



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co.**

250 North Water Ste 300 Wichita KS 67202

ATTN: Chuck Schmaltz

KLS #1-35

35-22s-12w Stafford,KS

Start Date: 2014.08.19 @ 06:43:00

End Date: 2014.08.19 @ 14:02:30

Job Ticket #: 60309 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

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**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling Co.
250 North Water Ste 300 Wichita KS 67202
ATTN: Chuck Schmalz

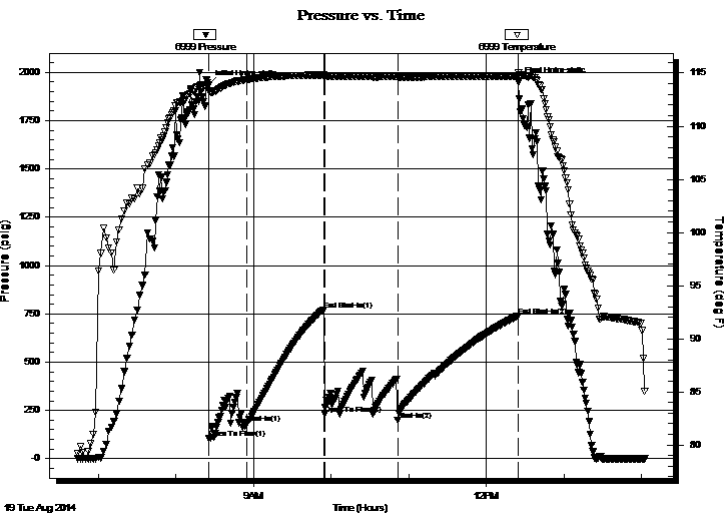
35-22s-12w Stafford,KS
KLS #1-35
Job Ticket: 60309 **DST#: 1**
Test Start: 2014.08.19 @ 06:43:00

GENERAL INFORMATION:

Formation: **Viola**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 08:25:30
Time Test Ended: 14:02:30
Interval: **3570.00 ft (KB) To 3712.00 ft (KB) (TVD)**
Total Depth: 3712.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Dustin Ellis
Unit No: 3315
Reference Elevations: 1842.00 ft (KB)
1831.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 6999 Inside
Press@RunDepth: 199.41 psig @ 3707.58 ft (KB) Capacity: 5000.00 psig
Start Date: 2014.08.19 End Date: 2014.08.19 Last Calib.: 2014.08.19
Start Time: 06:44:00 End Time: 14:02:30 Time On Btm: 2014.08.19 @ 08:25:00
Time Off Btm: 2014.08.19 @ 12:25:00

TEST COMMENT: IFP 30 Weak building blow built to 2"
ISI 60 No blow back.
FFP 60 Surge that died off.
FSI90 No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1938.35	113.82	Initial Hydro-static
1	103.51	113.34	Open To Flow (1)
30	184.97	114.38	Shut-In(1)
90	768.96	114.81	End Shut-In(1)
90	232.23	114.71	Open To Flow (2)
147	199.41	114.62	Shut-In(2)
240	738.77	114.71	End Shut-In(2)
240	1949.96	115.07	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
65.00	Mud 100%	0.32

Gas Rates

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



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Murfin Drilling Co.
 250 North Water Ste 300 Wichita KS 67202
 ATTN: Chuck Schmaltz

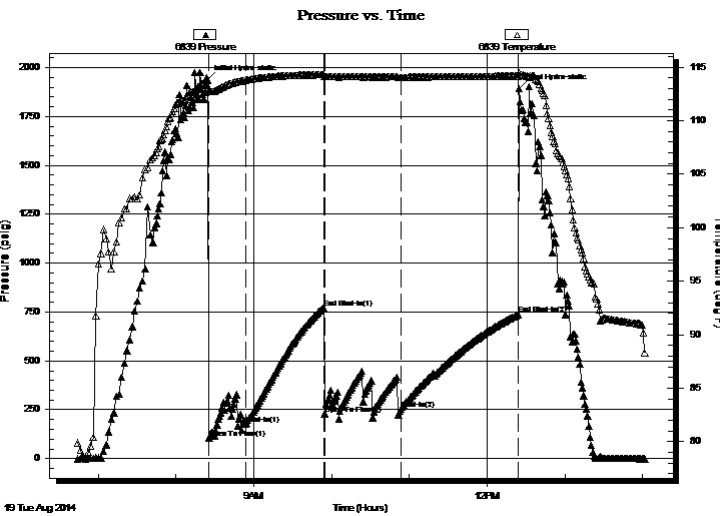
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 Tester: Dustin Ellis
 Unit No: 3315
 Reference Elevations: 1842.00 ft (KB)
 1831.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 6839 Outside
 Press@RunDepth: 737.63 psig @ 3707.58 ft (KB) Capacity: 5000.00 psig
 Start Date: 2014.08.19 End Date: 2014.08.19 Last Calib.: 2014.08.19
 Start Time: 06:44:00 End Time: 14:02:00 Time On Btm: 2014.08.19 @ 08:24:30
 Time Off Btm: 2014.08.19 @ 12:24:30

TEST COMMENT: IFP 30 Weak building blow built to 2"
 ISI 60 No blow back.
 FFP 60 Surge that died off.
 FSI90 No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1937.89	113.30	Initial Hydro-static
1	103.17	112.81	Open To Flow (1)
29	176.00	113.78	Shut-In(1)
90	769.24	114.28	End Shut-In(1)
90	229.68	114.13	Open To Flow (2)
149	254.06	114.05	Shut-In(2)
240	737.63	114.17	End Shut-In(2)
240	1892.93	114.51	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
65.00	Mud 100%	0.32

Gas Rates

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



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TESTING, INC**

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TOOL DIAGRAM

Murfin Drilling Co.

35-22s-12w Stafford,KS

250 North Water Ste 300 Wichita KS 67202

KLS #1-35

Job Ticket: 60309

DST#: 1

ATTN: Chuck Schmaltz

Test Start: 2014.08.19 @ 06:43:00

Tool Information

Drill Pipe:	Length: 3299.00 ft	Diameter: 3.80 inches	Volume: 46.28 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: 270.16 ft	Diameter: 2.25 inches	Volume: 1.33 bbl	Weight to Pull Loose: 88000.00 lb
			<u>Total Volume: 47.61 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	27.16 ft			String Weight: Initial 70000.00 lb
Depth to Top Packer:	3570.00 ft			Final 70000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	142.58 ft			
Tool Length:	170.58 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			3547.00	
Hydraulic tool	5.00			3552.00	
Jars	6.00			3558.00	
Safety Joint	2.00			3560.00	
Top Packer	5.00			3565.00	
Packer	5.00			3570.00	28.00 Bottom Of Top Packer
Anchor	5.00			3575.00	
Change Over Sub	0.75			3575.75	
Drill Pipe	127.08			3702.83	
Change Over Sub	0.75			3703.58	
Anchor	4.00			3707.58	
Recorder	0.00	6999	Inside	3707.58	
Recorder	0.00	6839	Outside	3707.58	
Bull Plug	5.00			3712.58	142.58 Anchor Tool

Total Tool Length: 170.58



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FLUID SUMMARY

Murfin Drilling Co.
250 North Water Ste 300 Wichita KS 67202
ATTN: Chuck Schmaltz

35-22s-12w Stafford,KS
KLS #1-35
Job Ticket: 60309 **DST#: 1**
Test Start: 2014.08.19 @ 06:43:00

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: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 11.98 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 11300.00 ppm			
Filter Cake: 1.00 inches			

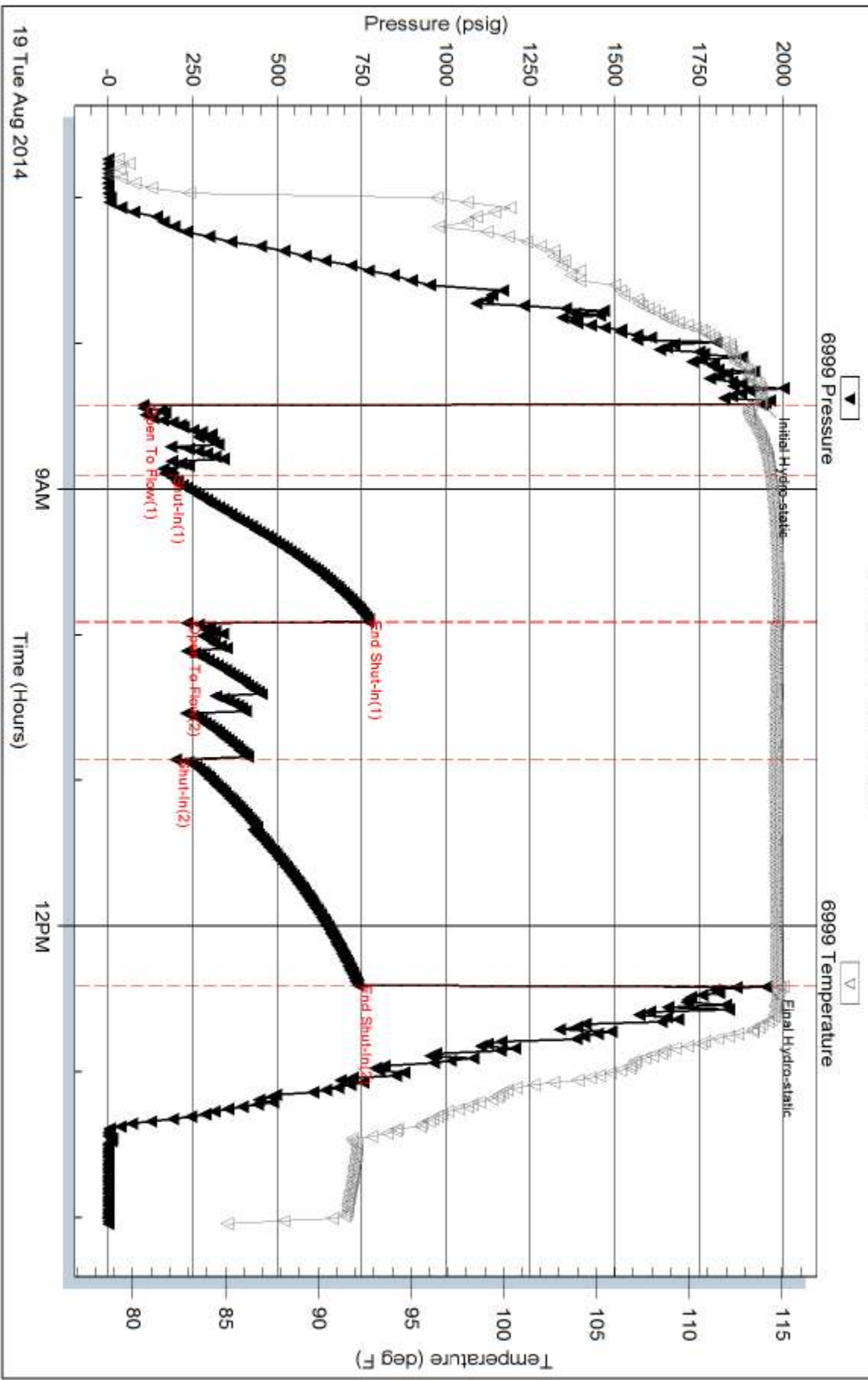
Recovery Information

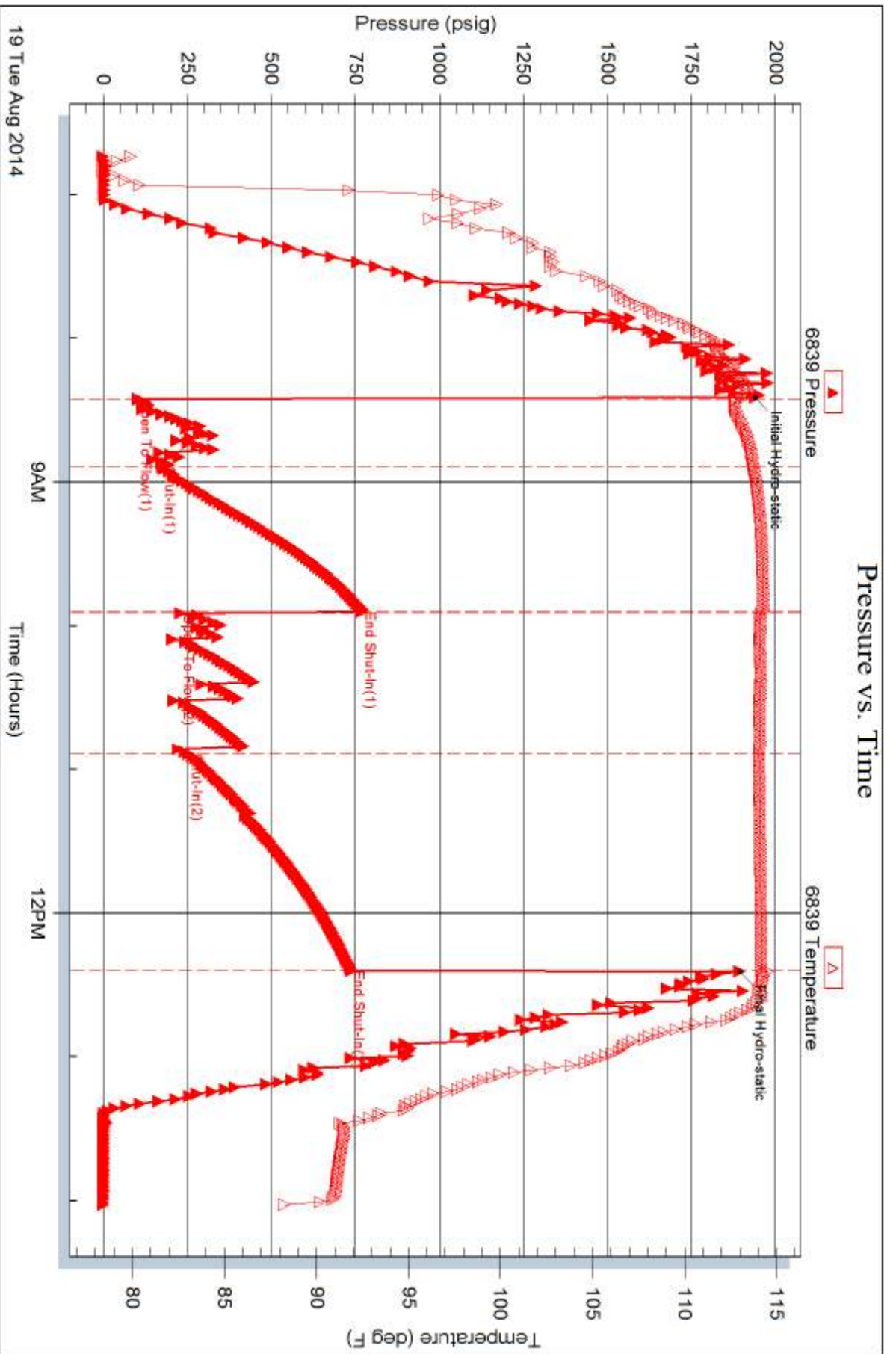
Recovery Table

Length ft	Description	Volume bbl
65.00	Mud 100%	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:

Pressure vs. Time







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 60309

Well Name & No. KLS 1-35 Test No. 1 Date 8-19-14
 Company Mulfin Drilling Co Inc Elevation 1842 KB 1831 GL
 Address 250 N Water St 300 Wichita Kansas 67202
 Co. Rep / Geo. Chuck Schmalz Rig Mulfin Rig 21
 Location: Sec. 35 Twp. 22s Rge. 12w Co. Stafford State KS

Interval Tested 3570 3712 Zone Tested Viola
 Anchor Length 142 Drill Pipe Run 3299 Mud Wt. 9.4
 Top Packer Depth 3565 Drill Collars Run 270.16 Vis 53
 Bottom Packer Depth 3570 Wt. Pipe Run 70,000 WL 12.0
 Total Depth 3712 Chlorides 11,300 ppm System LCM 1

Blow Description 1st open weak building blow built to 2 inches.
1st shut in - No blow back
2nd open - surge died off.
2nd shut in - No blow back.

Rec	Feet of	%gas	%oil	%water	%mud
<u>65</u>	<u>mud</u>			<u>100</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 _____ BHT _____ Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1938 Test 950 T-On Location 6:00am
 (B) First Initial Flow 103 Jars Yes 250 T-Started 6:50am
 (C) First Final Flow 184 Safety Joint Yes 75 T-Open 8:24am
 (D) Initial Shut-In 788 Circ Sub _____ T-Pulled 12:24p
 (E) Second Initial Flow 232 Hourly Standby — T-Out 2:05pm
 (F) Second Final Flow 199 Mileage 60 93 Comments _____
 (G) Final Shut-In 738 Sampler —
 (H) Final Hydrostatic 1949 Straddle — Ruined Shale Packer —

Initial Open 8:24am Shale Packer —
 Initial Shut-In 8:54am Extra Packer —
 Final Flow 9:54am Extra Recorder — Sub Total 0
 Final Shut-In 10:54 Day Standby — Total 1368
 Accessibility — MP/DST Disc't _____
 Sub Total 1368

Approved By _____ Our Representative Dustin Ellis

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