

## Saving Earth's Primitive Mantle

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Geochemical analyses reveal that some portion of the mantle has retained a chemically 'primitive' signature. How this material has survived vigorous convection over Earth's lifetime is an open question. Here we propose that it may be preserved at the base of the mantle in large accumulations of subducted lithosphere. These accumulations are dominated by dense oceanic crust but can comprise up to 30% primitive material. The intermingling of oceanic crust and primitive material may explain why the chemical signatures of both coexist in volcanic eruptions at Earth's surface.

