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EARTH: Source Code - The Methane Race

Alexandria, VA –What is the lifespan of a natural gas deposit? How quickly is our planet’s permafrost melting? And does life exist on other planets? Although seemingly unrelated issues, the answers to these questions are linked. And in this month’s issue of EARTH Magazine, scientists show that we may be closer to answering them than we think.

Ten years ago, John Eiler, a geochemist at Caltech, couldn’t convince anyone to build him his dream machine. He wanted a mass spectrometer that could measure the mass of common gases with extreme precision and sensitivity. Using methane, this instrument could potentially unlock the answers to many unsolved questions and provide us with a whole new perspective on paleoclimate and ancient temperatures.

Eiler has already been successful in modifying a standard mass spectrometer to use isotopologues (chemically identical, but isotopically different molecules) of carbon dioxide as a time-traveling thermometer. So far, this technology has discovered the body temperature of woolly mammoths and dinosaurs, and has even pinned down highly disputed ocean temperatures hundreds of millions of years old. Now, as EARTH explores in Source Code: The Methane Race, available at <http://www.earthmagazine.org/earth/article/5eb-7dc-1-a>, the race is on to use methane as a proxy to identify and solve new mysteries.

Crack the methane source code and read other great stories in the January of issue of EARTH Magazine, available online now at <http://www.earthmagazine.org/>. Discover what gives dinoflagellates their glow; find India’s missing ground; and view the latest bolide strike models in the most recent issue of EARTH.

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