KIM B. SHOEMAKER

CONSULTING GEOLOGIST
316-684-9709 * WICHITA, KS

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY RAYMOND OIL COMPANY, INC.
LEASE #1 HINEMAN-LAYNE UNIT
FIELD ALAMOTA SOUTH
LOCATION 725' FNL & 2520' FWL
SEC 9 TWSP 19s RGE 27W
COUNTY LANE STATE KANSAS
CONTRACTOR L.D. DRILLING, INC.
SPUD 9-19-15 COMP 9-28-15
RTD 4762 LTD 4763
MUD-UP 3499 TYPE MUD CHEMICAL

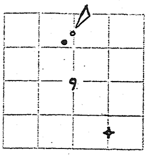
ELEVATIONS
KB 2717
DF
GL 2712
Measurements Are All From 2717 KB

CASING
SURFACE 8 5/8" @ 261
PRODUCTION 5½" @ *

ELECTRICAL SURVEYS
DUAL IND, DENS-N., MICRO

SAMPLES SAVED FROM 3400 TO 4762
DRILLING TIME KEPT FROM 3500 TO 4762
SAMPLES EXAMINED FROM 3500 TO 4762
GEOLOGICAL SUPERVISION FROM 3900 TO 4762
GEOLOGIST ON WELL KIM B. SHOEMAKER

FORMATION TOPS	LOG	SAMPLES
ANHYDRITE	2062+655	2066+651
B/ANH.	2094+623	2097+620
STOTLER	3544-827	3544-827
HEEBNER	3983-1266	3982-1265
LANSING	4023-1306	4021-1304
STARK	4285-1568	4284-1567
MARMATON	4396-1679	4394-1677
FORT SCOTT	4540-1823	4539-1822
CHEROKEE	4564-1847	4562-1845
MISSISSIPPI "U"	4662-1945	4662-1945



REMARKS

9-19-15 SPUD
9-20 @ 264'
9-21 @ 1600'
9-22 @ 2755'
9-23 @ 3370'
9-24 @ 3944'
9-25 @ 4310'
9-26 @ 4420'
9-27 @ 4585'
9-28 @ 4762'

API: 15-101-22569

* 5½" casing set for CEDAR HILL DISPOSAL

LEGEND

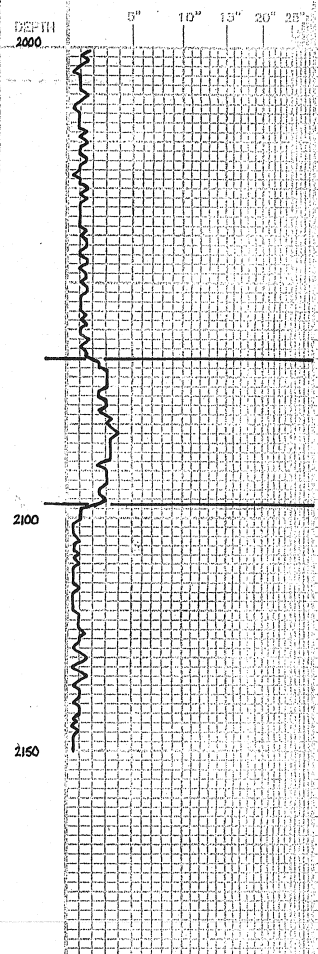
▦	▦	▦	▦	▦	▦	▦	▦	▦
Anhydrite	Salt	Sandstone	Shale	Carb sh	Limestone	Ool.Limo	Chert	Dolomite

SU-701-11

LITHOLOGY

DRILLING TIME IN MINUTES PER FOOT

Rate of Penetration Increases

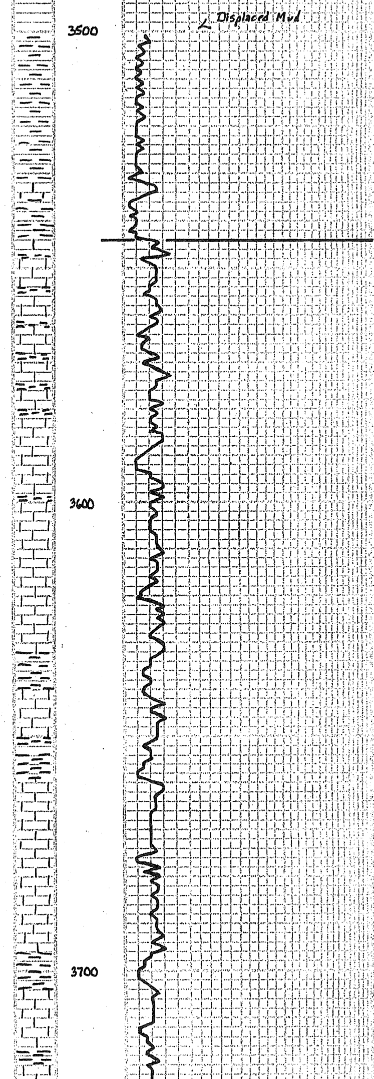


SAMPLE DESCRIPTIONS

REMARKS

ANHYDRITE 2066+651

B/ANH. 2097+620



Samples are lagged

Sh. Blue-Gy. Silty

LS. Br. Gy. Sli. Foss

Sh. Lt. Gy. W. Silty

STOTLER 3544-827

LS. Tn. Br. Sli. Foss.

LS. Tn. Lt. Gy. V. Sli. Foss.

LS. Lt. Gy. Dns.

LS. Tn. wt. Sli. Foss. - Foss. Sli. Chlky.

LS. Tn. V. Sli. Calcitic

LS. Gy. Foss. Calcitic.

Sh. Lt. Gy.

LS. Gy. Sli. Foss.

Sh. Dk. Gy.

Sh. Lt. Gn. Gy.

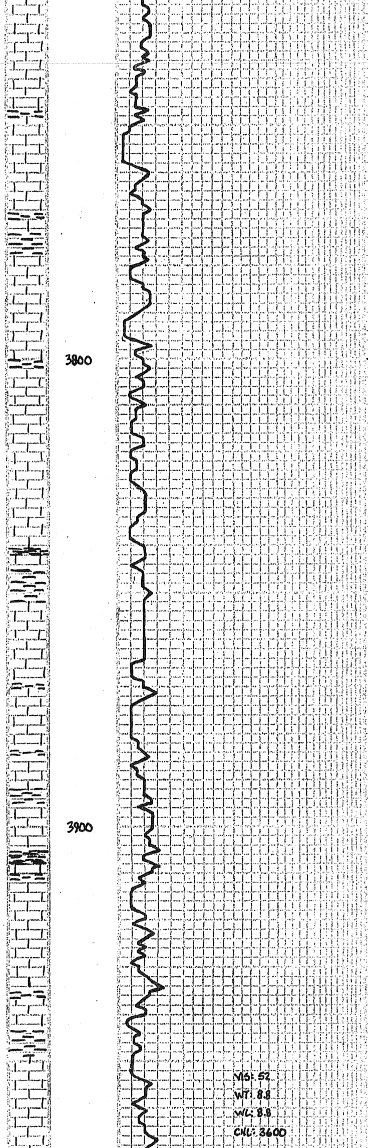
LS. Tn. wt. Sli. Foss. V. Sli. Chlky

LS. Lt. Gy. Dns. V. Sli. Chlky

Sh. Gy. Lt. Gy.

LS. Tn. Gy. Sli. Foss.

Sh. Gy.



LS. Tn wl. VSli Foss. Sli Δ

LS. wl. Sli Foss. Sli Chlky.

LS. wl. Ltgy. ool. Sli ooc. calcitic.

Sh. DKgy.
LS. BrGy. Sli Foss.

Sh. Gy.

LS. wl. Chlky. VSli Foss.

LS. wl. Foss. Calcitic

Sh. gy.
Δ Gy.

LS. Tn wl. VSli Foss. Sli Chlky.

LS. gy. VSli Foss.

Sh. DKgy. Blk
LS. Br. VSli Foss

Sh. LtGy.

LS. wl. VSli Foss., Chlky.

LS. Tn Foss, Calcitic

LS. Tngy. Foss. Calcitic. VSli Chlky.

LS. Brgy. Sli Foss.
Sh. Lt Sdy.

LS. Tn Sli Foss. Sli Δ

Sh. Gy. DKgy.

LS. wl. Ltgy. ool. Foss. Chlky.

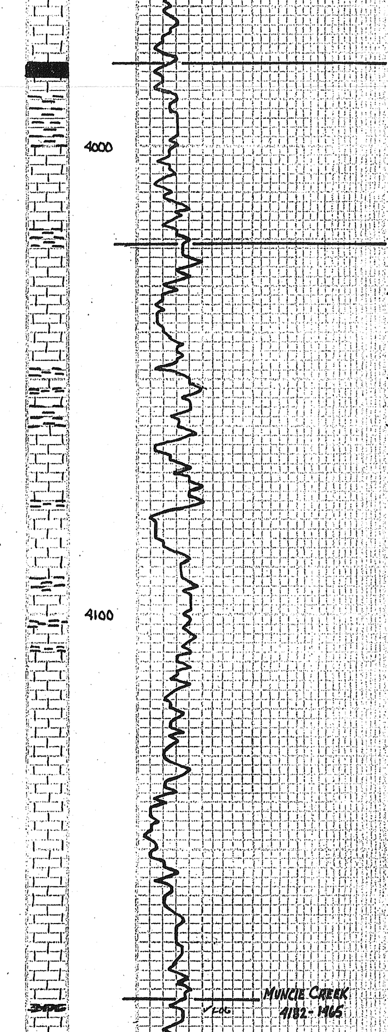
LS wl. Foss. Calcitic.

LS. wl. Chlky,

LS. Tngy. Foss. Calcitic.

VIS: 52
WT: 8.8
WL: 8.8
CHL: 3600

LS. wl. VSli Foss. Sli Chlky.



LS. Tn Br Fnxln Sli Foss. Sli Chlly.

HEEBNER 3982-1265

Sh. Blk Carb.

Sh. Blue Gr.

LS. Wt. VSli Foss. Sli Δ

LS. Wt. Chlly.

Sh. Gy.

LANSING 4021-1304

LS. Wt. Ltly. Sli Δ

Δ Wt.

LS. Wt. Sli ool. Foss. Sli Chlly.

LS. Tn Ltly. Dns. VSli Δ

Sh. Dk Gy.

Sh. Gy. Sdy. Silty

LS. Wt. Foss. Sli Chlly.

LS. Tn Sli Δ

LS. Wt. Ltly. ool. Sli ooc. Sli Chlly.

LS. Wt. Chlly.

Sh. Lt Gr. Gy.

LS. Tn Lt Br. VSli Foss.

LS. Tn Wt. VSli Foss. Sli Δ

LS. Tn Wt. Sli Foss. Sli Chlly.

Δ Wt.

LS. Tn ool. Sli ool. Sli Δ

LS. Wt. Ltly. ool. Sli Foss. Sli Chlly.

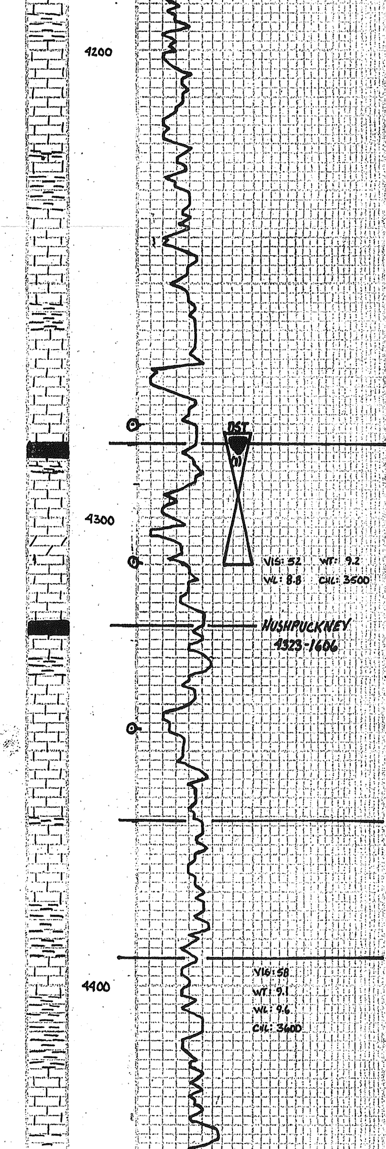
LS. Wt. V Chlly.

LS. Ltly. Dns. VSli Chlly.

MUNCIE CREEK
4182-1465

Sh. Dk Gy. Blk

LS. Lt Br. Sli Foss. Calcitic.



Sh. Gy. Gr.

Ls. wh. Ltgy. Ls. wh. Ltgy. Sl. ool.

Ls. Tn. gy. VSl. Δ

Ls. Tn. gy. ool. Sl. Δ
Sh. Dk. gy.
Ls. Br. Sl. Foss

Sh. Gy. Gr.

Ls. wh. Ltgy. Sl. ool. Sl. Chlly.

Ls. wh. Sl. Foss Sl. Chlly.

Sh. Lt. gy.

Ls. Tn. gy. Sl. ool. VSl. Calcitic
Δ. gy. Ltgy.
Ls. Tn. gy. Dns.

STARK 4284-1677

Sh. Blk. Carb.
Ls. Dk. Br. Sl. Foss.

Ls. Tn. Ltgy. ool.-Foss. F. Vg. φ
Lt Brn Sptd. Stn. VSSFO. Dull Flour. No Odor.
Ls. wh. VChlly.
Dol. Tn. Lt. Br. V. Fnxln. Suc.

Ls. gy. Dns.

Sh. Blk.
Ls. Gy. Br. VSl. Foss.
Sh. Blue Gr.

Ls. Tn. wh. Sl. ool. Foss. Sl. Δ

Ls. Tn. Sl. Foss. VSl. Chlly.

B/KC 4365-1648

Δ gy.
Ls. Br. Sl. Foss. Sl. Δ

Sh. Lt. Gr. gy. Silty

MARMATON 4394-1677

Ls. Tn. gy. VSl. Δ

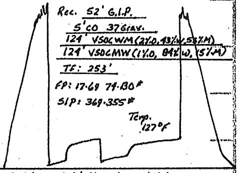
Sh. Rd. Gr. gy.

Ls. wh. Sl. Foss w/ Rd. Sh. Incl.
Ls. Yellow Sl. Foss. Sl. Δ

DST (1) 4282-4310

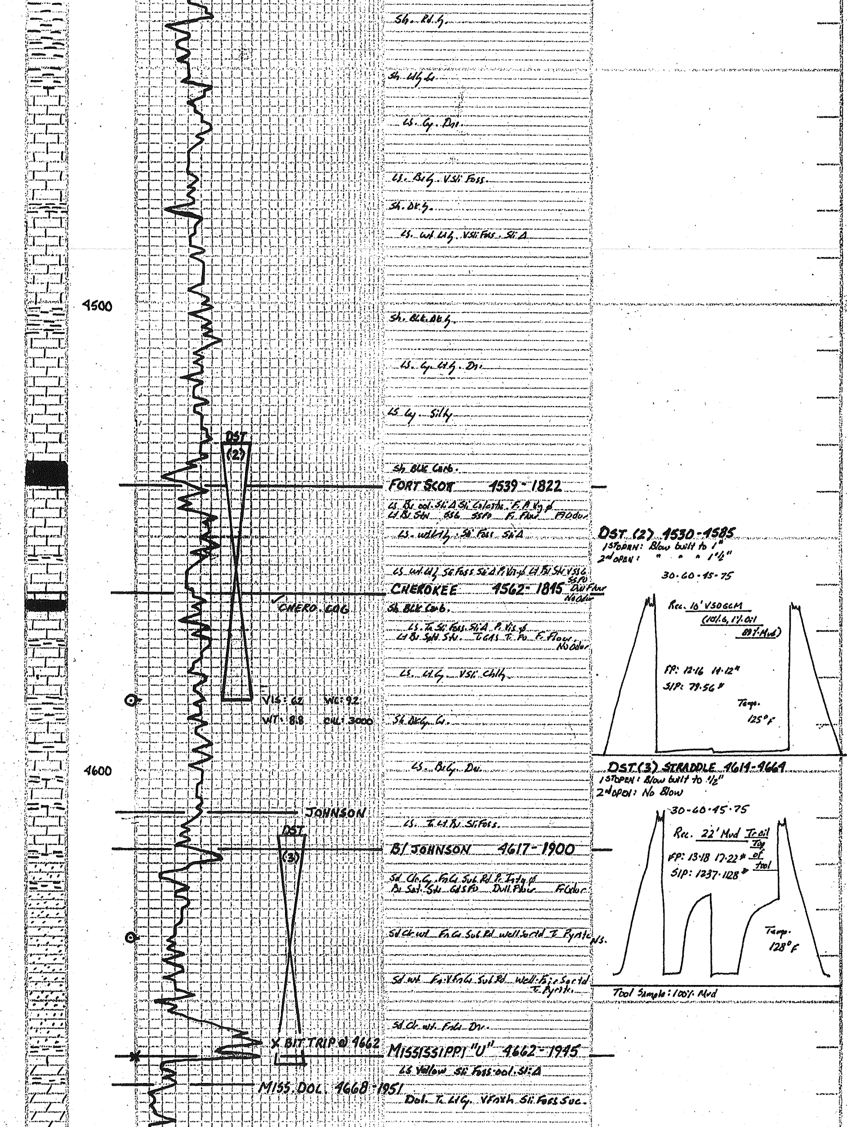
1ST OPEN: Bottom bucket 22½ MIN. BB: None
2nd OPEN: BUILT TO 11½" BB: "

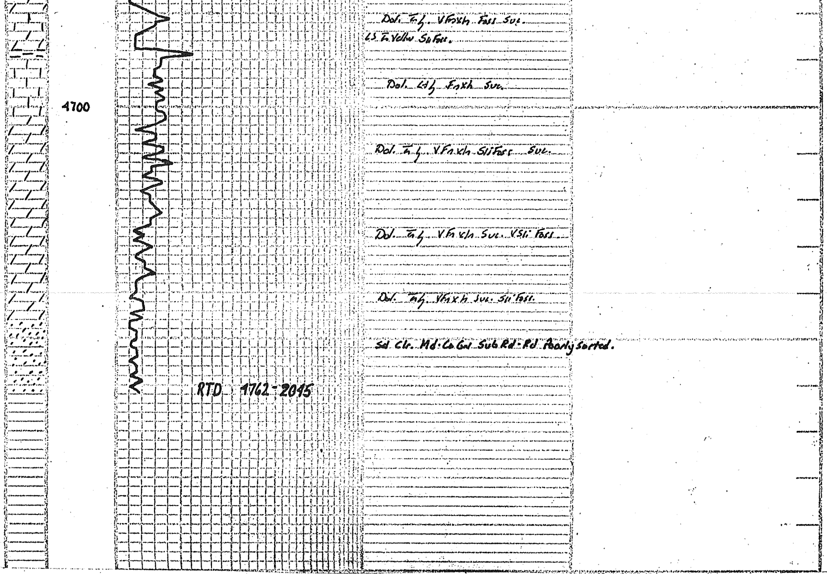
30-60-45-90



Rec. 52' G.I.P.
5' CO 37 Grav.
124' VSOCWM (2% O, 43% W, 55% M)
124' VSOCMW (1% O, 84% W, 15% M)
TF: 253'
FP: 17-69 74-130#
SIP: 369-355#
Temp. 127°F

Tool Sample: 4% Oil. 91% W. 5% Mud.





Dol. Tn Gy. VFn Xln Foss Suc.

LS Tn Yellow Sli Foss.

Dol. Lt Gy Fn Xln Suc.

Dol. Tn Gy. VFn Xln SliFoss Suc.

Dol. Tn Gy. VFn Xln Suc. VSli Foss.

Dol. Tn Gy. VFn Xln Suc. Sli Foss.

Sd Clr. Md-Co Gr Sub Rd-Rd Poorly Sorted.