

KIM B. SHOEMAKER

CONSULTING GEOLOGIST

318-584-9709 * WICHITA, KS

GEOLOGIST'S REPORT

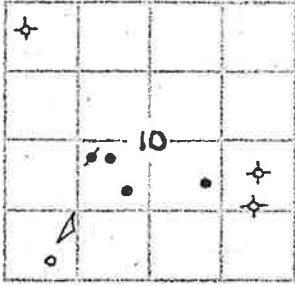
DRILLING TIME AND SAMPLE LOG

COMPANY L. D. DRILLING, INC.
 LEASE 4-10 WAT
 FIELD DOLL EAST
 LOCATION 330' FSL 7 840' FWL
 SEC 10 TWP 16s RGE 30w
 COUNTY LANE STATE KANSAS
 CONTRACTOR L. D. DRILLING, INC.
 SPUD 10-29-19 COMP 11-8-19
 RFD 4660 LTD 4550
 MUD UP 3348 TYPE MUD CHEMICAL

ELEVATIONS
 KB 2738
 DF _____
 RL 2733
 Measurements Are All
 From 2738 KB
 CASING
 SURFACE 8 5/8" @ 285'
 PRODUCTION 5 1/2" @
 ELECTRICAL SURVEYS
 DUAL IND, DENS-N. MICRO,
 SONIC

SAMPLES SAVED FROM 3600 TO 4550
 DRILLING TIME KEPT FROM 3300 TO 4550
 SAMPLES EXAMINED FROM 3600 TO 4550
 GEOLOGICAL SUPERVISION FROM 3500 TO 4550
 GEOLOGIST ON WELL LARRY FRIEND/KIM SHOEMAKER

FORMATION TOPS	LOG	SAMPLES
ANHYDRITE	2140+598	2142+596
B/ANH.	2169+569	2171+567
STOTLER	3409-671	3409-671
HEEBNER	3792-1054	3793-1055
LANSING	3828-1090	3831-1093
STARK	4080-1342	4079-1341
MARMATON	4194-1456	4194-1456
FORT SCOT	4344-1606	4343-1605
CHEROKEE	4368-1630	4369-1631
MISSISSIPPI	4448-1710	4448-1710



API: 15-101-22636

Larry Friend Supervised Well
 from 3600-4104

KBS 3400-3600
 4109-RTD

REMARKS

10-29-19 SPUD
 10-30 @ 288'
 10-31 @ 1250'
 11-1 @ 2340'
 11-2 @ 3075'
 11-3 @ 3348'
 11-4 @ 3575'
 11-5 @ 4104'
 11-6 @ 4236'
 11-7 @ 4430'
 11-8 @ 4550'

LEGEND

- Anhydrite
- Soft Sandstone
- Sandstone
- Shell
- Calc. sh. Laminated Gullies
- Gullies
- Dolomite

DRILLING TIME IN MINUTES
 PER FOOT
 (Scale of Penetration Testimony)

DEPTH
 2100

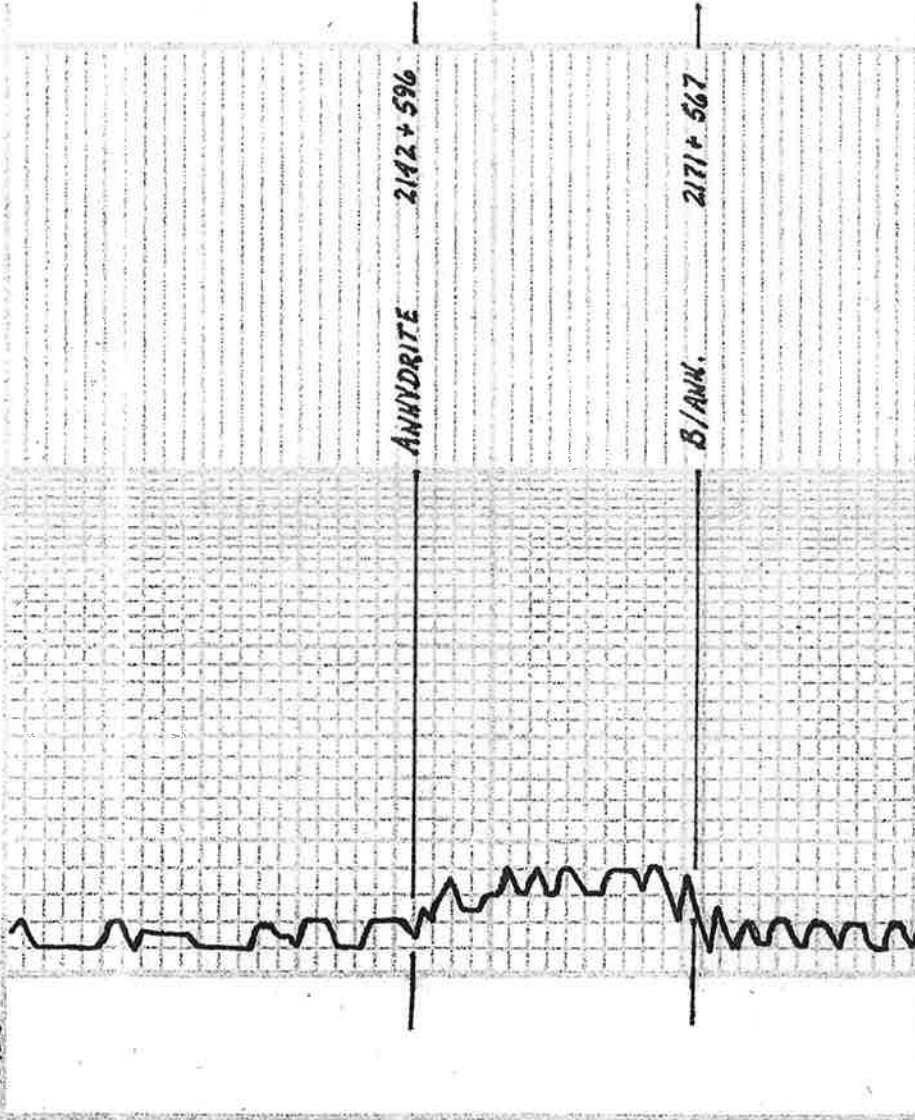
SAMPLE DESCRIPTIONS

REMARKS

LITHOLOGY

ANHYDRITE 2142+596

B/ANH. 2171+567



2410501-11

2200

3300

3400

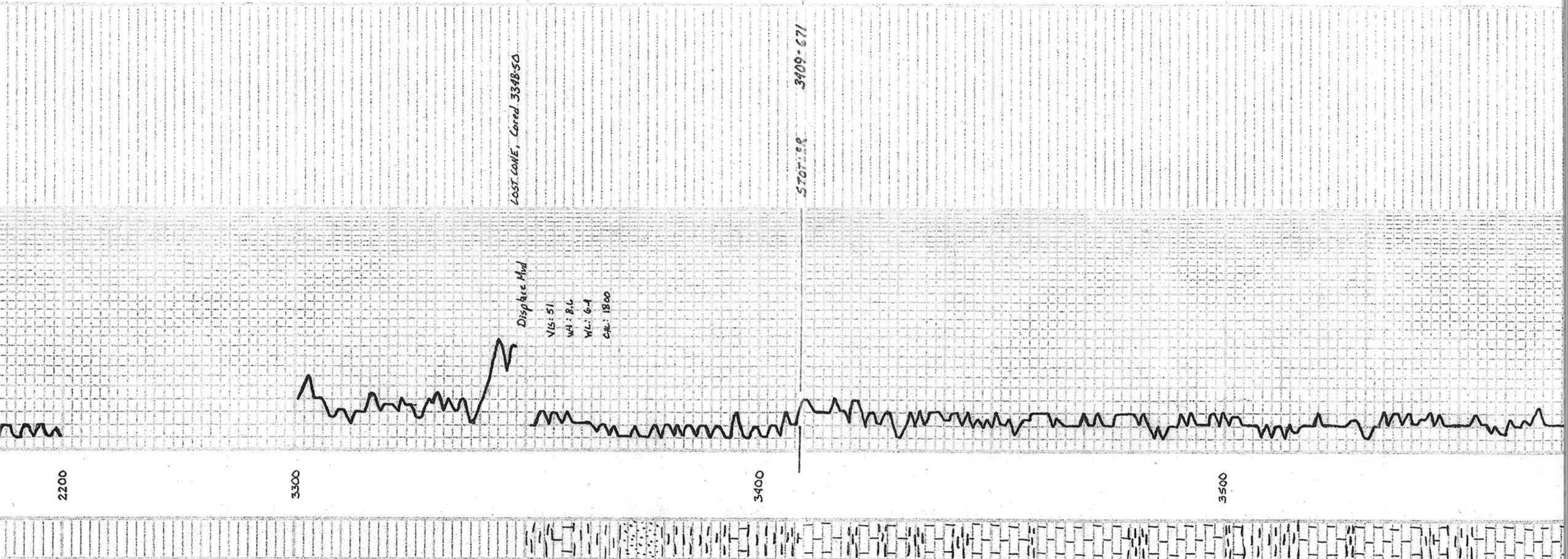
3500

LOST CONE, Cored 3348-50

STOPPER 3409-671

Displace Mud

VIS: 51
WT: 8.6
WL: 6.4
CM: 1800



Samples are lagged

15. 41. Bu. Foss.

15. wt chly.

Sh. 41.5. 4

15. 41.5. wt. Foss.

41.5. 4.

15. wt. Foss. col. Sil. A

15. Bu. Sil. Foss.

Sh. 41.5.

Sh. 41.5. Sil.

15. 41.5. 4. Foss. col.

15. 41.5. Foss. alonli.

Sh. 41.

15. wt. 41.5. Foss. chly.

15. 7. 41.5. Foss.

15. 7. 41.5. Sil. Foss. wt. chly.

15. 41.5. Sil. Foss.

15. 7. 41.5. V. Foss. Sil. Foss.

15. 41.5. Coarsely Foss.

HEEBNER 3793-1055
Sh. 41.5. 4. 1. 5.

15. 41.5. Sil. Foss.

Sh. 41.5.

15. wt. Sil. Foss. Sil. A

15. wt. 41.5. Foss. Sil. A

Sh. 41.5.

LANSING 3831-1093

15. 7. 41.5. Foss.

15. 7. 41.5. Sil. Foss. wt. chly.

Sh. 41.5.

Sh. 41.5.

15. Bu. Foss. Sil. Foss.

Sh. 41.

15. Bu. V. Foss.

15. 41.5. Sil. chly.

3600

Vis: 54 WT: 88
WL: 6.8 CHL: 2200

3700

H6

3800

Lans

15

16. Cm Sil chly.

Sh. G.

15. Bl. Fossils Sil Foss.

15. w/ Sil Foss Sil chly.

15. Bl. Yool.

15. Bl. V. Fossils

15. w/ V. Sil Foss Sil chly.

15. Bl. V. Fossils Dns.

MUNCIE CREEK 3995-1257
Sh. Bl. G. B.

15. Bl. V. Fossils Sil Foss.

Sh. Sand G.

15. Bl. Fossils

15. Bl. Some ool. Foss.

Sh. Bl. G. B. Foss.

Sh. L. G.

15. Bl. V. Sil ool.

15. Cm Bl. Foss/ool.

Sh. L. G.

15. Bl. Foss/ool.

15.

STARK 4079-1341
Sh. Bl. G. B.

15. Bl. Foss. F. A. P. V. G. Sil. Ool.

15. Bl. Foss/ool. pr. wh. p.

15. w/ V. chly.

15. w/ H. G. Sil Foss. w/ G. Foss.

HUSHPUCKNEY 4124-1386
Sh. Bl. G. B.

15. Bl. Sil Foss Sil A.

15. w/ H. G. w/ Sil Foss Sil A.

15. w/ L. G. Sil Foss Sil chly.

15. w/ Sil ool. Foss. Sil chly.

B/KC 4165-1427
Sh. Bl. G. B.

15. Bl. w/ V. Sil Foss. Sil A.

Sh. Bl. G. B. Silty

MARMATON 4194-1456

15. w/ L. G. V. Sil Foss.

Sh. Bl. G. B. Silty

15. L. G. Sil A.

DST (1) 4076-4104
1500 ft: Bottom bucket 6 1/2 min.
2nd open: " " 9 1/2 "

30-45-45-60

Re. 255' HW (272' W 36' A)
340' V. HW (39' W 6' A)

315' W. (1000' W)

Temp. 128°F

FP: 21-246 247-469 *

SIP: 750-750 #

Total Sample
6 1/2 Min.

297' W. H.

PH: 7.0

FW: 360,55 CF

RV: 165 @ 128°F

CEL: 28,000



3900

M.C.

4000

DST (1)

4100

VIS: 59 WT: 94
WC: 10.4 CM: 2560

4200

