



Company: L. D. Drilling, Inc
Lease: Knotts #1-13

SEC: 13 TWN: 19S RNG: 23W
 County: NESS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 2190 GL
 Field Name: Pfaff East
 Pool: WILDCAT
 Job Number: 65

DATE
 September
28
 2017

DST #1 **Formation: Ft. Scott** **Test Interval: 4208 - 4254'** **Total Depth: 4254'**

Time On: 15:14 09/28 Time Off: 21:56 09/28
 Time On Bottom: 17:40 09/28 Time Off Bottom: 19:40 09/28

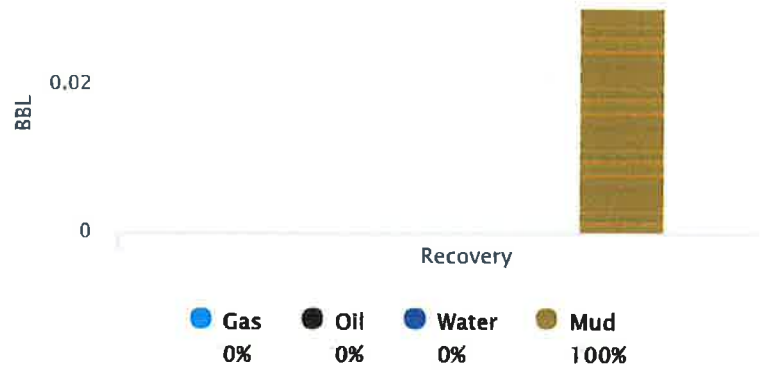
Recovered

Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
3	0.03078	M	0	0	0	100

Total Recovered: 3 ft
 Total Barrels Recovered: 0.03078

Reversed Out
 NO

Recovery at a glance



Initial Hydrostatic Pressure	1942	PSI
Initial Flow	11 to 12	PSI
Initial Closed in Pressure	52	PSI
Final Flow Pressure	12 to 13	PSI
Final Closed in Pressure	26	PSI
Final Hydrostatic Pressure	1932	PSI
Temperature	115	°F
Pressure Change Initial Close / Final Close	49.7	%



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Rig 1
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DATE September 28 2017

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4254'

Time On: 15:14 09/28

Time Off: 21:56 09/28

Time On Bottom: 17:40 09/28

Time Off Bottom: 19:40 09/28

REMARKS:

IF: Weak surface blow
ISI: No BB
FF: Surface blow lasting 2 1/2 min
FSI: No BB

TOOL SAMPLE: 100% MUD



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Time On: 15:14 09/28 Time Off: 21:56 09/28
 Time On Bottom: 17:40 09/28 Time Off Bottom: 19:40 09/28

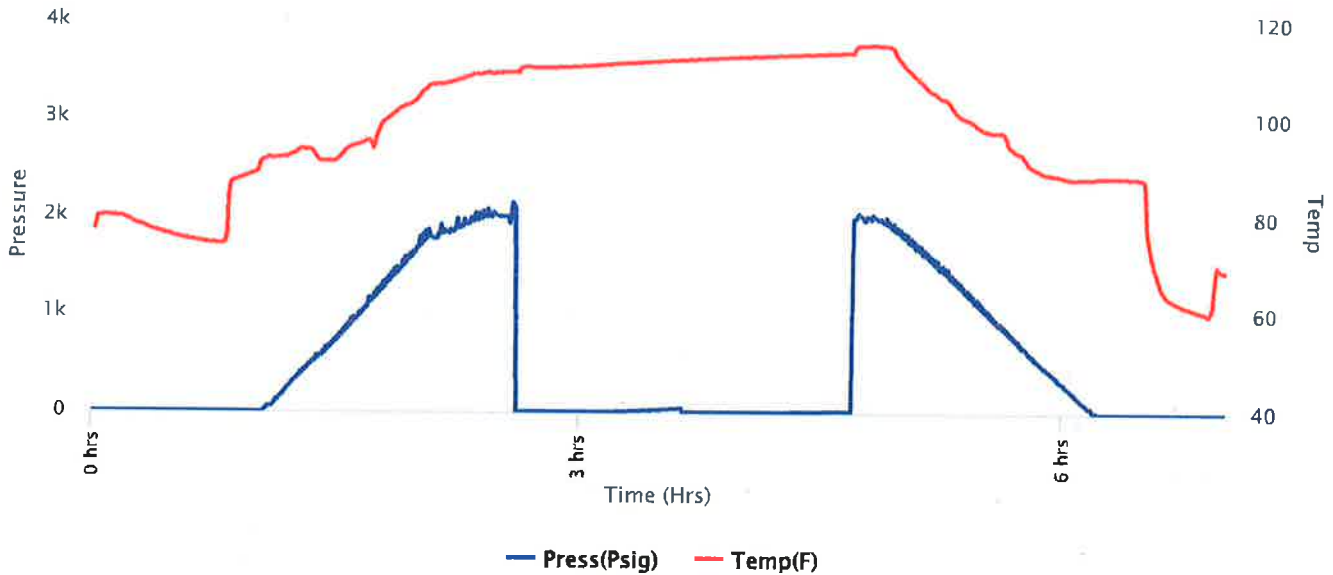
Electronic Volume Estimate:
 0'

1st Open
 Minutes: 30
 0" at 30 min

1st Close
 Minutes: 30
 0" at 30 min

2nd Open
 Minutes: 30
 0" at 30 min

2nd Close
 N/A





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 Rig 1
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 Job Number: 65

DATE September 28 2017

DST #1 Formation: Ft. Scott Test Interval: 4208 - 4254' Total Depth: 4254'
 Time On: 15:14 09/28 Time Off: 21:56 09/28
 Time On Bottom: 17:40 09/28 Time Off Bottom: 19:40 09/28

Down Hole Makeup

Heads Up: 8.38 FT	Packer 1: 4203.28 FT
Drill Pipe: 4184.09 FT <i>ID-3 1/4</i>	Packer 2: 4208.28 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4192.7 FT
Collars: 0 FT <i>ID-2 1/4</i>	Bottom Recorder: 4247 FT
Test Tool: 33.57 FT <i>ID-3 1/2-FH</i> <i>Jars</i> <i>Safety Joint</i>	Well Bore Size: 7 7/8
Total Anchor: 45.72	Surface Choke: 1"
	Bottom Choke: 5/8"

Anchor Makeup

Packer Sub: 1 FT

Perforations: (top): 3 FT
4 1/2-FH

Change Over: 1 FT

Drill Pipe: (in anchor): 31.72 FT
ID-3 1/4

Change Over: 1 FT

Perforations: (below): 8 FT
4 1/2-FH



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Rig 1
Elevation: 2190 GL
Field Name: Pfaff East
Pool: WILDCAT
Job Number: 65

DATE September 28 2017

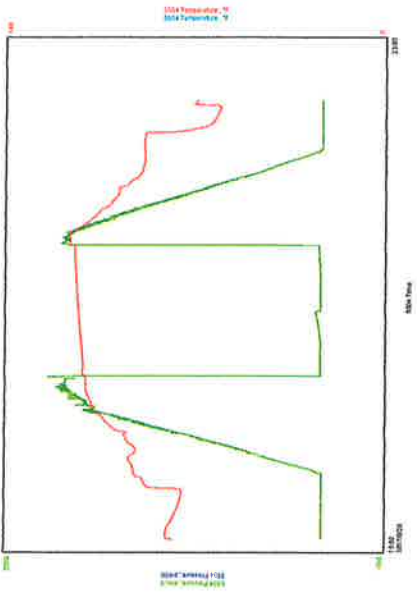
DST #1 Formation: Ft. Scott Test Interval: 4208 - Total Depth: 4254'
4254'

Time On: 15:14 09/28 Time Off: 21:56 09/28
Time On Bottom: 17:40 09/28 Time Off Bottom: 19:40 09/28

Mud Properties

Mud Type: Chemical **Weight:** 9.35 **Viscosity:** 46 **Filtrate:** 10.4 **Chlorides:** 7,800 ppm

53



54



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DATE
 September
29
 2017

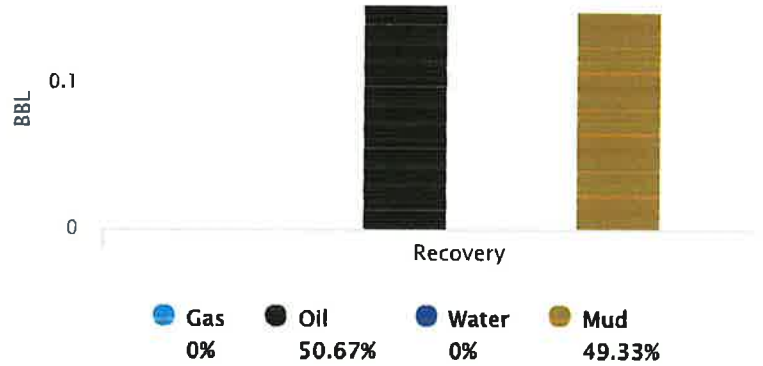
DST #2 **Formation: Mississippian** **Test Interval: 4248 - 4330'** **Total Depth: 4330'**
 Time On: 11:26 09/29 Time Off: 18:01 09/29
 Time On Bottom: 13:49 09/29 Time Off Bottom: 15:49 09/29

<u>Recovered</u>		<u>Description of Fluid</u>	<u>Gas %</u>	<u>Oil %</u>	<u>Water %</u>	<u>Mud %</u>
<u>Foot</u>	<u>BBLs</u>					
10	0.1026	O	0	100	0	0
20	0.2052	OCM	0	26	0	74

Total Recovered: 30 ft
 Total Barrels Recovered: 0.3078

Reversed Out
 NO

Recovery at a glance



Initial Hydrostatic Pressure	2048	PSI
Initial Flow	13 to 20	PSI
Initial Closed in Pressure	232	PSI
Final Flow Pressure	21 to 22	PSI
Final Closed in Pressure	82	PSI
Final Hydrostatic Pressure	2042	PSI
Temperature	113	°F
Pressure Change Initial Close / Final Close	64.9	%



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Rig 1
Elevation: 2190 GL
Field Name: Pfaff East
Pool: WILDCAT
Job Number: 65

DATE September 29 2017

DST #2	Formation: Mississippian	Test Interval: 4248 - 4330'	Total Depth: 4330'
	Time On: 11:26 09/29	Time Off: 18:01 09/29	
	Time On Bottom: 13:49 09/29	Time Off Bottom: 15:49 09/29	

REMARKS:

IF: 1 3/4 inch blow
ISI: No BB
FF: Weak surface blow
FSI: No BB

TOOL SAMPLE: 17% OIL, 83% MUD

Gravity: 38.9 @ 60 degrees F



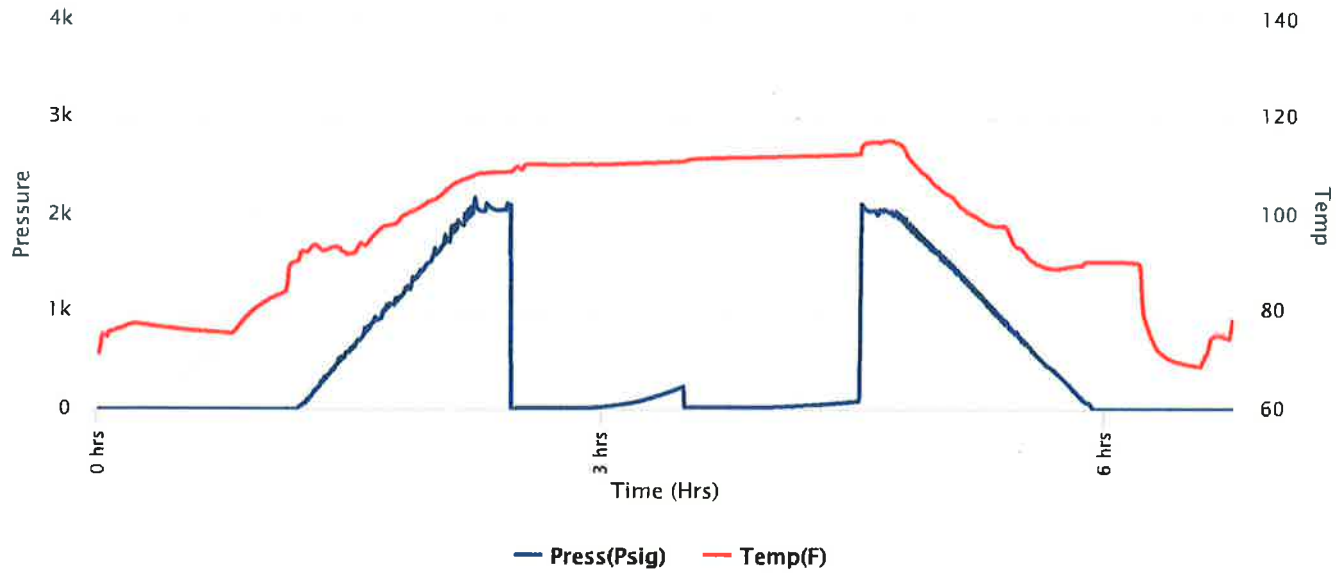
Company: L. D. Drilling, Inc
Lease: Knotts #1-13

SEC: 13 TWN: 19S RNG: 23W
 County: NESS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 2190 GL
 Field Name: Pfaff East
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DATE
 September
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DST #2 **Formation: Mississippian** **Test Interval: 4248 - 4330'** **Total Depth: 4330'**
 Time On: 11:26 09/29 Time Off: 18:01 09/29
 Time On Bottom: 13:49 09/29 Time Off Bottom: 15:49 09/29

Electronic Volume Estimate:	<u>1st Open</u> Minutes: 30 1.9" at 30 min	1st Close Minutes: 30 0" at 30 min	<u>2nd Open</u> Minutes: 30 0" at 30 min	2nd Close Minutes: 30 0" at 30 min
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Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 2190 GL
Field Name: Pfaff East
Pool: WILDCAT
Job Number: 65

DATE
September
29
2017

DST #2 **Formation:** **Test Interval: 4248 -** **Total Depth: 4330'**
 Mississippian **4330'**
Time On: 11:26 09/29 Time Off: 18:01 09/29
Time On Bottom: 13:49 09/29 Time Off Bottom: 15:49 09/29

Down Hole Makeup

Heads Up: 33.14 FT	Packer 1: 4242.72 FT
Drill Pipe: 4248.29 FT <i>ID-3 1/4</i>	Packer 2: 4247.72 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4232.14 FT
Collars: 0 FT <i>ID-2 1/4</i>	Bottom Recorder: 4317 FT
Test Tool: 33.57 FT <i>ID-3 1/2-FH</i> <i>Jars</i> <i>Safety Joint</i>	Well Bore Size: 7 7/8
Total Anchor: 82.28	Surface Choke: 1"
<u>Anchor Makeup</u>	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 3 FT <i>4 1/2-FH</i>	
Change Over: 1 FT	
Drill Pipe: (in anchor): 62.28 FT <i>ID-3 1/4</i>	
Change Over: 1 FT	
Perforations: (below): 14 FT <i>4 1/2-FH</i>	



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Rig 1
Elevation: 2190 GL
Field Name: Pfaff East
Pool: WILDCAT
Job Number: 65

DATE September 29 2017

DST #2 **Formation:** **Test Interval: 4248 -** **Total Depth: 4330'**
Mississippian **4330'**
Time On: 11:26 09/29 Time Off: 18:01 09/29
Time On Bottom: 13:49 09/29 Time Off Bottom: 15:49 09/29

Mud Properties

Mud Type: Chemical **Weight:** 9.3 **Viscosity:** 51 **Filtrate:** 9.6 **Chlorides:** 8,200 ppm



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Rig 1
Elevation: 2190 GL
Field Name: Pfaff East
Pool: WILDCAT
Job Number: 65

DATE September 29 2017

DST #2	Formation: Mississippian	Test Interval: 4248 - 4330'	Total Depth: 4330'
	Time On: 11:26 09/29	Time Off: 18:01 09/29	
	Time On Bottom: 13:49 09/29	Time Off Bottom: 15:49 09/29	

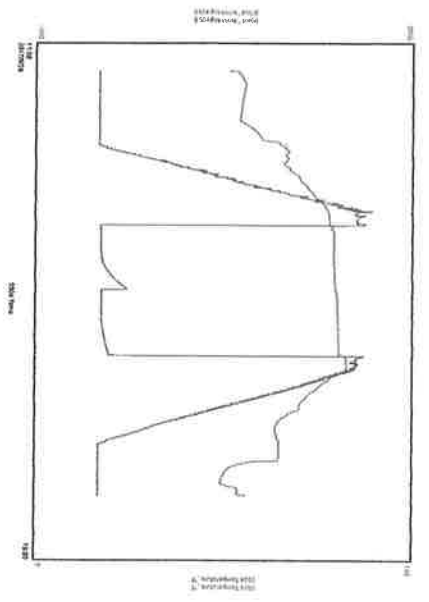
Gas Volume Report

1st Open

Time	Orifice	PSI	MCF/D
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2nd Open

Time	Orifice	PSI	MCF/D
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100

10

100

10

100

10



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 Elevation: 2190 GL
 Field Name: Pfaff East
 Pool: WILDCAT
 Job Number: 65

DATE
 September
30
 2017

DST #3 **Formation: Mississippian** **Test Interval: 4327 - 4348'** **Total Depth: 4348'**
 Time On: 23:36 09/29 Time Off: 04:08 09/30
 Time On Bottom: 00:00 01/01 Time Off Bottom: 02:16 09/30

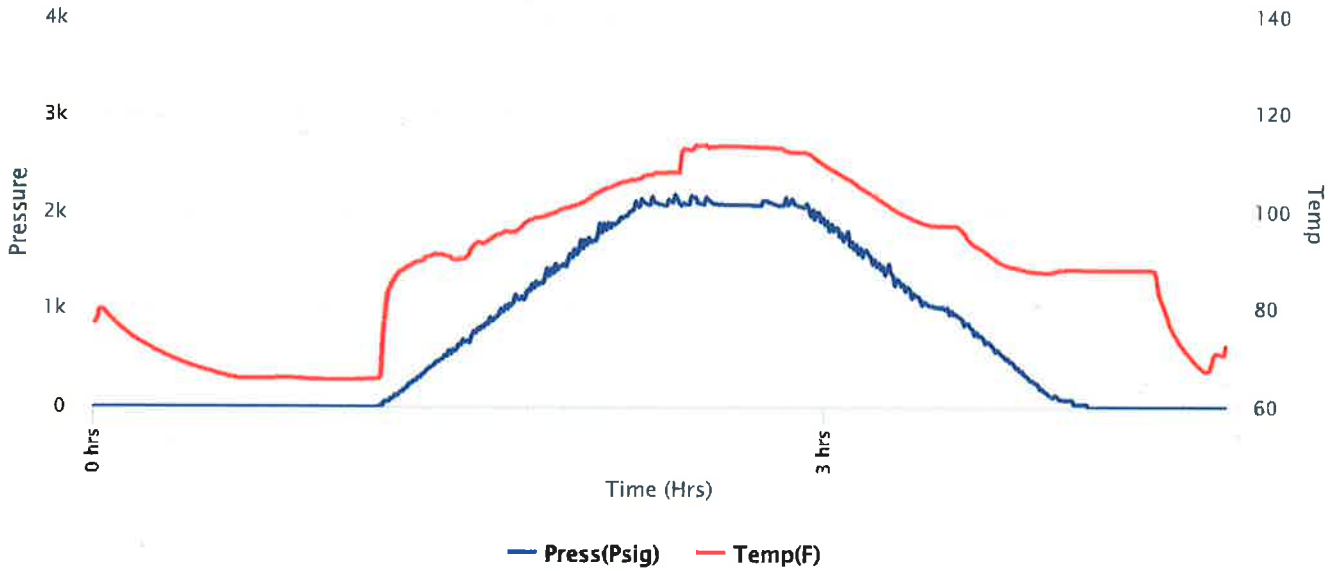
Electronic Volume Estimate:
 0'

1st Open
 N/A

1st Close
 N/A

2nd Open
 N/A

2nd Close
 N/A





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SEC: 13 TWN: 19S RNG: 23W
 County: NESS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 2190 GL
 Field Name: Pfaff East
 Pool: WILDCAT
 Job Number: 65

DATE
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30
 2017

DST #3 **Formation: Mississippian** **Test Interval: 4327 - 4348'** **Total Depth: 4348'**
 Time On: 23:36 09/29 Time Off: 04:08 09/30
 Time On Bottom: 00:00 01/01 Time Off Bottom: 02:16 09/30

Recovered

Foot	BBLs
205	2.1033

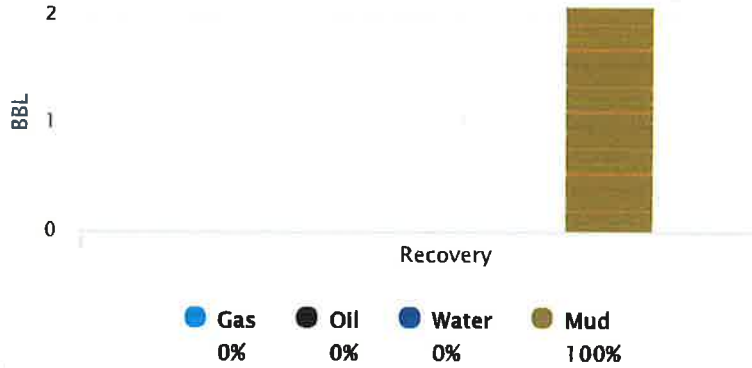
Description of Fluid	Gas %	Oil %	Water %	Mud %
M	0	0	0	100

Total Recovered: 205 ft
 Total Barrels Recovered: 2.1033

Reversed Out
 NO

Recovery at a glance

Initial Hydrostatic Pressure	0	PSI
Initial Flow	0	PSI
Initial Closed in Pressure	0	PSI
Final Flow Pressure	0	PSI
Final Closed in Pressure	0	PSI
Final Hydrostatic Pressure	0	PSI
Temperature	0	°F
Pressure Change Initial Close / Final Close	0.0	%





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SEC: 13 TWN: 19S RNG: 23W
County: NESS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 2190 GL
Field Name: Pfaff East
Pool: WILDCAT
Job Number: 65

DATE September 30 2017

DST #3	Formation: Mississippian	Test Interval: 4327 - 4348'	Total Depth: 4348'
	Time On: 23:36 09/29	Time Off: 04:08 09/30	
	Time On Bottom: 00:00 01/01	Time Off Bottom: 02:16 09/30	

REMARKS:

PACKER FAILURE



Company: L. D. Drilling, Inc
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SEC: 13 TWN: 19S RNG: 23W
 County: NESS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc -
 Rig 1
 Elevation: 2190 GL
 Field Name: Pfaff East
 Pool: WILDCAT
 Job Number: 65

DATE September 30 2017

DST #3 **Formation:** **Test Interval: 4327 -** **Total Depth: 4348'**
 Mississippi **4348'**
 Time On: 23:36 09/29 Time Off: 04:08 09/30
 Time On Bottom: 00:00 01/01 Time Off Bottom: 02:16 09/30

Down Hole Makeup

Heads Up: 16.14 FT	Packer 1: 4322 FT
Drill Pipe: 4310.57 FT	Packer 2: 4327 FT
ID-3 1/4	Top Recorder: 4311.42 FT
Weight Pipe: 0 FT	Bottom Recorder: 4329 FT
ID-2 7/8	Well Bore Size: 7 7/8
Collars: 0 FT	Surface Choke: 1"
ID-2 1/4	Bottom Choke: 5/8"
Test Tool: 33.57 FT	
ID-3 1/2-FH	
Jars	
Safety Joint	
Total Anchor: 21	
<u>Anchor Makeup</u>	
Packer Sub: 1 FT	
Perforations: (top): 0 FT	
4 1/2-FH	
Change Over: 0 FT	
Drill Pipe: (in anchor): 0 FT	
ID-3 1/4	
Change Over: 0 FT	
Perforations: (below): 20 FT	
4 1/2-FH	



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SEC: 13 TWN: 19S RNG: 23W
County: NESS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 2190 GL
Field Name: Pfaff East
Pool: WILDCAT
Job Number: 65

DATE September 30 2017

DST #3	Formation: Mississippian	Test Interval: 4327 - 4348'	Total Depth: 4348'
	Time On: 23:36 09/29	Time Off: 04:08 09/30	
	Time On Bottom: 00:00 01/01	Time Off Bottom: 02:16 09/30	

Mud Properties

Mud Type: Chemical	Weight: 9.3	Viscosity: 51	Filtrate: 9.6	Chlorides: 8,200 ppm
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 Elevation: 2190 GL
 Field Name: Pfaff East
 Pool: WILDCAT
 Job Number: 65

DATE
 September
30
 2017

DST #4 **Formation: Mississippian** **Test Interval: 4335 - 4348'** **Total Depth: 4348'**
 Time On: 04:35 09/30 Time Off: 10:17 09/30
 Time On Bottom: 06:24 09/30 Time Off Bottom: 08:24 09/30

Recovered

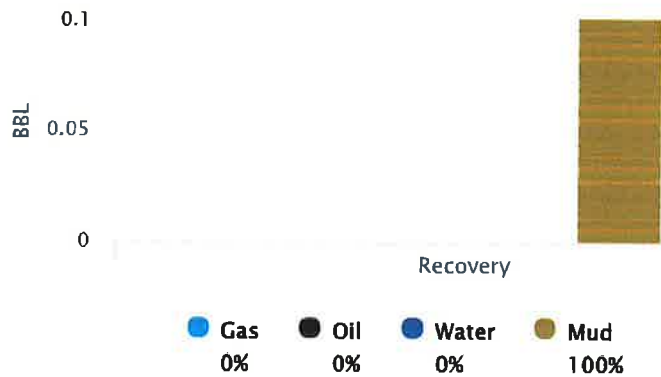
Foot	BBLs
10	0.1026

Description of Fluid	Gas %	Oil %	Water %	Mud %
M	0	0	0	100

Total Recovered: 10 ft
 Total Barrels Recovered: 0.1026

Reversed Out
 NO

Recovery at a glance



Initial Hydrostatic Pressure	2091	PSI
Initial Flow	10 to 13	PSI
Initial Closed in Pressure	1240	PSI
Final Flow Pressure	14 to 15	PSI
Final Closed in Pressure	1210	PSI
Final Hydrostatic Pressure	2082	PSI
Temperature	118	°F
Pressure Change Initial Close / Final Close	2.4	%



Company: L. D. Drilling, Inc
Lease: Knotts #1-13

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County: NESS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 2190 GL
Field Name: Pfaff East
Pool: WILDCAT
Job Number: 65

<p>DATE September 30 2017</p>

DST #4	Formation: Mississippian	Test Interval: 4335 - 4348'	Total Depth: 4348'
	Time On: 04:35 09/30	Time Off: 10:17 09/30	
	Time On Bottom: 06:24 09/30	Time Off Bottom: 08:24 09/30	

REMARKS:

IF: 1 inch blow
ISI: No BB
FF: Weak surface blow
FSI: No BB

TOOL SAMPLE: TRACE OIL, 100% MUD



Company: L. D. Drilling, Inc
Lease: Knotts #1-13

SEC: 13 TWN: 19S RNG: 23W
 County: NESS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 2190 GL
 Field Name: Pfaff East
 Pool: WILDCAT
 Job Number: 65

DATE
 September
30
 2017

DST #4 **Formation: Mississippian** **Test Interval: 4335 - 4348'** **Total Depth: 4348'**
 Time On: 04:35 09/30 Time Off: 10:17 09/30
 Time On Bottom: 06:24 09/30 Time Off Bottom: 08:24 09/30

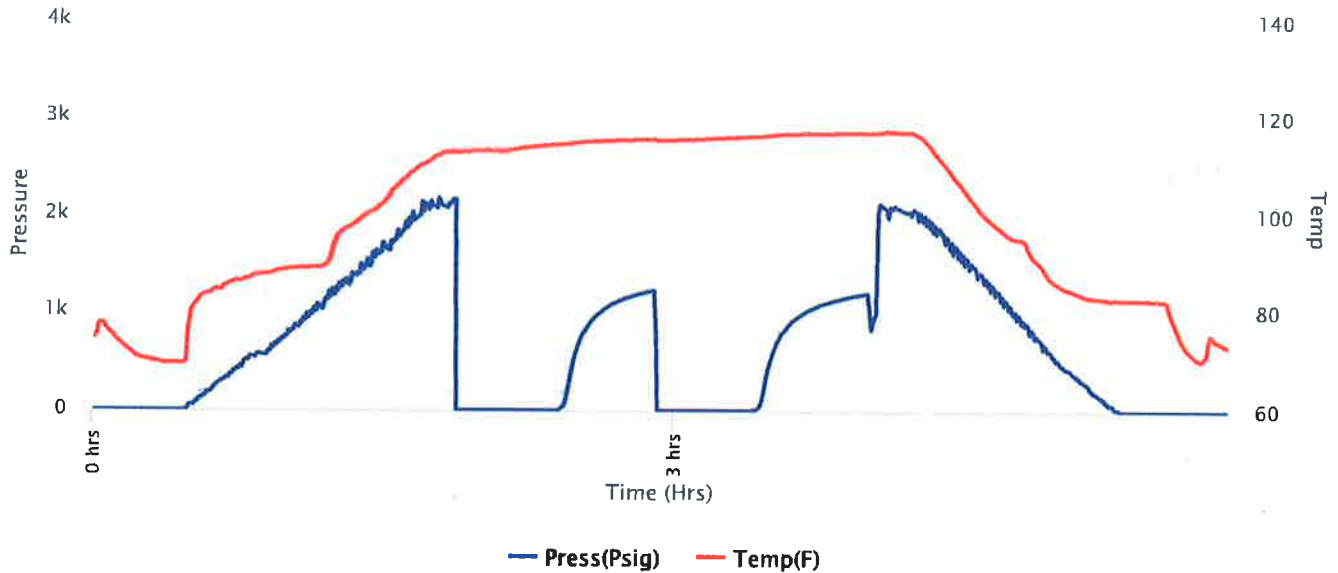
Electronic Volume Estimate:
 13'

1st Open
 Minutes: 30
 1.1" at 30 min

1st Close
 Minutes: 30
 0" at 30 min

2nd Open
 Minutes: 30
 0" at 30 min

2nd Close
 Minutes: 30
 0" at 30 min





Company: L. D. Drilling, Inc
Lease: Knotts #1-13

SEC: 13 TWN: 19S RNG: 23W
 County: NESS
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 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 2190 GL
 Field Name: Pfaff East
 Pool: WILDCAT
 Job Number: 65

DATE September 30 2017

DST #4 **Formation:** Mississippian **Test Interval:** 4335 - 4348' **Total Depth:** 4348'

Time On: 04:35 09/30 Time Off: 10:17 09/30
 Time On Bottom: 06:24 09/30 Time Off Bottom: 08:24 09/30

Down Hole Makeup

Heads Up: 8.14 FT	Packer 1: 4330 FT
Drill Pipe: 4310.57 FT ID-3 1/4	Packer 2: 4335 FT
Weight Pipe: 0 FT ID-2 7/8	Top Recorder: 4319.42 FT
Collars: 0 FT ID-2 1/4	Bottom Recorder: 4337 FT
Test Tool: 33.57 FT ID-3 1/2-FH Jars Safety Joint	Well Bore Size: 7 7/8
Total Anchor: 13	Surface Choke: 1"
Anchor Makeup	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 0 FT 4 1/2-FH	
Change Over: 0 FT	
Drill Pipe: (in anchor): 0 FT ID-3 1/4	
Change Over: 0 FT	
Perforations: (below): 12 FT 4 1/2-FH	



Company: L. D. Drilling, Inc
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Rig 1
Elevation: 2190 GL
Field Name: Pfaff East
Pool: WILDCAT
Job Number: 65

<p>DATE September 30 2017</p>

DST #4	Formation: Mississippian	Test Interval: 4335 - 4348'	Total Depth: 4348'
	Time On: 04:35 09/30	Time Off: 10:17 09/30	
	Time On Bottom: 06:24 09/30	Time Off Bottom: 08:24 09/30	

Mud Properties

Mud Type: Chemical	Weight: 9.3	Viscosity: 51	Filtrate: 9.6	Chlorides: 8,200 ppm
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