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## GEOLOGIC REPORT

Mid-Continent Energy Corp. #1 Thorpe  
NE NW 25-9S-33W

### Daily Progress:

5-20 Moved on Location, set 8 5/8" casing at 307' with 225 sacks, plug down at 2:15 a.m.  
5-21 Waiting on cement, drilled out at 12:15 p.m.  
5-22 2605', drilling  
5-23 3225', drilling  
5-24 3986', drilling  
5-25 4300', coming out of hole for DST#1  
5-26 4381', drilling  
5-27 4569', drilling  
5-28 4740', conditioning hole prior to running electric log.  
5-29 Plugged the well, D & A

### Service Companies:

Contractor: Allen Drilling Co., Rig No.1  
Cement: Dowell  
Mud: Mud Co.  
E-Logs: Welex  
Testers: Western Testing

### Formation Tops (E-Log):

<u>Formation</u>	<u>Mid-Continent #1 Thorpe NE NW 25-9S-33W K B 3147</u>	<u>Structural Relation to Pickrell #1 Ross "A" NE SW 25-9S-33W</u>
B. Anhydrite	2709' (+438)	+1
Howard (?)	3778 (-633)	+4
Heebner	4060 (-913)	+2
Lansing	4100 (-953)	-1
Stark	4317 (-1170)	+1
B. Kansas City	4384 (-1237)	+1
Pawnee	4506 (-1358)	+3
Cherokee	4562 (-1415)	+3
Johnson Zone	4640 (-1493)	+4
Basal Penn.	4691 (-1544)	Absent
Mississippi	4710 (-1563)	-19
Miss. Volomite	4728 (-1581)	+12
Total Depth	4739 (-1592)	

Shows and DST's (E-Log Depths):

- 3778-3787 Howard Limestone (?)  
Dolomite and dolomitic limestone, sucrosic, fossiliferous, good intercrystalline and moldic porosity, very faint odor, slight show of free oil, weak fluorescence and slight cut, some barren porosity.
- DST #5 3772-3803 (Straddle Test)  
30-30-30-30  
Weak blow increased to fair blow on both opens  
Recovered: 120' muddy water  
Flow Pressures: 33-55, 55-77  
Shutin Pressures: 1063-1041  
Hydrostatic Pressures: 2000-1944  
Bottomhole Temp.: 119 degrees F
- 4188-4192 Lansing "F" Zone  
Limestone, white to cream, medium grained, mostly tight, trace of poor moldic porosity with show of tarry oil, no odor.
- 4282-4285 Kansas City "I" Zone  
Limestone, cream, fine to medium grained, rounded fossil grains and coated grains, mostly poor with some fair, moldic porosity, very faint odor, weak fluorescence, fair cut, slight show of gassy oil; show in 20% of sample.
- DST #1 4265-4298  
30-30-30-30  
Weak blow, died 12 minutes into second open  
Recovered: 10' oil specked mud  
Flow Pressures: 20-20, 20-20  
Shutin Pressures: 30-30  
Hydrostatic Pressures: 2211-2201  
Bottomhole Temp.: 121 degrees F
- 4303-4310 Kansas City "J" Zone  
Limestone, white, very fine grained, rounded fossil grains, mostly chalky and no show; scattered poor to fair moldic porosity, no odor, spotty stain and fluorescence, slight show of gassy oil, slight cut; show in 10% of sample.
- 4335-4342 Kansas City "K" Zone  
Limestone, grey, very granular, and tan, fine grained, rounded fossil grain, some fair intergranular and moldic porosity, faint to fair odor, spotty fluorescence and fair cut, show of gassy oil; show in 20% of sample.

DST #2 4290-4343  
30-30-60-60

Weak blow increased to fair on first open, weak blow on second open.  
Recovered: 20' of oil cut watery mud (15% oil, 30% water), 85' of oil specked  
muddy water (55% water); chlorides equal 20,000 ppm.  
Flow Pressures: 20-30, 30-40  
Shutin Pressures: 1223-1223  
Hydrostatic Pressures: 2201-2102  
Bottomhole Temp.: 1240 degrees F

4508-4518 Pawnee  
Limestone, white, mostly medium grained, chalky and soft with no show; some oolite with good intergranular porosity, very faint odor, light stain, weak fluorescence and slight show of gassy oil.

4556-4560 Lower Pawnee  
Limestone, weathered, tan, fine grained, whole and rounded fossil grains, some poor to fair moldic porosity, faint odor, uniform stain and fluorescence in 15% of sample, medium cut, show of free gassy oil.

DST #3 4508-4566  
30-30-30-30

Weak blow that died in 25 minutes  
Recovered: 30' mud with scum of oil  
Flow Pressures: 40-40, 40-40  
Shutin Pressures: 946-777  
Hydrostatic Pressures: 2409-2217  
Bottomhole Temp.: 126 degrees F

4570-4572 Cherokee Limestone  
Limestone, tan, poor moldic porosity, slight show of gassy oil.

4642-4652 Johnson Zone  
Limestone, tan to light brown, mostly very fine crystalline, chalky in part, some is fine grained with fair moldic and vuggy porosity and with good saturated stain and show of free gassy oil, stain on abundant fractures, faint odor, dull yellow fluorescence in 20% of sample; lower part is more chalky and less show.

DST #4 4610-4652  
30-30-30-30

Weak blow died in 15 minutes  
Recovered: 5' mud with no show  
Flow Pressures: 44-44, 44-44  
Shutin Pressures: 55-55  
Hydrostatic Pressures: 2522-2500  
Bottomhole Temp.: 125 degrees F

4660-4664 Limestone, white to cream, mostly fine crystalline, slightly fossiliferous, chalky in part, trace of poor moldic porosity, slight show of free oil and slight show of tarry oil, spotty fluorescence, no odor.

Mississippi Dolomite  
4728-4739 Dolomite, tan and light brown, fine crystalline, sucrosic, fair intercrystalline porosity, trace of free oil in few chips at top.

Summary:

The Mid-Continent Energy #1 Thorpe well was plugged and abandoned on May 29, 1985 due to lack of commercial oil shows. All significant shows were drill stem tested with negative results. Electric logs condemned all other zones.

Though porosity was better developed in most of the main objectives in the captioned well than it was in the key well located one-half mile south, the Pickrell #1 Ross "A" well, adequate porosity and permeability was not encountered. Thin intervals, two to six feet thick, with 7 to 11% porosity and with oil shows were encountered in the Kansas City I, J, and K zones and two Pawnee Limestones. Drill stem tests over these intervals indicated a lack of permeability.

Structurally, formations in the #1 Thorpe well were slightly higher (one to four feet) than the #1 Ross "A" well down to the top of the Mississippi. The Mississippi was found to be down 19 feet due to the top thirty-one feet of the Mississippi being absent due to erosion. The Mississippi Dolomite was found 12 feet higher in the captioned well. A basal Pennsylvanian sandstone filled much of the eroded interval. The sand is probably equivalent to that which is oil productive 2 1/2 miles to the west in Energy Exploration's Herbel Lease, where the sand is found 28' updip. There was no show of oil in the Basal Pennsylvanian sand in the #1 Thorpe Well.

Respectfully Submitted,

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