

**Shakespeare Oil Company, Inc.
Radnor-COG No.1-14
1000' FNL and 2500' FWL
SE SE NE NW
Sec 14 T16S R34W
Scott County, Kansas**

Geological Report
by

Macklin M. Armstrong, P.G.
License Number 743

Scale 1:240 Imperial

Well Name:	Radnor-COG No. 1-14	
Surface Location:	Sec 14 T16S R34W	
Bottom Location:	1000' FNL and 2500' FWL	
API:	15-171-21088	
License Number:	7311	
Spud Date:	9/23/2014	Time: 10:00 AM
Region:	Scott County, Kansas	
Drilling Completed:	10/2/2014	Time: 3:36 PM
Surface Coordinates:		
Bottom Hole Coordinates:		
Ground Elevation:	3114.00ft	
K.B. Elevation:	3126.00ft	
Logged Interval:	3800.00ft	To: 4856.00ft
Total Depth:	4860.00ft	
Formation:	Mississippi	
Drilling Fluid Type:	Chemical/Fresh Water Gel	

OPERATOR

Company:	Shakespeare Oil Company, Inc.	
Address:	202 West Main Street Salem, Illinois 62881	
Contact Geologist:	Don Williams	
Contact Phone Nbr:	618-548-1585	
Well Name:	Radnor-COG No. 1-14	
Location:	Sec 14 T16S R34W	API: 15-171-21088
Pool:	Oil	Field: Radnor
State:	Kansas	Country: USA

CONTRACTOR

Contractor: Southwind Drilling, Inc.
 Rig #: 70
 Rig Type: mud rotary
 Spud Date: 9/23/2014
 TD Date: 10/2/2014
 Rig Release: 10/3/2014

Time: 10:00 AM
 Time: 3:36 PM
 Time: 7:00 PM

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: 101.045743748
 N/S Co-ord:
 E/W Co-ord:

Latitude: 38.667877733

ELEVATIONS

K.B. Elevation: 3126.00ft
 K.B. to Ground: 12.00ft

Ground Elevation: 3114.00ft

NOTES

Date	Depth at 7 am	Activity
9-23-14	MIRU	Spud at 10 am
9-24-14	747	Drilling
9-25-14	2109	Drilling
9-26-14	3082	Drilling
9-27-14	3634	Drilling
9-28-14	4110	Drilling
9-29-14	4468	CFS
9-30-14	4492	CFS
10-01-14	4599	CTCH after DST No. 2
10-02-14	4720	Drilling
10-03-14	4860	Set 5 1/2"

Surface Casing: 8 5/8" 23# at 265'
 Production Casing: 5 1/2" 15.50# at 4858'

Deviation: 265' - 3/4°
 4468' - 1 1/2°
 4860' - 1°

Bit Record:	Make	Size	Type	Depth In	Depth Out	Hours
	Reed	12 1/4"	Tooth	Surface	265	2 1/2
	JZ	7 7/8"	HA25L	265	4860	127

Drill Stem Tests:

DST No. 1 4406 to 4468 Marmaton A Zone
 30-30-60-90
 Recovery: 60' CO (23 degree gravity corrected)
 18' SMCO (10%M, 90%O)

IHP 2168 FHP 2072
 IFP 14-21 FFP 36-48
 ISIP 1109 FSIP 1109
 Temp 113°

DST No. 2 4545 to 4599 Myrick Station, Fort Scott
 30-30-60-60
 Recovery: 2' SOCM (10%O, 90%M)
 IHP 2230 FHP 2173
 IFP 20-21 FFP 21-29
 ISIP 87 FSIP 265
 Temp 115°

DST No. 3 4616 to 4713 Johnson Zone

15-30-45-90

Recovery: 1444' GIP

68' CGO (25%G, 75%O - 24 degree gravity corrected)

189' GSMCO (40%G, 10%M, 50%O)

189' GMCO (30%G, 20%M, 50%O)

126' GMCO (10%G, 45%M, 45%O)

IHP 2291 FHP 2185

IFP 48-127 FFP 126-201

ISIP 845 FSIP 803

Temp 120°

Formation	Sample	E-Log	Datum	Well 1	Well 2
Anhydrite	2458	2459	+667	-4	-8
Base/Anhydrite	2480	2479	+647	-4	-10
Heebner	3988	3984	-858	+5	+4
Lansing	4030	4026	-900	+5	+3
Muncie Creek	4202	4200	-1074	+9	+11
Stark	4305	4300	-1174	+4	+5
Hushpuckney	4352	4350	-1224	-3	0
Marmaton	4442	4439	-1313	+1	+4
Pawnee	4515	4513	-1387	+1	+6
Fort Scott	4569	4567	-1441	+3	+7
Cherokee Shale	4598	4595	-1469	+2	+7
Johnson Zone	4641	4638	-1512	+4	+10
Mississippi	4780	4779	-1653	-19	+2
Total Depth	4860	4856	-1730		

Well 1: Shakespeare Oil Company, Inc. Radnor No. 2-14 800' FNL and 550' FWL Sec 14 T16S R34W

Well 2: Shakespeare Oil Company, Inc. Radnor No. 1-14 1550' FSL and 1850' FWL Sec 14 T16S R34W

Pipe was set to further test the Johnson zone.

Respectfully submitted,
Macklin M. Armstrong

ROCK TYPES



ACCESSORIES

MINERAL

- ▲ Chert, dark
- P Pyrite
- Sandy
- △ Chert White

FOSSIL

- ↑ Bryozoa
- F Fossils < 20%
- φ Oolite
- ⊕ Oomoldic
- ⊕ Fussilinid

STRINGER

- ▬ Dolomite

TEXTURE

- C Chalky

OTHER SYMBOLS

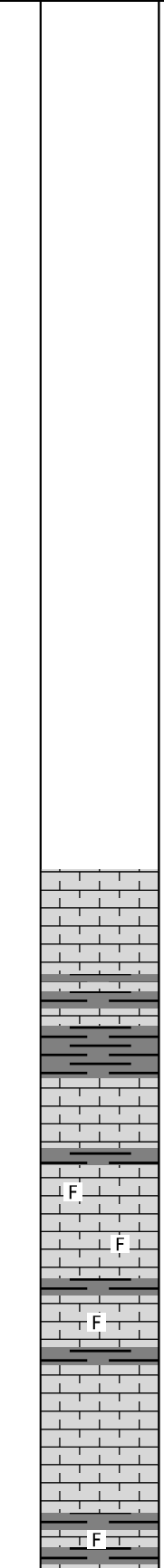
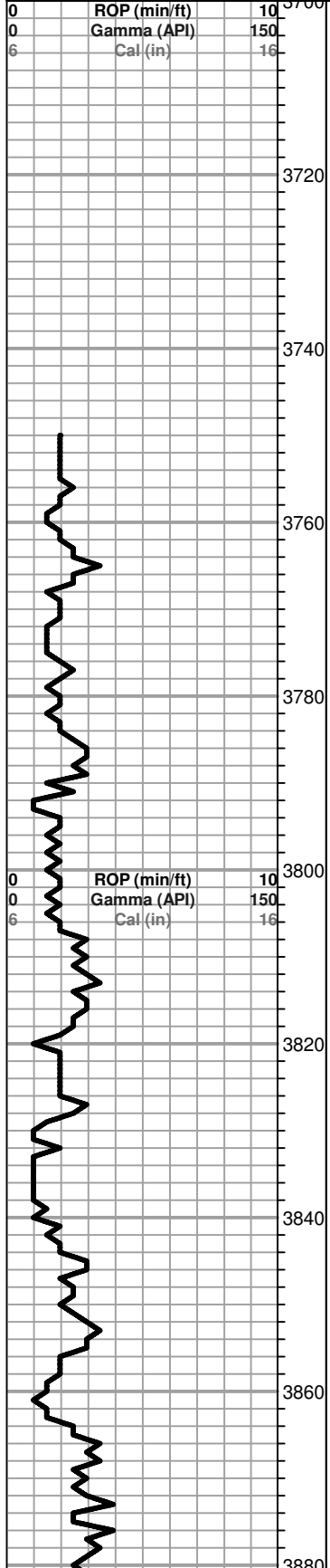
MISC

- Daily Report
- Digital Photo
- Document
- Folder
- Link
- Vertical Log File
- Horizontal Log File
- Core Log File
- Drill Cuttings Rpt

DST

- DST Int
- DST alt
- Core

Curve Track #1		Depth Intervals	DST	Lithology	Oil Show	Geological Descriptions	Comment
ROP (min/ft)	Gamma (API)						



Shakespeare Oil Company, Inc.
Radnor-COG No. 1-14
1000' FNL and 2500' FWL
SE SE NE NW
Sec 14 T16S R34W
Scott County, Kansas

GL 3114 KB 3126

Ls-lt gry/gry f/mxln mhd no por

Ls-lt gry/gry f/mxln mhd/dns no por

Sh-gry/dk gry

Ls-lt gry/gry f/mxln dns no por

Sh-gry/dk gry

Ls-lt gry gry f/mxln mhd no por

Sh-gry/dk gry

Ls-lt gry f/mxln mhd sl fos fr inter xln por nsfo

Ls-lt gry f/mxln mhd/dns sl fos no por

Sh-gry/dk gry

Ls-lt gry f/mxln dns sl fos no por

Sh-gry/dk gry

Ls-crm/tan f/mxln mhd pr/fr inter xln por nsfo

Ls-crm/tan f/mxln mhd/dns no por

Ls-lt gry f/mxln dns no por

Sh-gry/dk gry

Ls-gry f/mxln mhd/dns fos no por

Sh-gry/dk gry

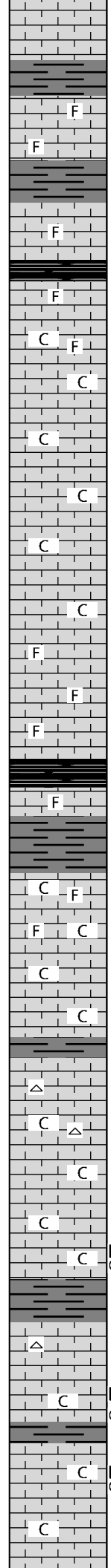
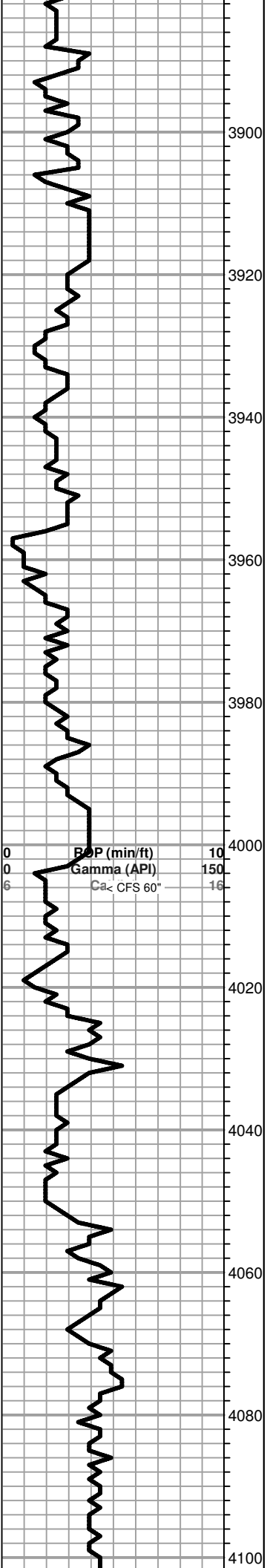
Mud Program:
Mud Co/Service Mud
Chemical Gel/Premix

Sample Cuttings:
KGS Well Sample Library

Testing: Trilobite Testing

Electric Logs: Weatherford
MPD/MDN
MAI/MFE
MML
MSS

Deviation:
265' - 3/4°
4468' - 1 1/2°
4860' - 1°



Ls-lt gry/tan f/mxln mhd no por

Sh-gry/dk gry

F Ls-lt gry/tan f/mxln mhd fos no por

F Ls-lt gry/tan f/mxln mhd/dns sl fos no por

Sh-gry/dk gry

F Ls-tan f/mxln dns fos no por

Sh-blk carb

F Ls-tan f/mxln mhd/dns sl fos no por

C F Ls-tan/crm f/mxln mhd sl clky sl fos no por

C Ls-tan/crm f/mxln dns sl clky no por

C Ls-tan/crm fx/n mhd sl clky no por

C Ls-tan/crm fxln mhd/dns sl clky no por

C Ls-tan/crm fxln dns sl clky no por

C Ls-tan/crm fxln mhd sl clky fr inter xln por nsfo

C Ls-tan/crm fxln mhd sl clky no por

F Ls-lt gry/tan f/mxln mhd/dns sl fos no por

F Ls-AA

F Ls-lt gry/tan fxln dns sl fos no por

----- Heebner 3988 -862 -----

Sh-blk carb

F Ls-tan fxln mhd/dns fos with blk irregular shaped fos no por

Sh-gry/dk gry

C F Ls-crm/lt tan fxln mhd sl clky sl fos no por

F C Ls-AA

C Ls-crm/lt tan fxln mhd sl clky no por sm Ls-wt fxln soft clky no por

C Ls-crm/lt tan fxln dns sl clky no por

----- Lansing 4030 -904 -----

△ C △ Ls-crm/tan f/mxln dns no por sm Cht-wt fsh opa

C △ Ls-crm/tan fxln mhd sl clky no por sm Cht-AA

C Ls-crm/lt tan fxln mhd sl clky no por sm Ls-wt fxln soft clky no por

C Ls-crm/lt tan fxln dns sl clky no por

C D Ls-AA with few pcs Ls-tan fxln mhd fos dk brn to blk dead oil stn

Sh-gry/dk gry

△ Ls-crm/tan fxln mhd no por sm Cht-wt fsh opa sl fos

Ls-crm/lt tan fxln dns no por

C D Ls-crm/lt tan fxln mhd sl clky no por few pcs Ls-tan fxln mhd dk brn to blk dead oil stn

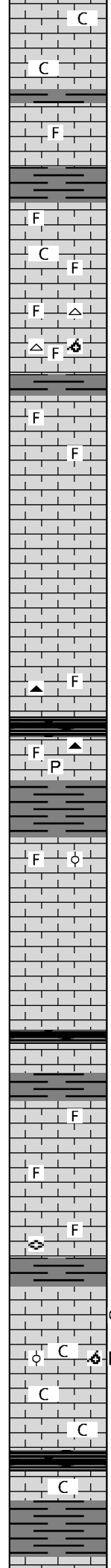
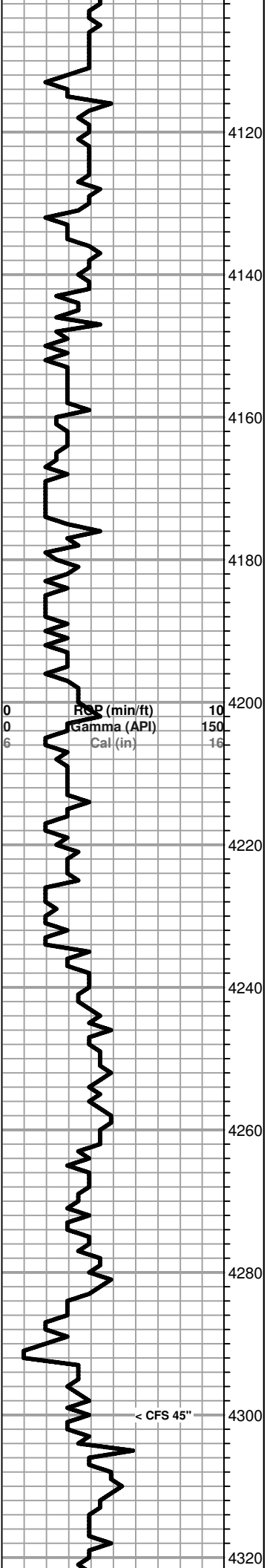
Sh-gry/dk gry

C D Ls-crm/lt tan fxln mhd sl clky no por with few Ls-tan fxln mhd dk brn to blk dead oil stn

C Ls-crm fxln mhd/dns sl clky no por

C Ls-crm/lt ary fxln dns sl clky no por

All formation tops on this geological log have been correlated back to the electric log



Ls-AA

Ls-crm/lt gry fxln mhd sl clky pr/fr inter xln por nsfo
Sh-gry/dk gry

Ls-lt gry fxln dns sl fos with blk irregular shapped fos no por

Sh-gry/dk gry

Ls-lt gry fxln dns sl fos with blk irregular shaped fos no por

Ls-tan/lt gry f/mxln mhd/dns no por sm Ls-lt gry f/mxln mhd
sl clky with small blk fos no por

Ls-tan mxln dns fos no por sm Cht-gry/gry wt fsh opa

Ls-tan f/mxln mhd/dns sl fos no por sm Ls-tan f/mxln mhd
fos oom and sm Cht-AA

Sh-gry/dk gry

Ls-tan f/mxln mhd/dns sl fos no por

Ls-AA

Ls-lt gry/crm fxln mhd no por

Ls-lt gry/crm fxln dns no por

Ls-lt gry/crm/lt tan fxln mhd/dns no por

Ls-lt gry/crm/lt tan fxln mhd no por

Ls-AA

Ls-lt gry/crm fxln dns sl fos no por sm Cht-gry/lt gry fsh opa

----- **Muncie Creek 4202 -1076** -----

Sh-blk carb
Ls-tan/gry f/mxln mhd/dns sl fos with sm blk ool no por sm Pyrite
and Cht-gry/lt gry fsh opa

Sh-gry/dk gry

Ls-tan/lt gry fxln mhd no por sm Ls-gry f/mxln mhd fos with sm blk
ool no por

Ls-tan/lt gry f/mxln mhd no por

Ls-AA

Ls-tan/lt gry f/mxln dns no por

Ls-AA

Sh-blk carb
Ls-tan/lt gry f/mxln dns no por

Sh-gry/dk gry

Ls-tan/gry/brn fxln dns sl fos no por

Ls-tan/gry f/mxln dns no por

Ls-tan/gry f/mxln dns sl fos no por

Ls-tan/gry dns sl fos no por sm free fuss

Sh-gry/dk gry

Ls-tan/gry f/mxln mhd no por with sm Ls-tan/crm (3 pcs) fxln mhd pr/fr vug por
dk brn sct stn vssfo sl cut no odor

Ls-crm/tan f/mxln mhd sl clky fos sl oom no por and sm Ls-crm/lt gry fxln
fos ool gd ooc por dk brn to blk dead oil stn nsfo

Ls-lt gry/crm/tan fxln dns sl clky no por

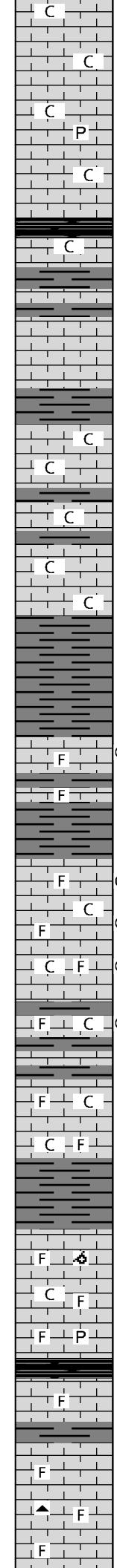
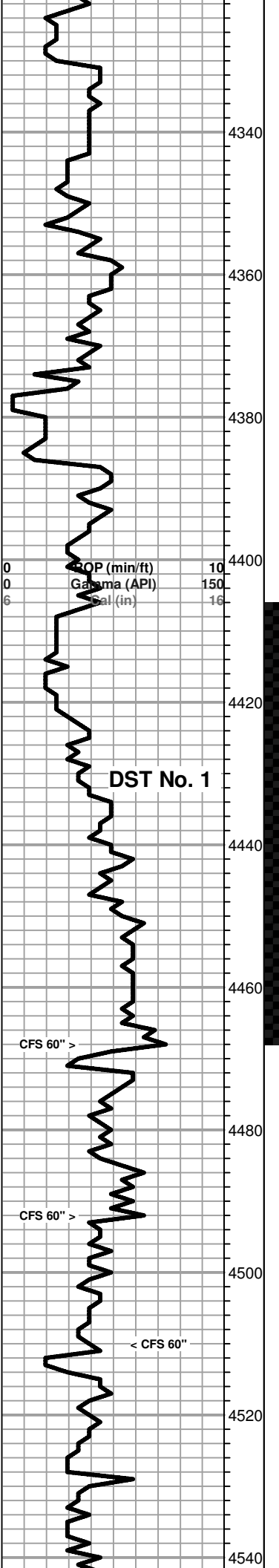
----- **Stark 4305 -1179** -----

Sh-blk carb
Ls-lt gry/tan fxln dns sl clky no por

Sh-gry/dk gry

Ls-lt gry/tan fxln dns sl clky no por

Mud Data at 4174'
10:30 am 9-28-14
Wt 9.2 Vis 62 WL 8.0
pH 11 Chl 5800 Sol 6.2%
YP 20 LCM 1#



Ls-lt gry/tan fxln dns sl clky no por

Ls-lt gry/crm fxln mhd sl clky no por

Ls-lt gry/crm fxln dns sl clky no por

Ls-AA sm Pyrite

Ls-crm/lt tan fxln mhd sl clky no por

----- **Hushpuckney 4352 -1226** -----

Sh-blk carb

Ls-crm/lt tan fxln mhd/dns sl clky no por

Sh-gry/dk gry

Ls-tan/gry fxln dns no por

Sh-gry/dk gry

Ls-tan/gry fxln mhd/dns no por

Ls-AA

Sh-gry/gry

Ls-tan/gry sm mott dk gry fxln mhd sub clky no por

Ls-tan/gry fxln dns sub clky no por

Sh-gry/dk gry

Ls-tan/gry fxln dns sub clky no por

Sh-gry/dk gry

Ls-tan/gry fxln mhd/dns sub clky no por

Ls-tan/gry fxln dns sub clky no por

Sh-gry/dk gry

Sh-AA

Sh-AA

Ls-tan/gry f/mxln mhd/dns sl fos no por sm Ls-lt gry (4 pcs) fxln mhd sl fos fr vug por dk brn to blk sct stn vssfo on brk sl cut

Sh-gry/dk gry

Ls-tan/gry f/mxln mhd/dns sl fos no por

Sh-gry/dk gry

----- **Marmaton 4442 -1316** -----

Ls-tan fxln mhd fos fr vug por brn sct stn ssfo on brk fr cut

Ls-tan/crm fxln mhd/dns sl clky sl fos no por with sm Ls-tan (3 pcs) fxln mhd pr vug por dk brn sct stn vssfo on brk sl cut

Ls-tan/crm/lt gry fxln mhd/dns sl clky sl fos no por with sm Ls-tan (4 pcs) fxln mhd pr vug por dk brn spt stn vssfo on brk sl cut

Sh-gry/dk gry

Ls-tan/crm/lt gry fxln mhd/dns sl clky no por with sm Ls-tan (6 pcs) fxln mhd sl fos pr vug por dk brn spt stn vssfo on brk sl cut

Ls-lt gry/gry fxln mhd no por

Sh-gry/dk gry

Ls-lt gry/crm f/mxln mhd/dns sl clky sl fos no por

Ls-crm/lt tan f/mxln dns sl clky sl fos no por

Sh-gry/dk gry/lt gry

Ls-lt gry f/mxln mhd/dns fos sl oom no por

Ls-lt gry/crm f/mxln mhd sl clky sl fos no por

Ls-lt gry/tan f/mxln dns sl fos no por sm Pyrite

----- **Pawnee 4515 -1389** -----

Ls-lt gry/gry f/mxln mhd/dns sl fos no por

Sh-gry/dk gry

Ls-tan/gry/brn f/mxln mhd/dns sl fos no por

Ls-tan/lt gry f/mxln mhd sl fos no por sm Cht-gry/brn fsh opa

Ls-AA

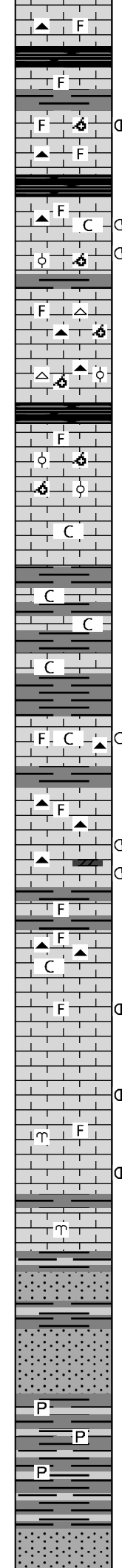
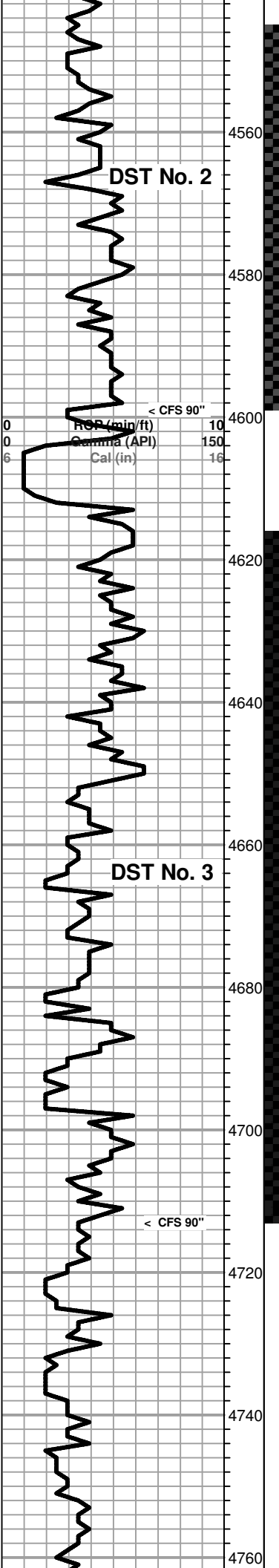
DST No. 1
 4406 to 4448
 30-30-60-90
 1st Open: Weak 3/4" blow
 2nd Open: Weak blow,
 building to 2 1/4"

Recovery:
 60' CO (23 deg grav)
 18' SMCO (10%M, 90%O)
 IHP 2168 FHP 2072
 IFP 14-21 FFP 36-48
 ISIP 1109 FSIP 1109
 Temp 113°

Pulled 25 stand short trip at 4468', then cir for test - 90"

Mud Data at 4468'
 8:50 am 9-29-14
 Wt 9.3 Vis 63 WL 8.0
 pH 11 Chl 6500 Sol 6.7%
 YP 24 LCM 2#

Mud Data at 4528'
 11:45 am 9-30-14
 Wt 9.2 Vis 60 WL 8.4
 pH 10.5 Chl 6700 Sol 6%
 YP 19 LCM 2#



Ls-tan/lt gry/gry f/mxln mhd sl fos no por sm Cht-gry fsh opa

Sh-blk carb
 Ls-tan/gry f/mxln dns sl fos no por
 Sh-gry/dk gry
 Ls-tan f/mxln mhd fos sl oom fr pp/inter xln por lt brn sct stn fsfo and gas bub on brk fr cut trc odor
 Ls-tan/gry mxln to frag mhd/dns sl fos no por sm Cht-gry fsh opa

----- **Fort Scott 4569 -1443** -----

Ls-tan/lt gry fxln mhd sl fos sub clky no por sm Cht-gry/brn fsh opa and sm Ls-tan (5 pcs) fxln mhd pr/fr vug/inter xln por brn spt stn ssfo on brk
 Ls-tan/gry/brn mxln dns fos ool and oom no por with sm Ls-tan (3 pcs) mhd fos oom pr/fr inter fos/xln por lt brn spt stn ssfo on brk sl cut
 Sh-gry/dk gry
 Ls-tan/gry fxln mhd/dns no por sm Ls-tan/gry/brn f/mxln mhd/dns sl fos sl oom no por sm Cht-gry/brn fsh opa and Cht-wt fsh opa with brn ool
 Ls-tan/gry fxln dns no por sm Ls-tan/brn mxln mhd fos ool and oom no por and Cht-AA

----- **Cherokee Shale 4598 -1472** -----

Sh-blk carb
 Ls-lt gry fxln dns sl fos no por
 Ls-lt gry/tan fxln mhd fos ool and oom pr/fr inter oom por nsfo
 Ls-lt gry/crm fxln dns sl clky no por
 Sh-gry/dk gry
 Ls-lt gry/crm fxln dns sl clky no por
 Sh-gry/dk gry
 Ls-lt gry/crm fxln dns sl clky no por
 Sh-gry/dk gry
 Ls-tan/gry/brn f/mxln mhd/dns sub clky no por
 Sh-gry/dk gry

----- **Johnson Zone 4641 -1515** -----

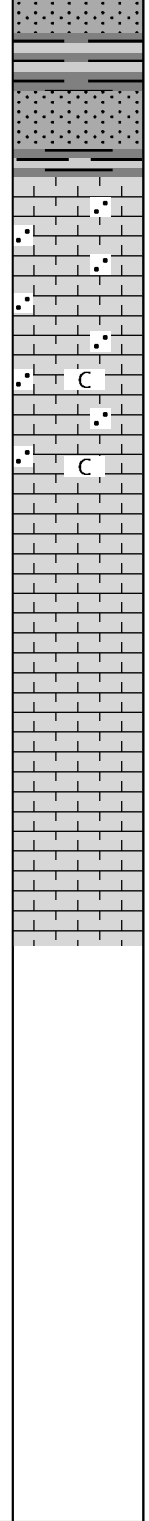
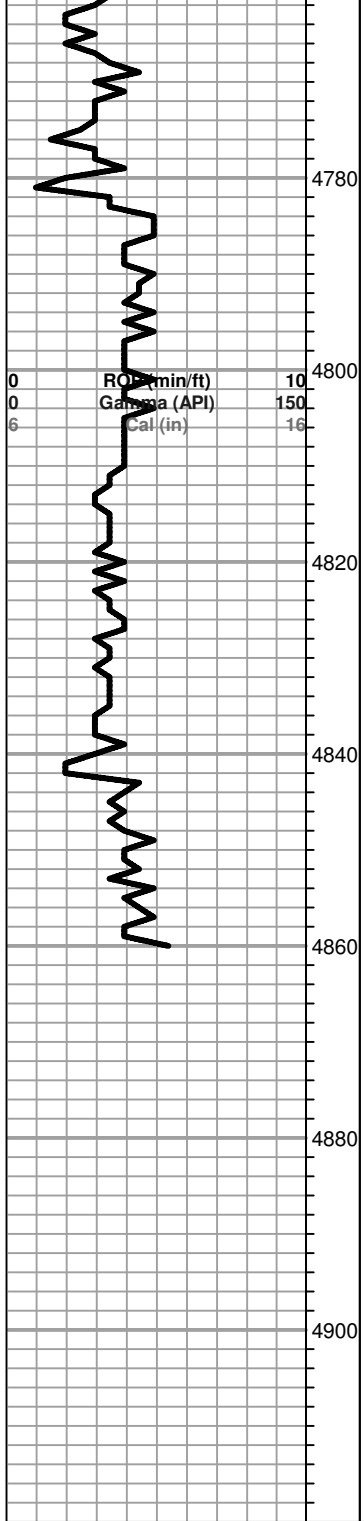
Ls-tan/gry/brn fxln mhd fos no por sm Cht-tan/brn fsh semi trans and sm Ls-tan (3 pcs) fxln mhd sl clky fr pp/inter xln por dk brn spt stn
 Sh-gry/dk gry
 Ls-tan/gry/brn fxln mhd fos no por sm Cht-tan/brn fsh opa
 Ls-AA
 Ls-lt gry/gry f/mxln mhd sl fos no por sm Cht-tan/gry fsh opa and Cht-brn fsh semi trans with sm Dolo-lt gry (2 pcs) blk mhd brn spt stn vsfo sl cut
 Sh-gry/dk gry
 Ls-lt gry/gry f/mxln mhd/dns sl fos no por
 Sh-gry/dk gry
 Ls-tan/gry/brn fxln mhd/dns sub clky sl fos no por sm Cht-tan/brn fsh opa
 Ls-tan/gry/brn fxln mhd no por with sm Ls-tan/brn fxln mhd fr inter xln/vug por lt brn spt stn fsfo on brk fr cut fr odor
 Ls-tan/gry/brn f/mxln dns no por
 Ls-tan cxln to blk mhd fr inter xln por brn spt to sat stn fsfo and bleeding gas bub on brk fr cut sl odor
 Ls-tan/gry f/mxln dns sl fos no por sm pcs of Bryozoa
 Ls-tan/gry fxln mhd pr/fr vug por brn spt stn ssfo on brk faint odor
 Sh-gry/dk gry
 Ls-tan/gry/fxln mhd/dns no por sm pcs of Bryozoa
 Sh-gry/grn
 Ss-gry fgrn sub and sl gils tite cement to sl fri
 Sh-gry/grn
 Ss-lt gry/gry fgrn sub ang to sub rnd sl gils tite cement
 Ss-lt gry/wt fgrn sub ang to sub rnd tite cement to sl fri sm Ss-gry fgrn sub ang to sub rnd tite cement to sl fri gils
 Sh-gry/grn/dk gry sm Pyrite
 Sh-AA sm Pyrite
 Ss-AA
 Ss-lt gry fgrn sub ang to sub rnd sl gils tite cement to sl fri

DST No. 2
 4545 to 4599
 30-30-60-60
 1st Open: Weak 1/8" blow, died in 20"
 2nd Open: No blow
 Recovery:
 2' SOCM (10%O, 90%M)
 IHP 2230 FHP 2173
 IFP 20-21 FFP 21-29
 ISIP 87 FSIP 265
 Temp 115°

Pipe strap at 4599'
 Short 2.69'

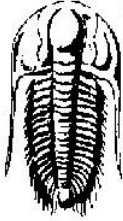
Mud Data at 4645'
 10:45 am 10-01-14
 Wt 9.15 Vis 54 WL 9.2
 pH 10.5 Chl 6700 Sol 6%
 YP 16 LCM 2#

DST No. 3
 4616 to 4713
 15-30-45-90
 1st Open: BOB in 8"
 2nd Open: BOB in 5"
 Recovery:
 1444' GIP
 68' CGO (25%G, 75%O
 24 deg grav)
 189' GSMCO (40%G, 10%M
 50%O)
 189' GMCO (30%G, 20%M
 50%O)
 126' GMCO (10%G, 45%M
 45%O)
 IHP 2291 FHP 2185
 IFP 48-127 FFP 126-201
 ISIP 845 FSIP 803
 Temp 120°



Ss-lt gry/wt fgrr sub rnd fri
 Sh-gry/grn/dk gry
 Ss-lt gry/wt fgrr sug ang to sub rnd tite cement to sl fri
 ----- **Mississippi 4780 -1654** -----
 Ls-wt/crm fxln to sl gran mhd/dns no por
 Ls-AA
 Ls-wt/crm fxln to gran mhd/dns sl clky no por
 Ls-AA
 Ls-wt/crm fxln to gran mhd/dns no por
 Ls-AA
 Ls-crm/tan f/mxln mhd/dns no por
 Ls-crm/tan f/mxln mhd no por
 Ls-tan f/mxln mhd/dns no por
 Ls-AA
 ----- **RTD 4860 -1734** -----
 Finished drilling at 3:36 pm on 10-02-14. Circulated for log 90 minutes.
 Finished logging at 11:55 pm on 10-02-14
 Shakespeare Radnor Cog 1-14 dst 1-1.jpg
 Shakespeare Radnor Cog 1-14 dst 2-1.jpg
 Shakespeare Radnor Cog 1-14 dst 3-1.jpg

Mud Data at 4789'
 10:45 am 10-02-14
 Wt 9.0 Vis 64 WL 9.4
 pH 10.5 Chl 6500 Sol 4.5%
 YP 22 LCM 2#

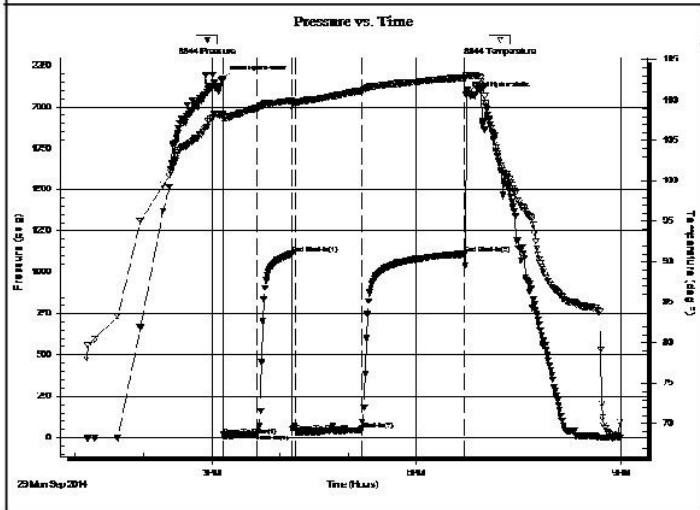
 <p style="font-size: 2em; font-weight: bold; margin: 0;">TRILOBITE TESTING, INC.</p>	DRILL STEM TEST REPORT	
	<table style="width:100%; border: none;"> <tr> <td style="width: 50%; border: none;"> Shakespeare Oil CO 202 w Main st. Salem, IL 62881 ATTN: Mac Armstrong </td> <td style="width: 50%; border: none; text-align: right;"> 14-16-34 Scott, Ks Radnor Cog 1-14 Job Ticket: 59082 DST#:1 Test Start: 2014.09.29 @ 13:10:29 </td> </tr> </table>	Shakespeare Oil CO 202 w Main st. Salem, IL 62881 ATTN: Mac Armstrong
Shakespeare Oil CO 202 w Main st. Salem, IL 62881 ATTN: Mac Armstrong	14-16-34 Scott, Ks Radnor Cog 1-14 Job Ticket: 59082 DST#:1 Test Start: 2014.09.29 @ 13:10:29	

GENERAL INFORMATION:

Formation: Marmaton a Deviated: No Whipstock: 0.00 ft (KB) Time Tool Opened: 15:10:14 Time Test Ended: 20:58:59 Interval: 4406.00 ft (KB) To 4468.00 ft (KB) (TVD) Total Depth: 4468.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Fair	Test Type: Conventional Bottom Hole (Initial) Tester: Shane McBride Unit No: 55 Reference Elevations: 3126.00 ft (KB) 3114.00 ft (CF) KB to GR/CF: 12.00 ft
---	--

Serial #: 8844 Outside Press@RunDepth: 47.75 psig @ 4407.00 ft (KB) Start Date: 2014.09.29 End Date: 2014.09.29 Start Time: 13:10:29 End Time: 20:58:59	Capacity: 8000.00 psig Last Calib.: 2014.09.29 Time On Btm: 2014.09.29 @ 15:09:59 Time Off Btm: 2014.09.29 @ 18:43:59
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TEST COMMENT: 3/4" in blow
 No return
 2 1/4" in blow
 No return



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2167.98	108.29	Initial Hydro-static
1	14.43	107.54	Open To Flow (1)
31	21.05	109.04	Shut-In(1)
61	1109.23	109.91	End Shut-In(1)
64	36.20	109.69	Open To Flow (2)
122	47.75	111.20	Shut-In(2)
213	1109.26	112.78	End Shut-In(2)
214	2072.13	113.01	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
18.00	s m c o 10 % m 90 % o	0.25
60.00	c o 100 % o	0.84

Gas Rates			
	Chole (inches)	Pressure (psig)	Gas Rate (Mcf/d)

	DRILL STEM TEST REPORT	
	Shakespeare Oil CO 202 w Main st. Salem, IL 62881 ATTN: Mac Armstrong	14-16-34 Scott, Ks Radnor Cog 1-14 Job Ticket: 59083 DST#: 2 Test Start: 2014.09.30 @ 20:06:37

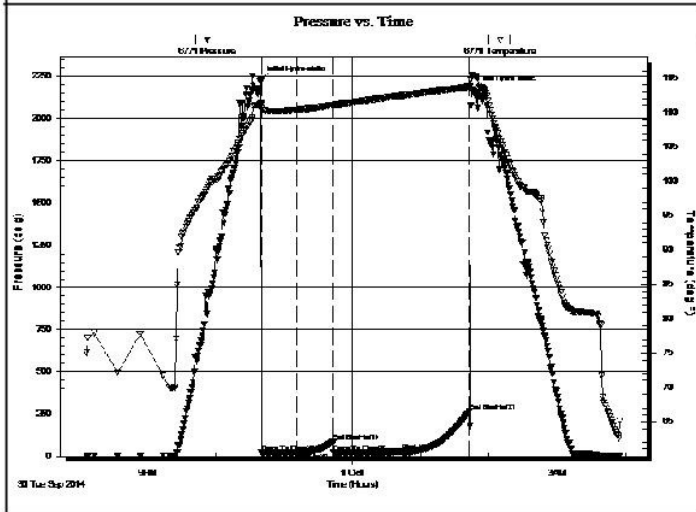
GENERAL INFORMATION:

Formation: Myric Station / Ft.	Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: 0.00 ft (KB)	Tester: Shane McBride
Time Tool Opened: 22:40:07	Unit No: 55
Time Test Ended: 03:55:52	Reference Elevations: 3126.00 ft (KB)
Interval: 4545.00 ft (KB) To 4599.00 ft (KB) (TVD)	3114.00 ft (CF)
Total Depth: 4599.00 ft (KB) (TVD)	KB to GR/CF: 12.00 ft
Hole Diameter: 7.88 inches	Hole Condition: Fair

Serial #: 6771 Inside

Press@RunDepth: 29.22 psig @ 4546.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2014.09.30 End Date: 2014.10.01	Last Calib.: 2014.10.01
Start Time: 20:06:37 End Time: 03:55:52	Time On Btm: 2014.09.30 @ 22:39:52
	Time Off Btm: 2014.10.01 @ 01:44:52

TEST COMMENT: 1/8" Blow / Died 20min.
 No Return
 No Blow
 No Return

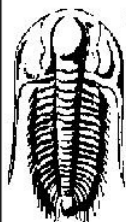


PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2229.96	111.33	Initial Hydro-static
1	20.40	110.61	Open To Flow (1)
31	20.80	110.38	Shut-In(1)
63	86.95	111.09	End Shut-In(1)
64	21.35	111.08	Open To Flow (2)
124	29.22	112.47	Shut-In(2)
183	265.42	113.75	End Shut-In(2)
185	2173.30	115.47	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
2.00	s o c m 10% o 90% m	0.03

* Recovery from multiple tests

Gas Rates			
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Shakespeare Oil CO

14-16-34 Scott, Ks

202 w Main st.
Salem, Il
62881
ATTN: Mac Armstrong

Radnor Cog 1-14

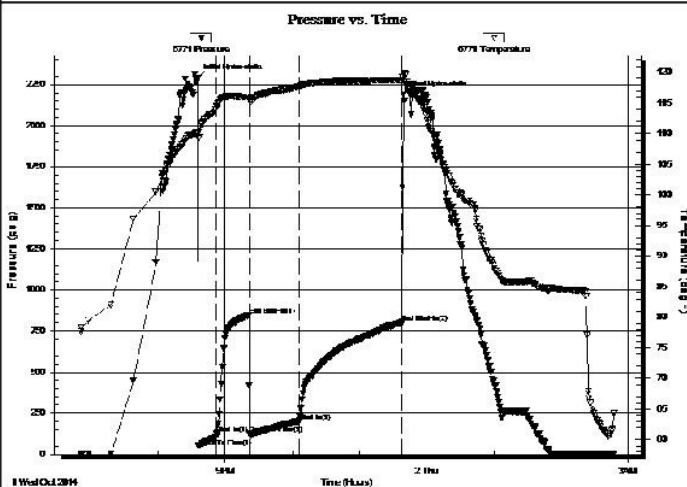
Job Ticket: 59084 **DST#:3**
Test Start: 2014.10.01 @ 18:50:52

GENERAL INFORMATION:

Formation: **Johnson Zone**
 Deviated: No Whipstock: 0.00 ft (KB)
 Time Tool Opened: 20:36:07
 Time Test Ended: 02:47:37
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Shane McBride
 Unit No: 55
Interval: 4616.00 ft (KB) To 4713.00 ft (KB) (TVD)
 Reference Elevations: 3126.00 ft (KB)
 Total Depth: 4713.00 ft (KB) (TVD) 3114.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 12.00 ft

Serial #: 6771 Inside
 Press@RunDepth: 201.13 psig @ 4617.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.10.01 End Date: 2014.10.02 Last Calib.: 2014.10.02
 Start Time: 18:50:52 End Time: 02:47:37 Time On Btm: 2014.10.01 @ 20:35:22
 Time Off Btm: 2014.10.01 @ 23:39:22

TEST COMMENT: BOB in 8 min.
 No Return
 BOB in 5 min.
 No Return / 15 min Shut in had Return / BOB in 30 min



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2291.02	110.13	Initial Hydro-static
1	47.57	109.17	Open To Flow (1)
17	126.72	114.39	Shut-In(1)
46	844.96	116.00	End Shut-In(1)
47	125.51	115.68	Open To Flow (2)
91	201.13	117.69	Shut-In(2)
183	803.17	118.81	End Shut-In(2)
184	2184.82	119.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
68.00	c g o 25% g 75% o	0.95
189.00	g s m c o 40% g 50% o 10% m	2.65
189.00	g m c o 30% g 50% o 20% m	2.65
126.00	g m c o 10%g 45% o 45% m	1.77
0.00		0.00

Gas Rates

	Chole (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests