KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1055133

Form ACO-1
June 2009
Form Must Be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 3842
Name: Larson Engineering, Inc. dba Larson Operating Company
Address 1: 562 W STATE RD 4
Address 2:
City: OLMITZ State: KS Zip: 67564 + 8561
Contact Person: Thomas Larson
Phone: (620) 653-7368
CONTRACTOR: License # 33935
Name: H. D. Drilling, LLC
Wellsite Geologist: Vernon Schrag
Purchaser:

Designate Type of Completion:

- [x] New Well
- [ ] Re-Entry
- [ ] Workover

- [ ] Oil
- [ ] WSW
- [ ] SWD
- [ ] SIOW
- [ ] Gas
- [x] D&A
- [ ] ENHR
- [ ] SIGW
- [ ] OG
- [ ] GSW
- [ ] Temp. Abd.
- [ ] 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 ENHR
- [ ] Conv. to SWD
- [ ] Conv. to GSW
- [ ] Plug Back: Plug Back Total Depth
- [ ] Commingled Permit #:
- [ ] Dual Completion Permit #:
- [ ] SWD Permit #:
- [ ] ENHR Permit #:
- [ ] GSW Permit #:

1/6/2011	1/19/2011	1/19/2011
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-101-22274-00-00
Spot Description:
E2 - NE - NW - NW Sec. 30 Twp. 18 S. R. 30 [ ] East [x] West
330 Feet from [x] North / [ ] South Line of Section
1015 Feet from [ ] East / [x] West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- [ ] NE
- [x] NW
- [ ] SE
- [ ] SW

County: Lane
Lease Name: Krehbiel Well #: 1-30
Field Name:
Producing Formation: N/A
Elevation: Ground: 2905 Kelly Bushing: 2912
Total Depth: 4641 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 261 Feet
Multiple Stage Cementing Collar Used? [ ] Yes [x] 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: 6900 ppm Fluid volume: 800 bbls
Dewatering method used: Evaporated

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

- [x] **Letter of Confidentiality Received**
  Date: 05/04/2011
- [x] **Confidential Release Date:** 05/03/2013
- [x] **Wireline Log Received**
- [ ] **Geologist Report Received**
- [ ] **UIC Distribution**

ALT [ ] I [x] II [ ] III **Approved by:** NAOMI JAMES **Date:** 05/05/2011

Side Two

[redacted]

1055133

Operator Name: Larson Engineering, Inc. dba Larson Operating Company Lease Name: Krehbiel Well #: 1-30

Sec. 30 Twp. 18 S. R. 30 ☐ East ☑ West County: Lane

INSTRUCTIONS: Show important tops and base 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. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☐ Yes ☑ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

Electric Log Submitted Electronically ☑ Yes ☐ No
(If no, Submit Copy)

List All E. Logs Run:

Dual Induction
Dual Comp Porosity
Microresistivity

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Attached	Attached	Attached

CASING RECORD ☐ New ☑ 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
Surface	12.25	8.625	20	261	Class A	175	2% gel, 3% CC

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:
☐ Perforate
☐ Protect Casing
☐ Plug Back TD
☐ Plug Off Zone

Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
-			
-			

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record *(Amount and Kind of Material Used)*	Depth

TUBING RECORD: Size: Set At: Packer At: Liner Run: ☐ Yes ☐ No

Date of First, Resumed Production, SWD or ENHR. Producing Method: ☐ Flowing ☐ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☑ Other *(Specify)* D & A

PRODUCTION INTERVAL:

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Larson Engineering, Inc. dba Larson Operating Company
Well Name	Krehbiel 1-30
Doc ID	1055133

Tops

Name	Top	Datum
Anhydrite	2208	+704
Base Anhydrite	2265	+647
Heebner	3905	-993
Lansing	3953	-1041
Stark Sh	4236	-1324
Fort Scott	4481	-1569
Cherokee	4503	-1591
Mississippi	4579	-1667

ALLIED CEMENTING CO., LLC. 038637

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT: eLB.

DATE 1-6-11	SEC 30	TWP. 14S	RANGE 30	CALLED OUT 4:00pm	ON LOCATION 7:30pm	JOB START 9pm	JOB FINISH 10pm
LEASE Krehbiel	WELL # 1-30		LOCATION 96 & Lane & Scott Co line			COUNTY Lane	STATE KS.
OLD OR NEW (Circle one)			1w 1S 1½E S/S				

CONTRACTOR	H-D. Drilling Rig 3	OWNER	
TYPE OF JOB	Surface Job		
HOLE SIZE	12¼ T.D.	265ft	CEMENT
CASING SIZE	8⅝ DEPTH	261ft	AMOUNT ORDERED 175sk Comm
TUBING SIZE	DEPTH		3%cc 2%gel
DRILL PIPE	DEPTH		
TOOL	DEPTH		
PRES. MAX	MINIMUM		
MEAS. LINE	SHOE JOINT		
CEMENT LEFT IN CSG.	15ft		
PERFS.			
DISPLACEMENT	15 bbl		

EQUIPMENT

PUMP TRUCK # 224	CEMENTER	Mike M	COMMON 175	@ 13.50 2362.50
	HELPER	Bob	POZMIX	@
BULK TRUCK # 457 98	DRIVER	Kevin W	GEL 3	@ 20.25 60.75 ~~101.25~~
BULK TRUCK #	DRIVER		CHLORIDE 6	@ 51.50 309.00
			ASC	@
			HANDLING 175	@ 2.25 393.75
			MILEAGE 175 X 40 X .10	700.00
				TOTAL ~~4326.25~~ 3826.00

REMARKS:

Rig run Surface Pipe
Circulate the Hole
mix Cement + Displace it
Down Cement did Circulate
To Surface

SERVICE

DEPTH OF JOB	261ft		
PUMP TRUCK CHARGE			991.00
EXTRA FOOTAGE		@	
MILEAGE	40	@ 7.00	280.00
MANIFOLD		@	
		@	
		@	
		TOTAL	1271.00

CHARGE TO: Larson Engineering

STREET

CITY STATE ZIP

Thank You

PLUG & FLOAT EQUIPMENT

		@	
		@	
		@	
		@	
		@	
		TOTAL	

To Allied Cementing Co., LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any)

TOTAL CHARGES [redacted]

PRINTED NAME LEWAYNE TRESNER

DISCOUNT IF PAID IN 30 DAYS

SIGNATURE Lewayne Tresner

ALLIED CEMENTING CO., LLC. 038642

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT: O.B

DATE 1-19-11	SEC. 30	TWP. 16	RANGE 30	CALLED OUT 3 Am	ON LOCATION 8 Am	JOB START 10 Am	JOB FINISH 12 Pm
LEASE Krehbiel	WELL # 1-30	LOCATION 96 Hwy + scott + Lane				COUNTY Lane	STATE KS
OLD OR NEW (Circle one)		Cohline 1w 1s 1½ E s/s					

CONTRACTOR H-D Drilling Rig 3
OWNER

TYPE OF JOB Rotary Plug
HOLE SIZE 7⅞ T.D. 4635 ft
CASING SIZE DEPTH
TUBING SIZE DEPTH
DRILL PIPE 4½ DEPTH 2260 ft
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG.
PERFS.
DISPLACEMENT

EQUIPMENT

PUMP TRUCK CEMENTER Mike M
224 HELPER Mary
BULK TRUCK
482 DRIVER Bill
BULK TRUCK
DRIVER

REMARKS:

50 sk at 2260 ft
80 sk at 1480 ft
50 sk at 700 ft
50 sk at 290 ft
20 sk at 60 ft
30 sk at Rat Hole

CHARGE TO: Larson Engineering
STREET
CITY STATE ZIP

Thank You $$$

To Allied Cementing Co., LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME LEWAYNE TRESNER

SIGNATURE [signature]

CEMENT

AMOUNT ORDERED 280 60/40 4% gel
¼# Flo-seal

		@	
COMMON	168	@ 13.50	2268.00
POZMIX	112	@ 7.55	845.60
GEL	10	@ 20.25	202.50
CHLORIDE		@	
ASC		@	
flowseal 70#		@ 2.45	171.50
		@	
		@	
		@	
		@	
		@	
		@	
		@	
HANDLING	280	@ 2.25	630.00
MILEAGE	280x40x.10		1120.00

TOTAL 5.237.60

SERVICE

DEPTH OF JOB 2260 ft

		@	
PUMP TRUCK CHARGE			1159.00
EXTRA FOOTAGE		@	
MILEAGE	40	@ 7.00	280.00
MANIFOLD		@	
		@	
		@	

TOTAL 1439.00

PLUG & FLOAT EQUIPMENT

	@	
	@	
	@	
	@	
	@	
	@	

TOTAL

SALES TAX (If Any)
TOTAL CHARGES [redacted]
DISCOUNT IF PAID IN 30 DAYS

DRILL STEM TEST REPORT

Larson Engineering Inc

562 West State Rd 4
Olmitz , Ks

ATTN: Vern Schrag

Krehbiel #1-30

30-18s-30w Lane, Ks

Job Ticket: 041133 **DST#: 1**

Test Start: 2011.01.13 @ 20:08:23

GENERAL INFORMATION:

Formation: **H**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:48:23
Time Test Ended: 02:30:08

Test Type: Conventional Bottom Hole
Tester: Shane McBride
Unit No: 40

Interval: 4135.00 ft (KB) To 4161.00 ft (KB) (TVD)
Total Depth: 4161.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

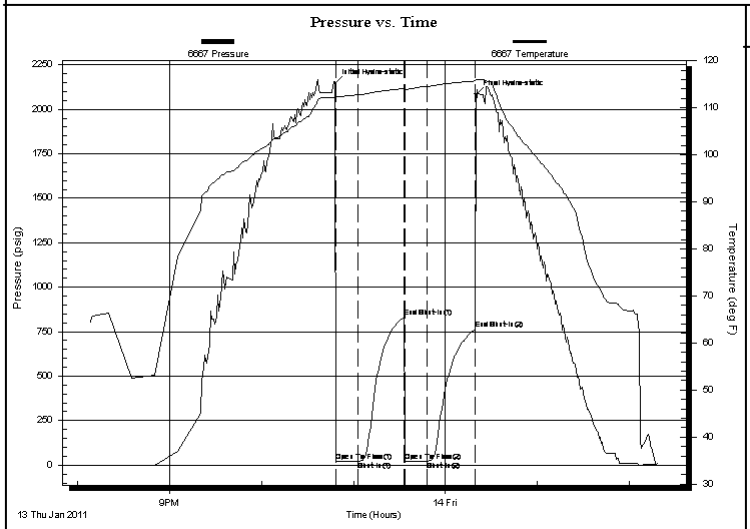
Reference Elevations: 2912.00 ft (KB)
2905.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 6667 **Inside**

Press@RunDepth: 23.60 psig @ 4136.00 ft (KB)
Start Date: 2011.01.13 End Date: 2011.01.14
Start Time: 20:08:23 End Time: 02:19:08

Capacity: 8000.00 psig
Last Calib.: 2011.01.14
Time On Btm: 2011.01.13 @ 22:48:08
Time Off Btm: 2011.01.14 @ 00:19:53

TEST COMMENT: Wak blow died in 7 min.
No return
No blow
No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2144.27	112.45	Initial Hydro-static
1	20.46	112.03	Open To Flow (1)
15	22.00	112.73	Shut-In(1)
45	834.49	114.10	End Shut-In(1)
46	22.04	113.84	Open To Flow (2)
60	23.60	114.52	Shut-In(2)
92	762.79	115.71	End Shut-In(2)
92	2083.69	115.88	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	mud 100%m	0.01

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

562 West State Rd 4
Olmitz , Ks

ATTN: Vern Schrag

Krehbiel #1-30

30-18s-30w Lane, Ks

Job Ticket: 041133 **DST#: 1**

Test Start: 2011.01.13 @ 20:08:23

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	0 deg API
Mud Weight:	10.00 lb/gal	Cushion Length:	ft	Water Salinity:	0 ppm
Viscosity:	43.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.60 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1400.00 ppm				
Filter Cake:	2.00 inches				

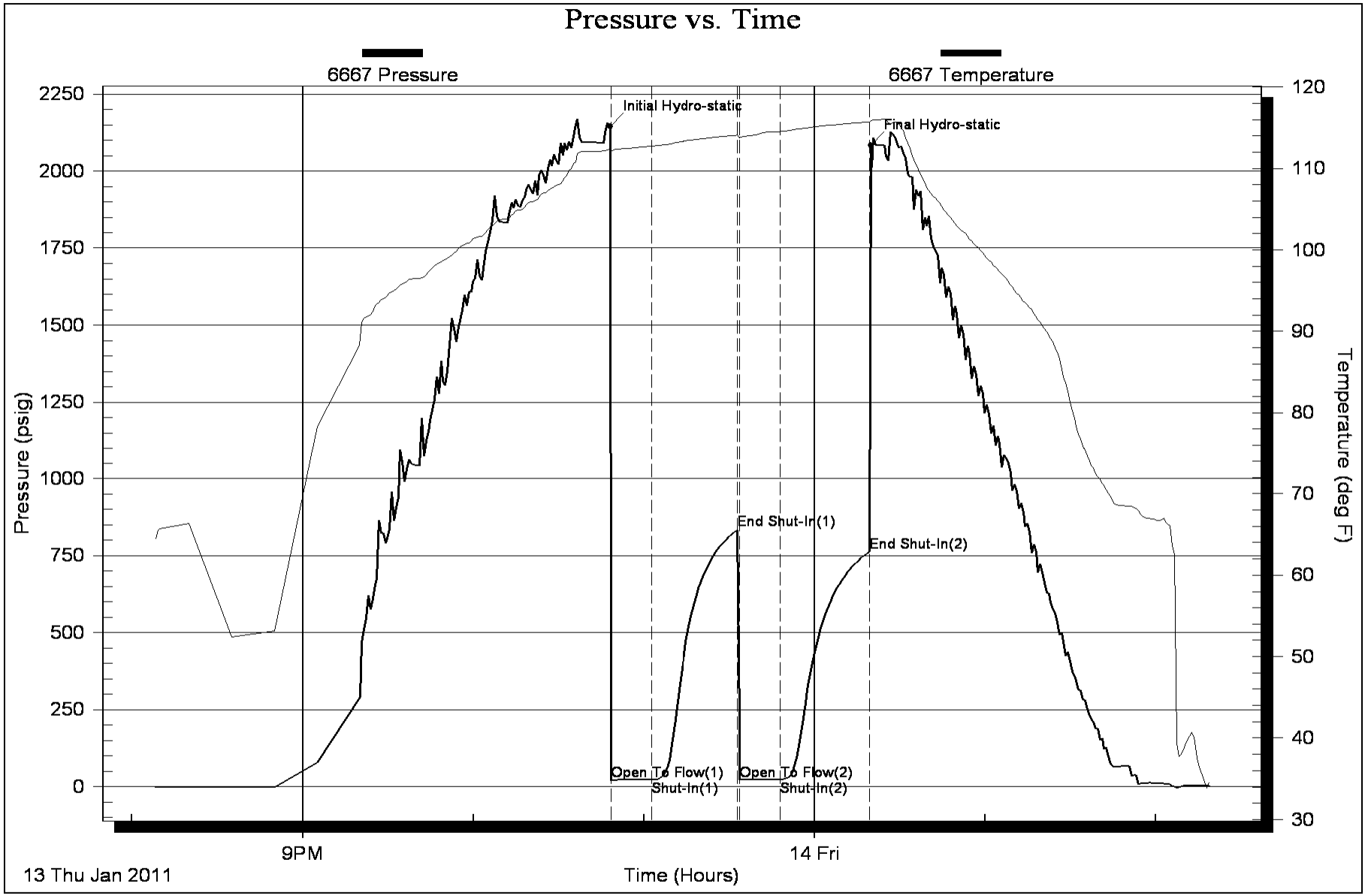
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	mud 100%m	0.010

Total Length: 2.00 ft Total Volume: 0.010 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:


Pressure vs. Time
6667 Pressure
6667 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure (psig)
Temperature (deg F)
2250
2000
1750
1500
1250
1000
750
500
250
0
120
110
100
90
80
70
60
50
40
30
9PM
14 Fri
13 Thu Jan 2011
Time (Hours)

DRILL STEM TEST REPORT

Larson Engineering Inc

562 West State Rd 4
Olmitz , Ks

ATTN: Vern Schrag

Krehbiel #1-30

30-18s-30w Lane, Ks

Job Ticket: 041134 **DST#: 2**

Test Start: 2011.01.14 @ 19:45:41

GENERAL INFORMATION:

Formation: **K**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:00:56
Time Test Ended: 03:40:26

Test Type: Conventional Bottom Hole
Tester: Shane McBride
Unit No: 40

Interval: 4234.00 ft (KB) To 4250.00 ft (KB) (TVD)
Total Depth: 4250.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

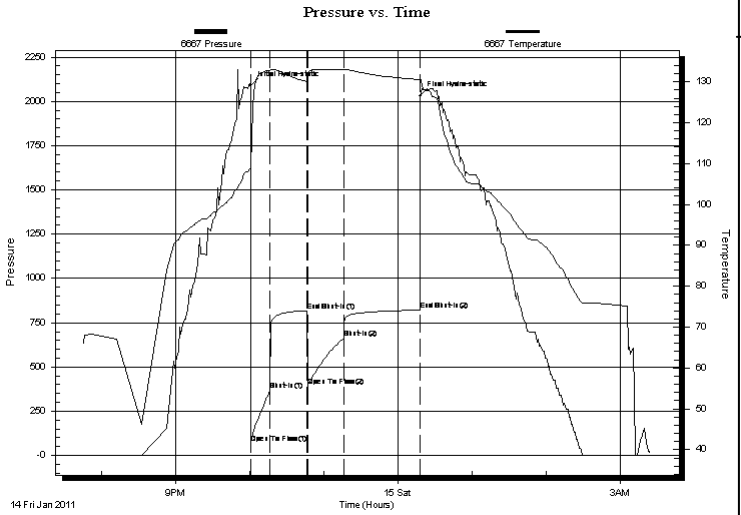
Reference Elevations: 2912.00 ft (KB)
2905.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 6667 **Inside**

Press@RunDepth: 661.63 psig @ 4235.00 ft (KB)
Start Date: 2011.01.14 End Date: 2011.01.15
Start Time: 19:45:41 End Time: 03:24:26

Capacity: 8000.00 psig
Last Calib.: 2011.01.15
Time On Btm: 2011.01.14 @ 22:00:41
Time Off Btm: 2011.01.15 @ 00:17:56

TEST COMMENT: B.O.B. in 3 min
No return
B.O.B. in 6 min
No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2091.97	108.77	Initial Hydro-static
1	70.64	108.33	Open To Flow (1)
16	369.46	132.82	Shut-In(1)
46	818.26	130.10	End Shut-In(1)
46	392.50	129.76	Open To Flow (2)
76	661.63	132.94	Shut-In(2)
137	821.21	130.54	End Shut-In(2)
138	2030.34	130.95	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1260.00	w ater 100%w	16.65
150.00	m c w 20%m 80%w	2.10

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

562 West State Rd 4
Olmitz , Ks

ATTN: Vern Schrag

Krehbiel #1-30

30-18s-30w Lane, Ks

Job Ticket: 041134 **DST#: 2**

Test Start: 2011.01.14 @ 19:45:41

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	0 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	37000 ppm
Viscosity:	47.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.58 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	2400.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

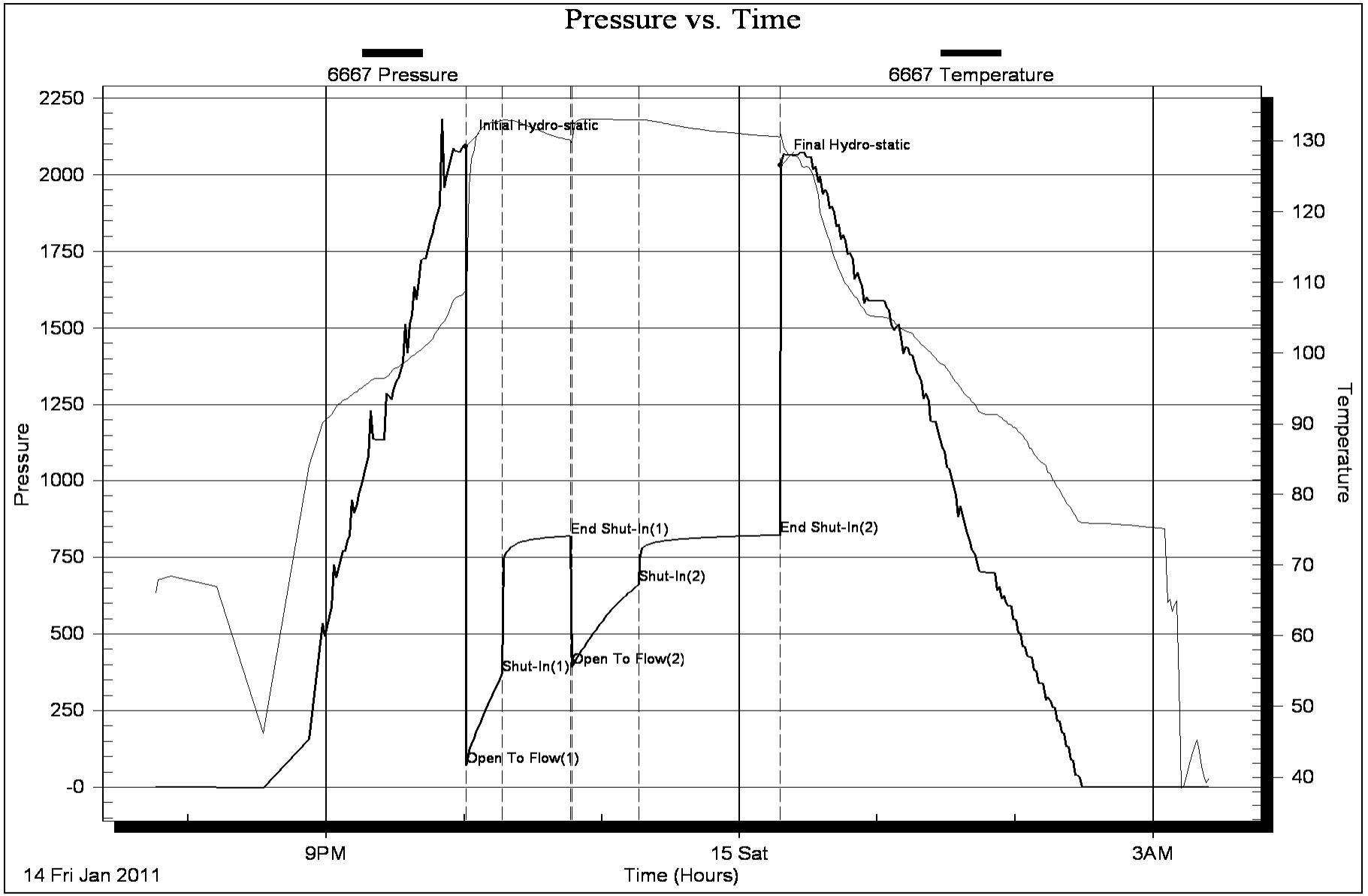
Length ft	Description	Volume bbl
1260.00	w ater 100%w	16.645
150.00	m c w 20%m 80%w	2.104

Total Length: 1410.00 ft Total Volume: 18.749 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: rw .289 @ 45*f= 37,000 chlor


Pressure vs. Time
6667 Pressure
6667 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Shut-In(2)
Shut-In(1)
Open To Flow(2)
Open To Flow(1)
Pressure
Temperature
2250
2000
1750
1500
1250
1000
750
500
250
-0
130
120
110
100
90
80
70
60
50
40
9PM
15 Sat
3AM
14 Fri Jan 2011
Time (Hours)

DRILL STEM TEST REPORT

Larson Engineering Inc

562 West State Rd 4
Olmitz , Ks

ATTN: Vern Schrag

Krehbiel #1-30

30-18s-30w Lane, Ks

Job Ticket: 041135 **DST#: 3**

Test Start: 2011.01.16 @ 07:45:28

GENERAL INFORMATION:

Formation: **Marmaton**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:59:58
Time Test Ended: 14:45:28

Test Type: Conventional Bottom Hole
Tester: Shane McBride
Unit No: 40

Interval: 4320.00 ft (KB) To 4403.00 ft (KB) (TVD)
Total Depth: 4403.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

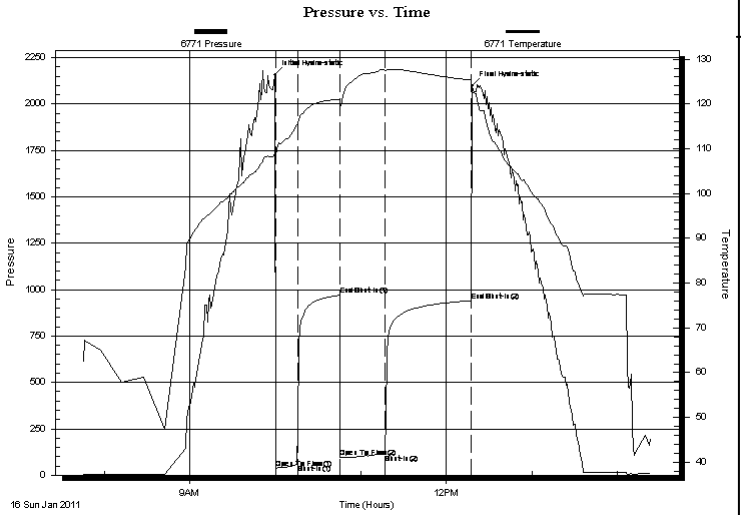
Reference Elevations: 2912.00 ft (KB)
2905.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 6771 **Outside**

Press@RunDepth: 115.01 psig @ 4321.00 ft (KB)
Start Date: 2011.01.16 End Date: 2011.01.16
Start Time: 07:45:28 End Time: 14:23:28

Capacity: 8000.00 psig
Last Calib.: 2011.01.16
Time On Btm: 2011.01.16 @ 09:59:43
Time Off Btm: 2011.01.16 @ 12:18:13

TEST COMMENT: 4 1/4"in blow
No return
Bubble to open tool no blow (hammer union loose on head manifold)
No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2155.94	108.90	Initial Hydro-static
1	38.59	107.68	Open To Flow (1)
16	58.13	115.45	Shut-In(1)
46	969.24	120.92	End Shut-In(1)
46	98.22	120.01	Open To Flow (2)
77	115.01	127.49	Shut-In(2)
138	940.27	125.32	End Shut-In(2)
139	2097.73	122.99	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
113.00	water 100%w	0.56
44.00	mcw w/oil spots 35%m 65%w	0.62
1.00	free oil 100%o	0.01

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

562 West State Rd 4
Olmitz , Ks

ATTN: Vern Schrag

Krehbiel #1-30

30-18s-30w Lane, Ks

Job Ticket: 041135 **DST#: 3**

Test Start: 2011.01.16 @ 07:45:28

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	0 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	28500 ppm
Viscosity:	53.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.18 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	2600.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

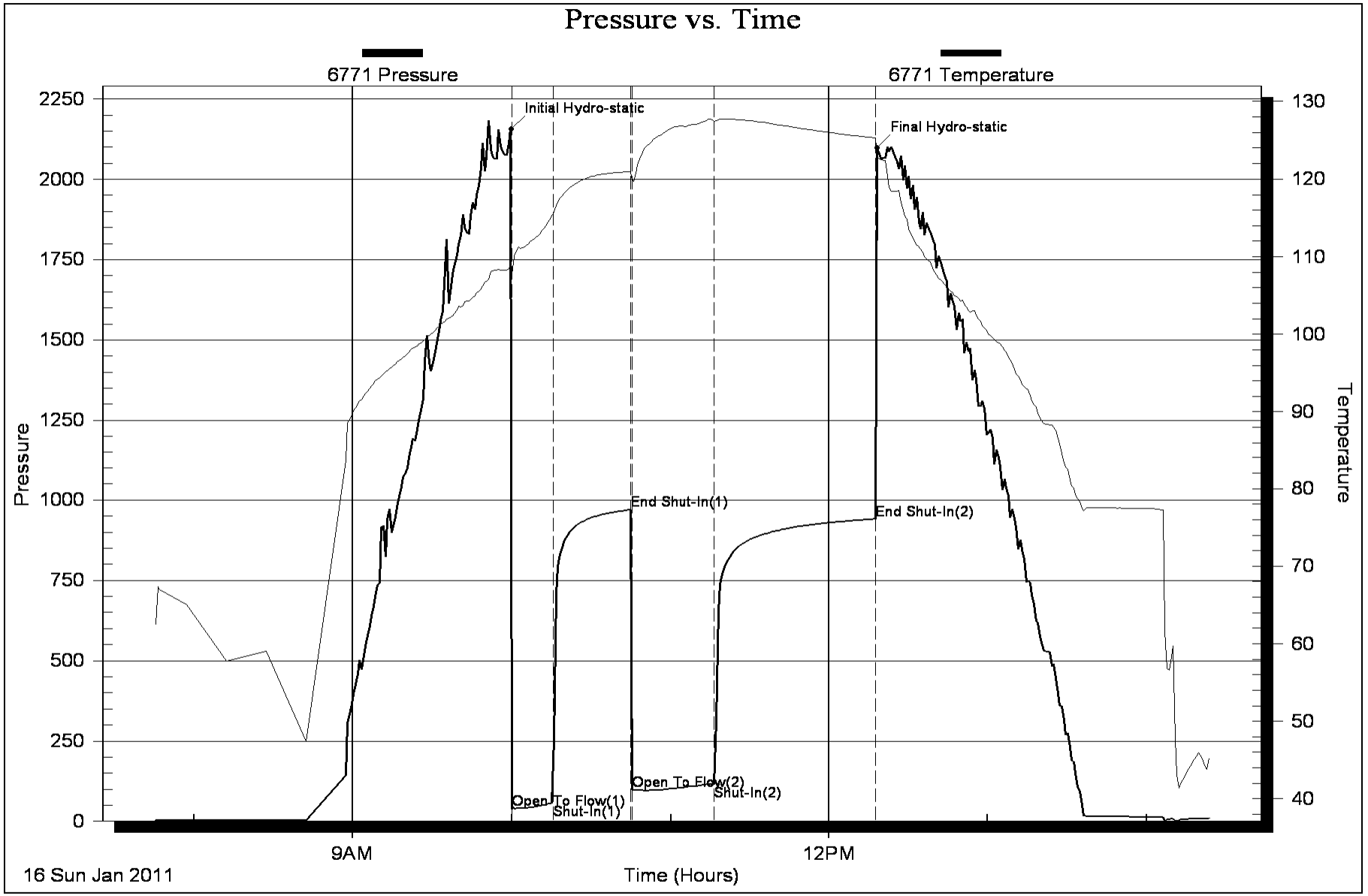
Length ft	Description	Volume bbl
113.00	water 100%w	0.556
44.00	m c w w/oil spots 35%m 65%w	0.617
1.00	free oil 100%o	0.014

Total Length: 158.00 ft Total Volume: 1.187 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: rw .399 @ 52*f= 28,500 chlor


Pressure vs. Time
6771 Pressure
6771 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure
Temperature
2250
2000
1750
1500
1250
1000
750
500
250
0
130
120
110
100
90
80
70
60
50
40
9AM
12PM
16 Sun Jan 2011
Time (Hours)

DRILL STEM TEST REPORT

Larson Engineering Inc

562 West State Rd 4
Olmitz , Ks

ATTN: Vern Schrag

Krehbiel #1-30

30-18s-30w Lane, Ks

Job Ticket: 041136 **DST#: 4**

Test Start: 2011.01.17 @ 18:30:35

GENERAL INFORMATION:

Formation: **Pawnee-Ft Scott-Cher**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 20:34:50
Time Test Ended: 00:30:20

Test Type: Conventional Bottom Hole
Tester: Shane McBride
Unit No: 40

Interval: 4434.00 ft (KB) To 4565.00 ft (KB) (TVD)
Total Depth: 4565.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

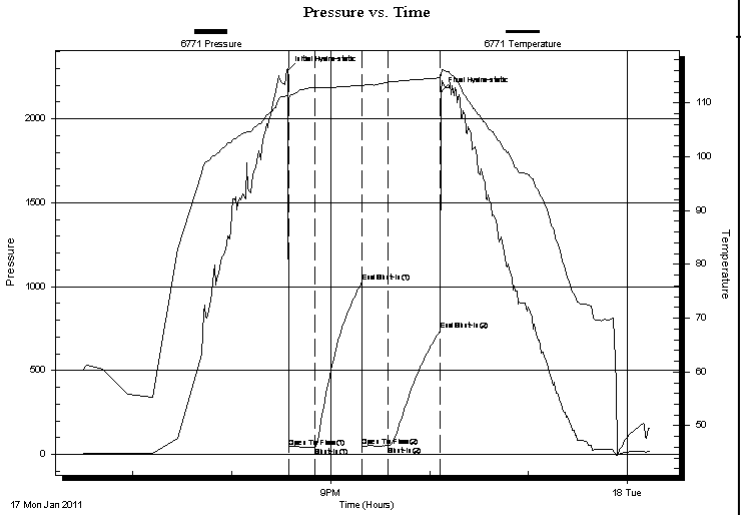
Reference Elevations: 2912.00 ft (KB)
2905.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 6771 **Outside**

Press@RunDepth: 51.33 psig @ 4435.00 ft (KB)
Start Date: 2011.01.17 End Date: 2011.01.18
Start Time: 18:30:35 End Time: 00:14:20

Capacity: 8000.00 psig
Last Calib.: 2011.01.18
Time On Btm: 2011.01.17 @ 20:34:20
Time Off Btm: 2011.01.17 @ 22:07:05

TEST COMMENT: 1/2+"in died back to 1/8"in
No return
No blow
No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2287.58	111.47	Initial Hydro-static
1	42.87	110.80	Open To Flow (1)
17	44.76	112.89	Shut-In(1)
45	1026.27	113.27	End Shut-In(1)
45	48.46	112.88	Open To Flow (2)
61	51.33	113.89	Shut-In(2)
93	739.65	114.68	End Shut-In(2)
93	2160.29	115.33	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud 100%m	0.02

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

562 West State Rd 4
Olmitz , Ks

ATTN: Vern Schrag

Krehbiel #1-30

30-18s-30w Lane, Ks

Job Ticket: 041136 **DST#: 4**

Test Start: 2011.01.17 @ 18:30:35

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	0 deg API
Mud Weight:	10.00 lb/gal	Cushion Length:	ft	Water Salinity:	0 ppm
Viscosity:	53.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.20 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	3800.00 ppm				
Filter Cake:	2.00 inches				

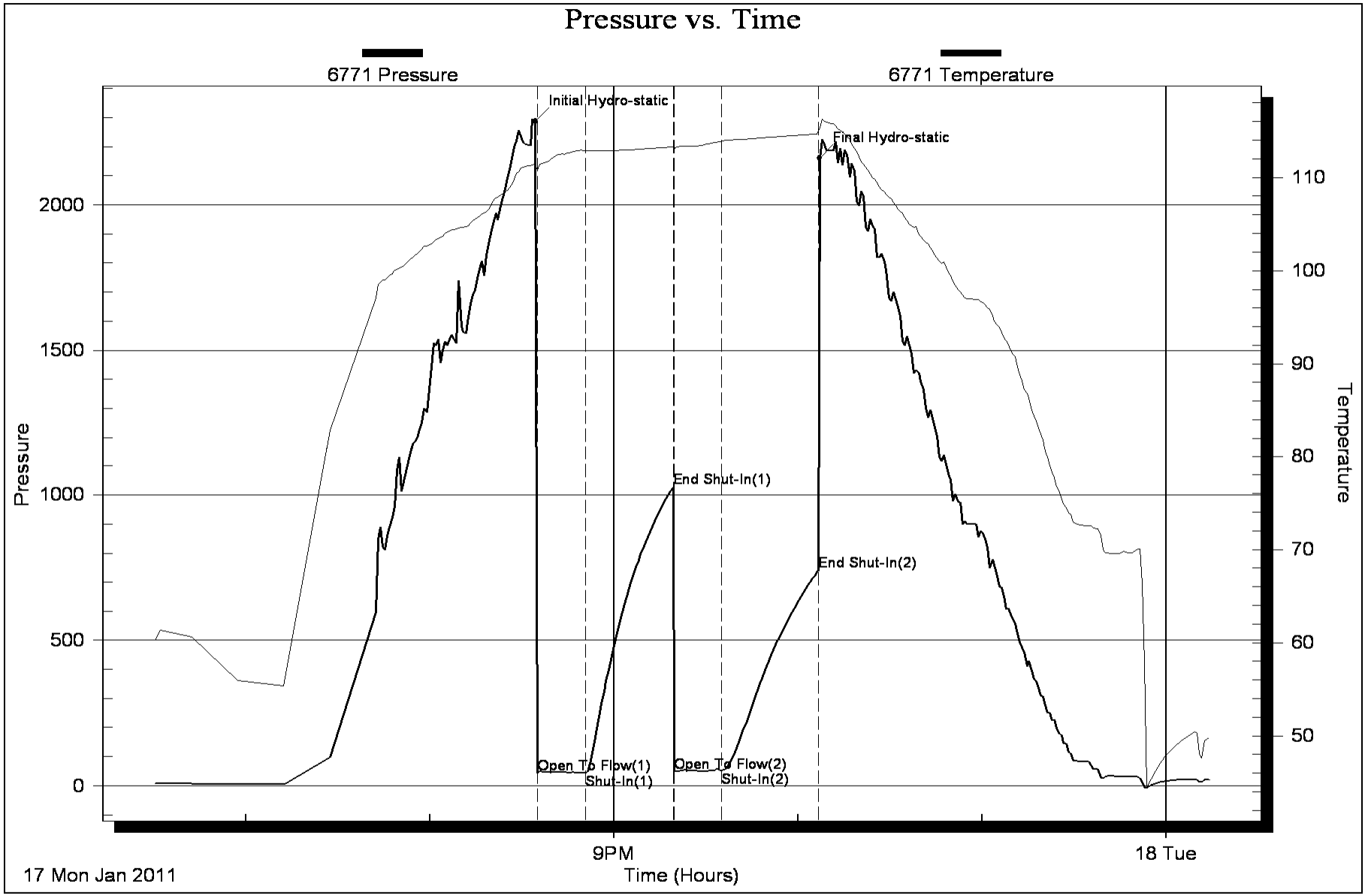
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud 100%m	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:


Pressure vs. Time
6771 Pressure
6771 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure
Temperature
2000
1500
1000
500
0
110
100
90
80
70
60
50
9PM
18 Tue
17 Mon Jan 2011
Time (Hours)

DRILL STEM TEST REPORT

Larson Engineering Inc

562 West State Rd 4
Olmitz , Ks

ATTN: Vern Schrag

Krehbiel #1-30

30-18s-30w Lane, Ks

Job Ticket: 041137 **DST#: 5**

Test Start: 2011.01.18 @ 20:36:13

GENERAL INFORMATION:

Formation: **Marmaton**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:15:28
Time Test Ended: 03:25:58

Test Type: Conventional Straddle
Tester: Shane McBride
Unit No: 40

Interval: 4424.00 ft (KB) To 4495.00 ft (KB) (TVD)
Total Depth: 4641.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

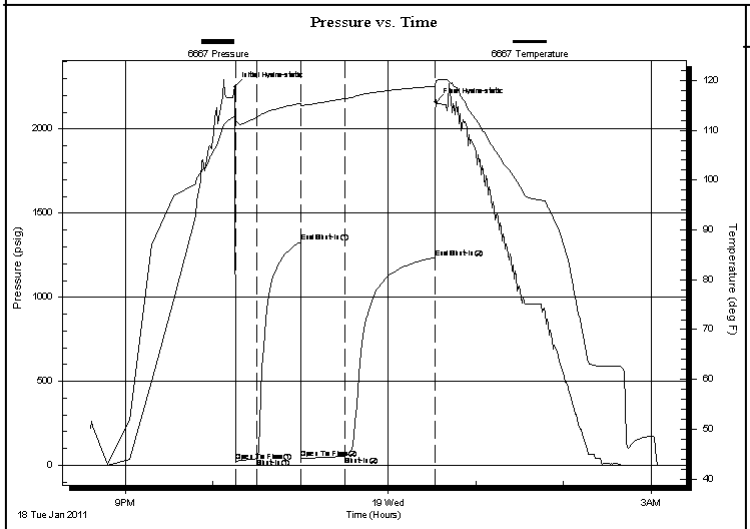
Reference Elevations: 2912.00 ft (KB)
2905.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 6667 **Inside**

Press@RunDepth: 53.67 psig @ 4428.00 ft (KB)
Start Date: 2011.01.18 End Date: 2011.01.19
Start Time: 20:36:13 End Time: 03:04:58

Capacity: 8000.00 psig
Last Calib.: 2011.01.19
Time On Btm: 2011.01.18 @ 22:14:58
Time Off Btm: 2011.01.19 @ 00:32:43

TEST COMMENT: 1 3/4"in blow
No return
Weak surface blow
No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2251.80	112.91	Initial Hydro-static
1	22.86	112.07	Open To Flow (1)
16	39.76	112.68	Shut-In(1)
45	1329.33	115.39	End Shut-In(1)
46	41.76	115.02	Open To Flow (2)
76	53.67	116.36	Shut-In(2)
137	1237.43	118.84	End Shut-In(2)
138	2160.59	119.73	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
65.00	w c m 45%w 55%m w/oil spots	0.32

Gas Rates

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

DRILL STEM TEST REPORT

Larson Engineering Inc

562 West State Rd 4
Olmitz , Ks

ATTN: Vern Schrag

Krehbiel #1-30

30-18s-30w Lane, Ks

Job Ticket: 041137 **DST#: 5**

Test Start: 2011.01.18 @ 20:36:13

GENERAL INFORMATION:

Formation: **Marmaton**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 22:15:28
Time Test Ended: 03:25:58

Test Type: Conventional Straddle
Tester: Shane McBride
Unit No: 40

Interval: 4424.00 ft (KB) To 4495.00 ft (KB) (TVD)
Total Depth: 4641.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

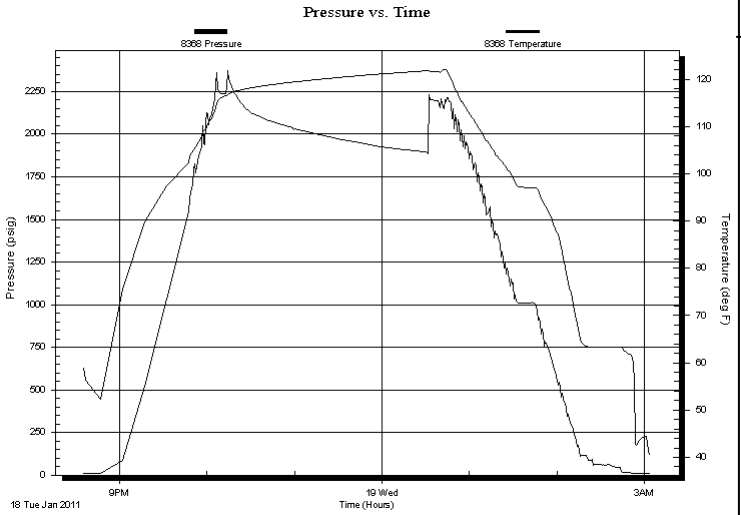
Reference Elevations: 2912.00 ft (KB)
2905.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 8368 **Inside**

Press@RunDepth: psig @ 4512.00 ft (KB)
Start Date: 2011.01.18 End Date: 2011.01.19
Start Time: 20:35:20 End Time: 03:04:20

Capacity: 8000.00 psig
Last Calib.: 2011.01.19
Time On Btm:
Time Off Btm:

TEST COMMENT: 1 3/4"in blow
No return
Weak surface blow
No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

Recovery

Length (ft)	Description	Volume (bbl)
65.00	w c m 45%w 55%m w/oil spots	0.32

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Larson Engineering Inc

562 West State Rd 4
Olmitz , Ks

ATTN: Vern Schrag

Krehbiel #1-30

30-18s-30w Lane, Ks

Job Ticket: 041137 **DST#: 5**

Test Start: 2011.01.18 @ 20:36:13

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	0 deg API
Mud Weight:	10.00 lb/gal	Cushion Length:	ft	Water Salinity:	28000 ppm
Viscosity:	52.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.98 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	3800.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

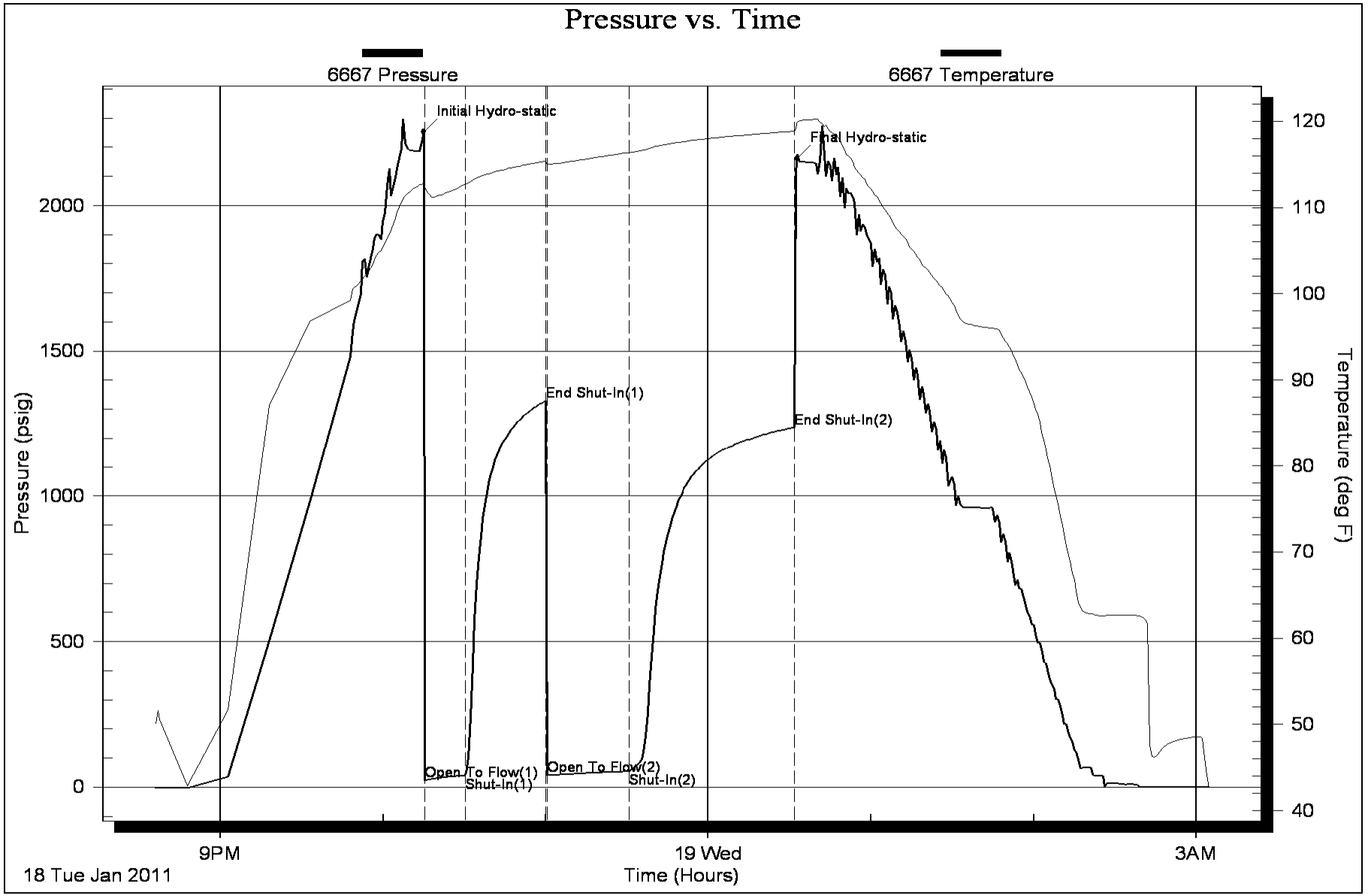
Length ft	Description	Volume bbl
65.00	w c m 45%w 55%m w/oil spots	0.320

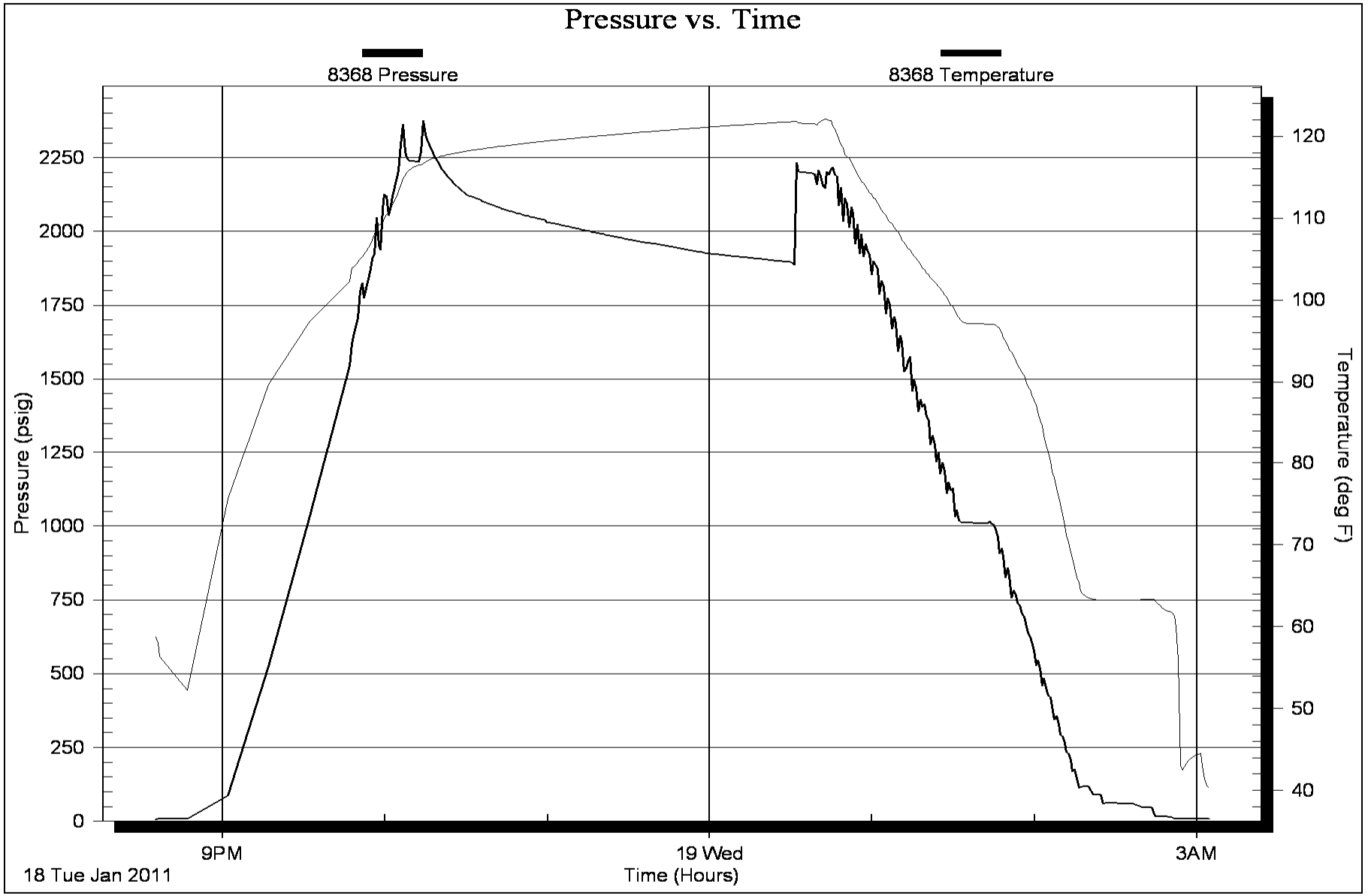
Total Length: 65.00 ft Total Volume: 0.320 bbl

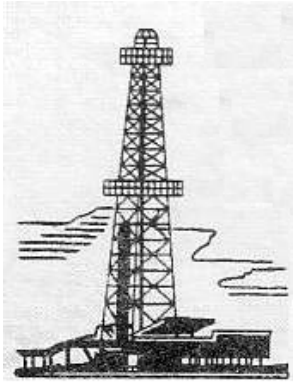
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: rw .367 @ 45*f= 28,000 chlor


Pressure vs. Time
6667 Pressure
6667 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure (psig)
Temperature (deg F)
2000
1500
1000
500
0
120
110
100
90
80
70
60
50
40
9PM
19 Wed
3AM
18 Tue Jan 2011
Time (Hours)


Pressure vs. Time
8368 Pressure
8368 Temperature
Pressure (psig)
2250
2000
1750
1500
1250
1000
750
500
250
0
Temperature (deg F)
120
110
100
90
80
70
60
50
40
9PM
19 Wed
3AM
18 Tue Jan 2011
Time (Hours)



WELLSITE GEOLOGIST'S REPORT

VERNON C. SCHRAG
CONSULTANT GEOLOGIST

Scale 1:240 (5"=100') Imperial

Well Name:	**KREHBIEL #1-30**		
Location:	**E2 NE NW NW SEC 30-18S-30W**		
Licence Number:	**API: 15-101-22274**	**Region:**	**Lane Co., KS**
Spud Date:	**Jan. 06, 2011**	**Drilling Completed:**	**Jan. 18, 2011**
Surface Coordinates:	**330' FNL & 1015' FWL**		
Bottom Hole Coordinates:	**Vertical Hole**		
Ground Elevation (ft):	**2905'**	**K.B. Elevation (ft):**	**2912'**
Logged Interval (ft):	**3800' To: RTD**	**Total Depth (ft):**	**4635'**
Formation:	**Mississippi**		
Type of Drilling Fluid:	**Chemical Premix (Displaced)**		

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR:

Company: **LARSON ENGINEERING, INC.**
Address: **562 West State Road 4**
Olmitz, KS 67564-8561

DRILLING CONTRACTOR:

H. D. Drilling, LLC, Rig #3

DP 4.5" XH (16.6#); DC 6.0" (ave) x 2-3/8" (ave) x 621,49', Kelly + Bit 41.30', Tool Joint 5.5" ; Bit: QX20, 7-7/8", jets 14-14-14; rpm 80, WOB 35k; Kelly Bushing 7' above ground level; LeWayne "Lew" Tresner (tool pusher).

SURFACE CASING:

Set 8-5/8" (20#) surface casing at 261 feet.

CIRCULATION SYSTEM:

Pump: Gardner-Denver FXQ-172, duplex, 6 x 16, 2" rod, 54 spm, 340 gpm (85%). SPP: 750-900 psi; Chemical, premix, displaced at 3250'; Morgan Mud, Inc., McCook, Neb., David Lines, Cade Lines.

GAS DETECTION SYSTEM:

None.

OPEN HOLE LOGS:

DN (DGA), DI (SP), ML: 5" detail RTD-3600'; 2" DI to suface casing; No Sonic; Log-Tech, Inc., Hays, KS, R. Barnhart; Log total depth (4635') was 6' low to rotary total depth (4635').

COMPLETION:

Dry & Abandoned

DRILL STEM TEST #1:

Zone: Kans. City "H": Test Interval: 4135-4161 (26' anchor); Blow: very weak, died 7 min IFP, no blow FFP; Time Periods: 15-30-15-30; Recovery: 2' mud, no show; Pressures: HP: 2144-2083 psi; SIP: 834-762 psi; FP: 20-22, 22-23 psi; BHT: 116 deg F; Aparatus: dual packers, jars, joints, 113' D.C.; Trilobite Testing, Inc., Shane McBride.

DRILL STEM TEST #2:

Zone: Kans. City "K": Test Interval: 4334-4250 (16' anchor); Blow: BOB in 3 min IFP, no BB; BOB in 5 min FFP, no BB; Time Periods: 15-30-30-60; Recovery: 150 feet mud cut water (20% mud, 80% water), 1260 feet water, Total Recovery 1410 feet, (Rw 0.289 at 45 deg F, salt 37k); Pressures: HP: 2091-2030 psi, SIP: 818-821 psi, FP: 70-369, 392-661 psi; BHT: 131 deg F; Aparatus: dual packers, jars, joints, 113' D.C.; Trilobite Testing, Inc., Shane McBride.

DRILL STEM TEST #3:

Zone: Pleasanton, Marmaton: Test Interval: 4320-4403 (83' anchor); Blow: incr to 4" IFP, no BB, no blow 2nd open; Time Periods: 15-30-30-60; Recovery: 1 foot free oil, 44' muddy water w/oil spots (35% mud, 65% water), 113' water (Rw 0.399 at 53 deg F, chl 28,500 ppm); Pressures: HP: 2155-2097 psi; SIP: 969-940 psi; FP: 38-58, 98-115 psi; BHT: 125 deg F; Aparatus: dual packers (w/shale packer), jars, joints, 113' D.C.; Trilobite Testing, Inc., Shane McBride.

Note: When head joint was laid down it was found to be loose which may be the reason why there was no blow at second open.

DRILL STEM TEST #4:

Zone: Pawnee .. Cherokee; Test Interval: 4434-4565 (131' anchor); Blow: weak decr 1/2 down to 1/8" IFP, no BB, no blow at 2nd open; Time Periods: 15-30-15-30; Recovery: 5' mud, no show; Pressures: HP: 2287-2160 psi; SIP: 1026-739 psi; FP: 42-44, 48-51 psi; BHT: 115 deg F: Aparatus: dual packers (w/shale packer), jars, joints, 113' D.C.; Trilobite Testing, Inc., Shane McBride.

DRILL STEM TEST #5:

Zone: Marmaton; Straddle Test Interval: Log 4424-4495 Rotary 4418-4489 (71' anchor, 146' tail pipe); Blow: weak bulding to 2" IFP, no BB, weak surf blow FFP, no BB; Time Periods: 15-30-30-60; Recovery: 65' WCM w/spots of oil (45% water, 55% mud); Pressures: HP: 2251-2160 psi; SIP: 1329-1237 psi; FP: 22-39, 41-53 psi; BHT: 119 deg F; Aparatus: dual packers (w/shale packer), jars, joints, 113' D.C.; Trilobite Testing, Inc., Shane McBride.

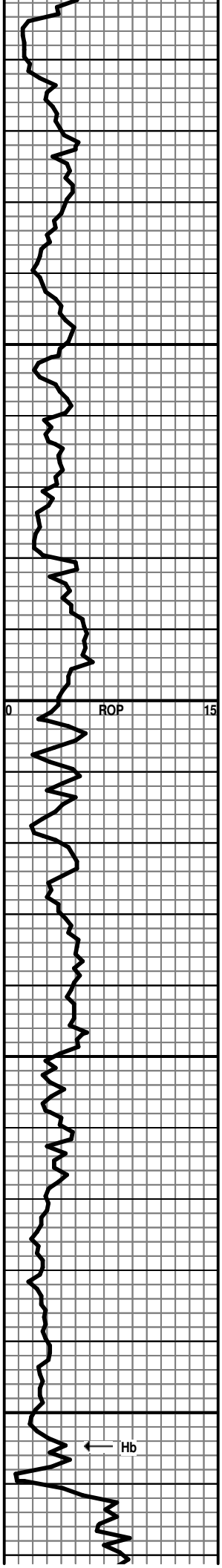
7AM DAILY ACTIVITY:

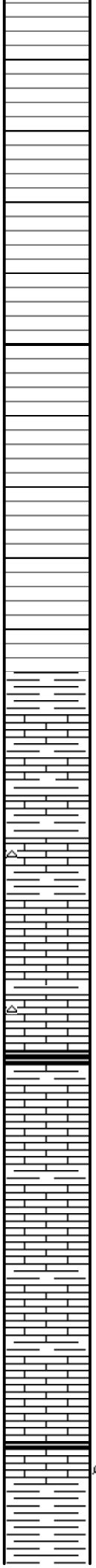
01/06:	MIRU, SPUD
01/07:	Drilling 270'
01/08:	Drilling 1500'
01/09:	Drilling 2310'
01/10:	Drilling 3020'
01/11:	Drilling 3421'
01/12:	Drilling 3799'
01/13:	Drilling 4099'
01/14:	Drilling 4181'
01/15:	Drilling 4262'
01/16:	DST #3 4403'
01/17:	Drilling 4504'
01/18:	Drilling 4604'
01/18:	RTD 4635 at 9:34 am
01/19:	Released 3:30 am

WELLSITE GEOLOGIST:

Vern Schrag

ROP ROP (min/ft)	DST	Lithology	Porosity and Show	Depth	Geological Descriptions	TG, C1-C4 / REMARKS
0 ROP 15				3600 3650 3700	ANHYDRITE 2208 (+704) B/ANHY 2265 (+647)	GEO ON LOC 01/11-5:30pm, 3592'. REFERENCE WELLS: SLAWSON EXPL. CO., #1 MUZZALL 'A', S2 SE NW 30-18S-30W and MULL DRILLING CO., CARSON #1-19, NE SE SW 19-18S-30W. MORGAN MUD CHECK: 01/11-4pm: 3576: VIS 52, WT 9.2, WL: 7.2, CHL 2k; LCM 1#.





3750

3800

3850

3900

LS: GRAYISH BRN; VF-XTAL; DENSE W/SOFT CHALK MIXED; SLI FOS; NO APPARENT POROSITY; NO SHOW.

START 10 FOOT SAMPLES AT 3800-3810. SAMPLES ARE IN GOOD CONDITION, THERE BEING NO EVIDENCE OF UP-HOLE SLOUGH.

LS: AS ABOVE & CALC SH.

LS: AS ABOVE; WITH MINOR GRAYISH-BRN, OPAQ, CHERT;

LS: GRAYISH BRN; VF-XTAL; DENSE BUT MIXED W/ MINOR WHITE, SOFT CHALK; SLI FOS; NO APPARENT POROSITY; NO SHOW.

LS: AS ABOVE WITH MINOR SLI TRANSLUCENT CHERT;

SHALE: V-DK GRAY;

MORGAN MUD CHECK WHILE DRILLING: 01/12-11am: 3856: VIS 52, WT 9.3, WL 7.2, CHL 1800, LCM 1#.

LS: GRAYISH BRN; VF-F XTAL; DENSE; ROUGH; TRC CHERT; SLI FOS; SCAT PIN PT & TIGHT VUG POROSITY; DULL FLUOR; NO SHOWS.

LS: GRAYISH BRN, SOME W/ TINY SPECKS OF DK BRN SH; TIGHT SCAT VUG; DULL FLUOR; NO SHOWS.

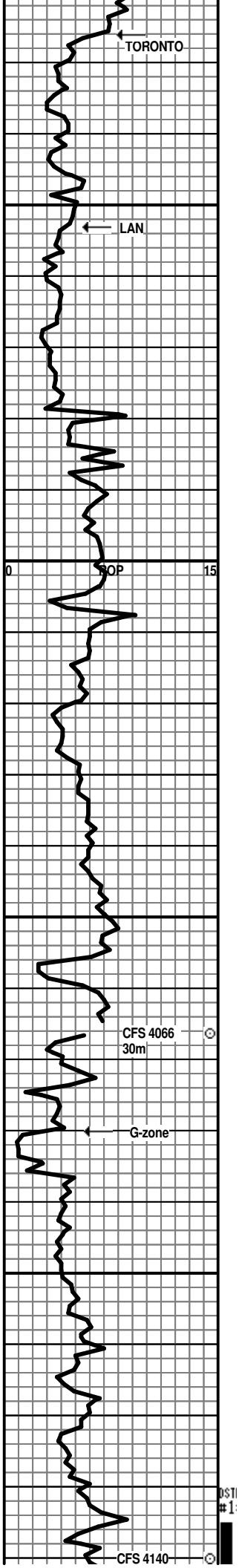
LS: GRAYISH BRN; VF-XTAL; CHALKY IN PART; SCAT DK GRAY PELLETS; TRC FINE FOS MOLDIC POR; SCAT VUG; DULL FLUOR; NO SHOWS.

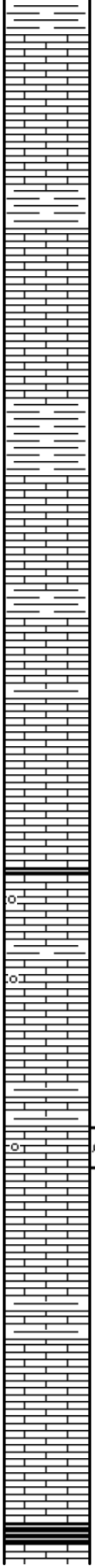
HEEBNER 3905 (-993)

SHALE: BLACK; 5% OF 3920.
LS: OFF-WHITE; V-FINELY OOM; NO SHOWS.

SHALE: GRAY, GREEN, MAROON; SOFT; SILTY IN PART; 3920, INCR 3930.

SHALE: AS ABOVE;





3950

4000

4050

4100

SHALE: AS ABOVE;

LS: WHITE, LT GRAY; MIC-VF XTAL; CHALKY IN PART; ROUGH TEXTURED W/SCAT ANHEDRAL CALCITES IN PART; POOR APPARENT POROSITY; ONLY DULL FLUOR; NO SHOWS. 3940.

LS: WHITE, LT GRAY; MIC-VF XTAL; CHALKY; NO APPARENT POROSITY; NO SHOWS.

SHALE: GRAY;

LANSING 3953 (-1041)

LS: WHITE, LT GRAY; MIC-VF XTAL; CHALKY IN PART; SLI OOLITIC; TRC FOS-MOLDIC; POOR APPARENT POROSITY; NO SHOW.

LS: WHITE, LT GRAY; MIC-VF XTAL; CHALKY IN PART; TRC TRANSLUCENT CHERT; TRC VUG POROSITY; DULL FLUOR; NO SHOWS.

SHALE: GREEN, GRAY, MAROON;

LS: WHITE, LT GRAY; MIC-VF XTAL; DENSE TO CHALKY; TRC W/ DARK PELLETS; NO APPARENT POROSITY; NO SHOWS.

SHALE: GRAY, DK-GRAY; TRC SILTSTONE;

LS: WHITE, LT GRAY; MIC-VF XTAL; MOSTLY DENSE, SLI CHALKY IN PART; TRC BROWN SH CONTACTS; SCAT VUG POROSITY; DULL FLUOR; NO SHOWS.

LS: WHITE, LT-GRAY; MIC-VF XTAL; DENSE, SLI CHALKY IN PART; SLI SHALEY; TRC SCAT VUG POR; NO SHOW.

LS: WHITE, LT GRAY, LT BRN; MIC-VF XTAL; DENSE TO SLI CHALKY; TRC SCAT VUG POR; NO SHOWS.

LS: WHITE, LT GRAY, LT BRN; VF-XTAL; DULL; MOSTLY DENSE; SLI CHALKY IN PART; OOLITIC; NO APPARENT POROSITY; DULL FLUOR; NO SHOW.

SHALE: GREEN, GRAY;

LS: AS ABOVE; SCAT VUG POROSITY; DULL FLUOR; NO SHOWS.

LS: WHITE, LT GRAYISH BRN; MIC-VF XTAL; CHALKY; SOFT IN PART; NO VISIBLE POROSITY; NO SHOW.

LS: MED GRAYISH BRN; VF-F XTAL; SUB-VITREOUS; APPEARS RE-XTALIZED; FAIR OOMOLDIC POROSITY; DULL FLUOR; NO SHOWS; TRC 4090, INCR 4100.

LS: WHITE, LT-GRAY; MIC-VF XTAL; SLI OOLITIC; DENSE, SLI CHALKY; SCAT COARSE IMBEDDED CALCITES; NO APPARENT POROSITY; NO SHOWS.

LS: AS ABOVE BUT LT-BROWN IN PART; POSSIBLE GREEN, GRAY SHALE INTERBEDS.

LS: WHITE, LT GRAY, LT BRN; MIC-VF XTAL; TRC SOFT, FRAGILE CHALK; SCAT VUG; DULL FLUOR; NO SHOW.

LS: AS ABOVE.

LS: MED-GRAY; MIC-VF XTAL; PLATEY; DENSE TO SLI CHALKY; NO APPARENT POR; NO SHOWS; 4140.

MUNCIE CREEK 4135 (-1223)

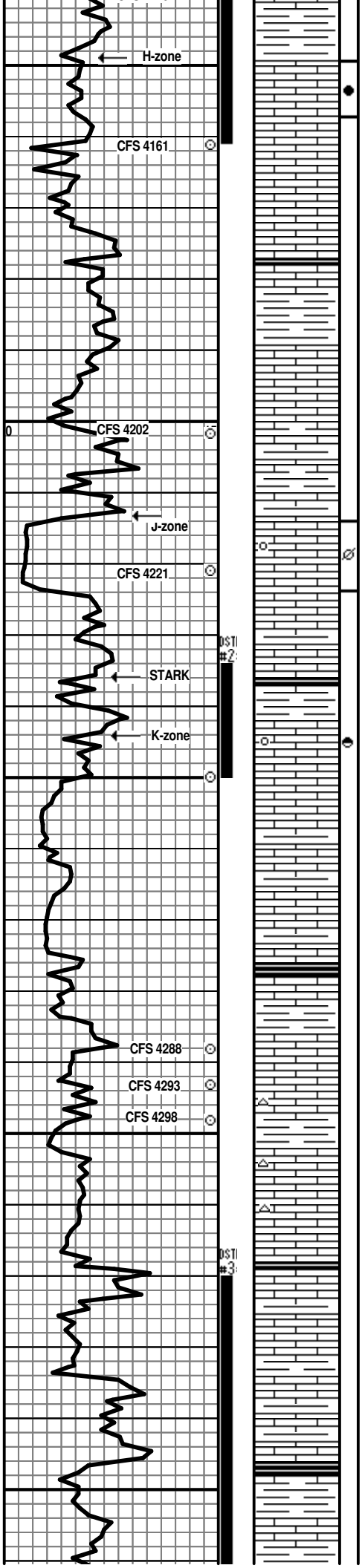
SHALE: BLACK; CARBON; 4140-30 MIN.

LS: MD-DK GRAYISH BRN; VF-XTAL; DENSE; GRAN; SLI FOS;

STOP AT 4140 AND DO 22 STAND SHORT-TRIP, WAS UNEVENTFUL. CIRC 1 HOUR & CLEAN TRAP BEFORE DRILL AHEAD.

MORGAN MUD CHECK DURING SHORT TRIP: 01/13-12pm: 4140: VIS 43, WT 9.5, WL 7.6, CHL 1400, LCM 1#.

BOARD: 4164.16, STRAP 4166.89, STRAP WAS LONG



TRC SH INCLUSIONS; TRC CHERT; DULL FLUOR; NO VISIBLE POROSITY; NO SHOW. 4150.

SH: GRN, GRAY; COARSE PYRITES;

LS: MED GRAYISH BRN; VF-XTAL; GRANULAR; TOUGH BUT THERE IS FINE VUG POROSITY; TRC V-SLI DRUSE; CRUSH FAIR SHOW DK BRN TO BLACK OIL; SPOTTED BRIGHT YEL FLUOR; FAINT ODOR; STARTS 4160 SAMPLE, INCR TO 5-10% OF 30 MIN.

LS: WHITE, LT-MD GRAY; MIC-VF XTAL; DENSE TO CHALKY; MINOR VUG POROSITY W/ONLY TRACE SHOW AT BEST (POS FLOAT); ONLY DULL FLUOR; NO ODOR;

LS: MD GRAYISH BRN; VF-XTAL; DENSE; BLOCKY; TRC W/ MED-CRS IMBEDDED PYRITE; TRC FINE ISOLATED VUG POROSITY; NO SHOWS; 4190.

SH: GRAY, GREEN, SOME BROWNISH; COARSE PYRITES;

LS: MD GRAYISH BRN, LT GRAYISH BRN; VF-XTAL; CHERTY; DENSE IN PART, FRAGILE CHALK IN PART; 1 SMALL PIECE GRANULAR MD-BRN LS W/SLI SHOW IS PROB FLOAT FROM H IN 4202 STOP, NO SHOW IN CIRC.

LS: CHERTY, W/ GRAY SHALES.

LS: LT-GRAY; VF-XTAL; COARSE OOMOLDIC POROSITY; ONLY DULL FLUOR; CLEAN; NO ODOR; NO SHOW. 25-50% OF 30 MIN.

LS: LT-GRAY; MIC-VF XTAL; CHALKY TO DENSE; NO APPARENT POROSITY; NO SHOW.

STARK SH 4236 (-1324)

SH: BLACK; CARBON; 4250.

LS: GRAY; VF-XTAL; FINE-MED OOLITIC - OOMOLDIC; FAINT ODOR, TRC BRIGHT FLUOR & SLI SHOW OIL 4250. THEN MUCH SOFT, WHITE CHALK, 50% IN 30 MIN, WASHES WHITE; NO SHOW;

LS: GRAY, GRAYISH BRN, WHITE; MIC-VF XTAL; MUCH SOFT CHALK; NO APPARENT POROSITY; NO SHOWS.

LS: AS ABOVE;

HUSHPUCKNEY SH 4277 (-1365)

SHALE: BLACK; CARBON; 4288;

LS: MD-DK BRN; VF-XTAL; DENSE; BLOCKY; NO APPARENT POROSITY; NO SHOWS; 4288.

SH: GREEN, MAROON, MOTTLED; COARSE PYRITES;

LS: LT-BRN; VF-XTAL; GRANULAR; SCATTERED TINY WHITE CHALK GRAINS; MANY GRAINS DARKER THAN MATRIX; FOS; SLI OOLITIC; NO VISIBLE POROSITY; NO SHOWS; 4288-30 MIN. FOLLOWED BY CONSIDERABLE SOFT CHALK 4293-30 MIN, INCR CHALK 60 MIN, NO SHOWS.

LS: LT-MD GRAYISH BRN; VF-XTAL; CHALKY; CHERTY; V-FINELY SPECKLED; DIRTY; NO VIS POR; NO SHOW.

LS: MD-DK BROWN; VF-XTAL; DENSE; HARD; DARK CHERT; NO VIS POROSITY; NO SHOW.

LS: LT-MD GRAYISH BRN; VF-XTAL; LIGHTER FRACT SOMEWHAT CHALKY; DARK FRACTION: DENSE, HARD, SLI GRANULAR; NO APPARENT POR; NO SHOWS.

LS: MOSTLY LT-GRAYISH BRN; MIC-VF XTAL; CHALKY IN PART; DIRTY; NO APPARENT POROSITY; NO SHOW.

LS: LT-MD GRAYISH BRN; VF-XTAL; DENSE TO SLI CHALKY; TRC CHERT; NO APPARENT POROSITY; NO SHOWS;

SH & SILTST: GRAY, GREENISH; LIMY; BIG CHIPS; MARLY IN PART, WASHES SAMPLES GRAY; THIN LIMES;

2.73'.

CIRC 75 MIN BEFORE TOH.

DST #1: 4135-4161: WEAK BLOW DIED 7 MIN; 15-30-15-30; 2' MUD; SIP: 834-762; FP: 20-22, 22-23;

CIRC 30 MIN BEFORE DRILL AHEAD.

MORGAN MUD CHECK WHILE CFS: 01/14-4pm: 4250: VIS 47, WT 9.4, WL 7.6, CHL 2400, LCM 1/2#.

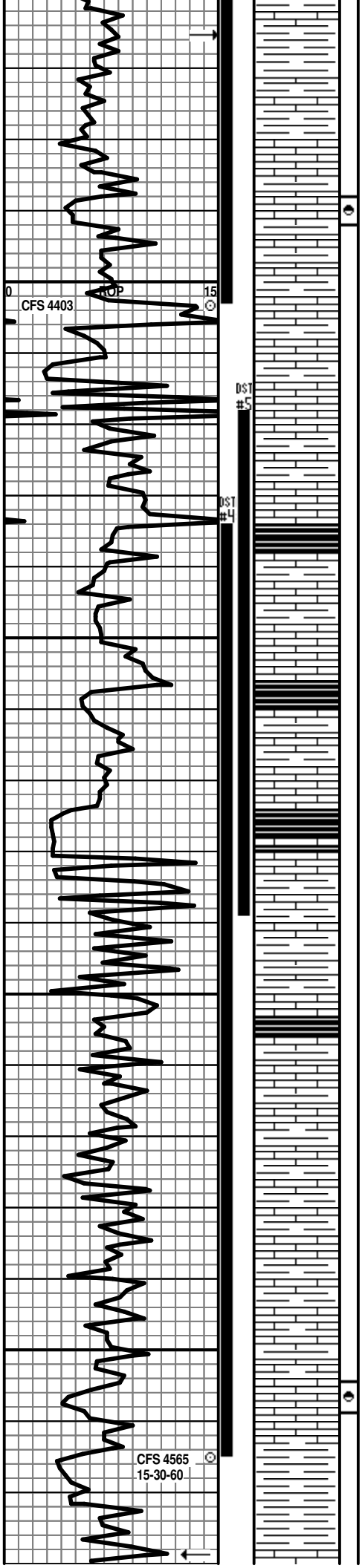
CIRC 90 MIN BEFORE TOH.

DST #2: 4234-4250: BOB 3 MIN; 15-30-30-60; 1410' MW; SIP: 818-821; FP: 70-369, 392-661;

CIRC 30 MIN BEFORE DRILL AHEAD.

CATCHER CONFUSED, CAUGHT 4260 AT 4266.

MORGAN MUD CHECK WHILE DRILLING: 01/15-4pm: 4327: VIS 58, WT 9.2, WL 7.2, CHL 2400, LCM 1/2#.



4400

SH: AS ABOVE;

LS: GRAYISH BRN; VF-XTAL; DENSE; NO APPARENT POROSITY; NO SHOWS.

LS: LT-BRN, LT GRAYISH BRN; VF-F XTAL; GRANULAR IN PART; 2 PIECES ANHEDRAL CALCITE W/ SPOTTED DK STAIN & SLI SHOW DK BRN OIL; SCAT VUG, NO FLUOR; NO ODOR; 4400 SAMPLE.

LS: LT BRN; VF-XTAL; CORAL FOS; MOSTLY DENSE; NO APPARENT POROSITY; NO SHOWS. 4420.

LS: LT-MD BRN; VF-XTAL; DENSE TO SLI CHALKY; PLATEY; NO APPARENT POROSITY; NO SHOW.

LS: LT-BRN; VF-XTAL; DENSE, SLI CHAKY; SLI FOS; NO APPARENT POROSITY; NO SHOW.

SH: BLACK; 4450.

LS: LT-GRAYISH BRN; MIC-VF XTAL; DENSE; PLATEY; NO APPARENT POROSITY; NO SHOW.

4450

LS: WHITE-LT GRAY; MIC-VF XTAL; SLI GRAN; TRC FOS; PLATEY; SLI CHALKY; NO APPARENT POROSITY; NO SHOW;

SH: BLACK; 4470.

LS: LT-MD GRAYISH BRN; MIC-VF XTAL; DENSE; SMOOTH; PLATEY; NO VISIBLE POROSITY; NO SHOW.

LS: MD-DK GRAYISH BRN; MIC-VF XTAL; SLI FOS; DENSE; HARD; NO APPARENT POROSITY; NO SHOWS;

SH: BLACK, CARBON, & GREEN 4490.

FT. SCOTT 4481 (-1569)

LS: MD-DK BRN; VF-XTAL; SLI FOS; SCATTERED OOL BEING SLI DARKER THAN MATRIX; DENSE; PLATEY; SLI ARGILL; NO APPARENT POROSITY; NO SHOW.

LS: GRAYISH BRN; VF-XTAL; SHALEY;

4500

LS: LT-BRN; VF-XTAL; MED OOLITIC; GRAIN SUPTD; DENSE; PLATEY; NO VISIBLE POROSITY; NO SHOW.

CHEROKEE 4503 (-1591)

SH: BLACK;

LS: GRAY; VF-XTAL; OOLITIC; SLI CHALKY; NO APP POROSITY; NO SHOW.

LS: WHITE, LT GRAY; MIC-VF XTAL; CHALKY; TRC FINE DRUSE; NO APPARENT POROSITY; NO SHOW.

LS: LT GRAY, DK GRAYISH BRN, MIXED; VF-XTAL; OOLITIC IN PART; TIGHT INT OOL POR AT BEST; NO SHOWS.

LS: AS ABOVE, W/ SH & COARSE PYRITES;

LS: DK GRAYISH BRN; VF-XTAL; DENSE; SLI FOS; NO VISIBLE POROSITY; NO SHOW.

4550

LS: GRAY; VF-F XTAL; GRANULAR; SCATTERED VUG POROSITY; SPOTTED DARK STAIN & SLI SHOW OIL; NO ODOR; NO FLUOR; 4565-30 MIN.

SH: GREEN, GRAY; PYRITIC;

MISSISSIPPI 4579 (-1667)
(CORRECTED TOP)

STOP AT 4365 TO CHANGE DRAWWORKS CABLE; DOWN 3 HOURS.

CIRC 75 MIN BEFORE TOH

DST #3: 4320-4403: 4" BLOW, DIED; 15-30-30-60; 1' FO, 217' MW, SIP: 969-940; FP: 38-58, 98-115.

CIRC 30 MIN BEFORE DRILLING.

MORGAN MUD CHECK WHILE TESTING: 01/16-12pm: VIS 53, WT 9.2, WL 7.2, CHL 2600, LCM 1#.

TRIP IN DST AFTER LOGS:

DST #5: STRADDLE: 4418-4489 (ROTARY) 4424-4495 (LOG): WEAK 2" BLOW; 15-30-30-60; 65' WCM; SIP: 1329-1237; FP: 22-39, 41-53.

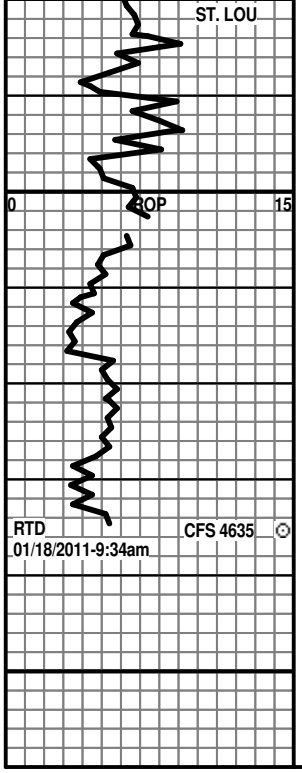
PLUGGING ORDERS AFTER TEST.

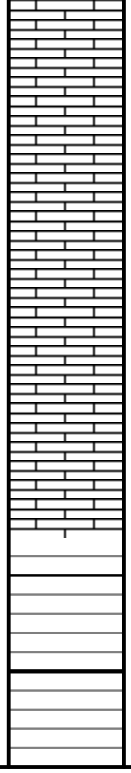
MORGAN MUD CHECK WHILE DRILLING: 01/17-11am: 4536: VIS 56, WT 9.5, WL 7.2, CHL 3800, LCM TRACE.

CIRC 90 MIN BEFORE TOH.

DST #4: 4434-4565: WEAK 1/2" BLOW DIED; 15-30-15-30; 5' MUD; SIP: 1026-739; FP: 42-44. 48-51.

NO CIRC BEFORE DRILLING AHEAD.





4600

LS: LT-MD GRAYISH BRN; VF-XTAL; DENSE TO SLI CHALKY; SLI OOLITIC; NO APPARENT POROSITY; NO SHOW.

LS: LT-MD GRAYISH BRN; MIC-VF XTAL; DENSE; SLI CHALKY IN PART; SCATTERED OOLITES; NO APPARENT POROSITY NO SHOWS.

LS: LT-MD BRN; VF-XTAL; DENSE, SLI CHALKY IN PART; OOLITIC; NO APPARENT POROSITY; NO SHOWS.

LS: MOSTLY LT BRN; VF-XTAL; MICRO XTAL, LITHOGRAPHIC IN PART; DENSE, PLATEY; NO APPARENT POROSITY; NO SHOWS.

LS: LT-BRN; MOSTLY MIC-XTAL; DENSE; NO APPARENT POROSITY; NO SHOWS.

LS: LT-BRN; VF-XTAL; CHALKY; GRANULAR; NO APPARENT POROSITY; NO SHOWS.

ROTARY TOTAL DEPTH 4635 (-1723)

4650

CIRC 120 MIN BEFORE TOH AT RTD. PUMP SMOKING DURING CIRC, CUT BACK FROM 54 SPM TO 42 SPM.

LOG TECH LOG TOTAL DEPTH 4641.

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802

Kansas
Corporation Commission

phone: 316-337-6200
fax: 316-337-6211
http://kcc.ks.gov/

May 04, 2011

Thomas Larson
Larson Engineering, Inc. dba Larson Operating Company
562 W STATE RD 4
OLMITZ, KS 67564-8561

Re: ACO1
API 15-101-22274-00-00
Krehbiel 1-30
NW/4 Sec.30-18S-30W
Lane County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
Thomas Larson