

Isotech RT™ Isotope Logging Device

Provides real-time isotopic analysis of methane

Applications

- Identifying new oil and gas deposits
- Logging mud-gas isotopes
- Differentiating biogenic gas from thermogenic gas
- Determining gas-oil-source rock correlations
- Correlating gas and oil deposits between wells
- Evaluating the maturity of fluids and source rocks
- Identifying seals

Features and Benefits

- Enables real-time analysis of $\delta^{13}\text{C}$ methane
- Continuously cycles samples from the gas extraction system
- Automatically calibrates using a methane of known isotopic value that has been diluted in air to mirror typical mud-gas concentration
- Provides a significant quantity of data for analysis
- Can be controlled locally or remotely via an Internet connection (required)

Tool Description

The Weatherford Isotech RT (IRT) isotope logging device offers high-precision, real-time carbon isotopic analysis at the wellsite. The device consists of a patent-pending sampling system and a laser-activated cavity ring-down spectrometer for isotopic analysis.

The IRT logging device is installed in the mud logging cabin. A standard gas trap (QGM) or a constant volume trap (CVT) separates the gas from the drilling fluid, and a sample pump draws gas into the device. Users at the wellsite can control the device through a local laptop with an Internet connection, and trained Isotech scientists or Weatherford surface logging technicians can monitor and operate the device remotely.



By providing mud-gas isotopic analysis, the IRT logging device helps operators identify new oil and gas deposits at the wellsite.



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Specifications

Detector	Cavity ring-down spectrometer
Dynamic range	0.1% to 50% methane
Precision	<0.5‰
Cycle time	C1 only: 6 min. C1 to C3: 15 to 20 min.
Power requirement	120 to 240 Vac, 50 to 60 Hz
Combined system weight	176 lb (79.83 kg)
Lower detection limit	200 ppm

