

Table S4 Calculation conditions and estimated best fit parameters for the Formation 4.

Fomation	Analysis BSL [m]	Estimated Parameters	Freshwater			Saline Water			Range	
			ol.: 0%	ol.: 5%	Honda	ol.: 0%	ol.: 5%	Honda		
Formation 4 252.73 m BSL - 441.73 m BSL	252.73 - 437.73	RMS of Temperature Residuals [K]	0.35	0.35	0.33	0.35	0.35	0.33		
		Darcy Velocity V ([mm/year])	5.0×10^{-10} (16)	5.1×10^{-10} (16)	5.4×10^{-10} (17)	5.0×10^{-10} (16)	5.1×10^{-10} (16)	5.4×10^{-10} (17)	$(5.0-5.4) \times 10^{-10}$ (16-17)	
		Total Heat Flux q^{total} (Reference Temperature: 15 °C) [W/m ²]	0.58	0.59	0.54	0.57	0.59	0.54	0.54-0.59	
		Average	2.1×10^{-16}	2.1×10^{-16}	2.2×10^{-16}	2.3×10^{-16}	2.4×10^{-16}	2.5×10^{-16}		
		Vertical Permeability K [m ²]								
		Viscosity	Minimum	1.7×10^{-16}	1.8×10^{-16}	1.9×10^{-16}	1.9×10^{-16}	2.0×10^{-16}	2.1×10^{-16}	$(1.7-3.1) \times 10^{-16}$
			Maximum	2.6×10^{-16}	2.6×10^{-16}	2.8×10^{-16}	2.9×10^{-16}	3.0×10^{-16}	3.1×10^{-16}	