

**Supplementary Material Captions**

Figure DR1. Detailed bathymetry of diapir-related bathymetric high highlighting mound distribution and morphology (contour interval = 5m).

Figure DR2. Uninterpreted version of seismic line (C-D) shown in Figure 3.

Table DR1. Mound morphology, dimension, and geophysical signatures.

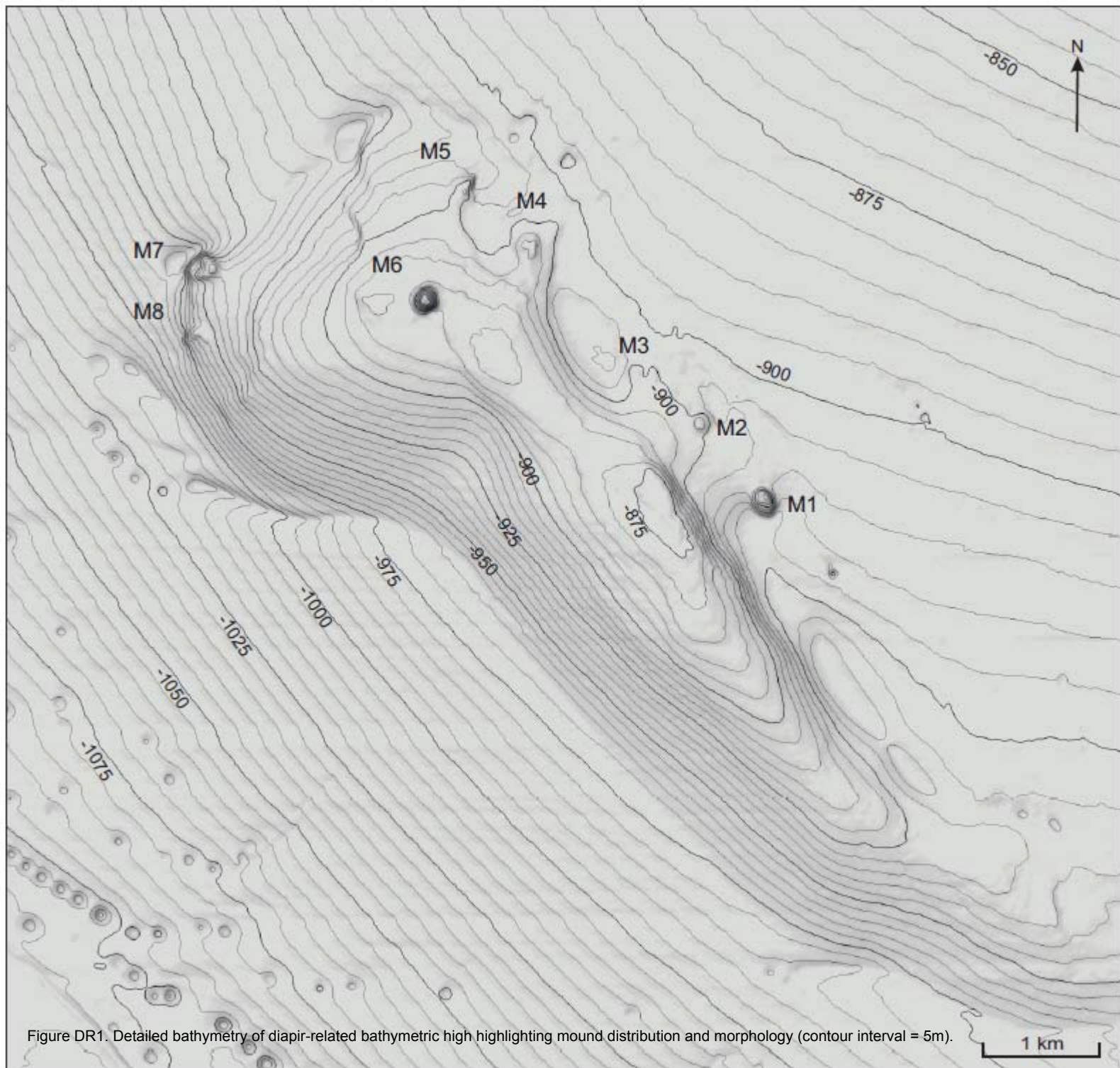


Figure DR2. Uninterpreted version of seismic line (C-D) shown in Figure 3.

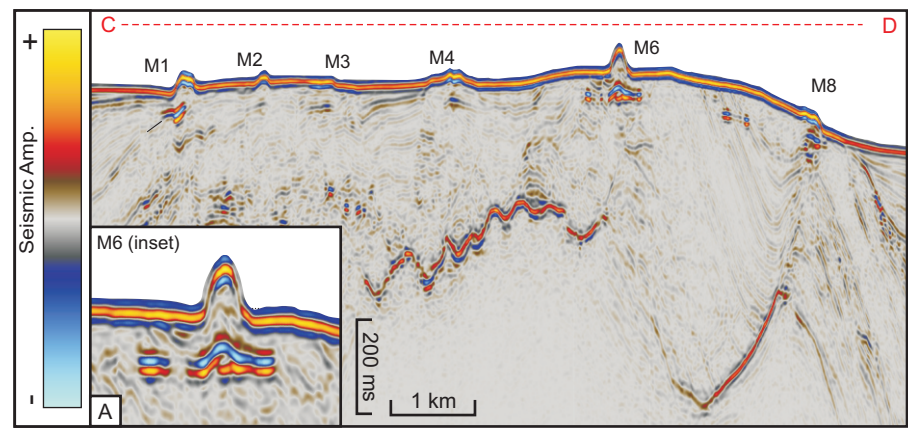


Table DR1. Mound morphology, dimension, and geophysical signatures.

Mounds	Morphology	Dimension (m)			Average slope grad. (°)	Geophysical signatures	
		Height (up-down slope)	Width	Length		Seafloor Amp.	BSR Amp.
1	Smooth, well rounded, steep sided mound	35	230	270	16	High	High
2	Smooth, well rounded, steep sided mound	10-15	150	180	9	Moderate	Moderate
3	Rough, uneven, gently dipping mound	5	160	250	3	High	Low
4	Rough, uneven, gently dipping mound	5-10	220	270	4	High	Low
5	Rough, uneven, gently dipping mound	5-10	80	150	7	High	Moderate
6	Smooth, well rounded, steep sided mound	40	270	290	16	Moderate	High
7	Rough, uneven, gently dipping mound	5-40	280	300	9	High	Low
8	Rough, uneven, gently dipping mound	5-30	190	200	10	High	Moderate