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LOCATION AND HYDROCARBON CONTENT OF A GRAVITY CORE FROM THE OFFSHORE
EEL RIVER BASIN, NORTHERN CALIFORNIA

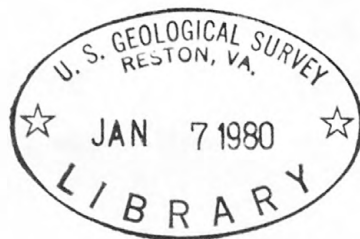
BY

MICHAEL E. FIELD
KEITH A. KVENVOLDEN, 1930-
SAMUEL H. CLARKE, JR.



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OPEN-FILE REPORT
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LOCATION AND HYDROCARBON CONTENT OF A GRAVITY CORE FROM THE OFFSHORE

EEL RIVER BASIN, NORTHERN CALIFORNIA

Michael E. Field, Keith A. Kvenvolden, Samuel H. Clarke, Jr.
U.S. Geological Survey, 345 Middlefield Road, Menlo Park, CA 94025

INVESTIGATION: Offshore Northern California, October 1979, R/V SEA SOUNDER (Cruise designation S13-79)

SAMPLE INFORMATION

Type: Gravity Core 152 G2
Length: 1.61 meters
Location: 40°56.39'N, 124°37.00'W
Water Depth: 500 meters

HYDROCARBON ANALYSES

Sample Intervals: 1.00-1.09 m; 1.50-1.59 m
Method of Analyses: Head space analysis of extracted sediment samples by gas chromatography

<u>Hydrocarbon Content:</u>		<u>1.00-1.09 m</u>	<u>1.50-1.59 m</u>
Methane (C ₁)	(μ L/L)	<u>21000</u>	<u>28000</u>
Ethane (C ₂)	"	<u>180</u>	<u>120</u>
Propane (C ₃)	"	<u>~18</u>	<u>~6</u>
<u>n</u> -Butane (<u>n</u> -C ₄)	"	<u>0.5</u>	<u>0.2</u>
Isobutane (i-C ₄)	"	<u>5.3</u>	<u>1.4</u>
Gasoline-range (C ₅ -C ₈)		<u>Present</u>	<u>Present</u>

(Gas volumes measured per liter of wet sediment)

PRELIMINARY INTERPRETATION

The core was collected from ponded sediment near the crest of a diapir-like feature on the Eel Plateau. The measured hydrocarbons are likely to have been derived from deep in the Neogene sedimentary section of the Eel River Basin. Their presence at the surface may indicate migration along fractures in or bordering the diapiric feature and seepage into unconsolidated sediments that are ponded locally within structural and bathymetric depressions. The extent of low molecular weight hydrocarbons at or near the surface elsewhere in the basin is unknown, but the information based on hydrocarbon composition obtained at this site indicates the possibility that thermogenically-derived hydrocarbons have formed and accumulated in the sedimentary rocks of the offshore Eel River Basin.

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