

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
--	---

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
---	---	------------------------------------

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:	
----------------	-------	---------	------------	--



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 Est.
Field Name: Wildcat
Pool: Wildcat
Job Number: 272

Operation:
Uploading recovery & pressures

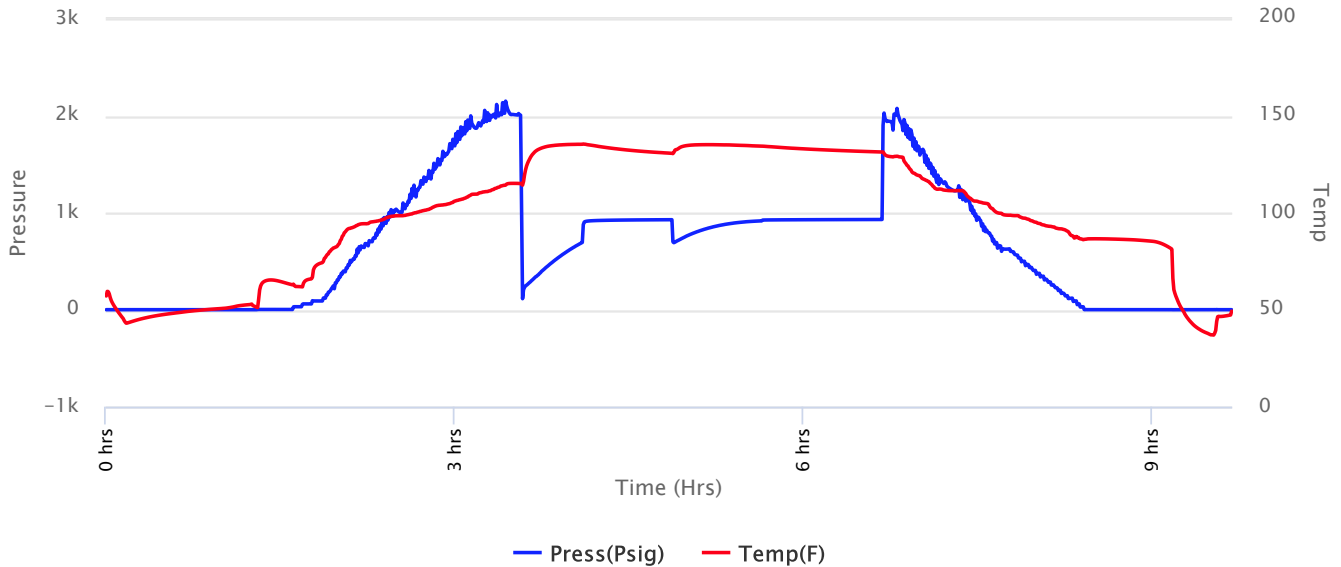
DATE
November
11
2018

DST #1 **Formation: Lansing "J"** **Test Interval: 4228 - 4273'** **Total Depth: 4273'**
Time On: 02:52 11/11 Time Off: 12:18 11/11
Time On Bottom: 06:21 11/11 Time Off Bottom: 09:21 11/11

Electronic Volume Estimate:
2372'

<u>1st Open</u>	<u>1st Close</u>	<u>2nd Open</u>	<u>2nd Close</u>
Minutes: 30	Minutes: 45	Minutes: 45	Minutes: 60
Current Reading: 161.4" at 30 min	Current Reading: 0" at 45 min	Current Reading: 70.1" at 45 min	Current Reading: 0" at 60 min
Max Reading: 161.4"	Max Reading: 0"	Max Reading: 70.1"	Max Reading: 0"

Inside Recorder





Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
 County: LANE
 State: Kansas
 Drilling Contractor: WW Drilling, LLC - Rig 12
 Elevation: 2925 Est.
 Field Name: Wildcat
 Pool: Wildcat
 Job Number: 272

Operation:
 Uploading recovery & pressures

DATE
 November
11
 2018

DST #1 **Formation: Lansing "J"** **Test Interval: 4228 - 4273'** **Total Depth: 4273'**
 Time On: 02:52 11/11 Time Off: 12:18 11/11
 Time On Bottom: 06:21 11/11 Time Off Bottom: 09:21 11/11

Recovered

Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
705	10.03215	MCW	0	0	75	25
1310	16.9733204	SLMCW	0	0	98	2

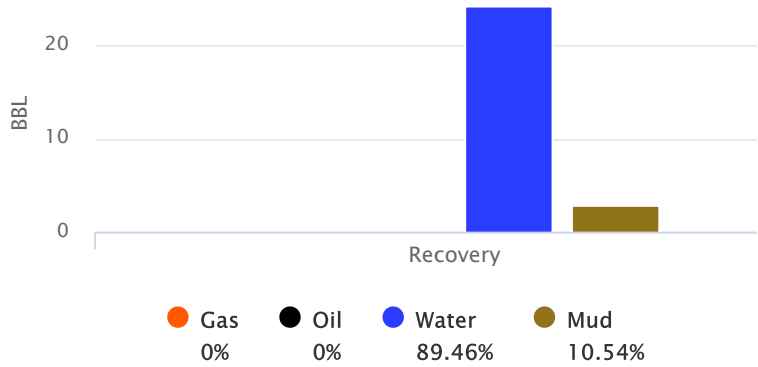
Total Recovered: 2015 ft

Total Barrels Recovered: 27.0054704

Reversed Out
 NO

Initial Hydrostatic Pressure	2008	PSI
Initial Flow	114 to 694	PSI
Initial Closed in Pressure	928	PSI
Final Flow Pressure	692 to 915	PSI
Final Closed in Pressure	931	PSI
Final Hydrostatic Pressure	2005	PSI
Temperature	136	°F
Pressure Change Initial Close / Final Close	0.0	%

Recovery at a glance





**Company: Ritchie Exploration,
Inc.**

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 12
Elevation: 2925 Est.
Field Name: Wildcat
Pool: Wildcat
Job Number: 272

Operation:
Uploading recovery &
pressures

DATE
November
11
2018

DST #1	Formation: Lansing "J"	Test Interval: 4228 - 4273'	Total Depth: 4273'
	Time On: 02:52 11/11	Time Off: 12:18 11/11	
	Time On Bottom: 06:21 11/11	Time Off Bottom: 09:21 11/11	

BUCKET MEASUREMENT:

1st Open: 2 1/2" to BOB 2 min.
1st Close: No BB
2nd Open: 1 1/2" to BOB 4 min.
2nd Close: No BB

REMARKS:

Tool Sample: 0% Gas 0% Oil 92% Water 8% Mud
Ph: 6.0
Measured RW: .35 @ 54 degrees °F
RW at Formation Temp: 0.149 @ 136 °F
Chlorides: 29,000 ppm



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 Est.
Field Name: Wildcat
Pool: Wildcat
Job Number: 272

Operation:
Uploading recovery & pressures

DATE
November
11
2018

DST #1 **Formation: Lansing "J"** **Test Interval: 4228 - 4273'** **Total Depth: 4273'**
Time On: 02:52 11/11 Time Off: 12:18 11/11
Time On Bottom: 06:21 11/11 Time Off Bottom: 09:21 11/11

Down Hole Makeup

Heads Up: 31.7 FT	Packer 1: 4223 FT
Drill Pipe: 4047.97 FT <i>ID-3 1/2</i>	Packer 2: 4228 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4212.42 FT
Collars: 179.16 FT <i>ID-2 1/4</i>	Bottom Recorder: 4230 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	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 1/2</i>	
Change Over: 0 FT	
Perforations: (below): 44 FT <i>4 1/2-FH</i>	



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 Est.
Field Name: Wildcat
Pool: Wildcat
Job Number: 272

Operation:
Uploading recovery & pressures

DATE
November
11
2018

DST #1 Formation: Lansing "J" Test Interval: 4228 - 4273' Total Depth: 4273'
Time On: 02:52 11/11 Time Off: 12:18 11/11
Time On Bottom: 06:21 11/11 Time Off Bottom: 09:21 11/11

Mud Properties

Mud Type: Chemical **Weight:** 9.0 **Viscosity:** 61 **Filtrate:** 6.2 **Chlorides:** 2,400 ppm



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 Est.
Field Name: Wildcat
Pool: Wildcat
Job Number: 272

Operation:
Uploading recovery & pressures

DATE
November
11
2018

DST #1 **Formation: Lansing "J"** **Test Interval: 4228 - 4273'** **Total Depth: 4273'**
Time On: 02:52 11/11 Time Off: 12:18 11/11
Time On Bottom: 06:21 11/11 Time Off Bottom: 09:21 11/11

Gas Volume Report

1st Open

2nd Open

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

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



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery & pressures

DATE
November
12
2018

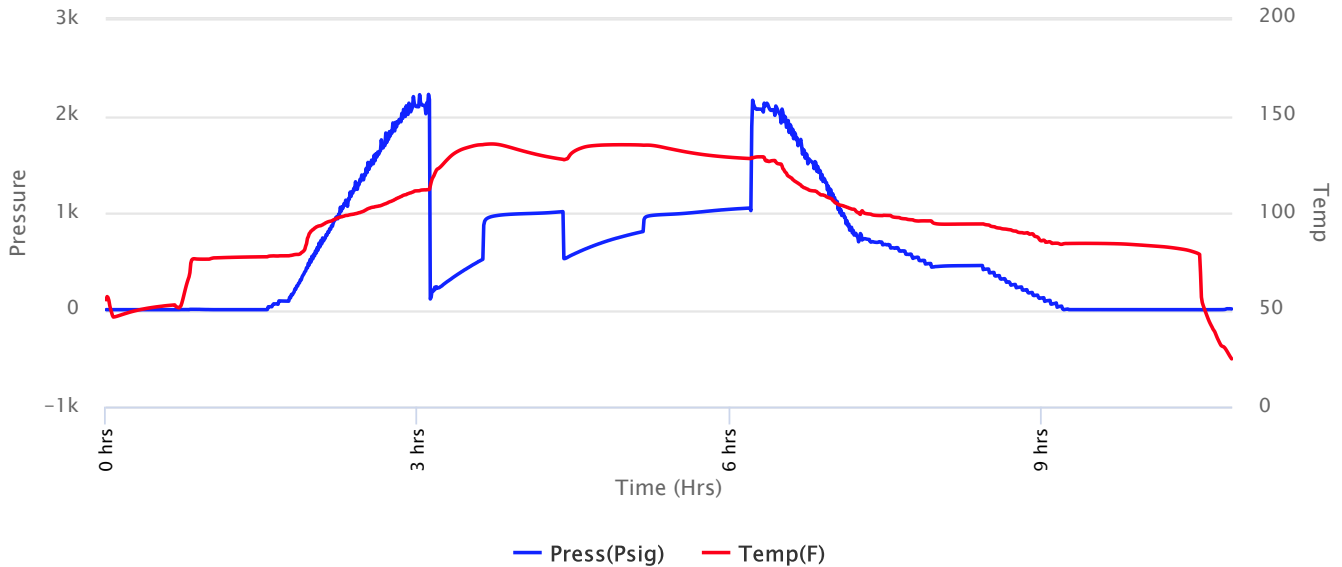
DST #2 **Formation: Altamont** **Test Interval: 4385 - 4464'** **Total Depth: 4464'**

Time On: 13:33 11/12 Time Off: 00:36 11/13
Time On Bottom: 16:35 11/12 Time Off Bottom: 19:35 11/12

Electronic Volume Estimate:
2807'

<u>1st Open</u>	<u>1st Close</u>	<u>2nd Open</u>	<u>2nd Close</u>
Minutes: 30	Minutes: 45	Minutes: 45	Minutes: 60
Current Reading: 157.8" at 30 min	Current Reading: 0" at 45 min	Current Reading: 127.4" at 45 min	Current Reading: .7" at 60 min
Max Reading: 157.8"	Max Reading: 0"	Max Reading: 127.4"	Max Reading: .7"

Inside Recorder





Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
 County: LANE
 State: Kansas
 Drilling Contractor: WW Drilling, LLC - Rig 12
 Elevation: 2925 EGL
 Field Name: Wildcat
 Pool: WILDCAT
 Job Number: 272

Operation:
 Uploading recovery & pressures

DATE
 November
12
 2018

DST #2 **Formation: Altamont** **Test Interval: 4385 - 4464'** **Total Depth: 4464'**

Time On: 13:33 11/12 Time Off: 00:36 11/13
 Time On Bottom: 16:35 11/12 Time Off Bottom: 19:35 11/12

Recovered

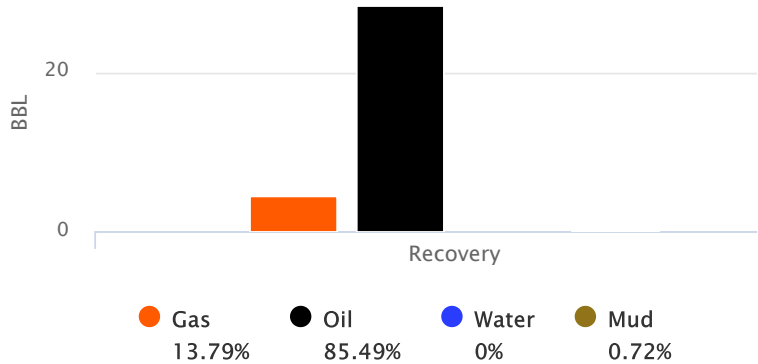
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
250	3.5575	G	100	0	0	0
1895	26.96585	SLGCO	2	98	0	0
305	2.6721704	SLMCSLGCO	18	73	0	9

Total Recovered: 2450 ft

Total Barrels Recovered: 33.1955204

Reversed Out
 NO

Recovery at a glance



Initial Hydrostatic Pressure	2115	PSI
Initial Flow	111 to 520	PSI
Initial Closed in Pressure	1012	PSI
Final Flow Pressure	527 to 807	PSI
Final Closed in Pressure	1049	PSI
Final Hydrostatic Pressure	2095	PSI
Temperature	136	°F
Pressure Change Initial Close / Final Close	0.0	%



**Company: Ritchie Exploration,
Inc.**

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery &
pressures

DATE
November
12
2018

DST #2 Formation: Altamont Test Interval: 4385 - Total Depth: 4464'
4464'
Time On: 13:33 11/12 Time Off: 00:36 11/13
Time On Bottom: 16:35 11/12 Time Off Bottom: 19:35 11/12

BUCKET MEASUREMENT:

1st Open: 2" to BOB 2 1/2 min.
1st Close: Surface BB
2nd Open: 2" to BOB 3 1/2 min.
2nd Close: 1/2 inch BB

REMARKS:

Tool Sample: 10% Gas 45% Oil 0% Water 45% Mud

Gravity: 34 @ 60 °F



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery & pressures

DATE
November
12
2018

DST #2 **Formation: Altamont** **Test Interval: 4385 - 4464'** **Total Depth: 4464'**
Time On: 13:33 11/12 Time Off: 00:36 11/13
Time On Bottom: 16:35 11/12 Time Off Bottom: 19:35 11/12

Down Hole Makeup

Heads Up: 29.86 FT	Packer 1: 4380 FT
Drill Pipe: 4203.13 FT <i>ID-3 1/2</i>	Packer 2: 4385 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4369.42 FT
Collars: 179.16 FT <i>ID-2 1/4</i>	Bottom Recorder: 4454 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: 79	Surface Choke: 1"
Anchor Makeup	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 2 FT <i>4 1/2-FH</i>	
Change Over: 1 FT	
Drill Pipe: (in anchor): 63.00 FT <i>ID-3 1/2</i>	
Change Over: 1 FT	
Perforations: (below): 11 FT <i>4 1/2-FH</i>	



**Company: Ritchie Exploration,
Inc.**

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery &
pressures

DATE
November
12
2018

DST #2 Formation: Altamont Test Interval: 4385 - Total Depth: 4464'
4464'
Time On: 13:33 11/12 Time Off: 00:36 11/13
Time On Bottom: 16:35 11/12 Time Off Bottom: 19:35 11/12

Mud Properties

Mud Type: Chemical **Weight:** 9.3 **Viscosity:** 49 **Filtrate:** 7.2 **Chlorides:** 2,800 ppm



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery & pressures

DATE
November
12
2018

DST #2 Formation: Altamont Test Interval: 4385 - 4464' Total Depth: 4464'
Time On: 13:33 11/12 Time Off: 00:36 11/13
Time On Bottom: 16:35 11/12 Time Off Bottom: 19:35 11/12

Gas Volume Report

1st Open

2nd Open

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

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



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery & pressures

DATE
November
13
2018

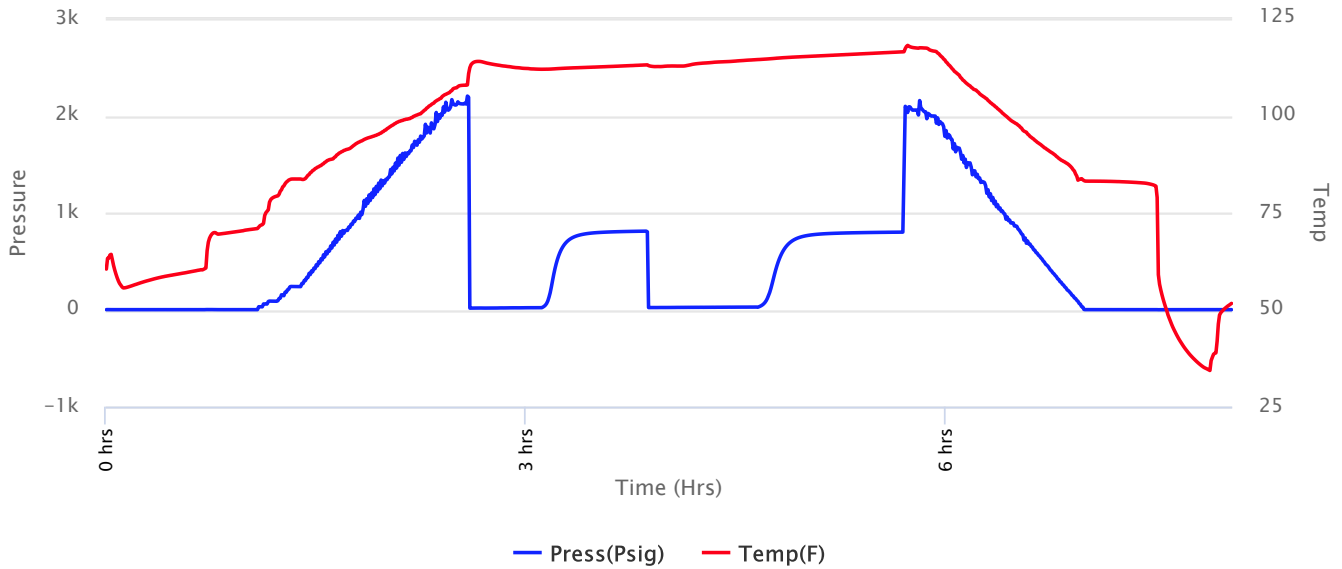
DST #3 Formation: Pawnee Test Interval: 4466 - 4502' Total Depth: 4502'

Time On: 12:12 11/13 Time Off: 20:03 11/13
Time On Bottom: 14:44 11/13 Time Off Bottom: 17:44 11/13

Electronic Volume Estimate:
41'

<u>1st Open</u>	<u>1st Close</u>	<u>2nd Open</u>	<u>2nd Close</u>
Minutes: 30	Minutes: 45	Minutes: 45	Minutes: 60
Current Reading: 1.2" at 30 min	Current Reading: 0" at 45 min	Current Reading: 0" at 45 min	Current Reading: 0" at 60 min
Max Reading: 1.2"	Max Reading: 0"	Max Reading: 0"	Max Reading: 0"

Inside Recorder





Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
 County: LANE
 State: Kansas
 Drilling Contractor: WW Drilling, LLC - Rig 12
 Elevation: 2925 EGL
 Field Name: Wildcat
 Pool: WILDCAT
 Job Number: 272

Operation:
 Uploading recovery & pressures

DATE
 November
13
 2018

DST #3 **Formation: Pawnee** **Test Interval: 4466 - 4502'** **Total Depth: 4502'**
 Time On: 12:12 11/13 Time Off: 20:03 11/13
 Time On Bottom: 14:44 11/13 Time Off Bottom: 17:44 11/13

Recovered

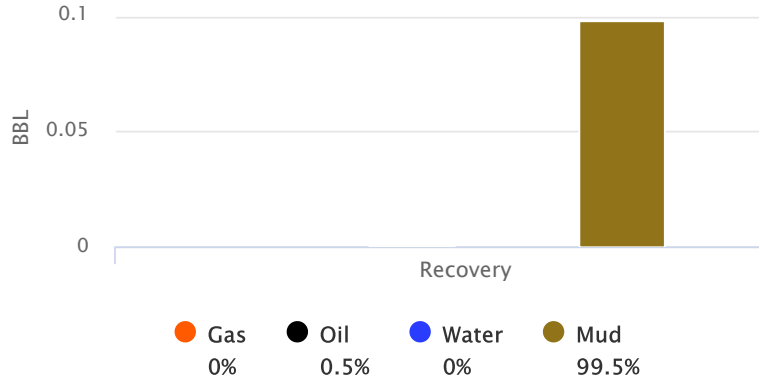
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
20	0.0984	M (trace O)	0	.5	0	99.5

Total Recovered: 20 ft
 Total Barrels Recovered: 0.0984

Reversed Out
 NO

Initial Hydrostatic Pressure	2121	PSI
Initial Flow	16 to 21	PSI
Initial Closed in Pressure	804	PSI
Final Flow Pressure	22 to 28	PSI
Final Closed in Pressure	800	PSI
Final Hydrostatic Pressure	2098	PSI
Temperature	117	°F
Pressure Change Initial Close / Final Close	0.4	%

Recovery at a glance





**Company: Ritchie Exploration,
Inc.**

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery &
pressures

DATE
November
13
2018

DST #3 Formation: Pawnee Test Interval: 4466 - Total Depth: 4502'
4502'
Time On: 12:12 11/13 Time Off: 20:03 11/13
Time On Bottom: 14:44 11/13 Time Off Bottom: 17:44 11/13

BUCKET MEASUREMENT:

1st Open: 1/4" building to 3/4"
1st Close: No BB
2nd Open: Surface blow
2nd Close: No BB

REMARKS:

Tool Sample: 0% Gas 3% Oil 0% Water 97% Mud



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery & pressures

DATE
November
13
2018

DST #3 Formation: Pawnee Test Interval: 4466 - 4502' Total Depth: 4502'
Time On: 12:12 11/13 Time Off: 20:03 11/13
Time On Bottom: 14:44 11/13 Time Off Bottom: 17:44 11/13

Down Hole Makeup

Heads Up: 11.86 FT	Packer 1: 4461 FT
Drill Pipe: 4266.13 FT <i>ID-3 1/2</i>	Packer 2: 4466 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4450.42 FT
Collars: 179.16 FT <i>ID-2 1/4</i>	Bottom Recorder: 4468 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: 36	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 1/2</i>	
Change Over: 0 FT	
Perforations: (below): 35 FT <i>4 1/2-FH</i>	



**Company: Ritchie Exploration,
Inc.**

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery &
pressures

DATE
November
13
2018

DST #3 Formation: Pawnee Test Interval: 4466 - Total Depth: 4502'
4502'
Time On: 12:12 11/13 Time Off: 20:03 11/13
Time On Bottom: 14:44 11/13 Time Off Bottom: 17:44 11/13

Mud Properties

Mud Type: Chemical **Weight:** 9.15 **Viscosity:** 50 **Filtrate:** 8.0 **Chlorides:** 3,900 ppm



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery & pressures

DATE
November
13
2018

DST #3 Formation: Pawnee Test Interval: 4466 - 4502' Total Depth: 4502'
Time On: 12:12 11/13 Time Off: 20:03 11/13
Time On Bottom: 14:44 11/13 Time Off Bottom: 17:44 11/13

Gas Volume Report

1st Open

2nd Open

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

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



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery & pressures

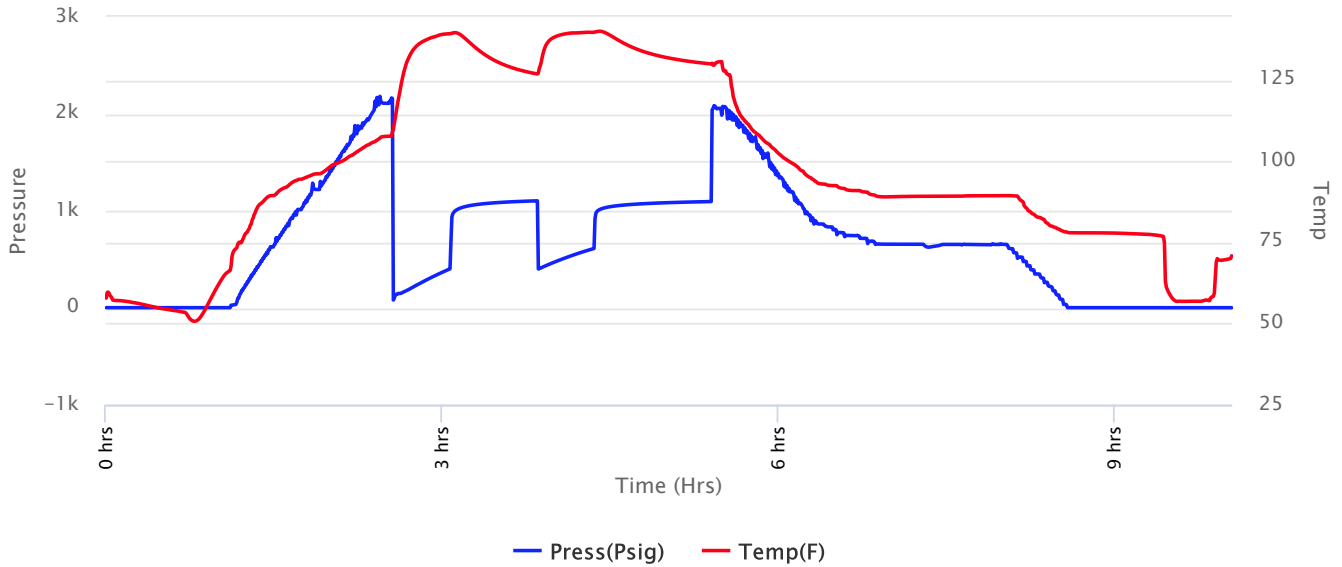
DATE
November
14
2018

DST #4 **Formation: Myric/Ft. Scott** **Test Interval: 4500 - 4550'** **Total Depth: 4550'**
Time On: 06:10 11/14 Time Off: 15:57 11/14
Time On Bottom: 08:40 11/14 Time Off Bottom: 11:25 11/14

Electronic Volume Estimate:
4035'

<u>1st Open</u>	<u>1st Close</u>	<u>2nd Open</u>	<u>2nd Close</u>
Minutes: 30	Minutes: 45	Minutes: 30	Minutes: 60
Current Reading: 284.5" at 30 min	Current Reading: 40.2" at 45 min	Current Reading: 146.8" at 30 min	Current Reading: 51.4" at 60 min
Max Reading: 284.5"	Max Reading: 40.2"	Max Reading: 146.8"	Max Reading: 51.4"

Inside Recorder





Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

BST #1 for - Diamond Testing, LLC

SEC: 29 TWN: 19S RNG: 30W
 County: LANE
 State: Kansas
 Drilling Contractor: WW Drilling, LLC - Rig 12
 Elevation: 2925 EGL
 Field Name: Wildcat
 Pool: WILDCAT
 Job Number: 272

Operation:
 Uploading recovery & pressures

DATE
 November
14
 2018

DST #4 **Formation: Myric/Ft. Scott** **Test Interval: 4500 - 4550'** **Total Depth: 4550'**
 Time On: 06:10 11/14 Time Off: 15:57 11/14
 Time On Bottom: 08:40 11/14 Time Off Bottom: 11:25 11/14

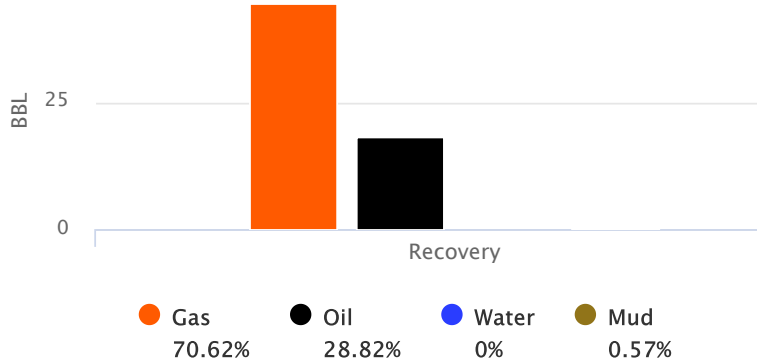
Recovered		Description of Fluid	Gas %	Oil %	Water %	Mud %
Foot	BBLs					
2915	41.48045	G	100	0	0	0
1425	20.27775	SLGCO	14	86	0	0
210	1.3203204	SLGCMCO	17	56	0	27

Total Recovered: 4550 ft
 Total Barrels Recovered: 63.0785204

Reversed Out
 NO

Initial Hydrostatic Pressure	2114	PSI
Initial Flow	80 to 401	PSI
Initial Closed in Pressure	1103	PSI
Final Flow Pressure	399 to 611	PSI
Final Closed in Pressure	1095	PSI
Final Hydrostatic Pressure	2084	PSI
Temperature	141	°F
Pressure Change Initial Close / Final Close	0.7	%

Recovery at a glance





**Company: Ritchie Exploration,
Inc.**

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery &
pressures

DATE
November
14
2018

DST #4	Formation: Myric/Ft. Scott	Test Interval: 4500 - 4550'	Total Depth: 4550'
	Time On: 06:10 11/14	Time Off: 15:57 11/14	
	Time On Bottom: 08:40 11/14	Time Off Bottom: 11:25 11/14	

BUCKET MEASUREMENT:

1st Open: 21/2" blow, building BOB 2 min.

1st Close: BOB 5 min.

2nd Open: 1" guiding to BOB 2 1/2 min.

2nd Close: BOB 5 min.

REMARKS:

Gas to surface 5 to 10 min into final shut-in

Tool Sample: 10% Gas 48% Oil 0% Water 42% Mud

Gravity: 38.5 @ 60 °F



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery & pressures

DATE
November
14
2018

DST #4 **Formation: Myric/Ft. Scott** **Test Interval: 4500 - 4550'** **Total Depth: 4550'**
Time On: 06:10 11/14 Time Off: 15:57 11/14
Time On Bottom: 08:40 11/14 Time Off Bottom: 11:25 11/14

Down Hole Makeup

Heads Up: 9.58 FT	Packer 1: 4494.72 FT
Drill Pipe: 4297.57 FT <i>ID-3 1/2</i>	Packer 2: 4499.72 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4484.14 FT
Collars: 179.16 FT <i>ID-2 1/4</i>	Bottom Recorder: 4538 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: 50.28	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): 31.28 FT <i>ID-3 1/2</i>	
Change Over: 1 FT	
Perforations: (below): 13 FT <i>4 1/2-FH</i>	



**Company: Ritchie Exploration,
Inc.**

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery &
pressures

DATE
November
14
2018

DST #4	Formation: Myric/Ft. Scott	Test Interval: 4500 - 4550'	Total Depth: 4550'
	Time On: 06:10 11/14	Time Off: 15:57 11/14	
	Time On Bottom: 08:40 11/14	Time Off Bottom: 11:25 11/14	

Mud Properties

Mud Type: Chemical **Weight:** 9.15 **Viscosity:** 50 **Filtrate:** 8.0 **Chlorides:** 3,900 ppm



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery & pressures

DATE
November
14
2018

DST #4 **Formation: Myric/Ft. Scott** **Test Interval: 4500 - 4550'** **Total Depth: 4550'**
Time On: 06:10 11/14 Time Off: 15:57 11/14
Time On Bottom: 08:40 11/14 Time Off Bottom: 11:25 11/14

Gas Volume Report

Remarks: GAS to surface about 5 to 10 min. I,to final shut-in

1st Open

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

2nd Open

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



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery & pressures

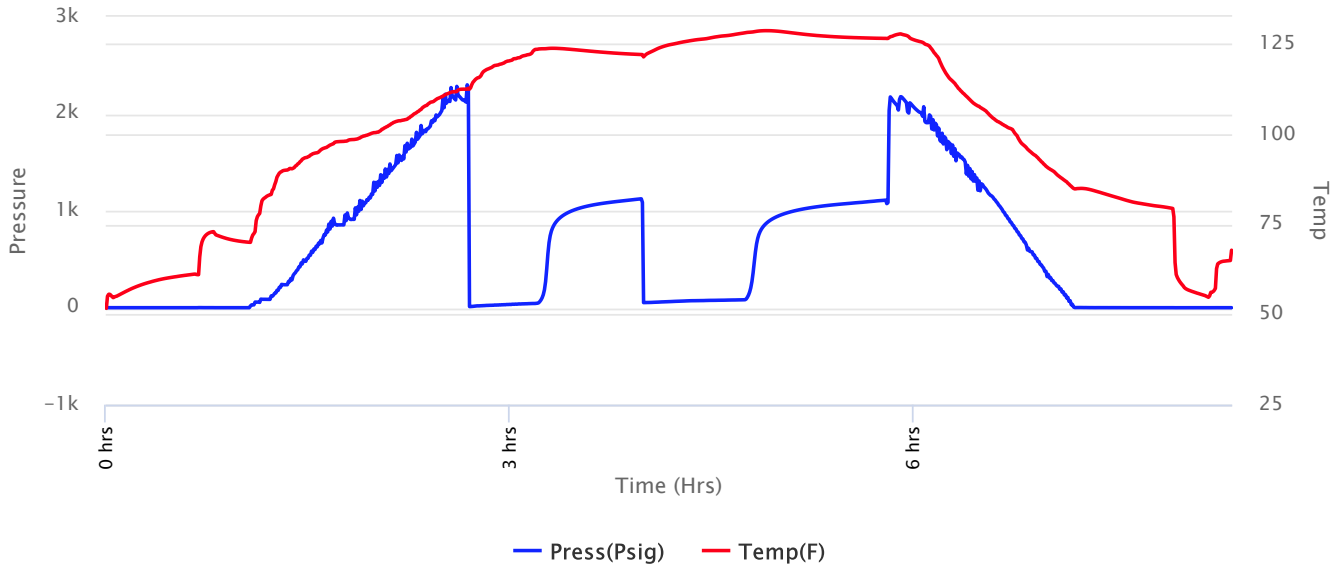
DATE
November
15
2018

DST #5 **Formation: Mississippian** **Test Interval: 4593 - 4632'** **Total Depth: 4632'**
Time On: 09:25 11/15 Time Off: 17:34 11/15
Time On Bottom: 12:02 11/15 Time Off Bottom: 15:02 11/15

Electronic Volume Estimate:
467'

<u>1st Open</u>	<u>1st Close</u>	<u>2nd Open</u>	<u>2nd Close</u>
Minutes: 30	Minutes: 45	Minutes: 45	Minutes: 60
Current Reading: 12.9" at 30 min	Current Reading: 0" at 45 min	Current Reading: 16.4" at 45 min	Current Reading: 0" at 60 min
Max Reading: 12.9"	Max Reading: 0"	Max Reading: 16.4"	Max Reading: 0"

Inside Recorder





Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
 County: LANE
 State: Kansas
 Drilling Contractor: WW Drilling, LLC - Rig 12
 Elevation: 2925 EGL
 Field Name: Wildcat
 Pool: WILDCAT
 Job Number: 272

Operation:
 Uploading recovery & pressures

DATE
 November
15
 2018

DST #5 **Formation: Mississippian** **Test Interval: 4593 - 4632'** **Total Depth: 4632'**
 Time On: 09:25 11/15 Time Off: 17:34 11/15
 Time On Bottom: 12:02 11/15 Time Off Bottom: 15:02 11/15

Recovered

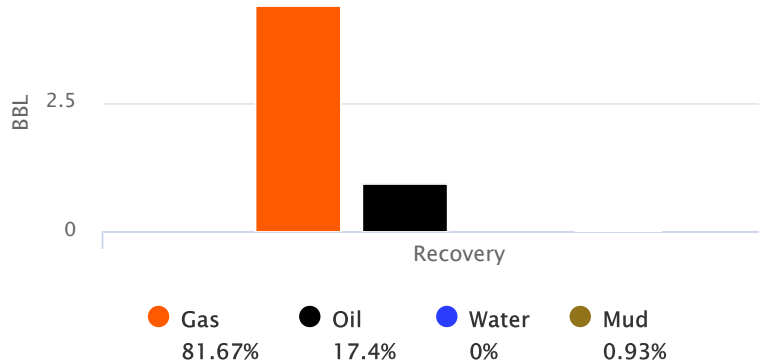
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
305	4.34015	G	100	0	0	0
130	0.7405204	SLGCO	2	98	0	0
60	0.2952	SLGCSLMCO	12	71	0	17

Total Recovered: 495 ft
 Total Barrels Recovered: 5.3758704

Reversed Out
 NO

Initial Hydrostatic Pressure	2121	PSI
Initial Flow	12 to 47	PSI
Initial Closed in Pressure	1123	PSI
Final Flow Pressure	53 to 83	PSI
Final Closed in Pressure	1110	PSI
Final Hydrostatic Pressure	2111	PSI
Temperature	129	°F
Pressure Change Initial Close / Final Close	1.2	%

Recovery at a glance





**Company: Ritchie Exploration,
Inc.**

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery &
pressures

DATE
November
15
2018

DST #5	Formation: Mississippian	Test Interval: 4593 - 4632'	Total Depth: 4632'
	Time On: 09:25 11/15	Time Off: 17:34 11/15	
	Time On Bottom: 12:02 11/15	Time Off Bottom: 15:02 11/15	

BUCKET MEASUREMENT:

1st Open: Surface blow builing to BOB 29 min.
1st Close: Surface blow lasting 20 min.
2nd Open: Surface blow building to BOB 33 min
2nd Close: No BB

REMARKS:

Tool Sample: 0% Gas 96% Oil 0% Water 4% Mud
Gravity: 34.3 @ 60 °F



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery & pressures

DATE
November
15
2018

DST #5 **Formation: Mississippian** **Test Interval: 4593 - 4632'** **Total Depth: 4632'**
Time On: 09:25 11/15 Time Off: 17:34 11/15
Time On Bottom: 12:02 11/15 Time Off Bottom: 15:02 11/15

Down Hole Makeup

Heads Up: 9.87999999999999 FT	Packer 1: 4588 FT
Drill Pipe: 4391.15 FT <i>ID-3 1/2</i>	Packer 2: 4593 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4577.42 FT
Collars: 179.16 FT <i>ID-2 1/4</i>	Bottom Recorder: 4595 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: 39	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 1/2</i>	
Change Over: 0 FT	
Perforations: (below): 38 FT <i>4 1/2-FH</i>	



**Company: Ritchie Exploration,
Inc.**

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery &
pressures

DATE
November
15
2018

DST #5 **Formation: Mississippian** **Test Interval: 4593 - 4632'** **Total Depth: 4632'**
Time On: 09:25 11/15 Time Off: 17:34 11/15
Time On Bottom: 12:02 11/15 Time Off Bottom: 15:02 11/15

Mud Properties

Mud Type: Chemical **Weight:** 9.1 **Viscosity:** 45 **Filtrate:** 7.6 **Chlorides:** 3,100 ppm



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery & pressures

DATE
November
15
2018

DST #5 **Formation: Mississippian** **Test Interval: 4593 - 4632'** **Total Depth: 4632'**
Time On: 09:25 11/15 Time Off: 17:34 11/15
Time On Bottom: 12:02 11/15 Time Off Bottom: 15:02 11/15

Gas Volume Report

1st Open

2nd Open

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

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



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery & pressures

DATE
November
16
2018

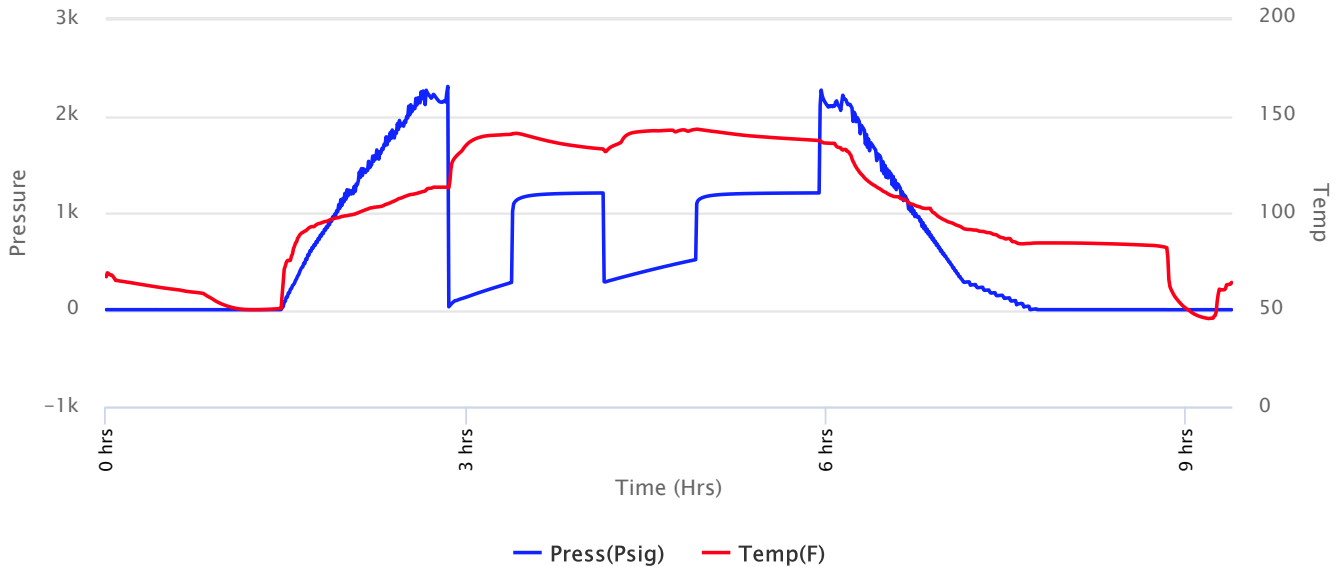
DST #6 Formation: Spergen Test Interval: 4633 - 4653' Total Depth: 4653'

Time On: 00:56 11/16 Time Off: 10:17 11/16
Time On Bottom: 03:43 11/16 Time Off Bottom: 06:43 11/16

Electronic Volume Estimate:
1499'

<u>1st Open</u>	<u>1st Close</u>	<u>2nd Open</u>	<u>2nd Close</u>
Minutes: 30	Minutes: 60	Minutes: 45	Minutes: 60
Current Reading: 59.7" at 30 min	Current Reading: 3.2" at 60 min	Current Reading: 59.2" at 45 min	Current Reading: .5" at 60 min
Max Reading: 59.7"	Max Reading: 3.2"	Max Reading: 59.2"	Max Reading: .5"

Inside Recorder





Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
 County: LANE
 State: Kansas
 Drilling Contractor: WW Drilling, LLC - Rig 12
 Elevation: 2925 EGL
 Field Name: Wildcat
 Pool: WILDCAT
 Job Number: 272

Operation:
 Uploading recovery & pressures

DATE
 November
16
 2018

DST #6 **Formation: Spergen** **Test Interval: 4633 - 4653'** **Total Depth: 4653'**
 Time On: 00:56 11/16 Time Off: 10:17 11/16
 Time On Bottom: 03:43 11/16 Time Off Bottom: 06:43 11/16

Recovered

Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
160	2.2768	G	100	0	0	0
660	9.3918	SLGCO	3	97	0	0
380	5.4074	SLMCO	0	97	0	3
240	1.7472204	SLGCSLOCHMCW	1	19	49	31

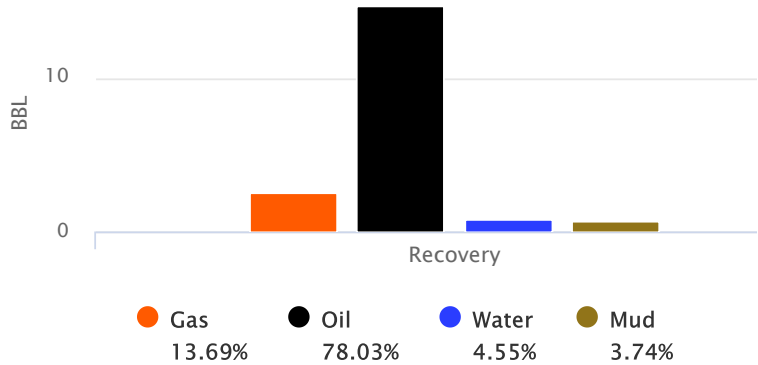
Total Recovered: 1440 ft

Total Barrels Recovered: 18.8232204

Reversed Out
 NO

Initial Hydrostatic Pressure	2142	PSI
Initial Flow	30 to 282	PSI
Initial Closed in Pressure	1204	PSI
Final Flow Pressure	287 to 512	PSI
Final Closed in Pressure	1204	PSI
Final Hydrostatic Pressure	2136	PSI
Temperature	144	°F
Pressure Change Initial Close / Final Close	0.0	%

Recovery at a glance





**Company: Ritchie Exploration,
Inc.**

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery &
pressures

DATE
November
16
2018

DST #6 Formation: Spergen Test Interval: 4633 - Total Depth: 4653'
4653'
Time On: 00:56 11/16 Time Off: 10:17 11/16
Time On Bottom: 03:43 11/16 Time Off Bottom: 06:43 11/16

BUCKET MEASUREMENT:

1st Open: 1" blow building to BOB 5 1/2 min.
1st Close: 3" BB
2nd Open: Surface blow building to BOB 9 1/2 min.
2nd Close: 1/4" BB

REMARKS:

Tool Sample: 0% Gas 61% Oil 24% Water 15% Mud
Gravity: 27.6 @ 60 °F
Ph: 6.0
Measured RW: .56 @ 61 degrees °F
RW at Formation Temp: 0.252 @ 144 °F
Chlorides: 13,000 ppm



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery & pressures

DATE
November
16
2018

DST #6 Formation: Spergen Test Interval: 4633 - 4653' Total Depth: 4653'
Time On: 00:56 11/16 Time Off: 10:17 11/16
Time On Bottom: 03:43 11/16 Time Off Bottom: 06:43 11/16

Down Hole Makeup

Heads Up: 32.99 FT	Packer 1: 4628 FT
Drill Pipe: 4454.26 FT <i>ID-3 1/2</i>	Packer 2: 4633 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4617.42 FT
Collars: 179.16 FT <i>ID-2 1/4</i>	Bottom Recorder: 4635 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: 20	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 1/2</i>	
Change Over: 0 FT	
Perforations: (below): 19 FT <i>4 1/2-FH</i>	



**Company: Ritchie Exploration,
Inc.**

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery &
pressures

DATE
November
16
2018

DST #6 Formation: Spergen Test Interval: 4633 - Total Depth: 4653'
4653'
Time On: 00:56 11/16 Time Off: 10:17 11/16
Time On Bottom: 03:43 11/16 Time Off Bottom: 06:43 11/16

Mud Properties

Mud Type: Chemical **Weight:** 9.1 **Viscosity:** 64 **Filtrate:** 7.2 **Chlorides:** 4,300 ppm



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery & pressures

DATE
November
16
2018

DST #6 Formation: Spergen Test Interval: 4633 - 4653' Total Depth: 4653'
Time On: 00:56 11/16 Time Off: 10:17 11/16
Time On Bottom: 03:43 11/16 Time Off Bottom: 06:43 11/16

Gas Volume Report

1st Open

2nd Open

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

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



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery & pressures

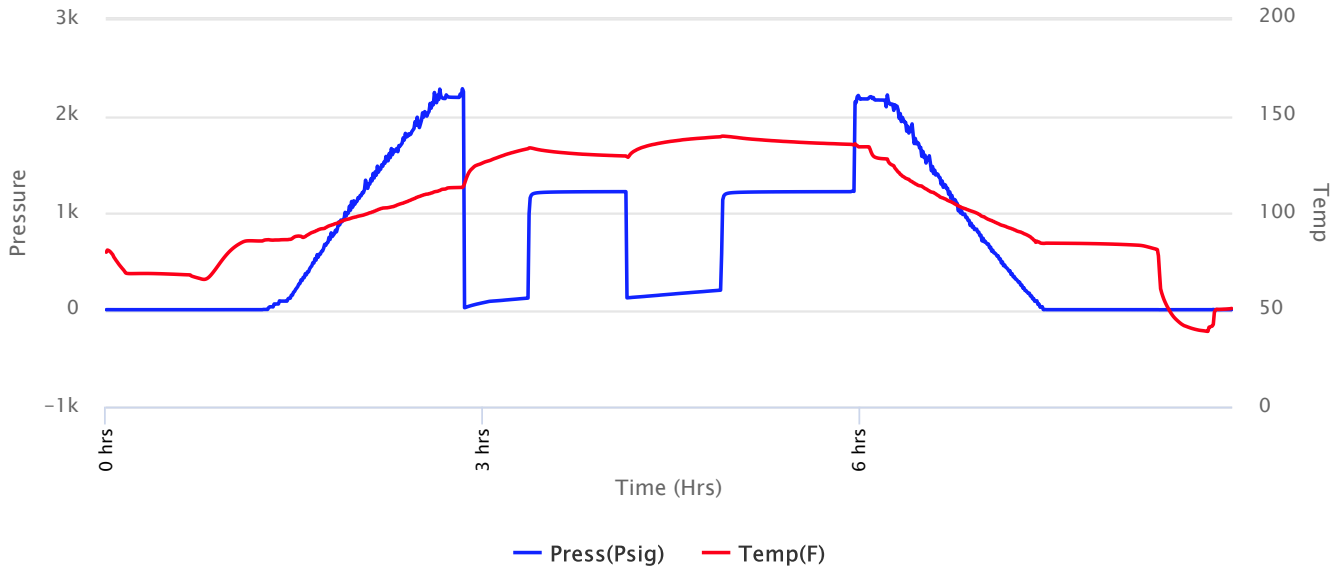
DATE
November
16
2018

DST #7 **Formation: Spergen #2** **Test Interval: 4656 - 4663'** **Total Depth: 4663'**
Time On: 17:04 11/16 Time Off: 01:48 11/17
Time On Bottom: 19:50 11/16 Time Off Bottom: 22:50 11/16

Electronic Volume Estimate:
526'

<u>1st Open</u>	<u>1st Close</u>	<u>2nd Open</u>	<u>2nd Close</u>
Minutes: 30	Minutes: 45	Minutes: 45	Minutes: 60
Current Reading: 13.9" at 30 min	Current Reading: 0" at 45 min	Current Reading: 19.2" at 45 min	Current Reading: .8" at 60 min
Max Reading: 13.9"	Max Reading: 0"	Max Reading: 19.2"	Max Reading: .8"

Inside Recorder





Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
 County: LANE
 State: Kansas
 Drilling Contractor: WW Drilling, LLC - Rig 12
 Elevation: 2925 EGL
 Field Name: Wildcat
 Pool: WILDCAT
 Job Number: 272

Operation:
 Uploading recovery & pressures

DATE
 November
16
 2018

DST #7 **Formation: Spergen #2** **Test Interval: 4656 - 4663'** **Total Depth: 4663'**
 Time On: 17:04 11/16 Time Off: 01:48 11/17
 Time On Bottom: 19:50 11/16 Time Off Bottom: 22:50 11/16

Recovered

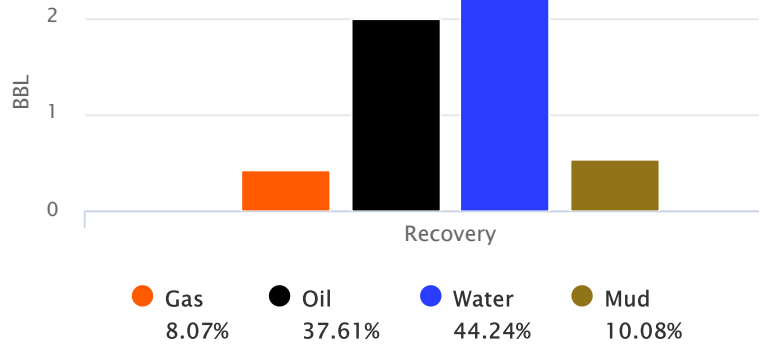
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
30	0.4269	G	100	0	0	0
125	1.77875	O	0	100	0	0
155	2.20565	SLOCMCW	0	8	69	23
180	0.8814672	SLMCSLOCW	0	4	93	3

Total Recovered: 490 ft
 Total Barrels Recovered: 5.2927672

Reversed Out
 NO

Initial Hydrostatic Pressure	2207	PSI
Initial Flow	21 to 120	PSI
Initial Closed in Pressure	1218	PSI
Final Flow Pressure	122 to 202	PSI
Final Closed in Pressure	1226	PSI
Final Hydrostatic Pressure	2196	PSI
Temperature	140	°F
Pressure Change Initial Close / Final Close	0.0	%

Recovery at a glance





**Company: Ritchie Exploration,
Inc.**

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery &
pressures

DATE
November
16
2018

DST #7	Formation: Spergen #2	Test Interval: 4656 - 4663'	Total Depth: 4663'
	Time On: 17:04 11/16	Time Off: 01:48 11/17	
	Time On Bottom: 19:50 11/16	Time Off Bottom: 22:50 11/16	

BUCKET MEASUREMENT:

1st Open: Surface blow building to BOB 27 1/2 min.
1st Close: Surface BB
2nd Open: Surface blow building to BOB 28 1/2 min.
2nd Close: 1/2" BB

REMARKS:

Tool Sample: 0% Gas 98% Oil 0% Water 2% Mud
Gravity: 27.3 @ 60 °F
Ph: 6.0
Measured RW: .7 @ 55 degrees °F
RW at Formation Temp: 0.295 @ 140 °F
Chlorides: 12,000 ppm



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery & pressures

DATE
November
16
2018

DST #7 Formation: Spergen #2 Test Interval: 4656 - 4663' Total Depth: 4663'
Time On: 17:04 11/16 Time Off: 01:48 11/17
Time On Bottom: 19:50 11/16 Time Off Bottom: 22:50 11/16

Down Hole Makeup

Heads Up: 9.98999999999999 FT	Packer 1: 4651 FT
Drill Pipe: 4454.26 FT <i>ID-3 1/2</i>	Packer 2: 4656 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4640.42 FT
Collars: 179.16 FT <i>ID-2 1/4</i>	Bottom Recorder: 4658 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: 7	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 1/2</i>	
Change Over: 0 FT	
Perforations: (below): 6 FT <i>4 1/2-FH</i>	



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
County: LANE
State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 12
Elevation: 2925 EGL
Field Name: Wildcat
Pool: WILDCAT
Job Number: 272

Operation:
Uploading recovery &
pressures

DATE
November
16
2018

DST #7 **Formation: Spergen #2** **Test Interval: 4656 - 4663'** **Total Depth: 4663'**
Time On: 17:04 11/16 Time Off: 01:48 11/17
Time On Bottom: 19:50 11/16 Time Off Bottom: 22:50 11/16

Mud Properties

Mud Type: Chemical **Weight:** 9.2 **Viscosity:** 55 **Filtrate:** 7.2 **Chlorides:** 3,600 ppm



Company: Ritchie Exploration, Inc.

Lease: Spece 29D #1

SEC: 29 TWN: 19S RNG: 30W
 County: LANE
 State: Kansas
 Drilling Contractor: WW Drilling, LLC - Rig 12
 Elevation: 2925 EGL
 Field Name: Wildcat
 Pool: WILDCAT
 Job Number: 272

Operation:
 Uploading recovery & pressures

DATE
 November
16
 2018

DST #7 **Formation: Spergen #2** **Test Interval: 4656 - 4663'** **Total Depth: 4663'**
 Time On: 17:04 11/16 Time Off: 01:48 11/17
 Time On Bottom: 19:50 11/16 Time Off Bottom: 22:50 11/16

Gas Volume Report

1st Open

2nd Open

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

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

Max R. Lovely

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY: Ritchie Exploration

LEAF: #1 Speer 29D

FIELD: Wildcat

LOCATION: N/2 NW SE

SEC: 29

TWP: 19

RANGE: 30W

COUNTY: Lane

STATE: KS

CONTRACT: WW Bldg #12

SURFACE: 11/17/18

RD: 4740

RD: 4740

MUD UP: 3424

TYPE: Mud Chem

FORMATION TOPS AND STRUCTURAL POSITIONS

FORMATION	SPUR F	ELECTRIC	STR. STA	STRUCTURAL POSITION
Andover	2250	2246	685	700
Base Andover	2250	2263	688	694
Stotler	3558	3552	621	616
Lebaner	3945	3943	1012	997
Lansing	3990	3989	1058	1042
Muncie	4165	4168	1287	1288
BKC	4359	4356	1425	1416
Altamont	4405	4403	1473	1470
Fairmont	4481	4482	1532	1527
Clatsop	4527	4528	1589	1583
Clatsop SH	4527	4527	1589	1583
Clatsop	4587	4587	1661	1654
Missouri	4608	4615	1684	1672
Sheridan	4647	4647	1716	1704

REFERENCE WELLS FOR STRUCTURE

A Ritchie #1 Anderson 328 1980 F.N.L. 2200 F.W.L. 32-19-30W

B Guss-Petro #1 Goering 600 F.N.L. 660 F.W.L. 30-19-30W

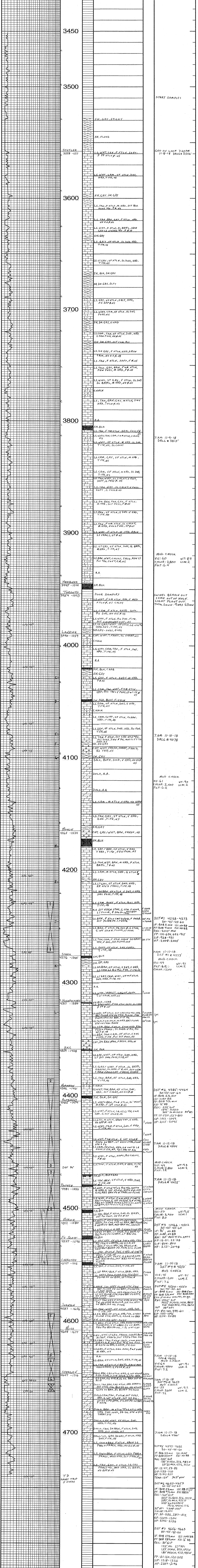
C Britco Oil #1-25 Neiland 2310 F.E.S.L. 2310 F.E.L. 25-19-31W

REMARKS

LEGEND

Anhydrite	Salt	Sandstone	Shale	Carb sh	Limestone	Ool. Lime	Chert	Dolomite

DEPTH	LITHOLOGY	SAMPLE DESCRIPTIONS	OIL SHOWS	REMARKS
2200	ANHYDRITE	22.50 + 6.01		
	BASE ANHYDRITE	22.69 + 6.62		
2300				
3450				
3500				START SAMPLES
3558	STOTLER	3558 - 627		GEO ON LOG 7:20 PM 11-8 DRLG 6355'
3600				
3700				
3800				
3900				
3945	HEERNER	3945 - 1014		
3954	TORONTO	3954 - 1023		
3990	LANSING	3990 - 1059		
4000				
4100				
4165	MUNCIE	4165 - 1234		
4200				
4276	STARBUCK	4276 - 1345		
4300				
4317	HUSHBERRY	4317 - 1506		
4359	BKC	4359 - 1428		
4400	MAMMONT	4400 - 1461		
4405	ALTAMONT	4405 - 1474		
4481	FAIRMONT	4481 - 1550		
4500				
4511	MYERK	4511 - 1580		
4527	FT SCOTT	4527 - 1596		
4547	CHEROKEE	4547 - 1616		
4608				
4608				
4647	SHERIDAN	4647 - 1716		
4700				



DRILLING TIME IN MINUTES PER FOOT
Rate of Penetration Decreases

DEPTH

5" 10" 15" 20" 25"



RITCHIE

EXPLORATION, INC.
Wichita, Kansas

#1 Spece 29D

2,261' FSL & 2,129' FEL

49' S & 149' W of N/2 NW SE Section 29-19S-30W

Lane County, Kansas

API# 15-101-22616-0000

Elevation: GL: 2,923', KB: 2,931'

Sample Tops			Ref. Well
Anhydrite	2252	+679	-3
B/Anhydrite	2271	+660	-6
Stotler	3558	-627	-11
Heebner	3945	-1014	-2
Toronto	3954	-1023	+1
Lansing	3990	-1059	-1
Muncie	4165	-1234	+1
Stark	4276	-1345	-1
Hushpuckney	4317	-1386	-3
BKC	4359	-1428	-5
Marmaton	4392	-1461	-2
Altamont	4405	-1474	-3
Pawnee	4481	-1550	-1
Myrick	4511	-1580	-2
Ft Scott	4527	-1596	-3
Cherokee	4547	-1616	-2
Johnson	4587	-1656	-1
Miss	4608	-1677	+3
RTD	4740	-1809	



PRESSURE PUMPING LLC

PO Box 884, Chanute, KS 66720
620-431-9210 or 800-467-8676

11982
11863

TICKET NUMBER 55922
LOCATION Oakley 16
FOREMAN Miles Stoen

FIELD TICKET & TREATMENT REPORT
CEMENT

Invoice #814531 KS

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
11-5-18	7173	Spec 29 D1	29	19 S	30 W	Linne
CUSTOMER <u>Ritchie</u>			MAY 165 SURFACE BLEND TRUCK # 7031			
MAILING ADDRESS <u>P.O. BOX 783188</u>			TRUCK #	DRIVER	TRUCK #	DRIVER
CITY <u>Wichita</u>			7531	<u>Carey</u>		
STATE <u>KS</u>			70	<u>Neil W</u>		
ZIP CODE <u>67278-2188</u>			7031	<u>Miles S</u>		

JOB TYPE Surface HOLE SIZE 12 1/4" HOLE DEPTH 221 CASING SIZE & WEIGHT 8 3/8" 23#
 CASING DEPTH 220 DRILL PIPE _____ TUBING _____ OTHER _____
 SLURRY WEIGHT 14.8 SLURRY VOL. 1.34 WATER gal/sk _____ CEMENT LEFT IN CASING 20'
 DISPLACEMENT 12.75 bbls DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Safety meeting and log up on W/W drilling log # 12 Circulate casing
May 165 SX Surface blend of displacer 12.75 bbls water shut in cement and
Circulate 3 bbls top

Thanks Miles Stoen

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
<u>CE071</u>	<u>1</u>	<u>PUMP CHARGE</u>	<u>1150.⁰⁰</u>	<u>1150.⁰⁰</u>
<u>CE0002</u>	<u>600</u>	<u>MILEAGE</u>	<u>7.15</u>	<u>4290.⁰⁰</u>
<u>CE071</u>	<u>7.75 tons</u>	<u>Ton Mileage delivery</u>	<u>1.75</u>	<u>135.625</u>
<u>CE5871</u>	<u>105 SX</u>	<u>Surface Blend</u>	<u>24.⁰⁰</u>	<u>2520.⁰⁰</u>
			<u>Subtotal</u>	<u>6352.²⁵</u>
			<u>less 25% discount</u>	<u>1588.12</u>
			<u>Subtotal</u>	<u>4764.¹³</u>
			SALES TAX	<u>222.75</u>
			ESTIMATED TOTAL	<u>4986.88</u>

AUTHORIZATION [Signature] TITLE Toolpusher DATE 11-5-18

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.



PRESSURE PUMPING LLC
 PO Box 884, Chanute, KS 66720
 620-431-9210 or 800-467-8676

12078
 11904

TICKET NUMBER 55929
 LOCATION Chanute
 FOREMAN Miles Shaw

FIELD TICKET & TREATMENT REPORT
 CEMENT

Invoice # 814635 *MS*

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
11-20-78	7173	Specie 29D #1	29	19 S	30 W	Leano
CUSTOMER <u>Kitchie Exploration</u>			TRUCK #			
MAILING ADDRESS <u>P.O. Box 783188</u>			DRIVER			
CITY <u>Wichita</u>			TRUCK #			
STATE <u>Ks</u>			DRIVER			
ZIP CODE <u>67278-3188</u>			TRUCK #			
			DRIVER			

JOB TYPE Perforator HOLE SIZE _____ HOLE DEPTH _____ CASING SIZE & WEIGHT 5.5"
 CASING DEPTH _____ DRILL PIPE _____ TUBING 2 7/8" OTHER _____
 SLURRY WEIGHT 12.4 SLURRY VOL 19 WATER gal/sk _____ CEMENT LEFT in CASING _____
 DISPLACEMENT 12 b/s DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Safety meeting and Rig up on Well Test casing to 1200 psi; open and
Establish Circulation with low mix 400sx Lite Weight blend III w/ 1/4" HOS and
displace 12 b/s water shut well test to 1200 psi; hold 5 minutes Run in 5 Juts;
Reverse Clean with 25 b/s water Pull tubing pressure to 500 psi; with Sandbag
down valve shut in

Cement did circulate
Thanks Miles & Crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
<u>CE0451</u>		PUMP CHARGE	1900. ⁰⁰	1900. ⁰⁰
<u>CE0002</u>	<u>600</u>	MILEAGE	7.15	429. ⁰⁰
<u>CE0710</u>	<u>1712 tons</u>	<u>Ton Mileage delivery</u>	1.75	1806. ⁰⁰
<u>CE5831</u>	<u>400 SX</u>	<u>Lite-weight blend III</u>	17.50	7000. ⁰⁰
<u>CE6075</u>	<u>100</u>	<u>Collo. Platte/Hossein</u>	3. ⁰⁰	300. ⁰⁰
			Subtotal	11435. ⁰⁰
			<u>less 25% discount</u>	<u>2858.75</u>
			Subtotal	8576.25
			SALES TAX	410.03
			ESTIMATED TOTAL	8986.28

Rev'n 3737

AUTHORIZATION Gay Row TITLE _____ DATE _____

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.



Services, Inc.

CHARGE TO: *Rithme Exploration*
 ADDRESS
 CITY, STATE, ZIP CODE

TICKET 27426

WELL/PROJECT NO. *291D* LEASE *SPEECE* COUNTY/PARISH *LANE* STATE *KS* CITY
 TICKET TYPE SERVICE SALES CONTRACTOR *WVO Drilling* RIG NAME/NO. *Rig # 12* SHIPPED VIA *EX* DELIVERED TO *Cotation*
 WELL TYPE *0-1* WELL CATEGORY *development* JOB PURPOSE *Long String* WELL PERMIT NO.
 INVOICE INSTRUCTIONS

DATE *11-18-18* OWNER
 ORDER NO.
 WELL LOCATION

PAGE 1 OF

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	MILEAGE	QTY.			UNIT PRICE	AMOUNT
		LOC	ACCT	DF			QTY.	UM	QTY.		
575							75	Mi.		5.00	375.00
578							1	EA		1300.00	1300.00
290							2	EA		42.00	84.00
281							500	Gal		1.50	750.00
221							2	EA		25.00	50.00
403							5	EA	5 1/2	275.00	1375.00
404							1	EA		2500.00	2500.00
406							1	EA		250.00	250.00
409							5	EA		85.00	425.00
407							1	EA		325.00	325.00
414							1	EA		25.00	25.00

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

X DATE SIGNED _____ TIME SIGNED _____
 A.M. P.M.

REMIT PAYMENT TO:

SWIFT SERVICES, INC.
 P.O. BOX 466
 NESS CITY, KS 67560
 785-798-2300

SURVEY		AGREE	UN- DECIDED	DIS- AGREE
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?				
WE UNDERSTOOD AND MET YOUR NEEDS?				
OUR SERVICE WAS PERFORMED WITHOUT DELAY?				
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?				
ARE YOU SATISFIED WITH OUR SERVICE?		<input type="checkbox"/> YES	<input type="checkbox"/> NO	

PAGE TOTAL	TOTAL
1	19306.48
2	5431.95
TOTAL	13830.53
TOTAL	11,601.85
TOTAL	704.63
TOTAL	19306.48

SWIFT OPERATOR *Dennis Ebertson* APPROVAL

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

Thank You!



Seawater, Inc.

PO BOX 466
Nass City, KS 67560
Off: 785-798-2300

TICKET CONTINUATION

TICKET No. 27426

CUSTOMER *Kirtche Exploration*

WELL *Space 298*

DATE *11/6/10*

PAGE 1 OF

PRICE REFERENCE	SECONDARY REFERENCE PART NUMBER	ACCOUNTING			TIME	DESCRIPTION	WELL				UNIT PRICE	AMOUNT				
		LOC	ACCT	DF			QTY	U/M	QTY	U/M						
325		2				Standard Cement	205	sks			13	00	2665	00		
279		2				Bentonite Gel	4	sks			30	00	120	00		
283		2				Sayt	1100	lbs			20	00	220	00		
292		2				Hand - 322	100	lbs			8	00	800	00		
272		2				Gilsonite (cool sand)	1000	lbs			85	00	850	00		
						SERVICE CHARGE							1	25	358	75
						MILEAGE TOTAL PERCENT							1	88	418	20
						CHARGE										
						CUBIC FEET										
						TON MILES										

CONTINUATION TOTAL *5431.95*

JOB LOG

SWIFT Services, Inc.

DATE
11-8-18

PAGE NO.

CUSTOMER
Kitchie Exploration

WELL NO.
29D

LEASE
Spence

JOB TYPE
Cong String

TICKET NO.
27426

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1200							On location
								Csg- 5 1/2 x 15.5 #
								TD- 4731
								Total pipe - 4734
								Shoe It - 20.93 Baffle - 4710
								Centralizers - 1, 4, 9, 59, 60, 68, 75
								Bskts - 5, 8, 59, 76 & 101
	330 330							Start Running Csg
	6:45							Break Circ on Bottom
	7:15	5.5	12					pump mud flush - 500 gal
		5.5	20					pump kcal Spacer
		2.5	8			0		plug Rat hole - 30 sts cmr
	8:05	5	9			400		Start Cmr - 175 sts e 1st 700
	8:20	5	12			150		End Cmr
	8:25							Drop plug - Wash P&L
	8:30	6.5	0			150		Start Disp
	8:50	5	115			950/1500		land plug 1st psi - 900 land psi - 1500
								Release Psi - Dry
								Jobs Complete
								Thanks David, Zach & Kirby