



## DRILL STEM TEST REPORT

Prepared For: **Cobalt Energy LLC**

Po Box 8037  
Wichita KS, 67208

ATTN: Frank Mize

### **Pinnick "A" 1-33X**

#### **33-9s-24w Graham KS**

Start Date: 2014.03.27 @ 18:58:00

End Date: 2014.03.28 @ 05:17:15

Job Ticket #: 56094                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.03.31 @ 14:52:04



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Cobalt Energy LLC

**33-9s-24w Graham KS**

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**Pinnick "A" 1-33X**

Job Ticket: 56094

**DST#: 1**

ATTN: Frank Mize

Test Start: 2014.03.27 @ 18:58:00

## GENERAL INFORMATION:

Formation: **LKC "H-J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:21:30

Time Test Ended: 05:17:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Cody Bloedorn

Unit No: 73

**Interval: 3979.00 ft (KB) To 4062.00 ft (KB) (TVD)**

Reference Elevations: 2519.00 ft (KB)

Total Depth: 4062.00 ft (KB) (TVD)

2510.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 9.00 ft

**Serial #: 8940 Outside**

Press@RunDepth: 63.96 psig @ 4046.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.03.27

End Date:

2014.03.28

Last Calib.:

2014.03.28

Start Time: 18:58:05

End Time:

05:17:15

Time On Btm:

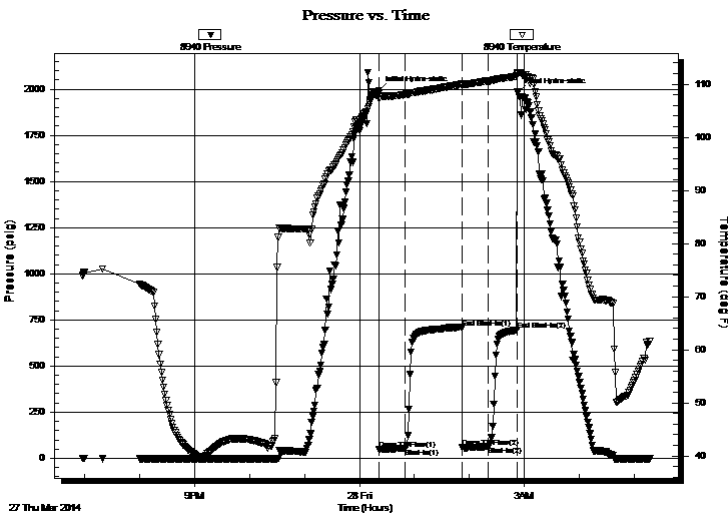
2014.03.28 @ 00:21:15

Time Off Btm:

2014.03.28 @ 02:52:30

TEST COMMENT: 30 - IF- 1/2" blow  
60 - IS- No return  
30 - FF- No blow  
30 - FS- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1993.68	108.20	Initial Hydro-static
1	47.48	107.19	Open To Flow (1)
29	54.93	107.97	Shut-In(1)
91	706.73	109.97	End Shut-In(1)
91	58.04	109.75	Open To Flow (2)
120	63.96	110.51	Shut-In(2)
151	694.44	111.48	End Shut-In(2)
152	1984.06	111.98	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	WM, 20%W, 80%M	0.14

## Gas Rates

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



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**DST#: 1**

ATTN: Frank Mize

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Time Test Ended: 05:17:15		Unit No: 73		
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Total Depth: 4062.00 ft (KB) (TVD)		2510.00 ft (CF)		
Hole Diameter: 7.88 inches	Hole Condition: Fair	KB to GR/CF: 9.00 ft		

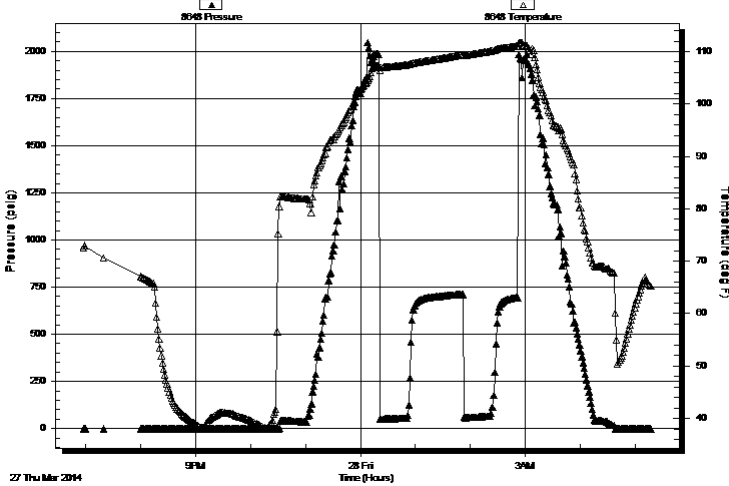
**Serial #: 8648**

**Inside**

Press@RunDepth: psig @ 4046.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2014.03.27	End Date: 2014.03.28
Start Time: 18:58:05	End Time: 05:17:15
	Last Calib.: 2014.03.28
	Time On Btm:
	Time Off Btm:

TEST COMMENT: 30 - IF- 1/2" blow  
60 - IS- No return  
30 - FF- No blow  
30 - FS- No return

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	WM, 20%W, 80%M	0.14

## Gas Rates

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



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# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Cobalt Energy LLC

**33-9s-24w Graham KS**

Po Box 8037  
Wichita KS, 67208

**Pinnick "A" 1-33X**

Job Ticket: 56094

**DST#: 1**

ATTN: Frank Mize

Test Start: 2014.03.27 @ 18:58:00

## Tool Information

Drill Pipe:	Length: 3982.00 ft	Diameter: 3.80 inches	Volume: 55.86 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 55.86 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3979.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	83.00 ft			
Tool Length:	112.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3951.00	
Shut In Tool	5.00			3956.00	
Hydraulic tool	5.00			3961.00	
Jars	5.00			3966.00	
Safety Joint	3.00			3969.00	
Packer	5.00			3974.00	29.00 Bottom Of Top Packer
Packer	5.00			3979.00	
Stubb	1.00			3980.00	
Perforations	2.00			3982.00	
Change Over Sub	1.00			3983.00	
Drill Pipe	62.00			4045.00	
Change Over Sub	1.00			4046.00	
Recorder	0.00	8648	Inside	4046.00	
Recorder	0.00	8940	Outside	4046.00	
Perforations	13.00			4059.00	
Bullnose	3.00			4062.00	83.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>112.00</b>				



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TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Cobalt Energy LLC

**33-9s-24w Graham KS**

Po Box 8037  
Wichita KS, 67208

**Pinnick "A" 1-33X**

Job Ticket: 56094

**DST#: 1**

ATTN: Frank Mize

Test Start: 2014.03.27 @ 18:58:00

## 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:

42000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1700.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	WM, 20%W, 80%M	0.140

Total Length: 10.00 ft      Total Volume: 0.140 bbl

Num Fluid Samples: 0

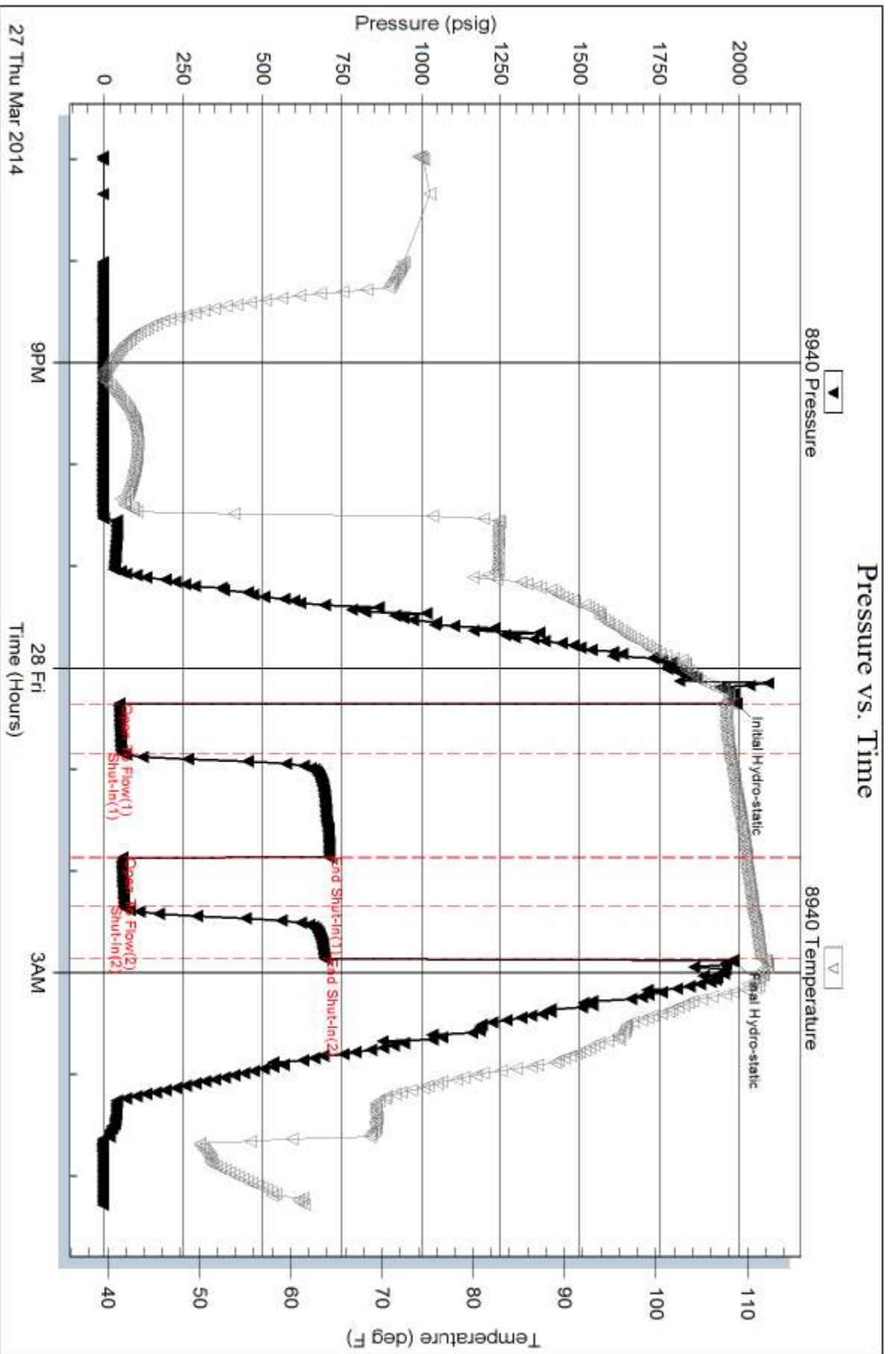
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .24 @ 50 Degrees = 42,000 Chlorides



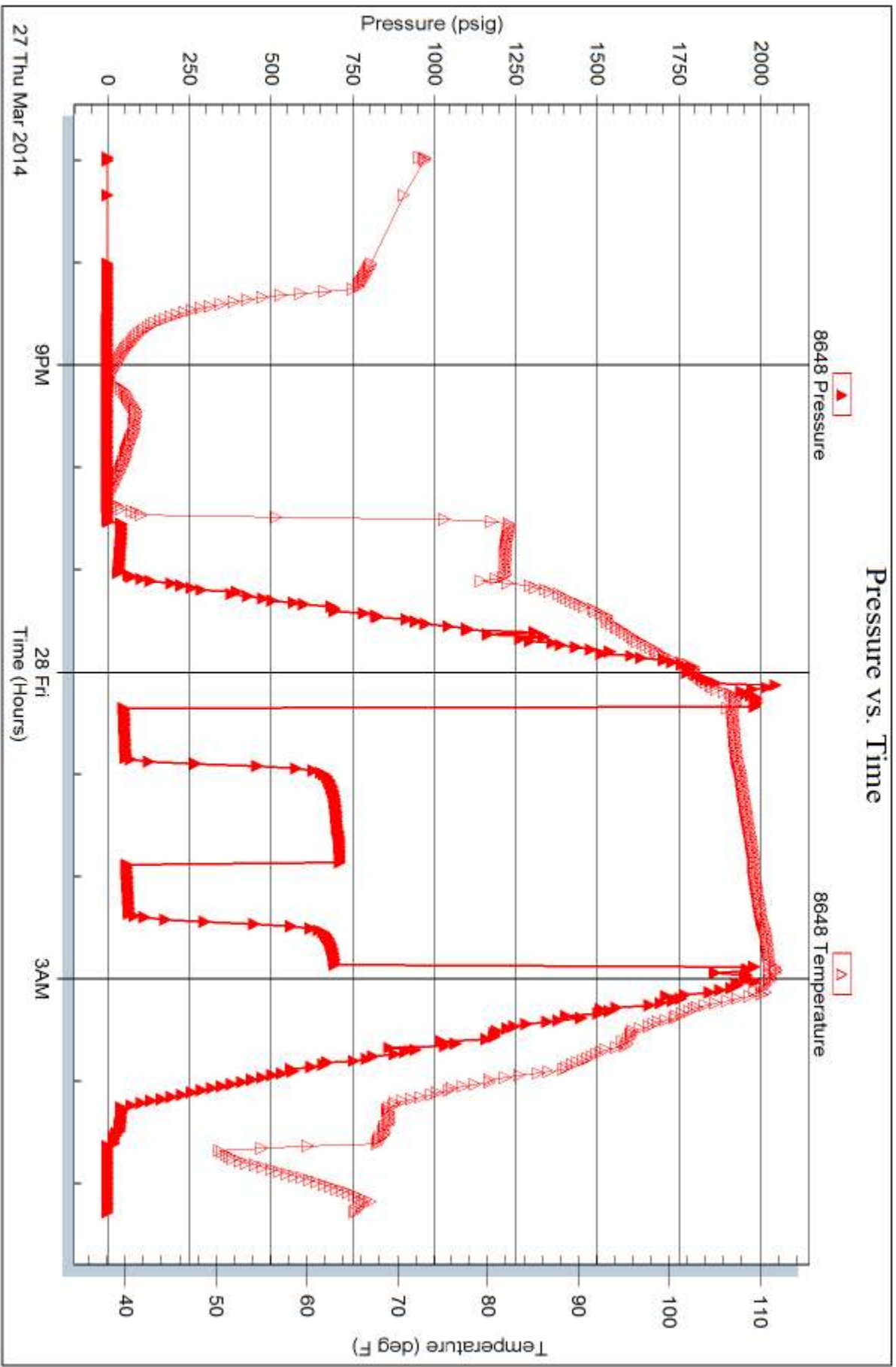
Serial #: 8648

Inside

Cobalt Energy LLC

Pinnick "A" 1-33X

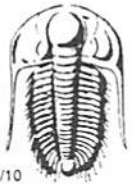
DST Test Number: 1



Tribble Testing, Inc

Ref. No: 56094

Printed: 2014.03.31 @ 14:52:07



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 56094

Well Name & No. Pinnick "A" 1-33x Test No. 1 Date 3-27-14  
 Company Cobalt Energy LLC Elevation 2519 KB 2510 GL  
 Address Po Box 8037, Wichita KS, 67208  
 Co. Rep / Geo. Frank Mize Rig Southwind 8  
 Location: Sec. 33 Twp. 9s Rge. 24w Co. Graham State KS

Interval Tested 3979-4062 Zone Tested LKC "H, I, J"  
 Anchor Length 83' Drill Pipe Run 3982' Mud Wt. 9.2  
 Top Packer Depth 3974 Drill Collars Run - Vis 52  
 Bottom Packer Depth 3979 Wt. Pipe Run - WL 6-0  
 Total Depth 4062 Chlorides 1700 ppm System LCM 2#  
 Blow Description IF- 1/2" blow  
ISI- No return  
FF- No blow  
FSI- No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>WM</u>		<u>20</u>	<u>80</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT 111° Gravity - API RW .24 @ 50° F Chlorides 42,000 ppm  
 (A) Initial Hydrostatic 1993  Test 1250 T-On Location 1834  
 (B) First Initial Flow 47  Jars 250 T-Started 1858  
 (C) First Final Flow 54  Safety Joint 75 T-Open 12:22  
 (D) Initial Shut-In 706  Circ Sub \_\_\_\_\_ T-Pulled 0252  
 (E) Second Initial Flow 58  Hourly Standby .25h 25 T-Out 0517  
 (F) Second Final Flow 63  Mileage 120RT 186 Comments \_\_\_\_\_  
 (G) Final Shut-In 694  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1984  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1786  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1786

Approved By \_\_\_\_\_ Our Representative Cody Bloodorn

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