



**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       SIOW
- Gas       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 #: \_\_\_\_\_

Spud Date or Recompletion Date      Date Reached TD      Completion Date or Recompletion Date

API No. 15 - \_\_\_\_\_

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

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total 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**

- Letter of Confidentiality Received  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report 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 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 <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 Electric Log Submitted Electronically <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i>  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
_____ Perforate _____ Protect Casing _____ Plug Back TD _____ Plug Off Zone				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	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
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Grand Mesa Operating Company
Well Name	Klaus 1-33
Doc ID	1057437

Tops

Name	Top	Datum
Stone Corral	2350	+508
Bs/Stone Corral	2373	+486
Heebner	3878	-1019
Lansing	3920	-1061
Muncie Creek	4074	-1215
Hushpuckney	4196	-1337
Marmaton	4268	-1409
Pawnee	4338	-1479
Ft Scott	4401	-1542
Morrow	4521	-1662
Mississippian	4554	-1695
LTD	4648	

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



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Mark Sievers, Chairman  
Ward Loyd, Commissioner  
Thomas E. Wright, Commissioner

Sam Brownback, Governor

June 09, 2011

Ronald N. Sinclair  
Grand Mesa Operating Company  
1700 N WATERFRONT PKWY BLDG 600  
WICHITA, KS 67206-5514

Re: ACO1  
API 15-063-21903-00-00  
Klaus 1-33  
NE/4 Sec.33-13S-31W  
Gove 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,  
Ronald N. Sinclair



## DRILL STEM TEST REPORT

Prepared For: **GRAND MESA OPERATING**

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

ATTN: MAC ARMSTRONG

**33-13S-31W GOVE**

**KLAUS 1-33**

Start Date: 2011.04.12 @ 13:00:00

End Date: 2011.04.12 @ 20:37:00

Job Ticket #: 1016                      DST #: 1

Eagle Testers LLC.

P.O.Box 1011, Great Bend, KS 67530

620-617-7548

Printed: 2011.04.12 @ 13:29:42

GRAND MESA OPERATING  
KLAUS 1-33  
33-13S-31W GOVE  
DST # 1  
LKC-C-  
2011.04.12



# DRILL STEM TEST REPORT

GRAND MESA OPERATING

**KLAUS 1-33**

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

**33-13S-31W GOVE**

ATTN: MAC ARMSTRONG

Job Ticket: 1016

**DST#: 1**

Test Start: 2011.04.12 @ 13:00:00

## GENERAL INFORMATION:

Formation: **LKC -C-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:05:30

Time Test Ended: 20:37:00

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 321 RT M GREAT BE

**Interval: 3946.00 ft (KB) To 3968.00 ft (KB) (TVD)**

Reference Elevations: 2859.00 ft (KB)

Total Depth: 3968.00 ft (KB) (TVD)

2854.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6666**

**Inside**

Press @ Run Depth: 230.89 psig @ 3964.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2011.04.12

End Date:

2011.04.12

Last Calib.:

2011.04.12

Start Time: 13:00:00

End Time:

20:37:00

Time On Btm:

2011.04.12 @ 15:04:30

Time Off Btm:

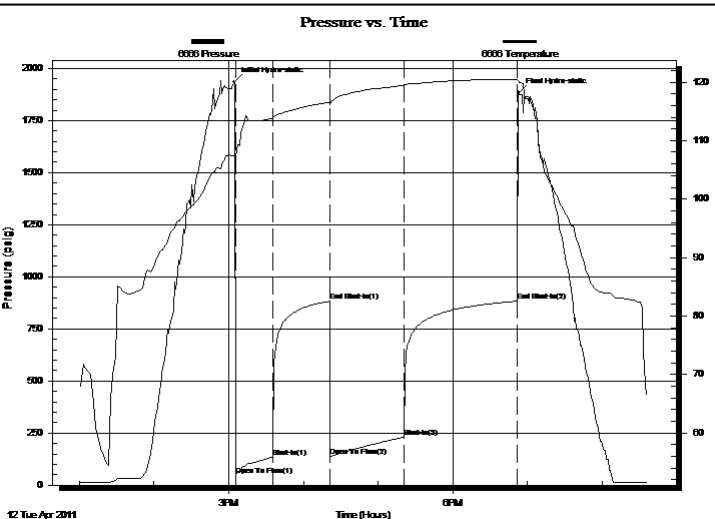
2011.04.12 @ 18:53:00

**TEST COMMENT:** 30-INITIAL OPENING WEAK BUILDING BLOW BUILT TO 9 INCHES INTO WATER

45-INITIAL SHUT IN NO BLOW BACK

60-FINAL OPENING WEAK BUILDING BLOW BOTTOM BUCKET IN 50 MINS

90-FINAL SHUT IN NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1935.55	107.24	Initial Hydro-static
1	44.74	107.27	Open To Flow (1)
31	134.62	113.87	Shut-In(1)
77	883.18	116.53	End Shut-In(1)
77	138.88	116.17	Open To Flow (2)
137	230.89	119.45	Shut-In(2)
227	882.65	120.47	End Shut-In(2)
229	1886.14	120.05	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
150.00	MUDDY WATER TRACE OF OIL	0.44
0.00	40%MUD 60%WATER	0.00
180.00	WATER 100%WATER	2.63
60.00	MUDDY WATER 30%MUD 70%WATER	0.88

## Gas Rates

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



# DRILL STEM TEST REPORT

GRAND MESA OPERATING

**KLAUS 1-33**

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

**33-13S-31W GOVE**

Job Ticket: 1016

**DST#: 1**

ATTN: MAC ARMSTRONG

Test Start: 2011.04.12 @ 13:00:00

## GENERAL INFORMATION:

Formation: **LKC -C-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:05:30

Time Test Ended: 20:37:00

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 321 RT M GREAT BE

**Interval: 3946.00 ft (KB) To 3968.00 ft (KB) (TVD)**

Reference Elevations: 2859.00 ft (KB)

Total Depth: 3968.00 ft (KB) (TVD)

2854.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6663 Outside**

Press @ Run Depth: 884.75 psig @ 3965.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2011.04.12

End Date:

2011.04.12

Last Calib.:

2011.04.12

Start Time: 13:00:00

End Time:

20:42:00

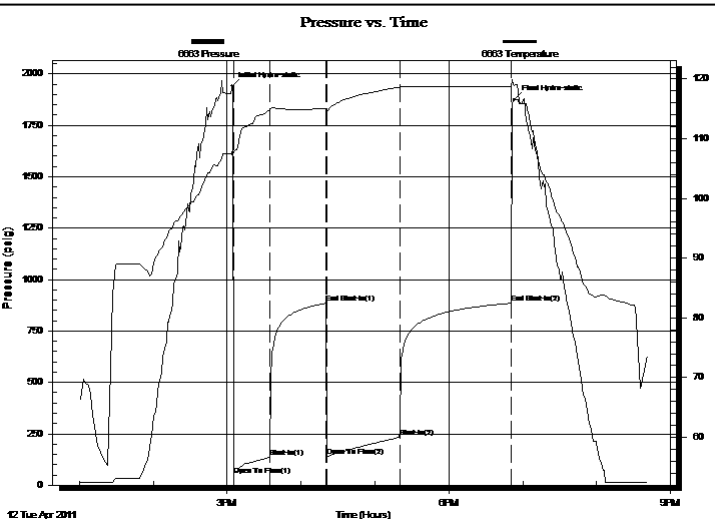
Time On Btm:

2011.04.12 @ 15:04:00

Time Off Btm:

2011.04.12 @ 18:53:30

**TEST COMMENT:** 30-INITIAL OPENING WEAK BUILDING BLOW BUILT TO 9 INCHES INTO WATER  
45-INITIAL SHUT IN NO BLOW BACK  
60-FINAL OPENING WEAK BUILDING BLOW BOTTOM BUCKET IN 50 MINS  
90-FINAL SHUT IN NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1939.06	107.64	Initial Hydro-static
1	47.88	107.71	Open To Flow (1)
31	136.90	114.79	Shut-In(1)
77	884.88	114.98	End Shut-In(1)
77	139.28	114.70	Open To Flow (2)
136	232.21	118.64	Shut-In(2)
227	884.75	118.78	End Shut-In(2)
230	1874.58	118.95	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
150.00	MUDDY WATER TRACE OF OIL	0.44
0.00	40%MUD 60%WATER	0.00
180.00	WATER 100%WATER	2.63
60.00	MUDDY WATER 30%MUD 70%WATER	0.88

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

GRAND MESA OPERATING

**KLAUS 1-33**

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

**33-13S-31W GOVE**

Job Ticket: 1016

**DST#: 1**

ATTN: MAC ARMSTRONG

Test Start: 2011.04.12 @ 13:00:00

## Tool Information

Drill Pipe:	Length: 3800.00 ft	Diameter: 3.88 inches	Volume: 55.57 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 55.57 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3946.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	51.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut-in tool	5.00			3922.00	
Hydraulic tool	5.00			3927.00	
Change over sub	1.00			3928.00	
Jars	6.00			3934.00	
Safety Joint	2.00			3936.00	
Packer	5.00			3941.00	29.00 Bottom Of Top Packer
Packer	5.00			3946.00	
Anchor	17.00			3963.00	
Recorder	1.00	6666	Inside	3964.00	
Recorder	1.00	6663	Outside	3965.00	
Bullnose	3.00			3968.00	22.00 Bottom Packers & Anchor

**Total Tool Length: 51.00**





# DRILL STEM TEST REPORT

FLUID SUMMARY

GRAND MESA OPERATING

KLAUS 1-33

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

33-13S-31W GOVE

Job Ticket: 1016

DST#: 1

ATTN: MAC ARMSTRONG

Test Start: 2011.04.12 @ 13:00:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.40 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
150.00	MUDDY WATER TRACE OF OIL	0.439
0.00	40%MUD 60%WATER	0.000
180.00	WATER 100%WATER	2.632
60.00	MUDDY WATER 30%MUD 70%WATER	0.877

Total Length: 390.00 ft      Total Volume: 3.948 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RECOVERY CHLORIDES 39,000 PPM

Serial #: 6666

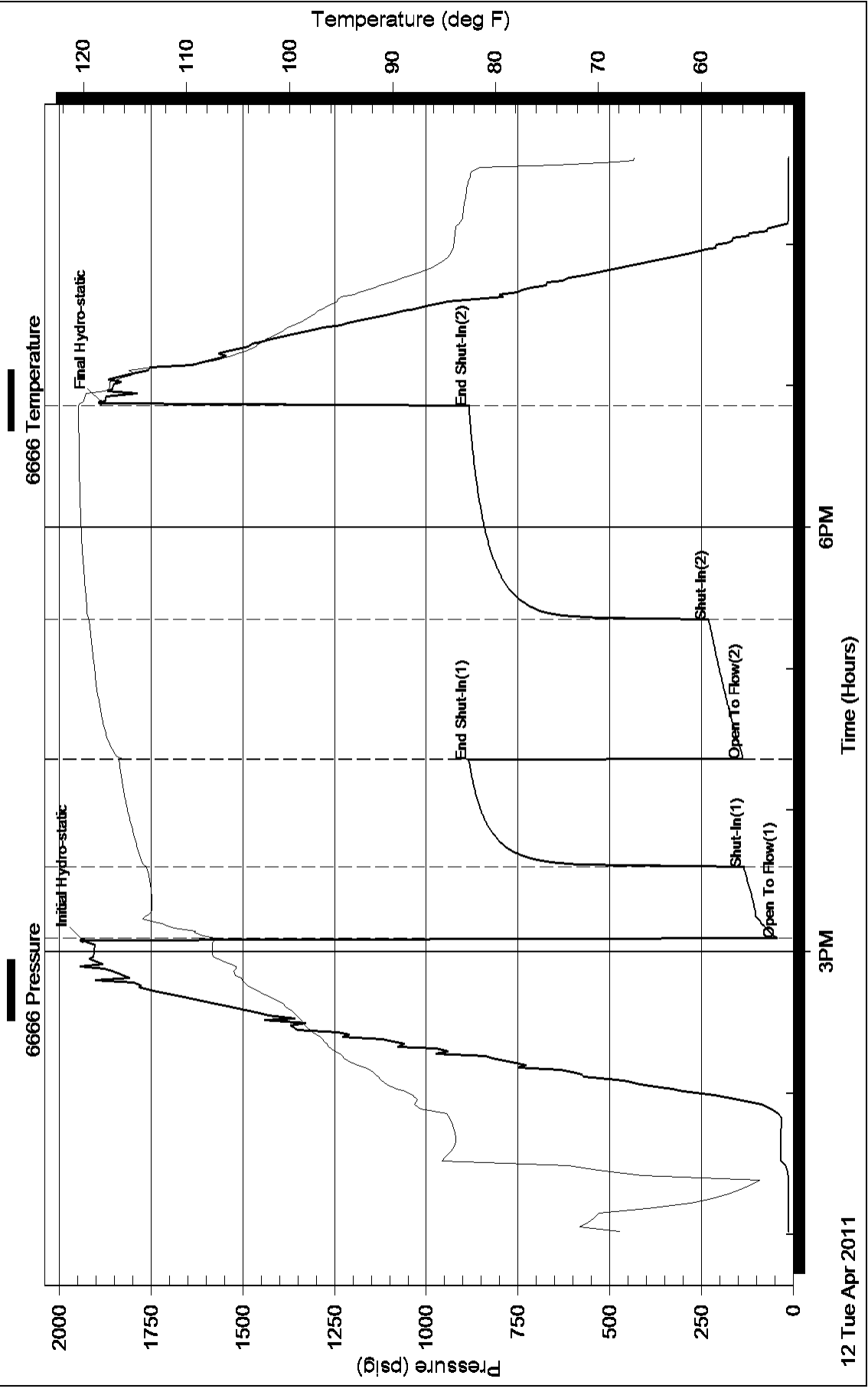
Inside

GRAND MESA OPERATING

33-13S-31W GOVE

DST Test Number: 1

### Pressure vs. Time



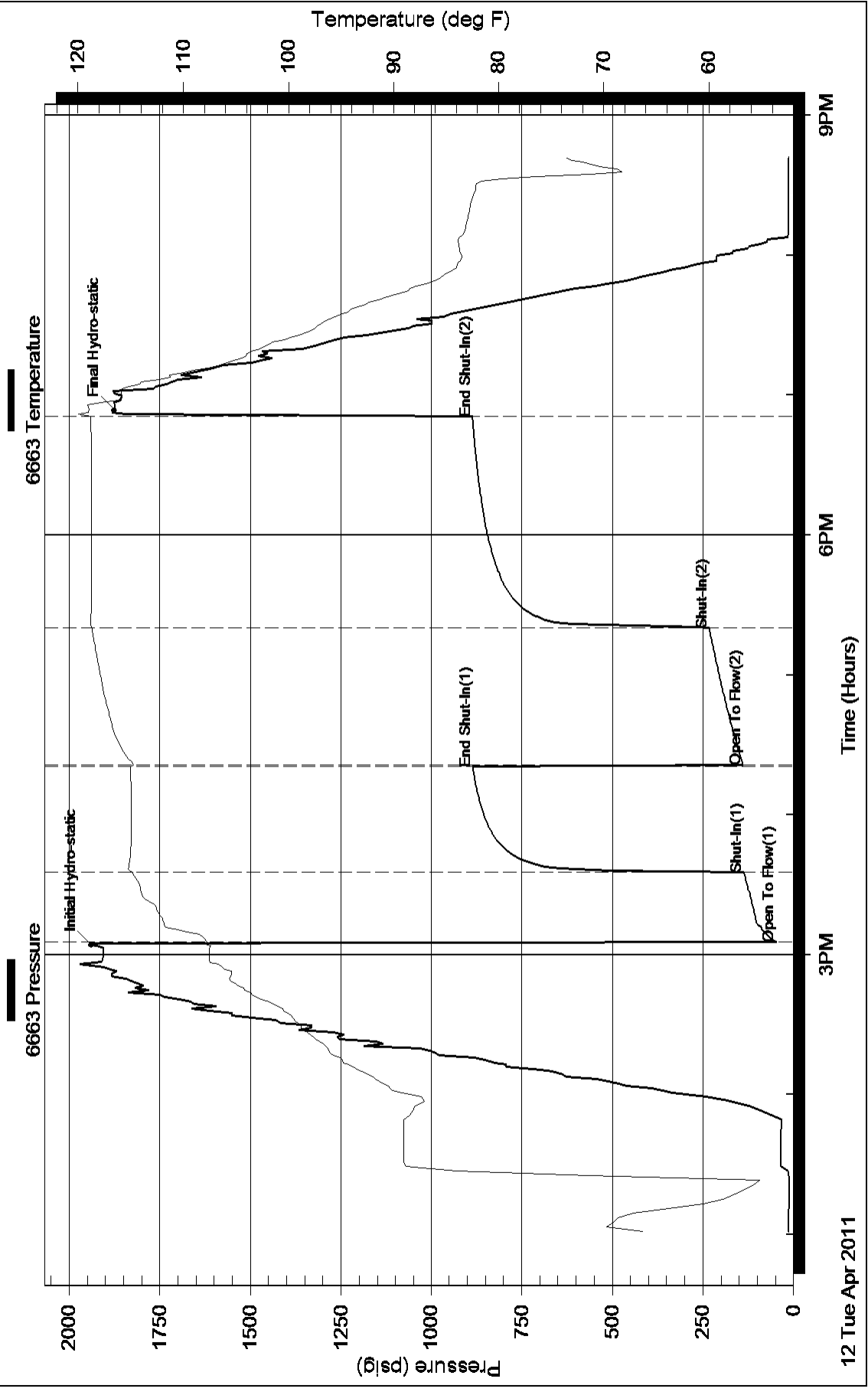
12 Tue Apr 2011

Eagle Testers LLC.

Ref. No: 1016

Printed: 2011.04.12 @ 13:29:43

### Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **GRAND MESA OPERATING**

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

ATTN: MAC ARMSTRONG

**33-13S-31W GOVE**

**KLAUS 1-33**

Start Date: 2011.04.13 @ 01:00:00

End Date: 2011.04.13 @ 08:21:30

Job Ticket #: 1017                      DST #: 2

Eagle Testers LLC.

P.O.Box 1011, Great Bend, KS 67530

620-617-7548

Printed: 2011.04.13 @ 02:46:23

GRAND MESA OPERATING  
KLAUS 1-33  
33-13S-31W GOVE  
DST # 2  
LKC-D-  
2011.04.13



# DRILL STEM TEST REPORT

GRAND MESA OPERATING

**KLAUS 1-33**

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

**33-13S-31W GOVE**

Job Ticket: 1017

**DST#: 2**

ATTN: MAC ARMSTRONG

Test Start: 2011.04.13 @ 01:00:00

## GENERAL INFORMATION:

Formation: **LKC -D-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:46:30

Time Test Ended: 08:21:30

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 49 MRT OAKLEY

**Interval: 3967.00 ft (KB) To 3975.00 ft (KB) (TVD)**

Reference Elevations: 2859.00 ft (KB)

Total Depth: 3975.00 ft (KB) (TVD)

2854.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6666**

**Inside**

Press @ Run Depth: 150.38 psig @ 3971.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2011.04.13

End Date:

2011.04.13

Last Calib.:

2011.04.13

Start Time: 01:01:00

End Time:

08:21:30

Time On Btm:

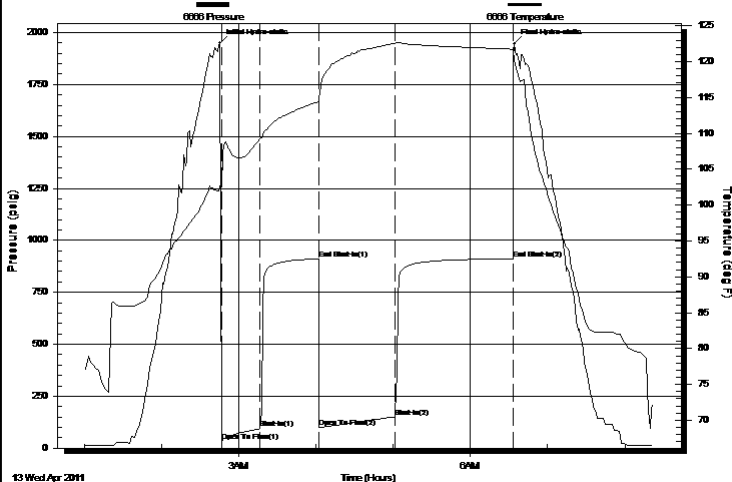
2011.04.13 @ 02:45:30

Time Off Btm:

2011.04.13 @ 06:34:00

**TEST COMMENT:** 30-INITIAL OPENING WEAK BLOW BUILT TO 8 INCHES INTO WATER  
45-INITIAL SHUT IN WEAK SURFACE BLOW  
60-FINAL OPENING WEAK BLOW BOTTOM BUCKET IN 31 MINS  
90-FINAL SHUT IN NO BLOW BACK

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1949.00	102.64	Initial Hydro-static
1	33.74	102.58	Open To Flow (1)
31	93.50	109.21	Shut-In(1)
77	911.46	114.41	End Shut-In(1)
77	98.82	115.02	Open To Flow (2)
136	150.38	122.45	Shut-In(2)
228	912.22	121.73	End Shut-In(2)
229	1945.94	120.21	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
240.00	GAS IN PIPE 100%GAS	1.75
155.00	GASSY OIL 20%GAS80%OIL	2.27
180.00	MUDDY WATER GOOD SHOW OF OIL	2.63
0.00	10%OIL20%MUD70%WATER	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

GRAND MESA OPERATING

**KLAUS 1-33**

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

**33-13S-31W GOVE**

Job Ticket: 1017

**DST#: 2**

ATTN: MAC ARMSTRONG

Test Start: 2011.04.13 @ 01:00:00

## GENERAL INFORMATION:

Formation: **LKC -D-**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:46:30

Time Test Ended: 08:21:30

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 49 MRT OAKLEY

**Interval: 3967.00 ft (KB) To 3975.00 ft (KB) (TVD)**

Reference Elevations: 2859.00 ft (KB)

Total Depth: 3975.00 ft (KB) (TVD)

2854.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6663**

**Outside**

Press @ Run Depth: 913.98 psig @ 3972.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2011.04.13

End Date:

2011.04.13

Last Calib.:

2011.04.13

Start Time: 01:01:00

End Time:

08:21:30

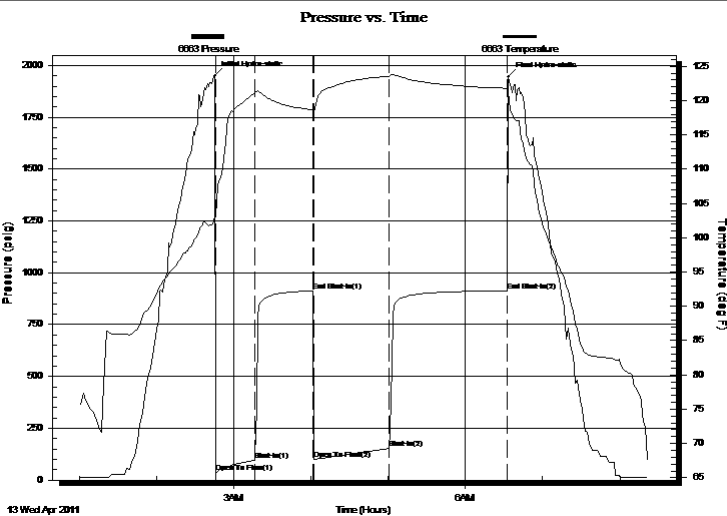
Time On Btm:

2011.04.13 @ 02:45:30

Time Off Btm:

2011.04.13 @ 06:33:30

**TEST COMMENT:** 30-INITIAL OPENING WEAK BLOW BUILT TO 8 INCHES INTO WATER  
45-INITIAL SHUT IN WEAK SURFACE BLOW  
60-FINAL OPENING WEAK BLOW BOTTOM BUCKET IN 31 MINS  
90-FINAL SHUT IN NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1949.65	103.25	Initial Hydro-static
1	35.49	103.13	Open To Flow (1)
31	94.89	121.03	Shut-In(1)
76	912.94	118.65	End Shut-In(1)
77	100.53	118.35	Open To Flow (2)
135	151.89	123.59	Shut-In(2)
227	913.98	121.81	End Shut-In(2)
228	1943.46	121.29	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
240.00	GAS IN PIPE 100%GAS	1.75
155.00	GASSY OIL 20%GAS80%OIL	2.27
180.00	MUDDY WATER GOOD SHOW OF OIL	2.63
0.00	10%OIL20%MUD70%WATER	0.00

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

GRAND MESA OPERATING

**KLAUS 1-33**

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

**33-13S-31W GOVE**

Job Ticket: 1017

**DST#: 2**

ATTN: MAC ARMSTRONG

Test Start: 2011.04.13 @ 01:00:00

## Tool Information

Drill Pipe:	Length: 3821.00 ft	Diameter: 3.88 inches	Volume: 55.88 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 55.88 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 36000.00 lb
Depth to Top Packer:	3967.00 ft			Final 38000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	8.00 ft			
Tool Length:	37.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut-in tool	5.00			3943.00	
Hydraulic tool	5.00			3948.00	
Change over sub	1.00			3949.00	
Jars	6.00			3955.00	
Safety Joint	2.00			3957.00	
Packer	5.00			3962.00	29.00 Bottom Of Top Packer
Packer	5.00			3967.00	
Anchor	3.00			3970.00	
Recorder	1.00	6666	Inside	3971.00	
Recorder	1.00	6663	Outside	3972.00	
Bullnose	3.00			3975.00	8.00 Bottom Packers & Anchor

**Total Tool Length: 37.00**



# DRILL STEM TEST REPORT

**FLUID SUMMARY**

GRAND MESA OPERATING

**KLAUS 1-33**

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

**33-13S-31W GOVE**

Job Ticket: 1017

**DST#: 2**

ATTN: MAC ARMSTRONG

Test Start: 2011.04.13 @ 01:00:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.40 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
240.00	GAS IN PIPE 100%GAS	1.755
155.00	GASSY OIL 20%GAS80%OIL	2.267
180.00	MUDDY WATER GOOD SHOW OF OIL	2.632
0.00	10%OIL20%MUD70%WATER	0.000

Total Length: 575.00 ft      Total Volume: 6.654 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

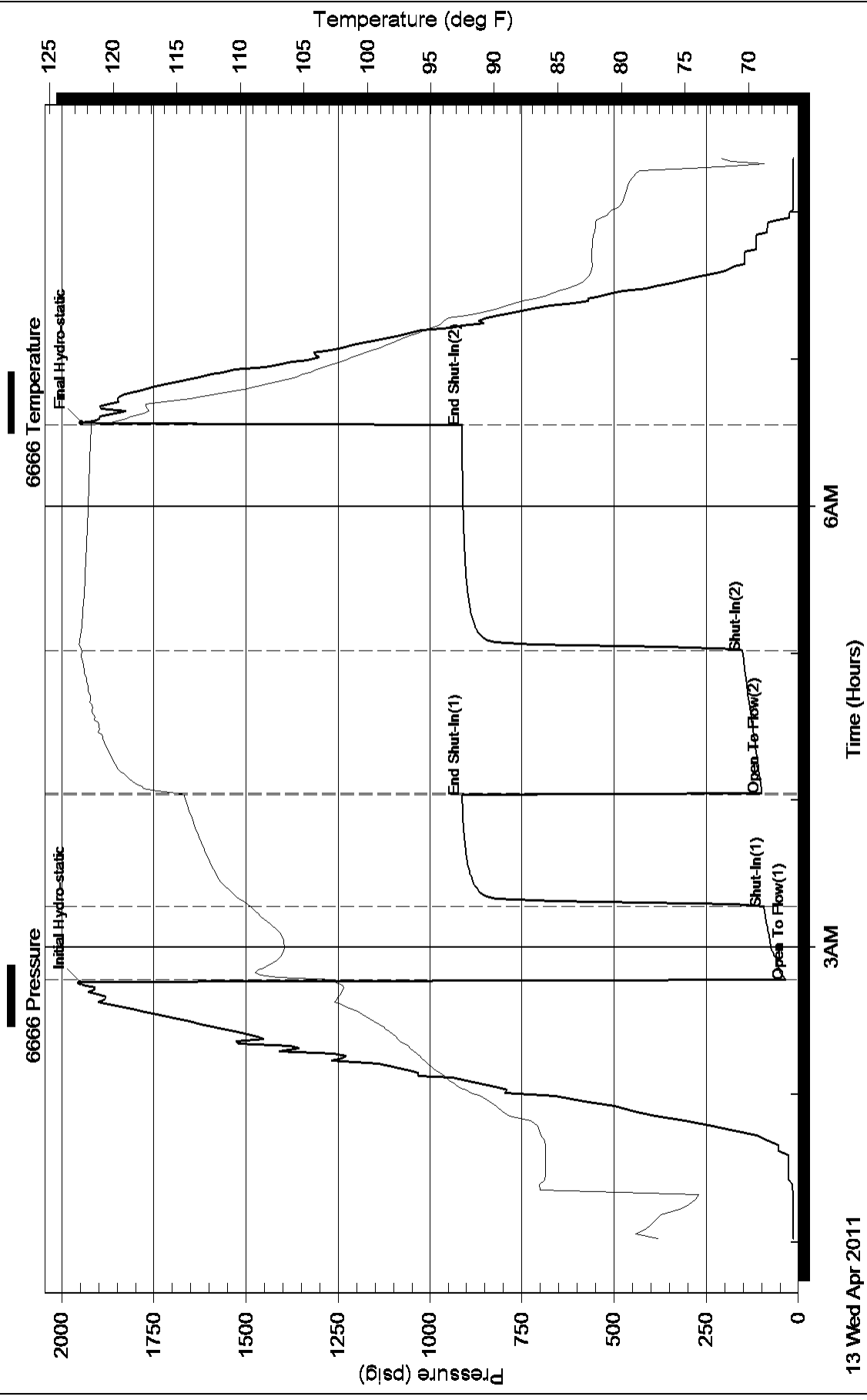
Laboratory Name:

Laboratory Location:

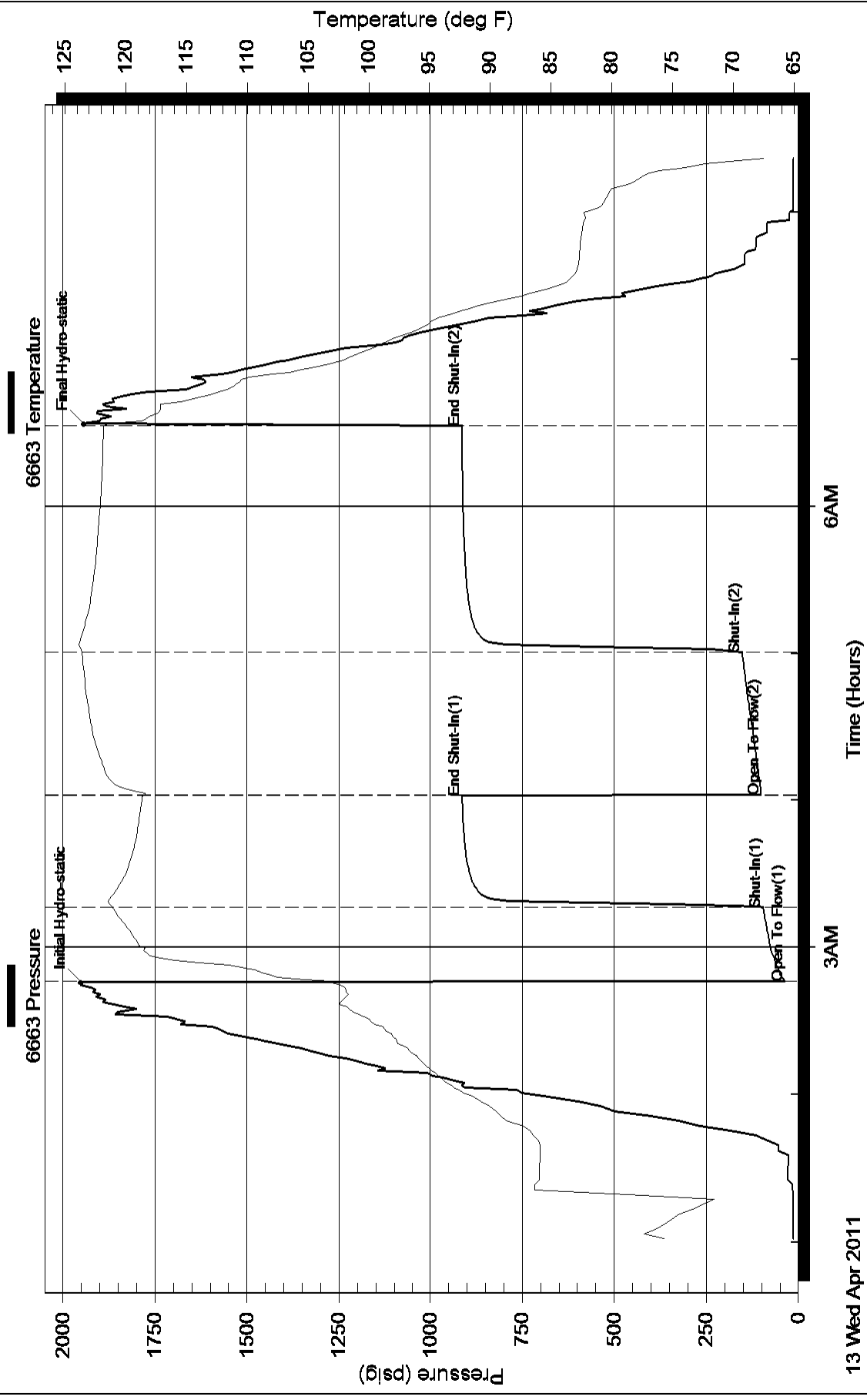
Recovery Comments: RECOVERY CHLORIDES 41,000PPM  
GRAVITY OF OIL 34



### Pressure vs. Time



### Pressure vs. Time



13 Wed Apr 2011



## DRILL STEM TEST REPORT

Prepared For: **GRAND MESA OPERATING**

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

ATTN: MAC ARMSTRONG

**33-13S-31W GOVE**

**KLAUS 1-33**

Start Date: 2011.04.16 @ 09:00:00

End Date: 2011.04.16 @ 17:03:00

Job Ticket #: 1018                      DST #: 3

Eagle Testers LLC.

P.O.Box 1011, Great Bend, KS 67530

620-617-7548

Printed: 2011.04.16 @ 09:38:04

GRAND MESA OPERATING  
KLAUS 1-33  
33-13S-31W GOVE  
DST # 3  
JOHNSON  
2011.04.16



# DRILL STEM TEST REPORT

GRAND MESA OPERATING

**KLAUS 1-33**

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

**33-13S-31W GOVE**

Job Ticket: 1018

**DST#: 3**

ATTN: MAC ARMSTRONG

Test Start: 2011.04.16 @ 09:00:00

## GENERAL INFORMATION:

Formation: **JOHSON**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:28:00

Time Test Ended: 17:03:00

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 49 MRT OAKLEY

**Interval: 4468.00 ft (KB) To 4510.00 ft (KB) (TVD)**

Reference Elevations: 2859.00 ft (KB)

Total Depth: 4510.00 ft (KB) (TVD)

2854.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6666**

**Inside**

Press @ RunDepth: 121.33 psig @ 4506.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2011.04.16

End Date:

2011.04.16

Last Calib.:

2011.04.16

Start Time: 09:00:00

End Time:

17:03:00

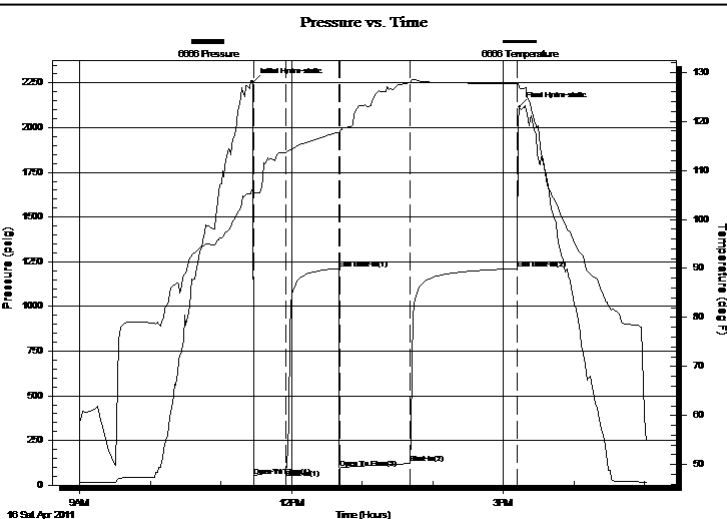
Time On Btm:

2011.04.16 @ 11:27:30

Time Off Btm:

2011.04.16 @ 15:13:30

**TEST COMMENT:** 30-INITIAL OPENING WEAK BLOW BUILT TO 3 INCHES INTO WATER  
45-INITIAL SHUT IN NO BLOW BACK  
60-FINAL OPENING WEAK BLOW BUILT TO 4 INCHES INTO WATER  
90-FINAL SHUT IN NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2253.22	105.98	Initial Hydro-static
1	51.66	105.53	Open To Flow (1)
28	87.37	113.64	Shut-In(1)
73	1212.30	117.76	End Shut-In(1)
74	96.00	117.94	Open To Flow (2)
134	121.33	127.98	Shut-In(2)
225	1211.30	127.71	End Shut-In(2)
226	2118.09	126.98	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
160.00	MUD 100%MUD SPOT OF OIL	1.18

## Gas Rates

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



# DRILL STEM TEST REPORT

GRAND MESA OPERATING

**KLAUS 1-33**

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

**33-13S-31W GOVE**

ATTN: MAC ARMSTRONG

Job Ticket: 1018

**DST#: 3**

Test Start: 2011.04.16 @ 09:00:00

## GENERAL INFORMATION:

Formation: **JOHSON**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:28:00

Time Test Ended: 17:03:00

Test Type: Conventional Bottom Hole (Initial)

Tester: DAVID NICHOLS

Unit No: 15 49 MRT OAKLEY

**Interval: 4468.00 ft (KB) To 4510.00 ft (KB) (TVD)**

Reference Elevations: 2859.00 ft (KB)

Total Depth: 4510.00 ft (KB) (TVD)

2854.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 6663 Outside**

Press @ RunDepth: 1213.02 psig @ 4507.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2011.04.16

End Date: 2011.04.16

Last Calib.: 2011.04.16

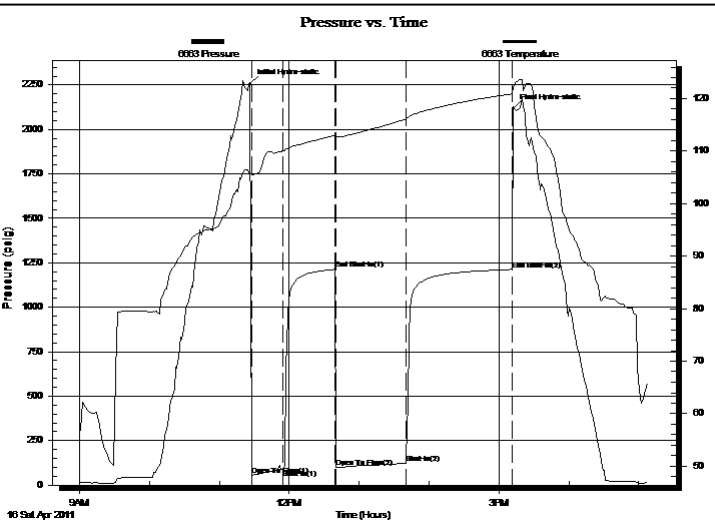
Start Time: 09:00:00

End Time: 17:07:30

Time On Btm: 2011.04.16 @ 11:26:30

Time Off Btm: 2011.04.16 @ 15:12:30

**TEST COMMENT:** 30-INITIAL OPENING WEAK BLOW BUILT TO 3 INCHES INTO WATER  
45-INITIAL SHUT IN NO BLOW BACK  
60-FINAL OPENING WEAK BLOW BUILT TO 4 INCHES INTO WATER  
90-FINAL SHUT IN NO BLOW BACK



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2255.56	105.95	Initial Hydro-static
1	52.92	105.47	Open To Flow (1)
28	88.86	109.97	Shut-In(1)
73	1213.42	113.02	End Shut-In(1)
74	97.71	112.63	Open To Flow (2)
134	122.64	116.11	Shut-In(2)
226	1213.02	120.90	End Shut-In(2)
226	2117.89	122.25	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
160.00	MUD 100%MUD SPOT OF OIL	1.18

## Gas Rates

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



# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

GRAND MESA OPERATING

**KLAUS 1-33**

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

**33-13S-31W GOVE**

Job Ticket: 1018

**DST#: 3**

ATTN: MAC ARMSTRONG

Test Start: 2011.04.16 @ 09:00:00

## Tool Information

Drill Pipe:	Length: 4322.00 ft	Diameter: 3.88 inches	Volume: 63.21 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	20000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	70000.00 lb
			<u>Total Volume: 63.80 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial	59000.00 lb
Depth to Top Packer:	4468.00 ft			Final	62000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	42.00 ft				
Tool Length:	71.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut-in tool	5.00			4444.00	
Hydraulic tool	5.00			4449.00	
Change over sub	1.00			4450.00	
Jars	6.00			4456.00	
Safety Joint	2.00			4458.00	
Packer	5.00			4463.00	29.00 Bottom Of Top Packer
Packer	5.00			4468.00	
Anchor	37.00			4505.00	
Recorder	1.00	6666	Inside	4506.00	
Recorder	1.00	6663	Outside	4507.00	
Bullnose	3.00			4510.00	42.00 Bottom Packers & Anchor

**Total Tool Length: 71.00**



# DRILL STEM TEST REPORT

FLUID SUMMARY

GRAND MESA OPERATING

KLAUS 1-33

1700 N WATERFRONT PKWY BLDG 600  
WICHITA KS 67206

33-13S-31W GOVE

Job Ticket: 1018

DST#: 3

ATTN: MAC ARMSTRONG

Test Start: 2011.04.16 @ 09:00:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.80 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2200.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
160.00	MUD 100%MUD SPOT OF OIL	1.175

Total Length: 160.00 ft      Total Volume: 1.175 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

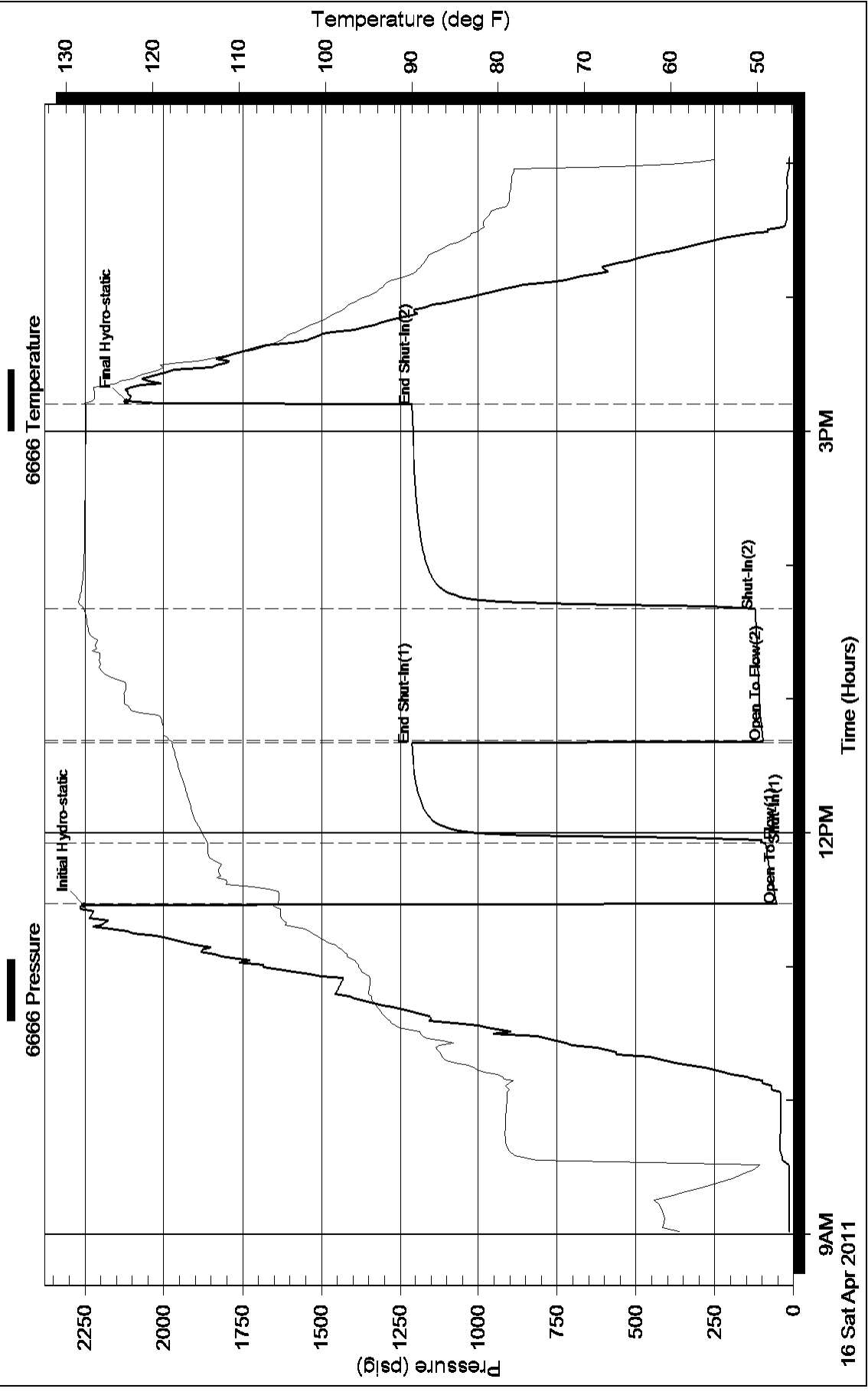
Serial #:

Laboratory Name:

Laboratory Location:

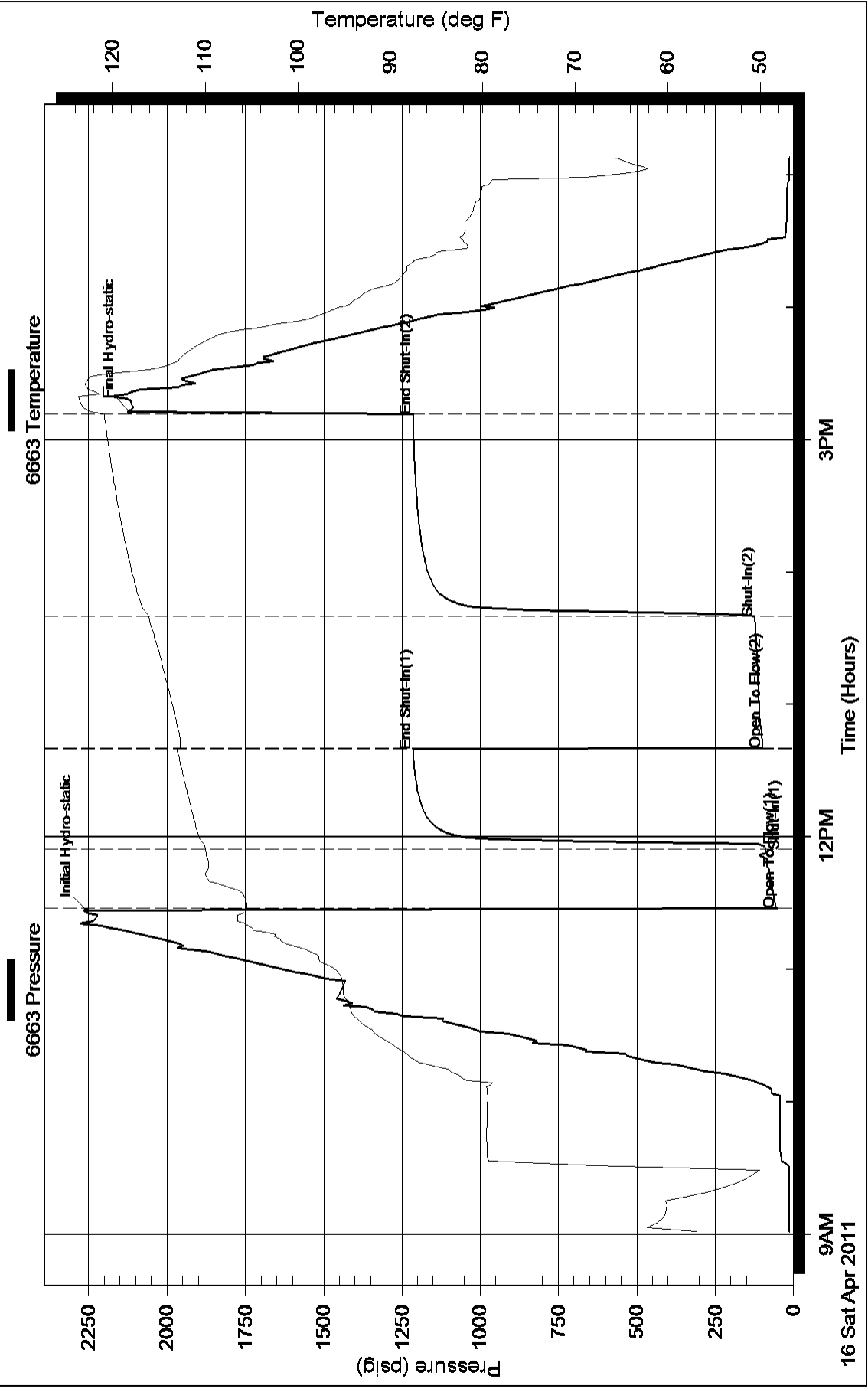
Recovery Comments:

### Pressure vs. Time





### Pressure vs. Time



# ALLIED CEMENTING CO., LLC. 043331

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:  
Oakley, Ks

DATE <u>4-8-11</u>	SEC. <u>33</u>	TWP. <u>13</u>	RANGE <u>31</u>	CALLED OUT	ON LOCATION	JOB START <u>7:30p</u>	JOB FINISH <u>8:30pm</u>
LEASE <u>Klaus</u>	WELL # <u>1-33</u>	LOCATION <u>Oakley 11S, 5E, 55, West</u>			COUNTY <u>Gove</u>	STATE <u>Ks</u>	
OLD OR NEW (Circle one) <u>NEW</u>			<u>↳ South into</u>				

CONTRACTOR Murfin #24

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D. 222

CASING SIZE 8 7/8 DEPTH 222

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. 15 ft

PERFS.

DISPLACEMENT 13.18661

OWNER same

CEMENT

AMOUNT ORDERED 165 cement 3% CC  
270 gal

COMMON	<u>165</u>	@	<u>16.50</u>	<u>2722.50</u>
POZMIX		@		
GEL	<u>35Ks</u>	@	<u>21.25</u>	<u>63.75</u>
CHLORIDE	<u>65Ks</u>	@	<u>58.20</u>	<u>349.20</u>
ASC		@		
		@		
		@		
		@		
		@		
		@		
		@		
		@		
HANDLING	<u>174</u>	@	<u>2.25</u>	<u>391.50</u>
MILEAGE	<u>116 SK/mile</u>			<u>382.80</u>
				TOTAL <u>3909.75</u>

**EQUIPMENT**

PUMP TRUCK CEMENTER Lakene

# 431 HELPER Darren

BULK TRUCK

# 394/284 DRIVER was

BULK TRUCK

# DRIVER

**REMARKS:**

Cement did circulate

Thank you

CHARGE TO: Grand Mesa

STREET

CITY STATE ZIP

**SERVICE**

DEPTH OF JOB			
PUMP TRUCK CHARGE			<u>1125.00</u>
EXTRA FOOTAGE		@	
MILEAGE	<u>20 mi x 2</u>	@	<u>2.00 280.00</u>
MANIFOLD	<u>swedge</u>	@	<u>325.00</u>
	<u>light vehicle mileage</u>	@	<u>4.00 160.00</u>
	<u>20 mi x 2</u>	@	
TOTAL <u>1890.00</u>			

**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.

PRINTED NAME Anthony Martin

SIGNATURE Anthony Martin

~~SALES TAX~~ SALES TAX (If Any) \_\_\_\_\_

TOTAL CHARGES \_\_\_\_\_

DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS

JOB LOG

SWIFT Services, Inc.

DATE 4-17-11 PAGE NO.

CUSTOMER GRAND MESA WELL NO. 1-33 LEASE KLAUS JOB TYPE 5 1/2 2-STAGE LONGSTRAW TICKET NO. 20670

CHART NO.	TIME	RATE (BPM)	VOLUME (BED) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1700							ON LOCATION
	1915							START 5 1/2" CASING IN WELL
								TD-4650 SETC 4646'
								TP-4648 5 1/2" # 15.5
								ST-21'
								CENTRALIZERS - 2, 4, 6, 8, 10, 12, 14, 16, 18, 53
								CEMENT BASKETS - 2, 54
								DV TOOL = 2350' TOP PT # 54
	2115							DROP BALL - CIRCULATE ROTATE
	2145	6	12		✓		500	PUMP 500 GAL MUD FLUSH "
	2147	6	20		✓		500	PUMP 20 BBL KCL-FLUSH "
	2155	4 1/2	42		✓		300	MAX 175 SPS CA-2 CMT = 15.5 PP6 "
	2203							WASH OUT PUMP - LINES
	2204							RELEASE 1ST STAGE DV WATCH DOWN PLUG
	2205	7	0		✓			DISPLACE PLUG "
		7	100				750	SHOT OFF ROTATING
	2220	6 1/2	110.1				1500	PLUG DOWN - PSE UP WATCH IN PLUG
	2222						OK	RELEASE PSE-HELD
	2225							DROP DV OPENING PLUG
	2240				✓		1200	OPEN DV - CIRCULATE
	2325	6	20		✓		300	PUMP 20 BBL KCL-FLUSH
	2330		7-5					PLUG RH (300 SPS) MH (20 SPS)
	2335	6 1/2	140		✓		300	MAX CEMENT - 250 SPS SMD = 11.2 PP6
	0008							WASH OUT PUMP - LINES
	0009							RELEASE DV CLOSING PLUG
	0010	6	0		✓			DISPLACE PLUG
	0020	5	56.0				1750	PLUG DOWN - PSE UP CLOSE DV TOOL
	0022						OK	RELEASE PSE-HELD
								CIRCULATED 40 SPS CEMENT TO PZT
								WASH TRUCK
	0100							JOB COMPLETE

THANK YOU  
WAYNE, JASON, LAKE, JOHN

JOB LOG

SWIFT Services, Inc.

DATE 05-04-11 PAGE NO. 1

CUSTOMER GRAND MESA WELL NO. 133 LEASE VLAW JOB TYPE ACIDIZING TICKET NO. F664

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1630							DNLOCATION ACID 750 15% mca 2719x5 1/2 PERIS 4499 to 4506
	1640		2.0		✓			SPR ACID PML 4526 SET PML PML 4464
			2.0		✓			START ACID
			18.0		✓			.. FLUSH
	1657		26.5		-	400		LOADED 1/4 EARLY
			26.9		-	500		ACID ON PERIS
	1700	.7	0		-	600		START TO FEED
		1.0	1.0		-	600		
		2.0	3.0		-	600		
		3.0	5.0		-	575		
			7.0		-	475		
			11.0		-	400		
			18.0		-	400		ACID CLEARED, START OVER FLUSH
	1710		20.0		-	400		
					-	200		ISIP
	1711				-	0		MIN VAR!
								LOAD 47.0 BBL
								JOB COMPLETE
								THANK YOU! DAVE & JESSIE



**LITHOLOGY STRIP LOG**

**WellSight Systems**

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

Well Name: Klaus No.1-33  
 Location: 1257 'FNL & 2310' FEL of Sec 33 T13S R31W Gove County, KS  
 License Number: API: 15-063-21903      Region: Wildcat  
 Spud Date: 4-8-11      Drilling Completed: 4-17-11  
 Surface Coordinates:

Bottom Hole Vertical hole  
 Coordinates:  
 Ground Elevation (ft): 2854      K.B. Elevation (ft): 2859  
 Logged Interval (ft): 3600'      To: RTD      Total Depth (ft): 4650  
 Formation: Mississippian at RTD  
 Type of Drilling Fluid: Chemical

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

**OPERATOR**

Company: Grand Mesa Operating Company  
 Address: 1700 N. Waterfront Parkway  
 Bldg. 600  
 Wichita, KS 67206-5514

**GEOLOGIST**

Name: Macklin M. Armstrong, P.G.  
 Company:  
 Address: 5140 North Valentine Road  
 Wichita, Kansas 67219  
 316-209-5047

**COMMENTS**

Morning Report Depth/Activity at 7 a.m.

4-08-11 Spud  
 4-09-11 Drilling at 340'  
 4-10-11 Drilling at 2440'  
 4-11-11 Drilling at 3612'  
 4-12-11 DST No. 1 at 3968'  
 4-13-11 Drilling at 3985'  
 4-14-11 Drilling at 4245'  
 4-15-11 Cir due to high wind at 4489'  
 4-16-11 DST No. 3 at 4510'  
 4-17-11 Logging at 4650'  
 4-18-11

Contractor: Murfin Drilling Company Rig #24  
 Pusher: Tony Martin

Surface Casing: 8 5/8" 23# set at 222'  
 Production Casing:

Mud by: MudCo/Service Mud, Inc.  
 Engineer: Reid Atkins

DST's by: Eagle Testers  
 Tester: David Nichols

Logs by: Weatherford (DIL, CN-CD, ML, Sonic)

Deviation Surveys: 1/4deg. at 222'; 1/2 deg. at 2457'; 3/4 deg. at 3612', 1/4 deg. at 4510', 1/4 deg at 4650'

Bit Record: 12 1/4" Smith RDS 0 to 222' 2 1/5 hours  
 7 7/8" Smith M1519 222' to 3612' 41 3/4 hours  
 7 7/8" Smith F271 3612' to 4510' 58 hours  
 7 7/8" HTC GX225 4510' to 4650' 10 1/4 hours

**FORMATION TOPS AND STRUCTURAL COMPARISON**

FORMATION	SAMPLE TOPS		LOG TOPS		Grand Mesa Klaus-Hess No. 1-33
	Depth	Datum	Depth	Datum	
Anhydrite	2354'	+505	2504'	+493	-3
B/Anhydrite	2377'	+482	2528'	+469	-4
Heebner	3882'	-1023	3971'	-974	-14
Toronto	3908'	-1049	3910'	-1048	-16
Lansing	3924'	-1065	4010'	-1013	-14
Muncie Creek	4079'	-1220	4158'	-1161	-17
Stark	4165'	-1306	4241'	-1244	-16
Hushpuckney	4200'	-1341	4278'	-1281	-15
B/Kansas City	4237'	-1378	4338'	-1341	-20
Marmaton	4270'	-1411	4448'	-1451	
...	...	...	...	...	



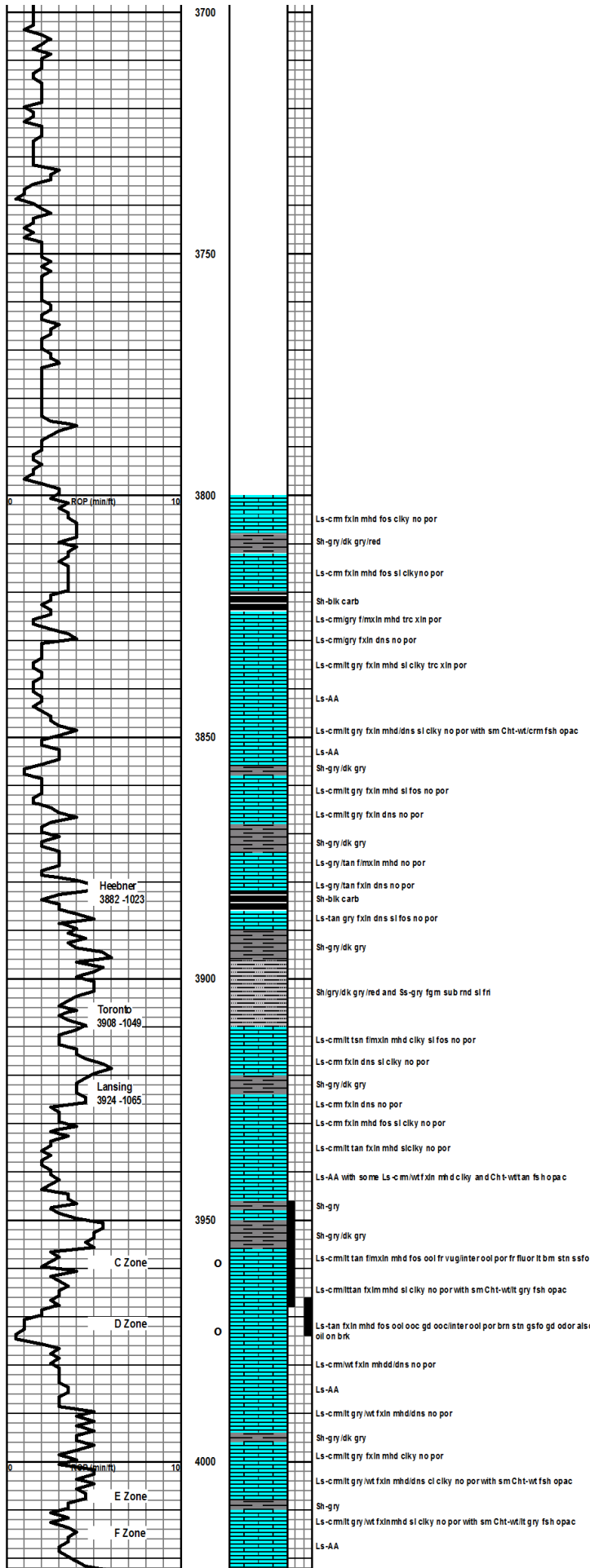
Geologist on loc at 3793'  
at 4:33 p.m. on 4-11-11

Mud Data at 3968' at 7  
a.m. on 4-12-11  
Wt 8.9 Vis 52 WL 6.4  
pH 10.5 Chlor 1200  
YP 16  
DST No. 1  
3946' to 3968'

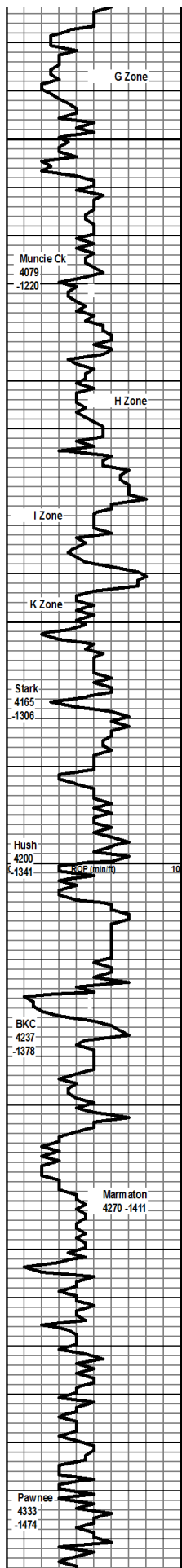
DST No. 2  
3967' to 3975'  
CFS at 3968' - .45"

CFS at 4975' - .60"  
Pipe Strap at 4975'  
Short 0.05'

CFS at 4010' - .45"  
Mud Data at 4010' at 9:30  
a.m. on 4-13-11 Wt 9.2 Vis  
71 WL 6.8 pH 10 Chlor  
2000

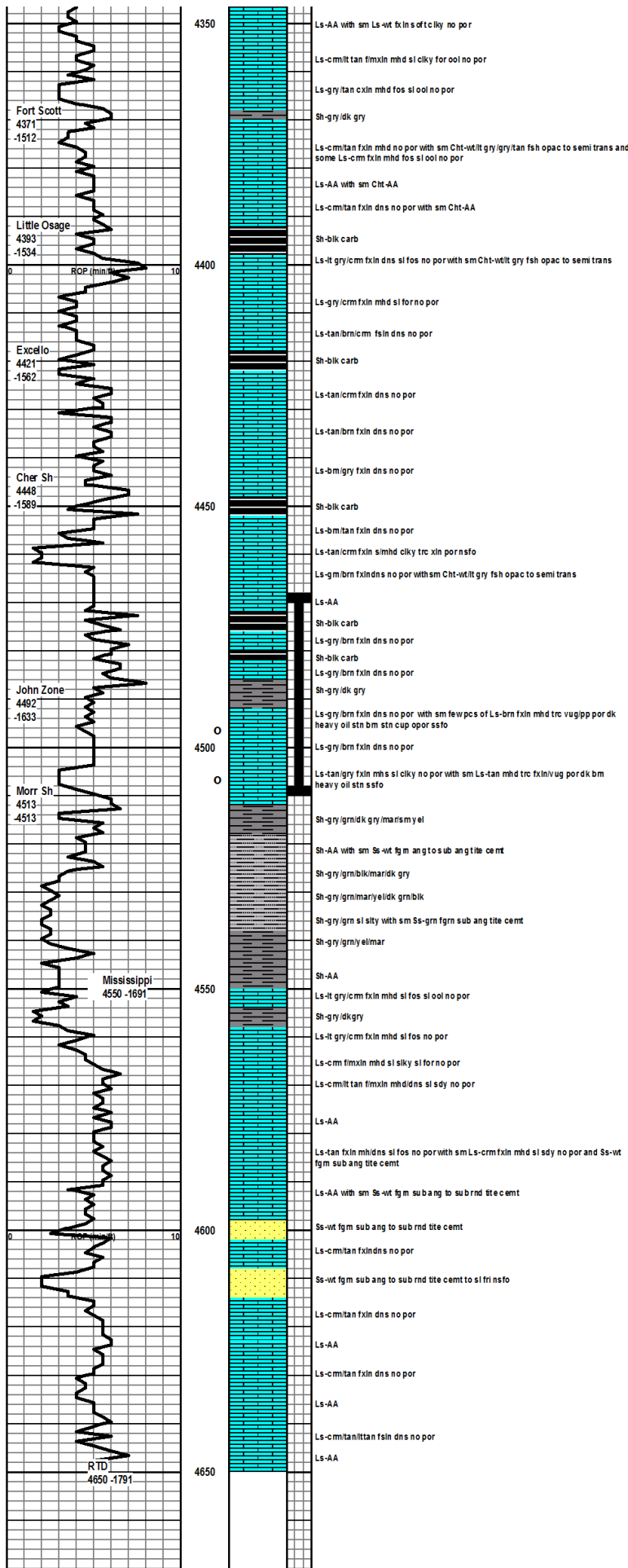






Ls-cmlt gry fxin dns no por  
 Ls-cm/wlt tan fxin mhd ciky no por  
 Ls-AA  
 Ls-cm/wlt tan fxin mhd dns si ciky no por  
 Ls-cm/wlt tan fxin mhd ciky no por  
 Ls-cm/wt fxin simhd ciky no por  
 Ls-cm/wlt tan fxin dns si ciky no por  
 Ls-AA  
 Ls-lt gry/cmtan fxin dns si ciky no por  
 Sh-blk carb  
 Ls-tanbrn fmxln mhd si fos no por with sm Cht-tanlt gry fsh opac  
 Sh-gry/dk gry  
 Ls-tanbrn fxin dns no por with sm Cht-tan/gry fsh opac  
 Ls-tan/crmgry fxin mhd si ciky no por  
 Ls-tan/crm fxin mhd dns no por  
 Ls-cmtan fxin mhd si ciky no por  
 Sh-blk carb  
 Ls-gry/brn fxin dns no por  
 Sh-gry/dk gry  
 Ls-tanbrn fxin mhd dns no por with sm Cht-wt fsh opac  
 Ls-cmtan fxin to biky mhd fos no por  
 Ls-cm fxin mhs si fos no por with sm Cht-wt/cm fsh and si weat opac  
 Sh-gry/dk gry  
 Ls-cm fxin mhd no por  
 Ls-AA  
 Sh-gry  
 Ls-cmlt tan fxin dns no por with sm Cht-wt fsh opac and sm Ls-lt gry fxin mhd fos si ool no por  
 Sh-blk carb  
 Ls-lt gry/tan/crm fxin dns no por with sm Cht-wt fsh opac fos  
 Ls-AA  
 Ls-lt gry/tan fxin mhd si ciky si fos no por  
 Ls-cmlt tanlt gry fxin dns no por with sm Cht-tan/wt fsh opac  
 Ls-AA  
 Sh-blk carb  
 Sh-gry/dk gry  
 Ls-cmtan fxin dns no por with sm Cht-wt/lt gry fsh opac  
 Ls-AA  
 Ls-cmlt gry fxin dns no por  
 Ls-cmlt gry fxin soft ciky si fos tro xln por  
 Sh-gry/dk gry  
 Ls-tanlt gry fxin dns no por  
 Sh-gry/red  
 Ls-tanltgry fxin dns no por  
 Sh-gry/red si stly  
 Sh-AA  
 Sh-red/gry stly  
 Ls-gry/tan fxin dns no por  
 Ls-AA  
 Sh-blk carb  
 Ls-gry fxin dns no por  
 Sh-gry/red/mar stly  
 Sh-AA  
 Ls-gry/lt gry fmxln mhd si fos si ciky no por  
 Sh-gry  
 Sh-gry  
 Ls-gry/tanbrn fmxln mhd si fos si ciky no por with sm Ls-gry with tan inel cxln mhd no por  
 Ls-AA  
 Sh-gry/dk gry/red/mar si stly  
 Ls-cmlt gry fxin dns si fos no por  
 Ls-cmlt gry fxin mhd si fos si ool no por

YP 22  
 CRS at 4110' - 30"  
 CFS at 4140' - 45"  
 Mud Data at 4268' at  
 9 a.m. on 4-14-11  
 Wt 9.3 Vis 56 WL 7.2 pH  
 10.5 Chlor 2800  
 YP 17



DST No. 3  
4468 to 4510

Lost cir at 4489' at 1:57 a.m. on 4-15-11  
Drilling Again at 8 p.m on 4-15-11

Mud Data at 4510' at 3 a.m. on 4-15-11  
Wt 9.2 Vis 52 WL 6.8 pH 10 Chlor 2200 YP 16

Finished Drilling at 2:02 a.m. on 4-16-11

Finished Logging at 9:15 a.m. on 4-16-11

