

JOHNS AND MAGATHAN
CONSULTING GEOLOGISTS

WENDELL S. JOHNS
WILLIS JACK MAGATHAN

501 BITTING BUILDING
WICHITA 2, KANSAS

TELEPHONE 3-1540

September 9, 1954

Mr. H.L. Moore
311 National Bank of Tulsa Building
Tulsa, Oklahoma

Geologic Report: H.L. Moore #2 Mowbray
NW NE SW; 29-26S-13W
Pratt County, Kansas
Elevation: 1947 derrick floor
1950 rotary bushing
Contractor: Reserve Drilling Co.

Dear Sir:

The #2 Mowbray was spudded July 12, 1954 and was drilled from the surface to the total depth of 4470 with rotary tools. Samples were saved and a time log was kept from 3600' to the total depth.

A Schlumberger Salt Mud Survey was run on this well and the measurements agreed with the drilling measurements to within a foot or so. The drilling measurements have been used throughout this report.

The following is a list of formation tops and other data of interest. Unless otherwise noted, all information is from my sample log which has been corrected for sample lag by use of the time log. All measurements are from the top of the rotary bushing, which is three feet above the derrick floor. The rotary bushing elevation has been used to compute all distances from sea level.

<u>Formation Name</u>	<u>Depth Below</u> <u>Surface</u>	<u>Distance from</u> <u>Sea Level</u>	<u>Remarks</u>
8 5/8" Surface casing	499		300 sacks cement \neq 2% gel \neq 1/2% Flocele
Stone Corral Anhydrite	843-863	\neq 1107 to \neq 1087	Electric log top
Heebner Shale	3645-54	-1695 to -1704	
Top Brown Lime	3783	-1833	
Top Lansing	3811	-1861	
(1) Porous zone	3840-47		Trace stain
(2) Porous zone	3866-77		Spotted stain
(3) Porous zone	3911-18		Good dark black stain
(4) Porous zone	3927-36		No show
(5) Porous zone	3941-48		No show
(6) Porous zone	3959-64		Some dark brown stain

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<u>Formation Name</u>	<u>Depth Below Surface</u>	<u>Distance from Sea Level</u>	<u>Remarks</u>
(7) Porous zone	3991-93		Slight to good stain
(8) Porous zone	4013-18		No show
(9) Porous zone	4027-31		Fair stain
(10) Porous zone	4046-54		Fair to good spotted dark stain
Base Kansas City	4125	-2175	
Top Marmaton	4125	-2175	
Top Mississippi	4256	-2306	
(1) Chert zone	4256-77		Slight show free oil, no odor; D.S.T.
Top Kinderhook	4277	-2327	
(1) Chert zone	4292-4313		No show
Top Viola	4343	-2393	
(1) Chert zone	4343-63		Fair show free oil, slight odor
(2) Limey Chert zone	4368-82		Much gilsonite, no free oil
(3) Porous zone	4399-4405		No show
Top Simpson	4427	-2477	
(1) Sand zone	4430-36		Slight show free oil, slight odor; D.S.T.
(2) Sand zone	4440-53		Slight show free oil; fair odor; D.S.T.
(3) Sand zone	4463-70		Slight show free oil; D.S.T.
Rotary Total Depth	4470	-2520	
5½" Casing	4465	-2515	100 sacks cement

Drill Stem Test Data:

Mississippi:

- (1) 4253-82; Open 1 hour - fair blow throughout test.
Recovered 30' mud.
Bottom Hole Pressure: 85# (20 min.).

Simpson:

- (2) 4420-43; Open 1 hour and 45 min. - weak intermittent blow for 15 minutes. Flushed tool at 15 minutes, good blow immediately after flushing, remained good throughout rest of test.
Recovered 2420' gas.
150' heavily oil and gas cut mud.
Bottom Hole Pressure: 275# (30 min.) still building up rapidly.
Chart showed tool was plugged during first 15 min. of test.

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Drill Stem Test Data Cont:

- (3) 4444-70; Open 1½ hrs. - weak blow for 15 minutes. Flushed tool at 15 minutes and had fair blow which decreased to weak intermittent blow at end of test.
Recovered 120' thin drilling fluid.
Bottom Hole Pressure: 1000# (30 min.).

Structural Position:

On top of the Lansing, the #2 Mowbray was 3' lower than the #1 Mowbray, 4' lower than the #1 Williams and flat with the #2 Williams.

On top of the Simpson, the #2 Mowbray was 12' lower than the #1 Mowbray, 10' lower than the #1 Williams and 4' lower than the #2 Williams.

Completion Data:

Ran Welex Gamma Ray.

Perforated 48 holes 4430-37.

Sand Oil Frac:

5000 gal. oil / 7500# sand.

total load 216 barrels.

Swabbed load back then swabbed 100 barrels fluid, much water.

Installed pumping equipment.

State Potential: P/80 B.O.P.D.

Future Prospects - Additional Prospective Producing Horizons:

Lansing-Kansas City:

Examination of the electric log shows that all of the porous zones in the Lansing-Kansas City will almost certainly produce water if they will make any fluid at all. This, coupled with the fact that none of the zones looked very prospective in the samples, indicates that these zones are not worthy of further tests.

Mississippi:

The Chert zone 4256-77 was drill stem tested and failed to recover anything more than a few feet of drilling mud. On the electric log, the resistivity throughout the Chert is fairly high. For these reasons, it is doubtful that the zone may be expected to produce commercial quantities of oil.

Viola:

The Chert zone 4343-63 looked fairly prospective, both in the samples and on the electric log. If any of the surrounding wells are later recompleted in the Viola, this zone should be tested in this well.

Simpson:

The well is now producing from perforations in the #1 sand zone (4430-36).

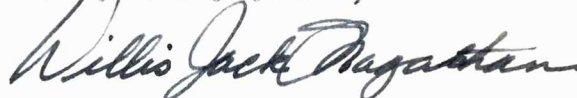
Although the drill stem test covering zones #2 (4440-53) and #3 (4463-70) failed to recover any oil, these zones may be worthy of further tests when

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Future Prospects Cont:

present production is exhausted. The fluid recovered in the drill stem test in these two zones appeared to be slightly water-cut. However, I believe that there is a good possibility that this may have been filtrate, rather than formation water.

Very truly yours,

A handwritten signature in dark ink, reading "Willis Jack Magathan". The signature is written in a cursive, slightly slanted style.

Willis Jack Magathan

WJM/gt