

#4 THERESA DAILY DRILLING REPORT

API 15-051-24,704

LSE/WELL#8743/4

30' N OF S/2 NW NW SEC. 27, T12S-R17W
ELLIS COUNTY, KANSAS

- 10-29-90 Moved in Shields Drilling Co Inc rotary tools and rigged up.
- 10-30-90 Drilling mouse and rat holes, drilling under surface. Set 8 5/8" surface casing @ 209' with 140 sx 60/40 Pozmix, 2% gel & 3% cc. Plug down @ 3:00 p.m.
- 10-31-90 Drilling ahead @ 558' at 7:00 a.m. Making a bit trip @ 735' @ 9:00 a.m.
- 11-1-90 Drilling ahead @ 2050' @ 7:00 a.m. & 2132' @ 9:00 a.m. Drillers Anhydrite 1350' - 1385'. Elevation 2143' KB.
- 11-2-90 Drilling ahead @ 2680' @ 7:00 a.m and 2730' @ 9:00 a.m.
- 11-3-90 Drilling ahead @ 3199' @ 7:00 a.m.
- 11-4-90 Drilling ahead @ 3439' @ 7:00 a.m.
Formation Tops: Topeka 3112'
 Heebner 3355'
 Toronto 3379'
 Lansing 3400' (-1257)
- The Lansing top is 2' high to the #1 Theresa to the SE approximately 1/3 mile.
- 11-5-90 Drilling ahead at 3632' @ 7:00 a.m. and 3655' @ 9:00 a.m.
- 11-6-90 Electric Log Tops: Anhydrite 1342' +801
 Topeka 3112' -969
 Heebner Shale 3354' -1211
 Toronto 3375' -1232
 Lansing KC 3399' -1256
 Base KC 3632' -1489
 Arbuckle 3660' -1516
 RTD 3750' -1608

The upper 60 feet of the Arbuckle had excellent shows of free oil in poor to good intercrystalline porosity. The wet samples had strong oil odor and abundant free oil. Ran 5 1/2" production casing and set @ 3747' with the Port Collar set at 1383' and insert @ 3716'. 31' shoe joint. Cemented casing with 100 sacks of sure fill and used 500 gals of mud sweep ahead of cement. 15 sx of cement in rathole and 10 sx of cement in mouse hole. Total of 125 sx of cement. Plug down at 10:15 a.m. Geological and completion reports will follow.

R. P. Nixon, Geologist & Oil Producer

207 West Twelfth

HAYS, KANSAS 67601

Phone: 913-628-3834

#4 THERESA DAILY COMPLETION REPORT

API 15-051-24,704

30' N OF S/2 NW NW SEC. 27, T12S-R17W

LSE/WELL#8743/4

ELLIS COUNTY, KANSAS

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- 11-29-90 Moved in Jay-Lan Corporation completion tools and rigged up. Swabbed hole down and ran Gamma Correlation log.
- 11-30-90 Hauled 3700' of 2" tubing to lease. Ran tubing and tri-cone bit to drill out cement. Drilled 20' of cement and circulated hole clean. Laid down tubing and bit. Perforated Arbuckle from 3687'-92' with 4 holes per foot with expendable jets.
- 12-1-90 Swabbed holed dry, had good show of free oil. Dumped 100 gals of 15% Intensified non swell acid on bottom and 12 bbls of salt water. Let set over weekend.
- 12-3-90 Had 1300' of fluid in hole 300' of clean gassy oil on top. On 4 hour swab test zone made 1 1/2 bbls of fluid per hour 35% oil the rest was spent acid water. Acidized with 500 gals of 15% Intensified Non-Swell acid maximum pressure 500#'s, treated at 1/2 bbl per minute, to let set overnight.
- 12-4-90 Fluid 2400' from surface. Top 80' all oil. Swabbed hole down. On 4 hour swab test zone made 8 bbls fluid per hour: 1st two hours 100% oil, 2nd two hours 40% oil balance spent acid water. Set 5 1/2" bridge plug @ 3000'. To cement upper stage & put on pump. Pump test to follow.
- 12-8-90 Put on pump.
- 12-12-90 Barrel test: 28 barrels total fluid, 17 bbls of oil and 11 bbls of salt water.

27-12-17W

COPY

<u>FORMATION TOPS:</u>	<u>SAMPLE DEPTH</u>	<u>LOG DEPTH</u>	<u>MINUS DATUM</u>
Anhydrite top (driller's)	1350'	1346'	+797
Anhydrite base "	1385'	1382'	+761
Topeka	3112'	3112'	-969
Heebner Shale	3355'	3354'	-1211
Toronto Lime	3379'	3375'	-1232
Lansing	3400'	3399'	-1256
Base of the Kansas City	3634'	3632'	-1489
Arbuckle Dolomite	3659'	3660'	-1517
Total Depth	3750'	3751'	-1608

SAMPLE ANALYSIS OF ZONES OF INTEREST: (corrected to the electric log)

Lansing	3460'-3463'	Fine crystalline, white lime, poor vuggy porosity, light spotty stain, trace of saturated stain. Show of free oil and odor in wet samples. Calculated tight (7%) and wet on log. Not worthy of testing.
	3495'-3497'	Barren, white oolitic lime, good oolitic porosity. Not worthy of testing.
	3574'-3576'	Cherty, grey, fossiliferous lime, poor pinpoint porosity, spotty stain with a trace of saturated stain. Slight show of free oil and odor. Calculated tight and wet on log. Not worthy of testing.
Arbuckle	3660'-3674'	Medium and coarse crystalline, rhombic dolomite, saturated stain, fair vuggy porosity. Good show of free oil and odor in wet samples. Calculated 9-11% porosity, greater than 70% water saturation. Consider testing prior to abandoning well.
	3674'-3682'	Dolomite as above with porosity increasing to good vuggy porosity, sucrosic in part. Calculated 11-14% porosity, 51-70% water. Consider testing prior to abandoning well.
	3685'-3695'	Dolomite as above. Occasional buff dolomite, coarse crystalline, rhombic, spotty stain, good vuggy porosity. Good show of free oil and odor. Calculated 9-17% porosity, 30-70% water. Test this zone first.

Arbuckle (cont.) 3695'-3708'

Dolomite as above, decreasing shows as depth increased. Water saturation calculated 97% water at 3708'. All water saturation calculations below this point were extremely high. All dolomite below about 3708' was barren, with fair and good vuggy porosity. Occasional fair oolitic porosity. Not worthy of testing.

REMARKS:

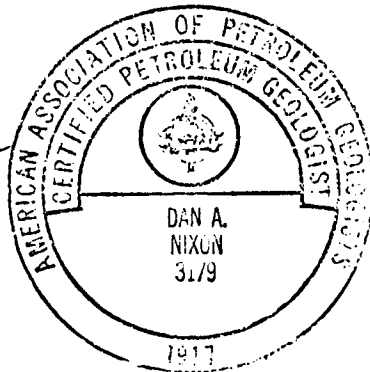
Structurally, the Lansing top on the #4 Theresa ran flat to the Arbuckle producer to the southeast approximately 1/3 mile, the #1 Theresa (R.P. Nixon Oper., Inc.). and 4' low to the abandoned producer to the west approximately 1/2 location, the #3 Theresa (currently an SWD, R.P. Nixon Oper., Inc.).

The Arbuckle top on the #4 Theresa was 3' low to the same #1 Theresa and 1' low to the same #3 Theresa.

Based on the good shows of oil throughout the upper Arbuckle and favorable structural position to surrounding production, 5 1/2" casing was cemented at 3747' for further testing.

Respectfully Submitted,

Dan A. Nixon
Dan A. Nixon, CPG #3179



DRILLING TIME LOG

3075'-3100'	2-1-1-2-1	1-2-1-1-1	2-1-1-1-1	1-1-1-1-2	3-2-3-2-2
3100'-3150'	3-3-2-3-2	4-1-1-2-1	2-1-3-3-4	4-4-3-3-4	3-3-4-4-4
	3-3-3-4-5	5-4-4-5-5	4-5-5-5-6	4-3-3-3-2	3-2-3-3-5
3150'-3200'	4-4-5-5-6	5-5-5-6-6	5-5-6-6-6	6-4-5-5-5	4-6-6-7-7
	6-6-6-4-5	4-3-3-4-5	5-5-5-5-5	5-5-5-5-6	4-3-6-5-6
3200'-3250'	5-4-4-3-4	3-3-4-3-2	2-2-2-3-3	5-7-6-8-7	6-8-9-8-7
	7-8-9-6-7	7-6-5-7-7	8-8-8-9-8	7-7-8-5-6	5-5-6-6-6
3250'-3300'	5-4-3-6-6	4-4-5-5-6	6-6-6-6-7	5-6-4-3-3	3-5-6-5-5
	6-6-7-5-5	4-3-4-7-7	7-7-7-6-6	5-7-6-4-6	5-5-5-6-5
3300'-3350'	7-8-7-7-6	5-5-5-5-6	7-6-6-6-5	6-5-6-6-5	3-3-5-6-6
	4-6-7-6-3	4-5-6-6-5	6-5-6-7-5	6-5-6-6-4	6-6-7-7-6
3350'-3400'	7-6-6-7-6	4-3-4-6-8	8-8-6-6-6	8-7-4-6-6	6-5-6-5-6
	4-4-6-6-7	6-6-7-7-7	6-8-8-7-7	7-7-7-7-5	5-4-5-5-6
3400'-3450'	8-7-7-6-3	3-2-2-2-1	2-6-6-6-7	6-7-6-5-6	6-5-5-5-5
	6-5-5-5-5	6-7-6-6-7	6-6-6-6-7	7-6-6-6-5	5-6-6-6-6
3450'-3500'	6-7-6-7-6	6-6-7-7-7	6-6-7-7-5	3-8-6-7-5	8-5-4-6-7
	7-7-7-7-6	4-4-5-5-5	3-4-6-7-6	6-4-7-6-7	6-2-4-7-7
3500'-3550'	8-6-7-7-7	8-6-7-7-7	7-7-8-7-7	8-7-7-6-7	7-6-7-8-6
	6-5-5-5-5	5-5-6-6-6	6-5-6-5-6	7-8-8-10-9	8-8-10-8-7
3550'-3600'	10-10-7-3-7	7-7-5-6-6	6-7-5-6-8	9-7-9-8-8	7-6-7-5-7
	5-6-8-8-7	7-7-7-8-6	9-9-9-9-9	10-10-8-9-8	8-8-8-7-8
3600'-3650'	9-7-8-10-9	9-8-9-9-10	9-9-9-9-6	10-9-9-9-10	9-8-8-7-8
	10-10-9-10-9	10-10-10-10-5	6-6-7-8-7	7-6-7-5-7	7-5-7-3-3
3650'-3700'	2-3-5-5-7	7-6-2-3-4	5-4-4-3-4	3-3-4-3-4	4-4-5-3-3
	4-2-2-5-4	4-3-3-1-5	3-4-6-6-5	3-2-3-4-2	5-5-5-5-3
3700'-3750'	3-3-2-3-5	3-3-3-5-4	5-5-5-4-4	3-3-3-3-2	2-5-5-4-3
	2-4-4-4-5	4-6-2-3-3	2-4-4-4-2	6-4-5-5-5	6-5-6-6-2
3750' RTD	CFS 1 hour @ 3750'				