Geophysics International

PETRO-SONDE RESPONSE TO MINNELUSA SAND

Petro-Sonde Survey - Oil and Gas Division

LOCATION. Weston County, Wyoming, east flank or the Powder River Basin.

OBJECTIVE OF THE PETRO-SONDE SURVEY. To establish the electrotelluric response or the Minnelusa Sand-Carbonate sequence and it's associated fluid content.

GEOLOGY. The Minnelusa Sand (Pennsylvanian) was deposited as a sequence or eolian sand dunes and shallow marine carbonates. Oil is trapped within the paleotopographic highs associated with eolian dune development.

The Opeche Shale (Permian) overlies the Minnelusa Sand and thins over the paleotopographic highs or the Minnelusa.

INFORMATION AVAILABLE. General knowledge or stratigraphic column.

CONCLUSIONS AND COMMENTS. The Petro-Sonde survey accurately determined the depth, thickness and fluid content for the interval from 7400 to 7720 feet. Figure 1 is a comparison or the dual laterolog and the Petro-Sonde electrotelluric signal responses.

Characteristic "low" lithology signal responses were round associated with the porous Minnelusa A-I and A-2 Sands. Correct content signals were also identified for the oil productive A-I Sand and wet A-2 Sand.

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COMPARISON OF PETRO-LOG GENERATED

AT THE SURFACE AND A DUAL LATEROLOG.

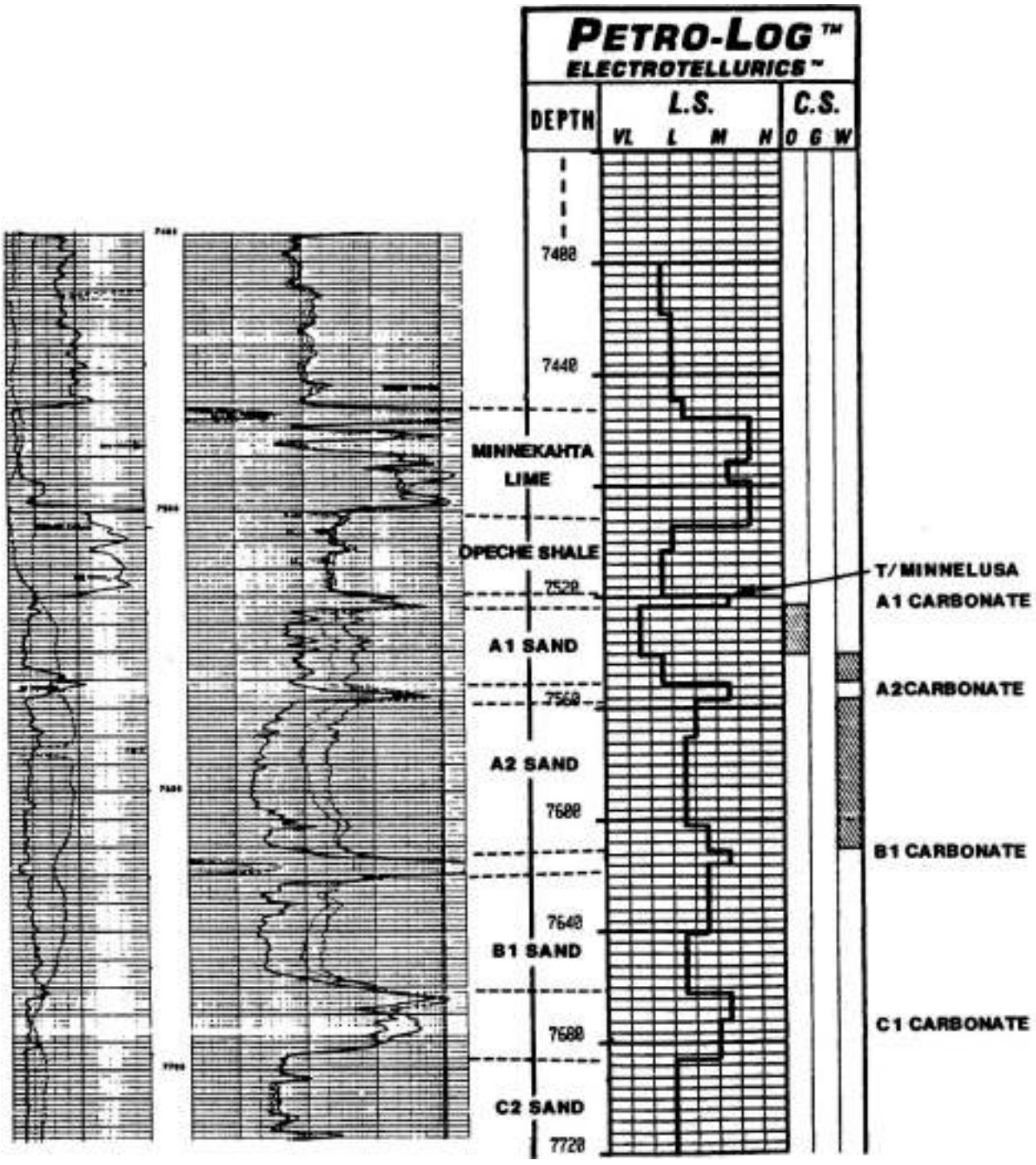

FIGURE 1.