



DRILL STEM TEST REPORT

Prepared For: **Stewart Producers Inc**

PO Box 546
Mt Vernon IL 62864+0546

ATTN: Dave Goldak

Rufenacht #1

32-17S-24W Ness,KS

Start Date: 2016.10.09 @ 21:46:00

End Date: 2016.10.10 @ 05:38:30

Job Ticket #: 61931 DST #: 1

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

Printed: 2016.10.10 @ 08:38:45



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Stewart Producers Inc
 PO Box 546
 Mt Vernon IL 62864+0546
 ATTN: Dave Goldak

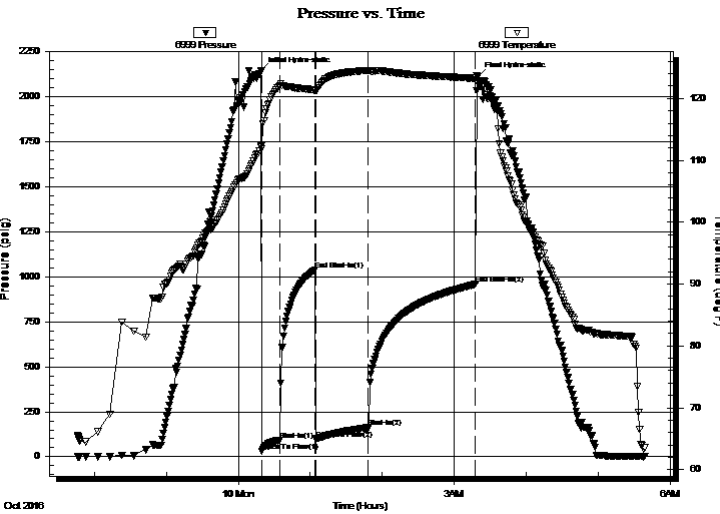
32-17S-24W Ness,KS
Rufenacht #1
 Job Ticket: 61931 **DST#: 1**
 Test Start: 2016.10.09 @ 21:46:00

GENERAL INFORMATION:

Formation: **Mississippi**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:19:30
 Time Test Ended: 05:38:30
 Interval: **4338.00 ft (KB) To 4355.00 ft (KB) (TVD)**
 Total Depth: 4355.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72
 Reference Elevations: 2368.00 ft (KB)
 2361.00 ft (CF)
 KB to GR/CF: 7.00 ft

Serial #: 6999 Inside
 Press@RunDepth: 161.75 psig @ 4351.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.10.09 End Date: 2016.10.10 Last Calib.: 2016.10.10
 Start Time: 21:46:05 End Time: 05:38:29 Time On Btm: 2016.10.10 @ 00:19:00
 Time Off Btm: 2016.10.10 @ 03:19:30

TEST COMMENT: IFP 15 minutes Blow built to 8 3/4"
 ISI 30 minutes No blow back
 FFP 45 minutes BOB in 32 minutes
 FSI 90 minutes No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2143.10	112.39	Initial Hydro-static
1	31.39	111.88	Open To Flow (1)
16	92.95	122.13	Shut-In(1)
45	1037.18	121.33	End Shut-In(1)
46	98.23	121.29	Open To Flow (2)
89	161.75	124.52	Shut-In(2)
179	958.33	123.27	End Shut-In(2)
181	2112.87	122.34	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
326.00	MW Mud 10% Water 90%	3.48
15.00	Clean Oil 100%	0.21

Gas Rates

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



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 PO Box 546
 Mt Vernon IL 62864+0546
 ATTN: Dave Goldak

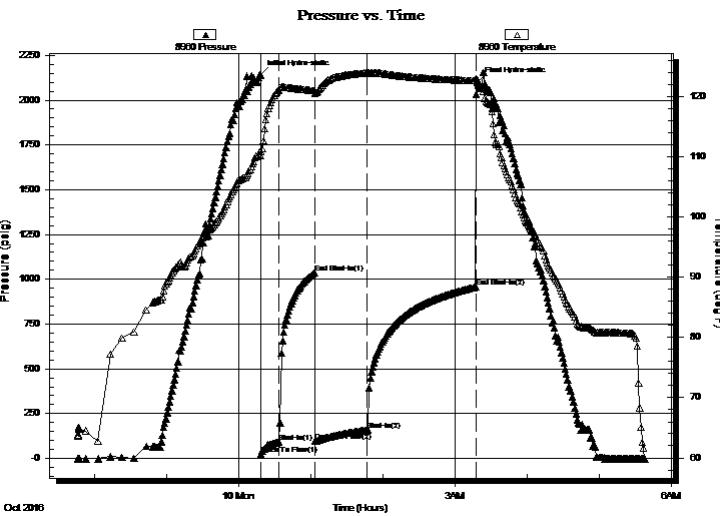
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Rufenacht #1
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 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72
 Reference Elevations: 2368.00 ft (KB)
 2361.00 ft (CF)
 KB to GR/CF: 7.00 ft

Serial #: 8960 Outside
 Press@RunDepth: 957.26 psig @ 4352.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.10.09 End Date: 2016.10.10 Last Calib.: 2016.10.10
 Start Time: 21:46:05 End Time: 05:37:59 Time On Btm: 2016.10.10 @ 00:18:00
 Time Off Btm: 2016.10.10 @ 03:19:00

TEST COMMENT: IFP 15 minutes Blow built to 8 3/4"
 ISI 30 minutes No blow back
 FFP 45 minutes BOB in 32 minutes
 FSI 90 minutes No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2141.04	110.96	Initial Hydro-static
1	25.69	110.18	Open To Flow (1)
15	91.28	121.08	Shut-In(1)
45	1036.91	120.98	End Shut-In(1)
46	95.50	120.62	Open To Flow (2)
89	159.77	123.94	Shut-In(2)
179	957.26	122.65	End Shut-In(2)
181	2106.04	122.23	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
326.00	MW Mud 10% Water 90%	3.48
15.00	Clean Oil 100%	0.21

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Stewart Producers Inc

32-17S-24W Ness,KS

PO Box 546
Mt Vernon IL 62864+0546

Rufenacht #1

Job Ticket: 61931

DST#: 1

ATTN: Dave Goldak

Test Start: 2016.10.09 @ 21:46:00

Tool Information

Drill Pipe:	Length: 4198.00 ft	Diameter: 3.80 inches	Volume: 58.89 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: 59.48 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial	66000.00 lb
Depth to Top Packer:	4338.00 ft			Final	66000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	17.00 ft				
Tool Length:	44.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut-In Tool	5.00			4316.00	
Hydraulic tool	5.00			4321.00	
Jars	5.00			4326.00	
Safety Joint	2.00			4328.00	
Top Packer	5.00			4333.00	
Packer	5.00			4338.00	27.00 Bottom Of Top Packer
Anchor	12.00			4350.00	
Recorder	1.00	6999	Inside	4351.00	
Recorder	1.00	8960	Outside	4352.00	
Bullnose	3.00			4355.00	17.00 Anchor Tool
Total Tool Length:	44.00				



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FLUID SUMMARY

Stewart Producers Inc

32-17S-24W Ness,KS

PO Box 546
Mt Vernon IL 62864+0546

Rufenacht #1

Job Ticket: 61931

DST#: 1

ATTN: Dave Goldak

Test Start: 2016.10.09 @ 21:46:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

21000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.57 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6200.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
326.00	MW Mud 10% Water 90%	3.480
15.00	Clean Oil 100%	0.210

Total Length: 341.00 ft Total Volume: 3.690 bbl

Num Fluid Samples: 0

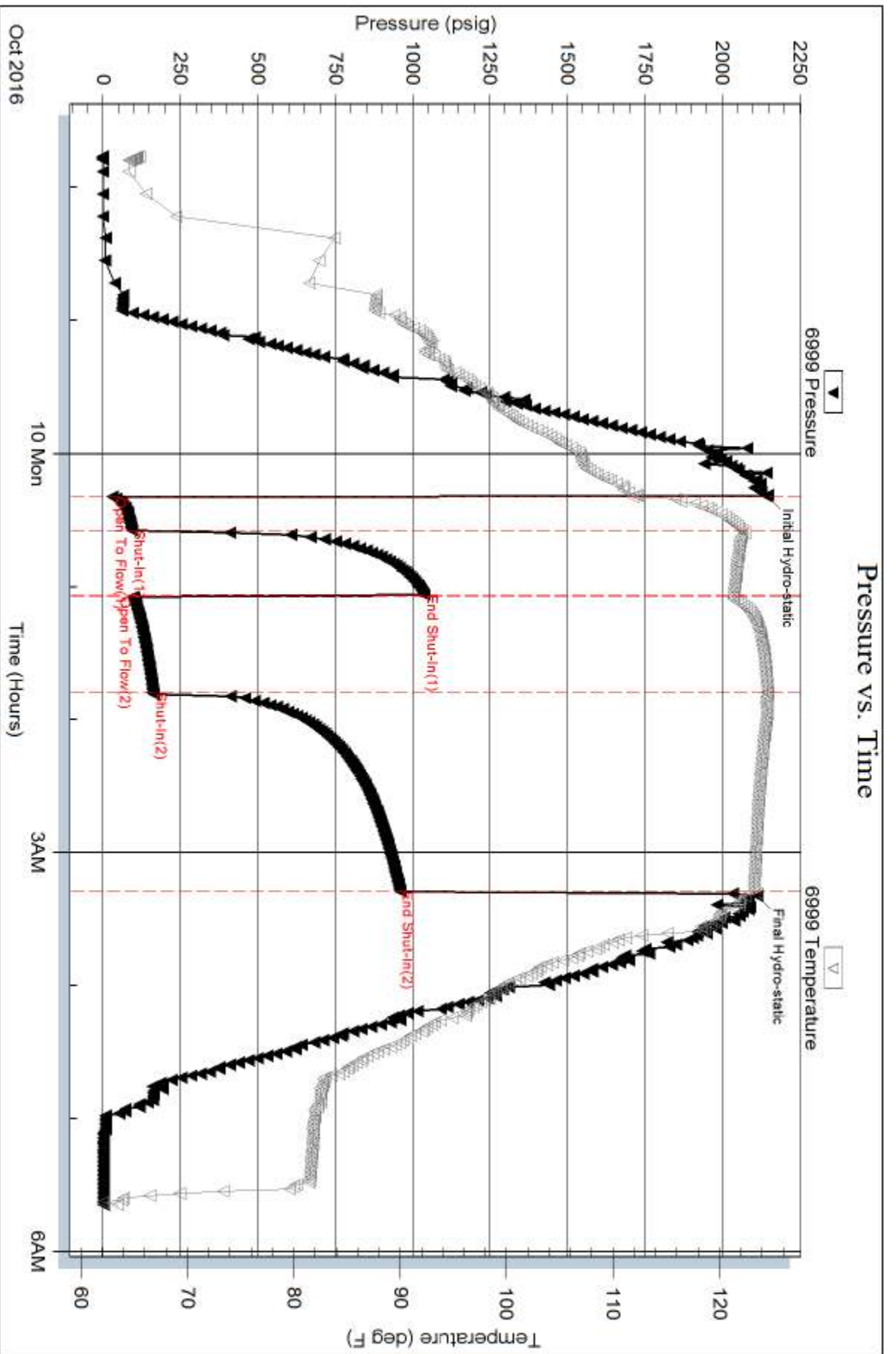
Num Gas Bombs: 0

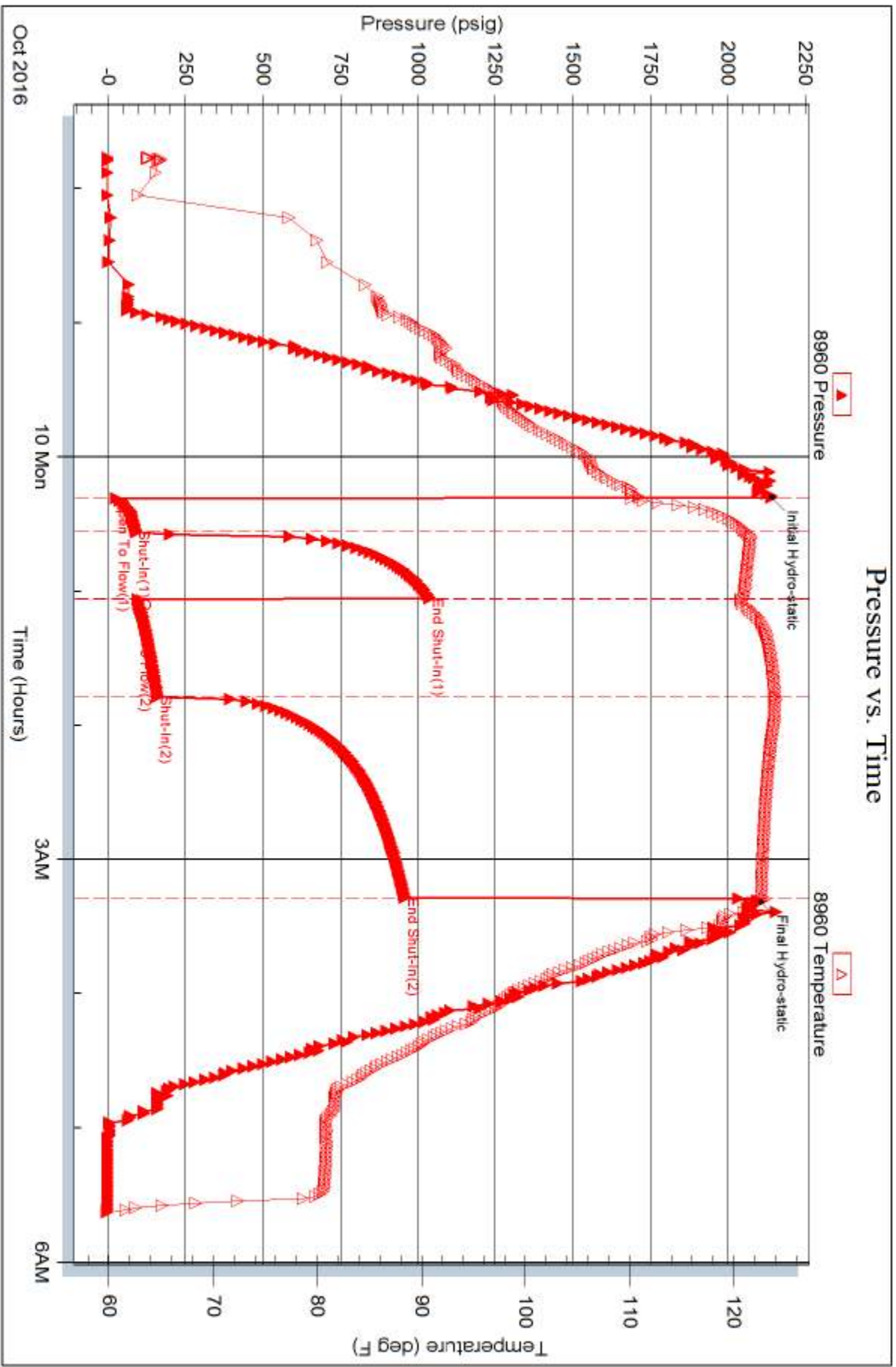
Serial #:

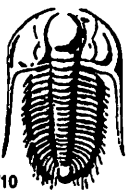
Laboratory Name:

Laboratory Location:

Recovery Comments: Recovery Resistivity .36 ohms @ 61 deg







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61931

Well Name & No. Rufenacht #2 Test No. 1 Date 9 OCT 16
 Company Stewart Producers Inc. Elevation 2368 KB 2361 GL
 Address 301 N 27th Street PO Box 546 Mt Vernon IL 62864+0546
 Co. Rep / Geo. Dave Goldak Rig WW Rig 12
 Location: Sec. 32 Twp. 17S Rge. 24W Co. Ness State KS

Interval Tested 4338-4355 Zone Tested Mississippi
 Anchor Length 17 Drill Pipe Run 4198 Mud Wt. 9.35
 Top Packer Depth 4333 Drill Collars Run 120 Vis 52
 Bottom Packer Depth 4338 Wt. Pipe Run — WL 9.6
 Total Depth 4355 Chlorides 6200 ppm System LCM 17F

Blow Description I.F. Blow built to 8 3/4 inches

I.S.I. no blow back

F.F. Blow built to bottom of bucket in 32 minutes

F.S.I. no blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>326</u>	<u>Muddy Water</u>			<u>90</u>	<u>10</u>
<u>15</u>	<u>Clean Oil</u>		<u>100</u>		

Rec Total 341 BHT 123 Gravity _____ API RW 36 @ 61 °F Chlorides 21,000 ppm

(A) Initial Hydrostatic 2143 Test 1150 T-On Location 8:02 pm
 (B) First Initial Flow 31 Jars 250 T-Started 9:46 pm
 (C) First Final Flow 92 Safety Joint 75 T-Open 12:19 am
 (D) Initial Shut-In 1037 Circ Sub _____ T-Pulled 3:19 am
 (E) Second Initial Flow 98 Hourly Standby _____ T-Out 5:38 am
 (F) Second Final Flow 161 Mileage 122 91.50
 (G) Final Shut-In 958 Sampler _____
 (H) Final Hydrostatic 2112 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1566.50

Comments _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1566.50
 MP/DST Disc't _____

Approved By [Signature]

Our Representative [Signature]

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