



Telephone 1646

631 1/2 N. Third St.



99999999

075-05600

STERLING, COLORADO

April 16, 1954

Ryan Oil Company
1019 Midland Savings Bldg.
Denver, Colorado

RE: Core Analysis Report
No. 1 Writebol Well
Wildcat Field
Logan County, Colo.

Gentlemen:

In accordance with your request, the core samples from your well, No. 1 Writebol, have been physically analyzed. Determinations were made for permeability (dry gas), porosity, and residual oil and water saturations.

Data obtained from these tests are presented graphically and in tabular form on the following pages. In addition, characteristics pertinent to the sections analyzed are below:

4940 1/2 to 4955 Feet in Depth - Non-Productive

Eleven samples of hard, fine grain, shaly, gray sandstone were sampled from this zone. There was no show in the upper part of this zone, but odor and stain were noticed in the sample from 4948 to 4955 feet in depth. Vertical fractures were present in the samples from 4950 to 4955 feet in depth.

The values of permeability measured in these samples were very low. The average value of permeability throughout this zone was 1.2 millidarcys, a value which is too low to allow production of any liquid from the sandstone.



00817024

The values of porosity were good in the upper part of this zone, but the decreased with depth, averaging only 11.2 per cent the volume of the sandstone below 4949 feet in depth. Residual water saturations were high in the samples which had no show, but were favorable values in the samples which had odor and stain. The residual oil saturations were favorable in the samples below 4948 feet in depth, but the entire zone must be considered non-productive because of the very poor values of permeability measured.

4960 to 4961 Feet in Depth - Water Productive

This sample was hard, fine grain, gray sandstone. It had erratic stain and was vertically fractured. The porosity made up a good per cent of the volumes of the sandstone, and the sandstone was permeable. The amount of residual oil measured was almost negligible and the residual water saturation was high. This foot of sandstone should be water productive.

4982 to 4983 Feet in Depth - Non-Productive.

This sample of sandstone is almost the same lithologically as that which was analyzed from 4940 $\frac{1}{2}$ to 4955 feet in depth. It contained a small amount of residual oil and the residual water saturations were not high. The sandstone was porous, but it was almost completely devoid of permeability, and therefore must be considered non-productive.

Very truly yours,

BASIN CORE, INC.

Patrick E. Brennan

Patrick E. Brennan

cc:

8 - Ryan Oil Co., Denver, Colorado

BASIN CORE, INC.

STERLING, COLORADO

COMPANY Ryan Oil Company DATE April 7, 1954 FILE NO. 54-524
 WELL No. 1 Writebol TYPE CORES Diamond ANALYST BS-PB
 FIELD Wildcat COUNTY Logan STATE Colorado

ANALYSIS DATA AND INTERPRETATIONS

| SAMPLE NO. | DEPTH FEET | PERMEABILITY MILLIDARCS | | POROSITY % | LIQUID SATURATIONS PER CENT PORE SPACE | | PROBABLE PRODUCTION | REMARKS |
|------------|------------------------|-------------------------|----------|------------|--|-----|---------------------|---|
| | | HORIZONTAL | VERTICAL | | WATER | OIL | | |
| 1 | 4940 $\frac{1}{2}$ -41 | 0.0 | 0.0 | 16.0 | 68.8 | 0.0 | None | Hard, fine grain, carbonaceous, reworked gray sandstone, no show. |
| 2 | 4941-42 | 0.0 | 0.0 | 17.4 | 70.7 | 1.2 | None | Hard, fine grain, carbonaceous, reworked gray sandstone, no show. |
| 3 | 4942-43 | 0.3 | 0.1 | 23.3 | 77.7 | 0.9 | Low Perm | Hard, fine grain, carbonaceous, reworked gray sandstone, no show. |
| 4 | 4943-44 | 0.1 | 0.0 | 18.1 | 75.3 | 0.0 | Low Perm | Hard, fine grain, carbonaceous, reworked, gray sandstone, no show; |
| 5 | 4944-45 | 0.9 | 2.6 | 21.5 | 78.8 | 0.0 | Low Perm | Hard, fine grain, carbonaceous, reworked, gray sandstone, no show. |
| 6 | 4948-49 | 2.9 | 1.2 | 20.5 | 52.8 | 7.8 | Low Perm | Hard, fine grain, shaly gray sandstone, odor and stain. |
| 7 | 4949-50 | 2.2 | 0.0 | 13.4 | 44.8 | 7.5 | Low Perm | Hard, fine grain, shaly gray sandstone, odor and stain |
| 8 | 4950-51 | 2.7 | 0.0 | 11.9 | 34.4 | 8.4 | Low Perm | Hard, fine grain, shaly gray sandstone, odor and stain, vertical fractures. |
| 9 | 4952-53 | 2.0 | 0.0 | 9.2 | 29.4 | 7.6 | Low Perm | Hard, fine grain, shaly gray sandstone, odor and stain, vertical fra |
| 10 | 4953-54 | 1.2 | 0.0 | 10.3 | 31.1 | 6.8 | Low Perm | Hard, fine grain, shaly gray sandstone, odor and stain, vertical fra |
| 11 | 4954 $\frac{1}{2}$ -55 | 0.5 | 0.0 | 11.1 | 21.8 | 6.3 | Low Perm | Hard, fine grain, shaly gray sandstone, odor and stain, vertical fra |

a