

JERRY A. SMITH

CERTIFIED PETROLEUM GEOLOGIST

GEOLOGIST'S REPORT

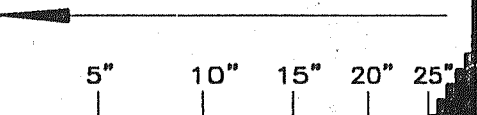
DRILLING TIME and SAMPLE LOG

COMPANY: PICKRELL DRILLING COMPANY, INC.				ELEVATIONS	
LEASE: #1 MILLER "L"				K.B. 2409	
FIELD: WILDCAT				D.F.	
LOCATION: 1400' FNL & 400' FEL				G.L. 2402	
SEC. 15		TWSP. 15		RNG. 26W	
COUNTY: GOVE		STATE: KANSAS		Measurements Are All From: KB	
CONTRACTOR: COMPANY TOOLS, RIG #10				CASING	
SPUD: 5/30/12		COMP. 6/8/2012		SURFACE: 8 5/8" @ 268'	
RTD. 4327		LTD. 4328		PRODUCTION: P & A	
MUD UP: 3400		TYPE MUD: CHEMICAL		ELECTRICAL SURVEYS LOG-TECH: RAG	
API No. 15-063-21999				TO: RTD	
SAMPLES SAVED FROM: 3500				TO: RTD	
DRILLING TIME KEPT FROM: 3500				TO: RTD	
SAMPLES EXAMINED FROM: 3500				TO: RTD	
GEOLOGICAL SUPERVISON FROM: 3390				TO: RTD	
GEOLOGIST ON WELL: JERRY A. SMITH					
FORMATION TOPS		LOG		SAMPLES	
ANHYDRITE		1837 (+572)		1835 (+574)	
HEEBNER		3650 (-1241)		3646 (-1237)	
LANSING		3687 (-1278)		3683 (-1274)	
STARK		3932 (-1523)		3929 (-1520)	
FT. SCOTT		4194 (-1785)		4191 (-1782)	
CHEROKEE		4219 (-1810)		4215 (-1806)	
MISSISSIPPIAN		4296 (-1887)		4294 (-1885)	

LEGEND

Anhydrite	Salt	Sandstone	Shale	Carb sh	Limestone	Ool.Lime	Chert	Dolomite

DRILLING TIME IN MINUTES
PER FOOT
Rate of Penetration Increases



SAMPLE DESCRIPTIONS

REMARKS

NO GAS DETECTOR
DST (1): TRILOBITE
MUD: MUD-Co

S.H.T.'s:			
272'	1/4°	2349'	1/2°
787'	1/2°	2650'	1/2°

LITHOLOGY

1287' ¼° 4307' ¾°
1850' ¼°

VERT. LOG SCALE: 2" = 100'

1700

50

1800

50

ANHYDRITE
1835 (+574) SMPL
1837 (+572) LOG

B/ANHYDRITE
1875 (+534) SMPL
1876 (+533) LOG

1900

VERT. LOG SCALE: 5" = 100'

3500

20

40

LM - CRM. Lr. Gx. FX.
FOSS. M. PT. SCAT.
PR. FOSS. M. L. D. NS.

LM - CRM. Lr. Gx. FX.
BY SH.

LM - CRM. FX. DSE.

LM - CRM. Lr. Gx. FX.
FINELY DOLIC. M.
PR. PINT. D. NS.

60

80

3600

20

40

60

80

3700

20

40

60

LM - L₁ - M BY
FX. DSE.

SH - DK GY.

LM - L₁ - M BY FX.
DSE. IN PT. F.R.

LM - L₁ - M BY FX.
DSE.

LM - L₁ - M BY FX. DSE.
DSE. IN PT. F.R.

LM - AA.

SH - DK GY - BLK.

LM - L₁ - M BY FX. DSE.

SH - BLK, CARR.

LM - M BY FX. DSE.

SH - GY - GRN.

LM - L₁ - M BY FX. DSE.
DSE. IN PT.

SH - M - DK GY.

LM - L₁ - M BY GY - GRN.
FX. DSE. IN PT. F.R.

LM - L₁ - M BY FX. DSE.
DSE. IN PT. F.R.

LM - L₁ - M BY FX. DSE.
DSE. IN PT. F.R.

LM - L₁ - M BY FX. DSE.
DSE. IN PT. F.R.

LM - L₁ - M BY FX. DSE.
DSE. IN PT. F.R.

LM - L₁ - M BY FX. DSE.
DSE. IN PT. F.R.

LM - L₁ - M BY FX. DSE.
DSE. IN PT. F.R.

LM - L₁ - M BY FX. DSE.
DSE. IN PT. F.R.

HEEBNER

3646 (-1237) SMPL

3650 (-1241) LOG

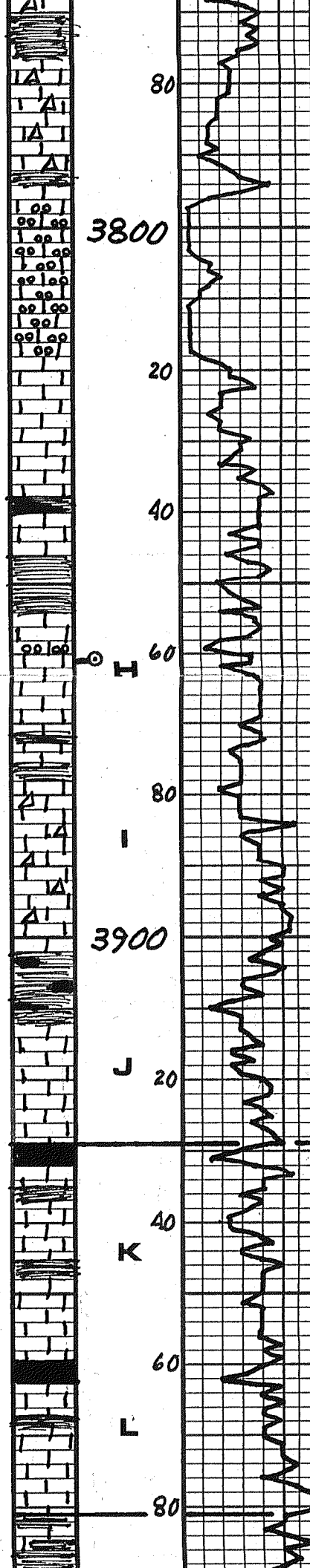
LANSING

3683 (-1274) SMPL

3687 (-1278) LOG

MUD @ 3722':

9.0 WT, 43 VIS, 9.6 FILT,
2000 CHLOR, 1# LCM



SP3, SCAT, VGY, D. AS
LM - LY - Y - GY - EX. DSE
- Y - GY - DQ, JND
DSE CAT.

Ln - A.A.

LM-LT-M BY FX HLY
OPERIC w/ K GP
REMID O. N. ABD
WY C.N.K.

Ln - AA. VS

LA - LR - M BY FX
Specific to Pn Dist
No Vis O.

LM-AA BECOMING
SHLY.

SH-BLK, CARB

LM-LR → M.G.Y.FX. DSE →
SUB - CKEY.

LM - GP - TV - FX - SPS 00
MLO - O - VS.

4m - CPM - 67 - May.
F. J. Spahr Forest.
DSE.

4 - Cam, 6 Gy, FX, DSE
w/ SCAT, 6 Gy, OPA, SNP,
DSE CNT.

Ly - AA

SH-DK Gy Gy-GN
LAW PLS BLK SH

14-1-54
 15-1-54
 16-1-54

54. Bk, CARB

LM - CRM for Gr. 1-5
DSE No Vis G. No Doc
NS

LA - A. SP544, Foss
No. 15. B. No. 202.

$L_1 = L^2(\mathbb{R}^d, \mathbb{R}^N, dx)$

SH - BIK, CARB

LA = CRM. FX. DSE-1
SUB-CHKY.

Лм - АА. Сукх.

54-11-24 Cu Zn

STARK
3929 (-1520) SMPL
3932 (-1523) LOG

B/KANSAS CITY
3981 (-1572) SMPL
3985 (-1576) LOG

4000

20

40

60

80

4100

20

40

60

80

4200

SH-MB, BY-GRN, RD.

LM-LF, BY, FX, DSE.

SH-MB, BY-GRN, RD.

LM-CRM, FX, DSE.

SH-M → DK BY.

LM-CRM, FX, DSE →
SUB-CHKY.LM-LF → M → DK BY.
FX, DSE. SHLY.

SH-DK BY.

LM-MBY, FX, DSE.

LM-AA.

SH-DK BY.

LM-LF → MBY, FX.
DSE.LM-LF → MBY, FX.
DSE.LM-LF → MBY, FX.
DSE.

SH-MBY, BY-GRN, RD.

LM-LF → MBY, FX.
DSE.LM-AA w/ ABD LF → MBY,
BY-GRN SH.LM-PREDOM MBY, FX.
DSE. w/ SH-AA.PREDOM SH-M → DK BY.
BY-GRN w/ SCAT LM-AA.

SH & SCAT LM-AA.

SH-DKBY → BLK, CARB.

LM-CRM, LF, BY, FX.
DSE. w/ SHLY, DSE.
INC IN DK BY → BY-IN
LM-10 VIS. D. AS.INC IN CRM, CHKY LM.
LM-CRM, LF → MBY, FX, DSE
LM-10 VIS. D. AS.

MUD @ 4088':

9.25 WT, 44 VIS, 11.6 FILT,
2100 CHLOR, 1# LCM

PAWNEE

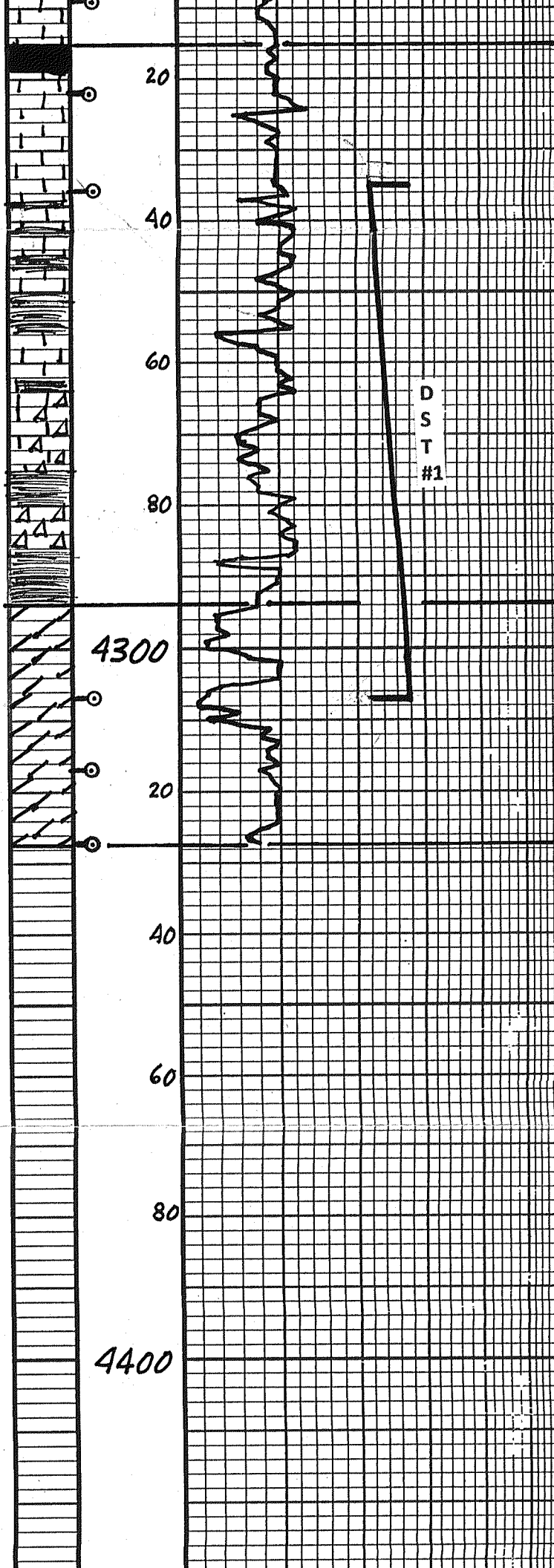
4090 (-1681) SMPL

4092 (-1683) LOG

FT. SCOTT

4191 (-1782) SMPL

4194 (-1785) LOG



LM - CRY. In GR. FX. DSE - SUB-CHKY
LM - MGY. EX. DSE - PR. VAY. Q. COL.
PR. BROKE BAR. F.O. No ODOOR.
LM - MGY. CHKY - LG - MGY. EX.
DSE. No Vis. Q. NS.
ABD. DK. GY - BLK. SH.
LM - LG - MGY. FX. DSE.
LM - AA. BECOMING CHKY.
LM - CRY. SUB-CHKY w/
DSE - LG - MGY. EX.
GY - GRN. BLK. RD.
SH.
LM - SH - AA. INC. IN
WH. CHKY.
LM - SH - AA. w/ PR. SH.
CHKY - LG - MGY. EX. DSE.
CHKY - AA.
Dolo - MGY. EX. GO. VAY. Q. GO -
GR. ODOOR. PR. SH. F.O. GO.
RAINBO. GO. SH.
Dolo - AA.
Dolo - FRY. PR. MGY. EX. - PR.
VAY. Q. BLK. SH. No MO. No ODOOR.
MAGNY. IN. FX. CHKY. SUC. DSE.
Dolo.
Dolo - LG. GY. GY. LG. FX. DSE.
No Vis. Q. NS. No ODOOR.
Dolo - LG. GY. EX. DSE. SEAT. QUES.
IN. SH. No Vis. Q. No ODOOR. No F.O.

CHEROKEE
4215 (-1806) SMPL
4219 (-1810) LOG

PIPE STRAP @ 4307':
4319.31 STRAP
4318.62 BOARD
.69 LONG

MISSISSIPPIAN
4294 (-1885) SMPL
4296 (-1887) LOG

MUD @ 4307':
9.3 WT, 75 VIS, 13.2 FILT,
2100 CHLOR, 0.5# LCM

TOTAL DEPTH
4327 (-4118) ROTARY
4328 (-4119) LOG

MUD @ 4327':
9.25 WT, 48 VIS, 10.4 FILT,
2000 CHLOR, 1# LCM

DST #1: 4235 - 4307
30-60-30-60

IF: 1" BLOW
ISI: NO RETURN
FF: WK SURF. BLOW
FSI: NO RETURN

RECOVERED:
2' GO (6% G, 94% O)
28' GOCM (4% G, 7% O,
89% M)
NO WATER

SIP'S: 1158-1070 #
FP'S: 47-50/45-49 #
HP'S: 2055-1986 #
BHT: 126° F

LITHOLOGY	DEPTH		SAMPLE DESCRIPTIONS	REMARKS

COMPANY: PICKRELL DRILLING COMPANY, INC.		ELEVATION: 2409 KB	
LEASE: #1 MILLER 'L'			
LOCATION: 1400' FNL & 400' FEL	SEC 15	TWP 15	RGE 26W
COUNTY: GOVE	STATE: KANSAS		