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September 16, 1959

TELEPHONES:
MUrray 4-1332
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Oil Trading Associates, Inc.
Union Center Building
Wichita, Kansas

Gentlemen:

Re: Oil Trading Associates, Inc.
White & Ellis Drilling, Inc.
#1 Engel
SE SE NW Section 10-15S-5E
Morris County, Kansas

Samples were examined on captioned well from 1200 feet to the rotary total depth of 2189 feet in Mississippian. Geological supervision was furnished at the well from 2000 feet, in Marmaton, to total depth. Following are listed the well's elevations, depths to important formations, records of drill stem tests, formation sample descriptions, general information, recommendations and other data considered pertinent:

DRILLING COMMENCEMENT AND COMPLETION DATES:

Commenced drilling below surface casing - September 11, 1959
Drilling completed - September 14, 1959.

CASING PROGRAM:

8-5/8" casing set with spudder at 150 feet.

ELEVATIONS, DEPTHS TO FORMATIONS, ROTARY TOTAL DEPTH:

Elevations	1385 on rotary drive bushing.
	1382 on derrick floor.
	1380 on ground.
Top Heebner shale	1455 (- 70)
Top Iatan Brown limestone	1576 (- 191)
Top Lansing-Kansas City series	1619 (- 234)
Base Kansas City series	1957 (- 572)
Top Mississippian chert	2145 (- 760)
Top Mississippian limestone and dolomite	2179 (- 794)
Rotary total depth	2189 (- 804)

(All depths from rotary drive bushing.)

RECORDS OF DRILL STEM TESTS:

Test #1 2147 to 2170 (Mississippian.) Tool open 1 hour. Recovered 5 feet of slightly oil cut mud. No water. Initial shut-in pressure 610 pounds in 20 minutes. Initial flow pressure 5 pounds. Final flow pressure 20 pounds. Final shut-in pressure 545 pounds in 20 minutes.

Test #2 2170 to 2189 (Mississippian). Tool open 2 hours. Recovered 165 feet of muddy water. No shows of oil or gas. Initial shut-in pressure 815 pounds in 20 minutes. Initial flow pressure 12 pounds. Final flow pressure 75 pounds. Final shut-in pressure 620 pounds in 20 minutes.

FORMATION SAMPLE DESCRIPTIONS AND OIL SHOWS:

There were no oil shows in any formation above the Mississippian series.

Mississippian (top at 2145 feet.)

2145 to 2147 White, cream, yellow and dark gray vitreous opaque chert with white blocky rough part tripolitic chert. Very poor porosity. No show.

2147 to 2167 (Circulated samples at 2150 and 2160). Cream to yellow vitreous opaque chert with cream blocky rough tripolitic chert. Poor porosity. No show.

2167 to 2171 (Circulated samples at 2170 and 2175). (Drill stem test #1 at 2170). Cream to yellow vitreous opaque chert, cream blocky rough tripolitic chert and some white soft tripolitic chert. Some fair porosity. Widely scattered fair stain in soft tripolitic chert. Some free oil in wet sample. No odor.

2171 to 2179 Same as above. Less staining. Some free oil. No odor.

2179 to 2180 Cream finely crystalline dolomite. Fair porosity. No show.

2180 to 2189 (Rotary total depth). (Circulated samples at 2189). (Drill stem test #2 at 2189). Cream coarse crystalline limestone with cream fine crystalline part calcareous dolomite. Some porosity. No show.

GENERAL INFORMATION AND RECOMMENDATIONS:

At the top of the Lansing-Kansas City series, this well is 15 feet lower than the Adair #1 Abeldt, a producing well 1-1/2 miles east, 9 feet lower than a dry hole 1 mile southeast, and 68 feet higher than

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Lansing was called in a dry hole 1 mile southwest. At the top of the Mississippian series, it is 15 feet lower than the first reference well, 5 feet lower than the second, and 34 feet higher than the third.

The negative results of the drill stem tests made of the only oil shows encountered dictated that the well be plugged as a dry hole.

A condensed copy of the drilling time record is attached.

Yours very truly,

A handwritten signature in dark ink, appearing to be 'M. W. Smith', written over a horizontal line.

M. W. Smith
Petroleum Geologist

MWS/pas
Atch.

DRILLING TIME LOG
 OIL TRADING ASSOCIATES, INC. &
 WHITE & ELLIS DRILLING, INC.
 #1 ENGEL
 SE SE NW SECTION 10-15S-5E
 MORRIS COUNTY, KANSAS

FROM	TO	DRILLING TIME	REMARKS
1200	1210	1-1-1-1- $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$	
	1220	1- $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ -1- $\frac{1}{2}$ - $\frac{1}{2}$ -1-2-1	
	1230	2-2-2-2-3-2-2-3-2-2-	
	1240	2-2-1-1-1- $\frac{1}{2}$ - $\frac{1}{2}$ -2-2-2	
	1250	1-1-1-1-1-1-1-1-1-1	
	1260	1- $\frac{1}{2}$ - $\frac{1}{2}$ -1-1-1-1-1-2-1	
	1270	1-1-1-1-1-1-1- $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ -	
	1280	$\frac{1}{2}$ - $\frac{1}{2}$ -1- $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ -1 $\frac{1}{2}$ -2-2-2	
	1290	2-2-2-1-2-1-1-2-2-1	
	1300	1-1-1-1- $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ -	
1300	1310	1-1 $\frac{1}{2}$ -1-1-1-1-1-1-1-1	
	1320	2-3-2-2-2-1-1-1-1-1	
	1330	1-3-2-2-2-1-1-1-1-2	
	1340	2-2-2-2-1-2-2-1-2-1	
	1350	1-1-1-2-1-1-1-1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -2	
	1360	2-1-1-1-2-1 $\frac{1}{2}$ -1 $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ -	
	1370	1-2-3-4-3 $\frac{1}{2}$ -3 $\frac{1}{2}$ -2-1 $\frac{1}{2}$ -2-1 $\frac{1}{2}$	
	1380	1-2-1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -1-1-3-1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -3	
	1390	4-3 $\frac{1}{2}$ 2 $\frac{1}{2}$ -1-1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -1-2-1 $\frac{1}{2}$ -1 $\frac{1}{2}$	
	1400	1 $\frac{1}{2}$ -2 $\frac{1}{2}$ -3-2 $\frac{1}{2}$ -4-3 $\frac{1}{2}$ -1-1- $\frac{1}{2}$ - $\frac{1}{2}$	
1400	1410	1- $\frac{1}{2}$ - $\frac{1}{2}$ -1- $\frac{1}{2}$ -1- $\frac{1}{2}$ -1- $\frac{1}{2}$ - $\frac{1}{2}$ -	
	1420	3 $\frac{1}{2}$ -4-4-2-3-4-3-3-3-3	
	1430	3-2-2-2-2 $\frac{1}{2}$ -2-2 $\frac{1}{2}$ -3-2-2	
	1440	2 $\frac{1}{2}$ -2 $\frac{1}{2}$ -2-2-2 $\frac{1}{2}$ -3-2-1 $\frac{1}{2}$ -2-3	
	1450	2-1- $\frac{1}{2}$ - $\frac{1}{2}$ -1- $\frac{1}{2}$ -1 $\frac{1}{2}$ -3 $\frac{1}{2}$ -4-1	
	1460	1- $\frac{1}{2}$ -1-1-1-1- $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ -	
	1470	1-1-1- $\frac{1}{2}$ -1-1- $\frac{1}{2}$ -1-1-1 $\frac{1}{2}$	
	1480	2 $\frac{1}{2}$ -2-2-2 $\frac{1}{2}$ -2 $\frac{1}{2}$ -2-2-2-2-3	
	1490	2-1-2-2-2 $\frac{1}{2}$ -3 $\frac{1}{2}$ -2 $\frac{1}{2}$ -2 $\frac{1}{2}$ -2-2	
	1500	2-2 $\frac{1}{2}$ -2 $\frac{1}{2}$ -2-2 $\frac{1}{2}$ -2-2 $\frac{1}{2}$ -3-3-3	
1500	1510	3 $\frac{1}{2}$ -1 $\frac{1}{2}$ -1- $\frac{1}{2}$ - $\frac{1}{2}$ -1-1- $\frac{1}{2}$ -1- $\frac{1}{2}$	
	1520	1-1-1-1-1- $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ -	
	1530	$\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ -2-2-1	
	1540	$\frac{1}{2}$ -1- $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ -1-1- $\frac{1}{2}$	
	1550	$\frac{1}{2}$ -1- $\frac{1}{2}$ - $\frac{1}{2}$ -1-1-1-1-1- $\frac{1}{2}$	
	1560	1-1- $\frac{1}{2}$ -1-1-1-1-1- $\frac{1}{2}$ - $\frac{1}{2}$ -	
	1570	1-1- $\frac{1}{2}$ -2 $\frac{1}{2}$ -4-3-1-2-1-2	
	1580	1-1-1- $\frac{1}{2}$ -1-1 $\frac{1}{2}$ -2-1 $\frac{1}{2}$ -1-1 $\frac{1}{2}$	
	1590	1 $\frac{1}{2}$ -1-1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -1-2-1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -1-1	
	1600	1-1-1-1-1-1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -1-1-1	
1600	1610	1-1-1-1-1 $\frac{1}{2}$ -1-2-2 $\frac{1}{2}$ -2 $\frac{1}{2}$ -2 $\frac{1}{2}$	
	1620	2 $\frac{1}{2}$ -3-3-2 $\frac{1}{2}$ -1 $\frac{1}{2}$ -1-1- $\frac{1}{2}$ -1 $\frac{1}{2}$ -2	
	1630	1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -2-1-1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -2 $\frac{1}{2}$ -3 $\frac{1}{2}$	
	1640	2-3-4-3-2-2-2-3-2-2	
	1650	2-2-2-2 $\frac{1}{2}$ -2 $\frac{1}{2}$ -2-3-3-3-2	
	1660	3-3-3-3 $\frac{1}{2}$ -2 $\frac{1}{2}$ -3-3-3-3-4	
	1670	3-4-3-1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -1-1-1-2-2	
	1680	2-4-3-3-3-3-4-4-3-3	

M4N Retip 1421'.

Drilling Time Log

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FROM	TO	DRILLING TIME	REMARKS
	1690	3-3-4-4-4-4-5-5-1 $\frac{1}{2}$ -2 $\frac{1}{2}$	YT Retip 1688'.
	1700	3-2-2-2 $\frac{1}{2}$ -2-2-1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -2-2	
1700	1710	2-3-2-1-2-3-2-3-2-2	
	1720	1-1-2-1-1-1-1-1-1-1	
	1730	1-2-1-1-1-1-1-1-1-3	
	1740	3-3-3-2-2-2-3-2-2-3	
	1750	3-3-3-2-2-3-3-3-3-2	
	1760	3-3-4-5-3-5-2-1- $\frac{1}{2}$ - $\frac{1}{2}$	
	1770	2-3-4-5-5-4-4-3-4-2	
	1780	3-3-3-3-2-2-2-1-1-1	
	1790	3-3-3-4-3-3-2-2-1-3	
	1800	3-3-3-2-2-2-2-2-2-2	
1800	1810	4-4-4-3-3-4-5-2-3-4	
	1820	4-2-2-4-4-3-3-4-3-2	
	1830	3-3-3-4-5-4-5-2-3-2	YSI Retip 1827'.
	1840	3-3-3-3-4-2-1-1- $\frac{1}{2}$ - $\frac{1}{2}$	
	1850	1-1-1-1-3-3-3-4-3-3	
	1860	3-3-3-2 $\frac{1}{2}$ -4 $\frac{1}{2}$ -4-2-3-3 $\frac{1}{2}$ -3 $\frac{1}{2}$	
	1870	4-5-5-6-5-5-6-6-4 $\frac{1}{2}$ -5 $\frac{1}{2}$	
	1880	6-5-5-5-5-6-5-2-2-1	
	1890	8-8-2-3-2- $\frac{1}{2}$ - $\frac{1}{2}$ -1-1-1 $\frac{1}{2}$	CP Retip 1882'.
	1900	1 $\frac{1}{2}$ -2-2-3-3-2-3-4-5-5	
1900	1910	5-4-4-5-5-5-4-5-6-3	
	1920	2-5-5-3-2-1 $\frac{1}{2}$ -3-6 $\frac{1}{2}$ -4-1 $\frac{1}{2}$	
	1930	3-3 $\frac{1}{2}$ -4-4 $\frac{1}{2}$ -5-3 $\frac{1}{2}$ -5-6-5-4	
	1940	5-4-5-6-4-5-4-5-5-3	
	1950	4-6-5 $\frac{1}{2}$ -6 $\frac{1}{2}$ -3-2-3-2-2-1 $\frac{1}{2}$	
	1960	2 $\frac{1}{2}$ -3-2-3-1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -2-1-1-1	
	1970	1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -2-2-2-1-1-1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -1	
	1980	2-1-1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -2-1-6-5-5-2	
	1990	4-5-6-7-5-2-3-2-4-5	New W7 1984'.
	2000	4-1-2-1-1 $\frac{1}{2}$ -1-1 $\frac{1}{2}$ -2-3-6	
	2020	3 $\frac{1}{2}$ -5 $\frac{1}{2}$ -5-4-4-3-4	
	2030	2-2-1 $\frac{1}{2}$ -1 $\frac{1}{2}$ -2-4-5-5-5 $\frac{1}{2}$ -5 $\frac{1}{2}$	
	2040	4-2 $\frac{1}{2}$ -5 $\frac{1}{2}$ -3-2-2 $\frac{1}{2}$ -2 $\frac{1}{2}$ -4 $\frac{1}{2}$ -5-5	
	2050	5 $\frac{1}{2}$ -6-6-6-4-4-3-2-1-3	
	2060	4-2-3-7-5-5-5-4-4-3	
	2070	4-5-4-3-4-6-5-4-5-5	
	2080	5-6-3-1-1-1-2-6-5-2	
	2090	3-4-5-4-5-5-5-5-4-5	
	2100	5-2-4-4-4-3-3-3-2-4	
2100	2110	3-2-1-3-5-4-3-3-2-2	
	2120	2-3-2-2-1-2-2-2-2-2	
	2130	3-5-4-3-4-5-5-4-5-3	
	2140	6-4-5-4-4-3-2-2-2-2	
	2150	2-5-3-4-4-7-8-4-3-3	
	2160	4-3 $\frac{1}{2}$ -3 $\frac{1}{2}$ -3-4-3-3 $\frac{1}{2}$ -3-3 $\frac{1}{2}$ -2 $\frac{1}{2}$	
	2170	2-4-2 $\frac{1}{2}$ -2 $\frac{1}{2}$ -3-3-3 $\frac{1}{2}$ -2-2-2 $\frac{1}{2}$	
	2180	2 $\frac{1}{2}$ -3 $\frac{1}{2}$ -3-3 $\frac{1}{2}$ -2 $\frac{1}{2}$ -3 $\frac{1}{2}$ -3 $\frac{1}{2}$ -3-5-2	
	2189	4-7-9-10-7 $\frac{1}{2}$ -7-10-10-10	
			Steel Line Correction 2000 equals 2013'
			Circ. Spls. 2137'.
			Circ. Spls. 2150'.
			Circ. Spls. 2160'.
			Circ. Spls. 2170'. New W7R 2170'.
			DST #1 2170'.
			Circ. Spls. 2175'.
			Circ. Spls. 2189'. DST #2 2189'.