

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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8759
8653

TICKET NUMBER 53576
 LOCATION Oakley KS
 FOREMAN Jerry Y
Walt Dinkel
INVOICE # 810951 KS

LD TICKET & TREATMENT REPORT
CEMENT

620-431-9210 or 800-467-8676

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
8-7-17	9999	Kuhlman Farms A#1	4	12S	34W	Logan
CUSTOMER Richard Drilling Gen Partnership						
MAILING ADDRESS 598 2nd Avenue						
CITY Blauvelt						
STATE KS						
ZIP CODE 67525						
			TRUCK #	DRIVER	TRUCK #	DRIVER
			731	Walt D		
			566	Keith C		

JOB TYPE Plug HOLE SIZE 7 7/8 HOLE DEPTH 4870 CASING SIZE & WEIGHT _____
 CASING DEPTH _____ DRILL PIPE 4 1/2 TUBING _____ OTHER _____
 SLURRY WEIGHT 13.8 SLURRY VOL 1.42 WATER gal/sk _____ CEMENT LEFT In CASING _____
 DISPLACEMENT _____ DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Softly mixing & rig up on White Knight plug as ordered with 240 sks
60/40 48 gal 7/8" #86 sand
50 sks @ 2700'
100 sks @ 1570'
50 sks @ 390'
10 sks @ 40' with 8 3/8 wiper plug
30 sks Rat hole
 Thank you
 Jerry & crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0451	1	PUMP CHARGE	1900.00	1900.00
CE0002	10	MILEAGE	7.15	71.50
CE0711	10.32	ten miling delivery (avn)	660.00	660.00
CC5829	240 sks	lite bleed IV	16.00	3840.00
CC6075	60 #	fb sand	3.00	180.00
CP8228	1	8 3/8 wiper plug	165.00	165.00
			Subtotal	6816.50
			- 30%	2044.95
			Subtotal	4771.55
			SALES TAX	234.36
			ESTIMATED TOTAL	5005.91

AUTHORIZATION Terry Austin 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.



Company: Richlan Drilling
Lease: Kuhlman Farms Inc. A
#1

SEC: 4 TWN: 12S RNG: 34W
County: LOGAN
State: Kansas
Drilling Contractor: White Knight
Drilling, LLC - Rig 1
Elevation: 3221 EGL
Field Name: Elaine West
Pool: Infield
Job Number: 42

DATE
August
04
2017

DST #1 Formation: Lans "H" Test Interval: 4281 - 4320' Total Depth: 4320'
Time On: 23:29 08/03 Time Off: 07:08 08/04
Time On Bottom: 01:55 08/04 Time Off Bottom: 04:40 08/04

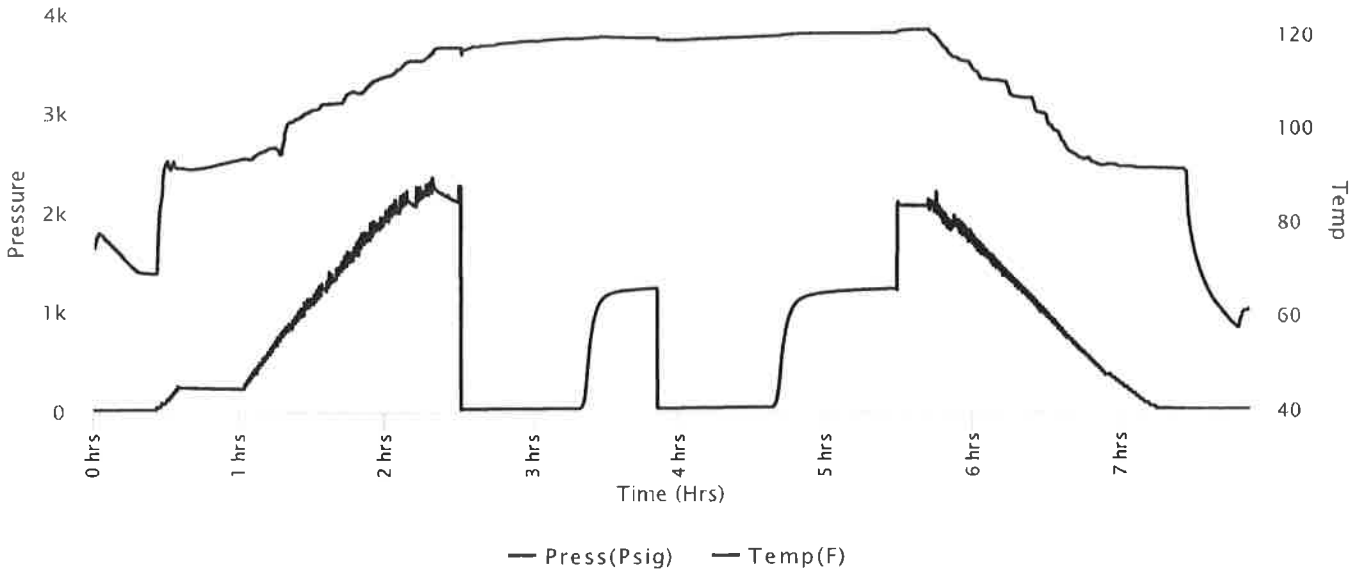
Electronic Volume Estimate:
27'

1st Open
Minutes: 45
1.4" at 45 min

1st Close
Minutes: 30
0" at 30 min

2nd Open
Minutes: 45
.9" at 45 min

2nd Close
Minutes: 45
0" at 45 min





Company: Richlan Drilling
Lease: Kuhlman Farms Inc. A
#1

SEC: 4 TWN: 12S RNG: 34W
 County: LOGAN
 State: Kansas
 Drilling Contractor: White Knight
 Drilling, LLC - Rig 1
 Elevation: 3221 EGL
 Field Name: Elaine West
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DATE
 August
04
 2017

DST #1 **Formation: Lans "H"** **Test Interval: 4281 - 4320'** **Total Depth: 4320'**
 Time On: 23:29 08/03 Time Off: 07:08 08/04
 Time On Bottom: 01:55 08/04 Time Off Bottom: 04:40 08/04

Recovered

Foot	BBLS	Description of Fluid	Gas %	Oil %	Water %	Mud %
52	0.73996	M	0	0	0	100

Total Recovered: 52 ft
 Total Barrels Recovered: 0.73996

Reversed Out
 NO

Recovery at a glance

Initial Hydrostatic Pressure	2116	PSI
Initial Flow	28 to 37	PSI
Initial Closed in Pressure	1247	PSI
Final Flow Pressure	40 to 47	PSI
Final Closed in Pressure	1237	PSI
Final Hydrostatic Pressure	2111	PSI
Temperature	121	°F
Pressure Change Initial Close / Final Close	0.9	%

BBL
 0.5
 0



Recovery
 ● Gas 0% ● Oil 0% ● Water 0% ● Mud 100%



Company: Richlan Drilling
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#1

SEC: 4 TWN: 12S RNG: 34W
County: LOGAN
State: Kansas
Drilling Contractor: White Knight
Drilling, LLC - Rig 1
Elevation: 3221 EGL
Field Name: Elaine West
Pool: Infield
Job Number: 42

<p><u>DATE</u> August 04 2017</p>
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DST #1 **Formation: Lans** **Test Interval: 4281 -** **Total Depth: 4320'**
 "H" **4320'**

Time On: 23:29 08/03 Time Off: 07:08 08/04
Time On Bottom: 01:55 08/04 Time Off Bottom: 04:40 08/04

REMARKS:

Tool Sample: 100% M



Company: Richlan Drilling
Lease: Kuhlman Farms Inc. A
#1

SEC: 4 TWN: 12S RNG: 34W
 County: LOGAN
 State: Kansas
 Drilling Contractor: White Knight
 Drilling, LLC - Rig 1
 Elevation: 3221 EGL
 Field Name: Elaine West
 Pool: Infield
 Job Number: 42

DATE
 August
04
 2017

DST #1 **Formation: Lans** **Test Interval: 4281 -** **Total Depth: 4320'**
 "H" **4320'**
 Time On: 23:29 08/03 Time Off: 07:08 08/04
 Time On Bottom: 01:55 08/04 Time Off Bottom: 04:40 08/04

Down Hole Makeup

Heads Up: 29.42 FT	Packer 1: 4276 FT
Drill Pipe: 4285.26 FT <i>ID-3 1/2</i>	Packer 2: 4281 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4268 FT
Collars: 0 FT <i>ID-2 1/4</i>	Bottom Recorder: 4286 FT
Test Tool: 26.16 FT <i>ID-3 1/2-FH</i>	Well Bore Size: 7 7/8
Total Anchor: 39	Surface Choke: 1"
	Bottom Choke: 5/8"
<u>Anchor Makeup</u>	
Packer Sub: 1 FT	
Perforations: (top): 3 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: Richlan Drilling
Lease: Kuhlman Farms Inc. A
#1

SEC: 4 TWN: 12S RNG: 34W
County: LOGAN
State: Kansas
Drilling Contractor: White Knight
Drilling, LLC - Rig 1
Elevation: 3221 EGL
Field Name: Elaine West
Pool: Infield
Job Number: 42

<p><u>DATE</u> August 04 2017</p>

DST #1	Formation: Lans "H"	Test Interval: 4281 - 4320'	Total Depth: 4320'
	Time On: 23:29 08/03	Time Off: 07:08 08/04	
	Time On Bottom: 01:55 08/04	Time Off Bottom: 04:40 08/04	

Mud Properties

Mud Type: Chemical	Weight: 9.6	Viscosity: 50	Filtrate: 16	Chlorides: 7000 ppm
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Company: Richlan Drilling
Lease: Kuhlman Farms Inc. A
#1

SEC: 4 TWN: 12S RNG: 34W
 County: LOGAN
 State: Kansas
 Drilling Contractor: White Knight
 Drilling, LLC - Rig 1
 Elevation: 3221 EGL
 Field Name: Elaine West
 Pool: Infield
 Job Number: 42

DATE
 August
06
 2017

DST #2 **Formation: Johnson** **Test Interval: 4666 - 4712'** **Total Depth: 4712'**
 Time On: 21:02 08/05 Time Off: 03:56 08/06
 Time On Bottom: 23:54 08/05 Time Off Bottom: 01:54 08/06

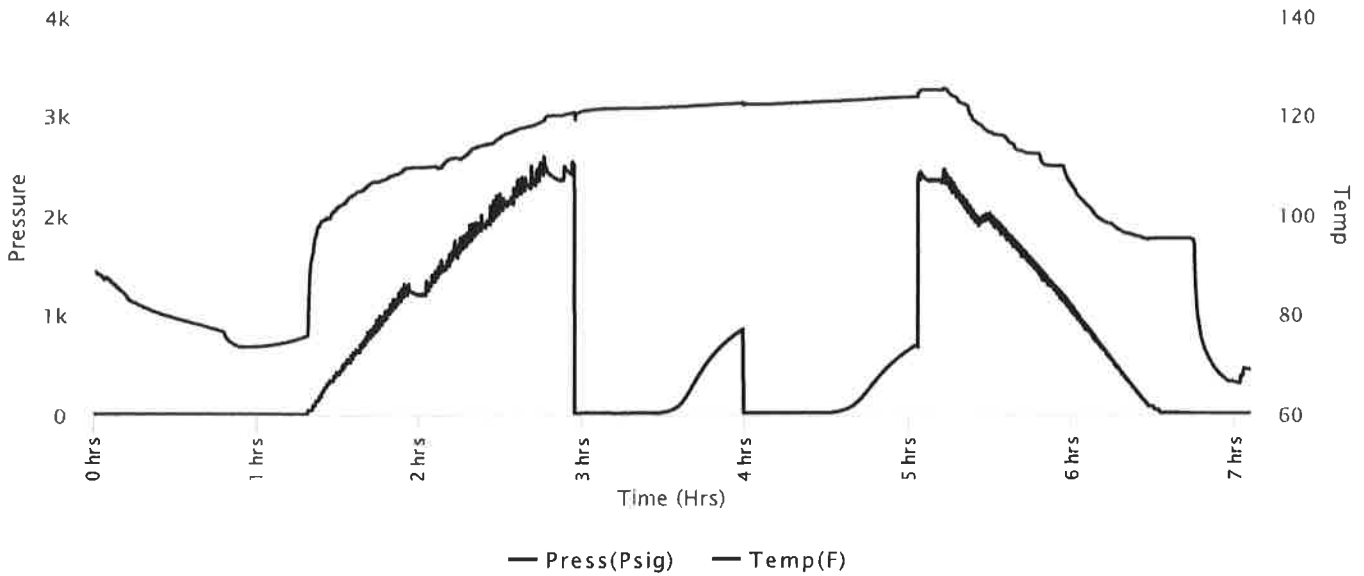
Electronic Volume Estimate:
 6'

1st Open
 Minutes: 30
 .5" at 30 min

1st Close
 Minutes: 30
 0" at 30 min

2nd Open
 Minutes: 30
 0" at 30 min

2nd Close
 Minutes: 30
 0" at 30 min





Company: Richlan Drilling
Lease: Kuhlman Farms Inc. A
#1

SEC: 4 TWN: 12S RNG: 34W
 County: LOGAN
 State: Kansas
 Drilling Contractor: White Knight
 Drilling, LLC - Rig 1
 Elevation: 3221 EGL
 Field Name: Elaine West
 Pool: Infield
 Job Number: 42

DATE
 August
06
 2017

DST #2 **Formation:** Johnson **Test Interval:** 4666 - 4712' **Total Depth:** 4712'

Time On: 21:02 08/05 Time Off: 03:56 08/06
 Time On Bottom: 23:54 08/05 Time Off Bottom: 01:54 08/06

Recovered

Foot	BBLs
10	0.1423

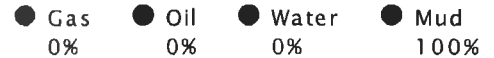
Description of Fluid	Gas %	Oil %	Water %	Mud %
M	0	0	0	100

Total Recovered: 10 ft
 Total Barrels Recovered: 0.1423

Reversed Out
 NO

Recovery at a glance

Initial Hydrostatic Pressure	2370	PSI	0.1
Initial Flow	27 to 28	PSI	BBL
Initial Closed in Pressure	866	PSI	
Final Flow Pressure	29 to 29	PSI	
Final Closed in Pressure	711	PSI	0
Final Hydrostatic Pressure	2366	PSI	
Temperature	125	°F	
Pressure Change Initial Close / Final Close	17.9	%	





Company: Richlan Drilling
Lease: Kuhlman Farms Inc. A
#1

SEC: 4 TWN: 12S RNG: 34W
County: LOGAN
State: Kansas
Drilling Contractor: White Knight
Drilling, LLC - Rig 1
Elevation: 3221 EGL
Field Name: Elaine West
Pool: Infield
Job Number: 42

<p>DATE August 06 2017</p>
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DST #2	Formation: Johnson	Test Interval: 4666 - 4712'	Total Depth: 4712'
	Time On: 21:02 08/05	Time Off: 03:56 08/06	
	Time On Bottom: 23:54 08/05	Time Off Bottom: 01:54 08/06	

REMARKS:

Tool Sample: 100% M



Company: Richlan Drilling
Lease: Kuhlman Farms Inc. A
#1

SEC: 4 TWN: 12S RNG: 34W
County: LOGAN
State: Kansas
Drilling Contractor: White Knight
Drilling, LLC - Rig 1
Elevation: 3221 EGL
Field Name: Elaine West
Pool: Infield
Job Number: 42

DATE August 06 2017
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DST #2	Formation: Johnson	Test Interval: 4666 - 4712'	Total Depth: 4712'
	Time On: 21:02 08/05	Time Off: 03:56 08/06	
	Time On Bottom: 23:54 08/05	Time Off Bottom: 01:54 08/06	

Down Hole Makeup

Heads Up: 24.53 FT	Packer 1: 4661 FT
Drill Pipe: 4665.37 FT <i>ID-3 1/2</i>	Packer 2: 4666 FT
Weight Pipe: 0 FT <i>ID-2 7/8</i>	Top Recorder: 4653 FT
Collars: 0 FT <i>ID-2 1/4</i>	Bottom Recorder: 4671 FT
Test Tool: 26.16 FT <i>ID-3 1/2-FH</i>	Well Bore Size: 7 7/8
Total Anchor: 46	Surface Choke: 1"
<u>Anchor Makeup</u>	
Packer Sub: 1 FT	Bottom Choke: 5/8"
Perforations: (top): 3 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): 42 FT <i>4 1/2-FH</i>	



Company: Richlan Drilling
Lease: Kuhlman Farms Inc. A
#1

SEC: 4 TWN: 12S RNG: 34W
County: LOGAN
State: Kansas
Drilling Contractor: White Knight
Drilling, LLC - Rig 1
Elevation: 3221 EGL
Field Name: Elaine West
Pool: Infield
Job Number: 42

DATE August 06 2017
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DST #2	Formation: Johnson	Test Interval: 4666 - 4712'	Total Depth: 4712'
	Time On: 21:02 08/05	Time Off: 03:56 08/06	
	Time On Bottom: 23:54 08/05	Time Off Bottom: 01:54 08/06	

Mud Properties

Mud Type: Chemical **Weight:** 9.6 **Viscosity:** 50 **Filtrate:** 16 **Chlorides:** 7000 ppm



620-431-9210 or 800-467-8676

**WELD TICKET & TREATMENT REPORT
CEMENT**

WELD TICKET NUMBER 53573
 LOCATION Oakley, KS
 FOREMAN Jerry Y

Invoice # 810858 KS

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
7-29-17	9999	Kuhman Farms A # 1	4	12S	34W	Logan
CUSTOMER			TRUCK #	DRIVER	TRUCK #	DRIVER
Richlan Drilling & Gen. Partnership			731-	Cory D		
MAILING ADDRESS			479-	Steve O		
598 2 nd Ave.			639-			
CITY	STATE	ZIP CODE				
Beaver	KS	67525				

JOB TYPE Surface HOLE SIZE 12 1/4 HOLE DEPTH 350' CASING SIZE & WEIGHT 8 5/8 20#
 CASING DEPTH 348 DRILL PIPE _____ TUBING _____ OTHER _____
 SLURRY WEIGHT 15.7 SLURRY VOL 1.24 WATER gal/sk _____ CEMENT LEFT IN CASING 20'
 DISPLACEMENT 2166l DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Safety meeting on rig upon White Knight circulate casing with
rig tree mix 240 sks com 3/8 cc 28 gal wash ap & displace with 2166l
fresh water & shut in.

Cement circulated
to surface 😊

Thank you
Jerry & crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0471	1	PUMP CHARGE	1150.00	1150.00
CE0002	10	MILEAGE	7.15	71.50
CE0711	11.28	ton mileage delivery (min)	660.00	660.00
CC5871	240sks	surface blend TL	23.00	5520.00
			Subtotal	7401.50
			30% disc.	2220.45
			Subtotal	5181.05
Contact	Rick Schreiber	1-620-587-3605		
			SALES TAX	309.12
			ESTIMATED TOTAL	5490.17

Revin 3737

AUTHORIZATION

Terry Austin

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.



Musgrove

Petroleum Geology
212 Main Street, Claflin KS

NOTES

Company: Richlan Drilling

Lease: Kuhlman Farms Inc. A #1

Location: NW-NE-SW-SE(1180' FSL & 1770' FEL)

Sec: 04 Twsp: 12S Rge: 34W

County: Logan State: Kansas

Field: Elaine West

GL: 3221' KB: 3226'

Contractor: White Knight Drilling, LLC

Spud: 08/01/2017 Comp: 08/07/2017

RTD: 4860' LTD: 4858'

Mud Up: 3700' Type Mud: Chemical

API #: 15-109-21514-00-00

Surface Casing: 8 5/8" @ 348'

Production Casing: None

Formation Testing: Trilobite Testing Co.

Electronic Surveys: Pioneer Energy Services: DIL, MEL, DUCPL

Samples Saved From: 3700' to RTD

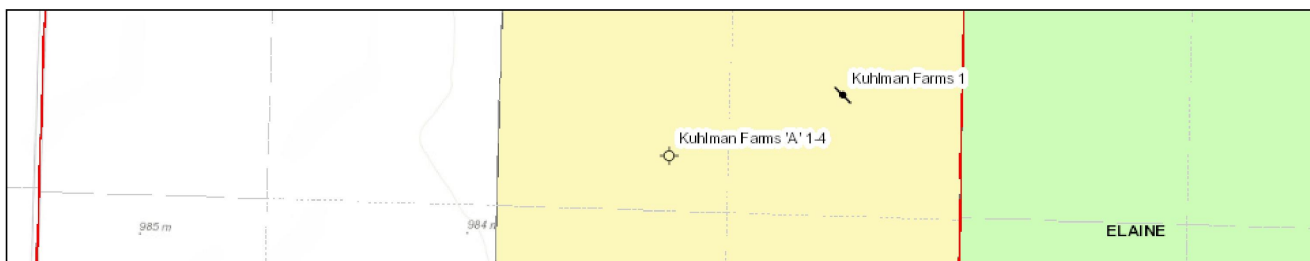
Drilling Time Kept From: 3700' to RTD

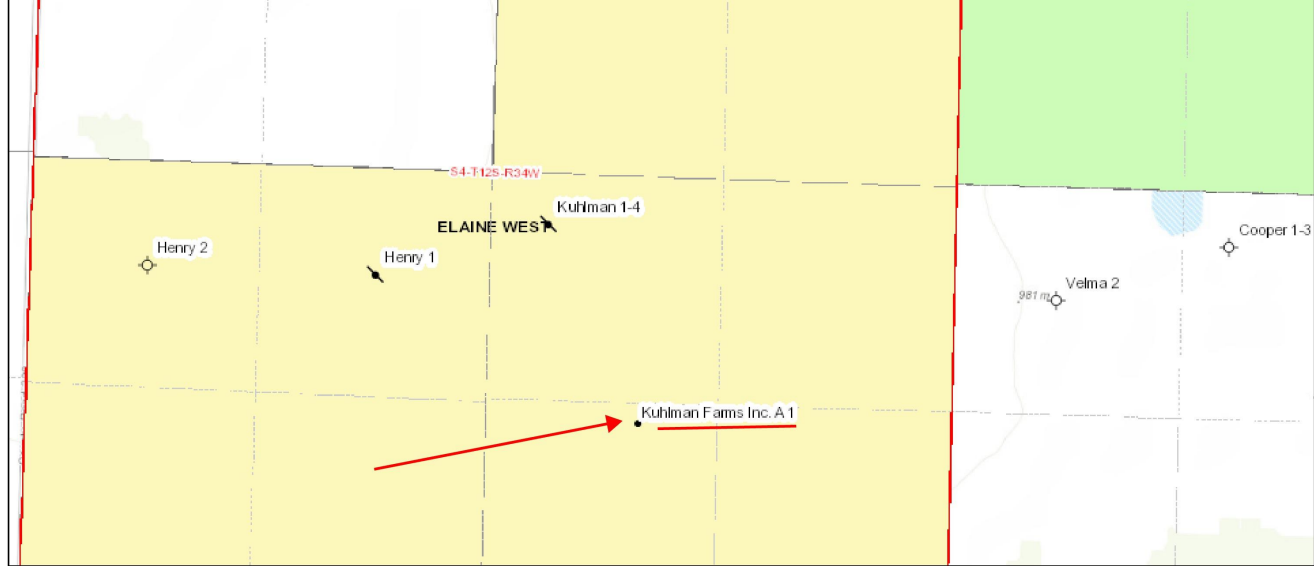
Samples Examined From: 3700' to RTD

Geological Supervision from: 3700' to RTD

Geologist on Well: Jim Musgrove 3700'-4650' & Wyatt Urban 4650'-RTD

Richlan Drilling- Kuhlman Farms Inc. A #1





RICHLAN DRILLING WELL COMPARISON SHEET

Formation	DRILLING WELL				COMPARISON WELL				COMPARISON WELL			
	Richlan Drilling-Kuhlman 1				D.G. Hansen-Kuhlman 1-4				Beren Corp.- Velma #2			
	NW-NE-SW-SE 04-12S-34W				NW-NW-SE 04-12S-34W				C-NW-SW 03-12S-34W			
	3226	KB			3231	KB	Structural Relationship		3222	KB	Structural Relationship	
	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Anhydrite	2689	537	2936	290	2676	555	-18	-265	2685	537	0	-247
B. Anhydrite	2712	514	2952	274	2700	531	-17	-257	2708	514	0	-240
Topeka	3865	-639	3864	-638	3865	-634	-5	-4				
Heebner	4095	-869	4093	-867	4094	-863	-6	-4	4094	-872	3	5
Toronto	4121	-895	4118	-892	4120	-889	-6	-3	4118	-896	1	4
Lansing	4142	-916	4138	-912	4139	-908	-8	-4	4137	-915	-1	3
Muncie Creek	4286	-1060	4285	-1059								
Stark Shale	4373	-1147	4374	-1148	4375	-1144	-3	-4	4369	-1147	0	-1
BKC	4443	-1217	4439	-1213	4440	-1209	-8	-4	4429	-1207	-10	-6
Pawnee	4570	-1344	4569	-1343	4564	-1333	-11	-10	4560	-1338	-6	-5
Myrick Station	4613	-1387	4609	-1383								
Ft. Scott	4633	-1407	4625	-1399	4624	-1393	-14	-6	4616	-1394	-13	-5
Cherokee Shale	4658	-1432	4658	-1432	4653	-1422	-10	-10	4646	-1424	-8	-8
Johnson	4704	-1478	4692	-1466	4699	-1468	-10	2	4691	-1469	-9	3
Mississippian	4795	-1569	4793	-1567	4804	-1573	4	6	4781	-1559	-10	-8
RTD	4860	-1634	4860	-1634	4837	-1606	-28	-28	4810	-1588	-46	-46
LTD	4858	-1632	4858	-1632	4837	-1606	-26	-26	4811	-1589	-43	-43



Company: Richlan Drilling
Lease: Kuhlman Farms Inc A #1

Tester: Ricky Ray
On-Site Contact: Jim Musgrove

SEC: 4 TWN: 12S RNG: 34W
County: LOGAN
State: Kansas
Drilling Contractor: White Knight Drilling LLC Rig 1
Elevation: 3221 EGL
Field Name: Elaine West
Pool: INFIELD
Job Number: 42

DATE
August
04
2017

DST #1 **Formation: LANS H** **Test Interval: 4281 - 4320'** **Total Depth: 4320'**
Time On: 23:29 08/03 Time Off: 07:08 08/04
Time On Bottom: 01:55 08/04 Time Off Bottom: 04:40 08/04

Mud Properties

Down Hole Makeup

Gas To Surface: NO

Tester Communication

Well Flow: NO

Default View

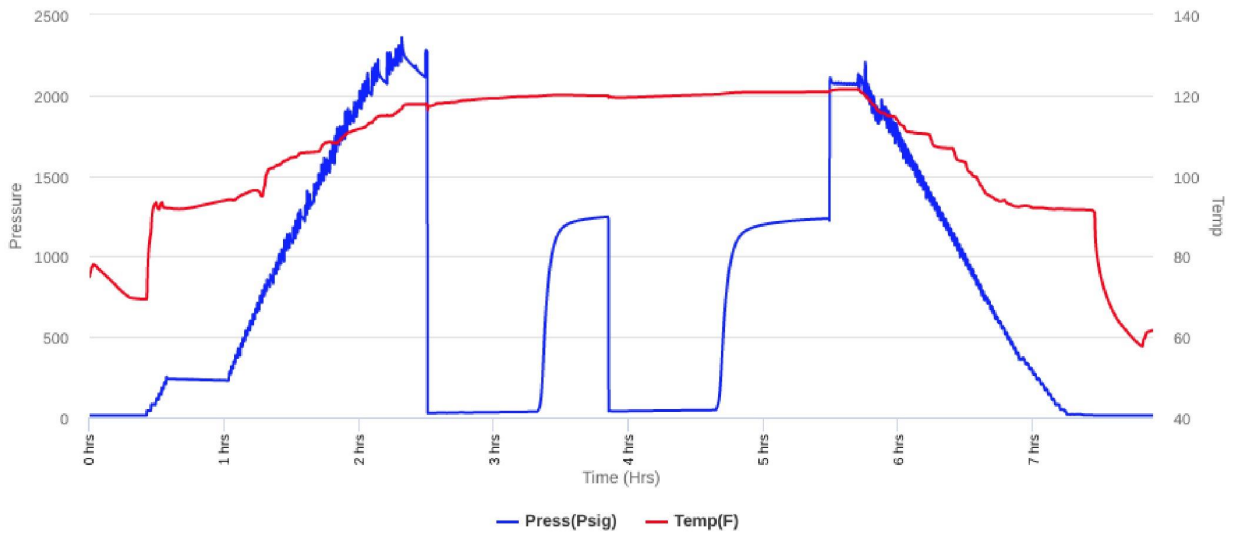
Electronic Volume Estimate:
27'

1st Open
Minutes: 45
1.4" at 45 min

1st Close
Minutes: 30
0" at 30 min

2nd Open
Minutes: 45
.9" at 45 min

2nd Close
Minutes: 45
0" at 45 min



Recovered		Description of Fluid	Gas %	Oil %	Water %	Mud %
Foot	BBLs					
52	0.73996	M	0	0	0	100

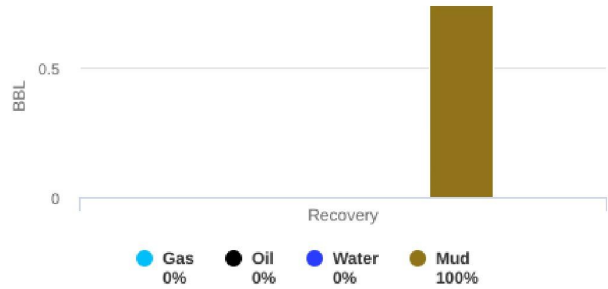
Total Recovered: 52 ft
Total Barrels Recovered: 0.73996

Reversed Out
NO

Recovery at a glance

Exclude Gas

Initial Hydrostatic Pressure	2116	PSI
Initial Flow	28 to 37	PSI
Initial Closed in Pressure	1247	PSI
Final Flow Pressure	40 to 47	PSI
Final Closed in Pressure	1237	PSI
Final Hydrostatic Pressure	2111	PSI
Temperature	121	°F
Pressure Change Initial Close / Final Close	0.9	%



REMARKS:
Tool Sample. 100 % M

Estimated Daily Production

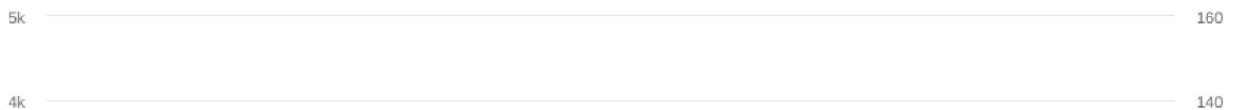


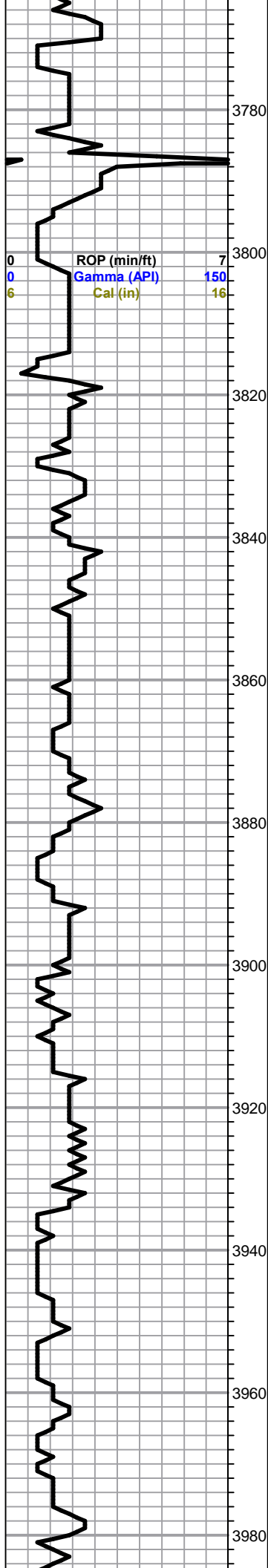
Company: Richlan Drilling
Lease: Kuhlman Farms Inc. A #1

Tester: Ricky Ray
On-Site Contact: Jim Musgrove

SEC: 4 TWN: 12S RNG: 34W
County: LOGAN
State: Kansas
Drilling Contractor: White Knight Drilling, LLC - Rig 1
Elevation: 3221 EGL
Field Name: Elaine West
Pool: Infield
Job Number: 42

DATE August 06 2017	DST #2	Formation: Johnson	Test Interval: 4666 - 4712'	Total Depth: 4712'
		Time On: 21:02 08/05 Time On Bottom: 23:54 08/05	Time Off: 03:56 08/06 Time Off Bottom: 01:54 08/06	
Mud Properties	Down Hole Makeup	Gas To Surface: NO		
	Tester Communication	Well Flow: NO		Default View
Electronic Volume Estimate: 6'	<u>1st Open</u> Minutes: 30 .5" at 30 min	<u>1st Close</u> Minutes: 30 0" at 30 min	<u>2nd Open</u> Minutes: 30 0" at 30 min	<u>2nd Close</u> Minutes: 30 0" at 30 min





-Poor Samples-

Howard 3841.0 (-615.0)

Abundt. red, maroon, green, shales, tr. anhy/ gyp.
 Visc. not high enough to catch representative samples

Topeka 3865.0 (-640.0)

LS, white, fxl, gran. in pts, chalky, poor visible porosity
 (slug mar, shale)

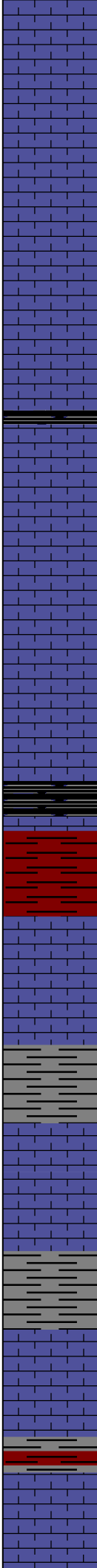
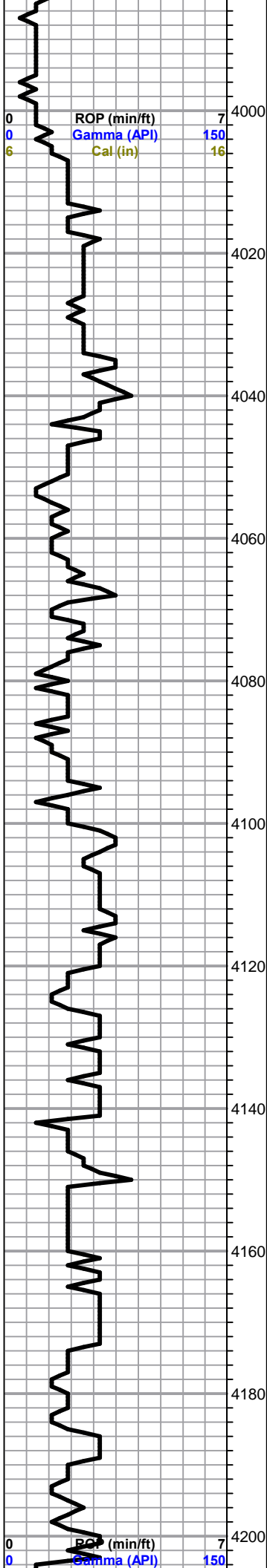
LS, white, cream, chalky

Depth: 3260.0
 Date: 08/01/2017
 MUD: Chemical
 Wt.: 8.3
 Cl: 2500
 pH: 10.6
 VIS: 70+

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

Depth: 3850.0
 Date: 08/02/2017
 MUD: Chemical
 Wt.: 8.8
 Cl: 5500
 pH: 7.8
 VIS: 57

-Poor Samples



Sand, gry, light gry, silty, few clean & friable, no shows

LS, white, cream, gry, fxl, foss, poor visible porosity, no shows,

LS, gry, white, foss, sparry, calcite, cement,

Sh, black carb

LS, white, gry, slightly cherty, dense, no shows

LS, white, tan, fxl, chalky, cherty, poor visible porosity no shows

Heebner 4095.0 (-869.0)

Black carb shale

Sh, maroon, rusty, brown

Toronto 4121.0 (-895.0)

LS, white, ool, chalky, tr. spty brown stain, nsfo, no odor

Lansing 4142.0 (-916.0)

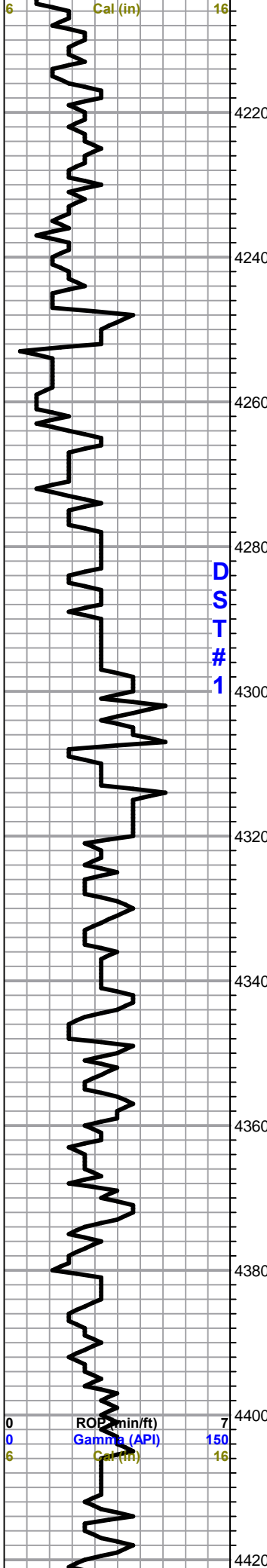
LS, white, fxl, finely ool, dense, no shows

LS, white, gry, f-med xln, scattered porosity (barren)

Sh, maroon, rusty, brown, no shows

Total Gas (units)	100
C1 (units)	100
C2 (units)	100
C3 (units)	100
C4 (units)	100

Total Gas (units)	100
C1 (units)	100



LS, gry, white, ool, poor visible porosity

LS, white, foss, chalky
Slug white chalk

LS, white, f-med xln, foss, chalky, tr. spty stain, nsfo, no odor

LS, white, cream, fxl, few foss, chalky, poorly dev. porosity, no shows

Muncie Creek Sh. 4292.0 (-1066.0)

Sh, black carb

LS, white, cream, ool, scattered visible porosity, brn stain, sfo

LS, white, cream, ool, fair vuggy porosity, brown stain, sfo, fair - good odor

Sh, black carb

LS, white, cream, fxl, ool, dense

LS, a/a, poor visible porosity, no shows

Stark Shale 4373.0 (-1147.0)

Tr. black carb

LS, white, gry, chalky, no shows

LS, white, gry, fxl, few ool, tr. black stain, nsfo, no odor

-Poor Samples- visc. not high enough to catch samples. ??

(95% of up hole cavings- anhydrite, surface sands, red

0 C2 (units) 100
0 C3 (units) 100
0 C4 (units) 100

Depth: 4220.0
Date: 08/03/2017
MUD: Chemical
Wt.: 9.3
Cl: 7000
pH: 7.9
VIS: 56

DST#1 4281-4320
45-30-45-30

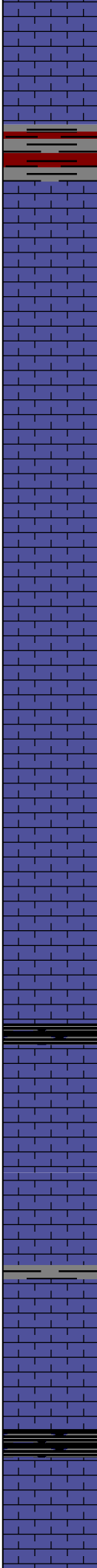
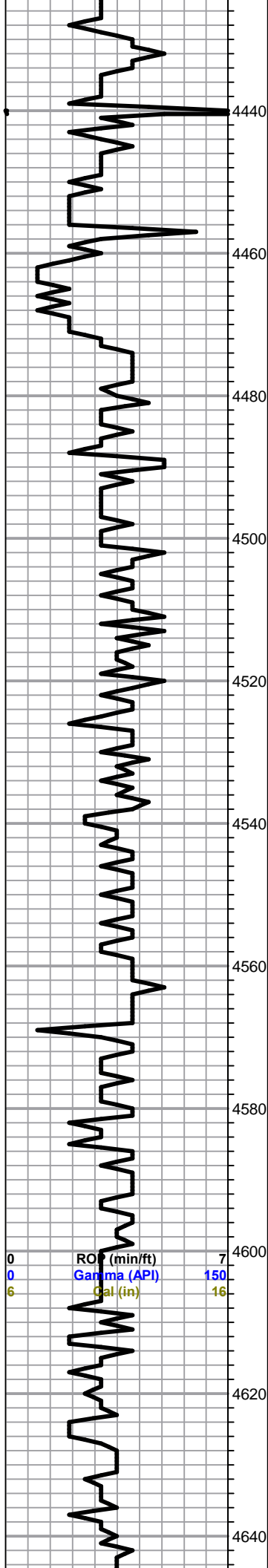
1st Open:
Weak blow

Recovery:
52' mud

Pressures:
ISIP 1248 psi
FSIP 1237 psi
IFP 28-37 psi
FFP 40-47 psi
HSH 2155-2111 psi

Depth: 4320.0
Date: 08/04/2017
MUD: Chemical
Wt.: 9.6
Cl: 8000
pH: 8.5
VIS: 50

0 Total Gas (units) 100
0 C1 (units) 100
0 C2 (units) 100
0 C3 (units) 100
0 C4 (units) 100



beds)

Base Kansas City 4443.0 (-1216.0)

-Poor Samples-

Tr. red silty shale/sd.
Tr. LS, white, fxln, chalky, cherty, no shows

Non representative samples

Poor samples a/a

Poor samples a/a

Pawnee 4570.0 (-1344.0)

Tr. black carb Sh

LS, white, cream, tan, dense, chalky

LS, a/a

Myrick Station 4613.0 (-1387.0)

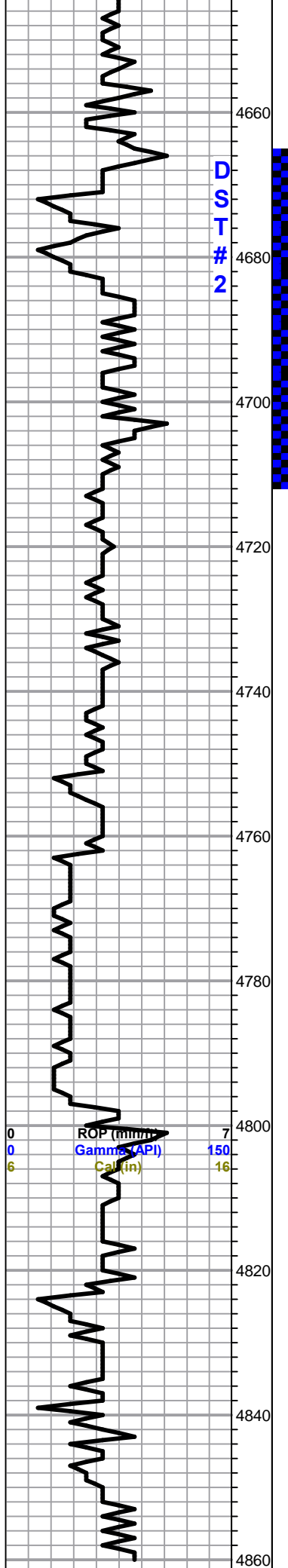
- Poor Samples-

Tr. black carb sh.

Ft. Scott 4633.0 (-1407.0)

Sh, black carb, few maroon, waxey

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100



LS, white, cream, fxl, dense, poor visible porosity, no shows

Cherokee Sh. 4658.0 (-1432.0)

Sh, black carb

Sh, few gry, purp., maroon, tr. pyrite, nsfo, no odor

Sh, a/a
Tr. LS, cream, few foss, poor visible porosity, nsfo, no odor

Johnson 4694.0 (-1468.0)

LS, white, fxl, poor visible porosity, few scattered p.p. porosity, chalky, trc. brn stain, tr. spty sfo, no odor

LS, tan, ool, poor vuggy porosity, cherty in pts, nsfo, no odor

LS, white, fxl, chalky, no shows.
(few rose colored dolomite, suc. no shows)

Sh, maroon, brick red, shales

-Poor Samples-
Tr. clear sand well rounded, friable no shows

Mississippian 4795.0 (-1569.0)

Poor samples - 90% Shales, maroon, black, greenish

Tr. LS, cream, white, fxl, chalky, few ool, no shows

LS, a/a, Tr. white, opaque cherts

90% shales, maroon,
Dol. white, suc. nsfo, no odor, tr. cherts, no shows.

RTD 4860.0 (-1634.0)

DST#2 4666-4712

30-30-30-30

1st Open:
Weak blow

Recovery:
10' Mud

Pressures:
ISIP 866 psi
FSIP 711 psi
IFP 27-28 psi
FFP 29-29 psi
HSH 2370-2366 psi

Depth: 4712.0
Date: 08/05/2017
MUD: Chemical
Wt.: 9.6
Cl: 7000
pH: 9.1
VIS: 50

Depth: 4740.0
Date: 08/06/2017
MUD: Chemical
Wt.: 9.4
Cl: 5000
pH: 11.1
VIS: 51

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

LTD 4858.0 (-1632.0)

4880

4900

4920

4940

4960

4980

Remarks: Sample quality of the entire well was very poor. After electric Log analysis it was decided to plug & abandon.