

KIM B. SHOEMAKER
 CONSULTING GEOLOGIST
 316-884-9709 * WICHITA, KS

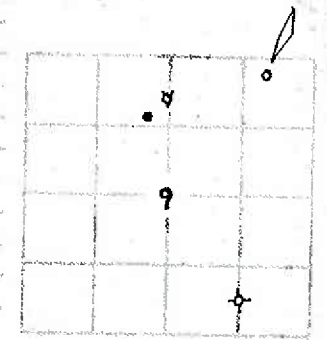
GEOLOGIST'S REPORT
 DRILLING TIME AND SAMPLE LOG

COMPANY L. D. DRILLING, INC.
 LEASE *1-9 RIEBEL
 FIELD WILDCAT
 LOCATION 330' ENL $\frac{1}{2}$ 800' FEL
 SEC 9 TWP 19s RGE 27W
 COUNTY LANE STATE KANSAS
 CONTRACTOR L. D. DRILLING, INC.
 SPUD 1-19-16 COMP 1-29-16
 RTD 4750 LTD 4752
 MUD UP 3373 TYPE MUD CHEMICAL

ELEVATIONS
 KB 2713
 DF
 GL 2708
 Measurements Are All
 From 2713 KB
 CASING
 SURFACE 8 5/8" @ 306'
 PRODUCTION 5 1/2" @
 ELECTRICAL SURVEYS
 DUAL IND, DENS-N. MICRO

SAMPLES SAVED FROM 3500 TO 4750
 DRILLING TIME KEPT FROM 3400 TO 4750
 SAMPLES EXAMINED FROM 3500 TO 4750
 GEOLOGICAL SUPERVISION FROM 3900 TO 4750
 GEOLOGIST ON WELL KIM B. SHOEMAKER

FORMATION TOPS	LOG	SAMPLES
ANHYDRITE	2062-651	2059-654
B/ANH.	2092-621	2090-623
STOTLER	3648-835	3646-833
HEBNER	3986-1273	3984-1271
LANSING	4027-1314	4024-1311
STARK	4290-1577	4285-1572
B/KC	4368-1655	4366-1653
MARMATON	4398-1685	4395-1682
FORT SCOTT	4542-1829	4539-1826
CHEROKEE	4565-1862	4562-1849
MISSISSIPPI	4652-1939	4648-1935



API: 15-101-22577

REMARKS

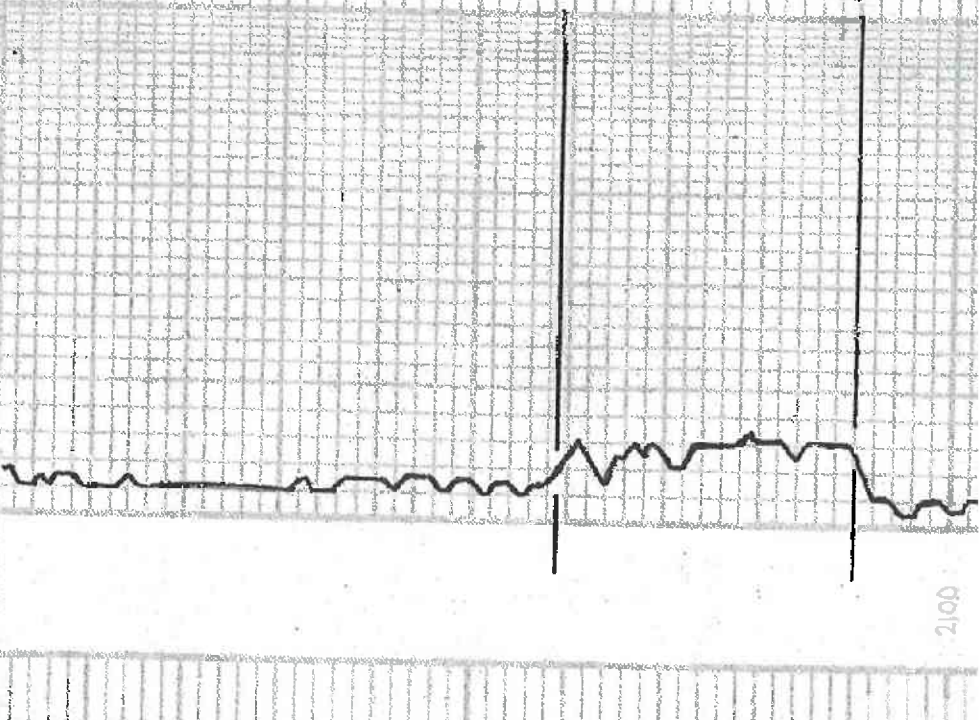
1-19-16, SPUD.
 1-20 @ 309'
 1-21 @ 1005'
 1-22 @ 2300'
 1-23 @ 3270'
 1-24 @ 3923'
 1-25 @ 4310'
 1-26 @ 4356'
 1-27 @ 4590'
 1-28 @ 4642'
 1-29 @ 4750'

LEGEND

- Dolomite
- Chert
- Oil Lims
- Limestones
- Carb sh
- Shale
- Sandstone
- Salt
- Anhydrite

DRILLING TIME IN MINUTES
 PER FOOT
 Rate of Penetration Increases

DEPTH
 2000



SAMPLE DESCRIPTIONS

REMARKS

ANHYDRITE 2059-654

B/ANH. 2090-623

3400

3500

3600

Samples are tagged

Sh. Hlg. G. Sdy. Silty

Sh. Hlg. G. Silty

STOTLER 3516-833

Ls. Th. Bl. Sdy. Foss.

Ls. G. Silty Foss.

Ls. Wt. Foss. Colitic

Ls. Hlg. G. Wt. Foss.

Sh. Hlg.

Ls. Bl. Sdy. Foss. Colitic

Sh. G.

Ls. Dk. Bl. G. Wt. Foss.

Sh. Hlg. Sdy.

Ls. Wt. Wt. Wt. Foss. Silty

Ls. Th. Bl. Sdy. Foss.

3700

3800

3900

4000

LS. T.M.B. Sh. Foss.

Shaly shale

LS. wt. Foss. Calcitic

LS. wt. Hg. Sh. Foss.

LS. wt. Hg. Foss.

LS. T.M.B. Foss. Calcitic

Sh. Hg.

LS. wt. Hg. Foss. Chly.

LS. wt. Hg. Foss. Chly.

LS. wt. Sh. Foss. Chly.

Sh. Hg.

LS. Bl. Sh. Foss.

Sh. Hg. Sdy

LS. T. Sh. A. Calcitic

LS. Foss. ool. Sh. A.

LS. wt. ool. Calcitic

Shaly Calc.

Sh. Hg. Blk.

LS. D.K.R. D.

LS. wt. Hg. Foss.

LS. G. Dm.

LS. T. H. B. Foss. Calcitic

LS. Foss. ool. Foss.

LS. Bl. Sh. Foss.

LS. wt. Sh. Foss. Chly.

HEEBNER 3981-1271

Sh. Blk. Gng.

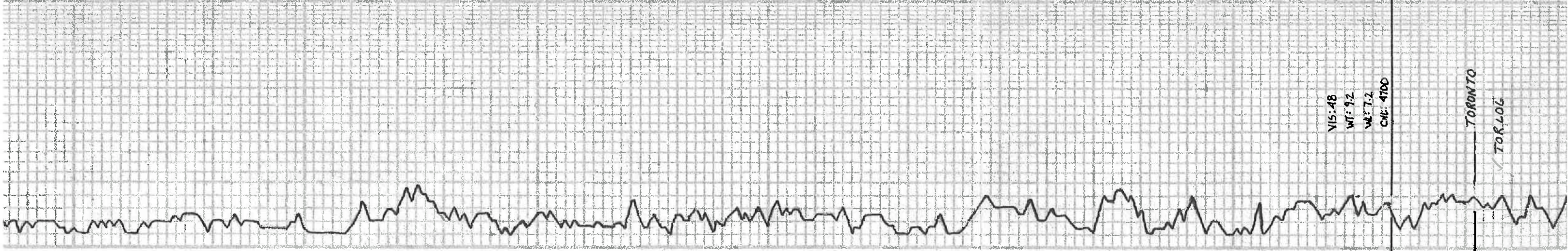
Sh. L. Biv. Gd.

LS. wt. Sh. Foss. Sh. A.

Sh. Rd.

VIS: 48
WT: 9.2
WT: 7.2
CMT: 4700

TORONTO
TOR-LOG



LANSING 4024-1311

LS. 7 1/2" VSB. BSS

4-10-143

LS. 7-1/2" VSB. BSS

LS. 7-1/2" VSB. BSS

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4100

4200

4300

✓ Muncie Log

DST (1)

STARK LOG

DST (2)

VIS: 50

WT: 95

WL: 6-8 1

CM: 4300

DST (1) 4283-4310

15' Open: Blow bit to 1 1/4"

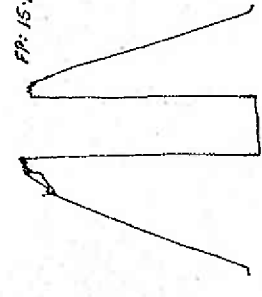
Shut in tool failed

30"

Rec. 18 Mud

FP: 1524

Temp: 113°F



Tool Sample: 1007 Mud

DST (2) 4321-4356

15' Open: Blow bit to 5 1/2"

2' Open: " " " 4 3/4"

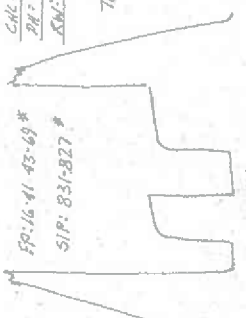
30-45-45-60

Rec. 106 WM (KSWSS/A)

FP: 1641-43-69*

SIP: 831-827*

Temp: 119°F



Tool Sample: 1101 SF w/ 437 Mud

