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P&A Wellhead 16/7-4, South Viking Graben: Comparison of Reservoired Hydrocarbons to Nearby Seepage

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This study of hydrocarbon evaluation falls under the OIMS-TP category,
Petroleum Geochemistry, of the EPR Geoscience Excluded List.

Integrated Basin Analysis Division
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*This report was prepared on a research application basis for
Esso Norge a.s., their Partner, and Exxon Production Research
Company.*



Geoscience Research Application Report

Well 16/7-4: Comparison of Reservoired Hydrocarbons to Nearby Seepage

Continued

Background & Previous Work

Geochemical data for the 16/7-4 DST gas samples were derived from earlier work performed at EPR.

Gas Geochemical Data Used.

Esso Norge AS provided gas compositional data for 24 headspace and 23 interstitial (occluded) gas samples from four drop cores of shallow seafloor sediments. Also provided were gas compositional data for three gas cylinders used to collect gas bubbles from near the seafloor. These analyses were performed by Geolab Nor A.S., Trondheim (Table 1). These seafloor seepage samples' carbon isotopic compositions were also reported where sufficient quantities of hydrocarbon and carbon dioxide gases were present to be analyzed confidently. Seepage gas data are tabulated in Table 1.

Table 1 also includes the composition and carbon isotopic data of the two DST gases previously sampled (May 1983) and analyzed.

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Table of Seepage and Well 16/7-4 Gas Carbon Isotope Data

Molecular Composition	16/7-4 DST #1 (2590-2597m)	16/7-4 DST #2 (2320-2340m)	Seepage Headspace VC1/1A	Seepage Headspace VC1/1B	Seepage Headspace VC1/2A	Seepage Headspace VC1/2B	Seepage Headspace VC1/3A	Seepage Headspace VC1/3B
C1	-42.44	-42.61	-69.00	-70.50	-68.90	-76.00	-70.90	-71.00
C2	-27.85	-27.96						
C3	-26.16	-26.16						
iC4	-25.58	-25.97						
nC4	-26.9	-26.75						
CO2	-9.77	-9.42						

Molecular Composition	Interstitial Gas VC1/1A	Interstitial Gas VC2/1B	Interstitial Gas VC3/1B	Interstitial Gas VC3/3B	Interstitial Gas VC4/1B	Cylinder Gas1	Cylinder Gas3	Cylinder Gas4
C1	-72.30	-59.60	-56.90	-64.20	-58.00	-71.90	-70.00	-72.00
C2		-44.80	-42.20	-47.90	-40.30	-57.60	-58.20	-58.20
C3					-34.60	-34.90	-36.60	-36.40
iC4								
nC4								
CO2						-20.10	-26.80	-15.00

Table 1.