

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

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5) (Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
-------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------

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

Form	ACO1 - Well Completion
Operator	L. D. Drilling, Inc.
Well Name	KAUK 1-17
Doc ID	1384953

All Electric Logs Run

COMPENSATED DENSITY/NEUTRON PE/LOG
DUAL INDUCTION LOG
MICRO LOG
SONIC LOG

Form	ACO1 - Well Completion
Operator	L. D. Drilling, Inc.
Well Name	KAUK 1-17
Doc ID	1384953

Tops

Name	Top	Datum
ANHYDRITE	2777	+481
BASE ANHYDRITE	2808	+450
STOTLER	3658	-400
HEEBNER	4062	-804
LANSING	4105	-847
BASE KANSAS CITY	4364	-1106
PAWNEE	4479	-1221
FORT SCOTT	4548	-1290
CHEROKEE	4578	-1320
MISSISSIPPI	4696	-1438



Liberal Yard #1717 - Phone 620-624-2277 - 1700 S. Country Estates Road, Liberal KS 67901

PRESSURE PUMPING

Job Log

Customer:	LD Drilling	Cement Pump No.:	38117, 19919 Hrs.	Operator TRK No.:	78938
Address:		Ticket #:	1718 14595 L	Bulk TRK No.:	14355, 37724 Angel
City, State, Zip:		Job Type:	Z42- Cement Production Casing		
Service District:	1718 - Liberal, Ks.	Well Type:	OIL		
Well Name and No.:	Kauk 1-17	Well Location:	17,8,34	County:	Thomas
				State:	Ks

Type of Cmt	Sacks	Additives	Truck Loaded On		
AA2	175	10% salt + 10% gypsum 0.8% fluid loss + 0.25 pps celloflake 6 pps gilsonite	14355, 37724 Angel	Front	Back
A-Con Blend Common	180	3% calcium chloride 0.25 pps celloflake	14355, 37724	Front	Back
A-Con Blend Common	30	3% calcium chloride 0.25 pps celloflake		Front	Back

Lead/Tail:	Weight #1 Gal.	Cu/Ft/sk	Water Requirements	CU. FT.	Man Hours / Personnel	
Lead:	14.8	1.54	6.52	269.5	TT Man Hours:	45
Tail:	11.6	2.77	16.75	498.6	# of Men on Job:	3

Time (am/pm)	(BPM)	Volume (BBLs)	Pumps		Pressure(PSI)		Description of Operation and Materials
			T	C	Tubing	Casing	
9:30							ON LOCATION
9:35							SAFETY MEETING
9:40 AM							RIG UP
10:15 AM							RIG TO CIRCUALTE
11:20 AM							RIG TO P.T.
11:26							PRESSURE TEST TO 3200PSI
11:30	3	33.8			200		PUMP 5BBL H2O 1000 GALLONS MUD FLUSH 5BBL H2O
11:40	6	47.9 slurry			350		PUMP 175SX TAIL / STAGE 1
11:47							SHUTDOWN / DROP PLUG / W.P.
11:53	6	10			90		DISPLACE W/ H2O
	6	20			90		
	6	30			70		
	6	40			90		
	6	50			90		SWITCH TO MUD
	6.1	70			90		
	6	80			90		
	5.9	90			250		
12:12	5.7	103			470		SLOW RATE TO 3.0BPM @ 340PSI
	2.7	110			450		
12:16	2.4	113.3			550		LAND PLUG / PRESSURE UP TO 1500PSI
12:17							RELEASE BACK / FLOAT HELD
							DROP OPENING TOOL

Size Hole	7 7/8"	Depth			TYPE	Plug Container		
Size & Wt. Csg.	5 1/2" 15.5#	Depth	4778'	New / Used	DV Tool	2804'	Depth	
tbq.		Depth			Retainer		Depth	
Top Plugs		Type			Perfs		CIBP	

Customer Signature:	Basic Representative:	Daniel Beck
	Basic Signature:	<i>Daniel Beck</i>
	Date of Service:	11/30/2017



Liberal Yard #1717 - Phone 620-624-2277 - 1700 S. Country Estates Road, Liberal KS 67901

PRESSURE PUMPING

Job Log

Customer:	LD Drilling	Cement Pump No.:	38117, 19919 Hrs.	Operator TRK No.:	78938	
Address:		Ticket #:	1718 14595 L	Bulk TRK No.:	14355, 37724 Angel	14355, 37724
City, State, Zip:		Job Type:	Z42- Cement Production Casing			
Service District:	1718 - Liberal Ks	Well Type:	OIL			
Well Name and No.:	Kauk 1-17	Well Location:	17,8,34	County:	Thomas	State: Ks

Type of Cmt	Sacks	Additives	Truck Loaded On		
			14355, 37724 Angel	Front	Back
			14355, 37724	Front	Back
				Front	Back

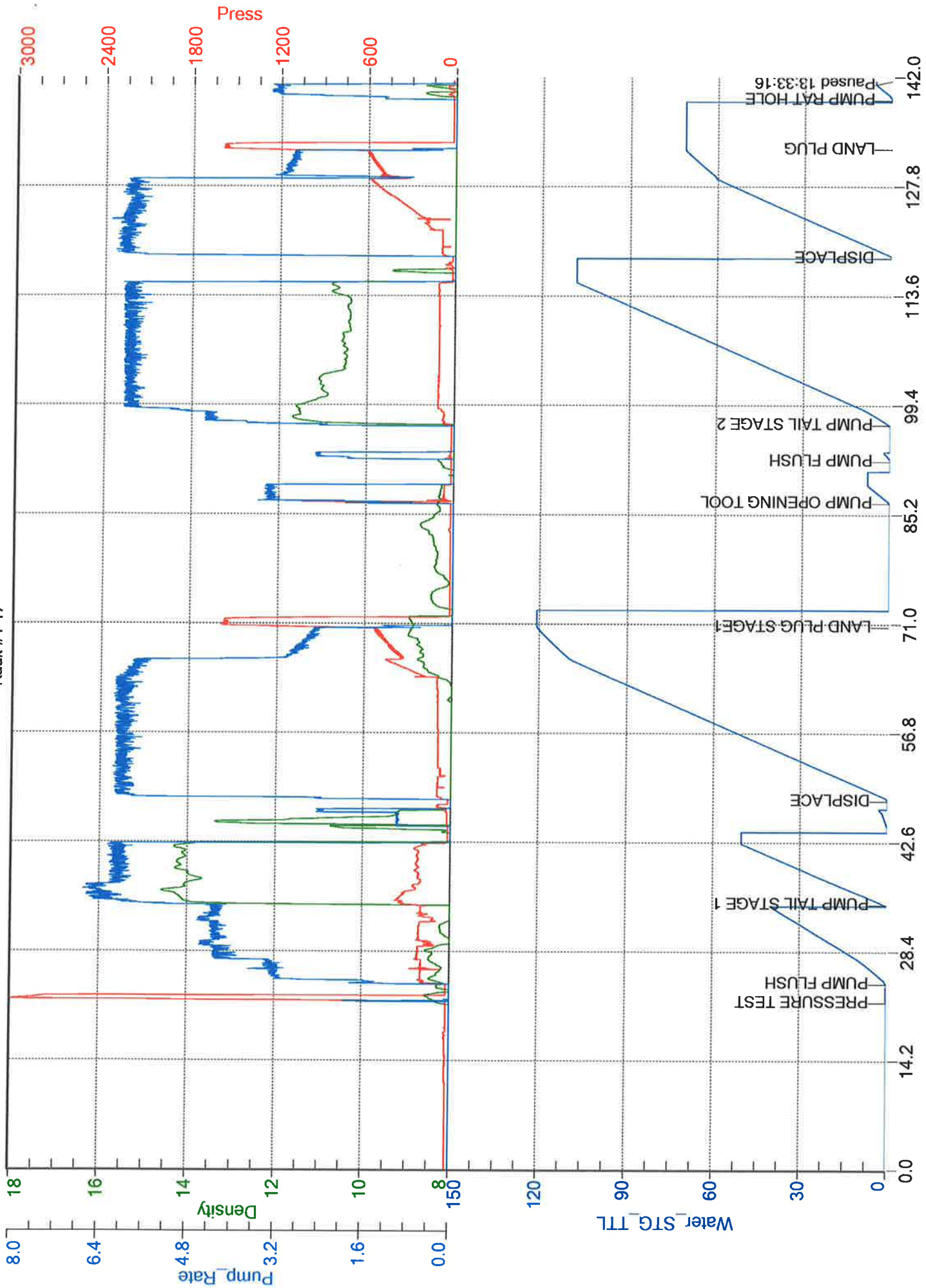
Lead/Tail:	Weight #1 Gal.	Yield	Water Requirements	CU. FT.	Man Hours / Personnel
Lead:				0	Man Hours:
Tail:				0	# of Men on Job:

Time (am/pm)	(BPM)	Volume (BBLs)	Pumps		Pressure(PSI)		Description of Operation and Materials
			T	C	Tubing	Casing	
12:32		7					PUMP OPENING TOOL / OPEN @ 1000PSI
12:35							SHUTDOWN
12:38 PM	1.9	2				90	PUMP 2BBL H2O
12:42 PM	6	88.8 slurry				110	PUMP 180SX / STAGE 2
1:03 PM							SHUTDOWN / DROP PLUG
13:05	6	10				90	DISPLACE
	6	20				90	
	6	30				250	
	6	40				380	
	6	50				520	
13:15	5.9	56				580	SLOW RATE TO 3.0BPM @ 480PSI
	3	60				510	
13:19	2.7	66.7				600	LAND PLUG / PRESSURE UP TO 1590PSI
13:19:00							RELEASE BACK / FLOAT HELD
13:25							PUMP RAT HOLE
							JOB COMPLETE

Size Hole	7 7/8"	Depth	0		TYPE	
Size & Wt. Csg.	5 1/2" 15.5#	Depth	4778'	New / Used	Packer	Depth
tbg.		Depth	0		Retainer	Depth
Top Plugs	0	Type			Perfs	CIBP

Customer Signature:	Basic Representative:	Daniel Beck
	Basic Signature:	<i>Daniel Beck</i>
	Date of Service:	11/30/2017

L.D. Drilling Kauk #1-17





Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

DATE
 November
23
 2017

DST #1 Formation: LANS 'B' Test Interval: 4112 - 4142' Total Depth: 4142'

Time On: 21:13 11/23 Time Off: 05:16 11/24
 Time On Bottom: 23:53 11/23 Time Off Bottom: 02:53 11/24

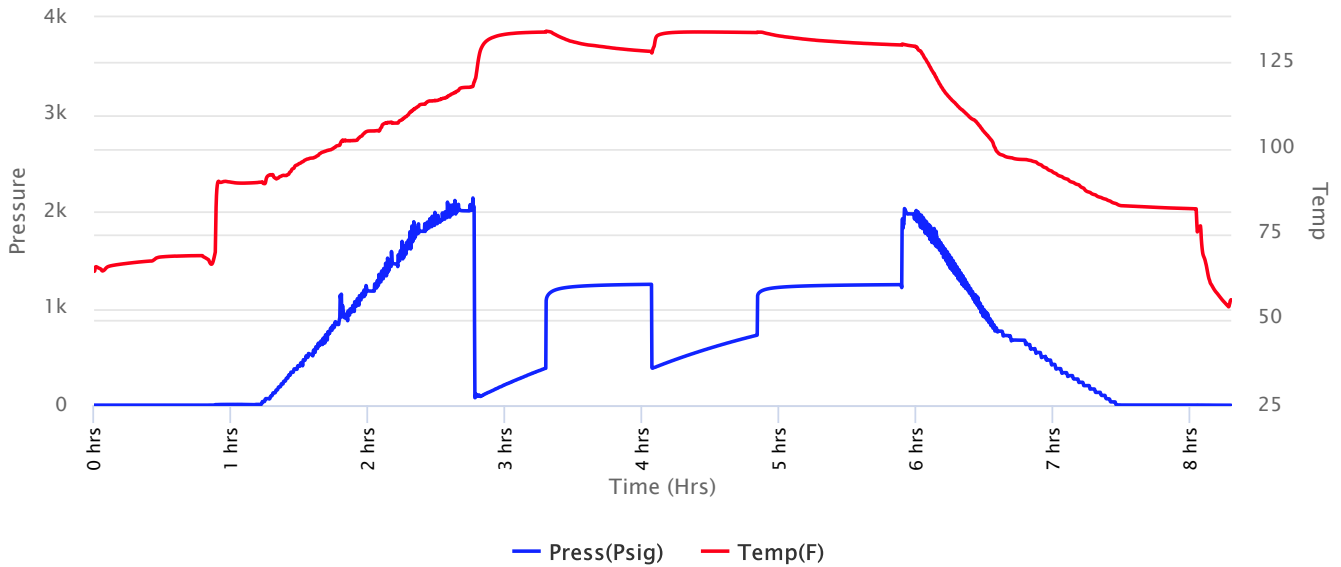
Electronic Volume Estimate:
 1693'

1st Open
 Minutes: 30
 70.2" at 30 min

1st Close
 Minutes: 45
 0" at 45 min

2nd Open
 Minutes: 45
 98.3" at 45 min

2nd Close
 Minutes: 60
 0" at 60 min





Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

DATE
 November
23
 2017

DST #1 **Formation: LANS 'B'** **Test Interval: 4112 - 4142'** **Total Depth: 4142'**

Time On: 21:13 11/23 Time Off: 05:16 11/24
 Time On Bottom: 23:53 11/23 Time Off Bottom: 02:53 11/24

Recovered

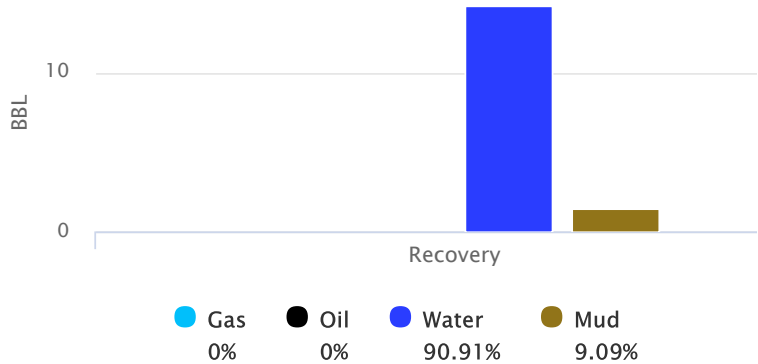
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
338	3.46788	HMCW	0	0	66	34
1187	12.17862	SLMCW	0	0	98	2

Total Recovered: 1525 ft
 Total Barrels Recovered: 15.6465

Reversed Out
 NO

Initial Hydrostatic Pressure	2006	PSI
Initial Flow	79 to 381	PSI
Initial Closed in Pressure	1247	PSI
Final Flow Pressure	386 to 724	PSI
Final Closed in Pressure	1243	PSI
Final Hydrostatic Pressure	1974	PSI
Temperature	134	°F
Pressure Change Initial Close / Final Close	0.3	%

Recovery at a glance





Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

<p>DATE November 23 2017</p>

DST #1 **Formation: LANS 'B'** **Test Interval: 4112 - 4142'** **Total Depth: 4142'**

Time On: 21:13 11/23

Time Off: 05:16 11/24

Time On Bottom: 23:53 11/23

Time Off Bottom: 02:53 11/24

Mud Properties

Mud Type: CHEMICAL **Weight:** 9.0

Viscosity: 49

Filtrate: 8.8

Chlorides: 2000 ppm



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

DATE November 23 2017

DST #1 Formation: LANS 'B' Test Interval: 4112 - Total Depth: 4142'
4142'

Time On: 21:13 11/23 Time Off: 05:16 11/24
Time On Bottom: 23:53 11/23 Time Off Bottom: 02:53 11/24

Gas Volume Report

1st Open

2nd Open

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

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



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

DATE
 November
24
 2017

DST #2 **Formation: LANS/KC 'E'** **Test Interval: 4166 - 4180'** **Total Depth: 4180'**
 Time On: 12:15 11/24 Time Off: 20:01 11/24
 Time On Bottom: 14:17 11/24 Time Off Bottom: 17:17 11/24

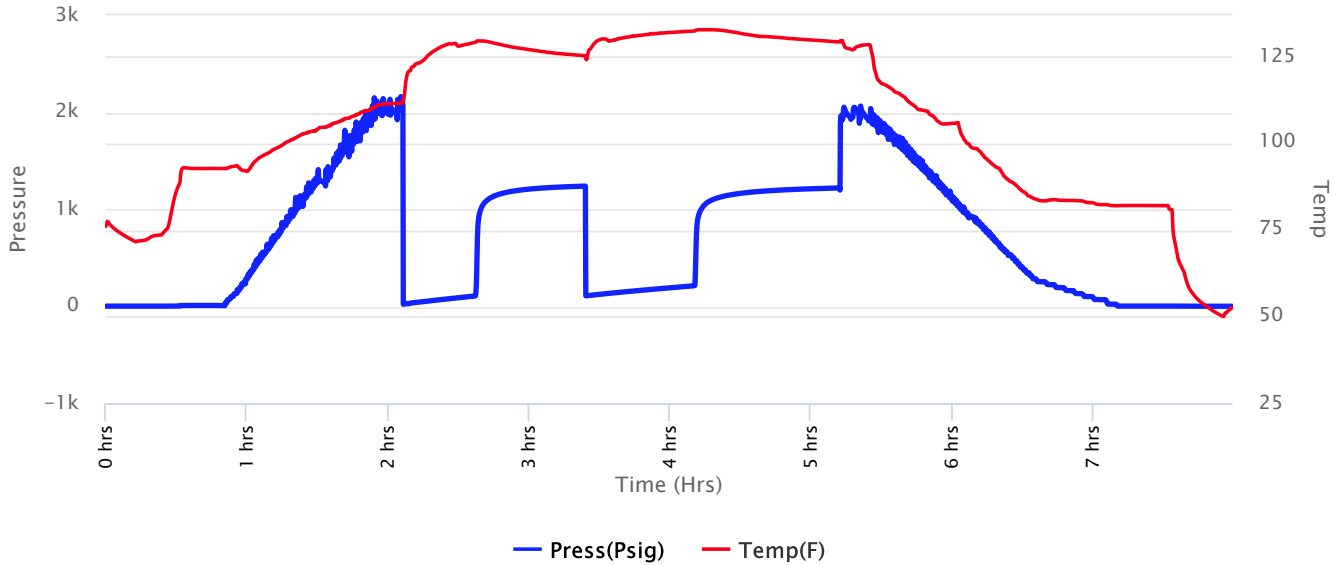
Electronic Volume Estimate:
 824'

1st Open
 Minutes: 30
 29.4" at 30 min

1st Close
 Minutes: 45
 3.25" at 45 min

2nd Open
 Minutes: 45
 42.2" at 45 min

2nd Close
 Minutes: 60
 1" at 60 min





Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

DATE November 24 2017

DST #2	Formation: LANS/KC 'E'	Test Interval: 4166 - 4180'	Total Depth: 4180'
	Time On: 12:15 11/24	Time Off: 20:01 11/24	
	Time On Bottom: 14:17 11/24	Time Off Bottom: 17:17 11/24	

REMARKS:

TOOL SAMPLE:100% OIL

IFP:1/4"BLOW-INCREASING TO BOB IN 12 MINUTES

ISIP:3 1/4" BLOW BACK

FFP:1/2"BLOW-INCREASING TO BOB IN 10 MINUTES

FSIP:1" BLOW BACK

Gravity: 29 @ 60 degrees F

Ph: 7

RW: .24 @ 53 degrees F

Chlorides: 40000 ppm



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc -
 Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

<p>DATE November 24 2017</p>

DST #2 **Formation:** **Test Interval: 4166 -** **Total Depth: 4180'**
LANS/KC 'E' **4180'**
 Time On: 12:15 11/24 Time Off: 20:01 11/24
 Time On Bottom: 14:17 11/24 Time Off Bottom: 17:17 11/24

Down Hole Makeup

Heads Up: 20.41 FT	Packer 1: 4161 FT
Drill Pipe: 4153.84 FT <i>ID-3 1/4</i>	Packer 2: 4166 FT
Weight Pipe: FT <i>ID-2 7/8</i>	Top Recorder: 4150.42 FT
Collars: FT <i>ID-2 1/4</i>	Bottom Recorder: 4171 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: 14	Surface Choke: 1"
<u>Anchor Makeup</u>	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 3 FT <i>4 1/2-FH</i>	
Change Over: FT	
Drill Pipe: (in anchor): FT <i>ID-3 1/4</i>	
Change Over: FT	
Perforations: (below): 10 FT <i>4 1/2-FH</i>	



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

<p>DATE November 24 2017</p>

DST #2	Formation: LANS/KC 'E'	Test Interval: 4166 - 4180'	Total Depth: 4180'
	Time On: 12:15 11/24	Time Off: 20:01 11/24	
	Time On Bottom: 14:17 11/24	Time Off Bottom: 17:17 11/24	

Mud Properties

Mud Type: CHEMICAL **Weight:** 9.2 **Viscosity:** 52 **Filtrate:** 10.4 **Chlorides:** 3000 ppm



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

DATE November 24 2017

DST #2 **Formation:** **Test Interval: 4166 -** **Total Depth: 4180'**
LANS/KC 'E' **4180'**
Time On: 12:15 11/24 Time Off: 20:01 11/24
Time On Bottom: 14:17 11/24 Time Off Bottom: 17:17 11/24

Gas Volume Report

1st Open

2nd Open

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

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



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

DATE
 November
25
 2017

DST #3 Formation: L/KC 'H' Test Interval: 4224 - 4260' Total Depth: 4260'

Time On: 07:10 11/25 Time Off: 14:38 11/25
 Time On Bottom: 09:23 11/25 Time Off Bottom: 12:23 11/25

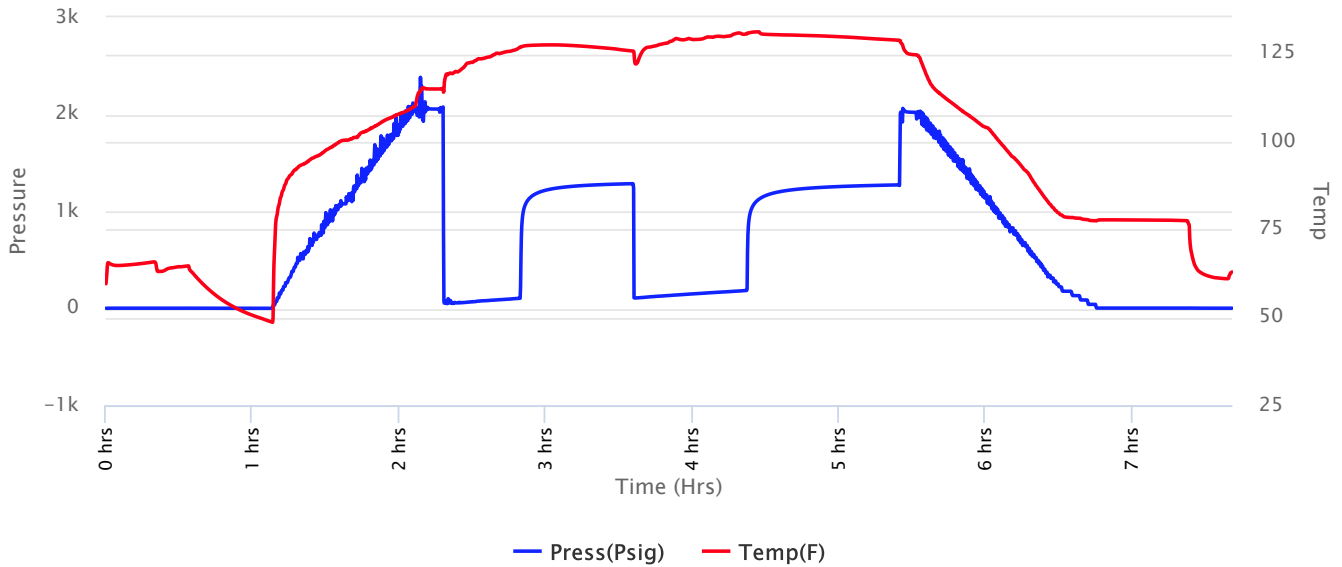
Electronic Volume Estimate:
 617'

1st Open
 Minutes: 30
 21.2" at 30 min

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

2nd Open
 Minutes: 45
 31.6" at 45 min

2nd Close
 Minutes: 60
 2" at 60 min





Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

DATE
 November
25
 2017

DST #3 Formation: L/KC 'H' Test Interval: 4224 - 4260' Total Depth: 4260'

Time On: 07:10 11/25 Time Off: 14:38 11/25
 Time On Bottom: 09:23 11/25 Time Off Bottom: 12:23 11/25

Recovered

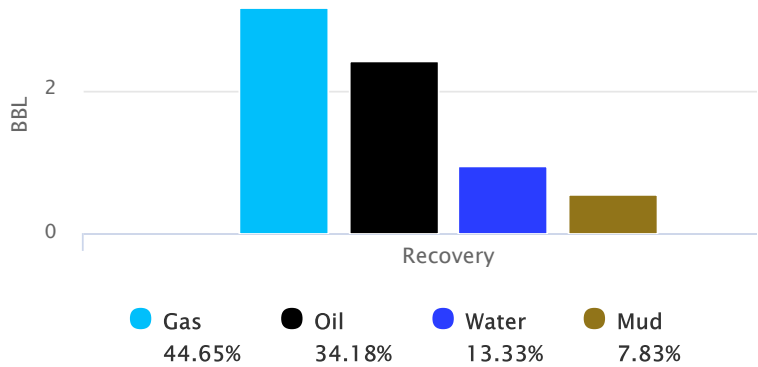
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
294	3.01644	G	100	0	0	0
207	2.12382	O	0	100	0	0
132	1.35432	SLGCSLOCHWCM	10	18	32	40
55	0.5643	SLMCSLOCW	0	8	90	2

Total Recovered: 688 ft
 Total Barrels Recovered: 7.05888

Reversed Out
 NO

Initial Hydrostatic Pressure	2055	PSI
Initial Flow	53 to 103	PSI
Initial Closed in Pressure	1285	PSI
Final Flow Pressure	108 to 184	PSI
Final Closed in Pressure	1273	PSI
Final Hydrostatic Pressure	2023	PSI
Temperature	132	°F
Pressure Change Initial Close / Final Close	1.0	%

Recovery at a glance





Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

DATE November 25 2017

DST #3 Formation: L/KC 'H' Test Interval: 4224 - Total Depth: 4260'
4260'

Time On: 07:10 11/25

Time Off: 14:38 11/25

Time On Bottom: 09:23 11/25

Time Off Bottom: 12:23 11/25

REMARKS:

TOOL SAMPLE:87% OIL, 10% WATER, 3% MUD

IFP:(TOOL SLID 10' TO BOTTOM) 1/4"BLOW-INCREASING TO BOB IN 18 MINUTES

ISIP:1/4" BLOW BACK

FFP:1/2"BLOW-INCREASING TO BOB IN 15 MINUTES

FSIP:2" BLOW BACK

Gravity: 26 @ 60 degrees F

Ph: 7

RW: .2 @ 62 degrees F

Chlorides: 44000 ppm



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc -
 Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

<p>DATE November 25 2017</p>

DST #3 Formation: L/KC 'H' Test Interval: 4224 - 4260' Total Depth: 4260'

Time On: 07:10 11/25 Time Off: 14:38 11/25
 Time On Bottom: 09:23 11/25 Time Off Bottom: 12:23 11/25

Down Hole Makeup

Heads Up: 24.36 FT	Packer 1: 4219 FT
Drill Pipe: 4215.79 FT <i>ID-3 1/4</i>	Packer 2: 4224 FT
Weight Pipe: FT <i>ID-2 7/8</i>	Top Recorder: 4208.42 FT
Collars: FT <i>ID-2 1/4</i>	Bottom Recorder: 4229 FT
Test Tool: 33.57 FT <i>ID-3 1/2-FH</i> <i>Jars</i> <i>Safety Joint</i>	Well Bore Size: 7 7/8
Total Anchor: 36	Surface Choke: 1"
<u>Anchor Makeup</u>	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 3 FT <i>4 1/2-FH</i>	
Change Over: FT	
Drill Pipe: (in anchor): FT <i>ID-3 1/4</i>	
Change Over: FT	
Perforations: (below): 32 FT <i>4 1/2-FH</i>	



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

<p>DATE November 25 2017</p>

DST #3 **Formation: L/KC 'H'** **Test Interval: 4224 - 4260'** **Total Depth: 4260'**

Time On: 07:10 11/25 Time Off: 14:38 11/25
Time On Bottom: 09:23 11/25 Time Off Bottom: 12:23 11/25

Mud Properties

Mud Type: CHEMICAL **Weight:** 9.2 **Viscosity:** 52 **Filtrate:** 10.4 **Chlorides:** 3000 ppm



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

DATE November 25 2017

DST #3 Formation: L/KC 'H' Test Interval: 4224 - Total Depth: 4260'
4260'

Time On: 07:10 11/25 Time Off: 14:38 11/25
Time On Bottom: 09:23 11/25 Time Off Bottom: 12:23 11/25

Gas Volume Report

1st Open

2nd Open

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

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



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

DATE
 November
26
 2017

DST #4 **Formation: LANS/KC I&J** **Test Interval: 4258 - 4300'** **Total Depth: 4300'**
 Time On: 03:21 11/26 Time Off: 11:30 11/26
 Time On Bottom: 05:26 11/26 Time Off Bottom: 08:26 11/26

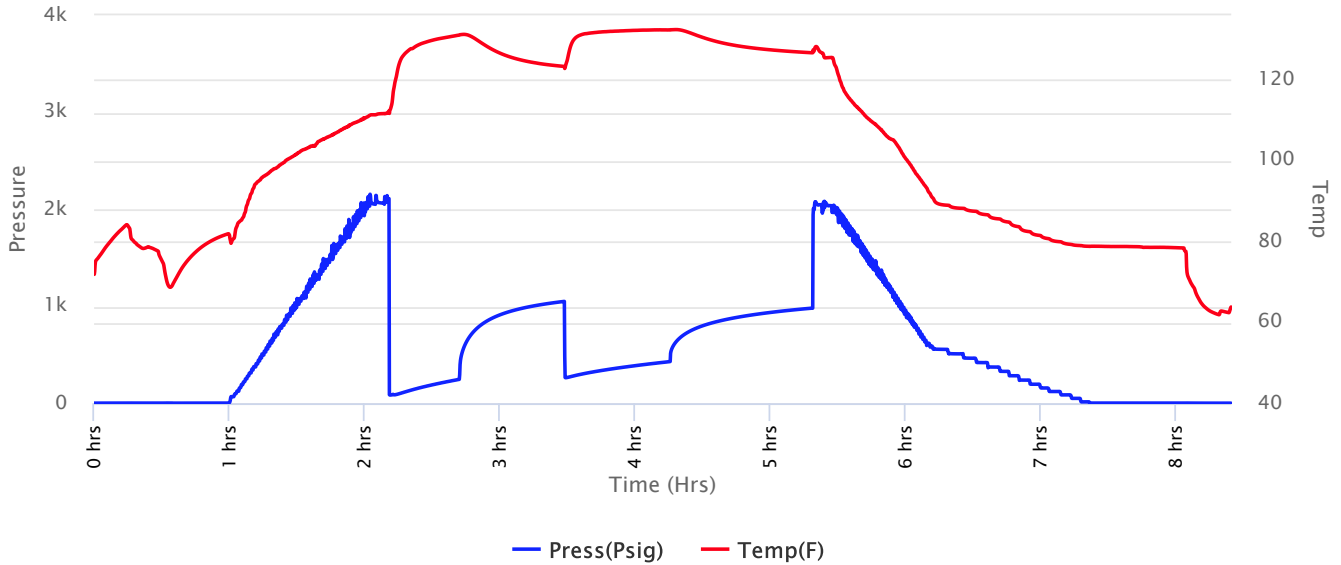
Electronic Volume Estimate:
 N/A

1st Open
 Minutes: 30
 120" at 30 min

1st Close
 Minutes: 45
 24" at 45 min

2nd Open
 Minutes: 45
 112.9" at 45 min

2nd Close
 Minutes: 60
 4" at 60 min





Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

DATE
 November
26
 2017

DST #4 **Formation: LANS/KC I&J** **Test Interval: 4258 - 4300'** **Total Depth: 4300'**
 Time On: 03:21 11/26 Time Off: 11:30 11/26
 Time On Bottom: 05:26 11/26 Time Off Bottom: 08:26 11/26

Recovered

Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
3150	32.319	G	100	0	0	0
933	9.57258	O	0	100	0	0
167	1.71342	SLGCHMCO	14	51	0	35
50	0.513	GCMCO	20	53	0	27

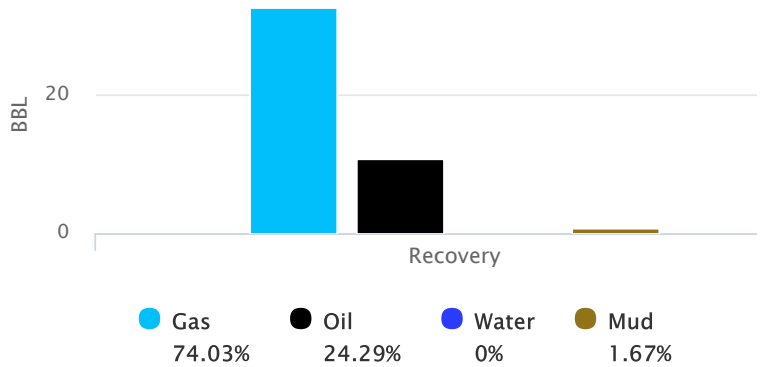
Total Recovered: 4300 ft
 Total Barrels Recovered: 44.118

Reversed Out
 NO

Initial Hydrostatic Pressure 2067 PSI
 Initial Flow 88 to 246 PSI
Initial Closed in Pressure 1051 PSI
 Final Flow Pressure 264 to 431 PSI
Final Closed in Pressure 981 PSI
 Final Hydrostatic Pressure 2044 PSI
 Temperature 133 °F

 Pressure Change Initial 6.6 %
 Close / Final Close

Recovery at a glance





Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

DATE November 26 2017

DST #4	Formation: LANS/KC I&J	Test Interval: 4258 - 4300'	Total Depth: 4300'
	Time On: 03:21 11/26	Time Off: 11:30 11/26	
	Time On Bottom: 05:26 11/26	Time Off Bottom: 08:26 11/26	

REMARKS:

TOOL SAMPLE:100% OIL

IFP:3"BLOW-INCREASING TO BOB IN 2 MINUTES
ISIP:BOTTOM BUCKET BLOW BACK
FFP:2"BLOW-INCREASING TO BOB IN 2 MINUTES 20 SECONDS
FSIP:4"BLOW BACK

Gravity: 36 @ 60 degrees F



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

<p>DATE November 26 2017</p>

DST #4 **Formation:**
LANS/KC I&J **Test Interval: 4258 -** **Total Depth: 4300'**
4300'
Time On: 03:21 11/26 Time Off: 11:30 11/26
Time On Bottom: 05:26 11/26 Time Off Bottom: 08:26 11/26

Mud Properties

Mud Type: CHEMICAL **Weight:** 9.1 **Viscosity:** 51 **Filtrate:** 7.2 **Chlorides:** 4400 ppm



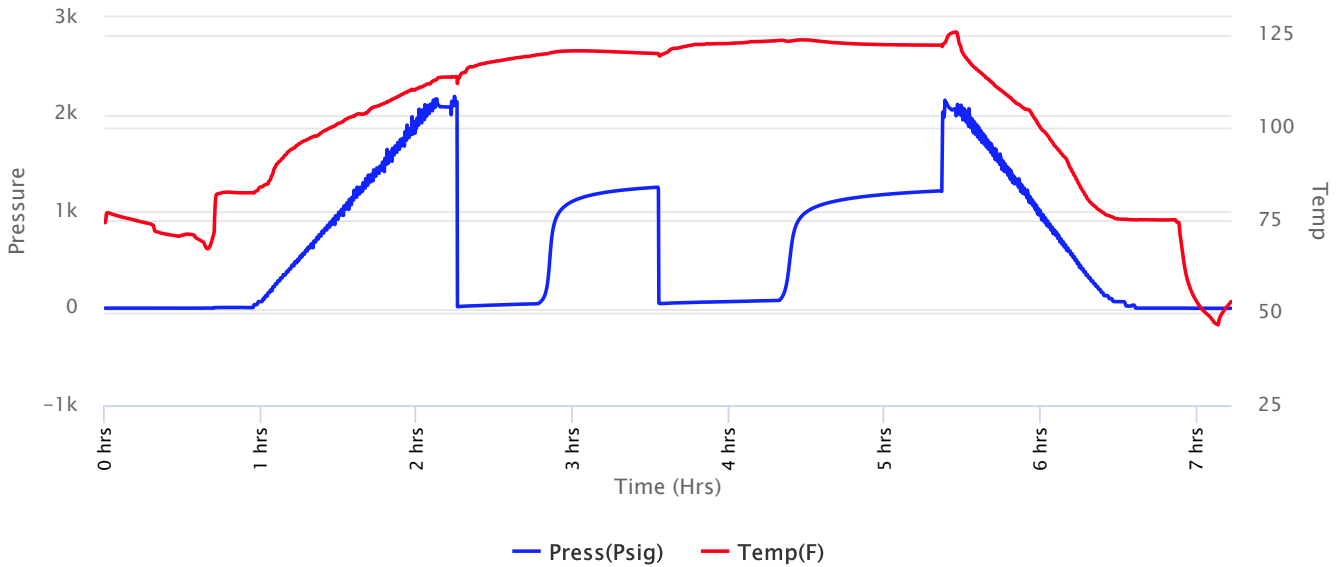
Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

DATE
 November
26
 2017

DST #5 **Formation: LANS/KC 'K'** **Test Interval: 4299 - 4325'** **Total Depth: 4325'**
 Time On: 19:55 11/26 Time Off: 02:57 11/27
 Time On Bottom: 22:07 11/26 Time Off Bottom: 01:07 11/27

Electronic Volume Estimate: 472'	<u>1st Open</u> Minutes: 30 16.1" at 30 min	<u>1st Close</u> Minutes: 45 0" at 45 min	<u>2nd Open</u> Minutes: 45 24.2" at 45 min	<u>2nd Close</u> Minutes: 60 .7" at 60 min
-------------------------------------	---------------------------------------------------	-------------------------------------------------	---------------------------------------------------	--------------------------------------------------





Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

DATE
 November
26
 2017

DST #5 **Formation: LANS/KC 'K'** **Test Interval: 4299 - 4325'** **Total Depth: 4325'**
 Time On: 19:55 11/26 Time Off: 02:57 11/27
 Time On Bottom: 22:07 11/26 Time Off Bottom: 01:07 11/27

Recovered

Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
394	4.04244	G	100	0	0	0
40	0.4104	O	0	100	0	0
80	0.8208	HMCO	0	57	0	43
46	0.47196	SLWCSLGCHOCM	17	30	10	43

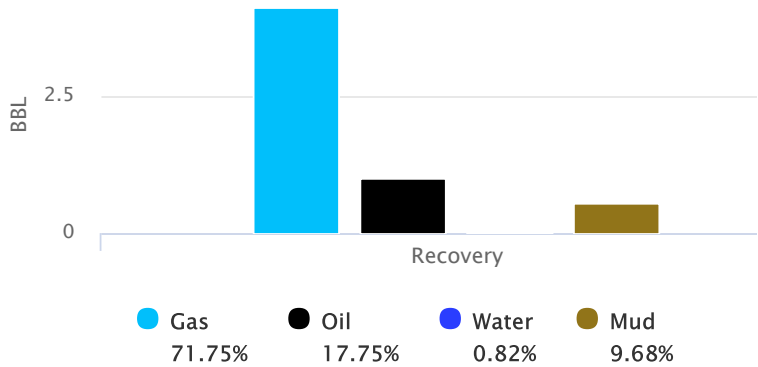
Total Recovered: 560 ft
 Total Barrels Recovered: 5.7456

Reversed Out
 NO

Initial Hydrostatic Pressure 2077 PSI
 Initial Flow 17 to 47 PSI
Initial Closed in Pressure 1249 PSI
 Final Flow Pressure 55 to 82 PSI
Final Closed in Pressure 1206 PSI
 Final Hydrostatic Pressure 2045 PSI
 Temperature 124 °F

 Pressure Change Initial 3.4 %
 Close / Final Close

Recovery at a glance





Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

DATE November 26 2017

DST #5	Formation: LANS/KC 'K'	Test Interval: 4299 - 4325'	Total Depth: 4325'
	Time On: 19:55 11/26	Time Off: 02:57 11/27	
	Time On Bottom: 22:07 11/26	Time Off Bottom: 01:07 11/27	

REMARKS:

TOOL SAMPLE:86% OIL 4% WATER 10% MUID

IFP:1/4"BLOW-INCREASING TO BOB IN 20 MINUTES 45 SECONDS

ISIP:NOBB

FFP:1/2"BLOW-INCREASING TO BOB IN 18 MINUTES 15 SECONDS

FSIP:1/2"BLOW BACK

Gravity: 34.5 @ 60 degrees F

Ph: 7

RW: .23 @ 40 degrees F

Chlorides: 47000 ppm



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc -
 Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

<p>DATE November 26 2017</p>

DST #5 **Formation:** **Test Interval: 4299 -** **Total Depth: 4325'**
LANS/KC 'K' **4325'**
 Time On: 19:55 11/26 Time Off: 02:57 11/27
 Time On Bottom: 22:07 11/26 Time Off Bottom: 01:07 11/27

Down Hole Makeup

Heads Up: 11.48 FT	Packer 1: 4294 FT
Drill Pipe: 4277.91 FT <i>ID-3 1/4</i>	Packer 2: 4299 FT
Weight Pipe: FT <i>ID-2 7/8</i>	Top Recorder: 4283.42 FT
Collars: FT <i>ID-2 1/4</i>	Bottom Recorder: 4304 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: 26	Surface Choke: 1"
<u>Anchor Makeup</u>	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 3 FT <i>4 1/2-FH</i>	
Change Over: FT	
Drill Pipe: (in anchor): FT <i>ID-3 1/4</i>	
Change Over: FT	
Perforations: (below): 22 FT <i>4 1/2-FH</i>	



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

<p>DATE November 26 2017</p>

DST #5 **Formation:** **Test Interval: 4299 -** **Total Depth: 4325'**
LANS/KC 'K' **4325'**

Time On: 19:55 11/26 Time Off: 02:57 11/27
Time On Bottom: 22:07 11/26 Time Off Bottom: 01:07 11/27

Mud Properties

Mud Type: CHEMICAL **Weight:** 9.0 **Viscosity:** 54 **Filtrate:** 8.8 **Chlorides:** 4500 ppm



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

DATE November 26 2017

DST #5 **Formation:** **Test Interval: 4299 -** **Total Depth: 4325'**
LANS/KC 'K' **4325'**
Time On: 19:55 11/26 Time Off: 02:57 11/27
Time On Bottom: 22:07 11/26 Time Off Bottom: 01:07 11/27

Gas Volume Report

1st Open

2nd Open

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

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



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

DATE
 November
27
 2017

DST #6 **Formation: MARMATON/ALTAMONT** **Test Interval: 4350 - 4460'** **Total Depth: 4460'**
 Time On: 19:27 11/27 Time Off: 03:13 11/28
 Time On Bottom: 21:41 11/27 Time Off Bottom: 00:41 11/28

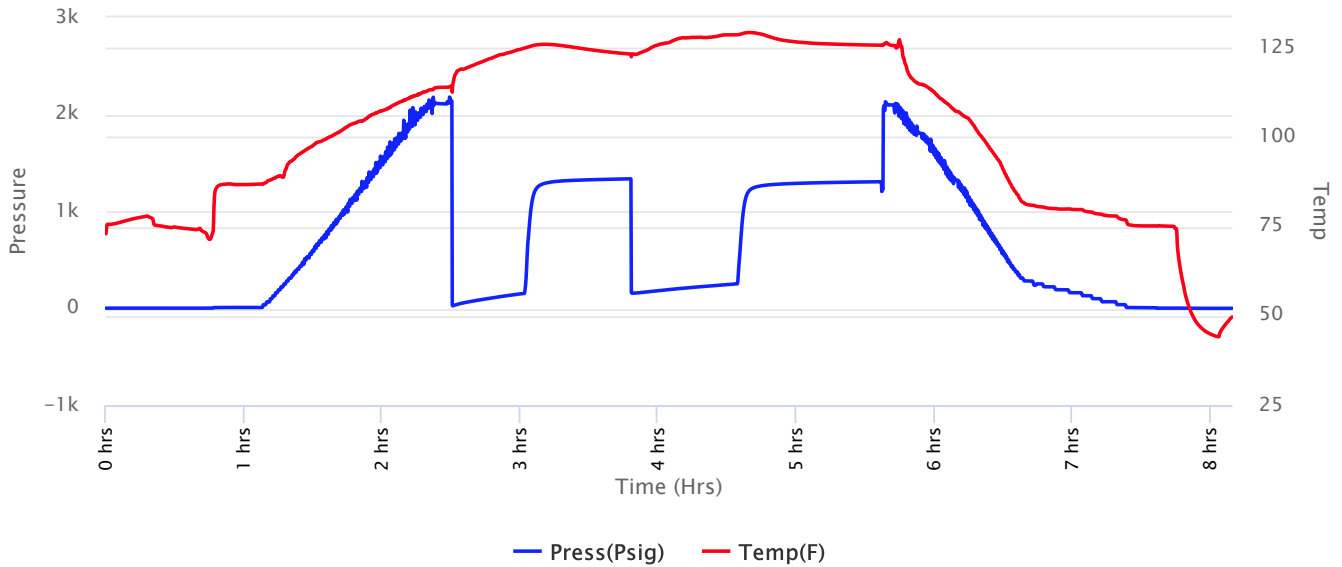
Electronic Volume Estimate:
 1394'

1st Open
 Minutes: 30
 53.4" at 30 min

1st Close
 Minutes: 45
 1" at 45 min

2nd Open
 Minutes: 45
 67.4" at 45 min

2nd Close
 Minutes: 60
 6.5" at 60 min





Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

DATE
 November
27
 2017

DST #6 **Formation: MARMATON/ALTAMONT** **Test Interval: 4350 - 4460'** **Total Depth: 4460'**
 Time On: 19:27 11/27 Time Off: 03:13 11/28
 Time On Bottom: 21:41 11/27 Time Off Bottom: 00:41 11/28

Recovered

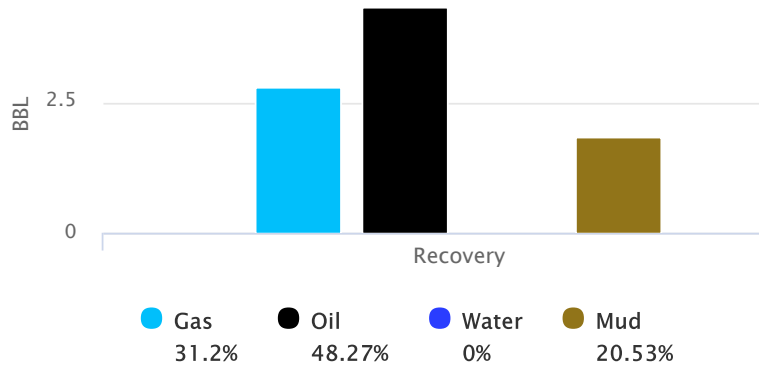
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
273	2.80098	G	100	0	0	0
415	4.2579	MCO	0	77	0	23
187	1.91862	HMCO	0	55	0	45

Total Recovered: 875 ft
 Total Barrels Recovered: 8.9775

Reversed Out
 NO

Initial Hydrostatic Pressure	2109	PSI
Initial Flow	25 to 154	PSI
Initial Closed in Pressure	1335	PSI
Final Flow Pressure	166 to 252	PSI
Final Closed in Pressure	1302	PSI
Final Hydrostatic Pressure	2097	PSI
Temperature	130	°F
Pressure Change Initial Close / Final Close	2.5	%

Recovery at a glance





Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

DATE November 27 2017

DST #6	Formation: MARMATON/ALTAMONT	Test Interval: 4350 - 4460'	Total Depth: 4460'
	Time On: 19:27 11/27	Time Off: 03:13 11/28	
	Time On Bottom: 21:41 11/27	Time Off Bottom: 00:41 11/28	

REMARKS:

TOOL SAMPLE:53% OIL 47% MUD

IFP:1/2"BLOW-INCREASING TO BOB IN 6 MINUTES 30 SECONDS

ISIP:1"BLOW BACK

FFP:1/2"BLOW-INCREASING TO BOB IN 8 MINUTES 30 SECONDS

FSIP:6 1/2" BLOW BACK



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc -
 Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

<p>DATE November 27 2017</p>

DST #6 **Formation:** **Test Interval: 4350 -** **Total Depth: 4460'**
MARMATON/ALTAMONT **4460'**
 Time On: 19:27 11/27 Time Off: 03:13 11/28
 Time On Bottom: 21:41 11/27 Time Off Bottom: 00:41 11/28

Down Hole Makeup

Heads Up: 22.17 FT	Packer 1: 4345 FT
Drill Pipe: 4339.6 FT <i>ID-3 1/4</i>	Packer 2: 4350 FT
Weight Pipe: FT <i>ID-2 7/8</i>	Top Recorder: 4334.42 FT
Collars: FT <i>ID-2 1/4</i>	Bottom Recorder: 4451 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: 110	Surface Choke: 1"
<u>Anchor Makeup</u>	Bottom Choke: 5/8"
Packer Sub: 1 FT	
Perforations: (top): 3 FT <i>4 1/2-FH</i>	
Change Over: 1 FT	
Drill Pipe: (in anchor): 94.5 FT <i>ID-3 1/4</i>	
Change Over: .5 FT	
Perforations: (below): 10 FT <i>4 1/2-FH</i>	



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

<p>DATE November 27 2017</p>

DST #6 **Formation:** **Test Interval: 4350 -** **Total Depth: 4460'**
MARMATON/ALTAMONT **4460'**
Time On: 19:27 11/27 Time Off: 03:13 11/28
Time On Bottom: 21:41 11/27 Time Off Bottom: 00:41 11/28

Mud Properties

Mud Type: CHEMICAL **Weight:** 9.2 **Viscosity:** 44 **Filtrate:** 9.6 **Chlorides:** 5000 ppm



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

DATE November 27 2017

DST #6 **Formation:** **Test Interval: 4350 -** **Total Depth: 4460'**
MARMATON/ALTAMONT **4460'**
Time On: 19:27 11/27 Time Off: 03:13 11/28
Time On Bottom: 21:41 11/27 Time Off Bottom: 00:41 11/28

Gas Volume Report

1st Open

2nd Open

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

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



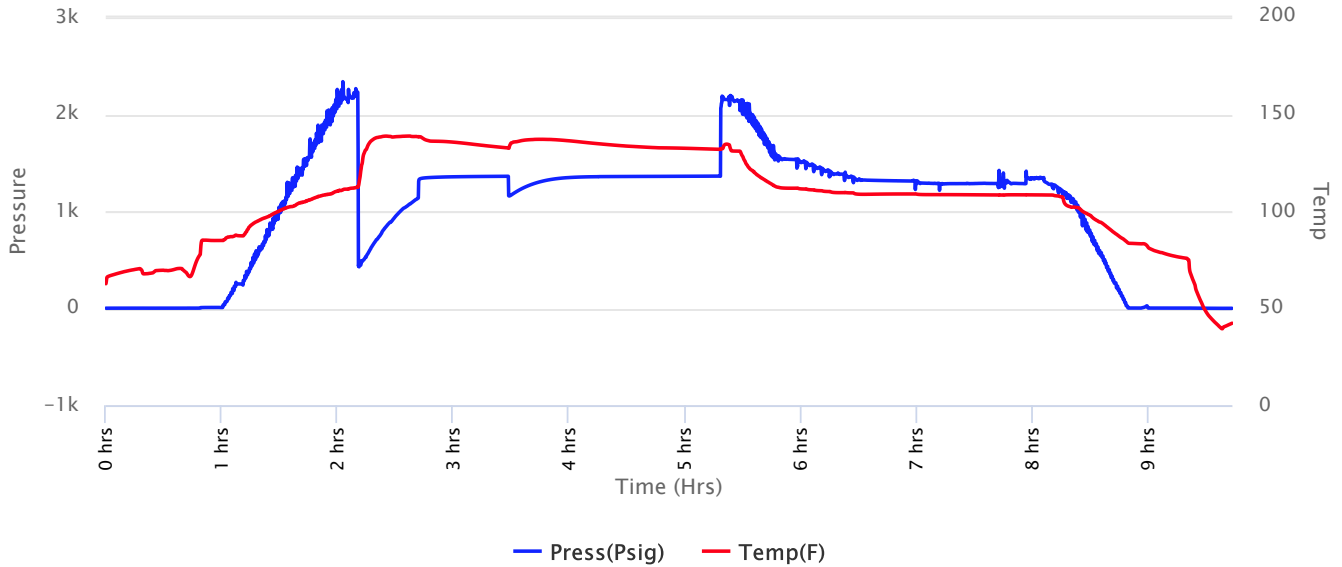
Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

DATE
 November
28
 2017

DST #7 **Formation: PAW/MYRICK ST.** **Test Interval: 4458 - 4540'** **Total Depth: 4540'**
 Time On: 13:45 11/28 Time Off: 23:12 11/28
 Time On Bottom: 15:50 11/28 Time Off Bottom: 18:50 11/28

Electronic Volume Estimate: 4433'	<u>1st Open</u> Minutes: 30 415" at 30 min	<u>1st Close</u> Minutes: 45 26.7" at 45 min	<u>2nd Open</u> Minutes: 45 193.5" at 45 min	<u>2nd Close</u> Minutes: 60 25" at 60 min
--------------------------------------	--------------------------------------------------	----------------------------------------------------	----------------------------------------------------	--------------------------------------------------





Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

DATE
 November
28
 2017

DST #7 **Formation: PAW/MYRICK ST.** **Test Interval: 4458 - 4540'** **Total Depth: 4540'**
 Time On: 13:45 11/28 Time Off: 23:12 11/28
 Time On Bottom: 15:50 11/28 Time Off Bottom: 18:50 11/28

Recovered

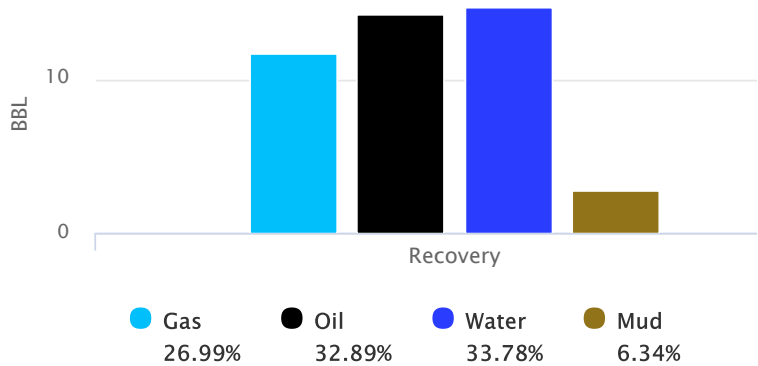
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
1020	10.4652	G	100	0	0	0
3092	31.72392	SLGCSLMCHWCO	4	45	43	8
126	1.29276	SLOCSLMCW	0	2	81	17

Total Recovered: 4238 ft
 Total Barrels Recovered: 43.48188

Reversed Out
 YES

Initial Hydrostatic Pressure	2176	PSI
Initial Flow	436 to 1137	PSI
Initial Closed in Pressure	1361	PSI
Final Flow Pressure	1161 to	PSI
Final Closed in Pressure	1357	PSI
Final Hydrostatic Pressure	1362	PSI
Temperature	2154	°F
	139	
Pressure Change Initial		%
Close / Final Close	0.0	

Recovery at a glance





Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

DATE November 28 2017

DST #7	Formation: PAW/MYRICK ST.	Test Interval: 4458 - 4540'	Total Depth: 4540'
	Time On: 13:45 11/28	Time Off: 23:12 11/28	
	Time On Bottom: 15:50 11/28	Time Off Bottom: 18:50 11/28	

REMARKS:

TOOL SAMPLE:80% OIL 16% WATER 4% MUD

IFP:9"BLOW-INCREASING TO BOB IN 45 SECONDS

ISIP:BOTTOM BUCKET BLOW BACK

FFP:BOB INSTANTLY

FSIP:BOTTOM BUCKET BLOW BACK

(H2S GAS PRESENT, WITH A MAXIMUM READING OF 129PPM)

Ph: 7

RW: .2 @ 38 degrees F

Chlorides: 52000 ppm



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

<p>DATE November 28 2017</p>

DST #7 **Formation:** **Test Interval: 4458 -** **Total Depth: 4540'**
PAW/MYRICK ST. **4540'**

Time On: 13:45 11/28 Time Off: 23:12 11/28
Time On Bottom: 15:50 11/28 Time Off Bottom: 18:50 11/28

Mud Properties

Mud Type: CHEMICAL **Weight:** 9.0 **Viscosity:** 56 **Filtrate:** 8.8 **Chlorides:** 4800 ppm



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

DATE November 28 2017

DST #7 **Formation:** **Test Interval: 4458 -** **Total Depth: 4540'**
PAW/MYRICK ST. **4540'**
Time On: 13:45 11/28 Time Off: 23:12 11/28
Time On Bottom: 15:50 11/28 Time Off Bottom: 18:50 11/28

Gas Volume Report

1st Open

2nd Open

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

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



Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

DATE
 November
29
 2017

DST #8 **Formation: CHERO/JOHNSON** **Test Interval: 4574 - 4636'** **Total Depth: 4636'**
 Time On: 17:20 11/29 Time Off: 02:45 11/30
 Time On Bottom: 19:11 11/29 Time Off Bottom: 22:11 11/29

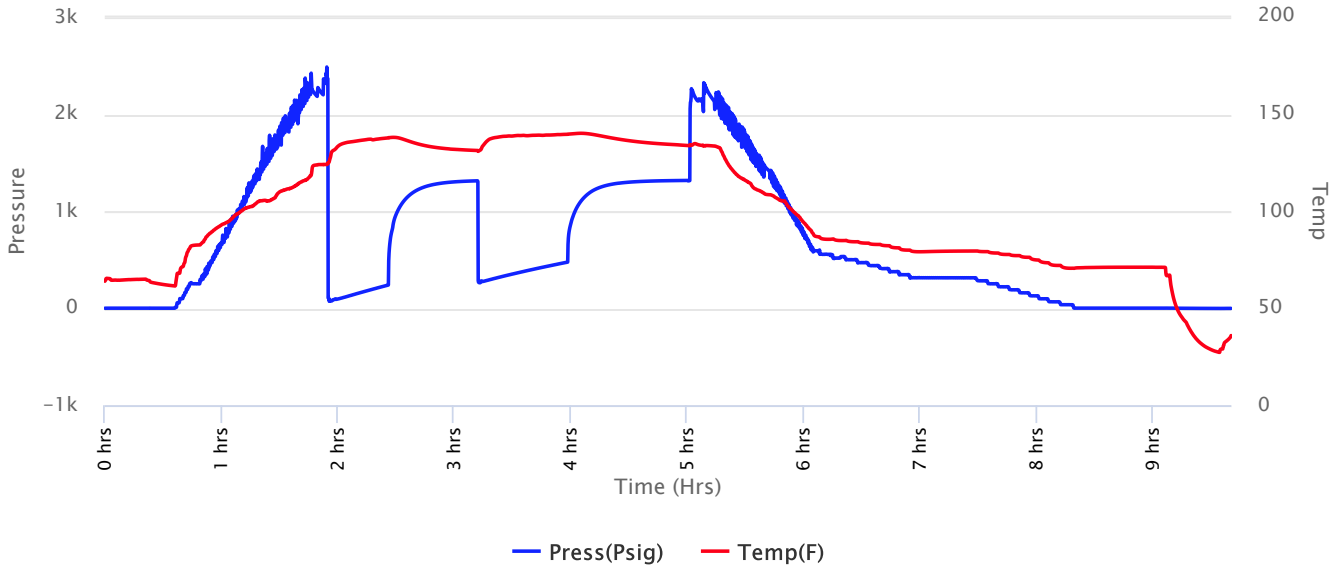
Electronic Volume Estimate:
 1524'

1st Open
 Minutes: 30
 50" at 30 min

1st Close
 Minutes: 45
 8.5" at 45 min

2nd Open
 Minutes: 45
 73.3" at 45 min

2nd Close
 Minutes: 60
 2.5" at 60 min





Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
 County: THOMAS
 State: Kansas
 Drilling Contractor: L. D. Drilling, Inc - Rig 1
 Elevation: 3251 EGL
 Field Name: Morgan
 Pool: Infield
 Job Number: 75

DATE
 November
29
 2017

DST #8 **Formation: CHERO/JOHNSON** **Test Interval: 4574 - 4636'** **Total Depth: 4636'**
 Time On: 17:20 11/29 Time Off: 02:45 11/30
 Time On Bottom: 19:11 11/29 Time Off Bottom: 22:11 11/29

Recovered

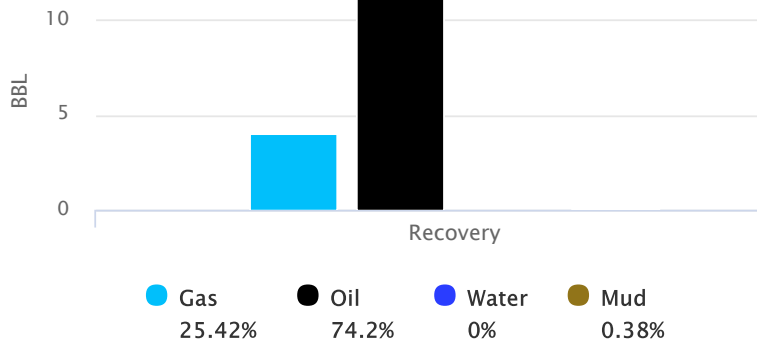
Foot	BBLs	Description of Fluid	Gas %	Oil %	Water %	Mud %
397	4.07322	G	100	0	0	0
1145	11.7477	O	0	100	0	0
20	0.2052	HMCO	0	70	0	30

Total Recovered: 1562 ft
 Total Barrels Recovered: 16.02612

Reversed Out
 NO

Initial Hydrostatic Pressure	2238	PSI
Initial Flow	74 to 241	PSI
Initial Closed in Pressure	1315	PSI
Final Flow Pressure	268 to 476	PSI
Final Closed in Pressure	1316	PSI
Final Hydrostatic Pressure	2197	PSI
Temperature	141	°F
Pressure Change Initial Close / Final Close	0.0	%

Recovery at a glance





Company: L. D. Drilling, Inc
Lease: Kauk #1-17

SEC: 17 TWN: 8S RNG: 34W
County: THOMAS
State: Kansas
Drilling Contractor: L. D. Drilling, Inc -
Rig 1
Elevation: 3251 EGL
Field Name: Morgan
Pool: Infield
Job Number: 75

DATE November 29 2017

DST #8	Formation: CHERO/JOHNSON	Test Interval: 4574 - 4636'	Total Depth: 4636'
	Time On: 17:20 11/29	Time Off: 02:45 11/30	
	Time On Bottom: 19:11 11/29	Time Off Bottom: 22:11 11/29	

REMARKS:

TOOL SAMPLE:100% OIL

IFP:1"BLOW-INCREASING TO BOB IN 3 MINUTES 45 SECONDS

ISIP:8 1/2"BLOW BACK

FFP:1 1/2"BLOW-INCREASING TO BOB IN 5 MINUTES

FSIP:2 1/2"BLOW BACK

(H2S PRESENT)

Gravity: 26.1 @ 60 degrees F

KIM B. SHOEMAKER
 CONSULTING GEOLOGIST
 316-684-9708 * WICHITA, KS

GEOLOGIST'S REPORT
 DRILLING TIME AND SAMPLE LOG

COMPANY L. D. DRILLING, INC.
 LEASE #1-17 KAUK
 FIELD WILDCAT
 LOCATION 330' FSL & 1480' FWL
 SEC 17 TWP 8s RGE 34w
 COUNTY THOMAS STATE KANSAS
 CONTRACTOR L.D. DRILLING, INC.
 SPUD 11-18-17 COMP 12-1-17
 RID 4790 ID 4780 *
 MUD UR 3469 TYPE MUD CHEMICAL

ELEVATIONS
 KB 3258
 DV _____
 CR 3253
 Measurements Are At
 From 3258 KB
 CASING
 SIZE 8 5/8" @ 326'
 PRODUCTION 5 1/2" @
 ELECTRICAL SURVEYS
 DUAL IND., DENS-N., SONIC, MICRO

SAMPLES SAVED FROM 3500 TO 4790
 DRILLING TIME KEPT FROM 3500 TO 4790
 SAMPLES EXAMINED FROM 3500 TO 4790
 GEOLOGICAL SUPERVISION FROM 3600 TO 4790
 GEOLOGIST ON WELL KIM B. SHOEMAKER

FORMATION TOPS	LOG	SAMPLES
ANHYDRITE	2777+481	2778+480
B/ANH.	2808+450	2808+450
STOTLER	3658-400	3656-398
HEEBNER	4062-809	4060-802
LANSING	4105-847	4100-842
B/KC	4364-1106	4362-1104
PAWNEE	4479-1221	4479-1221
FORT SCOTT	4548-1290	4544-1286
CHEROKEE	4578-1320	4576-1318
MISSISSIPPI	4696-1438	4694-1436



REMARKS

API: 15-193-21006

*: Log TD 10' shallow, should have been fill, Log measurements appear to be 1-2' deeper than rotary depths.

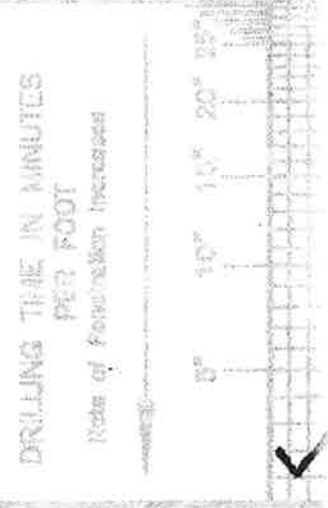
*: Had H₂S gas from fluid in Dst (77) (B) detail below.

Several Lansing zones had H₂S odor

11-18-17 SPUD 11:30 4680
 11-19 @ 330' 12:1 4790
 11-20 @ 1760'
 11-21 @ 2885'
 11-22 @ 3520'
 11-23 @ 4835'
 11-24 @ 4142'
 11-25 @ 4360'
 11-26 @ 4300'
 11-27 @ 4340'
 11-28 @ 4475'
 11-29 @ 4606'

LEGEND

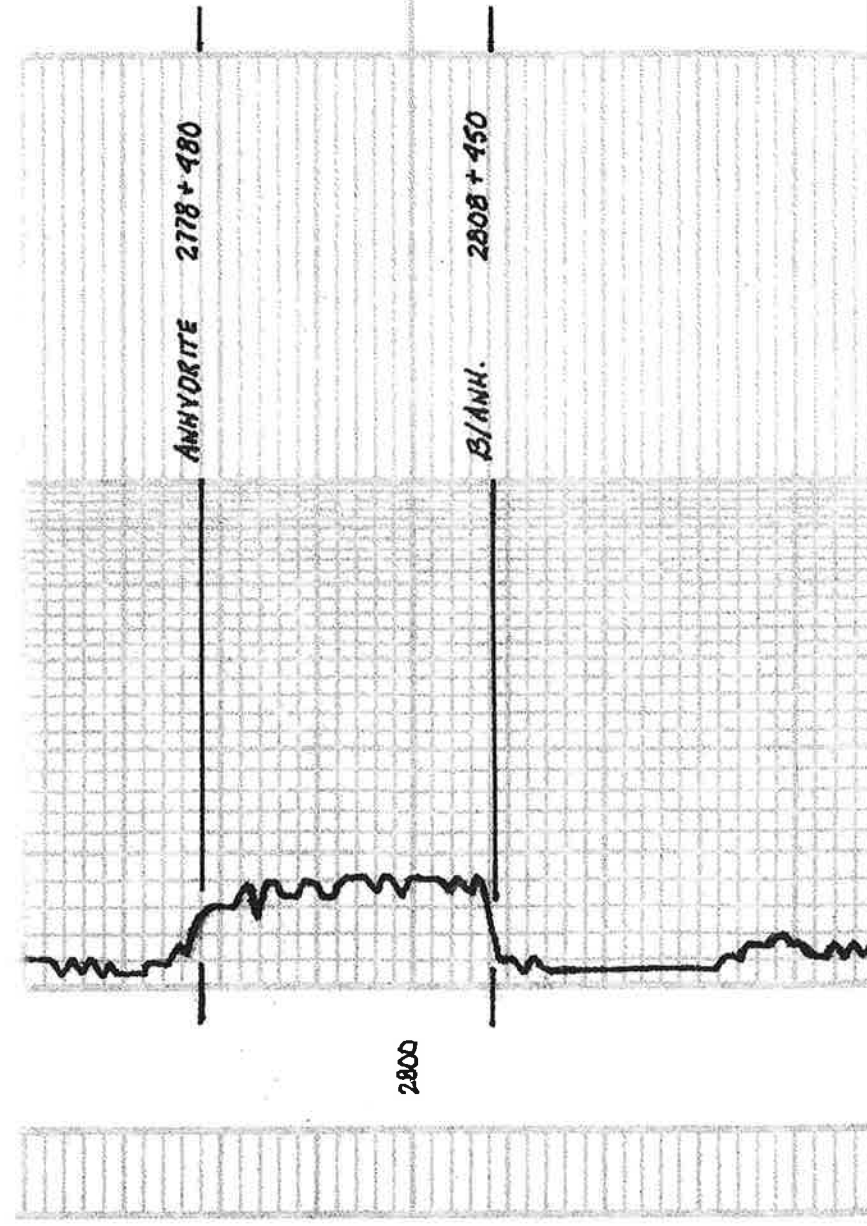
- Anhydrite
- Salt
- Sandstone
- Shale
- Silts
- Cap. A
- Cap. B
- Cap. C
- Cap. D
- Cap. E
- Cap. F
- Cap. G
- Cap. H
- Cap. I
- Cap. J
- Dolomite
- Chert
- Ord. Lime



LITHOLOGY

REMARKS

SAMPLE DESCRIPTIONS



2850

3500

3600

3700

Samples are Lagged

Sh. Rd

ls. dk. gy. sil. foss.

sh. rd silly

sh. Bulg. vsil. foss.

sh. dk. silly.

ls. Tw. vsil. foss. sil. chly.

sh. Dol. w/ Fr. Finch Sw.

ls. dk. vsil. foss.

A Bulg.

sh. Gr. Gy. Silly.

sh. dk. silly. sdy

WAB, STOTLER 3656-398

ls. Bul. sil. foss. sil. dk. P. vsil. foss. No floor. Modular.

sh. Gy.

sh. Bul. silly.

ls. Tw. sil. foss. sil. A

sh. Bul.

ls. dk. vsil. foss. sil. chly.

ls. Tw. sil. foss. sil. A

sh. Gy. silly.

sh. Gy.

ls. Gy. sil. foss.

sh. Gy.

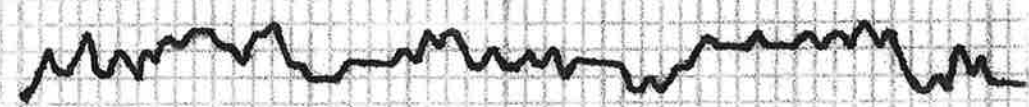
ls. Tw. sil. foss. vsil. chly.

ls. Bul. foss. w/ dk. Bul. Hry. sdy. To P. No floor. No odor.

ls. dk. vsil. foss. w/ dk. gy. foss.

sh. dk. silly. sdy.

VIS: 50
WT: 8.6
WC: 7.2
CHL: 1500



Sh. LI Gr. Silty. Sdy
 15. Gy. Silty Sdy
 Sh. LI Gr.
 15. To wt. Silty. Silty chly.
 15. Gy. VSI Foss.
 Sh. Rd. Silty

HOWARD 3828-570
 Dol. wt. Flyc. V. Fossil. F. P. P. Flyc. &
 Silty. Silty. Silty. Silty. F. Flyc. No Flyc.
 No Odor (3840)

15. To wt. Silty Foss. C. L. Silty
 Sh. LI Gr.
 Sh. chly. 15. To VSI Foss. VSI. chly.

TOPEKA 3871-613
 15. To wt. ool. Shale.
 15. To wt. Silty
 Sh. LI Gr.
 Dol. Dol. To V. Fossil. Silty. F. Flyc. &
 DE. DE. Silty. Silty. F. Flyc. No Odor (3920)

Sh. & Silty LI Gr. Gy.
 15. wt. Silty Foss. Silty
 15. wt. Silty Foss. VSI. chly.

15. To wt. Silty Foss. VSI. chly.
 Sh. LI Gr. Sdy
 Dol. LI Gr. Fossil. Silty.

Sh. Blue. Gy. Sdy
 15. To Silty Foss. Silty of DE. DE. Silty VSI Foss.
 No Odor (4020)

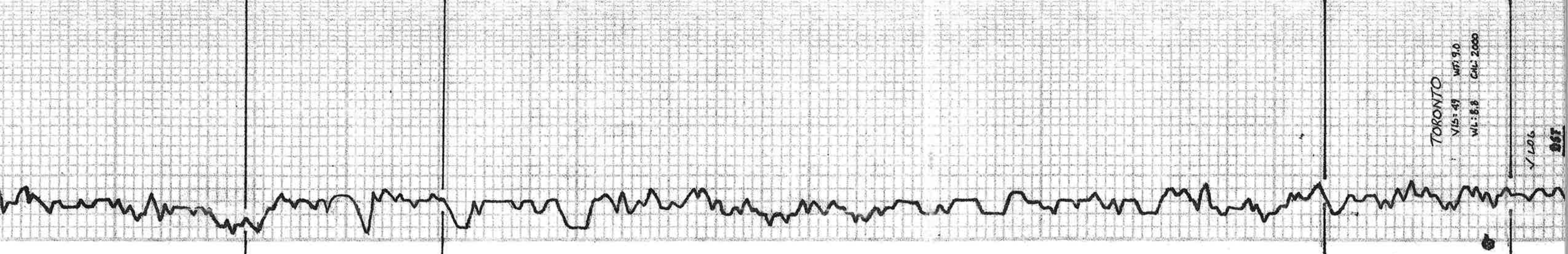
Sh. LI Gr.
 15. wt. VSI Foss.
 Sh. LI Gr.
 15. wt. Silty Foss. Silty

15. wt. chly.
HEBNER 4060-802
 Sh. Blk Carb.
 15. Gy. VSI Foss.
 Sh. LI Gr. Sdy

15. To wt. Silty Foss. Silty. F. Flyc. &
 DE. DE. Silty. Silty. F. Flyc. No Flyc. (4080)
 Sh. LI Gr.
 15. wt. VSI Foss. Silty chly.

LANSING 9100-842
 15. wt. VSI Foss. Silty chly.
 A wt.

DST (1) 4112-4142
 15. To wt. Silty Silty Silty. Bottom Bucket 5 min. 45 Silty.
 2nd Run: Bottom bucket 6 min. 58: 46 sec 58:
 30-45-45-60 58:
 Rec. 338 MW (657. w. 347.4)



3800

3900

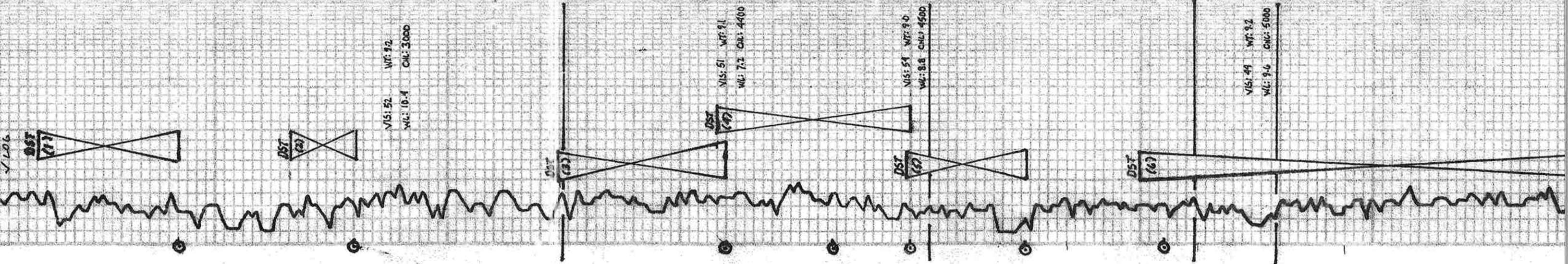
4000

4100

TORONTO
 V15: 49 W15: 9.0
 W1: 8.8 CAL: 2000

V1206
 DST

15. 41. VSI. Foss. SI. Clay.
 16. 41. VSI. Foss. SI. Clay.
 17. 41. VSI. Foss. SI. Clay.
 18. 41. VSI. Foss. SI. Clay.
 19. 41. VSI. Foss. SI. Clay.
 20. 41. VSI. Foss. SI. Clay.
 21. 41. VSI. Foss. SI. Clay.
 22. 41. VSI. Foss. SI. Clay.
 23. 41. VSI. Foss. SI. Clay.
 24. 41. VSI. Foss. SI. Clay.
 25. 41. VSI. Foss. SI. Clay.
 26. 41. VSI. Foss. SI. Clay.
 27. 41. VSI. Foss. SI. Clay.
 28. 41. VSI. Foss. SI. Clay.
 29. 41. VSI. Foss. SI. Clay.
 30. 41. VSI. Foss. SI. Clay.
 31. 41. VSI. Foss. SI. Clay.
 32. 41. VSI. Foss. SI. Clay.
 33. 41. VSI. Foss. SI. Clay.
 34. 41. VSI. Foss. SI. Clay.
 35. 41. VSI. Foss. SI. Clay.
 36. 41. VSI. Foss. SI. Clay.
 37. 41. VSI. Foss. SI. Clay.
 38. 41. VSI. Foss. SI. Clay.
 39. 41. VSI. Foss. SI. Clay.
 40. 41. VSI. Foss. SI. Clay.
 41. 41. VSI. Foss. SI. Clay.
 42. 41. VSI. Foss. SI. Clay.
 43. 41. VSI. Foss. SI. Clay.
 44. 41. VSI. Foss. SI. Clay.
 45. 41. VSI. Foss. SI. Clay.
 46. 41. VSI. Foss. SI. Clay.
 47. 41. VSI. Foss. SI. Clay.
 48. 41. VSI. Foss. SI. Clay.
 49. 41. VSI. Foss. SI. Clay.
 50. 41. VSI. Foss. SI. Clay.
 51. 41. VSI. Foss. SI. Clay.
 52. 41. VSI. Foss. SI. Clay.
 53. 41. VSI. Foss. SI. Clay.
 54. 41. VSI. Foss. SI. Clay.
 55. 41. VSI. Foss. SI. Clay.
 56. 41. VSI. Foss. SI. Clay.
 57. 41. VSI. Foss. SI. Clay.
 58. 41. VSI. Foss. SI. Clay.
 59. 41. VSI. Foss. SI. Clay.
 60. 41. VSI. Foss. SI. Clay.
 61. 41. VSI. Foss. SI. Clay.
 62. 41. VSI. Foss. SI. Clay.
 63. 41. VSI. Foss. SI. Clay.
 64. 41. VSI. Foss. SI. Clay.
 65. 41. VSI. Foss. SI. Clay.
 66. 41. VSI. Foss. SI. Clay.
 67. 41. VSI. Foss. SI. Clay.
 68. 41. VSI. Foss. SI. Clay.
 69. 41. VSI. Foss. SI. Clay.
 70. 41. VSI. Foss. SI. Clay.
 71. 41. VSI. Foss. SI. Clay.
 72. 41. VSI. Foss. SI. Clay.
 73. 41. VSI. Foss. SI. Clay.
 74. 41. VSI. Foss. SI. Clay.
 75. 41. VSI. Foss. SI. Clay.
 76. 41. VSI. Foss. SI. Clay.
 77. 41. VSI. Foss. SI. Clay.
 78. 41. VSI. Foss. SI. Clay.
 79. 41. VSI. Foss. SI. Clay.
 80. 41. VSI. Foss. SI. Clay.
 81. 41. VSI. Foss. SI. Clay.
 82. 41. VSI. Foss. SI. Clay.
 83. 41. VSI. Foss. SI. Clay.
 84. 41. VSI. Foss. SI. Clay.
 85. 41. VSI. Foss. SI. Clay.
 86. 41. VSI. Foss. SI. Clay.
 87. 41. VSI. Foss. SI. Clay.
 88. 41. VSI. Foss. SI. Clay.
 89. 41. VSI. Foss. SI. Clay.
 90. 41. VSI. Foss. SI. Clay.
 91. 41. VSI. Foss. SI. Clay.
 92. 41. VSI. Foss. SI. Clay.
 93. 41. VSI. Foss. SI. Clay.
 94. 41. VSI. Foss. SI. Clay.
 95. 41. VSI. Foss. SI. Clay.
 96. 41. VSI. Foss. SI. Clay.
 97. 41. VSI. Foss. SI. Clay.
 98. 41. VSI. Foss. SI. Clay.
 99. 41. VSI. Foss. SI. Clay.
 100. 41. VSI. Foss. SI. Clay.



DST (17)
 Rec. 338 MW (60% W, 39% M)
 1187 VSI MW (287 W, 21 M)
 TF: 1525
 FP: 73.381
 S/P: 386.724
 Temp: 139.0 F
 PH: 7
 RW: 21 @ 53 F
 CNC: 386.724

DST (18)
 Rec. 317 G.I.P. 433 Clean Oil (100% Oil)
 13' SOG MW (52 Oil, 45% W, 56% M)
 61 VSOG MW (37 Oil, 67% W, 287 M)
 TF: 507
 FP: 21.104
 S/P: 109.216
 Temp: 129.0 F
 PH: 7
 RW: 21 @ 53 F
 CNC: 40000

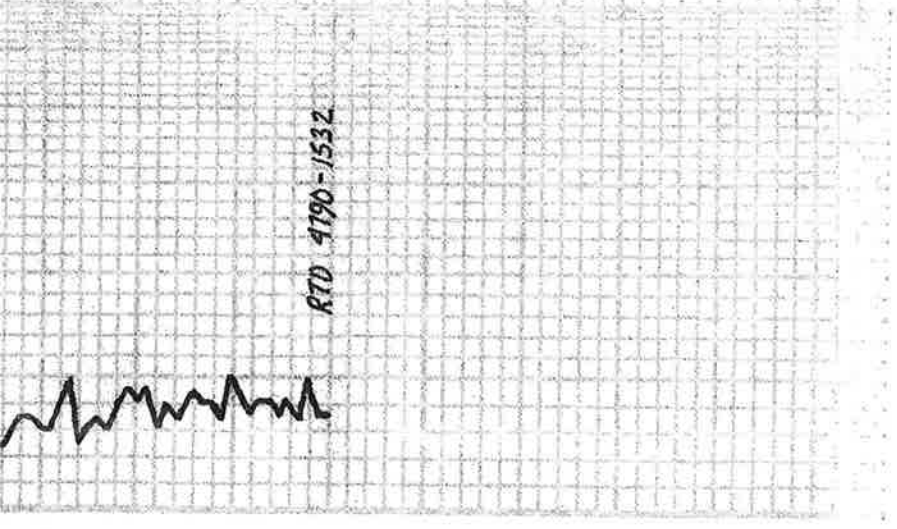
DST (19)
 Rec. 299 G.I.P. 207 Clean Oil (100% Oil)
 132 SOG MW (102 Oil, 187 Oil, 327 W)
 55' SOG MW (8 Oil, 82 W, 103 M)
 TF: 334
 FP: 55.103
 S/P: 108.184
 Temp: 127.3 F
 PH: 7
 RW: 21 @ 53 F
 CNC: 40000

DST (20)
 Rec. 3150 G.I.P. 233 Clean Oil (100% Oil)
 162' M60 (147 Oil, 57 Oil, 357 M)
 50' M60 (207 Oil, 57 Oil, 277 M)
 TF: 1150
 FP: 88.216
 S/P: 204.931
 Temp: 133.0 F

DST (21)
 Rec. 329 G.I.P. 366 Clean Oil (100% Oil)
 40' M60 (57 Oil, 437 M)
 46' M60 MW (76 Oil, 207 Oil, 107 W, 437 M)
 TF: 166
 FP: 17.17
 S/P: 65.82
 Temp: 120.6 F
 PH: 7
 RW: 21 @ 53 F
 CNC: 47.000

DST (22)
 Rec. 273 G.I.P. 115' M60 (77 Oil, 237 M)
 187 M60 (557 Oil, 457 M)
 TF: 602
 FP: 25.154
 S/P: 166.252
 Temp: 130.2 F
 PH: 7
 RW: 21 @ 53 F
 CNC: 47.000

Del. G. to V. Ensh
Del. G. V. Ensh Sue.
Del. G. V. Ensh Silly.



RTD 4190-1532

4800

A section of graph paper with diagonal hatching on the left side.