

KIM B. SHOEMAKER

CONSULTING GEOLOGIST

316-684-9709 * WICHITA, KS

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY L. D. DRILLING, INC.
 LEASE # 2-31 LARRY
 FIELD LUNDGREN
 LOCATION 2310' FSL & 1750' FEL
 SEC 31 TWP 14s RGE 29w
 COUNTY GOVE STATE KANSAS
 CONTRACTOR L. D. DRILLING, INC.
 SPUD 6-18-14 * COMP 11-29-14
 RTD 4401 LTD 4404
 MUD UP 3417 TYPE MUD CHEMICAL

ELEVATIONS
 KB 2628
 DF _____
 GL 2623
 Measurements Are All From 2628 KB
 CASING SURFACE 8 5/8" @ 329'
 PRODUCTION 5 1/2" @
 ELECTRICAL SURVEYS
 DUAL IND., DENS-N., MICRO

SAMPLES SAVED FROM 3300 TO 4400
 DRILLING TIME KEPT FROM 3200 TO 4400
 SAMPLES EXAMINED FROM 3300 TO 4400
 GEOLOGICAL SUPERVISION FROM 3500 TO 4400
 GEOLOGIST ON WELL KIM B. SHOEMAKER

FORMATION TOPS	LOG	SAMPLES
ANHYDRITE	2032+596	2028+600
B/ANK.	2063+565	2060+568
STOTLER	3271-643	3267-639
HEEBNER	3645-1017	3642-1014
LANSING	3685-1057	3680-1052
STARK	3925-1297	3920-1292
MARMATON	4021-1393	4017-1389
FORT SCOTT	4175-1547	4171-1543
CHEROKEE	4200-1572	4198-1570
MISS. SPERGEN	4283-1655	4280-1652



REMARKS

* Spudded well, moved off after surface set, returned to finish

6-18-14 Spud 11-21 @ 4400'

6-19 Set Surf, shot down

11-19 Riser up

11-20 @ 945'

11-21 @ 2286'

11-22 @ 2935'

11-23 @ 3385'

11-24 @ 3785'

11-25 @ 3940'

11-26 @ 4120'

11-27 @ 4200'

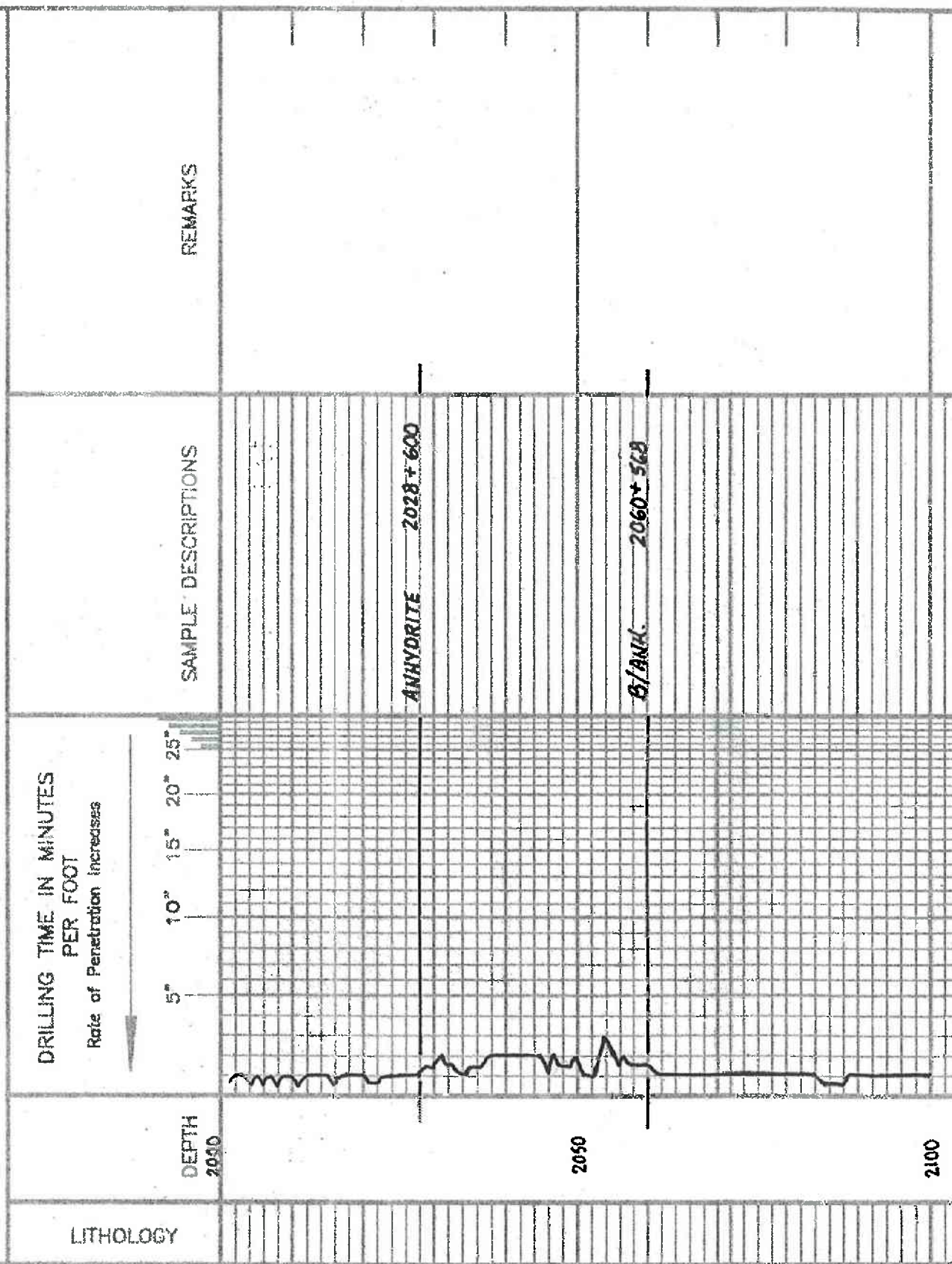
11-28 @ 4260'

API: 15-063-2220B

LEGEND

- Anhydrite
- Salt
- Sandstone
- Shale
- Carb sh
- Limestone
- Ool. Lims
- Chert
- Dolomite

SHOE01-11



3200

3300

3400

STOTLER 3267-639

Samples are tagged

Sh. 6346

Displaced @ 3317

Sh. wt. Sh. Foss. Sh. A

Sh. 64
Wt. 86
Wt. 68
Cal. 1100

Sh. Foss. Cyclic.

Sh. 64

Sh. 64 V. Foss. V. Sh. Foss. Sh. 64

45. To V. 10. 1/2 V. 1/2 F. 1/2 S. 1/2 D. 1/2

45. 414, Bar.

Sh. 6y.

Sh. 414y.

45. W. 1/2 S. 1/2 W. F. 1/2

45. 414, 45. W. 1/2 Chilly.

45. 1000 D. 1/2y.

45. 1/2 W. 1/2 Chilly.

45. 414

A. 1/2

45. 1/2 W. 1/2 S. 1/2 W. F. 1/2

A. 1/2 Chilly.

45.

HEEBNER
3692-1019

45. 414, 5. 1/2

TORONTO

45. W. 1/2 S. 1/2 F. 1/2 S. 1/2 A.

45.

LANSING 3680-1052

45. To W. 1/2 S. 1/2 F. 1/2 S. 1/2 Chilly. No. 1/2
To W. 1/2 S. 1/2 F. 1/2 S. 1/2 F. 1/2 No. 1/2

45. 1/2 W. 1/2 S. 1/2 F. 1/2 S. 1/2 Chilly.

Sh. 10y.

Sh. 414, 6.

45. To F. 1/2 S. 1/2 F. 1/2 S. 1/2 D. 1/2

45. To W. 1/2 F. 1/2 S. 1/2 Chilly. No. 1/2
To W. 1/2 S. 1/2 F. 1/2 S. 1/2 F. 1/2 No. 1/2 (3750)

45. To S. 1/2 A. Chilly.

Sh. 10y.

45. 414, 1/2 S. 1/2 F. 1/2

45. To S. 1/2 F. 1/2 S. 1/2 Chilly. No. 1/2
To W. 1/2 S. 1/2 F. 1/2 S. 1/2 F. 1/2 No. 1/2 (1750)

45. To S. 1/2 W. 1/2 S. 1/2 A.

45. To W. 1/2 F. 1/2 S. 1/2 F. 1/2 No. 1/2

45. W. 1/2 Chilly.

45. 414, 1/2 S. 1/2 Chilly.

3600

3400

3100

2800

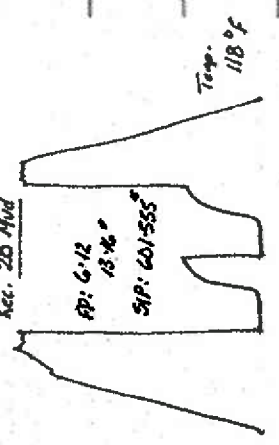


MUNCIE CREEK 3834-1206

15' 51" WT: 8.9
15' 10" CH: 2000
15' 00" WT: 8.9
15' 00" CH: 2000

DST (2) 3833-3920

15' 00" Surf. Blow 15 min.
24' 00" No Blow



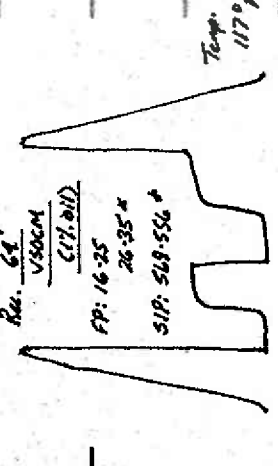
30-30-30-30
Rec. 20 Mud

AP: 6-12
18%
SIP: 601-555

Tool Sample: Sp. Soil, Mud.

DST (2) 3917-3980

15' 00" Surf. Blow 7 min
24' 00" No Blow



Rec. 64'
VISOCM
CIT. 011

FP: 16-25
26-35%
SIP: 518-556

Tool Sample: Sp. Soil, Mud.

STARK 3920-1292

15' 00" Surf. Blow 15 min
24' 00" No Blow

HUSHUCKNEY 3986-1328

15' 00" Surf. Blow 15 min
24' 00" No Blow

15' 44" WT: 9.0
15' 18" CH: 2400

DST (3) 4000-9147

15' 00" Surf. Blow 15 min
24' 00" No Blow

MARMATON 4017-1389

15' 00" Surf. Blow 15 min
24' 00" No Blow

DST (3) 4000-9147

15' 00" Surf. Blow 15 min
24' 00" No Blow

Rec. 124' 61P 3' CO GIAR. 38

63' HOSGWM (51.6, 151.6, 101.4, 201.4)

63' 5062WIM (51.6, 151.6, 101.4, 201.4)

126' MIMW 50 (807-2, 207.4)

77: 255'

FP: 24-67
74-124'

SIP: 979-364*

CH: 53,000
PH: 25 @ 75'

Temp 128°F

Tool Sample: Water spots oil.

PAWNEE 4111-1483

15' 00" Surf. Blow 15 min
24' 00" No Blow

DST (4) 4138-4200

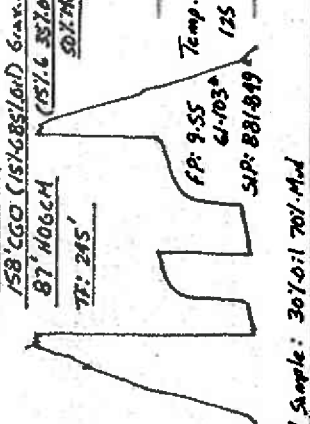
15' 00" Surf. Blow 12 min
24' 00" No Blow

Temp 128°F

MYRICK STATION 4147-1519

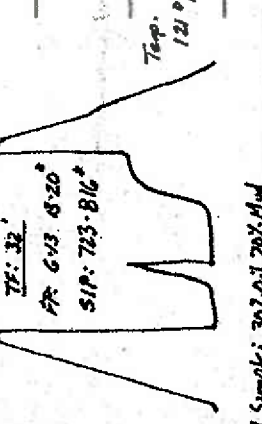
15' 00" Surf. Blow 15 min
24' 00" No Blow

385' G.P.
158' CGO (157' GBS/LAD) Grav. 35
87' HDGCM (151.6' BT/01
90.1' HDG)



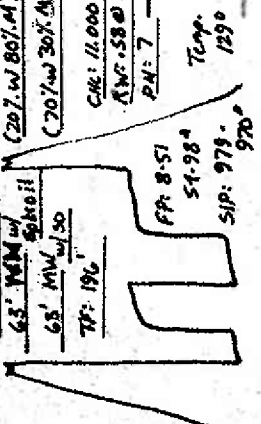
Tool Sample: 307.01 701 Mid
DST (S) 4198-4260
150 PSI: Blow built to 16"

30-30-45-60
Rec. 2' CO
30' MD (607.01 401.M)
7F: 32'
FP: 643 820°
SIP: 723-816°
Temp. 121°F



Tool Sample: 307.01 701 Mid

DST (6) 4288-4285
150 PSI: Blow built to 10"
MOMENT: 30-45-45-60
Rec. 3' CO
67' SOC W/M (57.01 w 857.M)
45' MIN w/ Shell
65' MIN w/ 50
7F: 196'
FP: 857
SIP: 979°
Temp. 129°
C/M: 11,000
R/W: 59 @ 70
RH: 7



Tool Sample: 807 w 20' Mid w/ 50

SHAL GARD
FORT SCOT 417-1543
65' Dig. mol. Calcite P. by d
Sal. in Sal. YSSER Dull Sil. Flaw. V. Odor
65' G.Ly. Du.

CHEROKEE 4198-1570
Sh. G. G.
65' Mol. Sil. P. by d
55' Dull Sil. Flaw. V. Odor
65' G.Ly. Du.

JOHNSON 4241-1613
65' Mol. Sil. P. by d
55' Dull Sil. Flaw. V. Odor
65' G.Ly. Du.

MISSISSIPPI ST. LOUIS 4220
65' Mol. Sil. P. by d
55' Dull Sil. Flaw. V. Odor
65' G.Ly. Du.

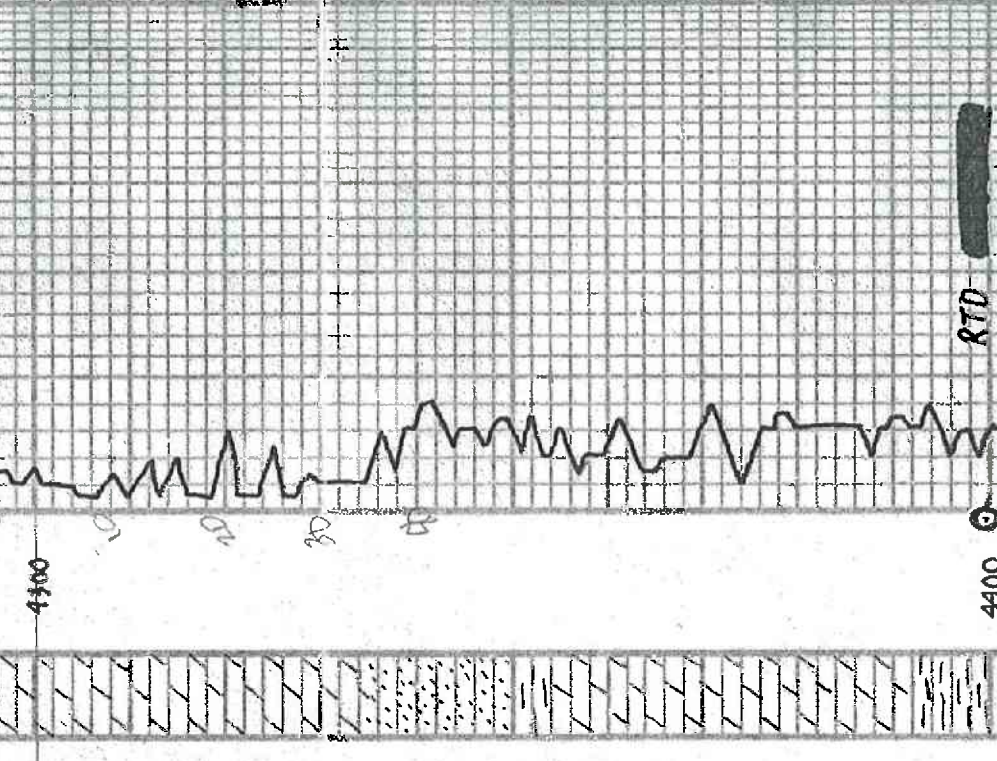
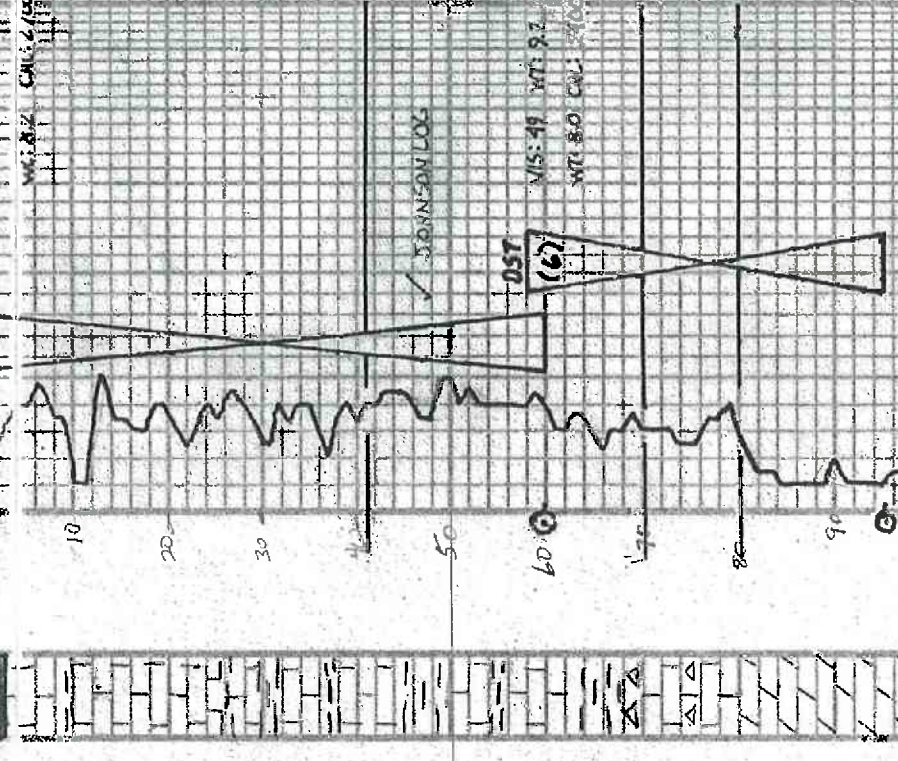
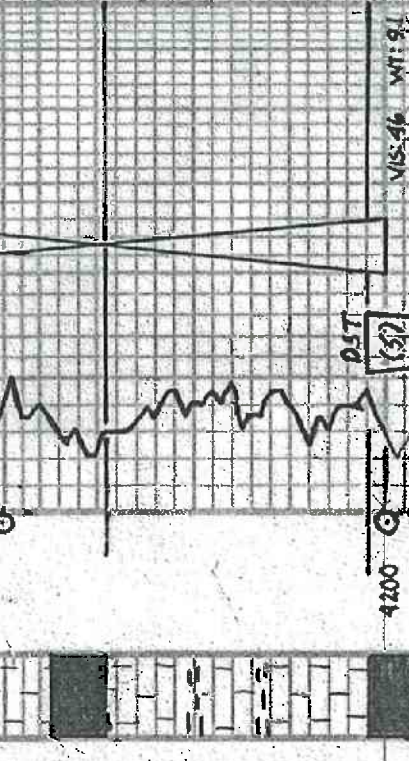
MISS. SPERGEN 4280-1452
65' Mol. Sil. P. by d
55' Dull Sil. Flaw. V. Odor
65' G.Ly. Du.

D. L. Tank V. Exch. Sm. V. Sil. Flaw. Hs.
D. L. Tank V. Exch. Sm. V. Sil. Flaw. Hs.

D. L. Tank V. Exch. Sm. V. Sil. Flaw. Hs.
D. L. Tank V. Exch. Sm. V. Sil. Flaw. Hs.

D. L. Tank V. Exch. Sm. V. Sil. Flaw. Hs.
D. L. Tank V. Exch. Sm. V. Sil. Flaw. Hs.

D. L. Tank V. Exch. Sm. V. Sil. Flaw. Hs.
D. L. Tank V. Exch. Sm. V. Sil. Flaw. Hs.



4200	4300	4400	4401-4475
------	------	------	-----------