Glassman Consulting

API 15-163-24167-00-00

GEOLOGIST'S REPORT
DRILLING TIME AND SAMPLE LOG

OPERATOR BOWMAN OIL COMPANY
LEASE BHB WELL NO. #1
FIELD TODD SOUTHEAST
LOCATION 2970' FSL & 1315' FWL
SEC. 5 TWP. 7S RGE. 20W
COUNTY ROOKS STATE KANSAS

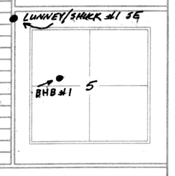
ELEVATION
KB 2211
DF
GL 2206
Measurements Are All From KELLY BUSHING

CONTRACTOR WHITE KNIGHT DRILLING LLC
COMM: COMP: 12-23-2013
RTD 3690 LOG TD 3691
SAMPLES SAVED FROM 3100 TO T.D.
DRILLING TIME KEPT FROM 3000 TO T.D.
SAMPLES EXAMINED FROM 3100 TO T.D
GEOLOGICAL SUPERVISION FROM 3000 TO T.D.
MUD UP 3050 TYPE MUD CHEMICAL- DRISPAC

CASING RECORD
SURFACE 8⅝" @ 221'
150 sxs, 3% CC, 2% Gel
PRODUCTION 5½" @ 3684'
DV Tool @ 2204'
150 sxs EA2 / 370 sxs SMD

ELECTRICAL SURVEYS
DUAL INDUCTION
DENSITY NEUTRON
MICRO

FORMATION	LOG TOP	LOG DATUM	SAMPLE TOP	SAMPLE DATUM	STRUCT. COMP.
ANHYDRITE	1798	(413)	1797	(414)	
B/ANHYDRITE	1831	(380)	1842	(369)	
TOPEKA	3188	(-977)	3184	(-973)	
HEEBNER	3395	(-1184)	3394	(-1183)	
LANSING	3431	(-1220)	3428	(-1217)	
B/KANSAS CITY	3620	(-1409)	3619	(-1408)	
ARBUCKLE	3656	(-1445)	3657	(-1446)	



REFERENCE WELL FOR STRUCTURAL COMPARISON BOWMAN OIL COMPANY LUNNEY / SCHUCK SE #1, SEC. 31 - 6S - 20W; 400' FSL & 1925' FEL. ROOKS COUNTY KANSAS

DATE	DEPTH
12-17-13	225
12-18-13	297
12-19-13	1181
12-20-13	2285
12-21-13	2974
12-22-13	3687
12-23-13	3690

NO	SIZE	MAKE	TYPE	DEPTH OUT	FEET	HOURS
1	12¼	HTC	RR	225	225	5½
2	7⅞	VBM116	0160803	2315	2090	27
3	7⅞	HTC GX23	5206912	3690	1375	26

FORMATION	INTERVAL	DESCRIPTION OF SHOW	LOG ANALYSIS O / S W

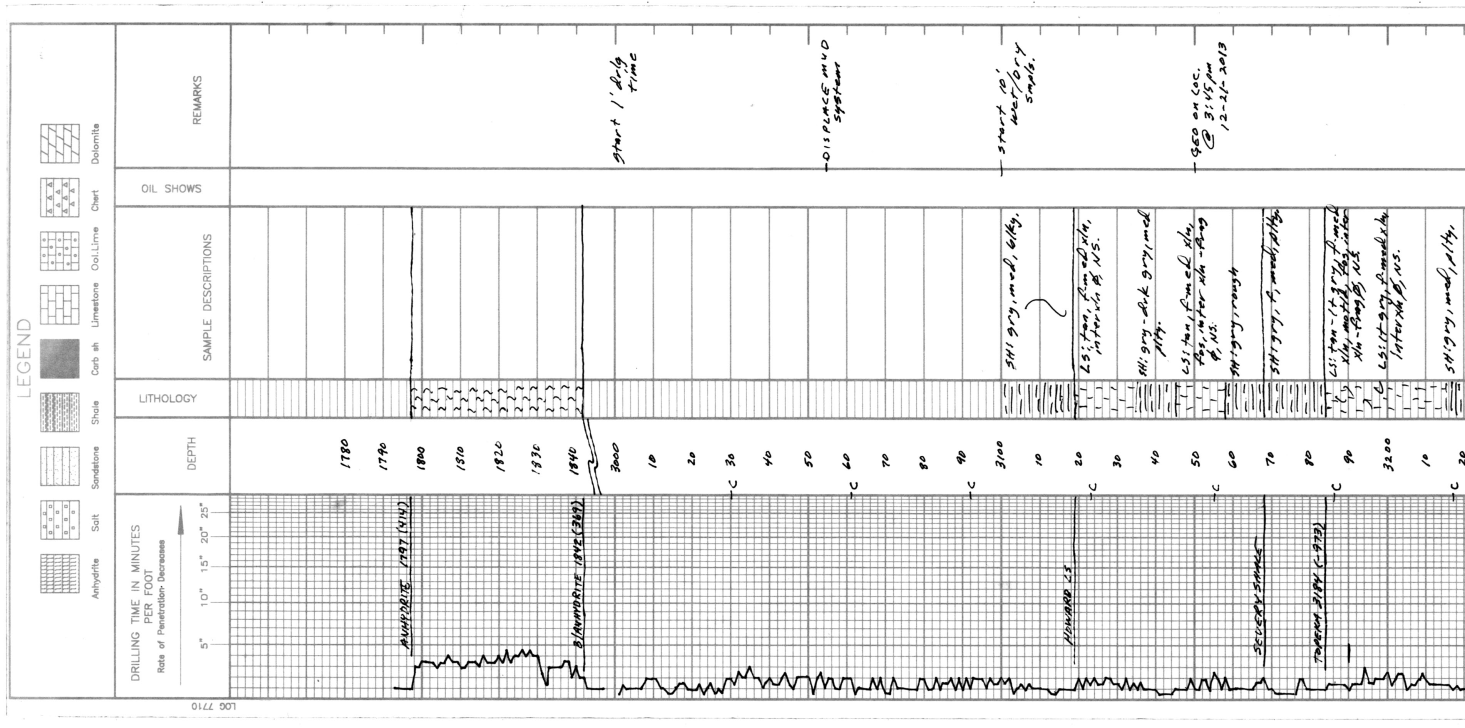
DRILL STEM TESTS

No.	Interval	IFP/Time	ISIP/Time	FFP/Time	FSIP/Time	IHH–FHH	RECOVERY

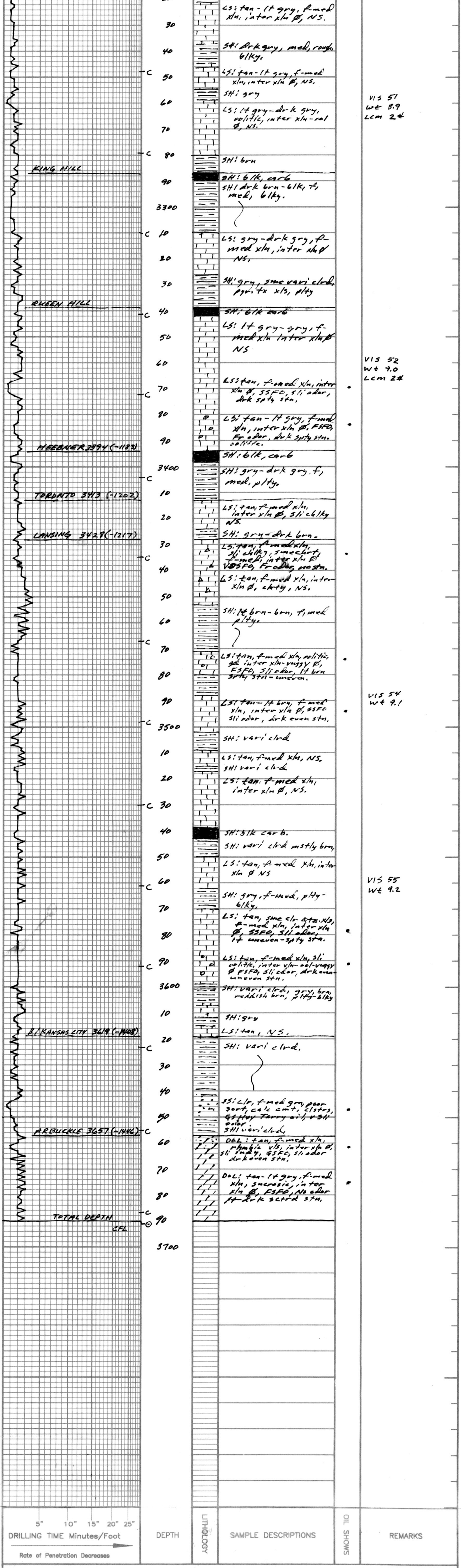
REMARKS AND RECOMMENDATIONS

7514

LOG 7710



DEPTH	SAMPLE DESCRIPTIONS	REMARKS
1780		
1790		
1800		
1810		
1820		
1830		
1840		
3000		start 1' drlg time
10		
20		
30		
40		
50		DISPLACE MUD system
60		
70		
80		
90		
3100	SH: gry, med, blky.	start 10' wet/dry smpls.
10		
20	LS: tan, f-med xln, interxln φ, NS.	
30		
40	SH: gry - drk gry, med plty.	
50	LS: tan, f-med xln, fos, inter xln - frag φ, NS.	GEO on Loc. @ 3:45 pm 12-21-2013
60	SH: gry, rough	
70	SH: gry, f, med, plty.	
80		
90	LS: tan - lt gry, f-med xln, motld, fos, inter xln - frag φ, NS.	
3200	LS: lt gry, f-med xln interxln φ, NS.	
10		
20	SH: gry, med, plty,	



LS: tan - lt gry, f-med xln, inter xln Ø, NS.

SH: drk gry, med, rough, blky.

LS: tan-lt gry, f-med xln, inter xln Ø, NS.

SH: gry

LS: lt gry-drk gry, oolitic, inter xln-ool Ø, NS.

VIS 51
wt 8.9
LCM 2#

SH: brn

KING HILL

SH: blk, carb

SH: drk brn-blk, f, med, blky.

LS: gry-drk gry, f-med xln, inter xln Ø NS.

SH: gry, sme vari clrd, pyritx xls, plty

QUEEN HILL

SH: blk carb

LS: lt gry-gry, f-med xln inter xln Ø NS

VIS 52
wt 9.0
LCM 2#

LS: tan, f-med xln, inter xln Ø, SSFO, sli odor, drk spty stn. •

LS: tan - lt gry, f-med xln, inter xln Ø, FSFO, Fr odor, drk spty stn. oolitic. •

HEEBNER 3394 (-1183)

SH: blk, carb

SH: gry-drk gry, f, med, plty.

TORONTO 3413 (-1202)

LS: tan, f-med xln, inter xln Ø, sli chlky NS.

LANSING 3428 (-1217)

SH: gry-drk brn.

LS: tan, f-med xln, sli chlky, sme chert, f-med, inter xln Ø VSSFO, Fr odor, no stn. •

LS: tan, f-med xln, inter xln Ø, chrty, NS.

SH: lt brn-brn, f, med plty.

LS: tan, f-med xln, oolitic, gd inter xln-vuggy Ø, FSFO, Sli odor, lt brn spty stn - uneven. •

LS: tan - lt brn, f-med xln, inter xln Ø, SSFO sli odor, drk even stn. •

VIS 54
wt 9.1

SH: vari clrd

LS: tan, f-med xln, NS.

SH: vari clrd

LS: tan f-med xln, inter xln Ø, NS.

SH: blk carb.

SH: vari clrd mstly brn,

LS: tan, f-med xln, inter xln Ø NS

VIS 55
wt 9.2

SH: gry, f-med, plty-blky.

LS: tan, sme clr qtz. xls, f-med xln, inter xln Ø, SSFO, Sli odor, lt uneven-spty stn. •

LS: tan, f-med xln, sli oolitic, inter xln-ool-vuggy Ø FSFO, sli odor, drk even-uneven stn. •

SH: vari clrd, gry, brn, reddish brn, plty-blky

SH: gry

LS: tan, NS.

B/KANSAS CITY 3619 (-1408)

SH: vari clrd.

SS: clr, f-med grn, poor sort, calc cmt, clstrs, GS Hvy Tarry oil, v sli odor. •

SH: vari clrd,

ARBUCKLE 3657 (-1446)

DOL: tan, f-med xln, rhombic xls, inter xln Ø, sli sndy, GSFO, sli odor drk even stn. •

DOL: tan-lt gry, f-med xln, sucrosic, inter xln Ø, FSFO, No odor lt-drk sctrd stn. •

TOTAL DEPTH

CFL

CONTRACTOR WHITE KNIGHT DRILLING
LEASE BHB
IP
ELEVATION 2206 , KB 2211
RTD 3690

LOCATION 2970' FSL & 1315' FWL
SEC 5 TWP 7S RNG 20 W
COUNTY ROOK STATE KANSAS