JAMES C. MUSGROVE
Petroleum Geologist
P.O. Box 1162
Great Bend, KS 67530
Office (620) 792-7716 Res. Claflin (620) 587-3444

LD Drilling Inc.
Hickel #9
SW-NE-SE; Section 30-17s-10w
Ellsworth County, Kansas

30 - 17 - 10W

5 ½" Production Casing Set

Contractor: Petromark Drilling Company (Rig #2)

Commenced: July 9, 2005

Completed: July 15, 2005

Elevation: 1794' K.B.; 1792' D.F.; 1789' G.L.

Casing Program: Surface; 8 5/8" @ 341'
Production; 5 1/2" @ 3305'

Samples: Samples saved and examined 2700' to the Rotary Total Depth.

Drilling Time: One (1) foot drilling time recorded and kept 2700' to the Rotary Total Depth.

Measurements: All depths measured from the Kelly Bushing.

Formation Testing: There was one (1) Drill Stem Test ran by Diamond Testers.

Electric Log: None.

Gas Detector: None.

Formation	Sample Depth	Sub-Sea Datum
Heebner	2842	-1048
Toronto	2861	-1067
Brown Lime	2961	-1167
Lansing	2975	-1181
Base Kansas City	3240	-1454
Conglomerate	3266	-1472
Arbuckle	3298	-1504
Rotary Total Depth	3310	-1516

(All tops and zone determinations were made from a correlation of Drilling Time Log and Sample Analysis).

SAMPLE ANALYSIS, SHOWS OF OIL, TESTING DATA, ETC.

TOPEKA SECTION

2780-2786' Limestone; tan, buff, slightly oolitic, fossiliferous in part, chalky, trace tan and cream, cherty limestone.

2796-2802' Limestone; white, cream, fossiliferous, chalky.

2810-2820' Limestone; as above, increasingly cherty, few chalky.

2830-2838' Limestone; gray, mottled oolitic, chalky, poor visible porosity, trace gray chert.

TORONTO SECTION

2861-2866'	Limestone; white, cream, slightly chalky, no shows.

LANSING SECTION

2978-2984'	Limestone; cream, tan, fossiliferous, chalky, poorly developed porosity, no shows.
2996-3001'	Limestone; cream, white, chalky.
3005-3012'	Limestone; cream, tan, oolitic, oomoldic, poorly developed oomoldic porosity, trace brown stain, no show of free oil or odor in fresh samples.
3030-3034'	Limestone; gray, white, fossiliferous, oomoldic, sparry calcite cement, poorly developed porosity.
3050-3056'	Limestone; gray, highly oolitic, slightly cherty, trace gray and tan chert.
3061-3066'	Limestone; as above.
3071-3088'	Limestone; tan, buff, oomoldic, fair to good oomoldic porosity, (barren).
3120-3126'	Limestone; buff, brown, oolitic, oomoldic, fair to good oomoldic porosity, trace poor spotty stain, no show of free oil or odor in fresh samples.
3140-3146'	Limestone; gray, tan, oolitic, sub oomoldic, chalky, poorly developed porosity.
3176-3180'	Limestone; gray, oolitic, chalky, plus limestone, tan, slightly cherty, dense.
3190-3196'	Limestone; gray, white, fossiliferous in part, chalky, no shows.
3210-3216'	Limestone; tan, fossiliferous, chalky, few oolitic, trace brown stain, trace of free oil and no odor in fresh samples.

CONGLOMERATE SECTION

3266-3274'	Chert; white, gray, amber, orange, oolitic, weathered plus chert, clear, crystallized, two pieces brown and black stain, trace of free oil and faint odor samples broken.
3286-3294'	Chert; as above, plus maroon brick red, brown shale.

ARBUCKLE SECTION

3298-3304'	Dolomite; white, gray, fine to medium crystalline, (barren).
3304-3308'	Dolomite; cream, white, medium crystalline, fair intercrystalline porosity, trace spotty brown stain, weak show of free oil and faint odor in fresh samples.
3308-3310'	Dolomite; as above, trace iron pyrite, trace brown to golden brown stain, trace free oil and faint odor in fresh samples.

Drill Stem Test #1 **3235-3310'**

Times: **45-30-45-30**

Blow: **Weak (1 ¼" inches)**

Recovery: **280' slightly mud and gas cut oil**
(10% mud, 10% gas, 80% oil)

Pressures:

ISIP	**1032**	**psi**
FSIP	**978**	**psi**
IFP	**25-83**	**psi**
FFP	**84-1373**	**psi**
HSH	**1598-1515**	**psi**

Rotary Total Depth **3310 (-1516)**

Recommendations:
On the basis of the favorable Drill Stem Test, it was recommended by all parties involved to set and cement 5 ½" production casing at 3305' (five feet off bottom) and the following zone be tested in the Hickel #9:

1. Arbuckle open hole completion methods

Before abandonment all zones with sample shows and porosity should be tested through perforations.

Respectfully submitted;

James C. Musgrove
Petroleum Geologist

JAMES C. MUSGROVE LICENSED 307 KANSAS GEOLOGIST