TABLE S2. Estimation of flow velocities and flow durations of the main asphalt flow (MAF) units depending on the temperature. Flow velocities were calculated with Jeffreys' equation for fluid velocity of a Newtonian fluid:

$$\bar{v} = \frac{d^2 \rho g \sin \theta}{3\eta}$$

(Jeffreys, 1925; Harris and Rowland, 2015). Using the same notations as Harris and Rowland (2015), $\bar{v}$ is the mean flow velocity (in m s^{-1}), d is the thickness of the asphalt, g is the gravitational acceleration, θ is the downward angle of the slope (in degree), and η is the asphalt viscosity (in Pa.s). We used a conservative asphalt density (1,100 kg m^{-3}) that is slightly higher than that of cold, deep seawater, and the viscosity values published by Pochettino (1914) and compiled by Hatschek (1928). Thicknesses of different units were measured using the autonomous underwater vehicle (AUV) bathymetry map and confirmed with the remotely operated vehicle (ROV) altitude + depth information. Slope angles were measured along the surface of each unit using cross sections of the bathymetry map. The cross sections run along the center line of each unit.

MAF Unit	Unit 1	Unit 2	Unit 3
Thickness d (m)	2	2 to 2.5	0.5 to 1
Maximum flow distance (m)	50	30	50
Asphalt density ρ (kg m^{-3})	1100	1100	1100
Gravitational acceleration g (m s^{-2})	9.81	9.81	9.81
Approximate slope down θ (degree)	0.3	0.5	1
sin θ	0.0052	0.0087	0.0175

		Unit 1		Unit 2		Unit 3	
Temperature (°C)	Viscosity (Pa.s)	Flow Velocity $\bar{v}$ (m/d)	Flow Duration	Flow Velocity $\bar{v}$ (m/d)	Flow Duration	Flow Velocity $\bar{v}$ (m/d)	Flow Duration
4	1.16×10^{10} *	5.6×10^{-4}	245 yr	$0.9–1.5 \times 10^{-3}$	56.4–88.2 yr	1.2-4.7 × 10–4	293.9–1,175.7 yr
9	2.35×10^{9}	2.8×10^{-3}	50 yr	$4.6–7.2 \times 10^{-3}$	11.4–17.8 yr	0.6-2.3 × 10–3	59.4–237.4 yr
13.3	5.02×10^{8}	1.3×10^{-2}	11 yr	$2.2–3.4 \times 10^{-2}$	2.4–3.8 yr	0.3-1.1 × 10–2	12.7–50.7 yr
15.1	2.57×10^{8}	2.5×10^{-2}	5.4 yr	$4.2–6.6 \times 10^{-2}$	1.2–1.9 yr	0.5-2.1 × 10–2	6.5–26 yr
17.9	6.33×10^{7}	1.0×10^{-1}	1.3 yr	$1.7–2.7 \times 10^{-1}$	0.3–0.5 yr	2.1-8.6 × 10–2	1.6–6.4 yr

*Viscosity value obtained by exponential extrapolation of the asphalt viscosity-temperature table published by Hatschek (1928) (equation used: Log(η) = (11.892e – 0.018T) – 1).