

APT. #: 15-065-23977-0000

GEOLOGICAL REPORT
DRILLING TIME AND SAMPLE LOG

COMPANY Baird Oil Company, L.L.C.
 LEASE Esther Worcester #3-13
 FIELD Worcester East
 LOCATION 1685' E 1 + 1685' E 1
 SEC 13 TWSP 75 RGE 22W
 COUNTY Graham STATE Kansas

ELEVATION
 KB 2125'
 DF 2123'
 GL 2117'
 Depths Measured From
 Log KB Drilling KB

CONTRACTOR WMI Drilling Rig #12
 SPUD 10-27-13 COMP 10-28-13
 SAMPLES SAVED FROM 3100' TO R.T.D.

CASING
 Surface 8 5/8" @ 218'
 Production 5 1/2" @ 3729'

ELECTRIC LOGS
Nabors

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION	SAMPLE	E. LOG	DATUM	A	B	C	D
Anhydrite	1752	1751 + 374		+ 373 + 381			
Base Anhydrite	1784	1783 + 342		+ 342 + 350			
Tapoka	3119	3119 - 994		- 986 - 983			
Heebner	3328	3329 - 1204		- 1193 - 1193			
Toronto	3353	3354 - 1229		- 1215 - 1214			
Lansing	3366	3367 - 1242		- 1232 - 1230			
Base Kansas City	3556	3557 - 1432		- 1420 - 1420			
Marmaton	3594	3595 - 1470		- 1455 - 1458			
Arbuckle	3663	3663 - 1538		- 1502 - 1506			
Total Depth	3730	3730 - 1605		- 1528 - 1574			

REFERENCE WELLS

- 1 Baird Oil Co., LLC, #1-13 Worcester Unit, 2190' E 1 + 250' E 1, Sec. 13-75-22W
- 2 Baird Oil Co., LLC, Esther Worcester #2-13, 1870' E 1 + 695' E 1, Sec. 13-75-22W
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29
- 30
- 31
- 32
- 33
- 34
- 35
- 36
- 37
- 38
- 39
- 40
- 41
- 42
- 43
- 44
- 45
- 46
- 47
- 48
- 49
- 50
- 51
- 52
- 53
- 54
- 55
- 56
- 57
- 58
- 59
- 60
- 61
- 62
- 63
- 64
- 65
- 66
- 67
- 68
- 69
- 70
- 71
- 72
- 73
- 74
- 75
- 76
- 77
- 78
- 79
- 80
- 81
- 82
- 83
- 84
- 85
- 86
- 87
- 88
- 89
- 90
- 91
- 92
- 93
- 94
- 95
- 96
- 97
- 98
- 99
- 100

Port Caller @ 1773





REMARKS

This well ran 10 to 12 feet lower on the casing top and 32 to 36 feet lower on the
 Ar-buckle top than the reference wells. It was decided production casing would
 be cemented to further test the well. The following zones should be tested: 3659-3671'
 and 3541'-3543'

Richard G. Ball
 10-29-13

1507

LEGEND

- 
 Anhydrite
- 
 Salt
- 
 Sandstone
- 
 Siltstone
- 
 Carb sh.
- 
 Limestone
- 
 Ool. Lime
- 
 Chert
- 
 Dolomite

DRILLING TIME IN MINUTES
 PER FOOT

Rate of Penetration Decreases



DEPTH

1750

60

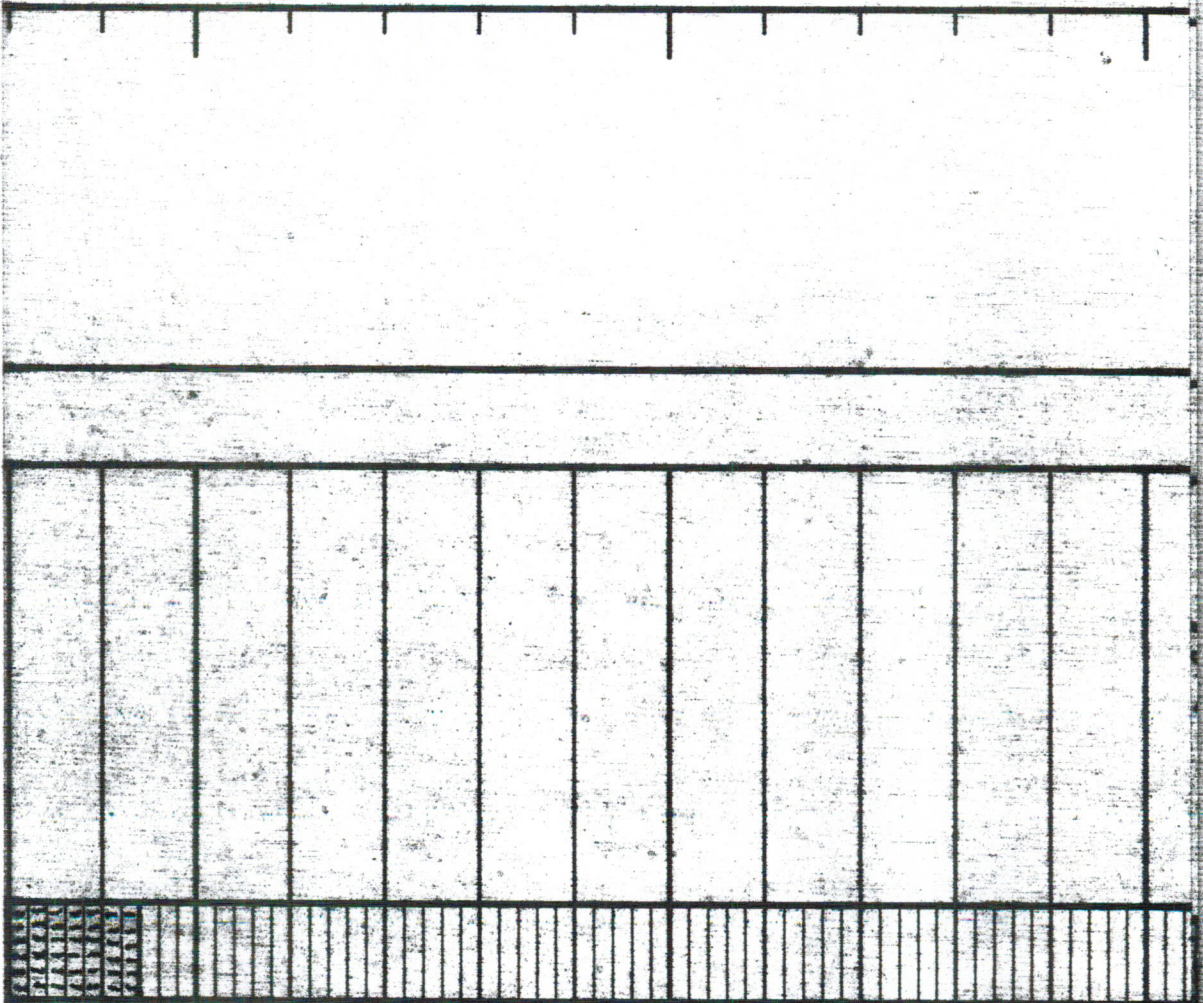
LITHOLOGY

SAMPLE DESCRIPTIONS

OIL SHOWS

REMARKS

1507 7710



80 1790 2950 3000



15:00 - 15:15 das

15:15 - 15:30 das

15:30 - 15:45 das

15:45 - 16:00 das

16:00 - 16:15 das

16:15 - 16:30 das

16:30 - 16:45 das

16:45 - 17:00 das

17:00 - 17:15 das

17:15 - 17:30 das

17:30 - 17:45 das

17:45 - 18:00 das

40

60

80

3200

20

40

60	LS: tn. gry. fslf das Sh: brn slye gry sly
80	LS: wh. to. li. gry. chy. fslf das. Sh: blk carb (Trace)
3300	LS: wh. to. sh. chy. fslf fslf sli. wh. pp. - Tr. in N.S.O. - A. d. l. t.
20	Sh: gry. brn LS: wh. to. li. chy. fslf das
40	LS: wh. to. li. chy. fslf das Sh: brn slye LS: to. fslf das Sh: blk carb
60	LS: wh. to. sh. chy. fslf fslf sli. wh. pp. in. N.S.O. Sh: gry. slye
80	Sh: brn slye LS: wh. to. sh. chy. fslf fslf sli. wh. pp. in. N.S.O.



Handwritten notes or labels at the bottom of the grid, possibly indicating scale or units.

Tribolite Testing

D5704 8430-3466
Straddle Test
TS: 45-45-45
IF: B.O.B. 14 23 min
ISI: No blow 31 min
FF: B.O.B. in 31 min
TS: No blow
Recovery: 395' maw w/
oil spikes in tool
Mtd: 1673 - 1636#
SP: 20-126/127-180#
BHP: 814 - 782#
BHTemp: 109°F
Chlorides: 78,000ppm

15: grey fsh drs
sh: grey sly + orn

15: white crk-fsh drs
M.O. Tr. 0.75-0.90
Tapped for odor for 15 min
sh: brown sly

15: wh-in crk-fsh drs
M.O. Tr. 0.75-0.90
Tapped for odor for 15 min
sh: brown sly

15: white crk-fsh drs
M.O. Tr. 0.75-0.90
Tapped for odor for 15 min
sh: brown sly

15: white crk-fsh drs
M.O. Tr. 0.75-0.90
Tapped for odor for 15 min
sh: brown sly

15: white crk-fsh drs
M.O. Tr. 0.75-0.90
Tapped for odor for 15 min
sh: brown sly

15: white crk-fsh drs
M.O. Tr. 0.75-0.90
Tapped for odor for 15 min
sh: brown sly

15: white crk-fsh drs
M.O. Tr. 0.75-0.90
Tapped for odor for 15 min
sh: brown sly

15: white crk-fsh drs
M.O. Tr. 0.75-0.90
Tapped for odor for 15 min
sh: brown sly

3400 C

20 D

40 E

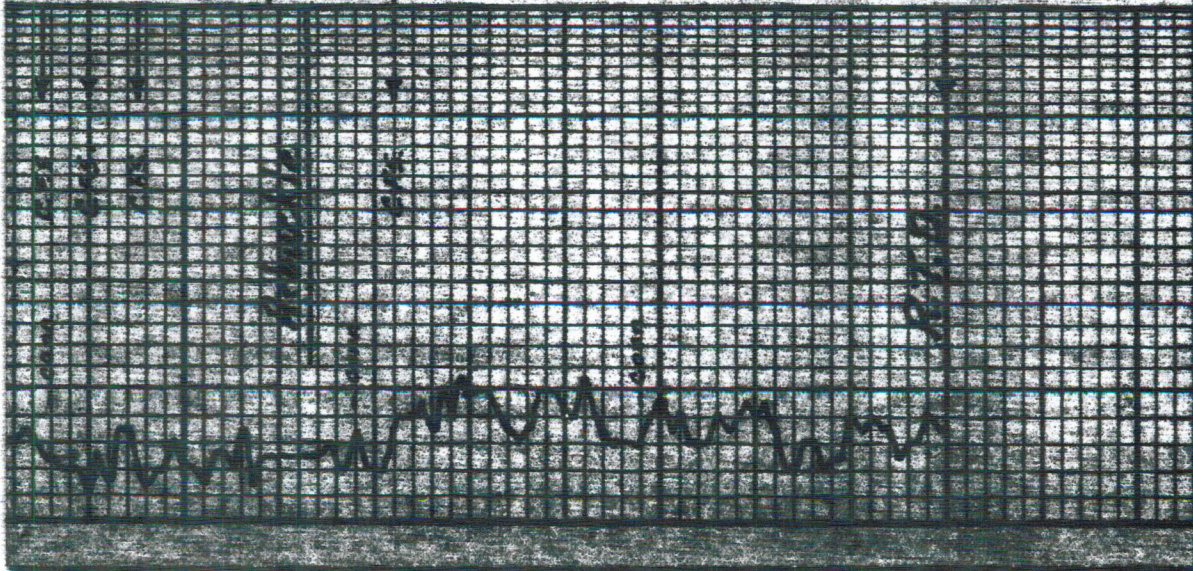
60 F

80 G

3500 H

3500





40	Sh: brn silty A vel. silty with a vel. th. floating K.O. in color
60	Sh: brn silty Sh: brn silty
80	Del: wh-th silty-mch vgy d drt d. str. blebbing K.O. fr. color
3700	Del: wh-th - pt. silty-mch d. str. fr. color. d. str. mostly barren fr. glass. spks
20	Del: a.a. - decr str. from above
40	Del: wh-th - pt. silty d. str. d. S.O. fr. a. sil.
	Del: fr. brn. tab. d. str.
	Del: fr. brn. silty-mch. incl. sh. fr. glass. spks. d. S.O.
	Del: fr. brn. silty-mch. decr. glass. spks. d. S.O.

✓
✓

DST#1 3672 - 3672'
Micro. P. color failed

DST#2 3671 - 3672'
35-45 - 45 - 45
37% silty clay
Fr. at base of 1 1/2'
Recovery: 90% Total
30 C.R. 27-R.P.I. quality
60' N.P.P. 4020, 60% M
Myl: 1746 - 1770#
FP: 17-32 / 44 - 55#
BAP: 619 - 552#
BTemp 108°F

Strap 3698.99
Board 3698.96
Diff .03
Incluc 1/2 @ 3672'