

OILFIELD RESEARCH, INC.

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March 4, 1982

Stonestreets Land Company
P. O. Box 350
Spencer, West Virginia 25276

IN RE: Lovey Duffield Lease
Well No. 28244
Braxton County, West Virginia

Gentlemen:

The Blue Monday formation was diamond cored in the subject well. A total of 58 samples representing approximately 58.0 feet were analyzed in our Evansville laboratory using both "whole core" and "conventional" core analysis techniques. The results are given in tabular and graphic form and the following paragraphs discuss this data.

The interval from 2323.0 - 2328.0 feet consists chiefly of shale with a few scattered sand stringers. This five foot interval has negligible permeability and porosity.

The interval from 2328.0 - 2336.0 feet consists of shale and interbedded sand stringers. The eight samples from this eight foot interval have an average horizontal permeability of 0.17 millidarcys and an average porosity of 5.8 percent. There was no oil extracted and the residual water saturation averaged 89.6 percent. The high residual water saturation reflects the large amount of shale in the samples.

The interval from 2336.0 - 2345.0 feet consists of shale with interbedded sand stringers; however, this interval has notably less shale than the previous interval. The nine samples representing approximatey 9.0 feet have an average horizontal permeability of 0.16 millidarcys and an average porosity of 4.8 percent. There was no oil extracted from the samples and the residual water saturation averaged 65.1 percent. The lower residual water saturation extracted from the samples reflects the decrease in shale content.

The interval from 2345.0 - 2362.0 feet consists chiefly of sandstone with scattered shale laminations. The 17 samples have an average horizontal permeability of 0.14 millidarcys and an average porosity of 5.1 percent. There was no oil extracted and the residual water saturation averaged 36.6 percent. The low residual water saturation reflects the lack of shale in the samples as compared to the previous two intervals and also indicates the zone might contain some natural gas.



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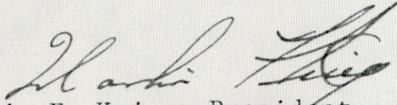
The interval from 2362.0 - 2381.0 feet consists of dense limestone with negligible permeability and porosity. Sample Nos. 50 and 51 contained several spots of bleeding oil.

The porosities given in this report were determined using "whole core" analysis techniques. This method provides an accurate measurement of the "effective" porosity. The permeabilities were determined using "conventional" core analysis techniques because of the many shale laminations which caused the samples to break when pressure was applied. It is also noted based on the bulk wet densities that the limestone interval from 2362.0 - 2381.0 feet is slightly dolomitic.

The sandstone portion of this core has been shipped to Spencer, West Virginia by Greyhound Bus. Please call at anytime to discuss this laboratory work.

Very truly yours,

OILFIELD RESEARCH, INC.


Marlin F. Krieg, President

MFK:csr

10C: Addressee

C O R E
A N A L Y S I S

