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United States

Department of the Interior

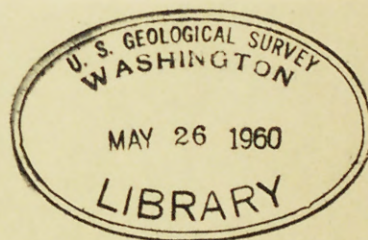
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Geological Investigations

Naval Petroleum Reserve No. 4

Alaska



Special Report No. 13

SUGGESTED CORRELATION IN SIMPSON SHEEPS REGION

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November 1949

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SUGGESTED CORRELATION IN SIMPSON SEEPS REGION

By

Florence Robinson and Thomas G. Roberts

Explanation for Preliminary Cross Section A-A',

Simpson Seeps Core Tests

During the 1949 drilling season eight core tests were completed in the Simpson Seeps area up to October 25th. This program, which is still in progress, was undertaken to provide an explanation for the surface seeps near Cape Simpson. The shallowest of the eight holes reached 800 feet; the deepest was drilled to a depth of 1460 feet.

Geophysical data on the shallow horizons indicate that the Simpson Seeps Core Tests shown on the section have been drilled in an area of nearly north-south strike. The five core tests that most nearly approximate a section normal to the strike were chosen for the accompanying cross section. An east-west strike, accompanied by strong anomalous dips of fifteen to twenty degrees to the north is indicated by geophysical data about five miles north of the cross section.

Simpson Core Test No. 13, the first test, was cored continuously to a depth of 1210 feet, though it reached a total depth of 1438 feet. Fewer cores were taken from succeeding tests, but increased familiarity with the stratigraphic section and electric log control have aided correlation.

It has been possible to establish a good correlation between Core Tests 13, 14, 15, 16, and 17 based upon paleontologic, lithologic, and electric log criteria. An Inoceramus-amaonite-fish bone zone (Inoceramus labiatus - Borisjacoceras sp.) proved to be an excellent marker. This is part of Zone F and is characterized lithologically by the presence of bentonite in successive beds through a zone of about sixty feet. Lower in the section an abundant Zone E fauna is associated with Laevidentalium, a scaphopod. This zone also constitutes a persistent marker. Unmistakable correlation of sands is afforded by the electric log and the following lithologic criteria: carbonaceous streaks, clay-ironstone concretions, biotite and distinctive color of quartz grains.

