

**KIM B. SHOEMAKER**  
 CONSULTING GEOLOGIST  
 316-584-9709 \* WICHITA, KS

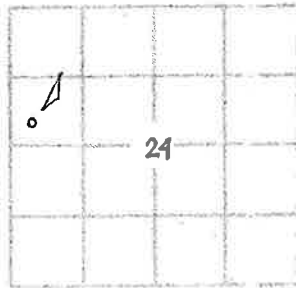
**GEOLOGIST'S REPORT**  
 DRILLING TIME AND SAMPLE LOG

COMPANY L. D. DRILLING, INC.  
 LEASE B-1-24 TERRY  
 FIELD WILDCAT  
 LOCATION 2310' FNL ± 360' FWL  
 SEC 24 TWP 6s RGE 18W  
 COUNTY ROOKS STATE KANSAS  
 CONTRACTOR L. D. DRILLING, INC.  
 SPUD 3-28-19 COMP 4-5-19  
 RTD 3610 LTD 3608  
 MUD UP 2878 TYPE MUD CHEMICAL

ELEVATIONS  
 KB 1988  
 DF \_\_\_\_\_  
 GL 1983  
 Measurements are all  
 from 1988 KB  
 CASING  
 SURFACE 8 5/8" @ 257'  
 PRODUCTION 5 1/2" @  
 ELECTRICAL SURVEYS  
 Dual IND, DENS-N, MICRO

SAMPLES SAVED FROM \_\_\_\_\_ 2900 TO 3610  
 DRILLING TIME KEPT FROM \_\_\_\_\_ 2800 TO 3610  
 SAMPLES EXAMINED FROM \_\_\_\_\_ 2900 TO 3610  
 GEOLOGICAL SUPERVISION FROM \_\_\_\_\_ 3000 TO 3610  
 GEOLOGIST ON WELL KIM B. SHOEMAKER

FORMATION TOPS	LOG	SAMPLES
ANHYDRITE	1431 + 557	1435 + 553
B/ANK.	1460 + 528	1461 + 527
TOPEKA	2920 - 932	2921 - 933
NEEBNER	3126 - 1138	3124 - 1136
LANSING	3164 - 1176	3163 - 1175
B/KC	3400 - 1412	3400 - 1412
ARBUCKLE	3508 - 1520	3505 - 1517



REMARKS

3-28-19 SPUD  
 3-29 @ 536'  
 3-30 @ 1855'  
 3-31 @ 2605'  
 4-1 @ 3086'  
 4-2 @ 3220'  
 4-3 @ 3360'  
 4-4 @ 3555'  
 4-5 @ 3610'

API: 15-163-24386

LEGEND

- Anhydrite
- Salt
- Sandstone
- Shale
- Coarb sh
- Limestone
- Cellulose
- Giant
- Calumite

DRILLING TIME IN MINUTES  
 PER FOOT

Rate of Penetration increases



DEPTH  
 1400

1450

REMARKS

SAMPLE DESCRIPTIONS

ANHYDRITE 1435 + 553

B/ANK. 1461 + 527

LITHOLOGY

1500

2000

2100

3000

Samples are Lagged

Sh. Lt. G. & Silty

Sh. Lt. G. & G.

TOPEKA 2921-933

ls. wt. VSS. Foss. Silty Chly.

ls. Lt. G. VSS. Foss. Silty

ls. Foss. Silty Foss. Foss. No odor

Sh. Lt. G.

ls. G. Silty Foss.

Sh. Lt. G. & G.

ls. Lt. G. Silty

Sh. Lt. Blue-G.

ls. wt. Foss. Calcitic

Sh. Lt. Blue-G.

ls. G. Silty Foss.

Sh. Lt. G. & R.

ls. R. VSS. Foss.

Sh. Lt. Silty Silty

Sh. Lt. Blue.

ls. wt. Silty Silty Chly.

ls. wt. Foss. Silty Chly.

Sh. Lt. G. & G.

ls. G. VSS. Foss.

Sh. Lt. Blue-G.

Bridge 15' off bottom. Side to open

DST (1) 3068-3096

1st open: Built to 1"

2nd open: " " 1 1/2"

30-95-45-60

Rec. 62 VSS/GC WM

(516.1' Cal. 301.4' W. Cal.)

FP: 3940 41-48\*

SP: 1070-1033\*

Top Sample

2/4/11

5/1/11

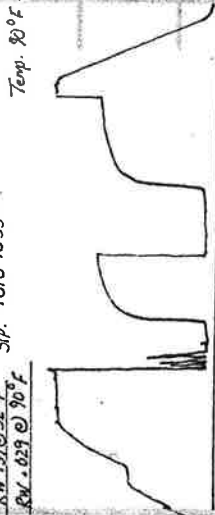
9/21/11

PH: 7

DST (1)



FP: 3940 41-48 \*  
RW: 390520°F  
SIP: 1070-1033 \*  
RW: 029 @ 70°F



Sh. Lt. Blue Gr.  
Ls. w/ wt. Sil. Foss. V. Sil. Ch. L. F. V. P.  
M. D. R. Sp. Sil. V. Sil. T. C. S. No. Foss. No. Foss.  
No. Foss.  
Ls. w/ wt. V. Sil. Foss. Sil. A.  
Sh. G.  
Ls. w/ wt. Foss. Sil. Ch. L.  
Ls. w/ wt. Sil. Foss. Sil. Ch. L.

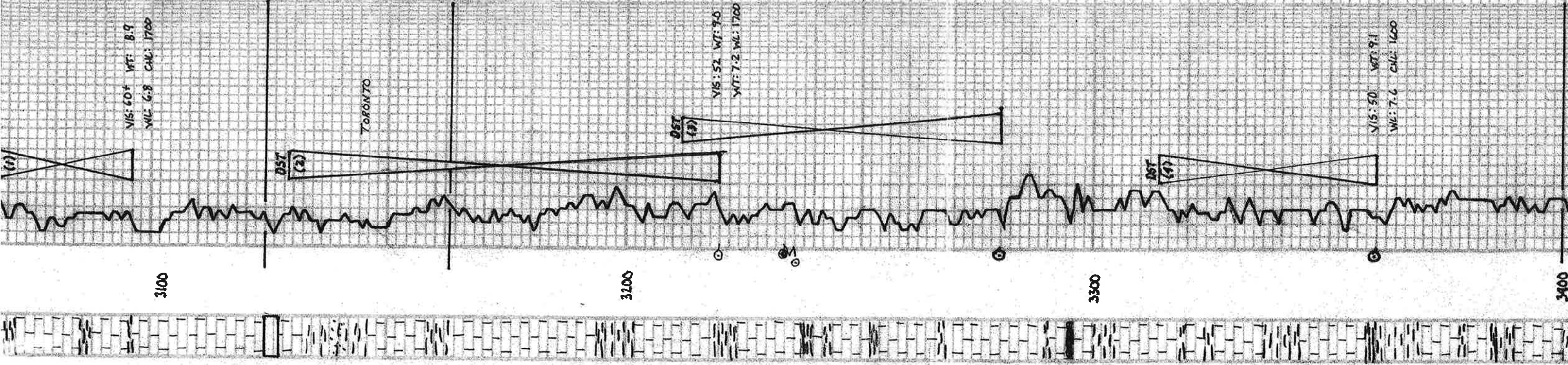
**HEENNER 3124-1136**  
Sh. Lt. Blue Gr.  
Ls. w/ wt. V. Sil. Foss. Sil. A.  
Sh. Lt. Blue Gr. Silt.  
Ls. w/ wt. Foss. Sil. A. F. V. P.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.

**LANSING 3163-1175**  
Sh. Lt. Blue Gr.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.

**DST (3) 3212-3280**  
Bridge 5' from bottom  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.

**DST (4) 3314-3360**  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.

**B/KC 3400-1412 (3400)**  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.  
Ls. w/ wt. Sil. Foss. Sil. A. F. V. P.



FP: 3940 41-48 \*  
RW: 390520°F  
SIP: 1070-1033 \*  
RW: 029 @ 70°F  
Temp. 90°F  
FP: 11-13 13-14 \*  
SIP: 879-976 \*



Sh. Rd. Cr.

Sdy Silty sh. Lt. Bl. Lig.

Sh. Rd. Soft

CS. w/ Sil. Foss. Sil. Chalky.

Sh. Rd.

Sh. Rd. Pink

CS. w/ Yellow Foss. Sil. A

CS. w/ Sil. Foss. Chalky.

Sh. Rd.

CS. w/ Yellow Foss. Sil. A

Sh. Rd. Pink

Sh. Rd.

ARBuckle 3505-1517

CS. w/ Sdy. Pink w/ Sil. Lig. H. Bl. Lig.

Dol. w/ Min. Void

Dol. w/ Lig. M. Bl. Lig.

Dol. w/ M. Bl. Lig.

Dol. w/ Pink. Fr. M. Bl. Lig.

Dol. w/ Fract. V. Sil. A

Dol. Pink Lig. M. Bl. Lig.

Dol. Fract. Fract. Sil. Sdy. M. Bl. Sil. Red. Sil.

Dol. Fract. Fract. Sil. A w/ Co. Sil. G. Sil.



3500

3600

VIS: 52 WT: 9.2  
WIL: 7.6 CHL: 19.00

RTD 3610-1622