

# Arden Ratzlaff

PETROLEUM GEOLOGIST

Phone: 262-8938

107 N. Market 808 Biting Bldg. Wichita, KS 67202

DRILLING TIME  
AND  
SAMPLE LOG

COMPANY CHIEFTAIN OIL CO. INC.

LEASE WES No. 1

FIELD N/A

LOCATION NW SE NE SE

SECTION 33 TOWNSHIP 34S RANGE 10W

COUNTY BARBER STATE KANSAS

CONTRACTOR MAURER DRILLING RIG NO. 10A

COMMENCED DRILLING 4-5-10

COMPLETED DRILLING 4-16-10

RTD. 5416 FEET LTD. 5416 FEET

NO. UP AT 5250 FEET MUD TYPE CHEMICAL

KB 1302

BF 1308

GL 1300

Measurements Are All  
From K.B.

CASING

1 1/2" O. 2 1/2" W. 27 1/2" ST.

ELECTRICAL SURVEYS

SUPERVISOR -- CLARA ZIM DUAL  
CONSTRUCTION SUPERVISOR DENVER  
INTERNATIONAL S.P. COLLIER

PROMOTION TOPS

SAMPLE

ELECTRIC LOG

ADDRESSER  
STARK  
EAST KANSAS CITY  
KANSAS  
MISSISSIPPIAN  
KEMMERFORD  
TIOGA  
SIMPSON  
SIMPSON SAND  
TOTAL DEPTH

3607 (2294 )  
4300 (2040 )  
4031 (2122 )  
4879 (2290 )  
4712 (2403 )  
4076 (2447 )  
5126 (2507 )  
5258 (2996 )  
5271 (2962 )  
5416 (3107 )

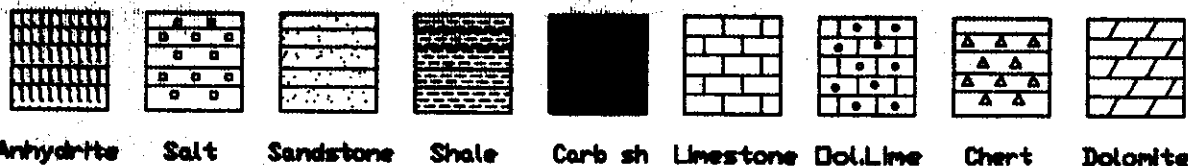
3604 (2275 )  
4305 (2056 )  
4436 (2117 )  
4376 (2026 )  
4708 (2397 )  
4445 (2426 )  
5104 (2318 )  
5256 (2957 )  
5274 (2959 )  
5416 (3107 )

REMARKS AFTER ANALYZING ALL OF THE IMPORTANT ASPECTS OF THE WELL, ESPECIALLY THE LACK OF HYDROCARBON SHOWS, IT WAS THE DECISION THAT THE HOLE BE PLUGGED AND ABANDONED AS A DRY HOLE.

Arden Ratzlaff, Petroleum Geologist

NOTE: MUD-LOG FURNISHED THE MUD -- TRILOBITE THE DRILL STEM TEST -- SAMPLES DEPOSITED BY THE K.G.S. SURVEY

## LEGEND



Anhydrite Salt Sandstone Shale Carb sh Limestone Dol. Line Chert Dolomite

DRILLING TIME IN MINUTES  
PER FOOT  
Rate of Penetration Increases

DEPTH

5' 10' 15' 20' 25'

SAMPLE DESCRIPTIONS

REMARKS

LITHOLOGY

5300

20

40

60

80

3400

20

40

60

80

3500

SH-MED GRY GRN-GRN & RED IN SPOT  
COM BLUE & GRN EN YIN SUB-CHLKY TO  
MED HARD LN

SOME ML SCAT GRY W TINY BLK SP'S  
HARD CALC SILT

SH-MED TO DK GRY GRN-GRN & RED W  
SCAT SILT & LN AS ABOVE

SH-MED TO DK GRY GRN-GRN & RED

SH AS ABOVE

LN-COM BLUE & GRN EN YIN SUB-  
CHLKY TO MED HARD W SH AS ABOVE

SH & SCAT LN AS ABOVE W SCAT  
SURFACE SD'S SINGLE GRAINS

SH-MED TO DK GRY RED & LT GRY  
COET. MUSHY SH BALLS EBN PIECES  
HARD TIR. CALC & GILL SILT

SOME AS ABOVE

SILT-FT GRY. RED COOP & HARD W  
PUS

SH-MED TO DK GRY GRN-GRN & RED

20

SAME AS ABOVE IN TR SILT AS ABOVE

40

SAME AS ABOVE

60

SH. BT ABOVE IN SCOT CRAN. BLUE STON  
EN. XLM. SILT-CLAY TO DENSE HARD LN.

80

SH. & LM AS ABOVE

3600

**HEEDNER**

**2607**

**-2298**

SAME IN TR. GRY & BLK TO CRAN. SU.

20

SH. BT GRY & BLK (CRAN) GRY-CRAN & SCOT  
LT GRY PLUS SCOT TAN & BROWN W/EN  
DENSE HARD LN.

40

LM. W/EN CRAN. BLK, GRY & SCOT TAN EN  
SILT-CLAY & TR. CLAY TO DENSE & HARD  
V. SCOT SU. AS ABOVE.

60

LM. W/EN CRAN. LT GRY & BLK EN. W/EN CLAY  
& SILT-CLAY. DENSE SOFT TO HARD HARD LN.  
IN SCOT SU. AS ABOVE.

80

LM AS ABOVE IN INT. TO DRY. GRY-CRAN  
& DRY LN.

3700

SAME AS ABOVE IN INT. TAN EN. XLM. DENSE  
HARD LN.

20

SH. INT. TO DRY. GRY-CRAN. GRY-CRAN & DRY IN  
SCOT LN. AS ABOVE & SU. INT. IN TAN EN.  
V. DENSE HARD LN.

40

SH AS ABOVE BUT SH. BK. CORR. SH. 1/2  
IN AS ABOVE

60

SH MED TO DK CRT. CRV-GRM. SCOT. RED.  
S/L. S/LY. B/LT. TRN. 1/2. B/L. IN. L. IN. DENCE.  
HARD LN

80

SH AS ABOVE W/ SCOT. CRT. 1/2. B/L. IN.  
Y/L. CRV. S/LY. B/LT. TRN. 1/2.

3800

SAME AS ABOVE

20

SAME AS ABOVE

40

SH MED. CRV. GRV-GON. SM. BK. CRV. 1/2. SCOT.  
1/2. CRV. SCOT. IN. B/LT. S/LY. IN. B/LT. SH

60

SH AS ABOVE W/ SM. LT. GRV. SCOT.  
'MUSKY' SH

**LATHR**

**3874**

**2565**

80

SH MED. CRV. 1/2. GRV-GON. W/ SCOT. TRN. 1/2.  
B/L. IN. Y/L. DENCE. HARD LN

3900

SH MED. MED. CRV. 1/2. GRV-GON. S/LY.  
IN. B/LT. W/ CRV. 1/2. B/LT. IN. Y/L. CRV.  
S/LY. B/LT. TRN. 1/2. B/L. IN. DENCE. HARD LN

20

SH AS ABOVE W/ B/LT. B/LT. TRN. 1/2. B/L. IN.  
CRV. S/LY. B/LT. TRN. 1/2. B/L. IN. DENCE. HARD LN

40

6  
80  
4000  
20  
40  
60  
80  
4100  
20  
40

SILT. IT. GR. IN. IN. AS ABOVE

SILT. IT. GR. IN. IN. AS ABOVE  
DENSE LAYER IN DR. 6. SILT. AS ABOVE

SAME AS ABOVE

SILT. IT. GR. IN. IN. AS ABOVE  
IN SCAT. IT. GR. IN. IN. AS ABOVE  
LAYER IN DR. INTER-GRAN. FOR. FOR. FOR.  
N.C. BUT MED. GR. SILT.

SAME IN SILT. IN. IN. SILT. SAND. DR. IN  
DR. FOR. FOR. N.C.

SILT. IT. GR. IN. IN. AS ABOVE  
LAYER IN DR. SCAT. SILT. AS ABOVE & SCAT.  
IT. MED. GR. & GR. - GR. SILT.

SIL. MED. GR. IN. GR. - GR. IN. SCAT.  
SILT. & SILT. AS ABOVE

SILT. SILT. IT. GR. IN. IN. AS ABOVE  
DR. SILT. IN. DR. GR. IN. IN. AS ABOVE  
IN DR. INTER-GRAN. FOR. N.C. - MED. DR.  
GR. & SIL. GR. - GR. SILT.

SIL. MED. GR. IN. GR. - GR. IN. SCAT. SILT. &  
DR. IN. AS ABOVE

SIL. MED. GR. IN. GR. - GR. IN. SCAT. SILT. &  
DR. IN. AS ABOVE

SIL. AS ABOVE

60

80

4200

20

40

60

80

4300

20

40

60

SHARED TO THE GRY-CRY-CAN-E-TIT-CRY

SH AS ABOVE

SH AS ABOVE IN V. SCOT-BLUE-TIN-BRN  
EN YIN-SUR-CHLY-TO-PRD-DENSE  
HARD LM-TR-BLK-CARR-SH

SAME AS ABOVE

LM-CRY-BLUE-CRY-TIN EN YIN-LM-CRY  
TO-DENSE & HARD IN TR-LT-CRY-BRN-SH  
TRNSL-SMPT-CRPT-SH-AT-ABOVE-PLY  
BY-SL-CRPT-SH

LM-BLUE-CRY-TIN-BRN EN YIN-SUR-  
CHLY-TO-DENSE & HARD IN SHED TO-BLGY  
BY-CARR-IN-PRD & GRY-GEN-SH-STEEL  
CHRY-AT-ABOVE

LM-AT-ABOVE & SCHE-CHRY-AS-ABOVE

LM-BLUE & CRY EN YIN-SUR-CHLY-TR  
CHLY-TO-PRD-DENSE & HARD

LM-BLUE-CRY-TIN-TR-BRN EN YIN-SUR-  
CHLY-TO-PRD-DENSE & HARD IN V. SCOT-LT  
CRY-LT-TR-BRN-SUR-TRNSL-CHRY

SAME IN BLK-CARR-SMPT-CRY-SH

STARK 4340

30 UNITS 3000

LM-CRY-BLUE-TIN-BRN EN YIN-SUR-CHLY-  
TO-DENSE & HARD IN SHED TO-BLGY-BLK  
CARR-IN-PRD & GRY-CRY-SH

80

1st AS ABOVE

**MUSHPUCKNEY 4394**

46 UNITS

**-5088**

4000

SH. BLK. CORR. IN 1st AS ABOVE BUT 7E MW  
1 COM. CHUKY & SUB-CHUKY LM

20

1st. MW & COM. EN. YIN. CHUKY & SUB-  
CHUKY TO PROD. BLUE. GR. TAN. BEAL  
EN. YIN. SUB-CHUKY TO BEAL. HARD LN.

**BASE K.C. 4431**

**-3122**

40

1st. COM. BLUE. GR. TAN. EN. YIN.  
SUB-CHUKY TO PROD. DENSE. HARD LN.  
U. SCOT. PROD. TO 1st. AS ABOVE. BUT 7E MW

**LENRPH 4458**

**-3149**

60

1st & SU AS ABOVE

80

1st. COM. BLUE. GR. TAN. EN. YIN. SUB-  
CHUKY TO PROD. DENSE. HARD LN. PROD.  
TO 1st. AS ABOVE. BUT 7E MW. GR. TAN. BEAL  
TO 1st. AS ABOVE. EN. YIN. SUB-CHUKY TO PROD.

4000

1st. AS ABOVE IN 1st AS ABOVE BUT 7E MW  
GR. TAN. BEAL TO 1st. AS ABOVE

**ALTRMONT 4515**

**-3206**

20

1st. COM. BLUE. GR. TAN. EN. YIN. SUB-  
CHUKY TO PROD. DENSE. HARD LN. PROD.  
TO 1st. AS ABOVE. BUT 7E MW. GR. TAN. BEAL  
TO 1st. AS ABOVE. EN. YIN. SUB-CHUKY TO PROD.

40

1st. AS ABOVE IN 1st AS ABOVE BUT 7E MW  
HARD LN. STILL CONT. SU AS ABOVE

**PANNEE 4566**

**-3247**

60

SH. BLK. CORR. IN 1st & SU AS ABOVE PLUS  
SH. MW. CHUKY. 1st. AS ABOVE. BUT 7E MW. EN.  
YIN. DENSE. HARD LN.

80

1st. PROD. BLUE. GR. TAN. EN. YIN. SUB-  
CHUKY TO PROD. DENSE. HARD LN. PROD.  
TO 1st. AS ABOVE. BUT 7E MW. GR. TAN. BEAL  
TO 1st. AS ABOVE. EN. YIN. SUB-CHUKY TO PROD.



0

20

40

60

80

4900

20

40

60

80

5000

100-111 DOLO. COM. & BLUE. SH. IN. THIN -  
CHALKY TO MED. DENSE. HARD W. SCAT  
PART AS ABOVE

100-112 DOLO. COM. & BLUE. SH. IN. THIN -  
TO CHALKY & SUB-CHALKY TO V. DENSE & HARD  
W. LT. GRAY. TR. GRN. SH. & FRESH SUB-TERRIST  
TO DARK. FRESH. PART - N. S.

DOLO. LIME & CHALKY IN. BORT. COM. BLUE  
& LT. GRAY. FINE. IN. SUB-CHALKY TO MED.  
V. DENSE & HARD W. SCAT. LT. GRAY. FRESH  
SUB-TERRIST. THIN. COM. V. SCAT. GRAY. COM.  
BLK. & GRAY. GEN. SH.

DOLO. AS ABOVE W. WH. COM. & GRAY. SH.  
V. IN. SUB-CHALKY & TO CHALKY TO SCAT. DENSE  
HARD. IN. COM. IN. AS ABOVE

SAME IN SCAT. THIN & HARD. FINE. IN. DENSE  
DENSE. HARD. IN. STILL. COM. SH. AS ABOVE

100-113 DOLO. COM. & BLUE. SH. IN. THIN -  
TO DENSE & HARD. N. HARD. MED. TO TH. GRAY  
BLK. GRAY. GEN. SH. AS ABOVE

DOLO. IN. AS ABOVE. DOLO. GRAY. TO HARD. IN. V. IN.  
TO IN. THIN. TEXT. PAPER. V. DENSE. & HARD. IN.  
WH. & COM. ALL DOLO. IN. SH. AS ABOVE

SAME AS ABOVE

DOLO. LIME. GRAY. & THIN. IN. PRED. V. DENSE  
& DENSE & HARD. W. MED. & TH. GRAY. GEN.  
BLK. SCAT. COM. & TR. MAR.

SILICED TO TH. GRAY. GEN. COM. BLK. TR. MAR.  
& THIN & BORN. OR DOLO. ALONE. W. SCAT.  
PRICES OF SMALL DOLO.

**KINDERHOOK - 0976**  
**-3667**

SAME. STILL. COM. DOLO. BUT. HARD. IN. CR.  
IN. SH. AS ABOVE

SILICED TO TH. GRAY. GEN. IN. THIN. P. IN. CR.  
BLK. GEN. & MAR. SH.





