

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 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) (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	Mull Drilling Company, Inc.
Well Name	HALLER 1-3
Doc ID	1455916

All Electric Logs Run

CDL/CNL/PE
DIL
MEL
SONIC

Form	ACO1 - Well Completion
Operator	Mull Drilling Company, Inc.
Well Name	HALLER 1-3
Doc ID	1455916

Tops

Name	Top	Datum
Heebner	4340	- 1965
Lansing	4532	- 2157
Stark	4858	- 2483
Cherokee	5112	- 2737
Mississippian	5248	- 2873
Viola	5921	- 3546
Simpson	6163	- 3788
Arbuckle	6178	- 3803

QUALITY WELL SERVICE, INC.

6996

Federal Tax I.D. # 481187368

Home Office 30060 N. Hwy 281, Pratt, KS 67124

Mailing Address P.O. Box 468

Office 620-727-3410

Fax 620-672-3663

Rich's Cell 620-727-3409

Brady's Cell 620-727-6964

Date	12-3-18	Sec.	3	Twp.	30S	Range	21W	County	Clack	State	Ks	On Location		Finish	
Lease	HALFE		Well No.	1-3		Location Becklinke S to B Rd 1.2 E N into									
Contractor	Duke Dalg Big #1							Owner							
Type Job	133/8							To Quality Well Service, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.							
Hole Size	17 1/2		T.D.	92'											
Csg.	13 3/8 48"		Depth	90'											
Tbg. Size			Depth												
Tool			Depth												
Cement Left in Csg.			Shoe Joint	The above was done to satisfaction and supervision of owner agent or contractor.											
Meas Line			Displace	11.5 bbls		Cement Amount Ordered 150sx Common									
EQUIPMENT													21 GEL 31 CL 1/2" CF		
Pumptrk	8	No.	JAKE		Common 150										
Bulktrk	10	No.	TS		Poz. Mix										
Bulktrk		No.			Gel. 3										
Pickup		No.			Calcium 5										
JOB SERVICES & REMARKS													Hulls		
Rat Hole													Salt		
Mouse Hole													Flowseal 75		
Centralizers													Kol-Seal		
Baskets													Mud CLR 48		
D/V or Port Collar													CFL-117 or CD110 CAF 38		
Run 2 H.S 13 3/8 48" csg set @ 90'													Sand		
START Csg csg on Bottom													Handling 158		
Hook up to csg & Break Circ													Mileage 50		
Pump 10 bbls H ₂ O													FLOAT EQUIPMENT		
START mix + Pump 150 sx Common													Guide Shoe		
21 GEL 31 CL 1/2" CF													Centralizer		
START DISP													Baskets		
11.5 bbls total													AFU Inserts		
Plug down													Float Shoe		
Close valve on csg 150'													Latch Down		
Good circ then stop													Service supervisor		
Circ CNT TO PIT													LMV 50		
Thank you													Pumptrk Charge 133/8 Cond.		
Please call AGAIN													Mileage 100		
Good TS JAKE															
Signature Mike [Signature]													Tax		
													Discount		
													Total Charge		

QUALITY WELL SERVICE, INC.

6998

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Home Office 30060 N. Hwy 281, Pratt, KS 67124

Mailing Address P.O. Box 468

Office 620-727-3410

Fax 620-672-3663

Rich's Cell 620-727-3409

Brady's Cell 620-727-6964

Date	12-4-13	Sec.	3	Twp.	30S	Range	21W	County	Clark	State	Ks	On Location		Finish	
Lease	Huller	Well No.	1-3		Location Backlin Ks S to B Rd 1.2 E N into										
Contractor	Duke Dcb Pg #1							Owner							
Type Job	85/3							To Quality Well Service, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.							
Hole Size	12 1/4		T.D.		607										
Csg.	85/3 23'		Depth		606										
Tbg. Size			Depth		Charge To Mull Dclg. Co Inc										
Tool			Depth		Street										
Cement Left in Csg.			Shoe Joint		42.27										
Meas Line			Displace		36 HLL										
EQUIPMENT								The above was done to satisfaction and supervision of owner agent or contractor.							
								Cement Amount Ordered 210sx 65/35 67.6EL 31.6L							
								1/2" CF 125 sx Common 21.6EL 31.6L							
Pumptrk	6	No.	Richard		Common 262										
Bulktrk	4	No.	JEREC		Poz. Mix 74										
Bulktrk	10	No.	Jim		Gel. 13										
Pickup		No.	DVID		Calcium 12										
JOB SERVICES & REMARKS								Hulls							
Rat Hole								Salt							
Mouse Hole								Flowseal 105							
Centralizers								Kol-Seal							
Baskets								Mud CLR 48							
D/V or Port Collar								CFL-117 or CD110 CAF 38							
Run 14 H's 85/3 23" csg SET 606'								Sand							
START Csg csg on Bottom								Handling 361							
Aspl up to csg & Break pipe w/leg								Mileage 50							
CINER Pump 10 bbls H ₂ O								85/3 FLOAT EQUIPMENT							
START mix Pump 210 sx 65/35								Guide Shoe							
67.6EL 31.6L 1/2" CF								Centralizer Baffle Plate 1EA							
START mix Pump 125 sx Common								Baskets 1EA							
21.6EL 31.6L								AFU Inserts 85/3 Woods Plug 1EA							
SHUT DOWN RELEASE 85/3 Woods Plug								Float Shoe							
START ASP								Latch Down							
Pump 36 bbls total								SERVICE SUPERVISOR							
Close Valve on csg 500 #								LMV 50							
Pump Circ thru JOB								Pumptrk Charge SURFACE							
Circ CUT TO PT								Mileage 100							
Thank you. Please Call AGAIN								Tax							
DVID Richard JEREC Jim								Discount							
X Signature								Total Charge							



**Company: Mull Drilling
Company, Inc
Lease: Haller #1-3**

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:

Uploading recovery &
pressures

DATE

December

10

2018

DST #1	Formation: Morrow Sand	Test Interval: 5150 - 5215'	Total Depth: 5215'
	Time On: 09:48 12/10	Time Off: 12:00 12/10	
	Time On Bottom: 00:00 01/01	Time Off Bottom: 00:00 01/01	

Electronic Volume
Estimate:
0'

1st Open
N/A

1st Close
N/A

2nd Open
N/A

2nd Close
N/A

Recorder data not available. Please check back later.



**Company: Mull Drilling
Company, Inc**

Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
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 Company, Inc - Rig 1
 Elevation: 2363 GL
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Operation:
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DST #1 Formation: Morrow Sand Test Interval: 5150 - 5215' Total Depth: 5215'
 Time On: 09:48 12/10 Time Off: 12:00 12/10
 Time On Bottom: 00:00 01/01 Time Off Bottom: 00:00 01/01

Recovered

Foot BBLs Description of Fluid Gas % Oil % Water % Mud %

Total Recovered: 0 ft
 Total Barrels Recovered: 0

Reversed Out
 NO

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	%



**Company: Mull Drilling
Company, Inc
Lease: Haller #1-3**

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:

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DATE

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2018

DST #1	Formation: Morrow Sand	Test Interval: 5150 - 5215'	Total Depth: 5215'
	Time On: 09:48 12/10	Time Off: 12:00 12/10	
	Time On Bottom: 00:00 01/01	Time Off Bottom: 00:00 01/01	

BUCKET MEASUREMENT:

1st Open: N/A
1st Close: N/A
2nd Open: N/A
2nd Close: N/A

REMARKS:

Hit bridge 11 1/2 stands in. Think something to do with the bottom of the casing. Going back in with bit.



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Lease: Haller #1-3**

SEC: 3 TWN: 30S RNG: 21W
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Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:
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pressures

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DST #1 Formation: Morrow Sand Test Interval: 5150 - 5215' Total Depth: 5215'
Time On: 09:48 12/10 Time Off: 12:00 12/10
Time On Bottom: 00:00 01/01 Time Off Bottom: 00:00 01/01

Down Hole Makeup

Heads Up: 18.98 FT	Packer 1: 5144.5 FT
Drill Pipe: 5135.41 FT <i>ID-3 1/2</i>	Packer 2: 5150 FT
Weight Pipe: FT <i>ID-2 7/8</i>	Top Recorder: 5133.42 FT
Collars: FT <i>ID-2 1/4</i>	Bottom Recorder: 5188 FT
Test Tool: 34.57 FT <i>ID-3 1/2-FH Jars Safety Joint</i>	Well Bore Size: 7 7/8
Total Anchor: 65	Surface Choke: 1"
Anchor Makeup	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): 31 FT
ID-3 1/2

Change Over: 1 FT

Perforations: (below): 28 FT
4 1/2-FH



**Company: Mull Drilling
Company, Inc
Lease: Haller #1-3**

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:

Uploading recovery &
pressures

DATE

December

10

2018

DST #1	Formation: Morrow Sand	Test Interval: 5150 - 5215'	Total Depth: 5215'
	Time On: 09:48 12/10	Time Off: 12:00 12/10	
	Time On Bottom: 00:00 01/01	Time Off Bottom: 00:00 01/01	

Mud Properties

Mud Type: Chemical

Weight: 9.4

Viscosity: 55

Filtrate: 8.0

Chlorides: 7,700 ppm



**Company: Mull Drilling
Company, Inc**
Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:
Uploading recovery &
pressures

DATE
December
10
2018

DST #2 **Formation: Morrow sand** **Test Interval: 5150 - 5215'** **Total Depth: 5215'**
Time On: 14:18 12/10 Time Off: 22:53 12/10
Time On Bottom: 16:45 12/10 Time Off Bottom: 20:20 12/10

Electronic Volume
Estimate:
N/A

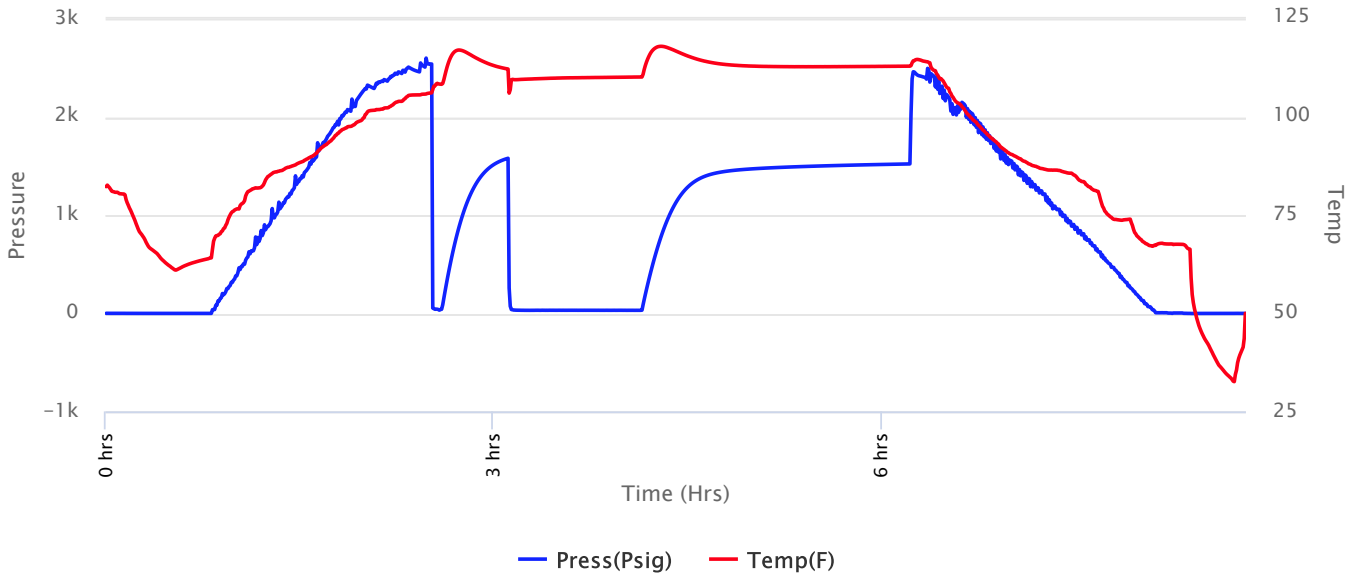
1st Open
Minutes: 5
Current Reading:
104" at 5 min
Max Reading: 104"

1st Close
Minutes: 30
Current Reading:
0" at 30 min
Max Reading: 0"

2nd Open
Minutes: 60
Current Reading:
Gg" at 60 min
Max Reading: Gts"

2nd Close
Minutes: 120
Current Reading:
0" at 120 min
Max Reading: 0"

Inside Recorder





**Company: Mull Drilling
Company, Inc**
Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:
Uploading recovery &
pressures

DATE
December
10
2018

DST #2 **Formation: Morrow sand** **Test Interval: 5150 - 5215'** **Total Depth: 5215'**
Time On: 14:18 12/10 Time Off: 22:53 12/10
Time On Bottom: 16:45 12/10 Time Off Bottom: 20:20 12/10

Recovered

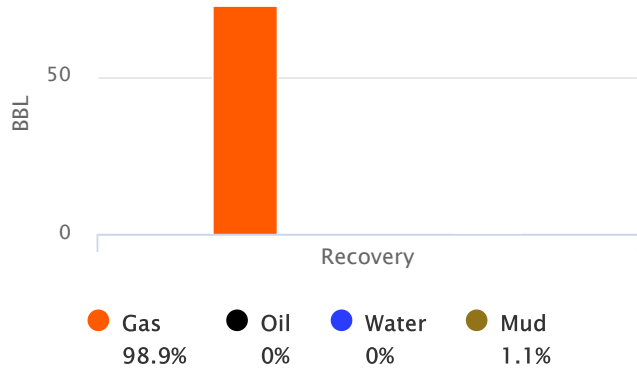
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
5103	72.61569	G	100	0	0	0
57	0.81111	HMCG	0	0	0	100

Total Recovered: 5160 ft
Total Barrels Recovered: 73.4268

Reversed Out
NO

Initial Hydrostatic Pressure	2462	PSI
Initial Flow	53 to 41	PSI
Initial Closed in Pressure	1579	PSI
Final Flow Pressure	38 to 31	PSI
Final Closed in Pressure	1521	PSI
Final Hydrostatic Pressure	2457	PSI
Temperature	118	°F
Pressure Change Initial Close / Final Close	3.7	%

Recovery at a glance





**Company: Mull Drilling
Company, Inc**

Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:

Uploading recovery &
pressures

DATE

December

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DST #2	Formation: Morrow sand	Test Interval: 5150 - 5215'	Total Depth: 5215'
	Time On: 14:18 12/10	Time Off: 22:53 12/10	
	Time On Bottom: 16:45 12/10	Time Off Bottom: 20:20 12/10	

BUCKET MEASUREMENT:

1st Open: 1/4" Bob in 1 min

1st Close: Nobb

2nd Open: Bob instantly

2nd Close: Nobb

REMARKS:

2" blow line had leak at the rig connection while gauging gas. Would of had better reading if no leak.

Tool Sample: 0% Gas 0% Oil 0% Water 100% Mud



**Company: Mull Drilling
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Lease: Haller #1-3**

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:
Uploading recovery &
pressures

DATE
December
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DST #2 Formation: Morrow sand Test Interval: 5150 - 5215' Total Depth: 5215'
Time On: 14:18 12/10 Time Off: 22:53 12/10
Time On Bottom: 16:45 12/10 Time Off Bottom: 20:20 12/10

Down Hole Makeup

Heads Up: 18.98 FT	Packer 1: 5144.5 FT
Drill Pipe: 5135.41 FT <i>ID-3 1/2</i>	Packer 2: 5150 FT
Weight Pipe: FT <i>ID-2 7/8</i>	Top Recorder: 5133.42 FT
Collars: FT <i>ID-2 1/4</i>	Bottom Recorder: 5188 FT
Test Tool: 34.57 FT <i>ID-3 1/2-FH</i> <i>Jars</i> <i>Safety Joint</i>	Well Bore Size: 7 7/8
Total Anchor: 65	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): 31 FT <i>ID-3 1/2</i>	
Change Over: 1 FT	
Perforations: (below): 28 FT <i>4 1/2-FH</i>	



**Company: Mull Drilling
Company, Inc**

Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:

Uploading recovery &
pressures

DATE

December

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DST #2 **Formation: Morrow sand** **Test Interval: 5150 - 5215'** **Total Depth: 5215'**
Time On: 14:18 12/10 Time Off: 22:53 12/10
Time On Bottom: 16:45 12/10 Time Off Bottom: 20:20 12/10

Mud Properties

Mud Type: Chemical **Weight:** 9.4 **Viscosity:** 55 **Filtrate:** 8.0 **Chlorides:** 7700 ppm



**Company: Mull Drilling
Company, Inc
Lease: Haller #1-3**

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:
Uploading recovery &
pressures

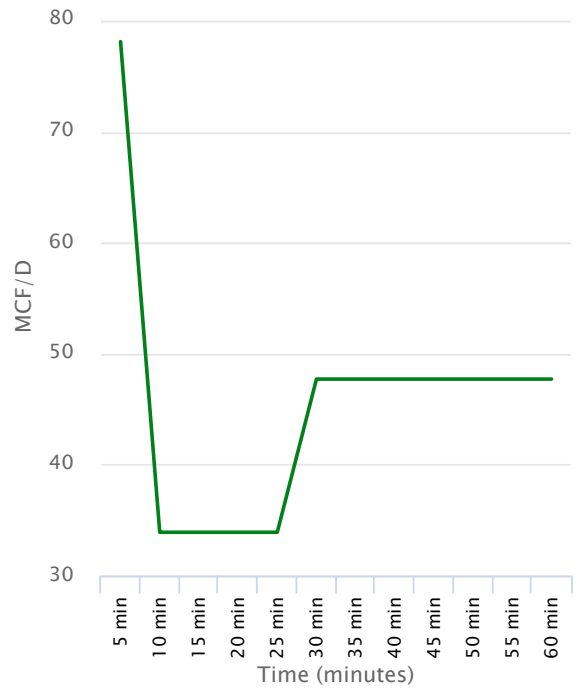
DATE
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10
2018

DST #2 Formation: Morrow sand Test Interval: 5150 - 5215' Total Depth: 5215'
Time On: 14:18 12/10 Time Off: 22:53 12/10
Time On Bottom: 16:45 12/10 Time Off Bottom: 20:20 12/10

Gas Volume Report

1st Open			
Time	Orifice	PSI	MCF/D

2nd Open			
Time	Orifice	PSI	MCF/D
5	0.50	5.0	78.1
10	0.50	1.0	33.9
15	0.50	1.0	33.9
20	0.50	1.0	33.9
25	0.50	1.0	33.9
30	0.50	2.0	47.7
35	0.50	2.0	47.7
40	0.50	2.0	47.7
45	0.50	2.0	47.7
50	0.50	2.0	47.7
55	0.50	2.0	47.7
60	0.50	2.0	47.7





**Company: Mull Drilling
Company, Inc**
Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:
Uploading recovery &
pressures

DATE
December
11
2018

DST #3 **Formation:**
Mississippi **Test Interval: 5228 -** **Total Depth: 5240'**
Time On: 09:51 12/11 Time Off: 11:45 12/11
Time On Bottom: 00:00 01/01 Time Off Bottom: 00:00 01/01

Electronic Volume
Estimate:
0'

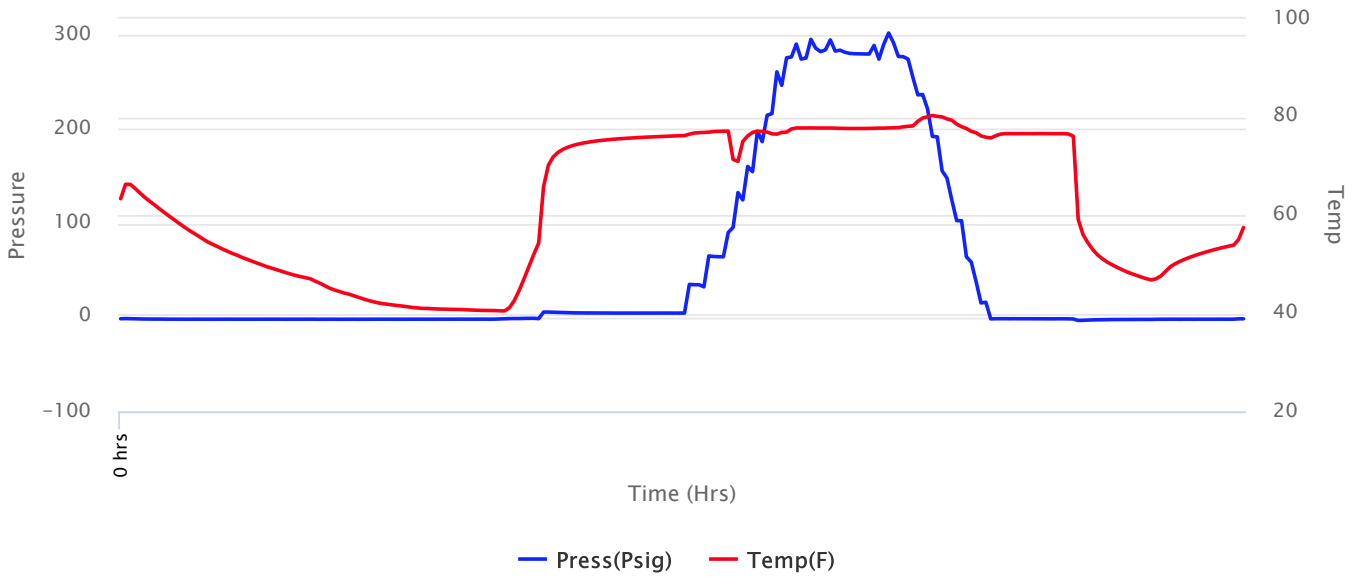
1st Open
N/A

1st Close
N/A

2nd Open
N/A

2nd Close
N/A

Inside Recorder





**Company: Mull Drilling
Company, Inc**
Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:
Uploading recovery &
pressures

DATE
December
11
2018

DST #3 **Formation:**
Mississippi **Test Interval: 5228 -** **Total Depth: 5240'**
Time On: 09:51 12/11 Time Off: 11:45 12/11
Time On Bottom: 00:00 01/01 Time Off Bottom: 00:00 01/01

Recovered

Foot BBLs

Description of Fluid

Gas %

Oil %

Water %

Mud %

Total Recovered: 0 ft
Total Barrels Recovered: 0

Reversed Out
NO

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	 %



**Company: Mull Drilling
Company, Inc**

Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:

Uploading recovery &
pressures

DATE

December

11

2018

DST #3

**Formation:
Mississippi**

**Test Interval: 5228 -
5240'**

Total Depth: 5240'

Time On: 09:51 12/11

Time Off: 11:45 12/11

Time On Bottom: 00:00 01/01

Time Off Bottom: 00:00 01/01

BUCKET MEASUREMENT:

REMARKS:

hits same bridge as dst 1, about 630ft in hole. putting bit on to break through it then try again with tool.



**Company: Mull Drilling
Company, Inc
Lease: Haller #1-3**

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:
Uploading recovery &
pressures

DATE
December
11
2018

DST #3 **Formation:** **Test Interval: 5228 -** **Total Depth: 5240'**
Mississippi **5240'**
Time On: 09:51 12/11 Time Off: 11:45 12/11
Time On Bottom: 00:00 01/01 Time Off Bottom: 00:00 01/01

Down Hole Makeup

Heads Up: 35.13 FT	Packer 1: 5222.5 FT
Drill Pipe: 5229.56 FT <i>ID-3 1/2</i>	Packer 2: 5228 FT
Weight Pipe: FT <i>ID-2 7/8</i>	Top Recorder: 5211.42 FT
Collars: FT <i>ID-2 1/4</i>	Bottom Recorder: 5233 FT
Test Tool: 34.57 FT <i>ID-3 1/2-FH</i> <i>Jars</i> <i>Safety Joint</i>	Well Bore Size: 7 7/8
	Surface Choke: 1"
	Bottom Choke: 5/8"

Total Anchor: 12
Anchor Makeup

Packer Sub: 1 FT
Perforations: (top): 3 FT
4 1/2-FH
Change Over: FT
Drill Pipe: (in anchor): FT
ID-3 1/2
Change Over: FT
Perforations: (below): 8 FT
4 1/2-FH



**Company: Mull Drilling
Company, Inc**

Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:

Uploading recovery &
pressures

DATE

December

11

2018

DST #3

**Formation:
Mississippi**

**Test Interval: 5228 -
5240'**

Total Depth: 5240'

Time On: 09:51 12/11

Time Off: 11:45 12/11

Time On Bottom: 00:00 01/01 Time Off Bottom: 00:00 01/01

Mud Properties

Mud Type: Chemical

Weight: 9.2

Viscosity: 64

Filtrate: 6.8

Chlorides: 5400 ppm



**Company: Mull Drilling
Company, Inc
Lease: Haller #1-3**

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:
Uploading recovery &
pressures

DATE
December
11
2018

DST #3 **Formation:** **Test Interval: 5228 -** **Total Depth: 5240'**
Mississippi **5240'**
Time On: 09:51 12/11 Time Off: 11:45 12/11
Time On Bottom: 00:00 01/01 Time Off Bottom: 00:00 01/01

Gas Volume Report

1st Open			
Time	Orifice	PSI	MCF/D

2nd Open			
Time	Orifice	PSI	MCF/D



**Company: Mull Drilling
Company, Inc**
Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:
Uploading recovery &
pressures

DATE
December
11
2018

DST #4 **Formation: Mississippi** **Test Interval: 5228 - 5240'** **Total Depth: 5240'**
Time On: 12:18 12/11 Time Off: 20:35 12/11
Time On Bottom: 14:43 12/11 Time Off Bottom: 18:18 12/11

Electronic Volume
Estimate:
591'

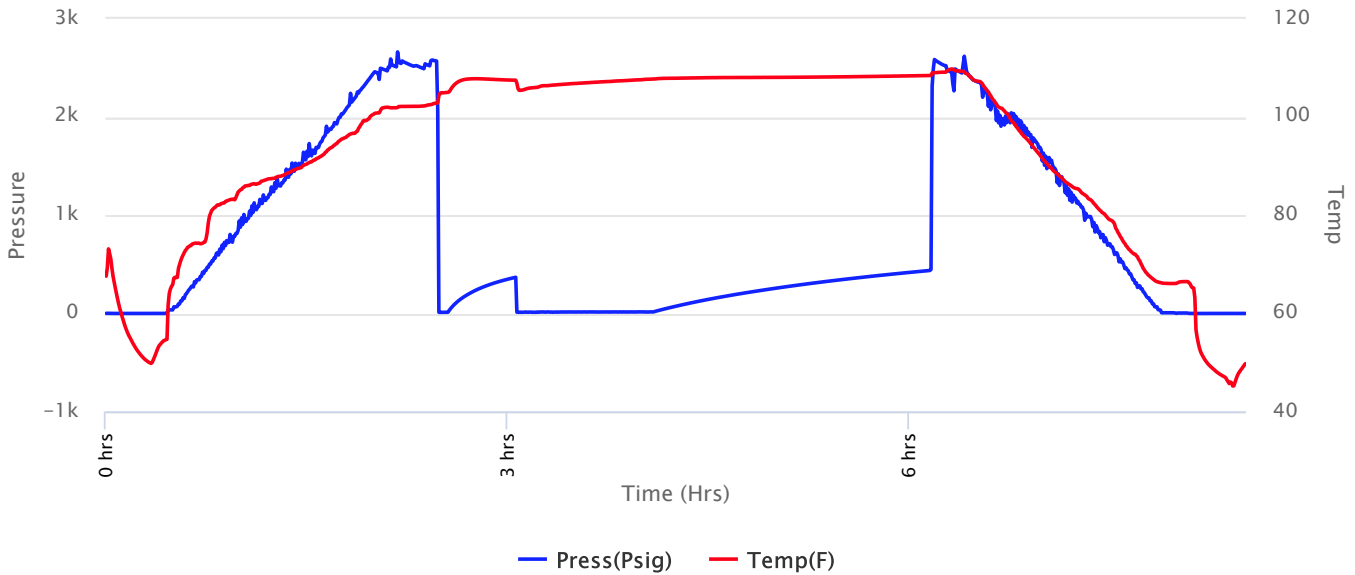
1st Open
Minutes: 5
Current Reading:
15.8" at 5 min
Max Reading: 15.8"

1st Close
Minutes: 30
Current Reading:
0" at 30 min
Max Reading: 0"

2nd Open
Minutes: 60
Current Reading:
27.5" at 60 min
Max Reading: 27.5"

2nd Close
Minutes: 120
Current Reading:
0" at 120 min
Max Reading: 0"

Inside Recorder





**Company: Mull Drilling
Company, Inc**
Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:
Uploading recovery &
pressures

DATE
December
11
2018

DST #4 **Formation:**
Mississippi

Test Interval: 5228 - 5240' **Total Depth: 5240'**

Time On: 12:18 12/11 Time Off: 20:35 12/11
Time On Bottom: 14:43 12/11 Time Off Bottom: 18:18 12/11

Recovered

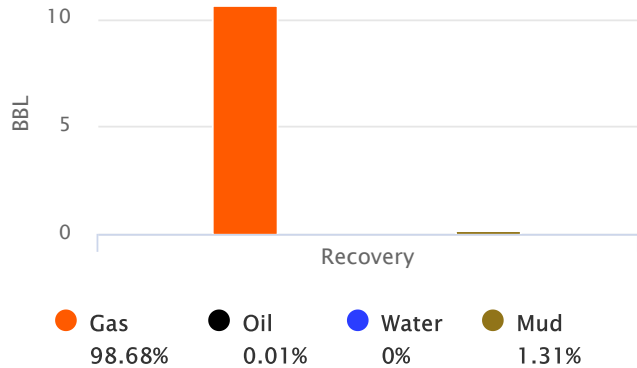
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
746	10.61558	G	100	0	0	0
10	0.1423	SLOCM	0	1	0	99

Total Recovered: 756 ft
Total Barrels Recovered: 10.75788

Reversed Out
NO

Initial Hydrostatic Pressure	2521	PSI
Initial Flow	10 to 11	PSI
Initial Closed in Pressure	367	PSI
Final Flow Pressure	10 to 13	PSI
Final Closed in Pressure	436	PSI
Final Hydrostatic Pressure	2523	PSI
Temperature	109	°F
Pressure Change Initial Close / Final Close	0.0	%

Recovery at a glance





**Company: Mull Drilling
Company, Inc**

Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:

Uploading recovery &
pressures

DATE

December

11

2018

DST #4

**Formation:
Mississippi**

**Test Interval: 5228 -
5240'**

Total Depth: 5240'

Time On: 12:18 12/11

Time Off: 20:35 12/11

Time On Bottom: 14:43 12/11

Time Off Bottom: 18:18 12/11

BUCKET MEASUREMENT:

1st Open: 1" Bob in 2 1/2 min

1st Close: Nobb

2nd Open: Bob. Instantly

2nd Close: Nobb

REMARKS:

Tool Sample: 5% Gas 1% Oil 0% Water 94% Mud



**Company: Mull Drilling
Company, Inc**

Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:

Uploading recovery &
pressures

DATE

December

11

2018

DST #4

**Formation:
Mississippi**

**Test Interval: 5228 -
5240'**

Total Depth: 5240'

Time On: 12:18 12/11

Time Off: 20:35 12/11

Time On Bottom: 14:43 12/11 Time Off Bottom: 18:18 12/11

Mud Properties

Mud Type: Chemical

Weight: 9.2

Viscosity: 64

Filtrate: 6.8

Chlorides: 5400 ppm



**Company: Mull Drilling
Company, Inc**
Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:
Uploading recovery &
pressures

DATE
December
12
2018

DST #5 **Formation:** Mississippi **Test Interval: 5250 - 5305'** **Total Depth: 5305'**
Time On: 10:00 12/12 Time Off: 18:34 12/12
Time On Bottom: 12:40 12/12 Time Off Bottom: 16:15 12/12

Electronic Volume
Estimate:
291'

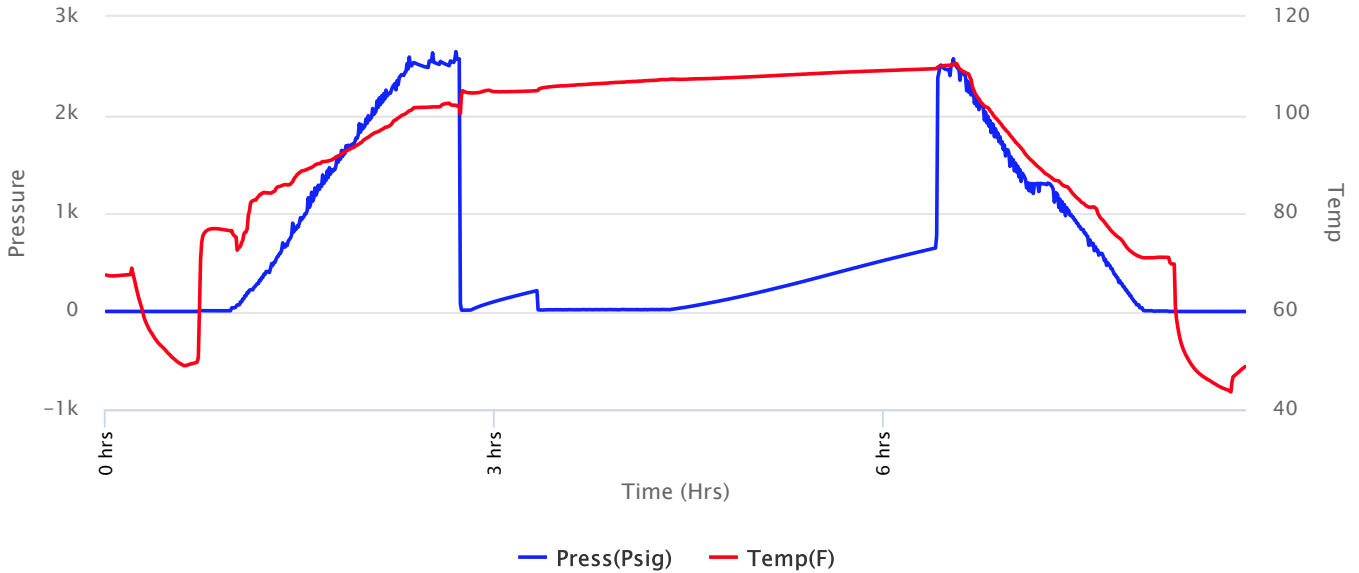
1st Open
Minutes: 5
Current Reading:
7.1" at 5 min
Max Reading: 7.1"

1st Close
Minutes: 30
Current Reading:
0" at 30 min
Max Reading: .1"

2nd Open
Minutes: 60
Current Reading:
13.8" at 60 min
Max Reading: 13.8"

2nd Close
Minutes: 120
Current Reading:
0" at 120 min
Max Reading: 0"

Inside Recorder





**Company: Mull Drilling
Company, Inc**
Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:
Uploading recovery &
pressures

DATE
December
12
2018

DST #5 **Formation:**
Mississippi

Test Interval: 5250 - 5305' **Total Depth: 5305'**

Time On: 10:00 12/12 Time Off: 18:34 12/12
Time On Bottom: 12:40 12/12 Time Off Bottom: 16:15 12/12

Recovered

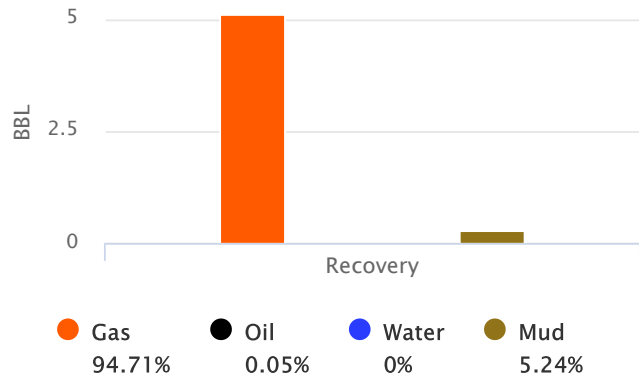
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
358	5.09434	G	100	0	0	0
20	0.2846	SLOCM	0	1	0	99

Total Recovered: 378 ft
Total Barrels Recovered: 5.37894

Reversed Out
NO

Initial Hydrostatic Pressure	2510	PSI
Initial Flow	12 to 12	PSI
Initial Closed in Pressure	210	PSI
Final Flow Pressure	15 to 16	PSI
Final Closed in Pressure	645	PSI
Final Hydrostatic Pressure	2493	PSI
Temperature	110	°F
Pressure Change Initial Close / Final Close	0.0	%

Recovery at a glance





**Company: Mull Drilling
Company, Inc**

Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:

Uploading recovery &
pressures

DATE

December

12

2018

DST #5

**Formation:
Mississippi**

**Test Interval: 5250 -
5305'**

Total Depth: 5305'

Time On: 10:00 12/12

Time Off: 18:34 12/12

Time On Bottom: 12:40 12/12

Time Off Bottom: 16:15 12/12

BUCKET MEASUREMENT:

1st Open: 1/2" built to 7"

1st Close: Built to wsb

2nd Open: 5" Bob in 43 min

2nd Close: Nobb

REMARKS:

Tool Sample: 5% Gas 5% Oil 0% Water 90% Mud



**Company: Mull Drilling
Company, Inc**

Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:

Uploading recovery &
pressures

DATE

December

12

2018

DST #5

**Formation:
Mississippi**

**Test Interval: 5250 -
5305'**

Total Depth: 5305'

Time On: 10:00 12/12

Time Off: 18:34 12/12

Time On Bottom: 12:40 12/12 Time Off Bottom: 16:15 12/12

Mud Properties

Mud Type: Chemical

Weight: 9.2

Viscosity: 64

Filtrate: 6.0

Chlorides: 8400 ppm



**Company: Mull Drilling
Company, Inc**
Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:
Uploading recovery &
pressures

DATE
December
16
2018

DST #6 **Formation: Simpson sand** **Test Interval: 6070 - 6123'** **Total Depth: 6123'**
Time On: 11:35 12/16 Time Off: 18:33 12/16
Time On Bottom: 14:32 12/16 Time Off Bottom: 16:07 12/16

Electronic Volume
Estimate:
2'

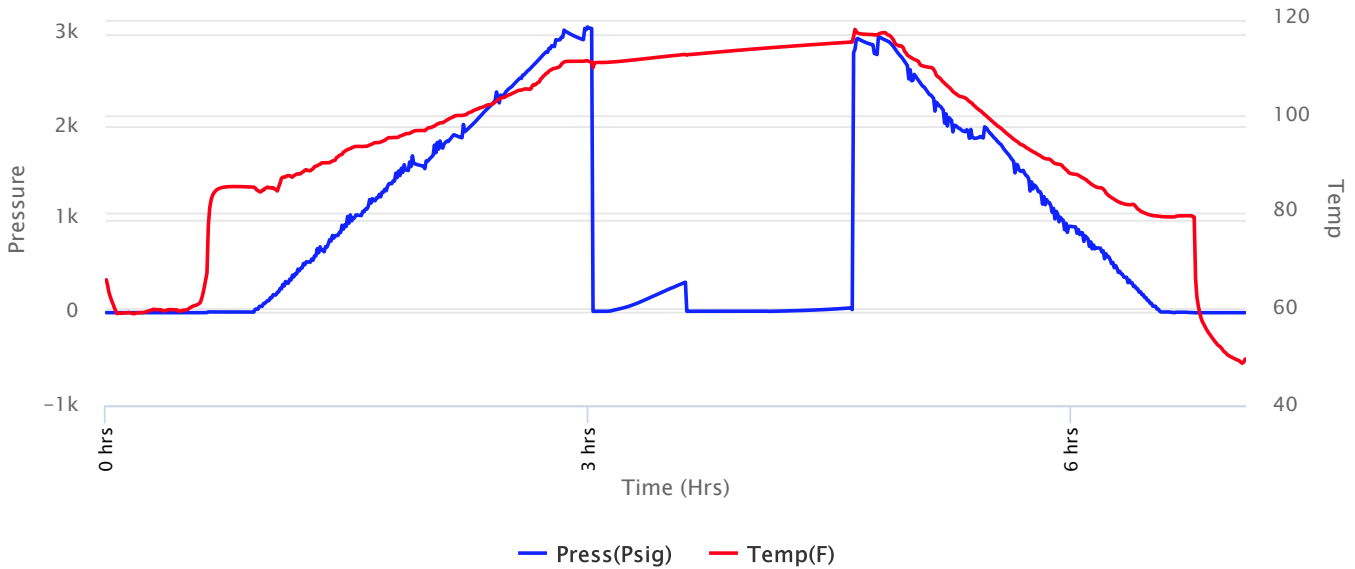
1st Open
Minutes: 5
Current Reading:
.1" at 5 min
Max Reading: .1"

1st Close
Minutes: 30
Current Reading:
0" at 30 min
Max Reading: 0"

2nd Open
Minutes: 30
Current Reading:
0" at 30 min
Max Reading: 0"

2nd Close
Minutes: 30
Current Reading:
0" at 30 min
Max Reading: 0"

Inside Recorder





**Company: Mull Drilling
Company, Inc**
Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:
Uploading recovery &
pressures

DATE
December
16
2018

DST #6 **Formation: Simpson sand** **Test Interval: 6070 - 6123'** **Total Depth: 6123'**
Time On: 11:35 12/16 Time Off: 18:33 12/16
Time On Bottom: 14:32 12/16 Time Off Bottom: 16:07 12/16

Recovered

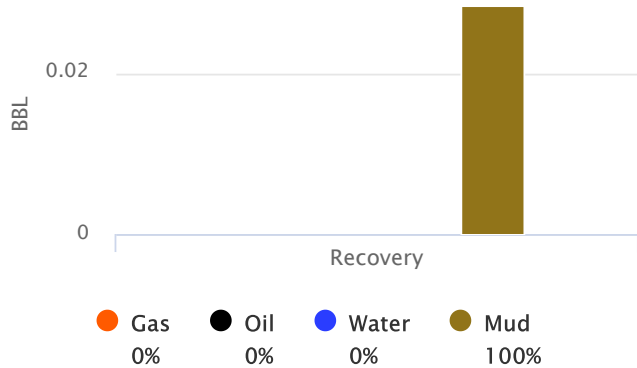
Foot	BBLS	Description of Fluid	Gas %	Oil %	Water %	Mud %
2	0.02846	M	0	0	0	100

Total Recovered: 2 ft
Total Barrels Recovered: 0.02846

**Reversed Out
NO**

Initial Hydrostatic Pressure	2953	PSI
Initial Flow	12 to 13	PSI
Initial Closed in Pressure	327	PSI
Final Flow Pressure	13 to 14	PSI
Final Closed in Pressure	50	PSI
Final Hydrostatic Pressure	2941	PSI
Temperature	116	°F
Pressure Change Initial Close / Final Close	84.8	%

Recovery at a glance





**Company: Mull Drilling
Company, Inc**

Lease: Haller #1-3

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:

Uploading recovery &
pressures

DATE

December

16

2018

DST #6	Formation: Simpson sand	Test Interval: 6070 - 6123'	Total Depth: 6123'
	Time On: 11:35 12/16	Time Off: 18:33 12/16	
	Time On Bottom: 14:32 12/16	Time Off Bottom: 16:07 12/16	

BUCKET MEASUREMENT:

1st Open: Wsb no build
1st Close: Nobb
2nd Open: No blow no build
2nd Close: Nobb

REMARKS:

Tool Sample: 0% Gas 0% Oil 0% Water 100% Mud



**Company: Mull Drilling
Company, Inc
Lease: Haller #1-3**

SEC: 3 TWN: 30S RNG: 21W
County: CLARK
State: Kansas
Drilling Contractor: Duke Drilling
Company, Inc - Rig 1
Elevation: 2363 GL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 284

Operation:
Uploading recovery &
pressures

DATE
December
16
2018

DST #6 Formation: Simpson sand Test Interval: 6070 - 6123' Total Depth: 6123'
Time On: 11:35 12/16 Time Off: 18:33 12/16
Time On Bottom: 14:32 12/16 Time Off Bottom: 16:07 12/16

Down Hole Makeup

Heads Up: 12.23 FT	Packer 1: 6065 FT
Drill Pipe: 6049.66 FT <i>ID-3 1/2</i>	Packer 2: 6070 FT
Weight Pipe: FT <i>ID-2 7/8</i>	Top Recorder: 6054.42 FT
Collars: FT <i>ID-2 1/4</i>	Bottom Recorder: 6108 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
	Surface Choke: 1"
	Bottom Choke: 5/8"

Total Anchor: 53

Anchor Makeup

Packer Sub: 1 FT

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

Change Over: 1 FT

Drill Pipe: (in anchor): 31.5 FT
ID-3 1/2

Change Over: .5 FT

Perforations: (below): 16 FT
4 1/2-FH

KEVIN L. KESSLER

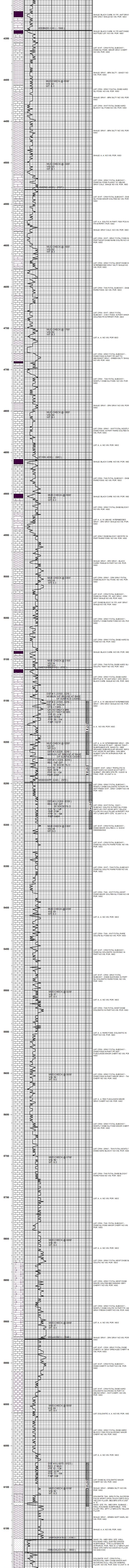
CONSULTING PETROLEUM GEOLOGIST

(316) 522 - 7338

OPERATOR : MULL DRILLING CO. INC.			ELEVATION		
LEASE : HALLER		WELL # : 1 - 3		KB: 2375'	
LOCATION : 1867 FSL & 1890' FWL			GL: 2363'		
SEC : 03	TWP : 30 S	RGE : 21 W		MEASUREMENTS FROM:	
COUNTY : CLARK		STATE : KANSAS			
CONTRACTOR: DUKE DRILLING RIG # 1			CASING RECORD:		
COMM: 12 - 03 - 2018		LTD: 12 - 17 - 2018		8 5/8" @ 606'	
RTD: 6220'		LTD: 6219'		PRODUCTION: NONE	
GEOLOGICAL SUPERVISION FROM: 4100'			TO: RTD		
SAMPLES SAVED FROM: 4100'			TO: RTD		

FORMATION:	TOP	LOG	DATUM	TOP	SAMPLE	DATUM	COMP.	ELECTRICAL SURVEYS:
HEEBNER	4340	-	1965	4340	-	1965	.	DIL
LANSING	4532	-	2157	4532	-	2157	.	CNL/CDL
STARK	4858	-	2483	4858	-	2483	.	MICRO
CHEROKEE	5112	-	2737	5112	-	2737	.	SONIC
MISSISSIPPI	5248	-	2873	5248	-	2873	.	
VIOLA	5921	-	3546	5921	-	3546	.	
SIMPSON	6163	-	3788	6163	-	3788	.	
ARBUCKLE	6178	-	3803	6178	-	3803	.	

REFERENCE WELL FOR STRUCTURAL COMPARISON:



COMMENTS: DUE TO NEGATIVE DST RESULTS THIS WELL WAS PLUGGED AND ABANDONED

KEVIN L. KESSLER