

Undersea channels might aid oil recovery

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Massachusetts Institute of Technology scientists are trying to help energy companies draw millions of additional barrels of oil from the sea.

Typically, oil companies recover 30 percent to 40 percent of the oil in a given underwater reservoir. And, say the scientists, since a single reservoir may contain 1 billion barrels, increasing that "recovery efficiency" by even a single percentage point would mean a lot of additional oil.

Toward that end, Assistant Professor David Mohrig of earth, atmospheric and planetary sciences and Carlos Pirmez, a research geologist from Shell International Exploration and Production Inc., have been examining one type of geological formation of interest to industry -- channels filled with highly permeable and porous sedimentary deposits that extend deep below the sea floor.

Those structures form when sediment-laden currents flow off the continental shelf. Over many thousands to millions of years, the channels can become filled with porous sandstone covered by impermeable mud -- a perfect trap for oil and gas that seep up from below.

Mohrig said with a better understanding of channel porosity and permeability, companies could more accurately determine how much oil is present, where it is located and how quickly it can be withdrawn.

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