



DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Co., Inc.**

10500 E. Berkeley Sq. Pkwy
Suite 100
Wichita, KS 67206-6816

ATTN: Kitt Noah

Wilkinson #1-32

32-24S-3E Butler, KS

Start Date: 2019.04.07 @ 19:59:00

End Date: 2019.04.08 @ 03:03:09

Job Ticket #: 63939 DST #: 1

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

Printed: 2019.04.10 @ 10:18:15



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Hartman Oil Co., Inc.
10500 E. Berkeley Sq. Pkw y
Suite 100
Wichita, KS 67206-6816
ATTN: Kitt Noah

32-24S-3E Butler, KS

Wilkinson #1-32

Job Ticket: 63939

DST#: 1

Test Start: 2019.04.07 @ 19:59:00

GENERAL INFORMATION:

Formation: **Mississippian**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:42:30
 Time Test Ended: 03:03:09
 Interval: **2765.00 ft (KB) To 2782.00 ft (KB) (TVD)**
 Total Depth: 2782.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Jimmy Ricketts
 Unit No: 80
 Reference Elevations: 1356.00 ft (KB)
 1350.00 ft (CF)
 KB to GR/CF: 6.00 ft

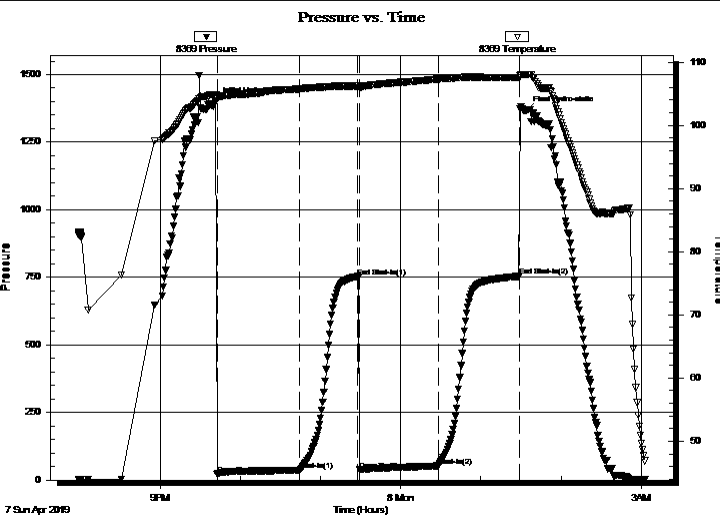
Serial #: 8369

Outside

Press@RunDepth: 52.91 psig @ 2766.00 ft (KB)
 Start Date: 2019.04.07 End Date: 2019.04.08
 Start Time: 19:59:01 End Time: 03:03:10

Capacity: 8000.00 psig
 Last Calib.: 2019.04.07
 Time On Btm: 2019.04.07 @ 21:42:00
 Time Off Btm: 2019.04.08 @ 01:34:20

TEST COMMENT: IF - Weak blow building to 8"
 FF - BOB in 48 minutes. Built to 14"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1399.75	104.87	Initial Hydro-static
1	21.00	104.30	Open To Flow (1)
63	35.82	105.77	Shut-In(1)
106	753.23	106.21	End Shut-In(1)
108	37.71	105.96	Open To Flow (2)
166	52.91	107.32	Shut-In(2)
227	753.85	107.58	End Shut-In(2)
233	1365.50	108.03	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	HOCM 43% O & 57% M	0.44
5.00	Clean oil 100% O	0.02
0.00	90' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Hartman Oil Co., Inc.

32-24S-3E Butler, KS

10500 E. Berkeley Sq. Pkwy
Suite 100
Wichita, KS 67206-6816
ATTN: Kitt Noah

Wilkinson #1-32

Job Ticket: 63939

DST#: 1

Test Start: 2019.04.07 @ 19:59:00

Tool Information

Drill Pipe:	Length: 2652.00 ft	Diameter: 3.80 inches	Volume: 37.20 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 57000.00 lb
			<u>Total Volume: 37.78 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	2765.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	17.00 ft			
Tool Length:	45.00 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			2738.00	
Shut In Tool	5.00			2743.00	
Hydraulic tool	5.00			2748.00	
Jars	5.00			2753.00	
Safety Joint	3.00			2756.00	
Packer	5.00			2761.00	28.00 Bottom Of Top Packer
Packer	4.00			2765.00	
Stubb	1.00			2766.00	
Recorder	0.00	8369	Outside	2766.00	
Recorder	0.00	8846	Inside	2766.00	
Perforations	11.00			2777.00	
Bullnose	5.00			2782.00	17.00 Bottom Packers & Anchor

Total Tool Length: 45.00



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TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Hartman Oil Co., Inc.

32-24S-3E Butler, KS

10500 E. Berkeley Sq. Pkw y
Suite 100
Wichita, KS 67206-6816
ATTN: Kitt Noah

Wilkinson #1-32

Job Ticket: 63939

DST#: 1

Test Start: 2019.04.07 @ 19:59:00

Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API: 40.3 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: ppm
Viscosity: 45.00 sec/qt	Cushion Volume: bbl	
Water Loss: 9.18 in ³	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 4500.00 ppm		
Filter Cake: inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	HOCM 43% O & 57% M	0.443
5.00	Clean oil 100% O	0.025
0.00	90' GIP	0.000

Total Length: 95.00 ft Total Volume: 0.468 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

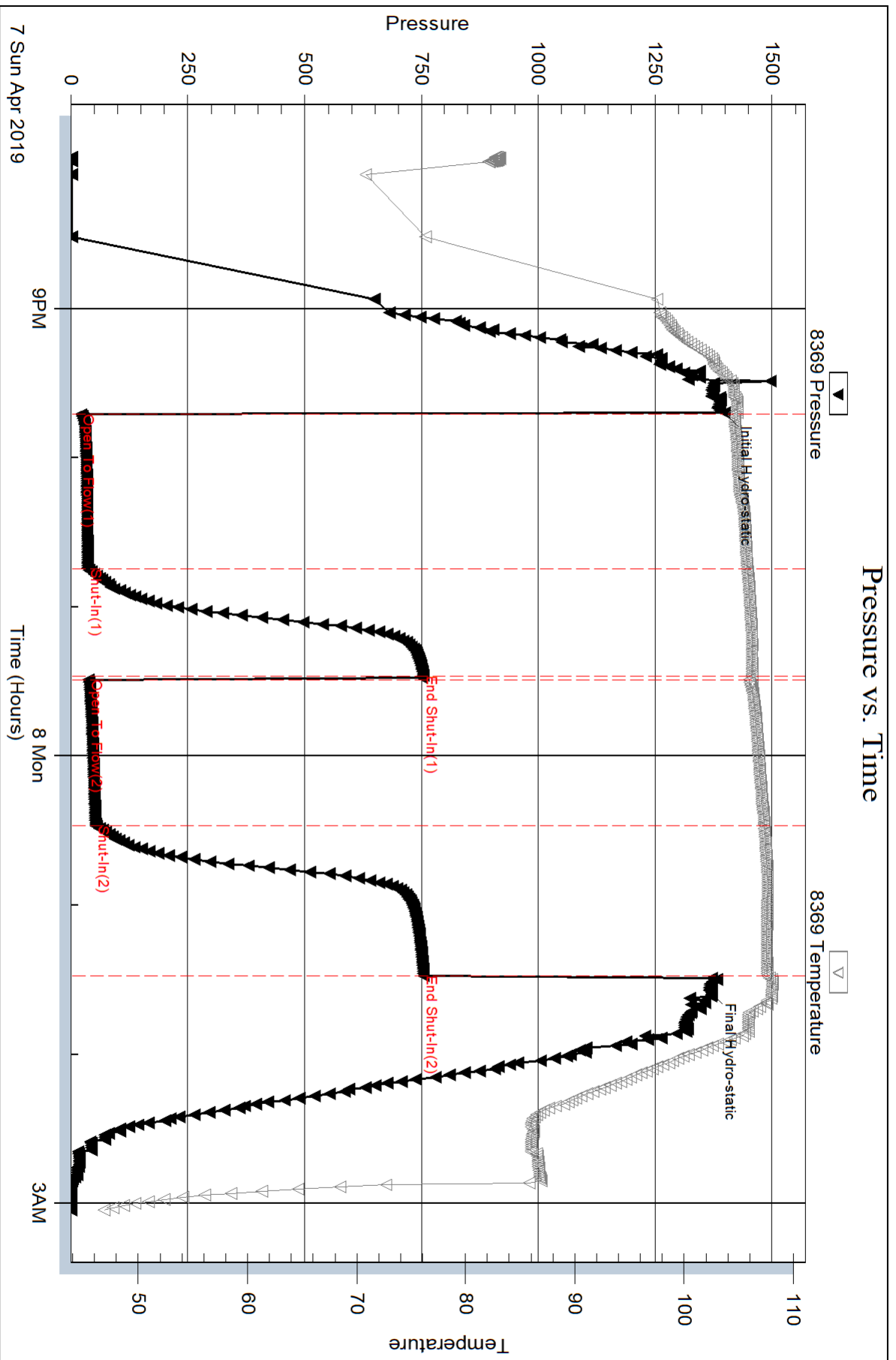
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



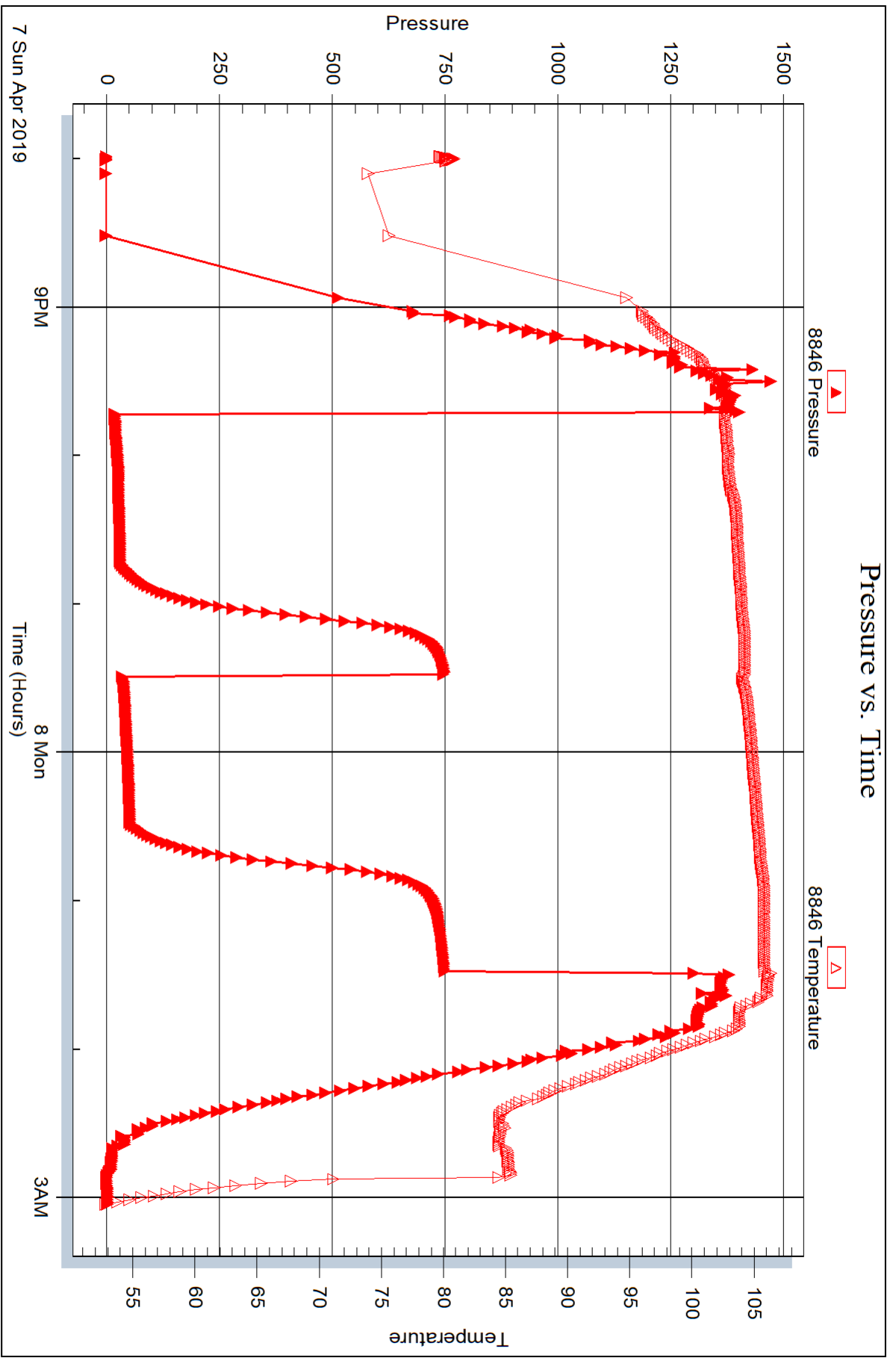
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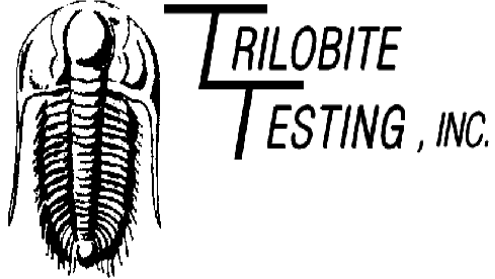
Inside

Hartman Oil Co., Inc.

Wilkinson #1-32

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Co., Inc.**

10500 E. Berkeley Sq. Pkwy
Suite 100
Wichita, KS 67206-6816

ATTN: Kitt Noah

Wilkinson #1-32

32-24S-3E Butler, KS

Start Date: 2019.04.08 @ 08:22:00

End Date: 2019.04.08 @ 14:39:09

Job Ticket #: 63940 DST #: 2

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

Printed: 2019.04.10 @ 10:17:43

Hartman Oil Co., Inc.
32-24S-3E Butler, KS
Wilkinson #1-32
DST # 2
Mississippian
2019.04.08



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Hartman Oil Co., Inc.
10500 E. Berkeley Sq. Pkw y
Suite 100
Wichita, KS 67206-6816
ATTN: Kitt Noah

32-24S-3E Butler, KS

Wilkinson #1-32

Job Ticket: 63940

DST#: 2

Test Start: 2019.04.08 @ 08:22:00

GENERAL INFORMATION:

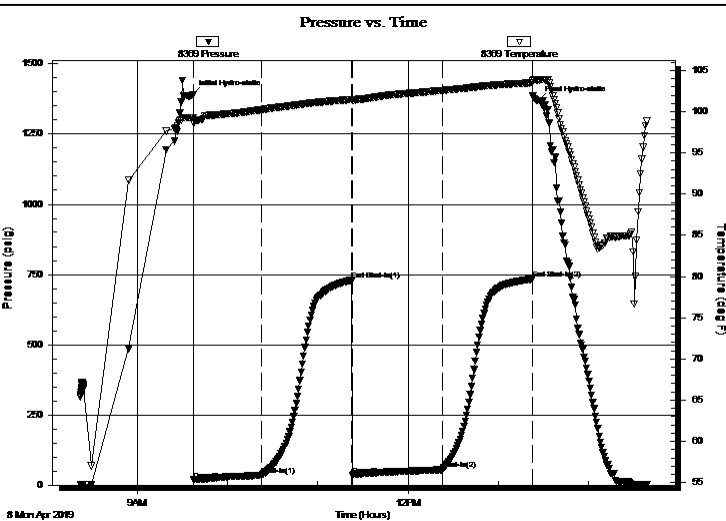
Formation: **Mississippian**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 09:37:20
 Time Test Ended: 14:39:09
 Interval: **2765.00 ft (KB) To 2787.00 ft (KB) (TVD)**
 Total Depth: 2787.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Jimmy Ricketts
 Unit No: 80
 Reference Elevations: 1356.00 ft (KB)
 1350.00 ft (CF)
 KB to GR/CF: 6.00 ft

Serial #: 8369

Outside

Press@RunDepth: 55.15 psig @ 2766.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2019.04.08 End Date: 2019.04.08 Last Calib.: 2019.04.08
 Start Time: 08:22:01 End Time: 14:39:10 Time On Btm: 2019.04.08 @ 09:36:40
 Time Off Btm: 2019.04.08 @ 13:26:39

TEST COMMENT: IF - Weak blow building to 6"
 FF - BOB in 45 minutes. Built to 14"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1389.60	99.27	Initial Hydro-static
1	18.24	98.59	Open To Flow (1)
46	34.91	100.22	Shut-In(1)
106	729.28	101.47	End Shut-In(1)
107	34.59	101.31	Open To Flow (2)
166	55.15	102.58	Shut-In(2)
226	733.76	103.51	End Shut-In(2)
230	1368.75	103.84	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
85.00	GHOCM 4% G 31% O & 65% M	0.42
0.00	80' GIP	0.00

Gas Rates

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



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TOOL DIAGRAM

Hartman Oil Co., Inc.

32-24S-3E Butler, KS

10500 E. Berkeley Sq. Pkwy
Suite 100
Wichita, KS 67206-6816
ATTN: Kitt Noah

Wilkinson #1-32

Job Ticket: 63940

DST#: 2

Test Start: 2019.04.08 @ 08:22:00

Tool Information

Drill Pipe:	Length: 2652.00 ft	Diameter: 3.80 inches	Volume: 37.20 bbl	Tool Weight: 2400.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 26000.00 lb
Drill Collar:	Length: 118.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose: 50000.00 lb
			<u>Total Volume: 37.78 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	2765.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	50.00 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			2738.00	
Shut In Tool	5.00			2743.00	
Hydraulic tool	5.00			2748.00	
Jars	5.00			2753.00	
Safety Joint	3.00			2756.00	
Packer	5.00			2761.00	28.00 Bottom Of Top Packer
Packer	4.00			2765.00	
Stubb	1.00			2766.00	
Recorder	0.00	8369	Outside	2766.00	
Recorder	0.00	8846	Inside	2766.00	
Perforations	16.00			2782.00	
Bullnose	5.00			2787.00	22.00 Bottom Packers & Anchor

Total Tool Length: 50.00



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FLUID SUMMARY

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32-24S-3E Butler, KS

10500 E. Berkeley Sq. Pkw y
Suite 100
Wichita, KS 67206-6816
ATTN: Kitt Noah

Wilkinson #1-32

Job Ticket: 63940

DST#: 2

Test Start: 2019.04.08 @ 08:22:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 10.00 lb/gal

Viscosity: 46.00 sec/qt

Water Loss: 9.98 in³

Resistivity: ohm.m

Salinity: 3000.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
85.00	GHOCM 4% G 31% O & 65% M	0.418
0.00	80' GIP	0.000

Total Length: 85.00 ft Total Volume: 0.418 bbl

Num Fluid Samples: 0

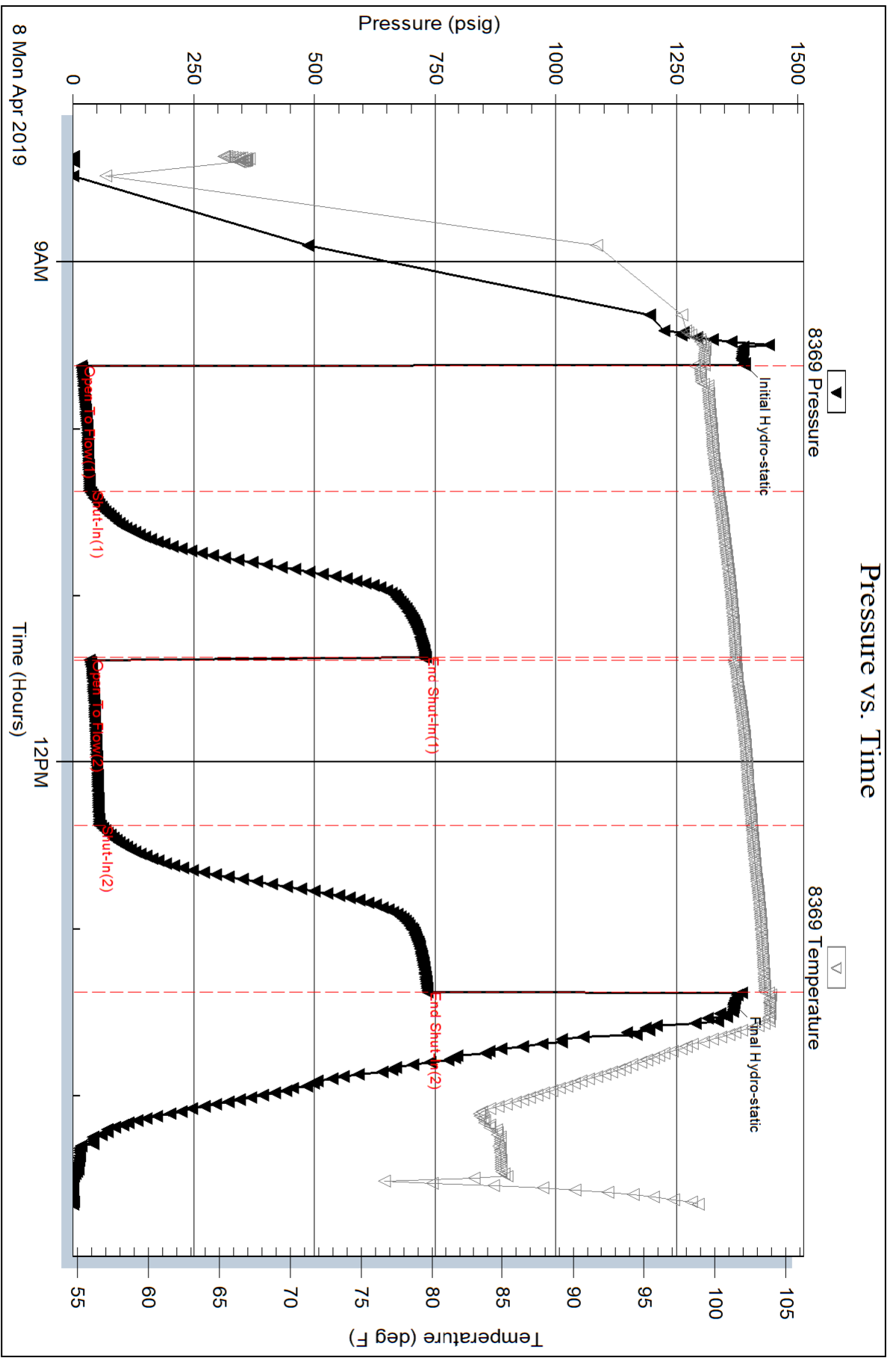
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



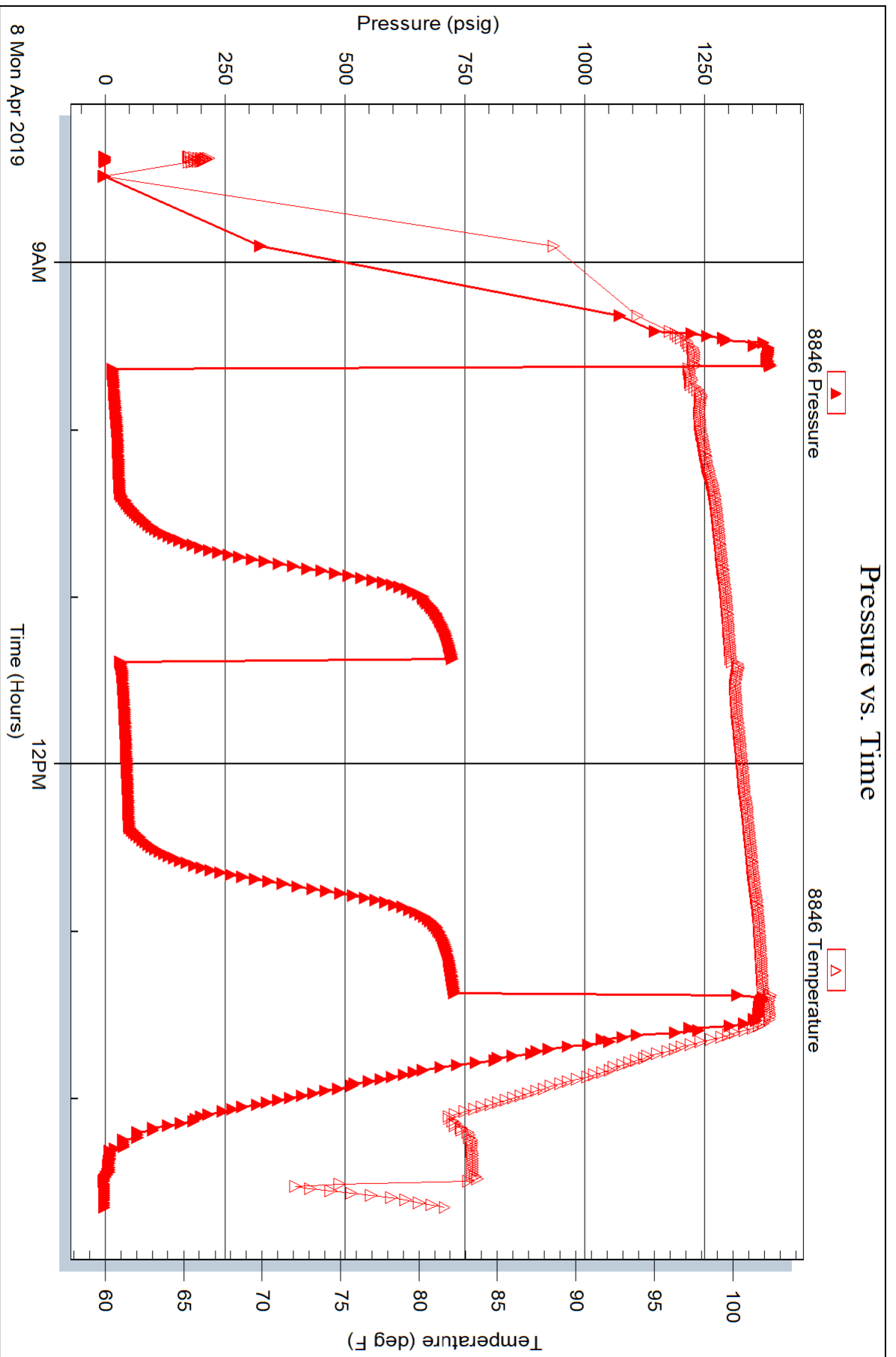
Serial #: 8846

Inside

Hartman Oil Co., Inc.

Wilkinson #1-32

DST Test Number: 2





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63939

Well Name & No. Wilkinson # ~~102~~ 1-32 Test No. 1 Date 4-7-19
 Company Hartman Oil Co., Inc. Elevation 1356 KB 1350 GL
 Address 10500 E. Berkeley Sq. Pkwy, Suite 100, Wichita, KS 67206-6810
 Co. Rep / Geo. Corey Stucky / Kitt Noah Rig WW Drilling #4
 Location: Sec. 32 Twp 24S Rge. 3 E Co. Butler State KS

Interval Tested 2765 - 2782 Zone Tested Mississippian
 Anchor Length 17' Drill Pipe Run 2652 Mud Wt. 9.4
 Top Packer Depth 2760 Drill Collars Run 118 Vis 45
 Bottom Packer Depth 2765 Wt. Pipe Run 0 WL 9.2
 Total Depth 2782 Chlorides 4500 ppm System LCM

Blow Description IF-Weak blow building to 8 inches IFP
FF-Weak blow building to strong blow 48 min into FFP.
continuing to build to 14 inches FFP

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>Heavy oil cut mud</u>	<u>43</u>	<u>57</u>	<u>0</u>	<u>0</u>
<u>5</u>	<u>Clean oil</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>90</u>	<u>Gas in pipe</u>	<u>100</u>	<u>0</u>	<u>0</u>	<u>0</u>

Rec Total 95 BHT 108 Gravity 40.3 API RW @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1400</u>	<input checked="" type="checkbox"/> Test 1200	T-On Location <u>1845</u>
(B) First Initial Flow <u>21</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>1959</u>
(C) First Final Flow <u>36</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>2143</u>
(D) Initial Shut-In <u>753</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>0128</u>
(E) Second Initial Flow <u>38</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0300</u>
(F) Second Final Flow <u>53</u>	<input checked="" type="checkbox"/> Mileage <u>208rt RT 64</u>	Comments _____
(G) Final Shut-In <u>754</u>	<input type="checkbox"/> Sampler	_____
(H) Final Hydrostatic <u>1366</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input checked="" type="checkbox"/> Shale Packer 250	<input type="checkbox"/> Ruined Packer
Initial Open <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>1983</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>1983</u>	

Approved By _____ Our Representative Jimmy Nichols
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRIBOLITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 63940

Well Name & No. Wilkinson # 1-32 Test No. 2 Date 4-8-19
 Company Hartman Oil Co., Inc. Elevation 1356 KB 1350 GL
 Address 10500 E. Berkeley Sq. Pkwy, Suite 100, Wichita, KS 67206-686
 Co. Rep / Geo. Corey Stucky / Kitt Noah Rig Ww Drilling #4
 Location: Sec. 32 Twp 24S Rge. 3E Co. Butler State KS

Interval Tested 2765-2787 Zone Tested Mississippian
 Anchor Length 22' Drill Pipe Run 2652 Mud Wt. 9.5
 Top Packer Depth 2760 Drill Collars Run 118 Vis 46
 Bottom Packer Depth 2765 Wt. Pipe Run 0 WL 10.0
 Total Depth 2787 Chlorides 3000 ppm System LCM
 Blow Description IF-weak blow building to 6 inches IFP
FF-weak blow building to strong blow 45 mins. into FFF.
Continuing to build to 14 inches

Rec	Feet of	%gas	%oil	%water	%mud
<u>85</u>	<u>Gassy Heavy oil cut mud</u>	<u>4</u>	<u>31</u>	<u>65</u>	
<u>80</u>	<u>Gas in pipe</u>	<u>100</u>			

Rec Total 85 BHT 104 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1390</u>	<input checked="" type="checkbox"/> Test <u>1200</u>	T-On Location <u>0805</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0822</u>
(C) First Final Flow <u>35</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0938</u>
(D) Initial Shut-In <u>729</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>1323</u>
(E) Second Initial Flow <u>35</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>1430</u>
(F) Second Final Flow <u>55</u>	<input checked="" type="checkbox"/> Mileage <u>128</u> <u>RT64</u>	Comments _____
(G) Final Shut-In <u>734</u>	<input type="checkbox"/> Sampler _____	<u>Loaded tools 4/10 00:20</u>
(H) Final Hydrostatic <u>1369</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Open <u>45</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby _____	Total <u>1903</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1903</u>	

Approved By _____ Our Representative Jimmy Dickette
 Tribolite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.