

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 _____ 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	Edison Operating Company LLC
Well Name	CURTIS UNRUH 1-5
Doc ID	1371308

All Electric Logs Run

Dual Induction
CDNL
Micro
Sonic



PAGE	CUST NO	YARD #	INVOICE DATE
1 of 1	1007020	1718	10/03/2017
INVOICE NUMBER			
92534366			

Pratt (620) 672-1201
 B EDISON OPERATING COMPANY LLC
 I 8100 E 22ND ST N
 L WICHITA
 L KS US 67226
 T
 O ATTN: DAVID WITHROW

J LEASE NAME Curtis Unruh 1-5
 O LOCATION
 B COUNTY Comanche
 S STATE KS
 I JOB DESCRIPTION Cement-New Well Casing/Pi
 E JOB CONTACT

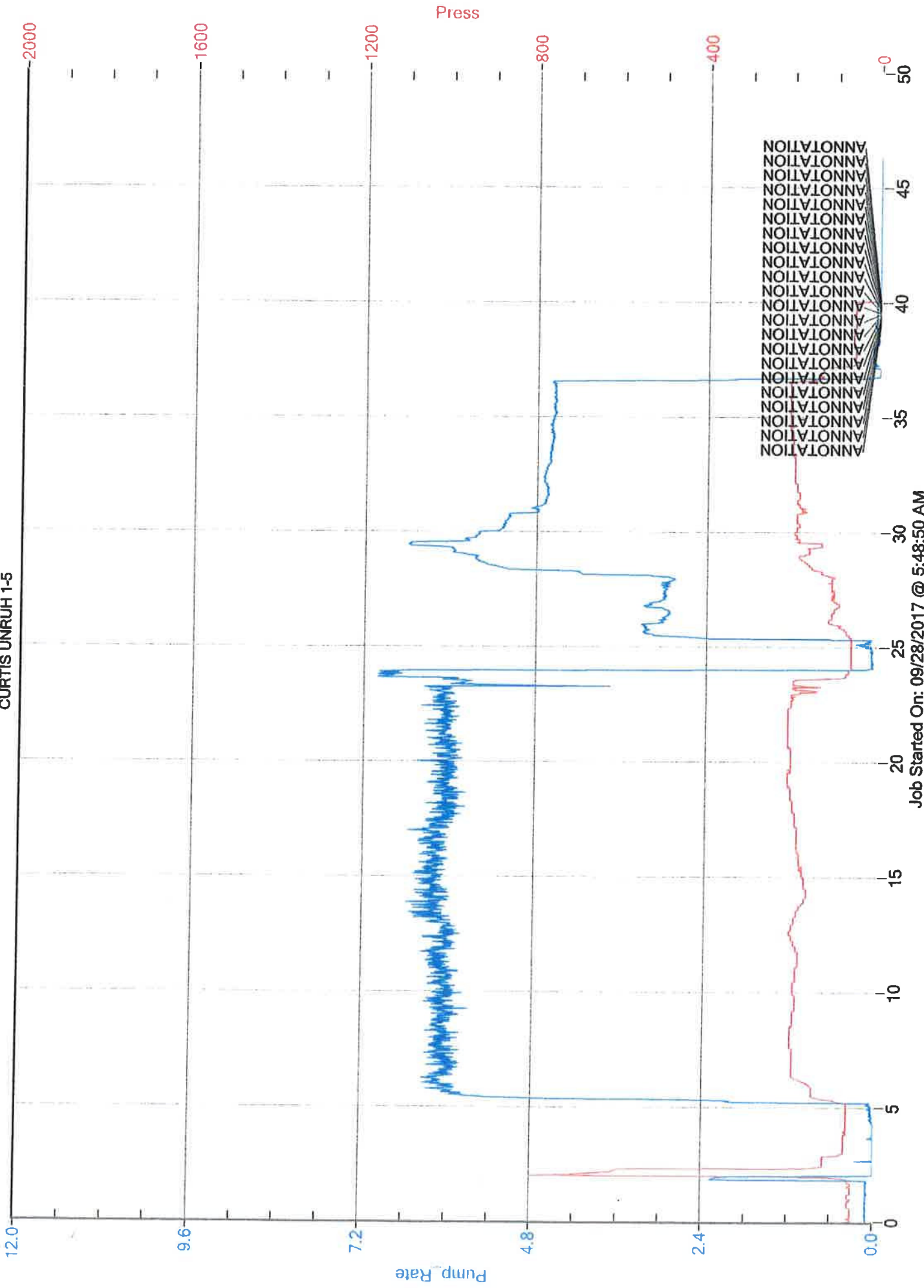
JOB #	EQUIPMENT #	PURCHASE ORDER NO.	TERMS	DUE DATE
41059713	19570		Net - 30 days	11/02/2017

	QTY	U of M	UNIT PRICE	INVOICE AMOUNT
<i>For Service Dates: 09/29/2017 to 09/29/2017</i>				
0041059713				
171814534L Cement-New Well Casing/Pi 09/29/2017 Cement Surface Casing				
Premium Plus Cement	350.00	EA	8.97	3,139.50
Celloflake	88.00	EA	2.04	179.52
Calcium Chloride	658.00	EA	0.58	381.64
"Unit Mileage Chg (PU, cars one way)"	50.00	MI	2.48	124.00
Heavy Equipment Mileage	100.00	MI	4.13	413.00
Proppant & Bulk Del. Chgs., per ton mil	823.00	EA	1.38	1,135.74
Blending & Mixing Service Charge	350.00	BAG	0.77	269.50
Plug Container Util. Chg.	1.00	EA	137.50	137.50
Depth Charge; 0-500'	1.00	EA	550.00	550.00
"Service Supervisor, first 8 hrs on loc.	1.00	EA	96.25	96.25

CEMENT For 13 3/8 SURF CSN.
9208
10/9 mg

PLEASE REMIT TO:	SEND OTHER CORRESPONDENCE TO:	SUB TOTAL	6,426.65
BASIC ENERGY SERVICES, LP	BASIC ENERGY SERVICES, LP	TAX	0.00
PO BOX 841903	801 CHERRY ST, STE 2100	INVOICE TOTAL	6,426.65
DALLAS, TX 75284-1903	FORT WORTH, TX 76102		

EDISON OPERATING CURTIS UNRUH 1-5



Job Started On: 09/28/2017 @ 5:48:50 AM



PAGE	CUST NO	YARD #	INVOICE DATE
1 of 1	1007020	1718	10/13/2017
INVOICE NUMBER			
92543933			

Pratt (620) 672-1201
 B EDISON OPERATING COMPANY LLC
 I 8100 E 22ND ST N
 L WICHITA
 L KS US 67226
 T
 O **ATTN:** DAVID WITHROW

J LEASE NAME Curtis Unruh 1-5
O LOCATION
B COUNTY Comanche
S STATE KS
I JOB DESCRIPTION Cement-New Well Casing/Pi
T JOB CONTACT
E

JOB #	EQUIPMENT #	PURCHASE ORDER NO.	TERMS	DUE DATE
41062111	19843		Net - 30 days	11/12/2017

	QTY	U of M	UNIT PRICE	INVOICE AMOUNT
<i>For Service Dates: 10/10/2017 to 10/10/2017</i>				
0041062111				
171815511A Cement-New Well Casing/Pi 10/10/2017 Cement-5 1/2" Long String				
AA2 Cement	190.00	EA	9.35	1,776.50
60/40 POZ	50.00	EA	6.60	330.00
C-41P	45.00	EA	2.20	99.00
Salt	958.00	EA	0.28	263.45
FLA-322	90.00	EA	4.13	371.25
Gilsonite	950.00	EA	0.37	350.07
Cement Gel	84.00	EA	0.14	11.55
"Auto Fill Float Shoe 5 1/2" (Blue)"	1.00	EA	198.00	198.00
"Latch Down Plug & Baffle, 5 1/2" (Blu	1.00	EA	220.00	220.00
"5 1/2" Basket (Blue)"	1.00	EA	159.50	159.50
"Turbolizer, 5 1/2" (Blue)"	10.00	EA	60.50	605.00
Mud Flush	500.00	EA	0.83	412.50
Claymax KCL Substitute	7.00	EA	19.25	134.75
"Unit Mileage Chg (PU, cars one way)"	50.00	MI	2.48	123.75
Heavy Equipment Mileage	100.00	MI	4.13	412.50
553.....Prop & Bulk Del.Chgs.per ton mil	1.00	EA	759.69	759.69
Depth Charge; 5001-6000'	1.00	EA	1,584.00	1,584.00
Blending & Mixing Service Charge	240.00	BAG	0.77	184.80
Plug Container Util. Chg.	1.00	EA	137.50	137.50
"Service Supervisor, first 8 hrs on loc.	1.00	EA	96.25	96.25

*CEMENTS FOR 5 1/2" CSN
9245*

*10/23/17
Mog*

PLEASE REMIT TO:	SEND OTHER CORRESPONDENCE TO:	SUB TOTAL	8,230.06
BASIC ENERGY SERVICES, LP	BASIC ENERGY SERVICES, LP	TAX	0.00
PO BOX 841903	801 CHERRY ST, STE 2100	INVOICE TOTAL	8,230.06
DALLAS, TX 75284-1903	FORT WORTH, TX 76102		



BASICSM
ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

TTAH
32

FIELD SERVICE TICKET
1718 15511 A

DATE _____ TICKET NO. _____

DATE OF JOB 10-10-17 DISTRICT Pratt		NEW WELL <input checked="" type="checkbox"/> OLD WELL <input type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/> CUSTOMER ORDER NO.:							
CUSTOMER Edison operating company		LEASE Curtis unruh WELL NO. 1-5							
ADDRESS		COUNTY Comanche STATE KS							
CITY STATE		SERVICE CREW MATTAI Program, COB							
AUTHORIZED BY		JOB TYPE: 2-42 5 1/2" long string							
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	TIME
19845	1						10-9-17	PM	6:00
						ARRIVED AT JOB		AM	10:50
						START OPERATION		AM	4:38
						FINISH OPERATION		AM	5:35
						RELEASED		AM	6:45
						MILES FROM STATION TO WELL			50

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: *[Signature]*
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CP105	AA-2 CMT	SK	190		3,230.00
CP103	60/40 P02	SK	50		600.00
CC105	C-41 P	LB	45		180.00
CC111	SALT	LB	958		479.00
CC129	FIA-322	LB	90		675.00
CC201	Silselite	LB	950		636.50
CC200	CMT Sel	LB	84		21.00
CF1251	Auto fill FIDAT 540 5 1/2	EA	1		360.00
CF607	ATCH DOWN Plug + baffle	EA	1		400.00
CF1901	BASKET	EA	1		290.00
CF1651	Turbolizer	PA	10		1100.00
CC151	Mud fluid	SM	500		750.00
C704	CITRYMAX	SM	7		245.00
E100	P. U. Miles	Mi	50		225.00
E101	heavy eq. Miles	Mi	100		750.00
E113	PROP + bulk del	TG	551		1,581.25
CE206	depth charge 500-6000'	4hr	1		2,880.00
CE240	Blend + mix	SK	240		336.00
CE504	Plug container	JOB	1		250.00
5003	Supervisor	EA	1		175.00
SUB TOTAL					14,963.75
CHEMICAL / ACID DATA:		SERVICE & EQUIPMENT		%TAX ON \$	
		MATERIALS		%TAX ON \$	
TOTAL					8,230.06

SERVICE REPRESENTATIVE Mike Mattai

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: *[Signature]*

FIELD SERVICE ORDER NO.

(WELL OWNER OPERATOR CONTRACTOR OR AGENT)



BASICSM
ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

FIELD SERVICE TICKET
1718 15511 A

DATE _____ TICKET NO. _____

DATE OF JOB: 10/12/17		DISTRICT: Pratt		NEW WELL <input type="checkbox"/>		OLD WELL <input type="checkbox"/>		PROD <input type="checkbox"/>		INJ <input type="checkbox"/>		WDW <input type="checkbox"/>		CUSTOMER ORDER NO.:	
CUSTOMER: E... ..				LEASE: C... ..				WELL NO.:							
ADDRESS:				COUNTY:				STATE:							
CITY:				STATE:				SERVICE CREW:							
AUTHORIZED BY:				JOB TYPE: 2-4" 56"											
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	PM	TIME					
						ARRIVED AT JOB									
						START OPERATION									
						FINISH OPERATION									
						RELEASED									
						MILES FROM STATION TO WELL				50					

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).

The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: _____
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CC 105	20'	50	110		3,230.00
CC 105	60 lbs	50	50		600.00
CC 105	2-4"	15	40		180.00
CC 111	SALT	15	935		471.00
CC 113	Flt 320	15	90		675.00
CC 201	Siltman	15	950		636.50
CC 300	CRK 501	15	80		21.00
CC 125	...				360.00
CC 607	...				400.00
CC 190	...				290.00
CC 205	...				1100.00
CC 151	...				750.00
CC 700	...				245.00
CC 100	...				275.00
CC 101	...				750.00
CC 102	...				1581.25
CC 206	...				2,880.00
CC 207	...				330.00
CC 208	...				25.00
CC 209	...				170.00
SUB TOTAL					14,943.25
SERVICE & EQUIPMENT				%TAX ON \$	
MATERIALS				%TAX ON \$	
TOTAL					8230.00

CHEMICAL / ACID DATA:			

SERVICE REPRESENTATIVE: _____	THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: _____ (WELL OWNER OPERATOR CONTRACTOR OR AGENT)
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FIELD SERVICE ORDER NO. _____

Customer EDISON OPERATING COMPANY	Lease No.	Date 10-10-17
Lease CURTIS UNRUH	Well # 1-5	
Field Order # 15311	Station Pratt	Casing 5 1/2
		Depth 5620
Type Job Z-42 5 1/2" Long String	Formation 5624	County COMMANCHE
	Shoe 43.94	State KS
		Legal Description S. 315-18W

PIPE DATA		PERFORATING DATA		FLUID USED		TREATMENT RESUME			
Casing Size 5 1/2	Tubing Size	Shots/Ft		Actd 221	190 SKS	AA-2	RATE	PRESS	ISIP
Depth 5620	Depth 5617	From	To	Pre Pad	5% syp. 10	Max	SALT	.25 PPS	5 Min
Volume 130.5	Volume	From	To	Pad	.5% FLUID	Min	5 PPS	915	10 Min.
Max Press 1,500	Max Press	From	To	Frac	50 SKS 60	Avg	40 PPS	490	15 Min.
Well Connection	Annulus Vol.	From	To			HHP Used			Annulus Pressure
Plug Depth 5573.1	Packer Depth	From	To	Flush	129.5	Gas Volume			Total Load

Customer Representative SANDER	Station Manager WESTERMAN	Treater MATTAI
Service Units 8335	19843	70959 19862
Driver Names MATTAI	MCSRAW	COBB

Time	Casing Pressure	Tubing Pressure	Bbbs. Pumped	Rate	Service Log
10:50					ON LOCATION / SAFETY MEETING
12:35					Run 5 1/2 17# csns, 43.94 shoe jr.
					BASKET ON #3 TUBES ON 1, 2, 11, 12
					13, 14, 19, 20, 21, 22
3:20					CASING ON BOTTOM
3:30					HOOK TO CSNG / BREAK CIRC W. RIS
4:38	300		20	4	PUMP 20 bbl KCL WATER
4:44	300		12	4	PUMP 500 gal. mud FLUSH
4:47	300		3	4	PUMP 3 bbl water
4:48	350		48	5.5	MIX 190 SKS AA-2
4:57			4	3	WASH PUMP + LINE / DIAP Plug
5:00	200			6	START KCL DISPLACEMENT
5:13	350		90	6	LIFT PRESSURE
5:18	500		120	3	SLOW RATE
5:21	1,500		129.5	-	PLUG DOWN, RELEASED + HOLD
					PLUG OUT + MUDS HOLD
					CIRCULATION THROUGH JOB
5:30					THE PLUG DID NOT HOLD + STARTED TO COME BACK
					START IN WELL
					WASHED PUMP + LINE
					PUMPED 5 bbls + LAMINAIR
					PLUG @ 1500 LBS, SHUT IN WELL PER CUSTOMER

JOB COMPLETE
THANK YOU!
MIRE + COLE



DRILL STEM TEST REPORT

Prepared For: **Edison Operating Company LLC**

8100 e.22nd St N.bldg 1900
Wichita,Kansas 67226

ATTN: Adam Kennedy

Curtis Unruh #1-5

5-31S-18W Commanche

Start Date: 2017.10.07 @ 12:26:00

End Date: 2017.10.07 @ 00:00:00

Job Ticket #: 01197 DST #: 1

Eagle Testers
1309 Patton Road Great Bend, Kansas 67530
620-791-7394

Printed: 2017.10.07 @ 08:27:09



DRILL STEM TEST REPORT

Edison Operating Company LLC

5-31S-18W Commanche

8100 e.22nd St N.bldg 1900
Wichita, Kansas 67226

Curtis Unruh #1-5

Job Ticket: 01197

DST#: 1

ATTN: Adam Kennedy

Test Start: 2017.10.07 @ 12:26:00

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:52:00

Time Test Ended: 00:00:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Gene Budig1

Unit No: 1

Interval: 50552.0 ft (KB) To 5100.0 ft (KB) (TVD)

Reference Elevations: 2160.00 ft (KB)

Total Depth: 5100.00 ft (KB) (TVD)

2150.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 9119

Inside

Press@RunDepth: 859.33 psig @ 5095.28 ft (KB)

Capacity: 5000.00 psig

Start Date: 2017.10.07 End Date: 2017.10.07

Last Calib.: 2017.10.07

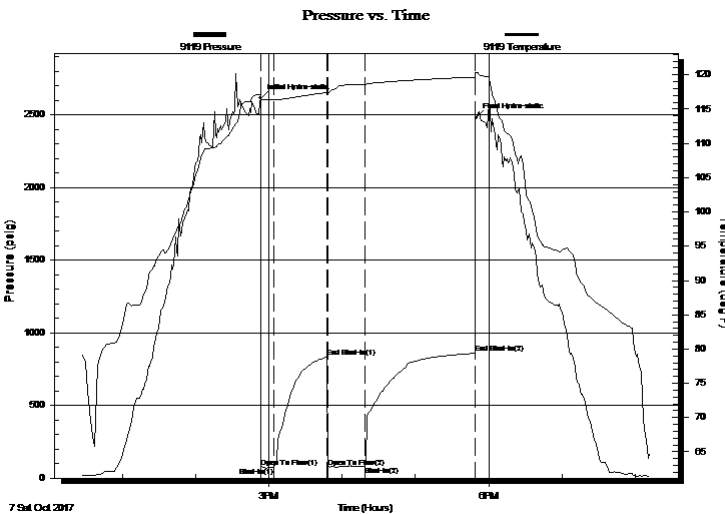
Start Time: 12:26:00 End Time: 20:12:00

Time On Btm: 2017.10.07 @ 14:53:00

Time Off Btm: 2017.10.07 @ 17:50:00

TEST COMMENT: 1st Opening 10 Minutes weak blow built to 2 inches
1st Shut-In 45 Minutes no blow back
2nd Opening 30 Minutes weak blow built to 3 inches
2nd shut-In 90 Minutes no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2615.13	117.12	Initial Hydro-static
1	76.99	116.44	Open To Flow (1)
11	73.86	116.34	Shut-In(1)
54	833.04	117.43	End Shut-In(1)
55	77.19	117.32	Open To Flow (2)
86	81.42	118.63	Shut-In(2)
176	859.33	119.68	End Shut-In(2)
177	2478.56	120.27	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
50.00	Drilling Mud	0.70

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



DRILL STEM TEST REPORT

Edison Operating Company LLC

5-31S-18W Commanche

8100 e.22nd St N.bldg 1900
Wichita, Kansas 67226

Curtis Unruh #1-5

Job Ticket: 01197

DST#: 1

ATTN: Adam Kennedy

Test Start: 2017.10.07 @ 12:26:00

GENERAL INFORMATION:

Formation: **Mississippi**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:52:00
 Time Test Ended: 00:00:00
 Interval: **50552.0 ft (KB) To 5100.0 ft (KB) (TVD)**
 Total Depth: 5100.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Gene Budig1
 Unit No: 1
 Reference Elevations: 2160.00 ft (KB)
 2150.00 ft (CF)
 KB to GR/CF: 10.00 ft

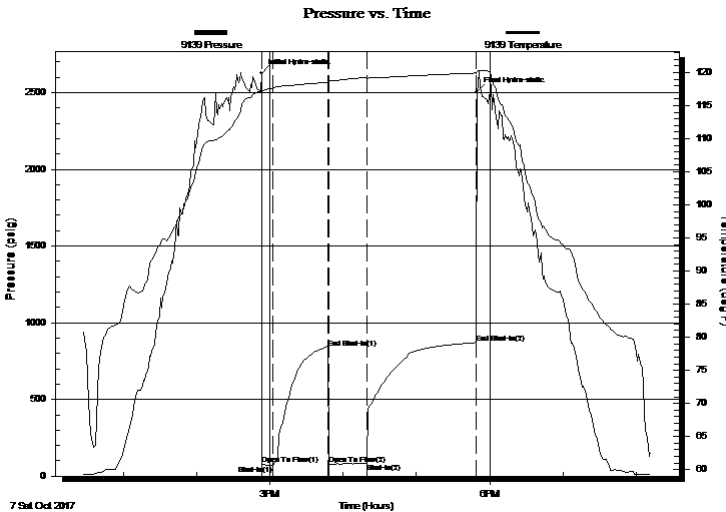
Serial #: 9139

Outside

Press@RunDepth: 870.31 psig @ 5095.28 ft (KB) Capacity: 5000.00 psig
 Start Date: 2017.10.07 End Date: 2017.10.07 Last Calib.: 2017.10.07
 Start Time: 12:26:00 End Time: 20:12:00 Time On Btm: 2017.10.07 @ 14:53:00
 Time Off Btm: 2017.10.07 @ 17:49:30

TEST COMMENT: 1st Opening 10 Minutes weak blow built to 2 inches
 1st Shut-In 45 Minutes no blow back
 2nd Opening 30 Minutes weak blow built to 3 inches
 2nd shut-In 90 Minutes no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2626.57	117.22	Initial Hydro-static
1	76.50	117.33	Open To Flow (1)
10	72.16	117.69	Shut-In(1)
55	835.96	118.54	End Shut-In(1)
55	77.42	118.71	Open To Flow (2)
86	82.66	119.25	Shut-In(2)
176	870.31	119.94	End Shut-In(2)
177	2505.48	120.15	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
50.00	Drilling Mud	0.70

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



DRILL STEM TEST REPORT

TOOL DIAGRAM

Edison Operating Company LLC

5-31S-18W Commanche

8100 e.22nd St N.bldg 1900
Wichita, Kansas 67226

Curtis Unruh #1-5

Job Ticket: 01197

DST#: 1

ATTN: Adam Kennedy

Test Start: 2017.10.07 @ 12:26:00

Tool Information

Drill Pipe:	Length: 5038.00 ft	Diameter: 3.80 inches	Volume: 70.67 bbl	Tool Weight:	2000.00 lb	
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb	
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	100000.0 lb	
			<u>Total Volume:</u>	70.67 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial	60000.00 lb	
Depth to Top Packer:	5052.00 ft			Final	60000.00 lb	
Depth to Bottom Packer:	ft					
Interval between Packers:	48.28 ft					
Tool Length:	78.28 ft					
Number of Packers:	2	Diameter:	6.75 inches			
Tool Comments:						

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			5027.00	
Hydraulic tool	5.00			5032.00	
Jars	5.00			5037.00	
Safety Joint	5.00			5042.00	
Packer	5.00			5047.00	30.00 Bottom Of Top Packer
Packer	5.00		Fluid	5052.00	
Change Over Sub	0.75			5052.75	
Drill Pipe	31.78			5084.53	
Change Over Sub	0.75		Inside	5085.28	
Anchor	10.00			5095.28	
Recorder	0.00	9119	Inside	5095.28	
Recorder	0.00	9139	Outside	5095.28	
Bullnose	5.00			5100.28	48.28 Bottom Packers & Anchor

Total Tool Length: 78.28



DRILL STEM TEST REPORT

FLUID SUMMARY

Edison Operating Company LLC

5-31S-18W Commanche

8100 e.22nd St N.bldg 1900
Wichita, Kansas 67226

Curtis Unruh #1-5

Job Ticket: 01197

DST#: 1

ATTN: Adam Kennedy

Test Start: 2017.10.07 @ 12:26:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length: ft

Water Salinity: ppm

Viscosity: 57.00 sec/qt

Cushion Volume: bbl

Water Loss: 9.60 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 60009.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
50.00	Drilling Mud	0.701

Total Length: 50.00 ft Total Volume: 0.701 bbl

Num Fluid Samples: 0

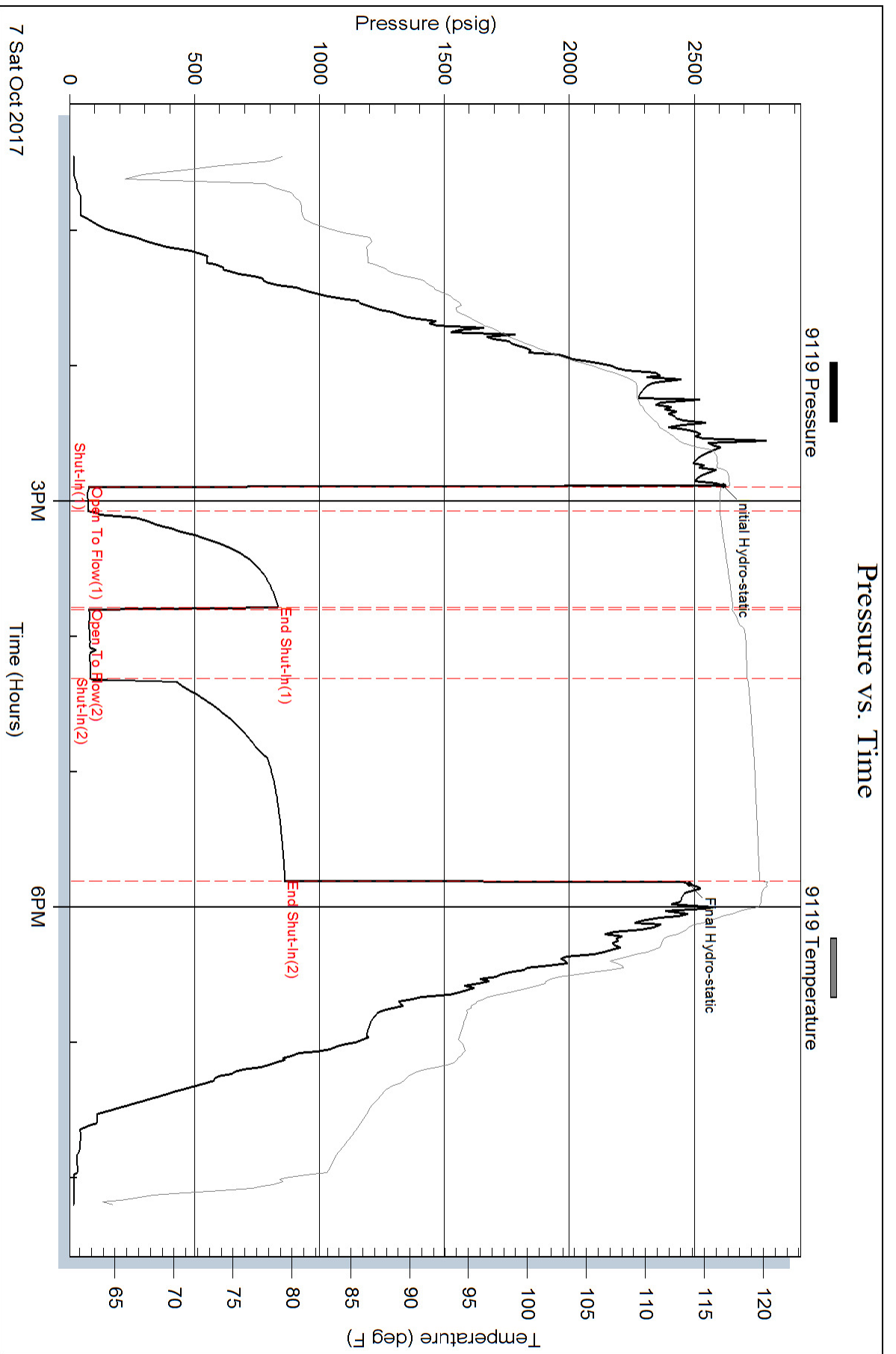
Num Gas Bombs: 0

Serial #:

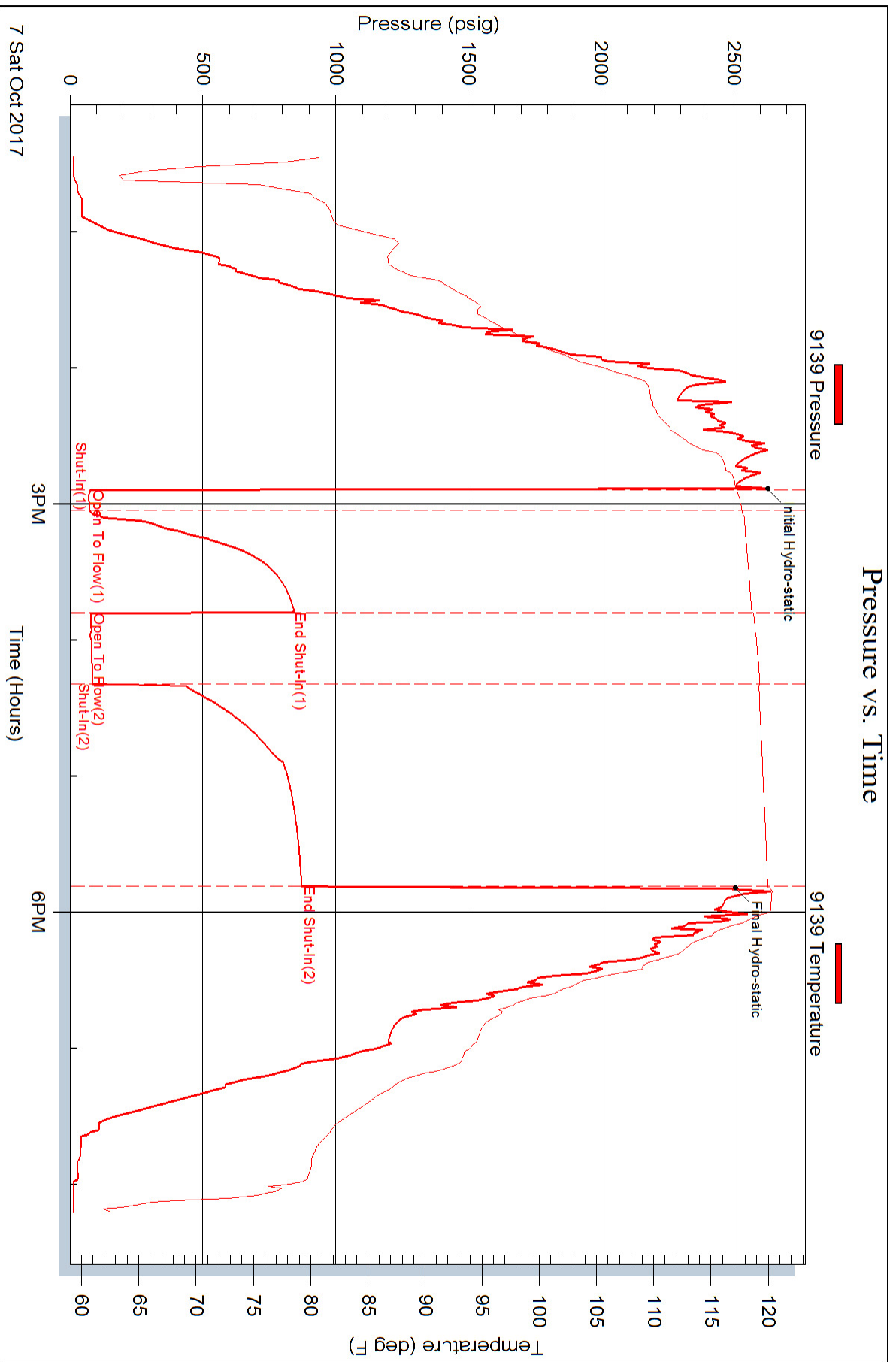
Laboratory Name:

Laboratory Location:

Recovery Comments:



Pressure vs. Time



Well Name: Curtis Unruh #1-5
 Surface Location: Sec. 5 - T31S - R18W
 Bottom Location: API: 15-033-21779-00-00
 License Number: 34434
 Spud Date: 9/29/2017
 Region: Comanche County
 Drilling Completed: 10/8/2017
 Surface Coordinates: 1445' FNL & 2199' FVL
 Bottom Coordinates: 2150.00ft
 Ground Elevation: 2160.00ft
 K.B. Elevation: 5620.00ft
 Logged Interval: 5620.00ft To: 5624.00ft
 Total Depth: 5620.00ft
 Formation: Mississippian
 Drilling Fluid Type: Chemical/Fresh Water Gel

OPERATOR
 Company: Edison Operating Company LLC
 Address: 8100 E. 22nd St. North
 Building 1900
 Wichita, KS 67226
 Contact Geologist: David Withrow
 Contact Phone Nbr: 316.613.1544
 Well Name: Curtis Unruh #1-5
 Location: Sec. 5 - T31S - R18W
 API: 15-033-21779-00-00
 Pool: Kansas
 State: Kansas
 Field: USA
 Country: USA

LOGGED BY
 Company: Edison Operating Company LLC
 Address: 8100 E. 22nd St. North
 Building 1900
 Wichita, KS 67226
 Phone Nbr: 316.650.9677
 Logged By: Geologist
 Name: Adam T. Kennedy

REMARKS

After review of open hole logs, DST results, and consulting log engineer, it was decided to run 5 1/2" production pipe to further test the Mississippian and Altamont for commercial quantities of oil and gas. The samples were saved and will be preserved at the sample library located in Wichita, Kansas.

Respectfully submitted,

Adam T. Kennedy
 Petroleum Geologist

GENERAL INFORMATION

Service Companies

Drilling Contractor: Southwind Drilling - Rig #8
 Tool Pusher: Bill Sanders
 Daylight Driller: Doug Roberts
 Evening Driller: Andrew Delgado
 Morning Driller: Carlos Martinez
 Logging Company: Ell Wireline
 Engineer: Jason C.
 Logs Ran: DUCP MICRO SON DI
 Testing Company: Eagle Testers
 Tester: Gene Buders

Gas Detector: Bluesom Environmental
 Engineer: Keith Reavis
 Unit: 5048
 Operational By: 3000'

Deviation Survey		Survey	
Depth	327		0
	17.778		3/4 deg
	2252		1 deg
	5100		1 deg
	5624		1 deg

Pipe Strap		Pipe Strap	
Depth	0		313
No Strap	0		5
	313		5100
	5100		5624
			109.75
			30

Bit Record							
Bit #	Size	Make	Type	Serial Number	Depth In	Depth Out	Feet
1	7 7/8	JZ	RH	0	0	313	5
2	7 7/8	JZ	FR	0	313	5100	4767
3	5 1/2	JZ	FR	0	5100	5624	109.75

Surface Casing

Ran 8 joints new 13 3/8" casing, tally @ 313' set @ 328'. Used 350 sacks of premium plus, 290cc, 1/4# poly flake, cement circulated, by Basic, (ticket #1718), plug down @ 06:30 hrs 9.29.17.

Production Casing

Ran 130 joints of new 17 1/2" casing, tally @ 5619'. Used 190 sacks of AA2, 50 sacks 60/40 poz, 4% gel, 30 sacks rathole 20 sacks mousehole, cemented by Basic (Ticket #15511), job complete @ 5:30 am 10.10.17.

DAILY DRILLING REPORT

Date	0700 Hrs Depth	Previous 24 Hours of Operations
10.4.17	4178'	Drilling and connections Topeka. Adam T. Kennedy on location @ 1200 hrs 10.4.17. Currently drilling ahead through Heeber, Douglas. WOB: 35k RPM; 70 PP; 1150 DMC: \$796.51 CMC: \$8,984.71
10.5.17	4640'	Drilling and connections Douglas, Lansing. CFS @ 4485'. Drilling and connections through Lansing "I". WOB: 35k RPM; 80 PP; 1000 DMC: \$356.71 CMC: \$9,341.42
10.6.17	5025'	Drilling and connections Lansing "J" through Marmont, Cherokee. Down for minor repairs to mud pump. Currently short tripping 40+ stands above Mississippian in preparation to DST the Miss. WOB: 35k RPM; 80 PP; 1000 DMC: \$3,761 CMC \$13,103.17.
10.7.17	5100'	Drilling and connections Cherokee through Miss. CFS @ 5079'. 5100'. Shows warrant test. Trip out of hole for DST #1. Slight delay due to high winds from thunderstorm, conduct DST #1 trip in hole with bit, prepare to drill ahead. WOB: 35k RPM; 80 PP; 1200 DMC: \$691.47 CMC: \$13,794.64
10.8.17	5450'	Drilling and connections Miss. Kinderhook. Currently drilling ahead through Kinderhook. WOB: 40k RPM; 80 PP; 1200 DMC: \$2,073.43 CMC: \$15,868.07
10.9.17	5620' - RTD 5624' - LTD	Drilling and connections Kinderhook, Viola. CFS @ 5473'. Rathole ahead to RTD of 5620'. RTD reached 2000 hours 10.8.17. Trip out of hole and conduct logging operations. Logging completed 07:03 hrs 10.9.17. Geologist off location 0900 hrs 10.9.17. WOB: 40k RPM; 80 PP; 1200 DMC: \$-207.23 CMC: \$15,660.84.

WELL COMPARISON SHEET

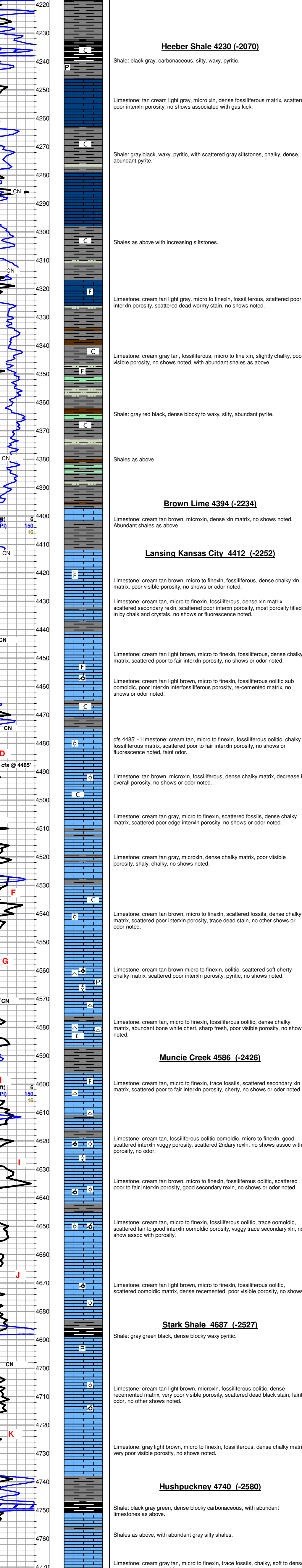
Well	Depth	Formation	Notes
DOL2	0-150	LMST2	SHALE CAR
DOL4	150-225	SILTSTONE	SHALE GRN
LMST1	225-313	SILT BRN	SHALE PUR
LMST4	313-327	SHALE BRN	SHALE TEAL
LMST5	327-341	SHALE BRN	SHALE YEL

ACCESSORIES

MINERAL	FOSSIL	STRINGER	TEXTURE
▲ Chert, dark	F Fossils < 20%	■ Shale Gray	C Chalky
▲ Glauconite	○ Collic		
▲ Nodules	○ Conoidic		
P Pyrite	× Sponge Spicules		
◄ Chert White			

OTHER SYMBOLS

MISC	DST
☐ Daily Report	☐ DST1
☐ Digital Photo	☐ DST2
☐ Document	☐ Core
☐ Folder	☐ Tail pipe
☐ Link	
☐ Vertical Log File	
☐ Horizontal Log File	
☐ Core Log File	
☐ Drill Cuttings Rpt	



dST 1.jpg

DRILL STEM TEST REPORT

Edison Operating Company LLC
 8100 E. 22nd St. North
 Wichita, Kansas 67226
 ATTN: Adam Koenneally

5-319-18W Comanche
 Job Title: **Curtis Unruh #1-5**
 DST#: 1
 Test Date: 2017.10.07 @ 12:26:00

GENERAL INFORMATION:

Formation: **Mississippian**
 Deviation: No Whistcock
 Time Tool Opened: 02:52:00
 Time Test Ended: 00:00:00
 Interval: **5050.0 ft (KB) To 5100.0 ft (KB) (TVS)**
 Total Depth: 5100.00 ft (KB)
 Hole Diameter: 7.188 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (bitball)
 Tester: Gene Budger
 Unit Nr: 1
 Reference Deviations: 2160.00 ft (KB)
 2150.00 ft (CF)
 10.00 ft

Serial #: 9119
 Press @ Run Depth: 850.33 psig @ 5095.28 ft (KB)
 Start Date: 2017.10.07
 12:26:00
 End Date: 2017.10.07
 20:12:00
 Capacity: 5000.00 psig
 Leak Cells: 2017.10.07 @ 14:53:00
 Time On Bore: 2017.10.07 @ 17:50:00
 Time Off Bore:

TEST COMMENT:

1st Opening 10 Minutes weak blow built to 2 inches
 1st Shut-in 40 Minutes no blow back
 2nd Opening 30 Minutes weak blow built to 3 inches
 2nd shut-in 90 Minutes no blow back

PRESSURE SUMMARY

Time (Min)	Pressure (psig)	Temp (Deg F)	Annotation
0	2815.13	117.12	Initial Hydro-static
1	76.09	116.64	Down To Flow (1)
11	73.06	116.34	Shut-In (1)
54	83.04	117.43	End Shut-In (1)
65	77.19	117.52	Down To Flow (2)
106	81.42	118.63	Shut-In (2)
176	85.33	119.89	End Shut-In (2)
177	2479.56	120.27	Final Hydro-static

Recovery	Volume (gal)
50.00	0.70

Gas Rates	Gas Rates (mg)	Gas Rates (MMSCF)

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 Job Title: Curtis Unruh #1-5
 DST#: 1
 Test Date: 2017.10.07 @ 12:26:00