

KIM B. SHOEMAKER

CONSULTING GEOLOGIST

316-684-9709 * WICHITA, KS

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY RAYMOND OIL COMPANY, INC.

ELEVATIONS

LEASE * 1 HAAEK-SOVERS UNIT

FIELD WILDCAT

KB 3446

LOCATION 2299' ENL & 2633' FEL

DF 3441

SEC 20 TWPSP 4 S RGE 37W

COUNTY CHEYENNE STATE KANSAS

Measurements Are All From 3446 KB

CONTRACTOR L. D. DRILLING, INC.

CASING SURFACE 8 5/8" @ 380'

SPUD 4-25-17 COMP 5-16-17

PRODUCTION 5 1/2" @

RTD 5115 LTD 5114

ELECTRICAL SURVEYS Dual Ind., Devis. N., Mils. 20

MUD UP 3566 TYPE MUD CHEMICAL

SAMPLES SAVED FROM 3700 TO 5115

DRILLING TIME KEPT FROM 3700 TO 5115

SAMPLES EXAMINED FROM 3700 TO 5115

GEOLOGICAL SUPERVISION FROM 3800 TO 5115

GEOLOGIST ON WELL KIM B. SHOEMAKER

FORMATION-TOPS

LOG

SAMPLES

ANKYDITE 3210 + 236 3210 + 236

B/ANH. 3248 + 198 3251 + 195

HEGNER 4281 - 835 4283 - 837

LANSING 4334 - 898 4334 - 888

B/KC 4590 - 1144 4593 - 1147

PAWNEE 4712 - 1266 4719 - 1273

FORT SCOTT 4768 - 1322 4770 - 1324

CHEYENNE 4792 - 1346 4789 - 1343

MISSISSIPPI 5029 - 1583 5030 - 1584

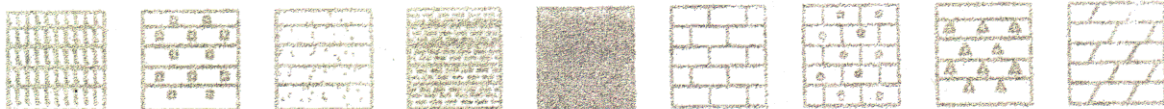
20

REMARKS

4-25-17 SPUD 5-13 @ 4705'
 4-26 @ 555' 5-14 @ 4780'
 4-27 @ 2000' 5-15 @ 5115'
 4-28 @ 2631'
 4-29 @ 3317'
 SNOW
 5-8 @ 3348'
 5-9 @ 3580'
 5-10 @ 3972'
 5-11 @ 4322'
 5-12 @ 4545'

API: 15-023-21464

LEGEND



Ark. shale, Salt, Sandstone, Shale, Carb. sh., Limestone, Oil. lime, Chert, Dolomite

DRILLING TIME IN MINUTES
PER FOOT

Rate of Penetration Increases



5" 10" 15" 20" 25"

LITHOLOGY

DEPTH
3150

SAMPLE DESCRIPTIONS

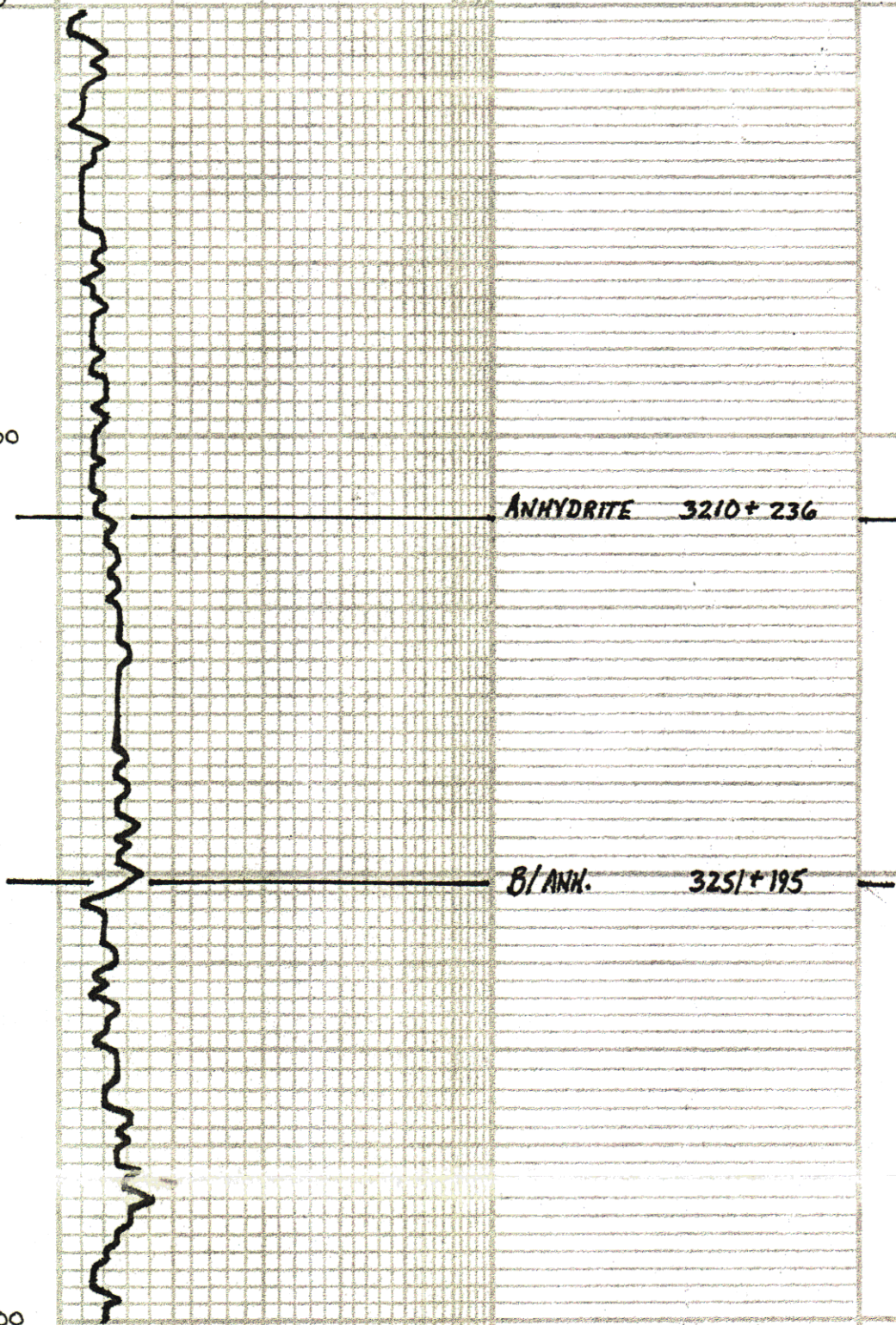
REMARKS

3200

ANHYDRITE 3210+236

8/ANH. 3251+195

3300



Mud V @ 3574 Vis: 64 Wt: 8.4
WL: 6.1 CK: 1300

3700

Samples are Lagged

Sh. Rd Silty

sd. wt. Fa G.

ls. w/ly. sdy. & sh. foss.

Sh. Rd.

Sh. Rd

sd. lily. G. vfa. Fa G.

sh. G. G.

ls. lry. vsii chly. sh. foss.

Sh. Rd

Sh. Rd. Purple Silty. Sdy.

Sh. Purple w/ weathered A

ls. Th. lry. sh. Foss.

Sh. G. G.

3800

3900

LS. LG. Dol.

LS - Dol. Vfn Exln Suc.

Sd. Sdy. sh. Vfn Gr.

Sh. LG.

Sh. LG Silty. Shy.

LS. LG. v. sh. Calcitic

Sh. Rd

LS wt Foss Calcitic

Sh. Rd. Gy.

LS. LG. v. sh. Foss.

4000

VIS: 41 WT: 8.9

WL: 7.2 CML: 1200

Sh. Rd. Gy.

LS. LG. sh. Foss.

LS. wt Foss.

Sh. Rd.

LS. LG. sh. Foss.

Sh. Rd

LS. wt LG. Foss. sh. Foss. Calcitic

Sh. Blue-Gy.

LS. T. wt Foss. sh. Foss.

600

4100

Sh. Rd

Sh. Rd Silly.

Ls. wt Sil Foss. Sil A

Ls wt Foss. Coelostia w/ Blk dd Stn (4160)

Sh. Rd

Ls. wt Ldg. Sil Foss Foss w/ Blk Hwy dd Stn (4160)

Ls. wt Sil Foss Sil A

Sh. Blue Gy

Ls Gy. Sil Foss.

shy sh. Lt Gy. Co Foss Sub Rd.

Sh. Blue Gy. L.

Ls. Th wt Foss Sil A

4200

Ls. Th wt Sil Foss Sil A

Ls. wt chly.

Sh. Blk Carb. Sh.

Sh. Hky.

Ls. Th wt Foss & Sil Chly.

✓ L06

HEEBNER

4283-837

Sh. Hky. Ls. Gy. Sil Foss

Sh. Hky.

Sh. Rd. sh. Hky. wt. V&L. S. L. D.

4300

Sh. Rd. Silty.

LS. wt. Sil. Foss. P. Vis p w/ Blk Hry Str

Sh. Rd

LANSING 4334-888

LS. wt. Sil. Foss - Sil. A

Dud. wt. Md. Vln. Str.

sd. Ltg. Fr. V. Pa. G. Sub. Rd. Silty.

Sh. Rd.

Blk. T.

Sh. Rd.

LS. wt. Sil. Foss. Sil. A. V. Sil. Chly. P. Vis. Blk. Seat. del. Str.

VIS: 9.1 WT: 9.1
WL: 8.8 CNL: 1500

LS. Ltg. V. Sil. Chly.

Sh. Rd.

LS. Bulky. Sil. Foss.

Sh. Gp. Rd.

LS. wt. Foss. V. Sil. Chly. Fr. P. Vis. Blk. del. Str.

Sh. Gp. G.

LS. wt. del. Foss. Collette Sil. A

LS. Ltg. V. Sil. Chly.

DST (1) 206

MUNCIE CREEK 4461-1015

Sh. Gp. G.

LS. Ltg. V. Sil. Foss. V. Sil. Chly. No. Vis. Blk. Seat. Str. V. S. P. No. Flow. No. O. del. (A. B. D.)

Sh. Ltg.

Sh. Rd.

4400

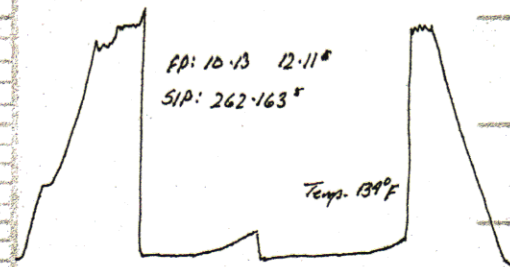
4500

DST (1) 4455-4545

1st OPEN: Weak Blow did not 15 min.

2nd OPEN: No Blow 30.60.45.75

Rec. 4' Mud



sh. Pd.

ls. Bl. V. Sil. Foss.

ls. wt. V. Sil. Foss. V. Sil. Chly. V. Sil. A. P. V. Sil. P.
Bl. Sil. dd. str. ss. P. No. Flow No. odor (4536.30)

✓ LOG

STARK
4542-1096

sh. G. G.

VIS: 55 WT: 9.3

WL: 8.0 CHL: 4400

ls. wt. Foss. Sil. A. V. Sil. Chly. V. Sil. Calcitic

✓ LOG

sh. Bl. G.

HUSHPUCKNEY 4573-1127

sh. Pd.

ls. wt. Foss. Calcitic Sil. A.

BIKE 4593-1147

sh. Bl. G. G.

ls. Bl. G. Sil. Foss.

4600

MARMATON
4601-1155

sh. G. G. G.

ALTAMONT

ls. G. G. V. Sil. A.

ls. G. G. V. Sil. Silty.

sh. G. G. Silty.

sh. G. G. Silty.

'B'

ls. wt. Foss. Calcitic Int.

ls. Foss. Bl. V. Sil. Calcitic

sh. G. G.

ls. Foss. Bl. Sil. Foss. Sil. A.

ls. G. G. V. Sil. Silty.

4700

DST
(2)

VIS: 56 WT: 9.2

WL: 8.8 CHL: 2500

✓ LOG

sh. G. G. G.

DST (2) 4700-4750

1st OPEN: Bottom bucket 30 sec. BB: BOB 10 min
2nd OPEN: " " 2 min. BB: " 27 "

Rec. 1750' SIP

800' Clean Oil 31.8 G/W.

M 700' @ HOW C 10% G 10% m 30% oil 50% w

PAWNEE 4719-1273

LS wt. Foss. Sil. ool. Sil. Chlly. No Vis. P
L4 Bl. Spid. to Sat. Sil. VSSFO. Dull Flour
No odor (4730)

LS. wt ool. Sil. D. Dr.

Sh. Blk (216. (4750)

LS Bl. Sil. Foss. Calc. Cox. h. Md. ch. F. Vg. P
Bl. Spid. Sat. Sil. VSSFO. Dull Flour. No odor. (4750, 30-66')

Sh. G. G.
P. B.

(1) Piece LS wt. Sil. Foss. Sil. D. w/ F. Vg. P
L4 Bl. Spid. - Sat. Sil. VSSFO. Dull Flour Header (4770)
Δ wt. L4 G. LS wt. Sil. Foss. Sil. D. (1) piece

Blk. Carb. Sh.

FORT SCOTT 4770-1324

LS wt. L4 G. Sil. Foss. Sil. D.

LS. hlg. VSh. Foss.

CHEROKEE 4789-1343

Vis: 63 Wt: 9.2
Wt: 8.0 Cal: 3500

Sh. Dk G.

Sh. L4 G.

LS. T. hlg. Sil. ool. w/ few dk ool.

Δ L4 G.

LS wt. Sil. Foss. Sil. Chlly.

LS. L4 G. Dull.

Sh. Bl. Blue

LS. T. Bl. Bl. VSh. Foss. Sil. D.

LS wt. Sil. Sil. Foss.

Sh. Dk G.

Sh. Blue. Gy.

Sd. Ch. wt. Md. Co. G. Sub. Rd.

LS wt. Sil. Sil. w/ Rd. P. nlc. Sil. Foss.

LS. wt. T. Sil. LS wt. Md. Co. G. Sub. Rd.

LS. wt. L4 G. Sil. Foss.

Sd. Gy. Md. Co. G. Sub. Rd. w/ T. Sil. - dk. min.

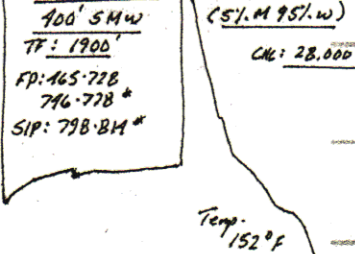
LS. L4 G.

Shly. Sd. Rd.

Sd. Md. Co. G. L4 Bl. Gy. Sub. Rd.

LS wt. Sil. Co. G. Sub. Rd.

Sh. Rd.



4800

4900

Washed Δ

sh. shaly ls. Rd. Maroon

sd. cr. wt. Fr. Md. Co. ls. Sub. Rd. Very poorly sorted.

Sh. Ble. Dtg. w/ Tr. Impure. Cr. ls.

Sh. Rd. Maroon

shy. sh. ls. Fr. Md. Co. Sub. Ang.

shy. sh. w/ Fr. Md. Co. Sub. Rd.

Sh. ls. sh. sh.

Sh. Rd. sh.

MISSISSIPPI 5030-1584

Dol. Tr. ls. Fr. sh. Suc.

Dol. w/ Fr. sh. Suc.

sh. Yellow ls.

Dol. Tr. ls. Fr. sh. Suc. w/ Tr. ls. Suc.

Dol. Tr. ls. Fr. sh. Suc.

ls. Blk. Fr. ls. ls. ls.

Dol. Tr. ls. Fr. sh. Suc.

ls. Tan w/ Fr. ls. ls. ls.

Δ w/ ls.

RTD 5115-1669

5000

5100

