



## DRILL STEM TEST REPORT

Prepared For: **Palmer Oil**

3118 N Cummings Rd  
Garden City, KS 67846

ATTN: Wyatt Urdan

**Willis #23-5**

**23-32s-37w Stevens,KS**

Start Date: 2013.11.29 @ 18:36:02

End Date: 2013.11.30 @ 08:05:02

Job Ticket #: 54666                      DST #: 1

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

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**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

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ATTN: Wyatt Urdan

**23-32s-37w Stevens,KS**

**Willis #23-5**

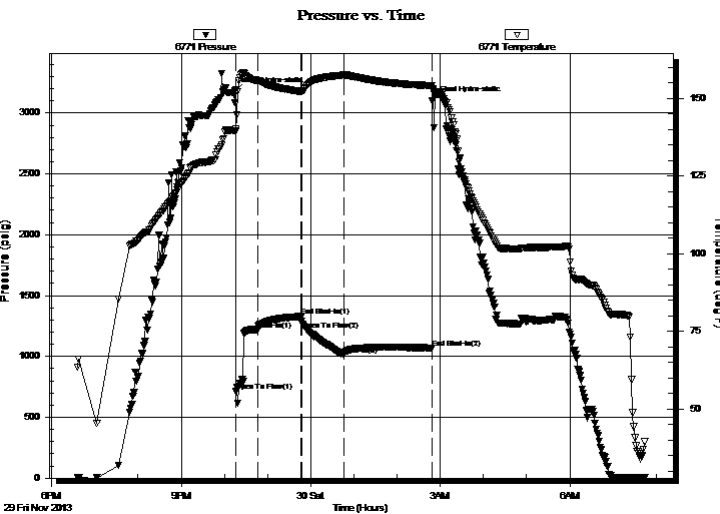
Job Ticket: 54666 **DST#: 1**  
Test Start: 2013.11.29 @ 18:36:02

## GENERAL INFORMATION:

Formation: **St Louis**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 22:16:02  
Time Test Ended: 08:05:02  
Interval: **6295.00 ft (KB) To 6375.00 ft (KB) (TVD)**  
Total Depth: 6375.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Poor  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Shane McBride  
Unit No: 55  
Reference Elevations: 3120.00 ft (KB)  
3109.00 ft (CF)  
KB to GR/CF: 11.00 ft

**Serial #: 6771 Inside**  
Press@RunDepth: 1010.90 psig @ 6296.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2013.11.29 End Date: 2013.11.30 Last Calib.: 2013.11.30  
Start Time: 18:36:02 End Time: 07:44:02 Time On Btm: 2013.11.29 @ 22:14:17  
Time Off Btm: 2013.11.30 @ 02:49:17

**TEST COMMENT:** Slide tool 40' to bottom B.O.B. @ open  
8" return blow  
B.O.B in 4 1/2 min. G.T.S. in 10 min to weak to gauge  
Bled off throughout shutin



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3179.02	139.68	Initial Hydro-static
2	711.90	139.45	Open To Flow (1)
32	1215.72	155.67	Shut-In(1)
93	1328.64	152.18	End Shut-In(1)
93	1292.46	152.17	Open To Flow (2)
152	1010.90	157.51	Shut-In(2)
275	1069.89	154.10	End Shut-In(2)
275	3100.11	153.18	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
126.00	under circ sub g m c o 20g 35m 45o	0.62
2394.00	c g o 25g 75o (reversed out)	33.02
126.00	c g o 20g 80o (dumped)	1.77
0.00	gas to surface 10min on 2nd flow	0.00
0.00	to weak to gauge	0.00

## Gas Rates

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





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**TOOL DIAGRAM**

Palmer Oil  
3118 N Cummings Rd  
Garden City, KS 67846  
ATTN: Wyatt Urdan

**23-32s-37w Stevens,KS**  
**Willis #23-5**  
Job Ticket: 54666 **DST#: 1**  
Test Start: 2013.11.29 @ 18:36:02

**Tool Information**

Drill Pipe:	Length: 6093.00 ft	Diameter: 3.80 inches	Volume: 85.47 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: 25000.00 lb
Drill Collar:	Length: 188.00 ft	Diameter: 2.25 inches	Volume: 0.92 bbl	Weight to Pull Loose: 130000.0 lb
			<u>Total Volume: 86.39 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 80000.00 lb
Depth to Top Packer:	6295.00 ft			Final 87000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	80.00 ft			
Tool Length:	108.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			6268.00	
Shut In Tool	5.00			6273.00	
Hydraulic tool	5.00			6278.00	
Jars	5.00			6283.00	
Safety Joint	3.00			6286.00	
Packer	5.00			6291.00	28.00 Bottom Of Top Packer
Packer	4.00			6295.00	
Stubb	1.00			6296.00	
Recorder	0.00	6771	Inside	6296.00	
Recorder	0.00	8844	Outside	6296.00	
Perforations	9.00			6305.00	
Change Over Sub	1.00			6306.00	
Drill Pipe	63.00			6369.00	
Change Over Sub	1.00			6370.00	
Bullnose	5.00			6375.00	80.00 Bottom Packers & Anchor

**Total Tool Length: 108.00**



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**FLUID SUMMARY**

Palmer Oil  
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Garden City, KS 67846  
ATTN: Wyatt Urdan

**23-32s-37w Stevens,KS**  
**Willis #23-5**  
Job Ticket: 54666      **DST#: 1**  
Test Start: 2013.11.29 @ 18:36:02

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 44 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 0 ppm
Viscosity: 48.00 sec/qt	Cushion Volume: bbl	
Water Loss: 7.19 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig	
Salinity: 2100.00 ppm		
Filter Cake: 1.00 inches		

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
126.00	under circ sub g m c o 20g 35m 45o	0.620
2394.00	c g o 25g 75o (reversed out )	33.017
126.00	c g o 20g 80o (dumped )	1.767
0.00	gas to surface 10min on 2nd flow	0.000
0.00	to weak to gauge	0.000

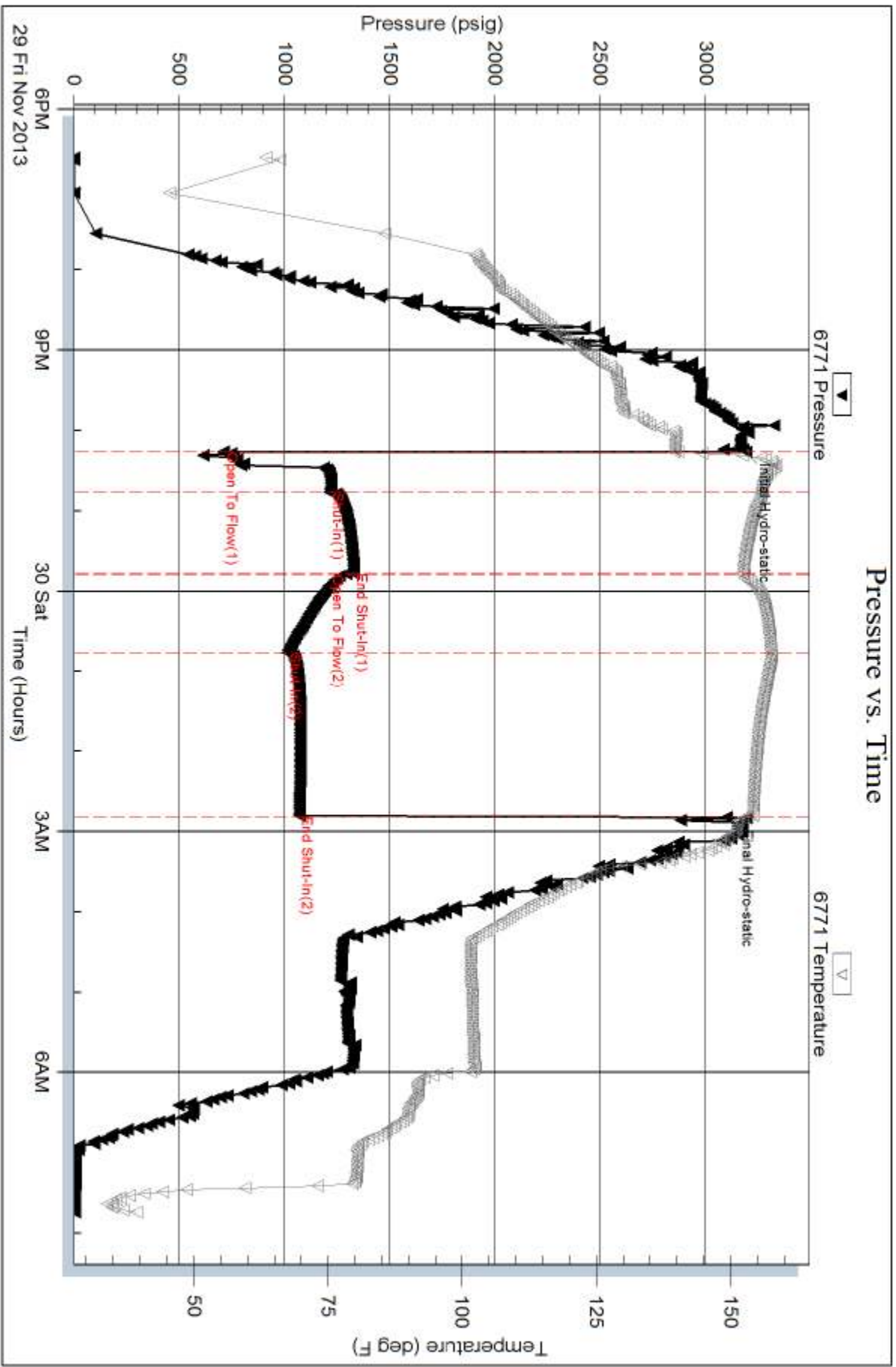
Total Length: 2646.00 ft      Total Volume: 35.404 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:

Serial #: 6771

Inside Palmer Oil

Wells #23-5

DST Test Number: 1

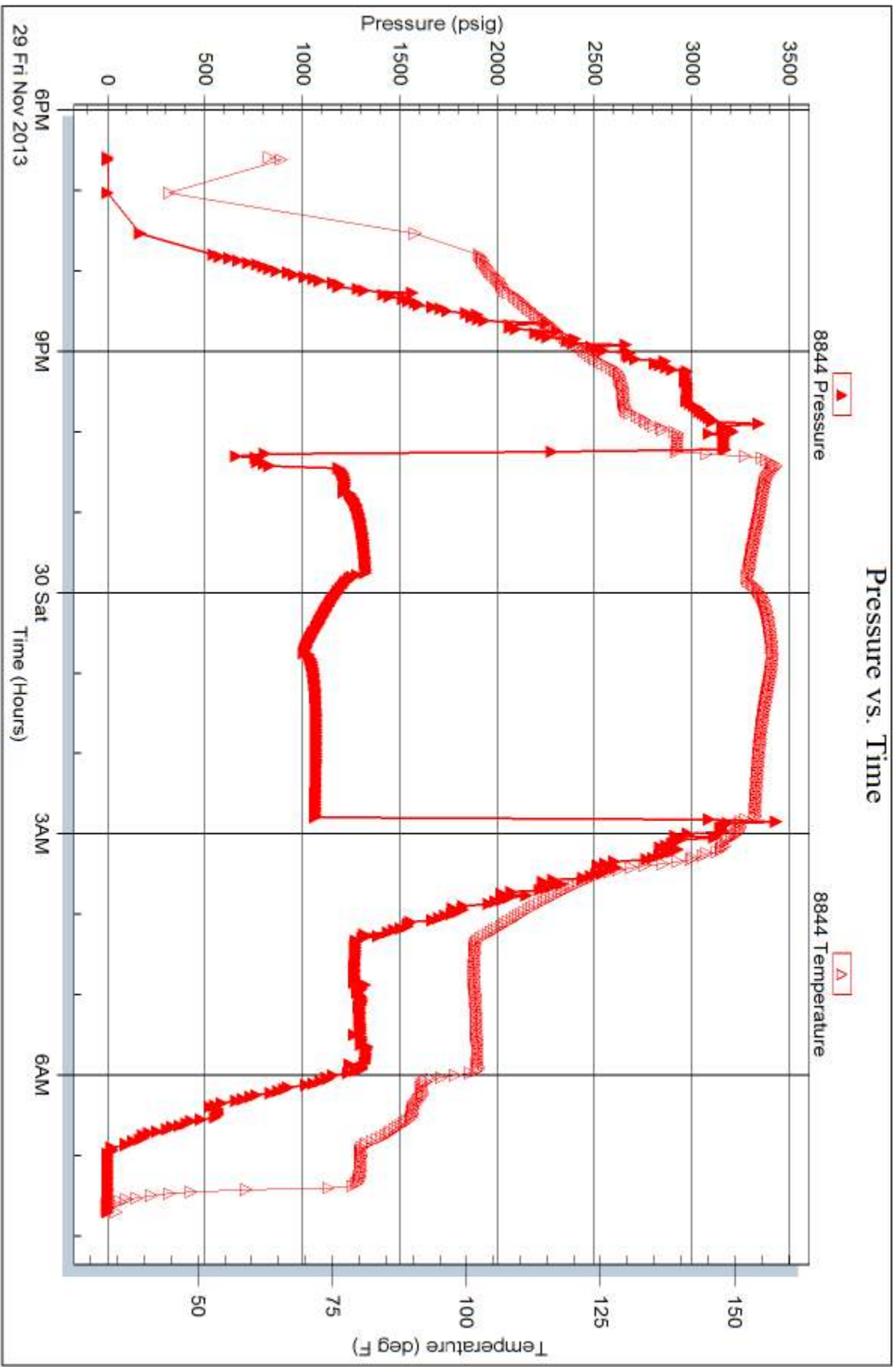


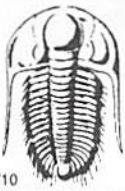
Serial #: 8844

Outside Palmer Oil

Wells #23-5

DST Test Number: 1





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 54666

Well Name & No. Willis # 23-5 Test No. #1 Date 11/30/13  
 Company Palmer Oil Inc. Elevation 3120 KB 3109 GL  
 Address 3118 N. Cummings Rd Garden City, KS 67846  
 Co. Rep / Geo. Wyatt Urban Rig Perke #9  
 Location: Sec. 23 Twp. 32 Rge. 37 Co. Stevens State KS

Interval Tested 6295 6375 Zone Tested St. Louis  
 Anchor Length 80 Drill Pipe Run 6093' Mud Wt. 9.3  
 Top Packer Depth 6290 Drill Collars Run 188' Vis 40  
 Bottom Packer Depth 6295 Wt. Pipe Run --- WL 7.2  
 Total Depth 6375 Chlorides 2100 ppm System LCM #2

Blow Description Slide tool 40' to bottom B.O.B. @ open  
8 in Return blow dried in 58 min.  
B.O.B. in 4 1/2 min. G.T.S. 10 min to weak to gauge  
Bled off throughout shut-in

Rec	Feet of	%gas	%oil	%water	%mud
<u>1250</u>	<u>CGO (Dumped)</u>	<u>20</u>	<u>80</u>		
<u>2394</u>	<u>CGO (Reversed out)</u>	<u>25</u>	<u>75</u>		
<u>1260'</u>	<u>SMCO (under line sub)</u>	<u>20</u>	<u>45</u>		<u>35</u>
	<u>Gas to surface 10 min on 2<sup>nd</sup> run</u>				
	<u>Flow to weak to gauge</u>				

Rec Total 26410 BHT 158° Gravity 44 API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic <u>3179</u>	<input checked="" type="checkbox"/> Test <u>1450</u>	T-On Location <u>17:10</u>
(B) First Initial Flow <u>711</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>18:35</u>
(C) First Final Flow <u>1215</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>22:15</u>
(D) Initial Shut-In <u>1328</u>	<input checked="" type="checkbox"/> Circ Sub <u>50<sup>cc</sup></u>	T-Pulled <u>02:45</u>
(E) Second Initial Flow <u>1292</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>08:05</u>
(F) Second Final Flow <u>1010</u>	<input checked="" type="checkbox"/> Mileage <u>204 RT</u> 316.20	Comments
(G) Final Shut-In <u>1069</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>3100</u>	<input type="checkbox"/> Straddle	

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 120

Ruined Shale Packer  
 Ruined Packer 320  
 Extra Copies  
 Sub Total 0  
 Total 2461.20  
 MP/DST Disc't

Approved By Wyatt Urban Our Representative [Signature]  
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