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NAT'L ASSOC. PET. CO.

FCrest 3-1540

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Tatlock Oil Company
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Geological Report: National Associated Oil Co.
#1 Earlywine
SW SW NE, 15-27S-15W
Pratt County, Kansas
Elevation: 2067 Kelly Bushing
2064 Derrick Floor
2062 Ground
Contractor: Badger Brlg. Co.

Gentlemen:

The #1 Earlywine was spudded February 25, 1958 and was drilled from the surface to the total depth of 4630 with rotary tools.

Logs and Measurements:

Samples were saved from 1700 feet to total depth. However, we have made a sample log only from 3700 feet to total depth. A five foot time log was kept from 1700 feet to 3700 feet and a one foot time log was kept from 3700 feet to total depth.

A Schlumberger electric log (salt and survey) was run on the #1 Earlywine. This log includes the following curves - Gamma Ray 320-4629; Laterolog 354-4626; Microlaterolog 3796-4622; Caliper log 3796-4629.

The electric log measurements agree very closely with the drilling measurements on this well. From 3800 to 4450 the electric log is from one to two feet shallower than the drilling measurements. Below 4450 the electric log measurements and the drilling measurements vary by less than one foot. Electric log measurements have been used throughout this report, but drilling measurements have been used in the time log and formation log.

Formation Tops:

The following is a list of formation tops and other data of interest. Unless otherwise noted, all information is from our sample log, but the depths have been changed to conform to the electric log measurements.

All measurements are from the top of the Kelly bushing and all distances from sea level have been computed by use of the Kelly bushing elevation.

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<u>Formation Name</u>	<u>Depth Below Surface</u>	<u>Distance from Sea Level</u>	<u>Remarks</u>
8 5/8" Surface Casing	355		300 sacks cement plus 2% gel plus 2% calcium Chloride. Cement did not circulate.
Stone Corral Anhydrite	972-- 992	1095 to 1075	Electrical log
Top Topeka	3455	-1388	Electrical log
Heebner	3822 - 30	-1755 to -1763	
Leavenworth	3830 - 33	-1763 to -1766	
Snyderville	3833 - 50	-1766 to -1783	
Toronto	3850 - 62	-1783 to -1795	
Douglas	3862 - 3984	-1795 to -1917	
Amazonia	3872 - 95		
Top Brown Lansing	3984	-1917	
Top Lansing	4005	-1938	
#1 Porous zone	4024 - 25		Very slight trace porosity. No show
#2 Porous zone	4036 - 38		Very slight trace porosity. No show
#3 Porous zone	4050 - 52		Fair intercrystalline porosity. Trace stain. Possible trace odor. Water on electric log.
#4 Porous zone	4091 - 4100		Good pin-point porosity. Trace stain. Definitely water on electric log.
#5 Porous zone	4108 - 28		Streaks of fair porosity. No show.
#6 Porous zone	4156 - 60		Good calcareous porosity. No show.
#7 Porous zone	4172 - 76		Some inter-fossil porosity. No show.
#8 Porous zone	4195 - 99		Possible trace of porosity. Maybe shaly. No show.
#9 Porous zone	4210 - 18		Good calcareous and vugular porosity. No show.
#10 Porous zone	4228 - 4231		Possible trace porosity. No show.
#11 Porous zone	4236 - 43		Broken inter-fossil porosity. No show.
#12 Porous zone	4249 - 51		Possible trace porosity. No show.
#13 Porous zone	4266 - 75		Scattered vugular porosity. Some dark brown to black stain. No odor or free oil. Electric log indicates water.
Base Kansas City	4319	-2252	
Pleasanton	4319 - ?	-2252 to - ?	
Checkerboard	4332 - 38	-2265 to -2271	
Harmaton	? - 4447	? to -2380	The section from 4426-47 is cherty limestone with no show. It contains no sand and is definitely Harmaton.

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<u>Formation Name</u>	<u>Depth Below Surface</u>	<u>Distance from Sea Level</u>	<u>Remarks</u>
Cherokee	4447 - 86	-2380 to -2419	A few thin sand streaks (inches thick) with show black oil. No odor or free oil. Electric log shows no sand body.
Mississippi	4486 - 4533	-2419 to -2466	Core shows the section from 4486-91 to be a shale and chert conglomerate. However, the electric log shows this to be part of the section called Mississippi in adjacent wells so we have included it in Mississippi. Fair odor and slight show free oil in chert. See Core record and D.S.T. #1 & #2
Kinderhook	4533 - 94	-2466 to -2527	No show. D.S.T. #3
Porous chert	4542 - 52		Spotted stain.
Porous sand	4566 - 4569		Trace free oil, no odor.
	4578 - 85		D.S.T. #3
Top Viola	4594	-2527	Limestone and chert
Total Depth	4630	-2563	No show

Ran electric log 3-17-58.

D. & A. 3-17-58.

Core Record: One core was taken on the #1 Earlywine.

Cored: 4487 - 4517 Recovered 29 1/2'.

- 4487 - 89 Mississippian Conglomerate - dark green shale. Some red shale, nodular, varicolored. Many angular chert fragments. Trace free oil. Slight odor.
- 4489 - 91 Mississippian Conglomerate - more chert, fractured and vugular. Slight odor and trace free oil.
- 4491 - 91 1/2 Solid chert, tan opaque - no show.
- 4491 1/2 - 94 Light green shale conglomerate with small angular chert fragments widely scattered. Slight odor. Slight increase in chert and odor from 4493-94.
- 4494 - 4502 Chert, highly fractured. Chert gray opaque to devitrified with thin green shale intercalations. Slight odor and trace free oil.
- 4502 - 03 Chert as above, tight - no oil and no odor.
- 4503 - 05 Chert as above, Some odor and show of oil.
- 4505 - 06 Chert, as above. Good odor. Slight show free oil.
- 4506 - 17 Chert as above, fair odor. Slight show of free oil in fractures and vugs.

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Drill Stem Test: There were three drill stem tests run on the #1 Earlywine.

- #1 D.S.T. 4482 - 4517 - Mississippi 3-14-58.
Miller-Donelson - Double packers - jars.
Open 1 hour - good blow throughout, gas to the surface in 53 minutes, not enough to measure.
Recovered 150' gas cut mud. No trace of oil or water.
Initial Bottom Hole Pressure: Did not take.
Initial Flow Pressure: 45 p.s.i.
Final Flow Pressure: 62 p.s.i.
Final Bottom Hole Pressure: 1150 p.s.i. Shut in 30 minutes - still building very slowly.
- #2 D.S.T. 4517 - 4545 - Mississippi 3-14-58.
Miller-Donelson - Double packers - jars.
Open 1 1/2 hours - weak blow for 65 minutes.
Recovered 65' mud - very slight trace of oil - no water.
Possibly a few feet of free gas on top of mud.
Initial Bottom Hole Pressure: 85 p.s.i. (30 min. - Still building very slowly).
Initial Flow Pressure: 27 p.s.i.
Final Flow Pressure: 40 p.s.i.
Final Bottom Hole Pressure: 75 p.s.i. (30 min. - still building very slowly).
- #3 D.S.T. 4543 - 4595 - Kinderhook 3-15-58.
Johnston Testers - Single Packer - No jars.
Open 1 hour - very small blow for 30 minutes.
Recovered 17' mud - no oil, gas or water.
Initial Bottom Hole Pressure: Zero (30 min.)
Initial Flow Pressure: Zero
Final Flow Pressure: Zero
Final Bottom Hole Pressure: 85 p.s.i. (30 min.)

Structural Position:

On top of the Lansing at minus 1938 the #1 Earlywine is level with the Osage #1 Thompson, the south offset. It is 26 feet lower than the Osage #1 Cochran Estate, NE NE SW, 10-27S-15W, discovery well of the Carver-Robbins pool. The Cochran Estate is one location west and approximately one mile north of the #1 Earlywine. The #1 Earlywine is 12 feet lower than the Anschutz #1 Jones, SW SW SW, 13-27S-15W, a dry hole approximately 1 1/2 miles southeast.

On top of the Mississippi at minus 2419, the #1 Earlywine is 11 feet higher than the #1 Thompson, 26 feet lower than the #1 Cochran Estate, and 29 feet lower than the #1 Jones.

Comments and Discussion Upper Formations:

All porous zones encountered in this well above the Mississippi are shown to carry nothing but water by both samples and the electric log, with the following exceptions:

Lansing-Kansas City Zone #6 (4195-99). This zone carried no visible show of oil in the samples but appears to have a slightly high laterolog/Microlaterolog ratio from 4196-98. This is undoubtedly caused by a shaly condition and not by any oil content. The zone is not prospective.

Lansing-Kansas City Zone #13 (4266-75). The portion of this zone from 4272½-74½ has a slightly higher than normal Laterolog/Microlaterolog ratio and did carry a fair show of dark brown to black oil, but had no odor and no free oil. The electric log indicates about 8½ per cent porosity in this section and approximately 50 per cent water content. The thinness of the zone and the low porosity, combined with the relatively high water content, makes this section definitely non-commercial, even though it may carry a little oil.

Cherokee:

The samples, drilling time, and electric log, all indicate that the Cherokee sand which tested gas in the #1 Thompson, the south offset, is completely absent in the #1 Earlywine.

Kinderhook:

Two small sand sections in this formation carried fair shows of oil. However, the electric log and the drilling time both show these zones to be very tight. This was further indicated by the drill stem test covering this section. We do not believe that any part of this formation is prospective in the #1 Earlywine.

Viola:

This formation contained very little porosity and no shows of oil, whatsoever. We believe this formation to be completely non-prospective.

Mississippi:

This formation contains 42 feet of fractured and vugular chert with a good odor and fair show of oil. The electric log curves through this zone are almost duplicates of those through the same section in the #1 Thompson, the south offset, where this section is the producing horizon. It is very likely that the #1 Earlywine would have made as good a producer from this section as the #1 Thompson. However, the operators of the Earlywine felt that, in view of the questionable value of the Thompson well, the economics of setting pipe on this test were not favorable so they abandoned the hole. Though this decision may prove to be incorrect, it is difficult to differ with it at this time in view of the poor drill stem test results from the Mississippi, and also the fact that the Earlywine contains no other prospective zone.

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I would like to note at this point that history of the #1 Earlywine points out the difficulty which you will have in any further promotion of the Earlywine - Thompson area. We believe there is a considerable area of Mississippi Chert around these wells and to the east, that will produce considerable gas and oil. However, the chances that this Chert will show favorable results on drill stem tests are remote. Equally remote are the chances that many wells in this area will encounter other prospective beds which will lead to setting casing (as happened on the #1 Thompson). The obvious result of these conditions is that it will be very difficult to get any operator to set casing in the area, at least until the #1 Thompson proves that this section is a sound economic proposition.

Very truly yours,

JOHNS and MACATHAN

By /s/ Wendell S. Johns
Wendell S. Johns

WSJ:mh