

Confidentiality Requested:

Yes No

**KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

**WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

CM (Coal Bed Methane)

Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

Deepening Re-perf. Conv. to EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Recompletion Date _____ Date Reached TD _____ Completion Date or Recompletion Date _____

API No.: _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite: _____

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	L. D. Drilling, Inc.
Well Name	MURPHY 1-31
Doc ID	1418733

Tops

Name	Top	Datum
ANHYDRITE	2682	+376
BASE ANHYDRITE	2714	+344
STOTLER	3713	-655
HEEBNER	4048	-990
LANSING	4084	-1026
BASE KANSAS CITY	4350	-1292
MARMATON	4372	-1314
FORT SCOTT	4532	-1474
CHEROKEE	4562	-1504
MISSISSIPPI	4642	1584



Liberal Yard #1717 - Phone 620-624-2277 - 1700 S. Country Estates Road, Liberal KS 67901

PRESSURE PUMPING

Job Log

Customer:	LD DRILLING	Cement Pump No.:	38119-19570 3 HRS	Operator TRK No.:	96815
Address:		Ticket #:	1718-15688 L	Bulk TRK No.:	14355-37724
City, State, Zip:		Job Type:	Z42 - Cement Surface Casing		
Service District:		Well Type:	OIL		
Well Name and No.:	Murphy 1-31	Well Location:	31,8,31	County:	Thomas
				State:	Ks

Type of Cmt	Sacks	Additives	Truck Loaded On	
PREMIUM PLUS	325	2%CaCl, 1/4# POLYFLAKE	14355-37724	Front Back
				Front Back
				Front Back

Lead/Tail:	Weight #1 Gal.	Cu/Ft/sk	Water Requirements	CU. FT.	Man Hours / Personnel	
Lead:	14.8	1.34	6.33	435.5	Man Hours:	25
Tail:					# of Men on Job:	3

Time (am/pm)	(BPM)	Volume (BBLs)	Pumps		Pressure(PSI)		Description of Operation and Materials
			T	C	Tubing	Casing	
21:00							ON LOC, SAFTEY MTG, R.U.
23:10	5.3				130		START MIXING @ 14.8#
11:37 PM	4.7	77.5			110		START DISPLACEMENT
11:34 PM		20			90		SHUT IN WELL
							JOB COMPLETE
							THANK YOU FOR YOUR BUSINESS!!!
							CIRC 20 SXS TO PIT

Size Hole	12 1/4	Depth	338		TYPE	
Size & Wt. Csg.	8 5/8 23#	Depth	335'	New / Used	Packer	Depth
fbg.		Depth			Retainer	Depth
Top Plugs		Type			Perfs	CIBP

Customer Signature:	Basic Representative:	CHAD HINZ
	Basic Signature:	
	Date of Service:	5/19/14

Cement Callsheet



Company	LD Drilling			Service Point	Pratt, KS					
Well Type	New	CONTRACTOR	Company Tools	COUNTY	Thomas	STATE	KS			
LEASE	Murphy		WELL #	1-31	SEC	31	TWP	8s	RANGE	31w
Contact Person	Justin Westerman			620-672-1201						

DIRECTIONS:

Oakley, Kansas - 183 & I-70 Jct. on West side of town
7 1/2 North to "M" Road, 3 East to Road 32, 1/2 North, West into

Job Type	325' Surface Casing		Casing Size	8 5/8	Thread	8rd	Weight	24
Equipment	cement thru 8 5/8" swage & valve		Tubing/Drill Pipe Size	Thread		Weight		
			Hole Size	Packer	Bridge Plug			
Remarks:	verify lease name & legals		Plug Container	No	Casing Swivel	Squeeze Manifold		

8 5/8" Surface Casing

CEMENT DATA

LEAD 1	Weight PPG	Type	Additives	
Sacks	Excess	Yield Ft ³ /sk	Water Gal/sk	
TAIL 1	Weight PPG	Type	Additives	
CL110	14.80	Premium Plus Cement	2% calcium chloride 0.25 pps celloflake	
Sacks	Excess	Yield Ft ³ /sk	Water Gal/sk	
325	190%	1.34	6.33	
LEAD 2	Weight PPG	Type	Additives	
Sacks	Excess	Yield Ft ³ /sk	Water Gal/sk	
TAIL 2	Weight PPG	Type	Additives	
Sacks	Excess	Yield Ft ³ /sk	Water Gal/sk	
Rat Hole	Weight PPG	Type	Additives	
Sacks	Excess	Yield Ft ³ /sk	Water Gal/sk	

Float Equipment

Part #	Quantity	Description	# Used	# Returned

Misc. Chemicals

Ordered By	Scotty	Phone	Fax	Date of Job	05/15/18
Call Taken By	Kevin Brungardt	Phone	620-213-1586	Email	W/C
Operator or Driver Called				Call Out Time	



Liberal Yard #1717 - Phone 620-624-2277 - 1700 S. Country Estates Road, Liberal KS 67901

PRESSURE PUMPING Job Log

Customer:	LD DRILLING	Cement Pump No.:	38750,19842 HRS	Operator TRK No.:	34726
Address:		Ticket #:	1718 15623 L	Bulk TRK No.:	27808-19883 Noel
City, State, Zip:		Job Type:	Z42 - Cement Surface Casing <i>Plugging</i>		
Service District:	1718 - Liberal, Ks.	Well Type:	OIL		
Well Name and No.:	Murphy 1-31	Well Location:	31,8,31	County:	Thomas State: Ks

Type of Cmt	Sacks	Additives	Truck Loaded On		
60/40 POZ	240	4% Total Gel, 1/4# Polyflake	27808-19883	Front	Back
			Noel	Front	Back
				Front	Back

Lead/Tail:	Weight #1 Gal.	Cu/Ft/sk	Water Requirements	CU. FT.	Man Hours / Personnel	
Lead:	13.5	1.51	7.5	362.4	TT Man Hours:	48
Tail:					# of Men on Job:	3

Time (am/pm)	DBLS (BPM)	Volume (BBLs)	Pumps		Pressure (PSI)		Description of Operation and Materials
			T	C	Tubing	Casing	
2:30							ON LOCATION
2:40							SAFETY MEETING
3:00 AM							RIG UP
5:26 AM							PRESSURE TEST 500PSI
5:27 AM	2						CLEAR DRILL PIPE
5:30	13.4						PUMP 50SX @ 13.5#
5:33	33.5						DISPLACE
6:25 AM	2						CLEAR DRILL PIPE
6:27	26.8						PUMP 100SX @ 13.5#
6:33	18.2						DISPLACE
7:35	13.4						PUMP 50SX @ 13.5#
7:43	1.8						DISPLACE
8:04	2.6						PUMP 10SX @ 13.5# TO SURFACE
8:06	0.1						DISPLACE
8:54	8						PUMP RAT HOLE 30SX @ 13.5#
8:59							RIG DOWN
							JOB COMPLETED
							THANK YOU

Size Hole	7 7/8"	1ST	2600'		TYPE	
DRILL PIPE	4.5 16.6#	2ND	1775'	New / Used	Packer	Depth
		3RD	375'		Retainer	Depth
		SURFACE	40'		Perfs	CIBP

Customer Signature: *Rub W. M.*

Basic Representative: Angel Echevarria

Basic Signature: *[Signature]*

Date of Service: 5/27/2018



Company: L. D. Drilling, Inc Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3052 EGL
Field Name: NA
Pool: Infield
Job Number: 140

DATE
May
21
2018

DST #1 **Formation: Toronto** **Test Interval: 4053 - 4080'** **Total Depth: 4080'**
Time On: 10:06 05/21 Time Off: 16:34 05/21
Time On Bottom: 12:40 05/21 Time Off Bottom: 14:40 05/21

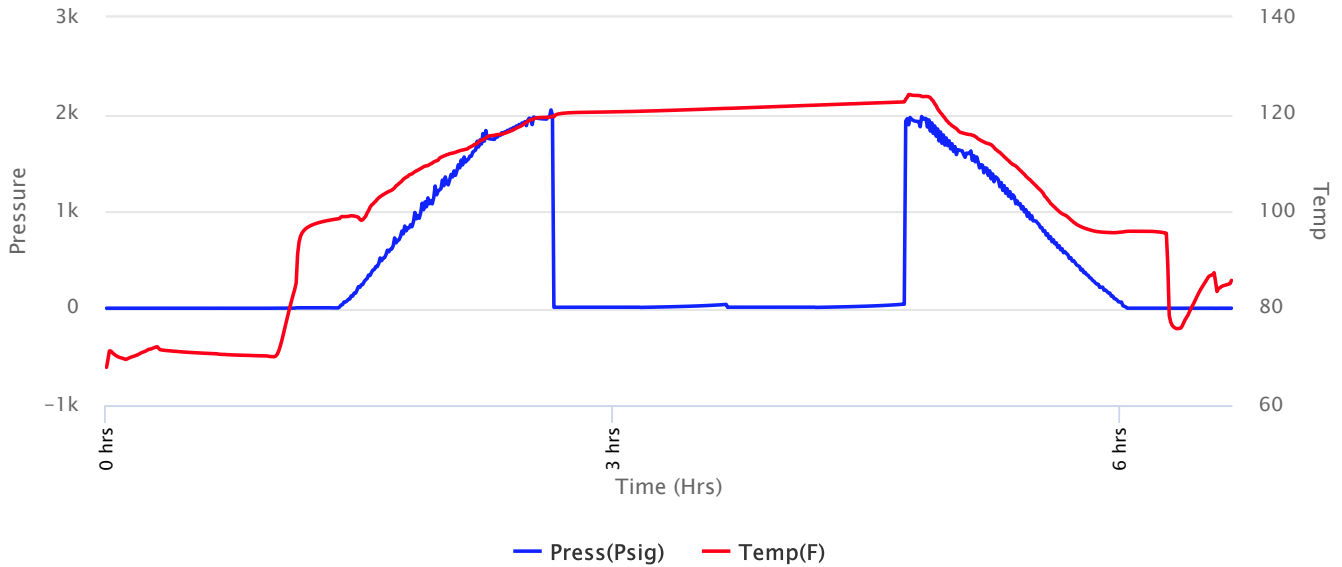
Electronic Volume
Estimate:
6'

1st Open
Minutes: 30
.5" 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: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3052 EGL
 Field Name: NA
 Pool: Infield
 Job Number: 140

DATE
 May
21
 2018

DST #1 **Formation: Toronto** **Test Interval: 4053 - 4080'** **Total Depth: 4080'**
 Time On: 10:06 05/21 Time Off: 16:34 05/21
 Time On Bottom: 12:40 05/21 Time Off Bottom: 14:40 05/21

Recovered

Foot	BBLs
2	0.02052

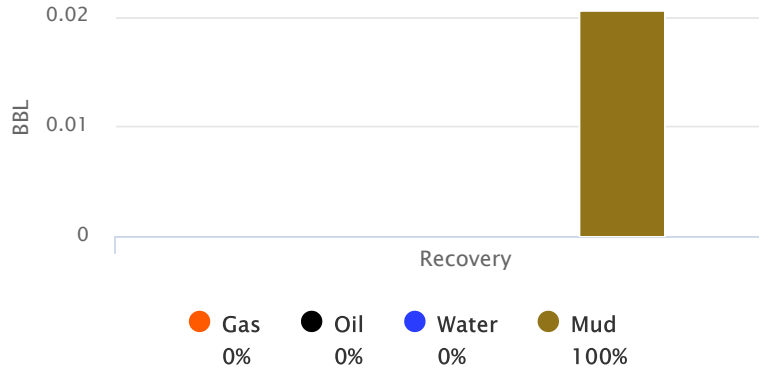
Description of Fluid	Gas %	Oil %	Water %	Mud %
M	0	0	0	100

Total Recovered: 2 ft
 Total Barrels Recovered: 0.02052

Reversed Out
 NO

Initial Hydrostatic Pressure	1951	PSI
Initial Flow	10 to 11	PSI
Initial Closed in Pressure	40	PSI
Final Flow Pressure	10 to 12	PSI
Final Closed in Pressure	42	PSI
Final Hydrostatic Pressure	1951	PSI
Temperature	123	°F
Pressure Change Initial Close / Final Close	0.0	%

Recovery at a glance





Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3052 EGL
Field Name: NA
Pool: Infield
Job Number: 140

<p>DATE May 21 2018</p>

DST #1 Formation: Toronto Test Interval: 4053 - Total Depth: 4080'
4080'

Time On: 10:06 05/21 Time Off: 16:34 05/21
Time On Bottom: 12:40 05/21 Time Off Bottom: 14:40 05/21

REMARKS:

IF: 1/4 inch blow
ISI: No BB
FF: Very weak surface blow
FSI: No BB

TOOL SAMPLE: OIL SPECKS, 100% MUD



Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc -
 Rig 1
 Elevation: 3052 EGL
 Field Name: NA
 Pool: Infield
 Job Number: 140

<p>DATE May 21 2018</p>
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DST #1 **Formation: Toronto** **Test Interval: 4053 - 4080'** **Total Depth: 4080'**

Time On: 10:06 05/21 Time Off: 16:34 05/21
 Time On Bottom: 12:40 05/21 Time Off Bottom: 14:40 05/21

Down Hole Makeup

Heads Up: 5.43 FT	Packer 1: 4048 FT
Drill Pipe: 4025.86 FT <i>ID-3 1/4</i>	Packer 2: 4053 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4037.42 FT
Collars: 0 FT <i>ID-2 1/4</i>	Bottom Recorder: 4055 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: 27	Surface Choke: 1"
Anchor Makeup	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 0 FT <i>4 1/2-FH</i>	
Change Over: 0 FT	
Drill Pipe: (in anchor): 0 FT <i>ID-3 1/4</i>	
Change Over: 0 FT	
Perforations: (below): 26 FT <i>4 1/2-FH</i>	



Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3052 EGL
Field Name: NA
Pool: Infield
Job Number: 140

<p>DATE May 21 2018</p>

DST #1 **Formation: Toronto** **Test Interval: 4053 - 4080'** **Total Depth: 4080'**

Time On: 10:06 05/21 Time Off: 16:34 05/21
Time On Bottom: 12:40 05/21 Time Off Bottom: 14:40 05/21

Mud Properties

Mud Type: Chemical **Weight:** 9.3 **Viscosity:** 54 **Filtrate:** 7.2 **Chlorides:** 2,000 ppm



Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3052 EGL
Field Name: NA
Pool: Infield
Job Number: 140

<u>DATE</u> May 21 2018

DST #1 Formation: Toronto Test Interval: 4053 - Total Depth: 4080'
4080'

Time On: 10:06 05/21 Time Off: 16:34 05/21
Time On Bottom: 12:40 05/21 Time Off Bottom: 14:40 05/21

Gas Volume Report

1st Open

2nd Open

Time	Orifice	PSI	MCF/D
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Time	Orifice	PSI	MCF/D
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Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3052 EGL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 140

DATE
 May
22
 2018

DST #2 **Formation: Lansing "B-D"** **Test Interval: 4108 - 4142'** **Total Depth: 4142'**
 Time On: 02:50 05/22 Time Off: 10:21 05/22
 Time On Bottom: 05:03 05/22 Time Off Bottom: 08:03 05/22

Recovered

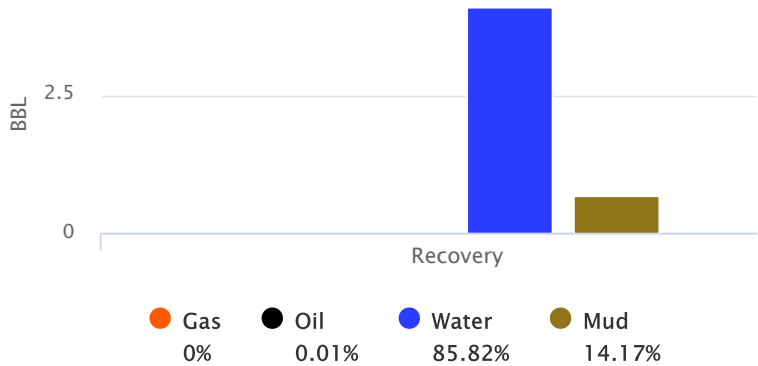
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
30	0.3078	MCW (trace O)	0	.1	73.9	26
185	1.8981	MCW	0	0	74	26
250	2.565	SLMCW	0	0	96	4

Total Recovered: 465 ft
 Total Barrels Recovered: 4.7709

Reversed Out
 NO

Initial Hydrostatic Pressure	2005	PSI
Initial Flow	14 to 103	PSI
Initial Closed in Pressure	1091	PSI
Final Flow Pressure	105 to 223	PSI
Final Closed in Pressure	1068	PSI
Final Hydrostatic Pressure	1999	PSI
Temperature	135	°F
Pressure Change Initial Close / Final Close	2.1	%

Recovery at a glance





Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3052 EGL
Field Name: Wildcat
Pool: Infield
Job Number: 140

<p>DATE May 22 2018</p>

DST #2	Formation: Lansing "B-D"	Test Interval: 4108 - 4142'	Total Depth: 4142'
	Time On: 02:50 05/22	Time Off: 10:21 05/22	
	Time On Bottom: 05:03 05/22	Time Off Bottom: 08:03 05/22	

REMARKS:

IF: BOB 20 min.
ISI: No BB
FF: BOB 25 min.
FSI: Very weak surface BB

TOOL SAMPLE: TRACE OIL, 80% WATER, 20% MUD

Ph: 7.5

RW: .16 @ 76 degrees F

Chlorides: 39,000 ppm



Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3052 EGL
Field Name: Wildcat
Pool: Infield
Job Number: 140

DATE May 22 2018

DST #2	Formation: Lansing "B-D"	Test Interval: 4108 - 4142'	Total Depth: 4142'
	Time On: 02:50 05/22	Time Off: 10:21 05/22	
	Time On Bottom: 05:03 05/22	Time Off Bottom: 08:03 05/22	

Mud Properties

Mud Type: Chemical **Weight:** 9.3 **Viscosity:** 54 **Filtrate:** 7.2 **Chlorides:** 2,000 ppm



Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3052 EGL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 140

DATE
 May
23
 2018

DST #3 **Formation: LKC " H- J"** **Test Interval: 4208 - 4295'** **Total Depth: 4295'**
 Time On: 04:38 05/23 Time Off: 11:52 05/23
 Time On Bottom: 06:57 05/23 Time Off Bottom: 09:57 05/23

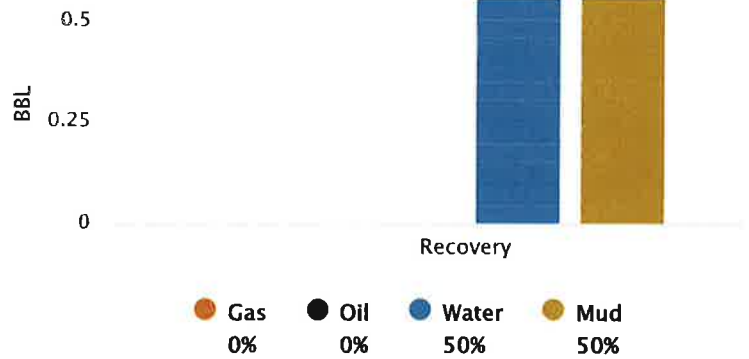
Recovered

<u>Foot</u>	<u>BBLs</u>	<u>Description of Fluid</u>	<u>Gas %</u>	<u>Oil %</u>	<u>Water %</u>	<u>Mud %</u>
110	1.1286	HMCW	0	0	50	50

Total Recovered: 110 ft
 Total Barrels Recovered: 1.1286

Reversed Out
 NO

Recovery at a glance



Initial Hydrostatic Pressure	2079	PSI
Initial Flow	12 to 31	PSI
Initial Closed in Pressure	1312	PSI
Final Flow Pressure	34 to 62	PSI
Final Closed in Pressure	1292	PSI
Final Hydrostatic Pressure	2062	PSI
Temperature	128	°F
Pressure Change Initial Close / Final Close	1.5	%



Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3052 EGL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 140

DATE
 May
23
 2018

DST #3 Formation: LKC " H-J" Test Interval: 4208 - 4295' Total Depth: 4295'
 Time On: 04:38 05/23 Time Off: 11:52 05/23
 Time On Bottom: 06:57 05/23 Time Off Bottom: 09:57 05/23

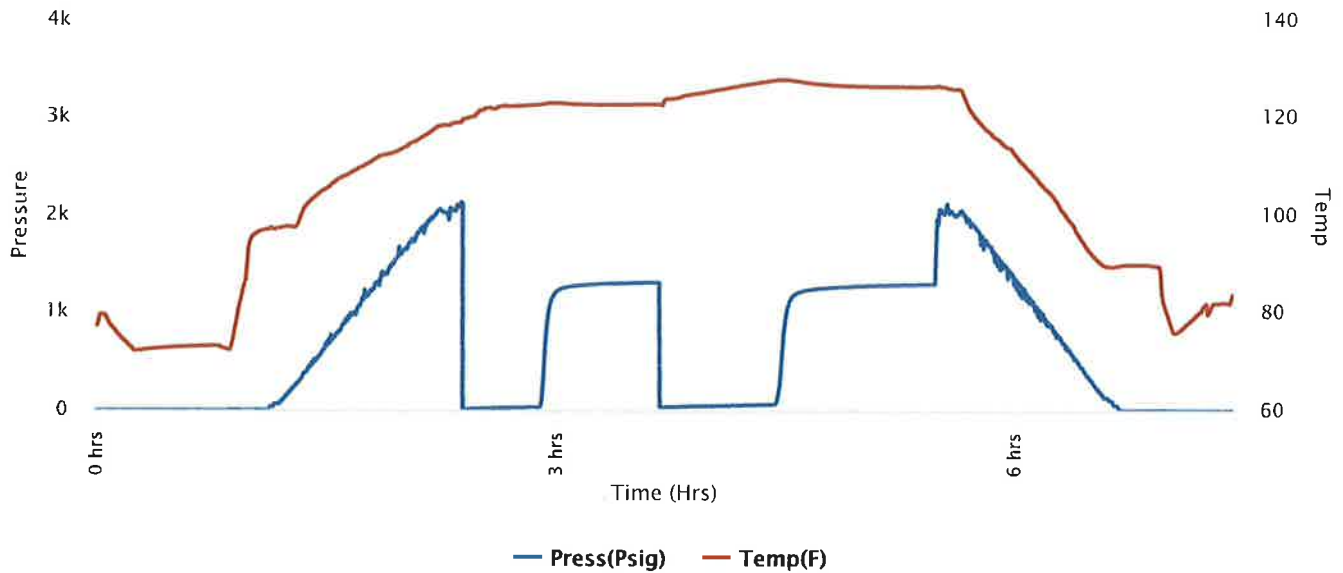
Electronic Volume Estimate:
 101'

1st Open
 Minutes: 30
 4.6" at 30 min

1st Close
 Minutes: 45
 0" at 45 min

2nd Open
 Minutes: 45
 4.2" at 45 min

2nd Close
 Minutes: 60
 0" at 60 min





Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3052 EGL
Field Name: Wildcat
Pool: Infield
Job Number: 140

DATE May 23 2018

DST #3 **Formation: LKC " H-
J"** **Test Interval: 4208 -
4295'** **Total Depth: 4295'**

Time On: 04:38 05/23 Time Off: 11:52 05/23
Time On Bottom: 06:57 05/23 Time Off Bottom: 09:57 05/23

REMARKS:

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

TOOL SAMPLE: TRACE OIL, 51% WATER, 49% MUD

Ph: 9.0

RW: .25 @ 74 degrees F

Chlorides: 22,000 ppm



Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc -
 Rig 1
 Elevation: 3052 EGL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 140

DATE May 23 2018

DST #3 **Formation: LKC " H- J"** **Test Interval: 4208 - 4295'** **Total Depth: 4295'**

Time On: 04:38 05/23 Time Off: 11:52 05/23
 Time On Bottom: 06:57 05/23 Time Off Bottom: 09:57 05/23

Down Hole Makeup

Heads Up: 6.86 FT	Packer 1: 4202.83 FT
Drill Pipe: 4182.12 FT <i>ID-3 1/4</i>	Packer 2: 4207.83 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4192.25 FT
Collars: 0 FT <i>ID-2 1/4</i>	Bottom Recorder: 4278 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: 87.17	Surface Choke: 1"
Anchor Makeup	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 4 FT <i>4 1/2-FH</i>	
Change Over: 1 FT	
Drill Pipe: (in anchor): 62.17 FT <i>ID-3 1/4</i>	
Change Over: 1 FT	
Perforations: (below): 18 FT <i>4 1/2-FH</i>	



Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3052 EGL
Field Name: Wildcat
Pool: Infield
Job Number: 140

DATE May 23 2018

DST #3 **Formation: LKC " H-
J"** **Test Interval: 4208 -
4295'** **Total Depth: 4295'**

Time On: 04:38 05/23 Time Off: 11:52 05/23
Time On Bottom: 06:57 05/23 Time Off Bottom: 09:57 05/23

Mud Properties

Mud Type: Chemical **Weight:** 9.3 **Viscosity:** 56 **Filtrate:** 9.6 **Chlorides:** 3,400 ppm



Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3052 EGL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 140

DATE
May
23
2018

DST #3 **Formation: LKC " H- J"** **Test Interval: 4208 - 4295'** **Total Depth: 4295'**

Time On: 04:38 05/23 Time Off: 11:52 05/23
 Time On Bottom: 06:57 05/23 Time Off Bottom: 09:57 05/23

Gas Volume Report

1st Open

2nd Open

Time	Orifice	PSI	MCF/D
------	---------	-----	-------

Time	Orifice	PSI	MCF/D
------	---------	-----	-------



Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc -
 Rig 1
 Elevation: 3052 EGL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 140

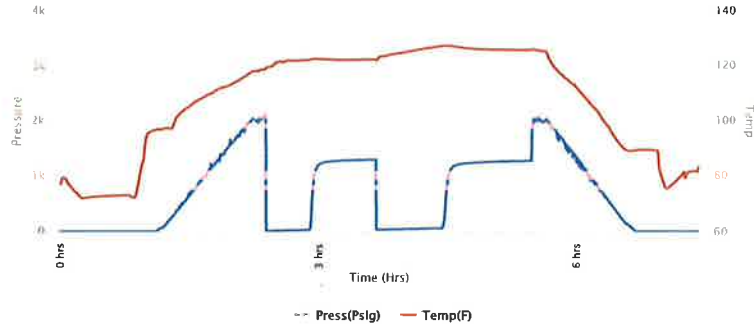
DATE
 May
23
 2018

DST #3 **Formation: LKC " H- J"** **Test Interval: 4208 - 4295'** **Total Depth: 4295'**
 Time On: 04:38 05/23 Time Off: 11:52 05/23
 Time On Bottom: 08:57 05/23 Time Off Bottom: 09:57 05/23

Electronic Volume Estimate:
 101'

1st Open
 Minutes: 30
 4.6" at 30 min

2nd Open
 Minutes: 45
 4.2" at 45 min



Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc -
 Rig 1
 Elevation: 3052 EGL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 140

DATE
 May
23
 2018

DST #3 **Formation: LKC " H- J"** **Test Interval: 4208 - 4295'** **Total Depth: 4295'**
 Time On: 04:38 05/23 Time Off: 11:52 05/23
 Time On Bottom: 06:57 05/23 Time Off Bottom: 09:57 05/23

Recovered

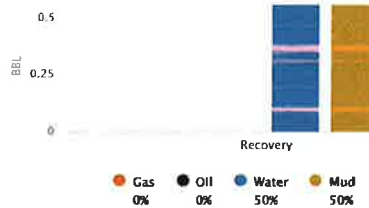
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
110	1,1286	HMCW	0	0	50	50

Total Recovered: 110 ft
 Total Barrels Recovered: 1.1286

Reversed Out
 NO

Initial Hydrostatic Pressure	2079	PSI
Initial Flow	12 to 31	PSI
Initial Closed in Pressure	1312	PSI
Final Flow Pressure	34 to 62	PSI
Final Closed in Pressure	1292	PSI
Final Hydrostatic Pressure	2062	PSI
Temperature	128	°F
Pressure Change Initial Close / Final Close	1.5	%

Recovery at a glance





Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3052 EGL
Field Name: Wildcat
Pool: Infield
Job Number: 140

DATE May 24 2018

DST #4	Formation: LKC "K&L"	Test Interval: 4287 - 4355'	Total Depth: 4355'
	Time On: 23:14 05/23	Time Off: 07:03 05/24	
	Time On Bottom: 01:40 05/24	Time Off Bottom: 04:40 05/24	

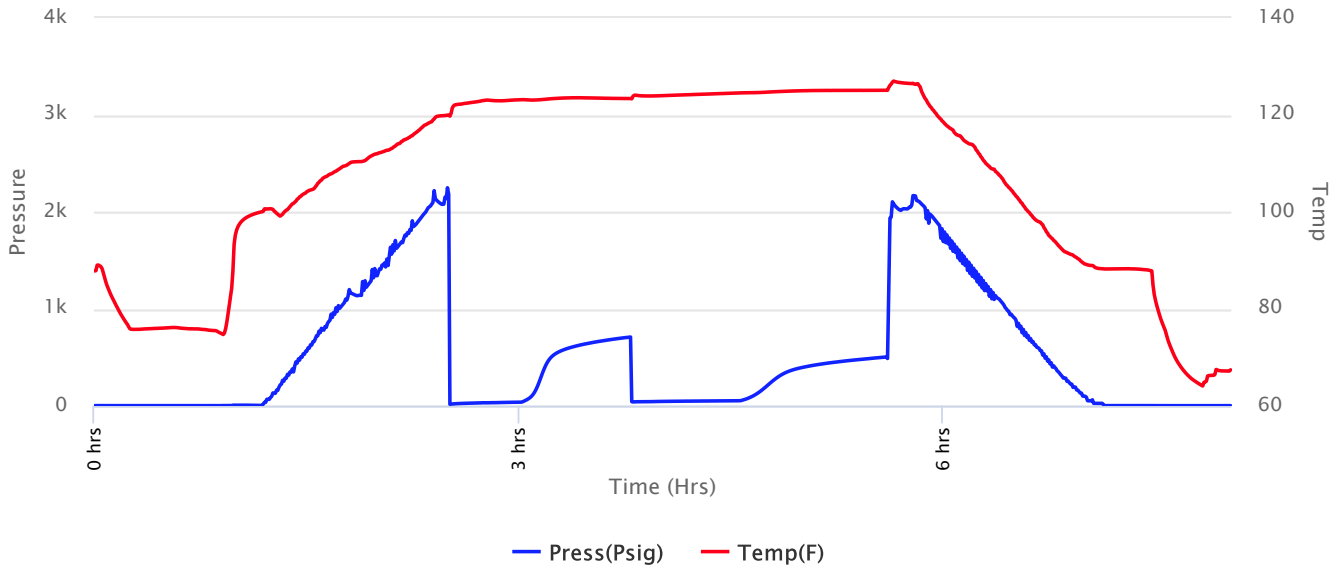
Electronic Volume
Estimate:
457'

1st Open
Minutes: 30
21.6" at 30 min

1st Close
Minutes: 45
0" at 45 min

2nd Open
Minutes: 45
18.4" at 45 min

2nd Close
N/A





Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3052 EGL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 140

DATE
 May
24
 2018

DST #4 **Formation: LKC "K&L"** **Test Interval: 4287 - 4355'** **Total Depth: 4355'**
 Time On: 23:14 05/23 Time Off: 07:03 05/24
 Time On Bottom: 01:40 05/24 Time Off Bottom: 04:40 05/24

Recovered

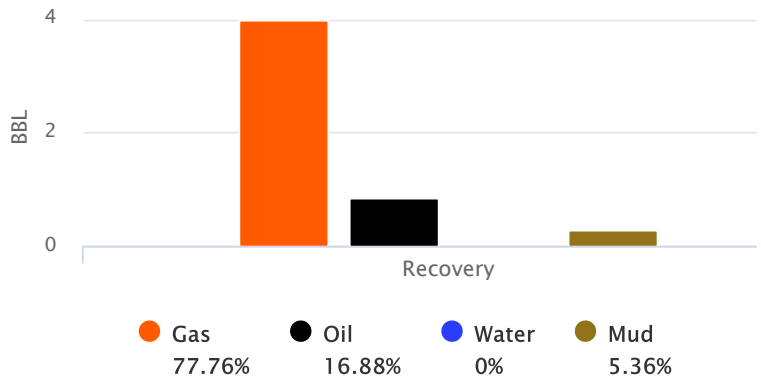
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
385	3.9501	G	100	0	0	0
75	0.7695	SLGCO	4	96	0	0
40	0.4104	SLGCHOCM	2	31	0	67

Total Recovered: 500 ft
 Total Barrels Recovered: 5.13

Reversed Out
 NO

Initial Hydrostatic Pressure	2077	PSI
Initial Flow	15 to 37	PSI
Initial Closed in Pressure	709	PSI
Final Flow Pressure	40 to 57	PSI
Final Closed in Pressure	503	PSI
Final Hydrostatic Pressure	2065	PSI
Temperature	126	°F
Pressure Change Initial Close / Final Close	29.1	%

Recovery at a glance





Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3052 EGL
Field Name: Wildcat
Pool: Infield
Job Number: 140

DATE May 24 2018

DST #4	Formation: LKC "K&L"	Test Interval: 4287 - 4355'	Total Depth: 4355'
	Time On: 23:14 05/23	Time Off: 07:03 05/24	
	Time On Bottom: 01:40 05/24	Time Off Bottom: 04:40 05/24	

REMARKS:

IF: BOB 14 1/2 min.
ISI: Very weak surface BB lasting 25-30 min.
FF: BOB 23 min.
FSI: No BB

TOOL SAMPLE: 100% OIL

Gravity: 34.8 @ 60 degrees F



Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3052 EGL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 140

<u>DATE</u>
May
24
2018

DST #4 **Formation: LKC** **Test Interval: 4287 -** **Total Depth: 4355'**
 "K&L" **4355'**
 Time On: 23:14 05/23 Time Off: 07:03 05/24
 Time On Bottom: 01:40 05/24 Time Off Bottom: 04:40 05/24

Down Hole Makeup

Heads Up: 21.34 FT	Packer 1: 4282.04 FT
Drill Pipe: 4275.81 FT <i>ID-3 1/4</i>	Packer 2: 4287.04 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4271.46 FT
Collars: 0 FT <i>ID-2 1/4</i>	Bottom Recorder: 4326 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: 67.96	Surface Choke: 1"
	Bottom Choke: 5/8"
<u>Anchor Makeup</u>	
Packer Sub: 1 FT	
Perforations: (top): 4 FT <i>4 1/2-FH</i>	
Change Over: 1 FT	
Drill Pipe: (in anchor): 30.96 FT <i>ID-3 1/4</i>	
Change Over: 1 FT	
Perforations: (below): 30 FT <i>4 1/2-FH</i>	



Company: L. D. Drilling, Inc

Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc - Rig 1
Elevation: 3052 EGL
Field Name: Wildcat
Pool: Infield
Job Number: 140

DATE May 24 2018

DST #5 **Formation: LKC "K&L"** **Test Interval: 4288 - 4355'** **Total Depth: 4355'**
Time On: 09:56 05/24 Time Off: 17:44 05/24
Time On Bottom: 11:49 05/24 Time Off Bottom: 14:49 05/24

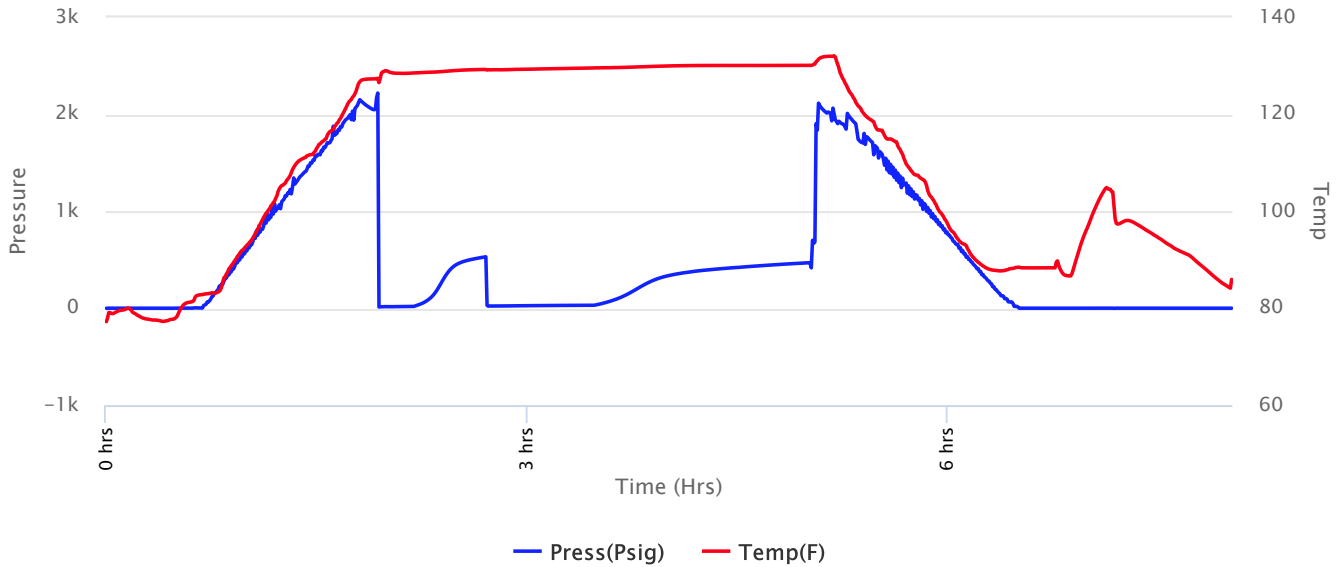
Electronic Volume Estimate:
262'

1st Open
Minutes: 15
8.0" at 15 min

1st Close
Minutes: 30
0" at 30 min

2nd Open
Minutes: 45
14.6" at 45 min

2nd Close
Minutes: 90
0" at 90 min





Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3052 EGL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 140

DATE
 May
24
 2018

DST #5 **Formation: LKC "K&L"** **Test Interval: 4288 - 4355'** **Total Depth: 4355'**
 Time On: 09:56 05/24 Time Off: 17:44 05/24
 Time On Bottom: 11:49 05/24 Time Off Bottom: 14:49 05/24

Recovered

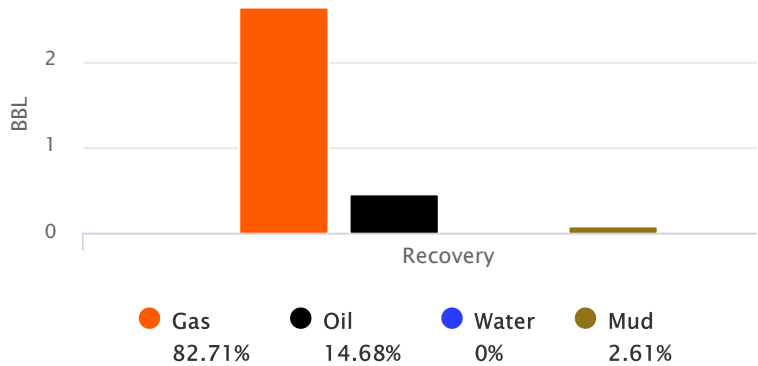
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
255	2.6163	G	100	0	0	0
40	0.4104	SLGCO	2	98	0	0
15	0.1539	SLGCHOCM	4	42	0	54

Total Recovered: 310 ft
 Total Barrels Recovered: 3.1806

Reversed Out
 NO

Initial Hydrostatic Pressure	2048	PSI
Initial Flow	13 to 20	PSI
Initial Closed in Pressure	531	PSI
Final Flow Pressure	22 to 31	PSI
Final Closed in Pressure	470	PSI
Final Hydrostatic Pressure	2046	PSI
Temperature	131	°F
Pressure Change Initial Close / Final Close	11.5	%

Recovery at a glance





Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3052 EGL
Field Name: Wildcat
Pool: Infield
Job Number: 140

DATE May 24 2018

DST #5	Formation: LKC "K&L"	Test Interval: 4288 - 4355'	Total Depth: 4355'
	Time On: 09:56 05/24	Time Off: 17:44 05/24	
	Time On Bottom: 11:49 05/24	Time Off Bottom: 14:49 05/24	

REMARKS:

IF: 8 inch blow
ISI: No BB
FF: BOB 35 1/2 min.
FSI: No BB

TOOL SAMPLE: 98% OIL, 2% MUD

Gravity: 34.5 @ 60 degrees F



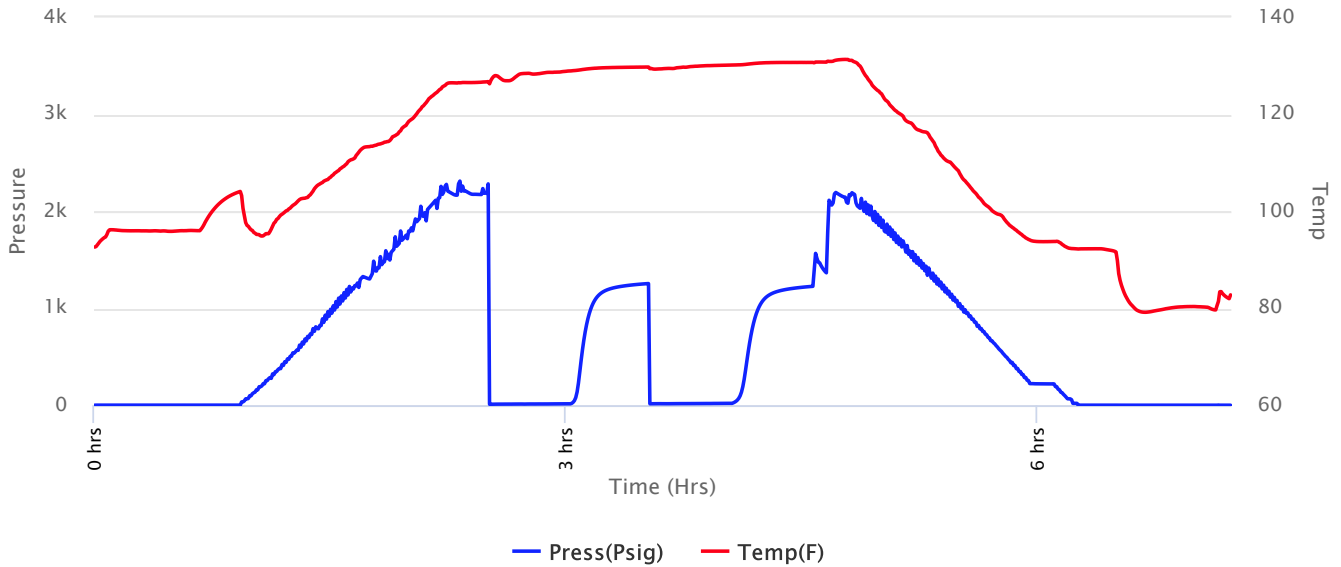
Company: L. D. Drilling, Inc Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc - Rig 1
Elevation: 3052 EGL
Field Name: Wildcat
Pool: Infield
Job Number: 140

DATE
May
26
2018

DST #6 Formation: Pawnee Test Interval: 4432 - 4474' Total Depth: 4732'
Time On: 14:39 05/26 Time Off: 21:38 05/26
Time On Bottom: 17:02 05/26 Time Off Bottom: 19:02 05/26

Electronic Volume Estimate:	<u>1st Open</u> Minutes: 30 .8" at 30 min	<u>1st Close</u> Minutes: 30 0" at 30 min	<u>2nd Open</u> Minutes: 30 0" at 30 min	<u>2nd Close</u> Minutes: 30 0" at 30 min
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Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3052 EGL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 140

DATE
 May
26
 2018

DST #6 Formation: Pawnee Test Interval: 4432 - 4474' Total Depth: 4732'

Time On: 14:39 05/26 Time Off: 21:38 05/26
 Time On Bottom: 17:02 05/26 Time Off Bottom: 19:02 05/26

Recovered

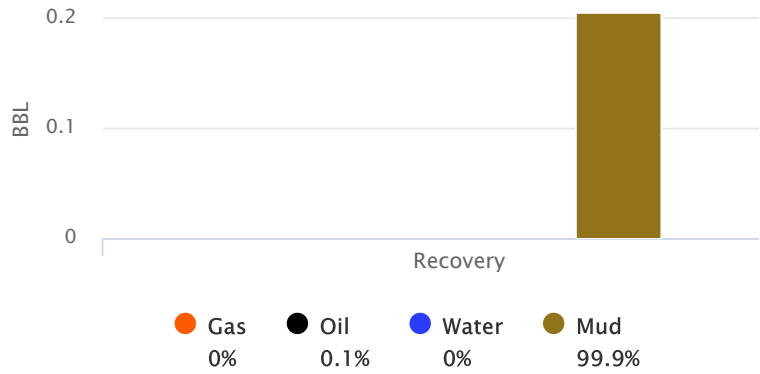
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
20	0.2052	M (trace O)	0	.1	0	99.9

Total Recovered: 20 ft
 Total Barrels Recovered: 0.2052

Reversed Out
 NO

Initial Hydrostatic Pressure	2173	PSI
Initial Flow	10 to 15	PSI
Initial Closed in Pressure	1255	PSI
Final Flow Pressure	15 to 20	PSI
Final Closed in Pressure	1227	PSI
Final Hydrostatic Pressure	2169	PSI
Temperature	131	°F
Pressure Change Initial Close / Final Close	2.3	%

Recovery at a glance





Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc -
 Rig 1
 Elevation: 3052 EGL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 140

DATE
May
26
2018

DST #6 Formation: Pawnee Test Interval: 4432 - 4474' Total Depth: 4732'

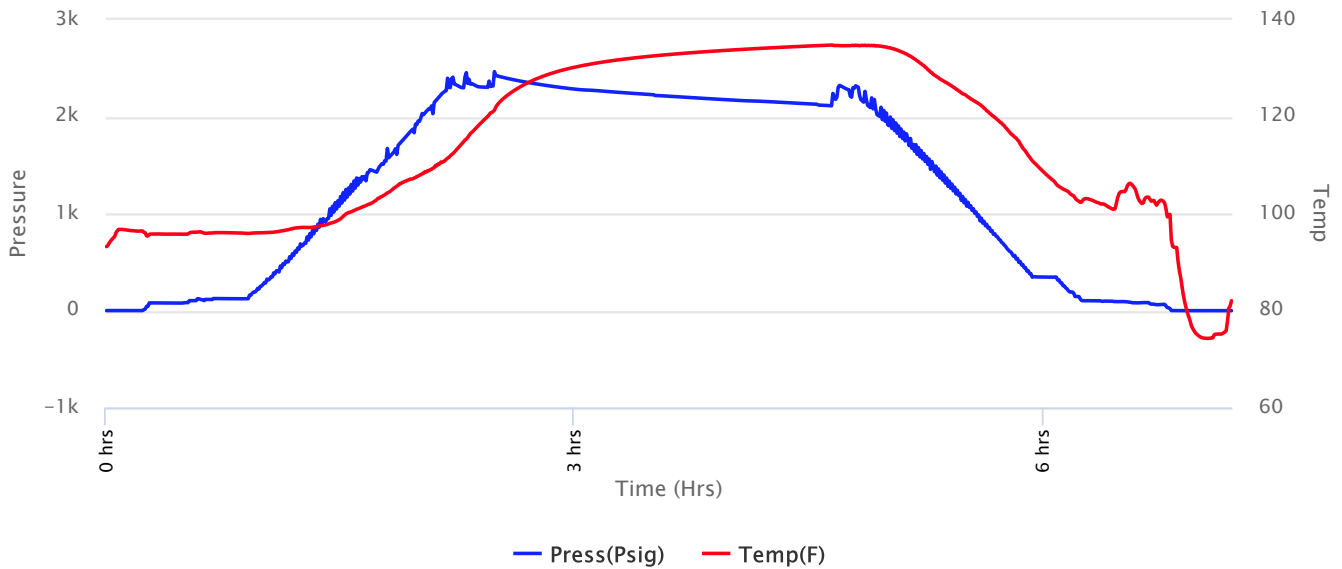
Time On: 14:39 05/26 Time Off: 21:38 05/26
 Time On Bottom: 17:02 05/26 Time Off Bottom: 19:02 05/26

REMARKS:

IF: 1/2 inch blow
 ISI: No BB
 FF: Very weak surface blow
 FSI: No BB

TOOL SAMPLE: TRACE OIL, 100% MUD

Below Straddle Recorder





Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc -
 Rig 1
 Elevation: 3052 EGL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 140

DATE May 26 2018

DST #6 Formation: Pawnee Test Interval: 4432 - 4474' Total Depth: 4732'

Time On: 14:39 05/26 Time Off: 21:38 05/26
 Time On Bottom: 17:02 05/26 Time Off Bottom: 19:02 05/26

Down Hole Makeup

Heads Up: 35.29 FT	Packer 1: 4427.3 FT
Drill Pipe: 4435.02 FT <i>ID-3 1/4</i>	Packer 2: 4432.3 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Packer 3: 4474 FT
Collars: 0 FT <i>ID-2 1/4</i>	Top Recorder: 4416.72 FT
Test Tool: 33.57 FT <i>ID-3 1/2-FH</i> <i>Jars</i> <i>Safety Joint</i>	Bottom Recorder: 4467 FT
Total Anchor: 41.7	Below Straddle Recorder: 4727 FT
	Well Bore Size: 7 7/8
	Surface Choke: 1"
	Bottom Choke: 5/8"

Anchor Makeup

Packer Sub: 1 FT

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

Change Over: .5 FT

Drill Pipe: (in anchor): 31.70 FT
ID-3 1/4

Change Over: .5 FT

Perforations: (below): 7 FT
4 1/2-FH

STRADDLE

Straddle Packer(s): 1 FT

Change Over: 1 FT

Drill Pipe: 249.31 FT
ID-3 1/2"

Change Over: 1 FT

Perforations (in tail pipe): 6 FT
4 1/2-FH



Company: L. D. Drilling, Inc
Lease: Murphy #1-31

SEC: 31 TWN: 8S RNG: 31W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3052 EGL
Field Name: Wildcat
Pool: Infield
Job Number: 140

DATE May 26 2018

DST #6 Formation: Pawnee Test Interval: 4432 - Total Depth: 4732'
4474'

Time On: 14:39 05/26 Time Off: 21:38 05/26
Time On Bottom: 17:02 05/26 Time Off Bottom: 19:02 05/26

Gas Volume Report

1st Open

2nd Open

Time	Orifice	PSI	MCF/D
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Time	Orifice	PSI	MCF/D
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KIM B. SHOEMAKER

CONSULTING GEOLOGIST

316-884-9709 * WICHITA, KS

GEOLOGIST'S REPORT

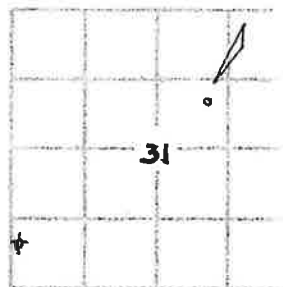
DRILLING TIME AND SAMPLE LOG

COMPANY L. D. DRILLING, INC.
 LEASE W-1-31 MURPHY
 FIELD WILDCAT
 LOCATION 1831' ENL & 1826' FEL
 SEC 31 TWP 8s RGE 31w
 COUNTY THOMAS STATE KANSAS
 CONTRACTOR L.D. DRILLING, INC.
 SPUD 5-15-18 COMP 5-27-18
 RTD 4732 LTD 4732
 MUD UP 3438 TYPE MUD CHEMICAL

ELEVATIONS
 KB 3058
 DF
 GL 3053
 Measurements Are From 3058 KB
 CASING SURFACE 8 1/8" @ 335'
 PRODUCTION
 ELECTRICAL SURVEY
 DUAL IND., DENS-N., MICR.

SAMPLES SAVED FROM 3700 TO 4732
 DRILLING TIME KEPT FROM 3600 TO 4732
 SAMPLES EXAMINED FROM 3700 TO 4732
 GEOLOGICAL SUPERVISION FROM 3800 TO 4732
 GEOLOGIST ON WELL KIM B. SHOEMAKER

FORMATION TOPS	LOG	SAMPLES
ANHYDRITE	2682 + 376	2680 + 378
B/ANH.	2714 + 344	2709 + 349
STOTLER	3713 - 655	3719 - 656
HEEBNER	4048 - 990	4049 - 991
LANSING	4084 - 1026	4086 - 1028
B/KC	4350 - 1292	4351 - 1293
MARMATON	4372 - 1314	4370 - 1312
FORT SCOT	4532 - 1474	4532 - 1474
CHEROKEE	4562 - 1504	4562 - 1504
MISSISSIPPI	4642 - 1584	4640 - 1582

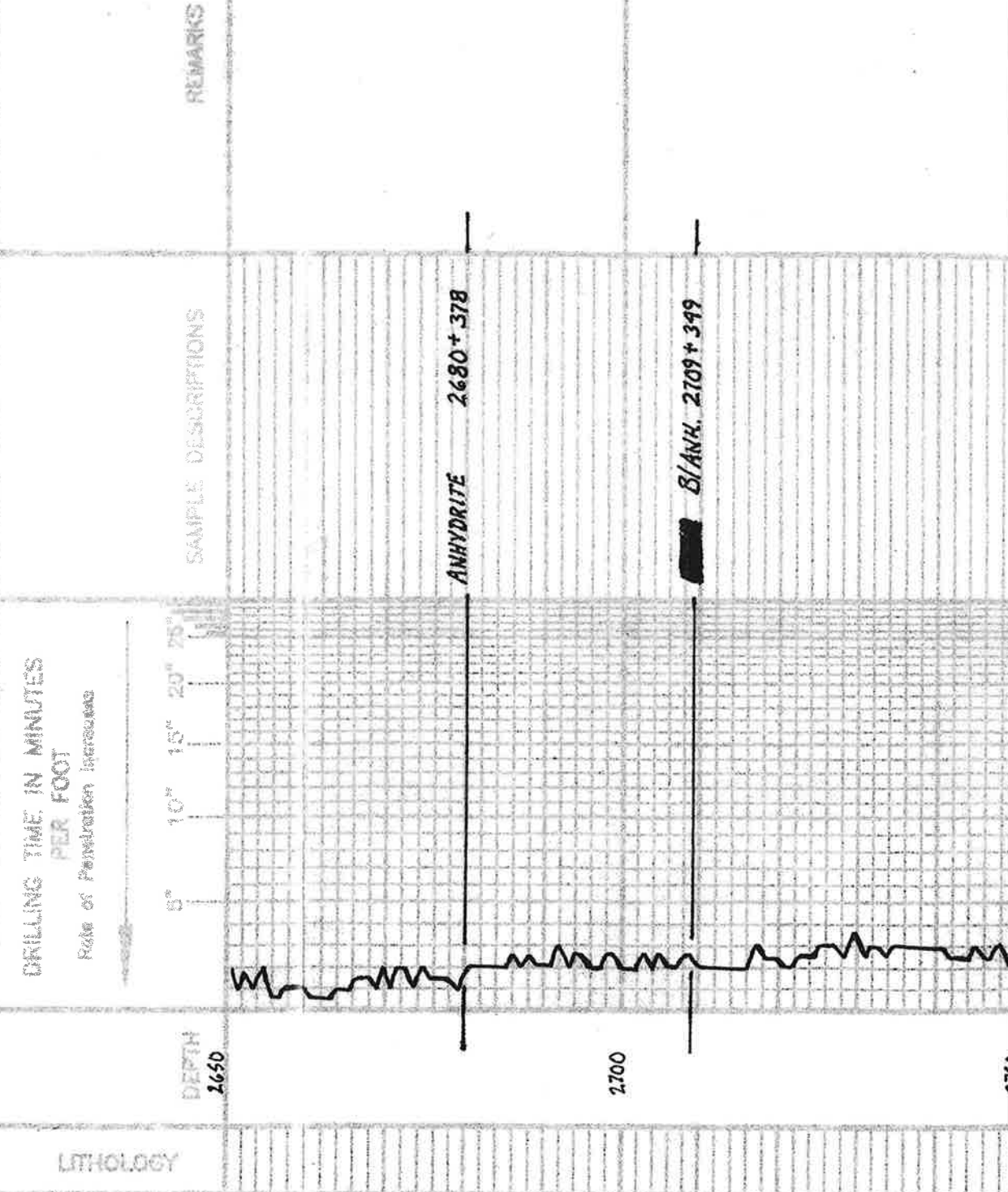


API: 15-193-21016

REMARKS
 5-15-18 SPUD
 5-16 @ 338'
 5-17 @ 1760'
 5-18 @ 2700'
 5-19 @ 3220'
 5-20 @ 3695'
 5-21 @ 4080'
 5-22 @ 4142'
 5-23 @ 4295'
 5-24 @ 4355'
 5-25 @ 4465'
 5-26 @ 4732'

LEGEND

- Dolomite
- Chert
- Coll. Lime
- Limestone
- Calc. sh.
- Shale
- Sandstone
- Silt
- Anhydrite



SHOED-11

S. Bl

LS. Tn. Sil. Foss. sil. ch. lly.

Sd. Sh. sh. - cl. G. F. G. - F. M. G. S. B. Bl.

Sh. Blue. G.

LS. wt. Foss. F. V. g. D. B. Bl. My sil. F. D. No odor.

LS. Tn. wt. Foss. Calcitic.

LS. wt. 1 ch. lly.

LS. Tn. wt. Foss.ool.

LS. Tn. VSI. Foss. VSI. A

Sh. Blk.

LS. Tn. G. Foss. Calcitic. P. V. sed. D. B. Bl. My sil. F. D. No odor.

Sh. Lig. G.

LS. wt. Foss.ool. F. V. g. p. D. B. Bl. ed. SH. No odor.

Sh. V. g. G.

LS. wt. VSI. Foss. Sil. Calcitic.

Dol. wt. V. Fresh. Sil.

Sh. Dk. g.

Sh. M. Blk.

LS. wt. sil. Foss. ch. lly.

LS. wt. VSI. Foss. ch. lly.

LS. wt. Foss. Sil. A

LS. wt. VSI. Foss. Sil. ch. lly. sil. D. B. Bl. ed. SH.

HEEBNER 4099-991

Sh. Blk. Carb. LS. Dk. g. Sil. Foss.

Sh. Lt. G. Blk.

TORONTO 4070-1012

LS. wt. Foss. P. V. g. p. D. B. Bl. ed. SH. No odor.

Sh. Bl.

LANSING 4086-1028

LS. wt. sil. Foss. Sil. Foss. F. V. g. p. D. B. Bl. ed. SH. No odor.

LS. wt. ch. lly.

LS. wt. mol. Sil. Foss. Sil. ch. lly. - Sil. Foss.

Sh. Dk. g.

Sh. Bl.

LS. Tn. G. Foss. Sil. Foss. F. V. g. p. D. B. Bl. ed. SH. No odor.

Sh. Lt. Blue.

LS. Tn. G. Sil. Foss. Foss. F. V. g. p. D. B. Bl. ed. SH. No odor.

LS. wt. Foss. Sil. A

LS. wt. G. Sil. Foss. P. V. g. p. D. B. Bl. ed. SH. No odor.

LS. wt. Dk. g. Sil. Foss. P. V. g. p. Sil. A

LS. wt. Sil. Foss. F. V. g. p. D. B. Bl. ed. SH. No odor.

LS. wt. ch. lly.

LS. wt. Dk. g. ch. lly.

LS. G. Sil. Foss. Sil. A

3900

4000

4100

4200

DST (1)

DST (2)

VIS: 54 WT: 9.5
WL: 7.2 CAL: 2000

VIS: 56
WT: 9.3
WL: 9.0
CAL: 3400

DST (1) 4053-4080

1st OPEN: 1/4" Blow
2nd OPEN: Surf. face Blw

30-30-30-30

Rec. 2' Mud

FP: 10-11-10-12 M

SIP: 40-42 #

Temp. 123°F



DST (2) 4108-4142

1st OPEN: Bottom bucket 20 min.

2nd OPEN: " " 25 "

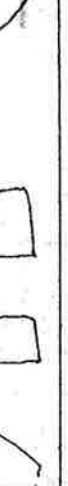
30-45-45-40

Rec. 30' Mud (1/2 m)

185' MIN (79% W 24 M)

250' VSMW (9% W 42 M)

Temp. 135°F



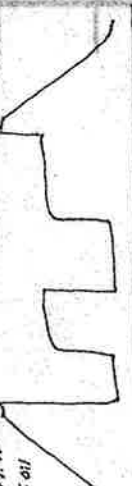
DST (3) 4208-4295

1st OPEN: 1/4" Blow

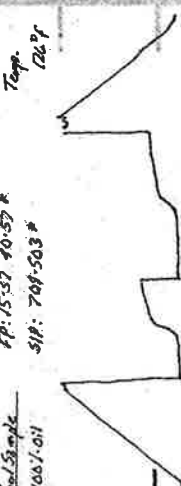
2nd OPEN: " " 3 3/4 "

DST (3) 4208-4295
 15' Star. Blow built to 8"
 2nd OPEN: " " " 334"

30. 45. 45. 60
 Re. 110 MW (50' w. 50' M)
 PR: 9.0
 RW: 25.2 MW
 OIL: 22.000



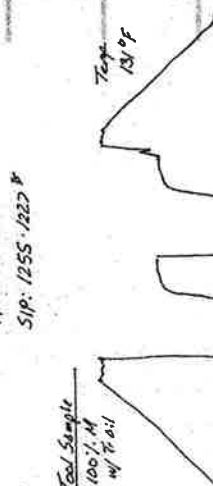
DST (1) 4287-4355
 1st OPEN: Bottom built to 14 1/2 min.
 2nd OPEN: " " " 23 "
 30. 45. 45. 60
 Rec. 385 G.P.
 75' 5660 (276.96/2617) 0.042
 40' 4066M (216.31/01.677M)
 TF: 115'



DST (5) 4288-4355
 1st OPEN: Blow built to 8"
 2nd OPEN: Bottom built 35 1/2 min.
 15. 30. 45. 60
 Rec. 255 G.P.
 40. 560 (216.31/01.677M)
 15' V1066M (216.31/01.677M)
 TF: 55'



DST (6) SPRADLE 4432-4474
 1st OPEN: Blow built to 12"
 2nd OPEN: Surface Blow
 30. 30. 30. 30
 Rec. 26 M.W./T.Oil



MUNCIE CREEK 4209-4151

15. G. St. Foss. S.S. & G.
 Sh. Bk. Carb.
 15. L. & S. Foss.
 Sh. Sil. G.
 15. Lt. and Sh. Foss. S.S. & G. St. Ld. Sh. S.S. No. 1000
 15. Top. V.S.S. S.S. ch. lly. B. DE. R. S. S. T. F. No. 1000
 15. T. V.S. Foss. S.S. & G.

16. G. Sil. Sil. G.
 15. L. Sil. Sil. G.

15. Top. S.S. Foss. S.S. & G. St. Ld. Sh. S.S. No. 1000
 15. T. V.S. Foss. S.S. & G. St. Ld. Sh. S.S. No. 1000

Sh. Bk.

15. Top. S.S. Foss. S.S. & G. St. Ld. Sh. S.S. No. 1000
 15. T. V.S. Foss. S.S. & G. St. Ld. Sh. S.S. No. 1000

STARK 4289-4231

15. L. & S. Foss.
 Sh. De. G. Sil. Sil. G. Comp.

15. Lt. Foss. V.S.S. ch. lly. V.S.S. F. V.S. Top. Dull Flour S.S. - S.S. R. DE. R. S. S. T. F. No. 1000
 V.P. 1000

15. Lt. S. Foss. S.S. ch. lly.

Sh. Bk. Carb.

15. Lt. G. G. Blue. Yellow

15. Lt. and S.S. S.S. & G.

15. T. B. S.S. & G.

B/KC 4351-4293

Sh. G. Gumy.

15. Lt. G. V.S. Foss.

Sh. Sil. G. Sil. G.

MARMATON 4370-4312

15. Lt. S.S. Foss. S.S. & G. Sil. G.

15. B. G. Sil. G. Sil. G. & Bk. Sil.

Sh. Purple G.

15. Lt. G. V.S. Foss. S.S. & G. T. Ch. Res. Mkt.

Sh. Sil. G.

15. Lt. Sil. V.S. Foss. S.S. & G.

15. Lt. G. Sil. G.

15. Lt. Sil. V.S. Foss. S.S. & G.

15. Lt. G. Sil. G.

15. Lt. G. Sil. G.

15. Lt. G. Sil. G.

Sh. Bk.

PAWNEE 4466-4408

15. Top. S.S. Foss. S.S. & G. St. Ld. Sh. S.S. No. 1000
 15. T. V.S. Foss. S.S. & G. St. Ld. Sh. S.S. No. 1000

15. Lt. G. Sil. G.

Sh. Bk. Carb.

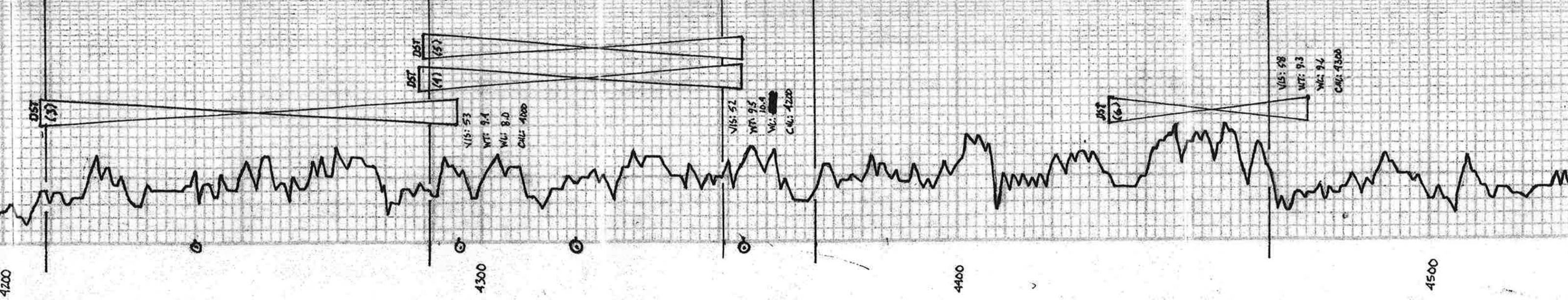
15. G. Foss. S.S. & G. St. Ld. Sh. S.S. Calcitic

Sh. Sil. G.

15. T. G. St. Foss. S.S. & G.

Sh. Bk. Carb.

FORT SCOTT 4542-4474



Vis: 98
 Wt: 93
 Wt: 94
 Chl: 4300

4200

4300

4400

4500

Sh. Blk Carb.

FORT SCOTT 4532-1474

LS. Sil. V. Sil. Foss. Sil. A. P. Long P.
V. Bl. Sil. Sh. V. Sil. F. Floor. Fl. Carb.

LS. T. Sil. A.

LS. T. H. A. Sil. Foss.

CHEROKEE 4562-1504

LS. R. Sil. A.

LS. T. Sil. Foss. Sil. A. Caliche.

Sh. DE f.

LS. T. w. Sil. Foss. Sil. A.

Sh. L. Blue

LS. T. H. Bl. Sil. Foss.

LS. Bl. Sil. Foss. Sil. A. Caliche. P. Ind.
DE Bl. Sil. Foss. Sil. A. No Floor. Member

LS. Sil. w. Sil. Sil. Glau.

Sh. Blue

LS. Ch. G. F. Bl. Sil. A. Sil. P. Ind.
DE Bl. Sil. Foss. Sil. A. No Floor. Member

A. Yellow Gray

Sh. P. E. R. L. Sil. A.

MISSISSIPPI 4640-1582

LS. T. Sil. Foss. Sil. A.

LS. T. Sil. Foss. Sil. A. Sil. Glau.

LS. T. Sil. Foss. Sil. A. Sil. Glau.

LS. T. Sil. Foss. Sil. A. Sil. Glau.

LS. T. Sil. Foss. Sil. A. Sil. Glau.

LS. T. Sil. Foss. Sil. A. Sil. Glau.

LS. T. Sil. Foss. Sil. A. Sil. Glau.

LS. T. Sil. Foss. Sil. A. Sil. Glau.

LS. T. Sil. Foss. Sil. A. Sil. Glau.

LS. T. Sil. Foss. Sil. A. Sil. Glau.

LS. T. Sil. Foss. Sil. A. Sil. Glau.

LS. T. Sil. Foss. Sil. A. Sil. Glau.

4600

4700

RTD 4732-1674

