

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)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Russell Oil, Inc.
Well Name	BOWIE 29-2
Doc ID	1416103

All Electric Logs Run

SECTOR BOND LOG
MICRO LOG
SPECTRAL DENSITY DEAL SPACED NEUTRON MICRO LOG
ARRAY COMPENSATED TRUE RESISTIVIEY
ANNULAR HOLE VOLUME LOG

Form	ACO1 - Well Completion
Operator	Russell Oil, Inc.
Well Name	BOWIE 29-2
Doc ID	1416103

Tops

Name	Top	Datum
ANHYDRITE	2601	+485
BASE ANHYDRITE	2627	+459
TOPEKA	3815	-729
HEEBNER	4040	-954
TORONTO	4058	-972
LANSING	4082	-996
MUNCIE CREEK	4224	-1138
STARK SHALE	4305	-1219
HUSH SHALE	4337	-1251
BASE KC	4363	-1277
MARMATON	4403	-1317
PAWNEE	4500	-1414
FT SCOTT	4560	-1474
CHEROKEE SHALE	4590	-1504
JOHNSON	4632	-1546
MORROW SHALE	4656	-1570
MISSISSIPPI	4680	-1594
LTD	4740	-1654
RTD	4740	-1654

BASIC

energy services, L.P.

Stage #1

TREATMENT REPORT

Customer Russell Oil, Inc	Lease No.	Date 4/25/2018
Lease Bowie	Well # 29-2	
Field Order # 16447	Station Pratt, KS	Casing 5 1/2
Type Job 242/5 1/2 25+95c LongStrings	Depth 4736	County Losee
	Formation TD-4740	State KS
		Legal Description 29-11s-32w

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
5 1/2								
Depth 4736	Depth	From	To	Pre Pad	Max		5 Min.	
Volume 112.7	Volume	From	To	Pad	Min		10 Min.	
Max Press 1500	Max Press	From	To	Frac	Avg		15 Min.	
Well Connection	Annulus Vol.	From	To		HHP Used		Annulus Pressure	
Plug Depth 4779	Packer Depth	From	To	Flush Wgr, mud	Gas Volume		Total Load	

Customer Representative Todd Brown	Station Manager Justin Westerman	Treater Darin Franklin
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Service Units	92911	84980	20920	70959	1	70959	19862			
Driver Names	Dsion	Ed	Ed	70959	19862	Clymer	Clymer			

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
6:30pm					on location / safety meeting
					T B- DU Tool
					175 SK DP2 Cement - Russell O.I Blend
					15.3 PPg, 1.43 v.12, 5.79 wster
4/25					
12:30pm	400		3	5	Pump 3 bbls wster
	400		24	5	Pump 24 bbls mud Flush
	400		3	5	Pump 3 bbls wster
	400		45	5	Mix 175 SK Cement
					Shut down &
					Wash Pump & Lines & Dico Plug
	400		0	6	Start displacement
	800		90	6	Like Pressure
	700		102	3	slow rate
1:30pm	1500		108	3	Bump Plug
					Float - Held
	400		1/2	1/4	Dico DU opening Tool
					Wait 15 minutes
					Open DU Tool
1:45pm					Hook up to Rig & Circulate

BASIC

energy services, L.P. S+95e #2

TREATMENT REPORT

Customer Russell O. J. Inc.	Lease No.	Date 4/25/2018
Lease Bouie	Well # 29-2	
Field Order # 16449	Station Pratt, KS	Casing 5 1/2
Type Job 2 42/5 1/2 2 S+95e LongString	Depth 4736	County Logan
	Formation 4730	State KS
		Legal Description 29-115-32

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP	
5 1/2								
Depth 2648	Depth	From	To	Pre Pad	Max		5 Min.	
Volume 63	Volume	From	To	Pad	Min		10 Min.	
Max Press	Max Press	From	To	Frac	Avg		15 Min.	
Well Connection	Annulus Vol.	From	To		HHP Used		Annulus Pressure	
Plug Depth 2648	Packer Depth	From	To	Flush Water	Gas Volume		Total Load	

Customer Representative Todd Brown	Station Manager Justin Westerman	Treater Darin Franklin
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Service Units 9994	84960	20970	14354	19578				
Driver Names Darin Ed Ed	Ed	Ed	Libarsi	Libarsi				

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
					340SK A-Con Blend Commen, 3% Calcium Chloride, 0.25pps Cellulose, 0.1% WCA 11.6 ppg, 2.77 v. vol, 16.75 water
					30 SK A-Con Blend Commen, 3% Calcium Chloride, 0.25pps Cellulose, 0.1% WCA 11.6 ppg, 2.77 v. vol, 16.75 water
2:45pm	500		168	6	Mix 340 SK A-Con Blend
					Stop & start (1 min) (1 min) (1 min)
					Wash Pump & line & Release Plug
	500		0	6	S+95e displacement
	700		53	3	Slow Rate
3:45pm	1500		63	3	Bump Plug
					Flow - Hold
	50		7	3	Plug Rest hole
4:00pm					Job Complete / Darrin & crew Thank you!!
					Circulated - 20 bbls cement

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 746

Date	4-16-18	Sec.	29	Twp.	11	Range	32	County	Logan	State	KS	On Location		Finish	2.000pm
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Lease Bowie Well No. 29-2 Location Dakota 43 Apache Ave RD 20 Winto

Contractor WW Owner To Quality Oilwell Cementing, Inc.
 Type Job Surface 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. 302 Charge To Russell Oil

Csg. 8578 Depth 301 Street _____

Tbg. Size _____ Depth _____ City _____ State _____

Tool _____ Depth _____ The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. 15 Shoe Joint _____ Cement Amount Ordered 170 8/10 3/11 2/11/12

Meas Line	Displace	<u>1836</u>
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EQUIPMENT

Pumptrk	No.	Cementor	Helper	Common	<u>136</u>
Bulktrk	No.	Driver	Driver	Poz. Mix	<u>34</u>
Bulktrk	9	Driver	Driver	Gel.	<u>3</u>
				Calcium	<u>7</u>

JOB SERVICES & REMARKS

Remarks:	Hulls
Rat Hole	Salt
Mouse Hole	Flowseal
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port Collar	CFL-117 or CD110 CAF 38
<u>8578 on bottom feet Connection</u>	Sand
<u>Mix 1725K + Displacer</u>	Handling <u>180</u>
<u>Cement (circulated)</u>	Mileage

FLOAT EQUIPMENT

	Guide Shoe
	Centralizer
	Baskets
	AFU/Inserts
	Float Shoe
	Latch Down
	Pumptrk Charge <u>Surface</u>
	Mileage <u>15 min</u>

X Signature [Signature] Tax _____ Discount _____ Total Charge _____



Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
 County: LOGAN
 State: Kansas
 Drilling Contractor: WW Drilling, LLC - Rig 10
 Elevation: 3081 GL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 146

DATE
April
20
2018

DST #1 **Formation: Lans H** **Test Interval: 4220 - 4245'** **Total Depth: 4245'**

Time On: 19:24 04/20 Time Off: 03:56 04/21
 Time On Bottom: 21:39 04/20 Time Off Bottom: 00:09 04/21

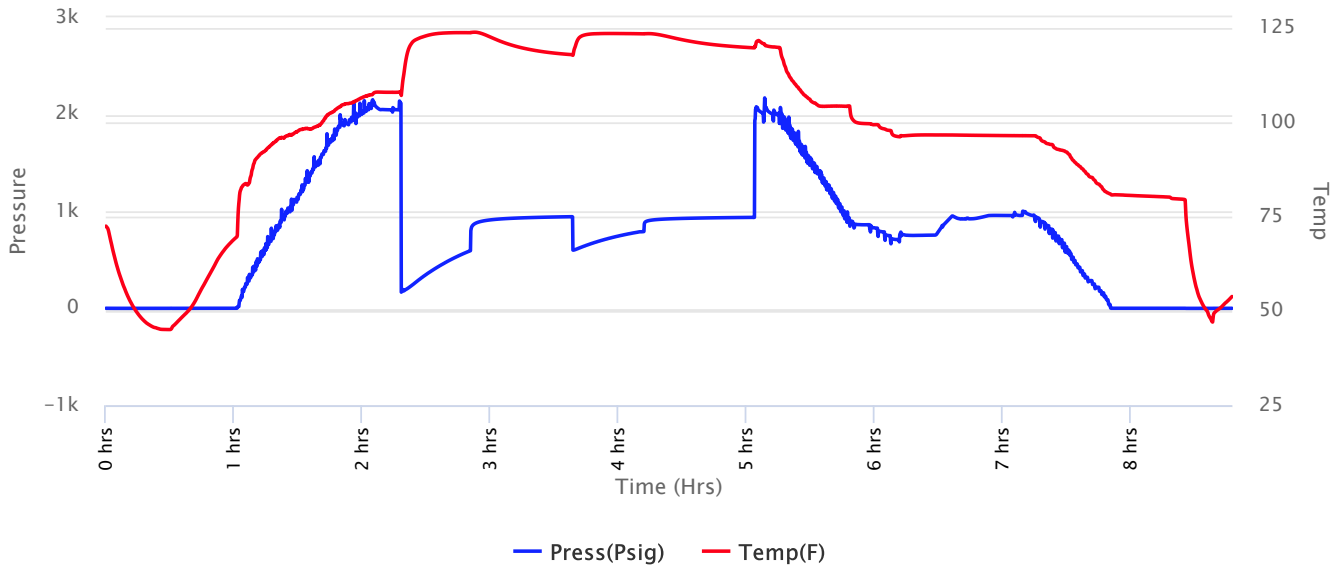
Electronic Volume Estimate:
3637'

1st Open
Minutes: 30
284" at 30 min

1st Close
Minutes: 45
24.8" at 45 min

2nd Open
Minutes: 30
110.2" at 30 min

2nd Close
Minutes: 45
3.9" at 45 min





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 Time On Bottom: 21:39 04/20 Time Off Bottom: 00:09 04/21

Recovered

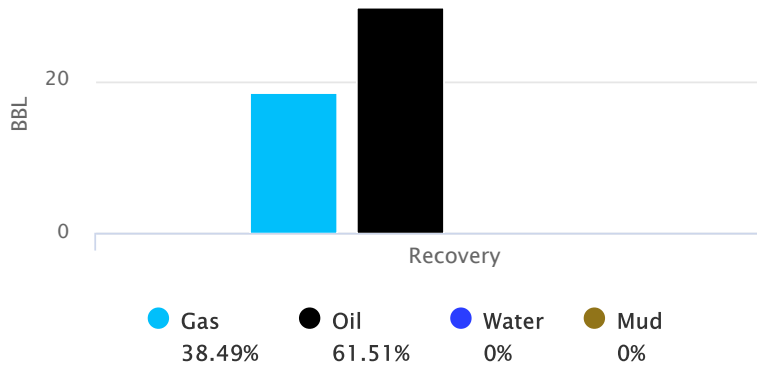
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
1303	18.54169	G	100	0	0	0
272	3.87056	O	0	100	0	0
1890	25.7655832	O	0	100	0	0

Total Recovered: 3465 ft

Total Barrels Recovered: 48.1778332

Reversed Out
 YES

Recovery at a glance



Initial Hydrostatic Pressure	2047	PSI
Initial Flow	181 to 594	PSI
Initial Closed in Pressure	943	PSI
Final Flow Pressure	600 to 790	PSI
Final Closed in Pressure	938	PSI
Final Hydrostatic Pressure	2044	PSI
Temperature	125	°F
Pressure Change Initial Close / Final Close	0.5	%



Company: Russell Oil, Inc
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State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 10
Elevation: 3081 GL
Field Name: Wildcat
Pool: Infield
Job Number: 146

<p>DATE April 20 2018</p>

DST #1 **Formation: Lans H** **Test Interval: 4220 -** **Total Depth: 4245'**
4245'

Time On: 19:24 04/20 Time Off: 03:56 04/21
Time On Bottom: 21:39 04/20 Time Off Bottom: 00:09 04/21

REMARKS:

- 1O. 1" Blow. BOB in 1 min
- 1C. 24 3/4 inch Blow Back
- 2O. 1" Blow. BOB 1 1/2 mins
- 2C. 3 3/4 inch Blow Back

Tool Sample: 100 % O

Dumped 5 stands of fluid before Reversing out.

272 feet of the fluid was dumped

1890 feet was reversed out.

Samples were taken from blow line while reversing out.

Gravity: 37 @ 60 degrees F



Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
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 Rig 10
 Elevation: 3081 GL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 146

DATE April 20 2018

DST #1 **Formation: Lans H** **Test Interval: 4220 - 4245'** **Total Depth: 4245'**

Time On: 19:24 04/20 Time Off: 03:56 04/21
 Time On Bottom: 21:39 04/20 Time Off Bottom: 00:09 04/21

Down Hole Makeup

Heads Up: 30.47 FT	Packer 1: 4215 FT
Drill Pipe: 4096.62 FT <i>ID-3 1/2</i>	Packer 2: 4220 FT
Weight Pipe: FT <i>ID-2 7/8</i>	Top Recorder: 4204.42 FT
Collars: 121.28 FT <i>ID-2 1/4</i>	Bottom Recorder: 4222 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: 25	Surface Choke: 1"
<u>Anchor Makeup</u>	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): 24 FT <i>4 1/2-FH</i>	



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Rig 10
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<p>DATE April 20 2018</p>

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Time On: 19:24 04/20 Time Off: 03:56 04/21
Time On Bottom: 21:39 04/20 Time Off Bottom: 00:09 04/21

Mud Properties

Mud Type: Chem **Weight:** 9.2 **Viscosity:** 62 **Filtrate:** 6.4 **Chlorides:** 2000 ppm



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Rig 10
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Job Number: 146

DATE
April
20
2018

DST #1 Formation: Lans H Test Interval: 4220 - 4245' Total Depth: 4245'

Time On: 19:24 04/20 Time Off: 03:56 04/21

Time On Bottom: 21:39 04/20 Time Off Bottom: 00:09 04/21

Gas Volume Report

1st Open

2nd Open

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

Time	Orifice	PSI	MCF/D
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 County: LOGAN
 State: Kansas
 Drilling Contractor: WW Drilling, LLC - Rig 10
 Elevation: 3081 GL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 146

DATE
 April
21
 2018

DST #2 **Formation: Lans I** **Test Interval: 4245 - 4274'** **Total Depth: 4274'**
 Time On: 10:56 04/21 Time Off: 18:39 04/21
 Time On Bottom: 13:06 04/21 Time Off Bottom: 15:36 04/21

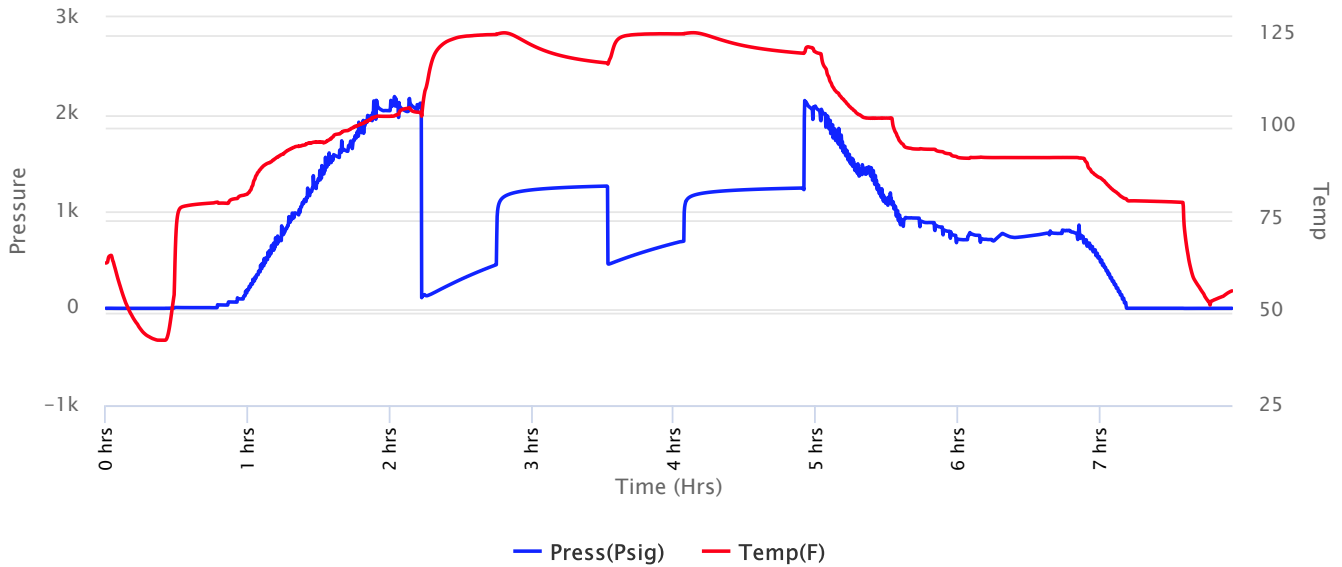
Electronic Volume Estimate:
 3378'

1st Open
 Minutes: 30
 241.1" at 30 min

1st Close
 Minutes: 45
 37.7" at 45 min

2nd Open
 Minutes: 30
 113.5" at 30 min

2nd Close
 Minutes: 45
 7.7" at 45 min





Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
 County: LOGAN
 State: Kansas
 Drilling Contractor: WW Drilling, LLC -
 Rig 10
 Elevation: 3081 GL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 146

DATE
 April
21
 2018

DST #2 **Formation: Lans I** **Test Interval: 4245 - 4274'** **Total Depth: 4274'**
 Time On: 10:56 04/21 Time Off: 18:39 04/21
 Time On Bottom: 13:06 04/21 Time Off Bottom: 15:36 04/21

Recovered

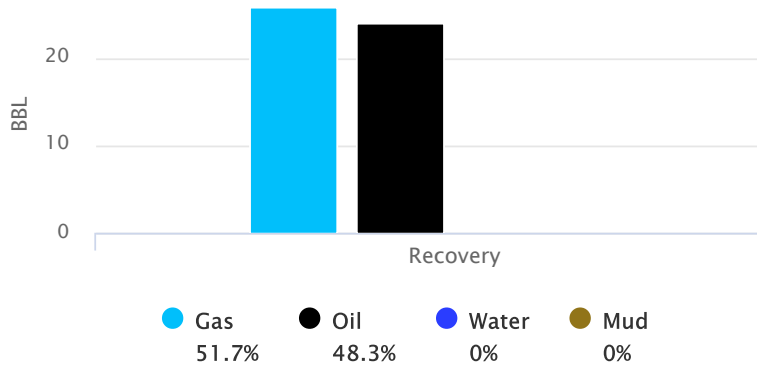
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
1744	24.81712	G	100	0	0	0
335	4.76705	O	0	100	0	0
1512	20.3866432	SLGCO	5	95	0	0

Total Recovered: 3591 ft

Total Barrels Recovered: 49.9708132

Reversed Out
 YES

Recovery at a glance



Initial Hydrostatic Pressure	2031	PSI
Initial Flow	110 to 450	PSI
Initial Closed in Pressure	1260	PSI
Final Flow Pressure	456 to 688	PSI
Final Closed in Pressure	1240	PSI
Final Hydrostatic Pressure	2039	PSI
Temperature	126	°F
Pressure Change Initial Close / Final Close	1.6	%



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State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 10
Elevation: 3081 GL
Field Name: Wildcat
Pool: Infield
Job Number: 146

DATE April 21 2018

DST #2 **Formation: Lans I** **Test Interval: 4245 - 4274'** **Total Depth: 4274'**

Time On: 10:56 04/21 Time Off: 18:39 04/21
Time On Bottom: 13:06 04/21 Time Off Bottom: 15:36 04/21

REMARKS:

- 1O. 1" Blow. BOB in 1 1/2 mins
- 1C. BBBB in 8 3/4 mins
- 2O. 1 3/4" Blow. BOB in 2 3/4 mins
- 2C. 7 3/4 inch Blow Back

Tool Sample: 100 % O

335 Ft of fluid Dumped before reversing out.

1512 ft of fluid reversed out.

Gravity: 40 @ 60 degrees F



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Time On: 10:56 04/21 Time Off: 18:39 04/21
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Down Hole Makeup

Heads Up: 5.24 FT	Packer 1: 4240 FT
Drill Pipe: 4096.39 FT <i>ID-3 1/2</i>	Packer 2: 4245 FT
Weight Pipe: FT <i>ID-2 7/8</i>	Top Recorder: 4229.42 FT
Collars: 121.28 FT <i>ID-2 1/4</i>	Bottom Recorder: 4251 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: 29	Surface Choke: 1"
<u>Anchor Makeup</u>	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 4 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): 24 FT <i>4 1/2-FH</i>	



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Mud Properties

Mud Type: Chem **Weight:** 9.2 **Viscosity:** 62 **Filtrate:** 6.4 **Chlorides:** 2000 ppm



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2018

DST #2 **Formation: Lans I** **Test Interval: 4245 - 4274'** **Total Depth: 4274'**

Time On: 10:56 04/21 Time Off: 18:39 04/21
 Time On Bottom: 13:06 04/21 Time Off Bottom: 15:36 04/21

Gas Volume Report

1st Open

2nd Open

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

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



Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
 County: LOGAN
 State: Kansas
 Drilling Contractor: WW Drilling, LLC - Rig 10
 Elevation: 3081 GL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 146

DATE
 April
22
 2018

DST #3 **Formation: Lans J** **Test Interval: 4273 - 4306'** **Total Depth: 4306'**
 Time On: 01:47 04/22 Time Off: 08:47 04/22
 Time On Bottom: 03:51 04/22 Time Off Bottom: 06:21 04/22

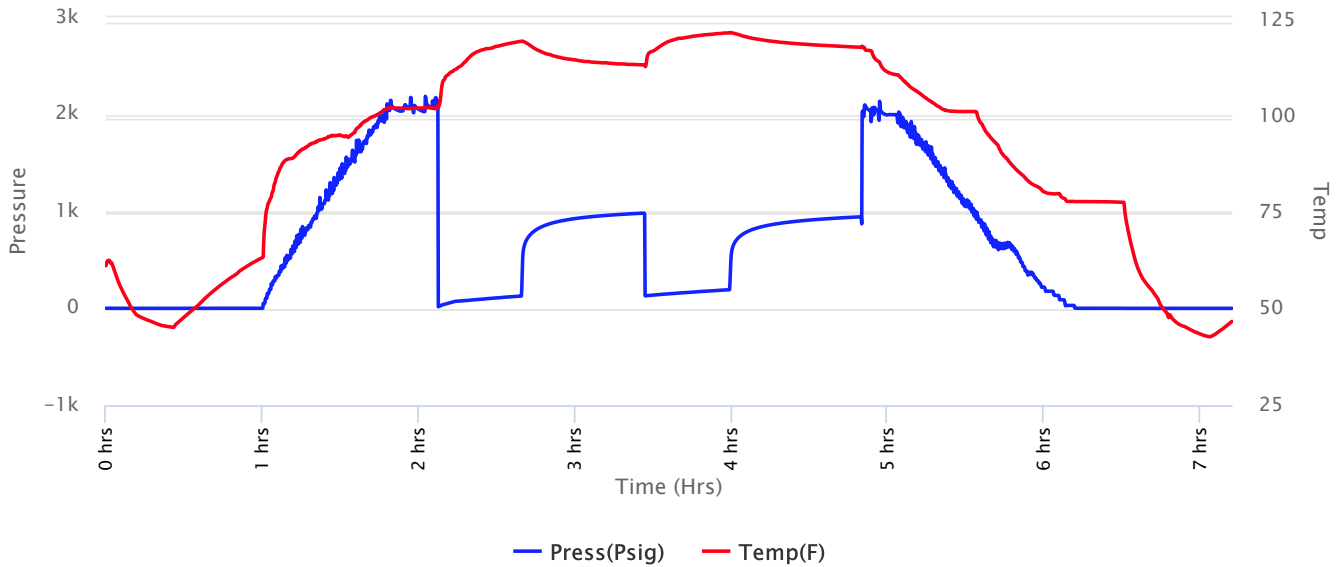
Electronic Volume Estimate:
 403'

1st Open
 Minutes: 30
 16" at 30 min

1st Close
 Minutes: 45
 .1" at 45 min

2nd Open
 Minutes: 30
 12.6" at 30 min

2nd Close
 Minutes: 45
 .1" at 45 min





Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
 County: LOGAN
 State: Kansas
 Drilling Contractor: WW Drilling, LLC - Rig 10
 Elevation: 3081 GL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 146

DATE
 April
22
 2018

DST #3 **Formation: Lans J** **Test Interval: 4273 - 4306'** **Total Depth: 4306'**
 Time On: 01:47 04/22 Time Off: 08:47 04/22
 Time On Bottom: 03:51 04/22 Time Off Bottom: 06:21 04/22

Recovered

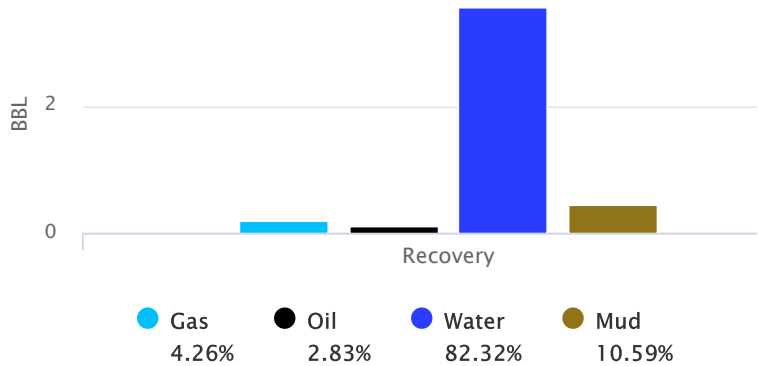
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
3	0.04269	O	0	100	0	0
258	3.6687332	SLOCSLGCSLMCW	5	2	83	10
121	0.59532	SLOCSLMCW	0	1	84	15

Total Recovered: 382 ft
 Total Barrels Recovered: 4.3067432

Reversed Out
 NO

Initial Hydrostatic Pressure	2028	PSI
Initial Flow	16 to 127	PSI
Initial Closed in Pressure	981	PSI
Final Flow Pressure	129 to 191	PSI
Final Closed in Pressure	944	PSI
Final Hydrostatic Pressure	2036	PSI
Temperature	123	°F
Pressure Change Initial Close / Final Close	3.8	%

Recovery at a glance





Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
County: LOGAN
State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 10
Elevation: 3081 GL
Field Name: Wildcat
Pool: Infield
Job Number: 146

DATE April 22 2018

DST #3 **Formation: Lans J** **Test Interval: 4273 - 4306'** **Total Depth: 4306'**

Time On: 01:47 04/22 Time Off: 08:47 04/22
Time On Bottom: 03:51 04/22 Time Off Bottom: 06:21 04/22

REMARKS:

- 1O. 1/4" Blow. BOB in 20 mins.
- 1C. Weak Blow Back
- 2O. 1/4" Blow. BOB in 28 1/4 mins.
- 2C. Weak Blow Back

Tool Sample: 5 % O 80% W 15 % M

Ph: 7

RW: .3 @ 38 degrees F

Chlorides: 56,000 ppm



Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
 County: LOGAN
 State: Kansas
 Drilling Contractor: WW Drilling, LLC -
 Rig 10
 Elevation: 3081 GL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 146

DATE
April
22
2018

DST #3 **Formation: Lans J** **Test Interval: 4273 - 4306'** **Total Depth: 4306'**

Time On: 01:47 04/22 Time Off: 08:47 04/22
 Time On Bottom: 03:51 04/22 Time Off Bottom: 06:21 04/22

Down Hole Makeup

Heads Up: 8.92 FT	Packer 1: 4268 FT
Drill Pipe: 4128.07 FT <i>ID-3 1/2</i>	Packer 2: 4273 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4257.42 FT
Collars: 121.28 FT <i>ID-2 1/4</i>	Bottom Recorder: 4279 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: 33	Surface Choke: 1"
<u>Anchor Makeup</u>	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 4 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): 28 FT <i>4 1/2-FH</i>	



Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
County: LOGAN
State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 10
Elevation: 3081 GL
Field Name: Wildcat
Pool: Infield
Job Number: 146

<p>DATE April 22 2018</p>

DST #3 **Formation: Lans J** **Test Interval: 4273 - 4306'** **Total Depth: 4306'**

Time On: 01:47 04/22 Time Off: 08:47 04/22
Time On Bottom: 03:51 04/22 Time Off Bottom: 06:21 04/22

Mud Properties

Mud Type: Chem **Weight:** 9 **Viscosity:** 58 **Filtrate:** 5.6 **Chlorides:** 3000 ppm



Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
 County: LOGAN
 State: Kansas
 Drilling Contractor: WW Drilling, LLC -
 Rig 10
 Elevation: 3081 GL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 146

DATE
April
22
2018

DST #3 **Formation: Lans J** **Test Interval: 4273 - 4306'** **Total Depth: 4306'**

Time On: 01:47 04/22 Time Off: 08:47 04/22
 Time On Bottom: 03:51 04/22 Time Off Bottom: 06:21 04/22

Gas Volume Report

1st Open

2nd Open

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

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



Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
 County: LOGAN
 State: Kansas
 Drilling Contractor: WW Drilling, LLC - Rig 10
 Elevation: 3081 GL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 146

DATE
 April
22
 2018

DST #4 **Formation: Lans K** **Test Interval: 4297 - 4330'** **Total Depth: 4330'**
 Time On: 14:31 04/22 Time Off: 22:02 04/22
 Time On Bottom: 16:28 04/22 Time Off Bottom: 19:28 04/22

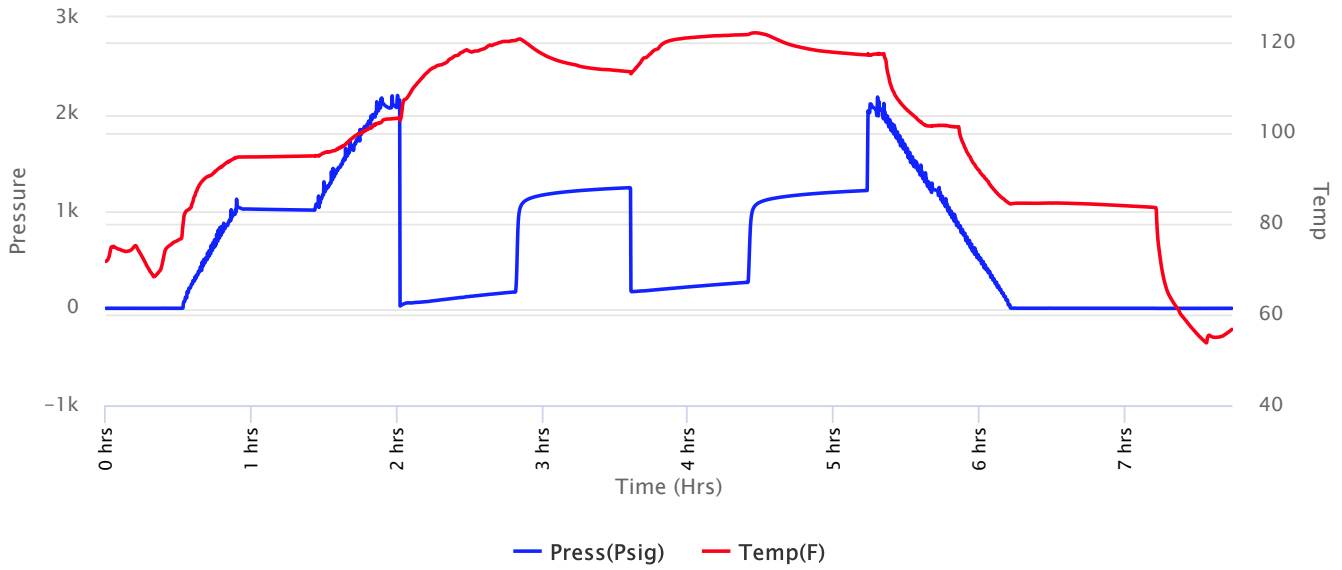
Electronic Volume Estimate:
 1935'

1st Open
 Minutes: 45
 98.7" at 45 min

1st Close
 Minutes: 45
 21.9" at 45 min

2nd Open
 Minutes: 45
 53.8" at 45 min

2nd Close
 Minutes: 45
 15.5" at 45 min





Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
 County: LOGAN
 State: Kansas
 Drilling Contractor: WW Drilling, LLC - Rig 10
 Elevation: 3081 GL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 146

DATE
 April
22
 2018

DST #4 **Formation: Lans K** **Test Interval: 4297 - 4330'** **Total Depth: 4330'**
 Time On: 14:31 04/22 Time Off: 22:02 04/22
 Time On Bottom: 16:28 04/22 Time Off Bottom: 19:28 04/22

Recovered

Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
1685	23.97755	G	100	0	0	0
519	7.3827632	O	0	100	0	0
121	0.59532	SLGCHOCM	5	40	0	55

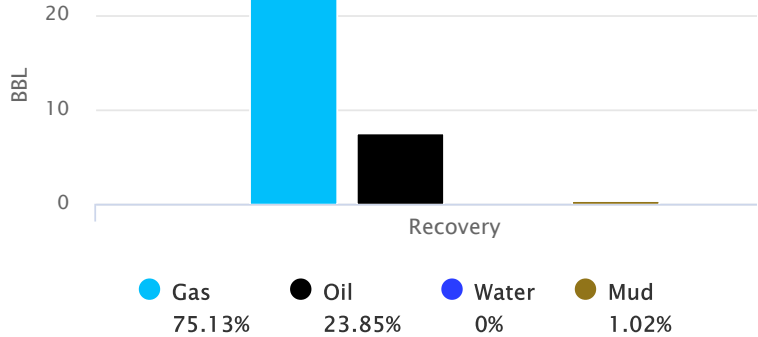
Total Recovered: 2325 ft

Total Barrels Recovered: 31.9556332

Reversed Out
 NO

Initial Hydrostatic Pressure	2071	PSI
Initial Flow	23 to 167	PSI
Initial Closed in Pressure	1244	PSI
Final Flow Pressure	171 to 267	PSI
Final Closed in Pressure	1215	PSI
Final Hydrostatic Pressure	2066	PSI
Temperature	123	°F
Pressure Change Initial Close / Final Close	2.4	%

Recovery at a glance





Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
County: LOGAN
State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 10
Elevation: 3081 GL
Field Name: Wildcat
Pool: Infield
Job Number: 146

<p>DATE April 22 2018</p>

DST #4 Formation: Lans K Test Interval: 4297 - Total Depth: 4330'
4330'

Time On: 14:31 04/22 Time Off: 22:02 04/22
Time On Bottom: 16:28 04/22 Time Off Bottom: 19:28 04/22

REMARKS:

- 1O. 1/2" Blow. BOB in 5 1/2 mins.
- 1C. BBBB in 17 3/4 mins
- 2O. 1/2 Blow. BOB in 9 1/4 mins.
- 2C. BBBB in 16 1/2 mins

Tool Sample: 50 % O 50% M

Gravity: 40 @ 60 degrees F



Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
 County: LOGAN
 State: Kansas
 Drilling Contractor: WW Drilling, LLC -
 Rig 10
 Elevation: 3081 GL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 146

DATE April 22 2018

DST #4 Formation: Lans K Test Interval: 4297 - 4330' Total Depth: 4330'

Time On: 14:31 04/22 Time Off: 22:02 04/22
 Time On Bottom: 16:28 04/22 Time Off Bottom: 19:28 04/22

Down Hole Makeup

Heads Up: 16.59 FT	Packer 1: 4292 FT
Drill Pipe: 4159.74 FT <i>ID-3 1/2</i>	Packer 2: 4297 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4281.42 FT
Collars: 121.28 FT <i>ID-2 1/4</i>	Bottom Recorder: 4303 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: 33	Surface Choke: 1"
<u>Anchor Makeup</u>	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 4 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): 28 FT <i>4 1/2-FH</i>	



Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
County: LOGAN
State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 10
Elevation: 3081 GL
Field Name: Wildcat
Pool: Infield
Job Number: 146

<p>DATE April 22 2018</p>

DST #4 **Formation: Lans K** **Test Interval: 4297 - 4330'** **Total Depth: 4330'**

Time On: 14:31 04/22 Time Off: 22:02 04/22
Time On Bottom: 16:28 04/22 Time Off Bottom: 19:28 04/22

Mud Properties

Mud Type: Chem **Weight:** 9.1 **Viscosity:** 53 **Filtrate:** 6.4 **Chlorides:** 4000 ppm



Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
 County: LOGAN
 State: Kansas
 Drilling Contractor: WW Drilling, LLC -
 Rig 10
 Elevation: 3081 GL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 146

DATE
April
22
2018

DST #4 **Formation: Lans K** **Test Interval: 4297 - 4330'** **Total Depth: 4330'**

Time On: 14:31 04/22 Time Off: 22:02 04/22
 Time On Bottom: 16:28 04/22 Time Off Bottom: 19:28 04/22

Gas Volume Report

1st Open

2nd Open

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

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



Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
 County: LOGAN
 State: Kansas
 Drilling Contractor: WW Drilling, LLC - Rig 10
 Elevation: 3081 GL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 146

DATE
 April
24
 2018

DST #5 Formation: Johnson Test Interval: 4606 - 4650' Total Depth: 4650'

Time On: 02:06 04/24 Time Off: 09:07 04/24
 Time On Bottom: 04:10 04/24 Time Off Bottom: 06:40 04/24

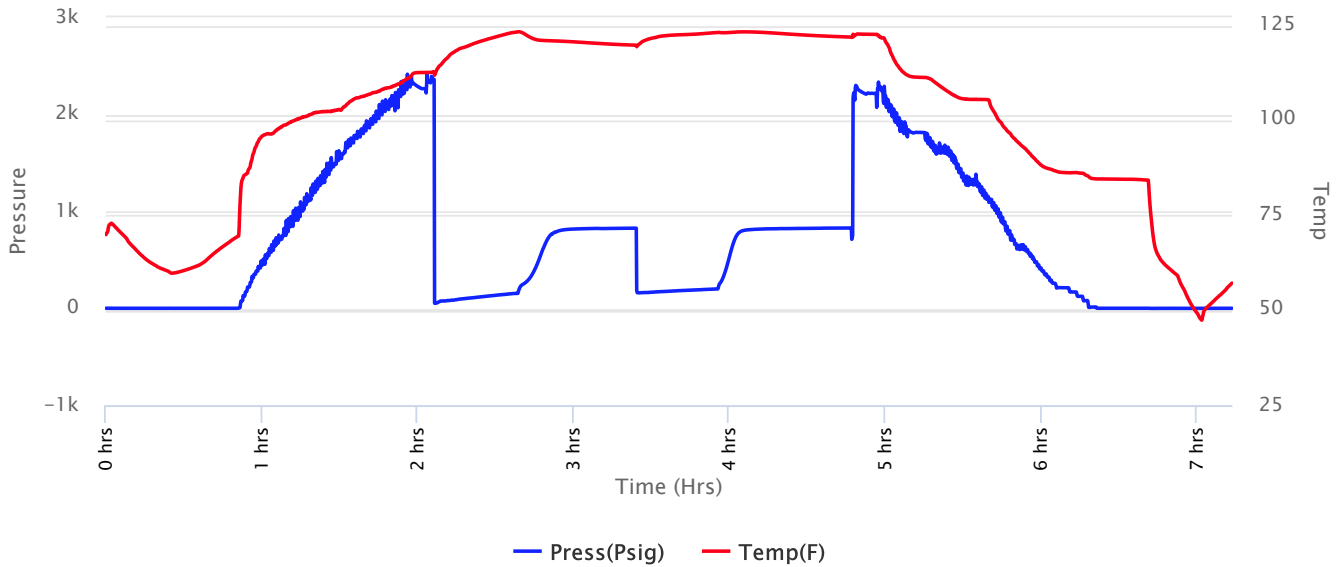
Electronic Volume Estimate:
 1641'

1st Open
 Minutes: 30
 89.9" at 30 min

1st Close
 Minutes: 45
 14.8" at 45 min

2nd Open
 Minutes: 30
 29.6" at 30 min

2nd Close
 Minutes: 45
 4.8" at 45 min





Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
 County: LOGAN
 State: Kansas
 Drilling Contractor: WW Drilling, LLC - Rig 10
 Elevation: 3081 GL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 146

DATE
 April
24
 2018

DST #5 Formation: Johnson Test Interval: 4606 - 4650' Total Depth: 4650'

Time On: 02:06 04/24 Time Off: 09:07 04/24
 Time On Bottom: 04:10 04/24 Time Off Bottom: 06:40 04/24

Recovered

Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
851	12.10973	G	100	0	0	0
289	4.11247	O	0	100	0	0
184	1.4892032	SLGCHOCM	15	35	0	50

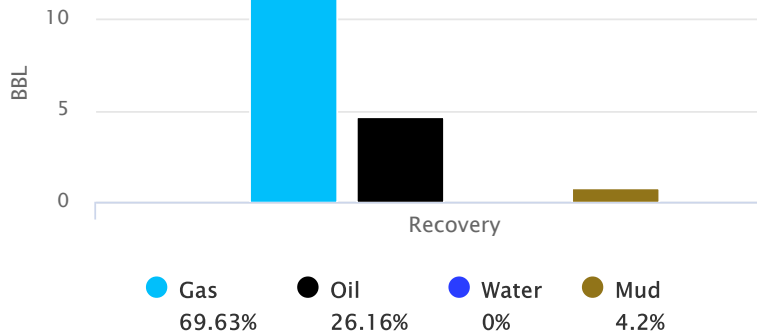
Total Recovered: 1324 ft

Total Barrels Recovered: 17.7114032

Reversed Out
 NO

Initial Hydrostatic Pressure	2264	PSI
Initial Flow	53 to 153	PSI
Initial Closed in Pressure	826	PSI
Final Flow Pressure	160 to 200	PSI
Final Closed in Pressure	828	PSI
Final Hydrostatic Pressure	2266	PSI
Temperature	124	°F
Pressure Change Initial Close / Final Close	0.0	%

Recovery at a glance





Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
 County: LOGAN
 State: Kansas
 Drilling Contractor: WW Drilling, LLC -
 Rig 10
 Elevation: 3081 GL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 146

DATE April 24 2018

DST #5 Formation: Johnson Test Interval: 4606 - Total Depth: 4650'
4650'
 Time On: 02:06 04/24 Time Off: 09:07 04/24
 Time On Bottom: 04:10 04/24 Time Off Bottom: 06:40 04/24

Down Hole Makeup

Heads Up: 25 FT	Packer 1: 4601 FT
Drill Pipe: 4477.15 FT <i>ID-3 1/2</i>	Packer 2: 4606 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4590.42 FT
Collars: 121.28 FT <i>ID-2 1/4</i>	Bottom Recorder: 4612 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: 44	Surface Choke: 1"
<u>Anchor Makeup</u>	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 4 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): 39 FT <i>4 1/2-FH</i>	



Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
County: LOGAN
State: Kansas
Drilling Contractor: WW Drilling, LLC -
Rig 10
Elevation: 3081 GL
Field Name: Wildcat
Pool: Infield
Job Number: 146

<p>DATE April 24 2018</p>

DST #5 **Formation: Johnson** **Test Interval: 4606 -**
4650' **Total Depth: 4650'**

Time On: 02:06 04/24 Time Off: 09:07 04/24
Time On Bottom: 04:10 04/24 Time Off Bottom: 06:40 04/24

Mud Properties

Mud Type: Chem **Weight:** 9.2 **Viscosity:** 55 **Filtrate:** 7.2 **Chlorides:** 3500 ppm



Company: Russell Oil, Inc
Lease: Bowie #29-2

SEC: 29 TWN: 11S RNG: 32W
 County: LOGAN
 State: Kansas
 Drilling Contractor: WW Drilling, LLC -
 Rig 10
 Elevation: 3081 GL
 Field Name: Wildcat
 Pool: Infield
 Job Number: 146

DATE
April
24
2018

DST #5 Formation: Johnson Test Interval: 4606 - Total Depth: 4650'
4650'

Time On: 02:06 04/24 Time Off: 09:07 04/24
 Time On Bottom: 04:10 04/24 Time Off Bottom: 06:40 04/24

Gas Volume Report

1st Open

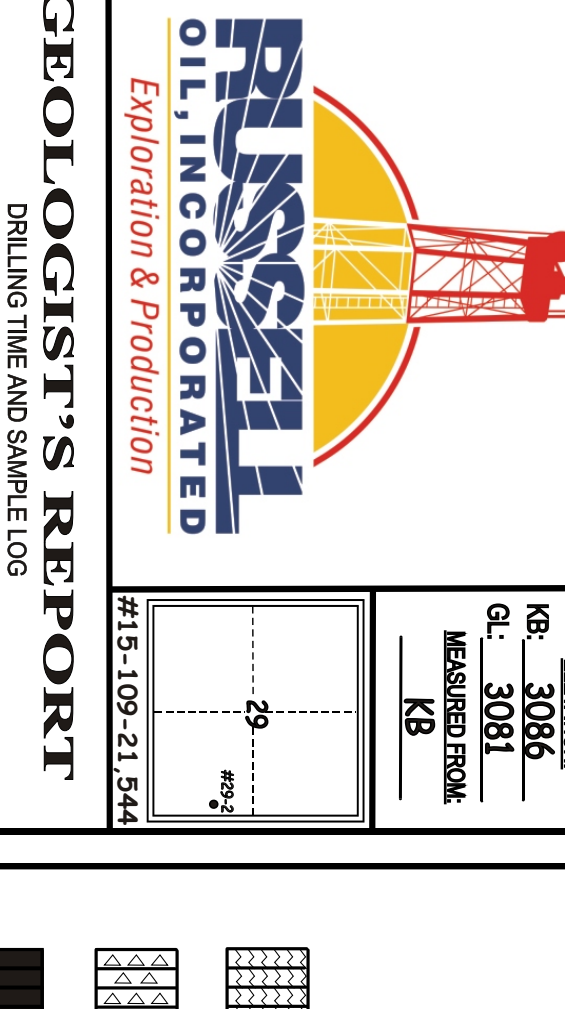
2nd Open

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

KITT NOAH

PETROLEUM GEOLOGIST
Kansas License #229



FORMATION		LOG
Anyndrite	2601 (+485)	TOP
B/Anyndrite	2677 (+495)	DATE
Heebner	4088 (-954)	LOG
Toronto	4088 (-972)	LOG
Lansing	4082 (-996)	LOG
Stark	4305 (-1219)	LOG
B/KC	4363 (-1277)	LOG
Marmaton	4403 (-1317)	LOG
Pawnee	4500 (-1414)	LOG
Cherokee	4590 (-1504)	LOG
Mississippian	4680 (-1594)	LOG
R/D	4740 (-1654)	LOG
L/D	4740 (-1654)	LOG

COUNTY: Logan STATE: Kansas

OPERATOR: Russell Oil, Inc. WELL NO.: #29-2

LEASE: Bowie LOCATION: 1608 FN & 330 FE SEC: 29 TWP: 11S RNG: 32W

CONTRACTOR: W/W Drilling Rig #10

COMPL: 4-16-2018 CO.MPL: 4-25-2018

RTD: 4740 LTD: 4740

SAMPLES SAVED FROM: 3700 to TD

DRILLING TIME SAVED FROM: 3700 to TD

SAMPLES EXAMINED FROM: 3700 to TD

GEOLOGICAL SUPERVISION FROM: 3790 to TD

MUD UP: 3422 MUD TYPE: Chemical

Mudcat - Reid Atkins

DRILL STEEL TESTS TAKEN: 5

Diamond - Ricky Roy

SURVEYS: Halliburton

Spectral Density, Dual Neutron

Arroyo Compensated Resistivity

Microlog

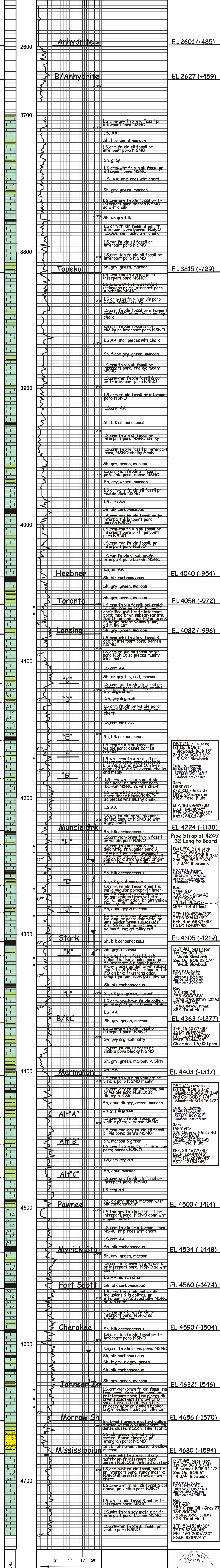
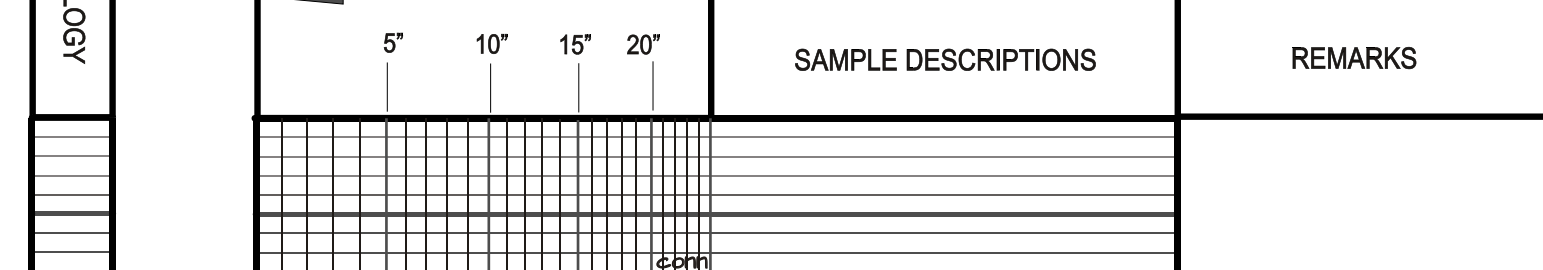
ELEVATION: KB 3086

GL: 3081

MEASURED FROM: KB

#15-109-21-544

LEGEND



DST #1: (4220-4245)
1st Op: BOB 1"
Blowback BOB 15"
2nd Op: BOB 1 1/2"
3 3/4" Blowback

P.O.R.T.A.L. System
1st Op: 24.7/30 min
Blowback 24.8/45 min
2nd Op: 11.0/30 min
Blowback 3.9/45 min

Rec: 1903' GIP
272' CO - Grav 37
1890 CO (revised out)
2162' Total Fluid

IFP: 181-594#/30"
ISIP: 943#/45"
FFP: 600-790#/30"
FSIP: 938#/45"

EL 4224 (-1138)

Pipe Strap at 4245'

32 Long to Board

DST #2: (4245-4274)

1st Op: BOB 1 1/2"

Blowback BOB 8 3/4"

2nd Op: BOB 2 3/4"

3 3/4" Blowback

P.O.R.T.A.L. System

1st Op: 24.1/30 min

Blowback 31.7/45 min

2nd Op: 11.0/30 min

Blowback 7.7/45 min

Rec: 1744' GIP

335' CO - Grav 40

1512' SGCO

(5% 6.95% CO) (revised out)

1847' Total Fluid

IFP: 110-450#/30"

ISIP: 1260#/45"

FFP: 456-688#/30"

FSIP: 1240#/45"

EL 4305 (-1219)

DST #3: (4273-4306)

1st Op: BOB 20"

Weak Blowback

2nd Op: BOB 28 1/4"

Weak Blowback

P.O.R.T.A.L. System

1st Op: 16.7/30 min

Blowback 17.4/45 min

2nd Op: 12.6/30 min

Blowback 1.7/45 min

Rec: 3' Clean Oil

258' SGOCMW

(3% 2% CO, 83% W, 10% M)

127' CO (revised out)

(1% 0.84% CO, 55% M)

382' Total Fluid

IFP: 16-127#/30"

ISIP: 981#/45"

FFP: 129-191#/30"

FSIP: 944#/45"

Chlorides: 56,000 ppm

EL 4363 (-1277)

DST #4: (4297-4330)

1st Op: BOB 5 1/2"

Blowback BOB 17 3/4"

2nd Op: BOB 9 1/4"

Blowback BOB 16 1/2"

P.O.R.T.A.L. System

1st Op: 9.8/45 min

Blowback 14.8/45 min

2nd Op: 5.8/45 min

Blowback 15.5/45 min

Rec: 1685' GIP

519' Clean Oil - Grav 40

121' SGOCM

(15% 6.35% CO, 55% M)

640' Total Fluid

IFP: 23-167#/45"

ISIP: 1244#/45"

FFP: 171-267#/45"

FSIP: 1215#/45"

EL 4403 (-1317)

DST #5: (4606-4650)

1st Op: BOB 3 3/4"

Blowback BOB 34 1/2"

2nd Op: BOB 5"

Blowback

P.O.R.T.A.L. System

1st Op: 8.9/45 min

Blowback 14.8/45 min

2nd Op: 2.2/30 min

Blowback 4.8/45 min

Rec: 289' GIP

289' Clean Oil - Grav 27

184' SGOCM

(15% 6.35% CO, 50% M)

473' Total Fluid

IFP: 53-153#/30"

ISIP: 826#/45"

FFP: 160-200#/30"

FSIP: 828#/45"

EL 4680 (-1594)

DST #5: (4606-4650)

1st Op: BOB 3 3/4"

Blowback BOB 34 1/2"

2nd Op: BOB 5"

Blowback

P.O.R.T.A.L. System

1st Op: 8.9/45 min

Blowback 14.8/45 min

2nd Op: 2.2/30 min

Blowback 4.8/45 min

Rec: 289' GIP

289' Clean Oil - Grav 27

184' SGOCM

(15% 6.35% CO, 50% M)

473' Total Fluid

IFP: 53-153#/30"

ISIP: 826#/45"

FFP: 160-200#/30"

FSIP: 828#/45"

EL 4680 (-1594)

DST #5: (4606-4650)

1st Op: BOB 3 3/4"

Blowback BOB 34 1/2"

2nd Op: BOB 5"

Blowback

P.O.R.T.A.L. System

1st Op: 8.9/45 min

Blowback 14.8/45 min

2nd Op: 2.2/30 min

Blowback 4.8/45 min

Rec: 289' GIP

289' Clean Oil - Grav 27

184' SGOCM

(15% 6.35% CO, 50% M)

473' Total Fluid

IFP: 53-153#/30"

ISIP: 826#/45"

FFP: 160-200#/30"

FSIP: 828#/45"

EL 4680 (-1594)

DST #5: (4606-4650)

1st Op: BOB 3 3/4"

Blowback BOB 34 1/2"

2nd Op: BOB 5"

Blowback

P.O.R.T.A.L. System

1st Op: 8.9/45 min

Blowback 14.8/45 min

2nd Op: 2.2/30 min

Blowback 4.8/45 min

Rec: 289' GIP

289' Clean Oil - Grav 27

184' SGOCM

(15% 6.35% CO, 50% M)

473' Total Fluid

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