



Journal of  
the Japanese Association for Petroleum Technology

The Japanese Association for Petroleum Technology

Available Issues | Japanese >> Publisher Site

Author:  ADVANCED | Volume  Page

Keyword:   |



[TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

ONLINE ISSN : 1881-4131

PRINT ISSN : 0370-9868

**Journal of the Japanese Association for Petroleum Technology**

Vol. 72 (2007) , No. 6 pp.585-593



[\[PDF \(4186K\)\]](#) [\[References\]](#)

## Reservoir evaluation using carbon isotope composition of gas

[Amane Waseda](#)<sup>1)</sup> and [Hirotsugu Iwano](#)<sup>1)</sup>

1) JAPEX Research Center, Japan Petroleum Exploration Co., Ltd.

(Received September 6, 2007)

(Accepted November 9, 2007)

**Abstract:** Carbon isotope compositions of methane, ethane and propane, and hydrocarbon ratios in gas samples provide information of their origin (microbial vs. thermogenic), maturity of thermogenic component, compositional change due to migration, and extent of biodegradation. Mixing of gases with different origins or different maturities can also be evaluated using gas isotopic and molecular compositions. While these gas geochemical data have been used mainly for petroleum exploration, their applications for development, production and operation issues are also increasing. Headspace gas analyses can be used to delineate reservoir compartments and pay zones. Carbon isotope compositions in commingled production could be used to allocate contributions from individual production zones if isotopic differences exist between the gases from the contributing reservoirs. Origin of gas seepage in production sites could be investigated by the gas molecular and isotope compositions if enough reference data exist in the area.

**Key words:** [gas](#), [carbon isotope](#), [origin](#), [maturity](#), [migration](#), [biodegradation](#), [reservoir compartment](#), [commingled production](#), [reservoir geochemistry](#)



[\[PDF \(4186K\)\]](#) [\[References\]](#)

Download Meta of Article [\[Help\]](#)

[RIS](#)

To cite this article:

Amane Waseda and Hirotugu Iwano 2007: Reservoir evaluation using carbon isotope composition of gas , J. JAPANESE. ASSOC. PETROL. TECHNOL., **72**: 6, 585-593 .

---

doi:10.3720/japt.72.585

JOI JST.JSTAGE/japt/72.585

Copyright (c) 2008 The Japanese Association for Petroleum Technology

---



---

[Japan Science and Technology Information Aggregator, Electronic](#)

