02
13	4.00E-06	6.08E-04	2.47E-03	56.8	-4.2	4.6	6.42E-01	0.00E+00
13.1	3.20E-06	5.61E-04	2.27E-03	64.2	-6.6	4.2	6.04E-01	3.43E-02
15	5.30E-06	7.85E-04	3.26E-03				6.04E-01	3.43E-02
15.1	5.00E-06	7.64E-04	2.95E-03	63.3	-3.5	2.0	6.86E-01	0.00E+00
17	5.20E-06	9.22E-04	3.19E-03	65.7	-22.4	2.7	7.81E-01	2.02E-02
18	6.70E-06	1.09E-03	3.68E-03	61.2	-32.7	1.7	8.08E-01	0.00E+00
20	4.10E-06	7.91E-04	2.84E-03	60.9	-30.4	2.4	7.54E-01	6.58E-03
22	4.80E-06	7.21E-04	2.56E-03	59.8	-24.9	3.9	6.99E-01	2.74E-01
24	2.10E-06	6.02E-04	2.08E-03	60.2	-38.1	2.5	8.74E-01	8.38E-03
25	1.40E-06	4.76E-04	1.77E-03	65.0	15.8	5.8	7.45E-01	0.00E+00
26	2.00E-06	4.63E-04	1.71E-03	54.7	-56.8	5.6	7.87E-01	2.59E-02
27	3.00E-06	6.58E-04	2.55E-03	55.0	2.6	6.2	7.84E-01	3.07E-03
29	4.10E-06	8.72E-04	3.03E-03	57.7	-9.6	1.5	8.53E-01	0.00E+00
31	3.80E-06	7.35E-04	2.49E-03	57.7	-7.3	4.7	8.68E-01	0.00E+00
36	3.30E-06	7.29E-04	2.53E-03	62.4	-12.9	2.4	8.67E-01	0.00E+00
38	5.20E-06	9.32E-04	3.08E-03	59.1	-5.2	2.1	9.29E-01	0.00E+00
40	5.30E-06	9.06E-04	3.21E-03	60.6	-12.0	3.0	7.81E-01	0.00E+00
43	5.70E-06	1.04E-03	3.79E-03	62.9	1.0	4.7	7.82E-01	9.37E-03
45	7.50E-06	1.35E-03	4.95E-03	69.7	1.1	2.7	7.05E-01	0.00E+00
47	1.23E-05	1.34E-03	6.36E-03	72.4	-11.6	3.2	4.05E-01	0.00E+00
49	2.12E-05	1.85E-03	8.56E-03	62.3	-31.6	5.9	4.81E-01	0.00E+00
51	3.42E-05	3.31E-03	9.38E-03	65.5	-2.0	1.2	6.75E-01	0.00E+00
53	8.24E-05	3.59E-03	1.28E-02	68.0	0.9	1.6	4.59E-01	0.00E+00
54	7.40E-06	7.40E-04	5.03E-03	63.5	-20.8	3.8	8.49E-02	0.00E+00
55	2.26E-05	1.30E-03	6.04E-03	65.5	-15.0	4.0	6.19E-01	0.00E+00
56	6.00E-06	8.62E-04	3.87E-03	60.3	-14.9	2.8	5.54E-01	0.00E+00
58	2.10E-06	5.78E-04	2.42E-03	67.6	-16.6	5.0	6.16E-01	2.63E-02
60	2.50E-06	5.76E-04	2.52E-03	60.7	-15.4	3.8	6.51E-01	0.00E+00
62	3.10E-06	7.33E-04	3.14E-03	62.4	-13.6	4.5	6.28E-01	0.00E+00
64	2.50E-06	5.90E-04	2.54E-03	61.1	-19.4	3.4	6.10E-01	0.00E+00
66	2.70E-06	5.83E-04	2.46E-03	66.0	-22.9	2.7	6.19E-01	1.04E-03
67	2.20E-06	5.88E-04	2.46E-03	69.6	0.1	5.8	6.85E-01	7.03E-04
68	1.70E-06	4.89E-04	2.09E-03	64.6	-18.3	5.2	6.20E-01	0.00E+00
69	1.60E-06	5.31E-04	2.23E-03	70.9	-15.7	5.1	6.52E-01	7.18E-03
70	1.60E-06	4.66E-04	1.94E-03	63.0	-23.1	3.1	6.91E-01	0.00E+00
71	1.80E-06	5.31E-04	2.24E-03	71.6	-14.7	3.2	6.43E-01	7.05E-03
72	8.00E-07	6.24E-04	2.59E-03	63.0	-21.9	3.4	6.76E-01	0.00E+00
73	2.50E-06	6.85E-04	2.79E-03	66.4	-15.1	4.2	6.74E-01	0.00E+00

75	2.50E-06	6.47E-04	2.64E-03	70.7	-17.7	2.5	6.66E-01	0.00E+00
77	3.80E-06	9.02E-04	3.46E-03	63.8	-9.3	0.6	6.74E-01	0.00E+00
77.1	4.10E-06	9.86E-04	3.87E-03	75.2	-20.4	1.3	6.83E-01	0.00E+00
79	4.30E-06	1.05E-03	3.79E-03	65.7	-9.5	1.8	7.07E-01	0.00E+00
79.1	4.20E-06	9.69E-04	3.68E-03	75.3	-20.9	3.0	7.24E-01	0.00E+00
81	4.10E-06	1.07E-03	4.07E-03	64.1	-3.0	2.0	7.00E-01	0.00E+00
83	5.00E-06	1.14E-03	4.35E-03	64.6	-8.0	3.5	6.85E-01	1.37E-04
85	9.50E-06	1.25E-03	5.44E-03	66.0	-4.2	3.0	4.60E-01	4.69E-03
90	5.60E-06	9.48E-04	3.80E-03	61.6	-15.0	1.9	6.72E-01	7.34E-03
92	2.80E-06	7.04E-04	2.98E-03	59.4	-17.9	2.2	6.05E-01	0.00E+00
94	1.50E-06	6.18E-04	2.59E-03	59.5	-24.7	3.4	6.29E-01	1.13E-02
96	2.80E-06	7.01E-04	2.96E-03	61.5	-14.2	2.9	6.20E-01	0.00E+00
98	3.20E-06	7.04E-04	2.82E-03	61.2	-23.8	3.6	6.64E-01	0.00E+00
98.1	3.10E-06	5.95E-04	2.55E-03	59.9	-8.6	4.5	5.97E-01	0.00E+00
100	2.80E-06	4.99E-04	2.26E-03	57.8	-1.4	5.9	5.83E-01	0.00E+00
100.1	1.40E-06	5.15E-04	2.09E-03	62.8	-8.2	3.2	7.12E-01	0.00E+00
100.2	1.00E-06	4.85E-04	2.07E-03	77.1	-27.1	5.8	6.28E-01	0.00E+00
102	1.20E-06	4.68E-04	1.79E-03	63.4	-10.8	6.7	8.52E-01	0.00E+00
102.1	1.10E-06	5.42E-04	2.25E-03	66.5	-7.5	4.0	6.70E-01	0.00E+00
104	1.20E-06	4.72E-04	2.01E-03	56.6	3.9	2.7	6.30E-01	6.16E-03
104.1	1.40E-06	6.29E-04	2.55E-03	63.6	-19.0	2.3	6.96E-01	0.00E+00
106	2.40E-06	5.96E-04	2.47E-03	62.3	-20.3	3.9	6.57E-01	0.00E+00
108	2.30E-06	5.74E-04	2.43E-03	63.0	-26.4	9.6	6.00E-01	0.00E+00
111	1.80E-06	4.96E-04	2.08E-03	68.7	-3.6	5.8	6.43E-01	0.00E+00
113	4.00E-07	4.48E-04	1.82E-03	64.3	12.5	5.3	6.84E-01	0.00E+00
115	1.70E-06	5.82E-04	1.92E-03	65.8	-42.8	6.0	5.72E-01	1.01E-03
117	3.20E-06	5.84E-04	2.09E-03	64.2	-42.1	19.6	6.45E-01	1.48E-02
119	1.10E-06	3.85E-04	1.73E-03	65.6	15.4	5.2	5.57E-01	6.79E-03
121	2.20E-06	4.21E-04	1.83E-03	75.1	4.5	8.9	5.78E-01	0.00E+00
121.1	6.60E-06	4.29E-04	1.95E-03	71.5	-12.1	3.9	5.64E-01	0.00E+00
123	5.60E-06	4.18E-04	1.91E-03	67.1	-21.0	8.3	5.16E-01	2.86E-02
125	2.60E-06	2.83E-04	1.37E-03	46.5	-4.0	8.7	5.66E-01	2.49E-02
126	3.80E-06	4.57E-04	2.05E-03	73.7	64.6	10.6	4.96E-01	0.00E+00
128	6.30E-06	4.22E-04	1.97E-03	61.5	19.9	3.8	5.17E-01	0.00E+00
130	6.50E-06	4.24E-04	2.02E-03	59.3	27.0	6.0	5.21E-01	1.40E-02
132	4.70E-06	4.04E-04	2.01E-03	67.5	30.9	4.1	4.90E-01	5.69E-03
134	4.50E-06	4.52E-04	2.32E-03	57.5	16.8	5.5	4.45E-01	0.00E+00
136	4.10E-06	5.76E-04	2.91E-03	65.4	10.9	4.6	4.45E-01	1.73E-02
138	6.50E-06	7.62E-04	3.78E-03	62.9	8.7	7.3	4.50E-01	4.68E-03
139	6.90E-06	7.86E-04	4.44E-03	61.7	-1.0	3.9	3.39E-01	0.00E+00
140	8.60E-06	7.98E-04	4.22E-03	62.1	4.9	4.7	4.58E-01	0.00E+00
141	6.20E-06	7.98E-04	5.01E-03	61.1	-8.3	3.1	2.22E-01	0.00E+00
143	1.23E-05	9.00E-04	6.86E-03	64.3	-20.6	5.7	1.68E-01	0.00E+00
145	8.60E-06	7.20E-04	5.64E-03	64.9	-15.0	3.0	1.30E-01	0.00E+00
147	1.36E-05	1.15E-03	8.00E-03	59.8	-14.8	0.7	1.60E-01	0.00E+00
148	1.60E-05	1.26E-03	8.42E-03	67.3	3.5	3.2	1.94E-01	0.00E+00
150	3.15E-05	2.48E-03	1.17E-02	64.0	-5.8	2.3	5.93E-01	0.00E+00

152	2.25E-05	2.00E-03	1.20E-02	73.5	-6.0	4.9	3.66E-01	0.00E+00
154	1.80E-05	8.99E-04	9.92E-03	-48.5	181.1	3.7	1.02E-01	3.20E-02
154.1	2.15E-05	1.31E-03	1.19E-02	-43.1	172.7	13.9	5.94E-02	0.00E+00
156	2.52E-05	8.54E-04	1.05E-02	-50.6	155.6	2.8	2.12E-01	4.79E-03
156.1	3.32E-05	1.31E-03	1.29E-02	-46.2	144.2	5.0	7.87E-02	0.00E+00
158	3.26E-05	7.65E-04	1.35E-02	-60.3	169.6	1.4	3.95E-01	1.84E-02
160	2.91E-05	4.70E-04	1.42E-02	-60.3	170.6	1.0	4.93E-01	9.52E-03
162	1.90E-05	2.43E-04	1.17E-02	-58.2	169.8	1.0	5.74E-01	0.00E+00
164	1.49E-05	3.56E-04	9.03E-03	-63.5	162.5	6.0	3.79E-01	4.85E-03
164.1	1.31E-05	3.20E-04	8.47E-03	-63.5	174.6	1.3	4.03E-01	2.03E-02
166	2.01E-05	4.74E-04	1.12E-02	-64.7	173.0	1.7	4.18E-01	0.00E+00
168	2.99E-05	1.24E-03	1.04E-02				9.90E-02	8.97E-03
170	2.03E-05	6.18E-04	7.94E-03	-64.9	126.8	4.0		0.00E+00
172	2.16E-05	1.09E-03	8.11E-03	49.1	22.2	13.5	2.03E-01	0.00E+00
174	2.86E-05	1.69E-03	9.48E-03	53.5	3.0	6.2	4.76E-01	0.00E+00
176	1.19E-04	4.25E-03	2.49E-02	60.4	-13.8	1.8	5.16E-01	3.94E-03
182	2.21E-05	2.89E-04	8.53E-03	-61.0	139.1	2.9	4.54E-01	2.71E-02
182.1	2.50E-05	3.93E-04	9.09E-03	-70.1	137.5	3.0	4.07E-01	1.12E-02
182.2	2.15E-05	2.19E-04	8.45E-03	-66.7	152.7	2.7	5.11E-01	8.23E-03
184	6.39E-05	1.63E-03	1.59E-02				1.01E-01	1.13E-02
184.1	5.93E-05	1.46E-03	1.59E-02	-43.6	71.9	30.7	5.94E-02	4.54E-02
184.2	5.43E-05	1.35E-03	1.48E-02	-53.8	60.2	9.0	5.83E-02	0.00E+00
186	2.33E-04	6.11E-03	4.66E-02	59.3	-4.7	1.6	3.93E-01	0.00E+00
186.1	2.98E-04	8.61E-03	6.04E-02	59.3	-17.9	2.1	4.61E-01	0.00E+00
186.2	2.46E-04	6.95E-03	5.27E-02	64.5	-11.8	2.0	4.18E-01	0.00E+00
189	1.39E-05	1.55E-04	6.42E-03	-63.5	153.5	2.4	7.54E-01	2.42E-04
191	1.38E-05	1.09E-04	7.71E-03	-60.9	154.0	1.5	6.07E-01	5.78E-05
193	1.46E-05	2.81E-03	8.17E-03					1.17E-01
195	1.30E-05	3.21E-04	6.84E-03	-65.4	138.2	5.4	4.11E-01	3.13E-03
199	1.65E-05	1.61E-04	7.46E-03	-64.2	156.7	1.6	6.31E-01	0.00E+00
201	2.94E-05	4.34E-04	1.20E-02	-65.1	146.4	2.5	7.63E-01	7.10E-03
203	2.49E-05	6.48E-04	1.19E-02	-64.7	148.8	1.7	9.28E-01	3.97E-03
205	2.07E-05	8.64E-04	1.17E-02	-64.5	150.8	1.2	1.00E+00	0.00E+00
207	2.76E-05	8.48E-04	1.33E-02	-64.3	154.1	1.3	9.47E-01	7.75E-03
209	4.93E-05	6.86E-04	1.77E-02	-71.7	173.0	2.3	7.97E-01	0.00E+00
211	4.43E-05	3.19E-04	1.53E-02	-66.6	181.1	1.6	7.34E-01	1.88E-03
213	4.31E-05	4.48E-04	1.48E-02	-67.1	178.0	1.7	7.83E-01	4.49E-03
215	4.57E-05	5.16E-04	1.59E-02	-68.2	170.2	1.9	7.88E-01	0.00E+00
217	6.17E-05	4.95E-04	2.00E-02	-66.6	178.0	1.8	7.47E-01	0.00E+00
219	6.40E-05	5.23E-04	2.03E-02	-65.7	181.8	1.5	7.78E-01	3.10E-03
221	4.90E-05	1.95E-04	1.53E-02	-61.2	186.3	1.6	5.90E-01	5.96E-03
223	3.52E-05	2.96E-04	1.19E-02	-55.3	189.4	1.6	5.02E-01	0.00E+00
225	3.82E-05	3.53E-04	1.27E-02	-54.3	190.2	1.8	4.92E-01	6.84E-03
225.1	3.40E-05	2.98E-04	1.07E-02	-59.5	185.1	1.6	4.72E-01	6.41E-03
227	3.65E-05	3.90E-04	1.14E-02	-57.9	216.1	3.0	4.35E-01	5.51E-03
228	4.68E-05	7.42E-04	1.53E-02	-56.7	189.2	1.2	3.76E-01	3.60E-02
229	4.37E-05	6.87E-04	1.40E-02	-52.5	208.2	1.2	3.61E-01	2.58E-02

230	4.61E-05	6.41E-04	1.52E-02	-55.8	183.1	0.8	4.03E-01	5.33E-03
232	4.76E-05	6.95E-04	1.63E-02	-54.5	179.1	1.8	3.95E-01	2.35E-02
234	4.83E-05	7.57E-04	1.53E-02	-51.2	193.0	1.3	3.66E-01	9.12E-03
235	4.78E-05	6.00E-04	1.37E-02	-50.6	165.5	2.4	3.00E-01	4.68E-02
236	5.29E-05	7.44E-04	1.51E-02	-48.9	164.6	1.0	3.79E-01	0.00E+00
237	4.38E-05	6.32E-04	1.20E-02	-52.5	171.4	0.9	3.52E-01	3.41E-02
239	4.38E-05	5.18E-04	1.23E-02	-47.3	172.2	1.3	3.90E-01	1.75E-02
241	4.57E-05	7.05E-04	1.26E-02	-53.2	181.6	3.6	3.17E-01	5.97E-03
241.1	4.67E-05	6.88E-04	1.37E-02	-46.8	167.6	1.4	3.16E-01	3.16E-02
243	4.76E-05	7.50E-04	1.38E-02	-51.3	177.4	3.1	3.32E-01	1.87E-02
243.1	4.62E-05	8.26E-04	1.32E-02	-42.7	167.2	3.6	2.71E-01	2.10E-03
245	5.45E-05	1.18E-03	1.46E-02	-47.7	175.6	7.6	2.13E-01	0.00E+00
245.1	5.11E-05	9.54E-04	1.22E-02	-45.2	175.1	2.4	2.36E-01	2.64E-04
247	4.77E-05	1.07E-03	9.93E-03	-47.1	179.2	1.9	1.09E-01	0.00E+00
250	3.83E-05	7.64E-04	7.28E-03	-41.8	178.6	3.3	1.08E-01	0.00E+00
250.1	3.85E-05	7.78E-04	7.20E-03	-29.1	182.0	6.1	5.00E-02	6.09E-02
252	4.78E-05	7.37E-04	6.97E-03	-23.5	182.2	12.6	9.52E-02	3.60E-02
252.1	4.28E-05	7.67E-04	7.06E-03	-26.2	179.8	4.0	9.48E-02	2.20E-02
254	4.69E-05	9.42E-04	9.11E-03	-39.0	179.3	5.4	1.03E-01	0.00E+00
254.1	5.12E-05	1.04E-03	1.04E-02	-34.0	169.7	33.0	1.13E-01	0.00E+00
256	4.85E-05	1.07E-03	9.43E-03	-53.7	178.5	26.9	1.04E-01	1.11E-03
256.1	5.66E-05	1.12E-03	1.04E-02	-19.8	182.7	5.0	9.50E-02	3.38E-02
258	5.22E-05	1.10E-03	9.10E-03	-0.7	183.0	5.1	1.30E-01	0.00E+00
258.1	5.11E-05	1.05E-03	8.19E-03				1.04E-01	0.00E+00
260	4.83E-05	9.36E-04	7.46E-03	-32.7	173.3	8.9	1.40E-01	5.65E-03
262	4.74E-05	9.78E-04	7.20E-03	-35.3	183.3	32.9	1.61E-01	8.89E-03
264	4.20E-05	7.73E-04	5.32E-03	78.0	-25.3	9.2	2.40E-01	0.00E+00
265	4.35E-05	4.30E-04	3.24E-03	63.1	-78.8	19.7	2.46E-01	0.00E+00
267	3.88E-05	7.75E-04	6.53E-03	67.8	-34.3	40.0	8.89E-02	4.66E-02
269	2.55E-05	4.33E-04	3.53E-03				1.63E-01	0.00E+00
271	2.73E-05	4.41E-04	3.18E-03	68.6	-66.7	7.9	2.54E-01	0.00E+00
273	3.52E-05	3.29E-04	2.66E-03	76.5	27.2	22.1	2.82E-01	0.00E+00
276	5.08E-05	1.01E-03	1.09E-02	-35.5	194.7	2.3	2.09E-01	0.00E+00
278	6.02E-05	1.36E-03	1.26E-02	-34.1	199.4	6.3	1.46E-01	1.44E-03
280	6.00E-05	9.73E-04	9.84E-03	-46.1	208.2	8.7	7.81E-02	1.35E-02
282	5.66E-05	7.87E-04	5.99E-03	-11.7	181.4	12.5	1.69E-01	6.97E-03
285	6.16E-05	1.13E-03	8.37E-03	-26.5	191.6	12.0	1.66E-01	2.99E-02
287	6.05E-05	1.25E-03	1.01E-02	-32.6	194.3	1.6	1.60E-01	1.84E-03
289	6.38E-05	1.59E-03	1.20E-02	-20.9	201.5	2.8	2.16E-01	0.00E+00
291	5.85E-05	1.65E-03	1.17E-02	-3.1	195.0	5.4	2.58E-01	0.00E+00
293	6.25E-05	1.83E-03	1.23E-02				2.56E-01	0.00E+00
295	5.89E-05	1.73E-03	1.22E-02	-16.1	187.6	1.7	2.55E-01	1.82E-02
297	5.24E-05	1.29E-03	9.39E-03	-18.5	197.0	13.2	2.03E-01	0.00E+00
299	6.28E-05	1.51E-03	1.20E-02	-39.6	202.8	0.2	1.73E-01	4.94E-03

Characteristic remanent magnetization (ChRM) values (inclination, declination, MAD) refer to analyses carried out on stepwise AF demagnetization data. Relative paleointensity (RPI) values were computed from the ratio NRM/ARM after the 20 mT AF demagnetization step and were scaled to unit maximum.