Circulation through oceanic crust

Typically 5 - 50 km

Recharging seamount

Discharging seamount

Seafloor heat flow

Focused discharge

Bottom seawater

Microbial recruitment?

Cold oxygenated, NO₃⁻-rich seawater

Mineral fluid flow through sediment

Suboxic / oxic interface

Diffusive exchange

Flowing water mixes, mines lithospheric heat

Warmer, reacted, crustal fluid

Microbial and abiotic reactions

after Fisher and Wheat (2010)