TIM PRIEST
Petroleum Geologist
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GEOLOGIST'S REPORT
DRILLING TIME AND SAMPLE LOG

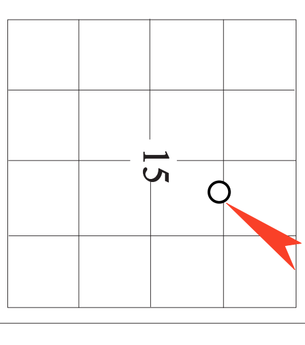
COMPANY SHAKESPEARE OIL CO.
LEASE NICHOLS #1-15
FIELD
LOCATION 1390' FNL, 1850' FEL
SEC 15 TWSP 16S RGE 34W
COUNTY Scott STATE Kansas
CONTRACTOR HD Rig 2
SPUD 8-24-11 COMP 9-8-11
RTD 4900' LTD 4900'
MUD UP 3700' TYPE MUD Chemical
SAMPLES SAVED FROM 3800' to RTD
DRILLING TIME KEPT FROM 3800' to RTD
SAMPLES EXAMINED FROM 3800' to RTD
GEOLOGICAL SUPERVISION FROM 3800' to RTD
GEOLOGIST ON WELL Tim Priest

ELEVATIONS
KB 3130'
DF
GL 3120'
Measurements Are All From KB

CASING
CONDUCTOR N/A
SURFACE 8-5/8" @ 267'
PRODUCTION

ELECTRICAL SURVEYS
CND;D/SP;P.E.
Micro, sonic
By:Weatherford

FORMATION TOPS	ELECTRIC LOG	SAMPLE
Anhydrite	2457 (+673)	2457 (+673)
Heebner Shale	3983 (-853)	3985 (-855)
Lansing	4024 (-894)	4026 (-896)
Stark	4298 (-1168)	4298 (-1168)
BKC	4379 (-1249)	4383 (-1253)
Fort Scott	4569 (-1439)	4570 (-1440)
Cherokee Shale	4596 (-1466)	4598 (-1468)
Mississippian	4760 (-1630)	4760 (-1630)



REMARKS Due to the results of DST #6 it was decided to set production casing to further test the well.

API #15-171-20827-00-00

Respectfully Submitted,

Tim Priest
Petroleum Geologist

LEGEND

Anhydrite	Sandstone	Limestone	Shale	Carb Sh	Cherty LS	Chert	Dolomite
▦	▨	▦	▤	■	▦	△	▱

SAMPLE DESCRIPTION | REMARKS

Anhydrite
2457(+673)

Base/ Anhydrite
2476(+654)

Ls crm-gry, vfn xtl, sli fos, dnse

Sh gry-dk gry

Ls crm-gry, vfn xtl, sli fos, dnse

Sh gry

Ls crm-tan, fn xtl, fos, p-f int xtl-pp por, NS

Ls tan, vfn xtl, fos-sub ool, f int xtl & pp-vug por, NS

Sh blk

Ls crm-lt gry, fn xtl, fos, chky, p int xtl-pp por, NS

Sh gry-blk

Ls gry, vfn xtl, dnse

Sh gry-dk gry

Ls crm, vfn xtl, chky in prt, dnse

Ls crm-tan, fn xtl, fos, chky, f int xtl-pp por, NS

Sh gry-dk gry

Ls crm-lt gry, fn xtl, fos, chky, f int xtl-pp por, NS

Heebner
3985 (-855)

Sh blk, carb

Sh gry-dk gry, calc

Toronto
3999 (-869)

Ls crm-tan, fn xtl, fos, chty, p-f int xtl-pp por, NS

Ls crm-gry, fn xtl, fos, chty, p int xtl-pp por, NS

Sh gry-dk gry, calc

Lansing
4026 (-896)

Ls crm, fn xtl, fos, chky, sli chty, p-f int xtl-pp por, NS

Ls crm-tan, fn xtl, fos, chky, f int xtl-pp por, NS

Sh red-gry

Ls crm, fn xtl, fos, chky, p-f int xtl-pp por, NS

DST # 1
(4072'-4100')
15"-30"-45"-60"
IF: BOB in 8", no return
FF: BOB in 11", no return
Rec: 120' WCM(20%W, 80%M), 248' MW(50%M, 50%W), 372' MW(5%M, 95%W), 722' Total Fluid
Fps: 47-138#/144-270#
SIPs: 1061#/1015#
HSPs: 2079#/1996#
BHT: 115 deg F
Chlor: 26,000ppm (system-4,200ppm)

Ls crm, fn xtl, fos, sli chky, p-f int xtl-pp por, sptd-sli sat lt stn, SSFO, vsli odor, dull-f fluor

Ls crm, fn xtl, fos, chky, p-f int xtl-pp por, NS

Ls crm-lt gry, fn xtl, sli fos, sli chky, mostly dnse

Sh blk

Ls crm-lt gry, vfn xtl, dnse

DST # 2
(4118'-4150')
30"-30"-60"-90"
IF: BOB in 20", no return
FF: BOB in 23", no return
Rec: 144' WCM(10%W, 90%M), 186' MW(80%W, 20%M), 186' MW(90%W, 10%M), 516' Total Fluid
Fps: 33-128#/134-239#
SIPs: 1113#/1115#
HSPs: 2086#/1968#
BHT: 115 deg F
Chlor: 23,000ppm (system-5,300ppm)

Ls crm-lt gry, fn xtl, fos, p-f int xtl & int frag por, sptd-sli sat stn, SSFO, sli odor, dull fluor

Ls crm-lt gry, fn xtl, fos-ool, p-f int xtl & int frag por, sptd-sat stn, SFO, sli odor, dull fluor

Ls tan-gry, fn xtl, dnse

Sh gry

Ls crm-gry, fn xtl, ool, f int ool por, NS

Ls crm-tan, fn xtl, fos-ool, f int xtl & int frag por, NS

Ls tan-gry, vfn xtl, dnse

Ls crm-gry, fn xtl, ool, f int ool por, NS

Ls crm-tan, vfn xtl, dnse

Sh red-grn-gry

Muncie Creek
4209 (-1079)

Sh blk, carb

Ls tan-gry, vfn xtl, dnse

Sh grn-gry

DST # 3
(4221'-4270')
15"-30"-45"-60"
IF: BOB in 10", no return
FF: BOB in 16", no return
Rec:186' MW(90%W,10%M) 372' MW(95%W,5%M) 558' Total Fluid
Fps: 37-109#/120-252#
SIPs: 1208#/1196#
HSPs: 2168#/2141#
BHT: 119 deg F
Chlor: 20,000ppm (system-6,000ppm)

Ls crm-lt gry, fn xtl, fos-sli ool, p-f int xtl-pp por, sptd dk stn on few pcs, VSSFO, vsli odor, dull fluor

Ls crm-lt gry, fn xtl, fos, chky, p int xtl por, NS

Sh dk gry-blk

Ls lt gry-tan, mic xtl, dnse

DST # 4
(4277'-4300')
15"-30"-45"-60"
IF: BOB in 13", no return
FF: BOB in 16", no return
Rec:186' MW w/oil spts (80%W,20%M) 248' Wtr 434' Total Fluid
Fps: 38-105#/112-213#
SIPs: 1188#/1197#
HSPs: 2133#/2046#
BHT: 118 deg F
Chlor: 27,000ppm (system-6,000ppm)

Ls crm-lt gry, fn xtl, fos, p-f int xtl-pp por, sptd-sli sat dk stn, SSFO, sli odor, dull fluor

Ls crm-tan, vfn xtl, dnse

Sh gry-dk gry

Ls crm-lt gry, fn xtl, fos-ool, p-f int xtl & pp-vug por, scat ooc por, sptd-sli sat dk stn, SFO, f-strong odor, dull fluor

Ls lt gry, vfn xtl, dnse

Stark
4298 (-1168)

Sh blk, carb

Ls crm-tan, vfn xtl, dnse

DST # 5
(4295'-4330')
15"-30"-30"-60"
IF: BOB in 1", no return
FF: BOB in 2", no return
Rec: 279' MW(50%W, 50%M), 248' MW(90%W, 10%M), 1705' Wtr 2232' Total Fluid
Fps: 257-560#/625-964#
SIPs: 1190#/1215#
HSPs: 2167#/2060#
BHT: 119 deg F
Chlor: 28,000ppm (system-8,100ppm)

Sh gry

Ls crm-lt gry, fn xtl, fos-ool, p-f int xtl & pp-vug por, scat ooc por, sptd-sli sat dk stn, SFO, f odor, dull fluor

Ls crm-lt gry, fn xtl, fos, sli chky, p int xtl-pp por, sptd stn on few pcs, VSSFO, sli odor, no fluor

Sh blk carb

Ls crm-lt gry, fn-vfn xtl, sli chky, p int xtl-pp por, NS

Ls tan-gry motld, fn xtl, chty, dnse

Ls crm-lt gry, fn xtl, sli fos, sli chky, p int xtl-pp por, sptd dk stn on few pcs, VSSFO, sli odor, no fluor

B/K.C.
4383 (-1253)

Sh dk gry-blk

DST # 6
(4386'-4453')
15"-30"-45"-90"
IF: BOB in 2", surface return
FF: BOB in 2.5", 6 in. return
Rec: 279' MWCGO(30%G, 40%O,20%W,10%M), 558' MWCGO(20%G,60%O,10%W,10%M), 558' MWCGO (60%G,20%O,15%W,5%M), 124' GOCWM(10%G,10%O, 30%W,50%M), 124' OCMW (10%O,80%W,10%M), 1643' Total Fluid
Fps: 119-323#/330-666#
SIPs: 1303#/1297#
HSPs: 2207#/2103#
BHT: 119 deg F
Chlor: 26,000ppm (system-8,100ppm)

Ls crm-tan-gry, fn xtl, fos-ool, f int frag & sli ooc por, sptd-sli sat dk stn, FSFO, strong odor, no flour

Sh/Silts lt grn-gry

Sh grn-gry-dk gry

Marmaton
4449 (-1319)

Ls crm-lt gry, fn xtl, fos-ool in prt, f int xtl-pp-vug por, sptd-sat stn, FSFO, strong odor, dull fluor

DST # 7
(4454'-4504')
30"-30"-30"-30"
IF: Died in 8", no return
FF: No blow, no return
Rec: 5' Mud
Fps: 36-30#/32-30#
SIPs: 545#/384#
HSPs: 2282#/2164#
BHT: 109 deg F

Ls crm-lt gry, fn xtl, fos, p-f int xtl-pp por, scat vugs, sptd-sat stn, SFO, strong odor, dull fluor

Sh gry

Ls crm-lt gry, mic xtl, dnse

Ls lt gry, mic xtl, sli chty, dnse

Ls crm-lt gry, vfn xtl, chky, dnse

Sh blk carb

Pawnee
4514 (-1384)

Ls crm, fn xtl, fos, sli chky, p int xtl-pp por, sptd stn on few pcs, VSSFO, vsli odor, no fluor

DST # 8
(4504'-4590')
30"-30"-30"-30"
IF: Died in 5", no return
FF: No blow, no return
Rec: 60' OSM
Fps: 54-51#/61-50#
SIPs: 112#/74#
HSPs: 2351#/2190#
BHT: 110 deg F

Ls crm-lt gry, mic xtl, sli chty, dnse

Ls crm-tan-gry, vfn xtl, chty, dnse

Sh blk carb

Ls crm-tan, fn xtl, fos-fn ool, sli chky, p-f int frag por, sptd-sat stn, SFO, f odor, dull fluor

Sh blk carb

Fort Scott
4570 (-1440)

Ls crm-gry, fn xtl, fos, sli chky, p-f int xtl-pp por, sptd stn, SSFO, sli odor, dull flour

Ls tan-gry, mic xtl, chty, dnse

Ls crm-lt gry, fn xtl, fos, p int xtl-pp por, sptd stn on few pcs, VSSFO, no odor, no fluor

Cherokee Shale
4598 (-1468)

Sh blk

Ls crm-tan-gry mot, fn xtl, fn ool, chky, f int ool por, NS

Ls gry, mic xtl, dnse

Sh blk

Ls tan-gry, w/int bed blk Sh

Ls crm-lt gry, vfn xtl, dnse

Sh grn-gry

Johnson Zone
4642 (-1512)

Ls crm-tan-gry, vfn xtl, fos, p-f pp-vug por, sptd stn, SSFO, sli odor, dull flour

DST # 9
(4617'-4702')
30"-30"-60"-90"
IF: Surface blow, no return
FF: Built to 3 in., no return
Rec: 62' OSM, 62' OCM(5% O,95%M), Total fluid 124'
Fps: 49-50#/61-63#
SIPs: 190#/867#
HSPs: 2363#/2291#
BHT: 115 deg F

Ls tan-brn, mic xtl, dnse

Ls crm-lt gry, vfn xtl, sli chty, p-f pp por w/few vugs, sptd stn SSFO floating, sli odor, dull fluor

Ls tan-gry, vfn xtl, chty, dnse

Ls crm-tan, fn xtl, sli ool, p-f int xtl & int ool por, sptd stn, VSSFO, sli odor, dull fluor

Ls tan-gry, vfn xtl, chty, dnse

Ls tan, vfn xtl, p pp por on few pcs, sptd stn, VSSFO, no odor no fluor

Sh var col

SS lt gry, vfn-fn grn, sub round, sli glauc, silty in prt, tite, no vis por

Sh var col

SS clear-lt gry, fn-med grn, sub round, friable, f int grn por, NS

Mississippian
4760 (-1630)

Ls crm-lt gry, vfn xtl, dnse

Ls lt gry, vfn xtl, sli sandy, dnse

Ls crm-tan, vfn xtl, dnse

Ls crm, vfn xtl, sli sandy, dnse

Ls lt gry, mic xtl, dnse

Ls crm-tan, vfn xtl, sli sandy, dnse

Ls crm, fn xtl, sli dol, dnse

Ls crm-tan, mic xtl, dnse

Total Depth
4900' (-1770)