

## DRILL STEM TEST REPORT

Prepared For: **Diehl Oil Inc.**

PO Box 234  
Hays KS 67601

ATTN: Roger Moses

**Rome A #4**

**22-13S-17W Ellis,KS**

Start Date: 2019.11.11 @ 01:25:00

End Date: 2019.11.11 @ 08:36:15

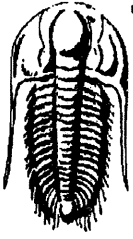
Job Ticket #: 66328                      DST #: 1

Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.11.12 @ 16:17:53



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Diehl Oil Inc.  
 PO Box 234  
 Hays KS 67601  
 ATTN: Roger Moses

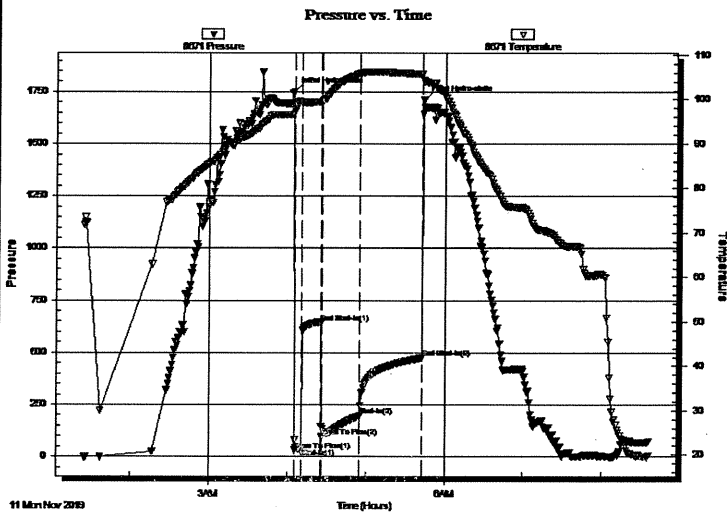
**22-13S-17W Ellis, KS**  
**Rome A #4**  
 Job Ticket: 66328      **DST#: 1**  
 Test Start: 2019.11.11 @ 01:25:00

## GENERAL INFORMATION:

Formation: **Arbuckle**  
 Deviated: No      Whipstock:      ft (KB)  
 Time Tool Opened: 04:05:15  
 Time Test Ended: 08:36:15  
 Interval: **3508.00 ft (KB) To 3555.00 ft (KB) (TVD)**  
 Total Depth: 3555.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches      Hole Condition: Fair  
 Reference Elevations: 1983.00 ft (KB)  
 1973.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 8671      Outside**  
 Press@RunDepth: 197.19 psig @ 3509.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2019.11.11      End Date: 2019.11.11      Last Calib.: 2019.11.11  
 Start Time: 01:25:05      End Time: 08:36:14      Time On Btm: 2019.11.11 @ 04:04:45  
 Time Off Btm: 2019.11.11 @ 05:44:00

**TEST COMMENT:** 5 - IFP - Surface blow built up to 7"  
 15 - ISI - No Return  
 30 - Surface blow built to B.o.B. in 3 mins.  
 45 - Faint return started in 5 mins. and built to 1"



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1749.14	96.71	Initial Hydro-static
1	31.60	97.14	Open To Flow (1)
6	39.53	99.32	Shut-In(1)
21	644.93	99.49	End Shut-In(1)
22	94.94	99.55	Open To Flow (2)
51	197.19	105.80	Shut-In(2)
99	474.98	105.67	End Shut-In(2)
100	1709.67	104.05	Final Hydro-static

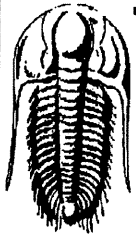
## Recovery

Length (ft)	Description	Volume (bbl)
126.00	OCMW - 10%o - 5%m - 85%w	1.29
189.00	Free Oil - 100%o	1.94
128.00	OCM - 20%o - 80%m	1.31

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Diehl Oil Inc.

**22-13S-17W Ellis,KS**

PO Box 234  
Hays KS 67601

**Rome A #4**

Job Ticket: 66328

**DST#: 1**

ATTN: Roger Moses

Test Start: 2019.11.11 @ 01:25:00

## Tool Information

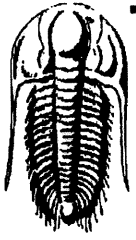
Drill Pipe:	Length: 3497.00 ft	Diameter: 3.25 inches	Volume: 35.88 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 52000.00 lb
			<u>Total Volume: 35.88 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3508.00 ft			Final 44000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	47.00 ft			
Tool Length:	73.00 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			3487.00	
Hydraulic tool	5.00			3492.00	
EM Tool	3.00			3495.00	
Safety Joint	3.00			3498.00	
Packer	5.00			3503.00	26.00 Bottom Of Top Packer
Packer	5.00			3508.00	
Stubb	1.00			3509.00	
Recorder	0.00	8360	Inside	3509.00	
Recorder	0.00	8671	Outside	3509.00	
Perforations	10.00			3519.00	
Change Over Sub	1.00			3520.00	
Drill Pipe	31.00			3551.00	
Change Over Sub	1.00			3552.00	
Bullnose	3.00			3555.00	47.00 Bottom Packers & Anchor

**Total Tool Length: 73.00**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Diehl Oil Inc.  
PO Box 234  
Hays KS 67601  
  
ATTN: Roger Moses

**22-13S-17W Ellis,KS**  
  
**Rome A #4**  
Job Ticket: 66328      **DST#: 1**  
Test Start: 2019.11.11 @ 01:25:00

**Mud and Cushion Information**

Mud Type: Gel Chem	Cushion Type:	Oil API: 31 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 36000 ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl	
Water Loss: 8.78 in <sup>3</sup>	Gas Cushion Type:	
Resistivity: ohm.m	Gas Cushion Pressure: psig	
Salinity: 4000.00 ppm		
Filter Cake: 1.00 inches		

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
126.00	OCMW - 10%o - 5%m - 85%w	1.293
189.00	Free Oil - 100%o	1.939
128.00	OCM - 20%o - 80%m	1.313

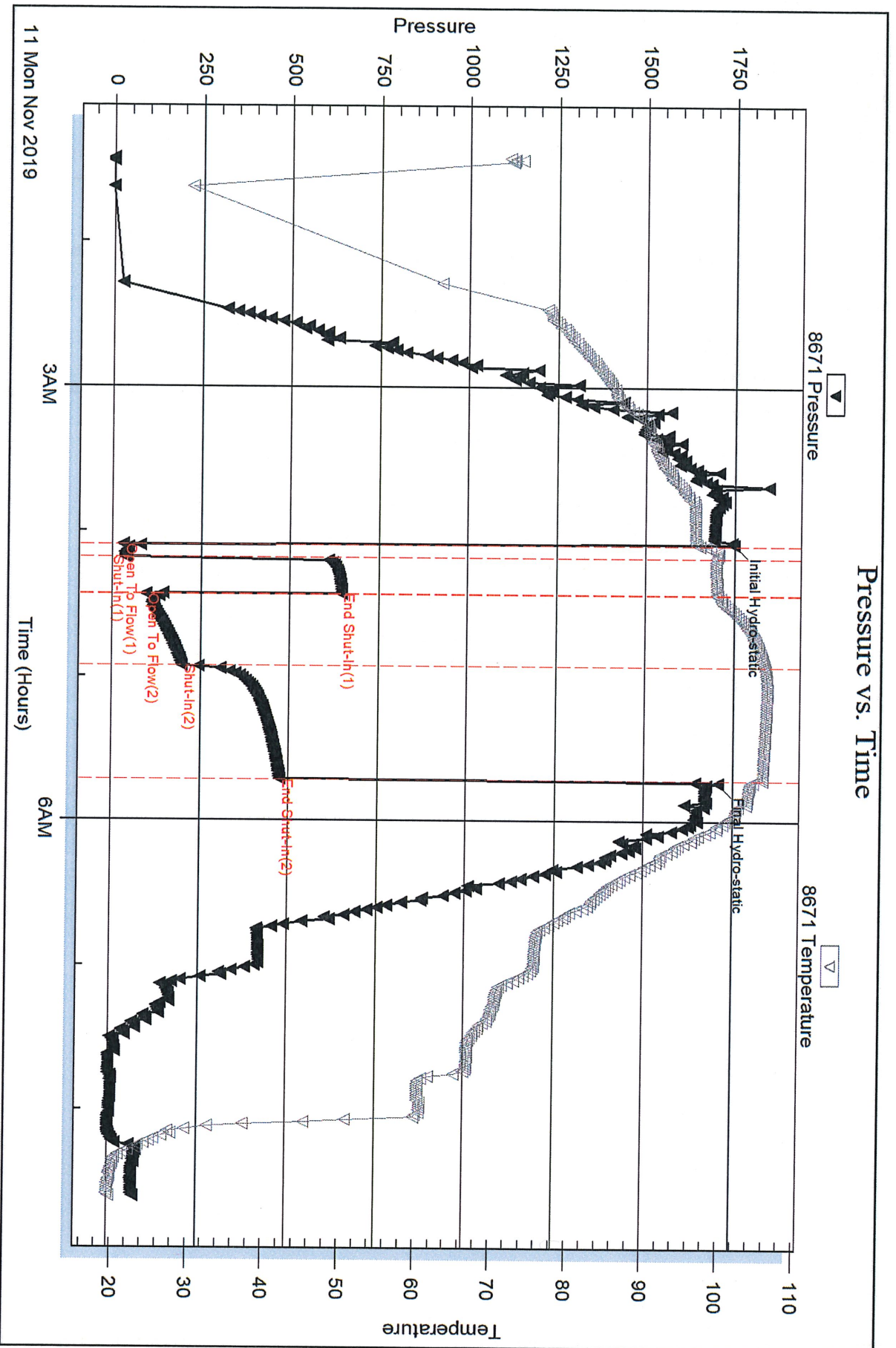
Total Length: 443.00 ft      Total Volume: 4.545 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: Salinity - .601@22 deg.

Serial #: 8671

Outside Diehl Oil Inc.

Rome A #4

DST Test Number: 1



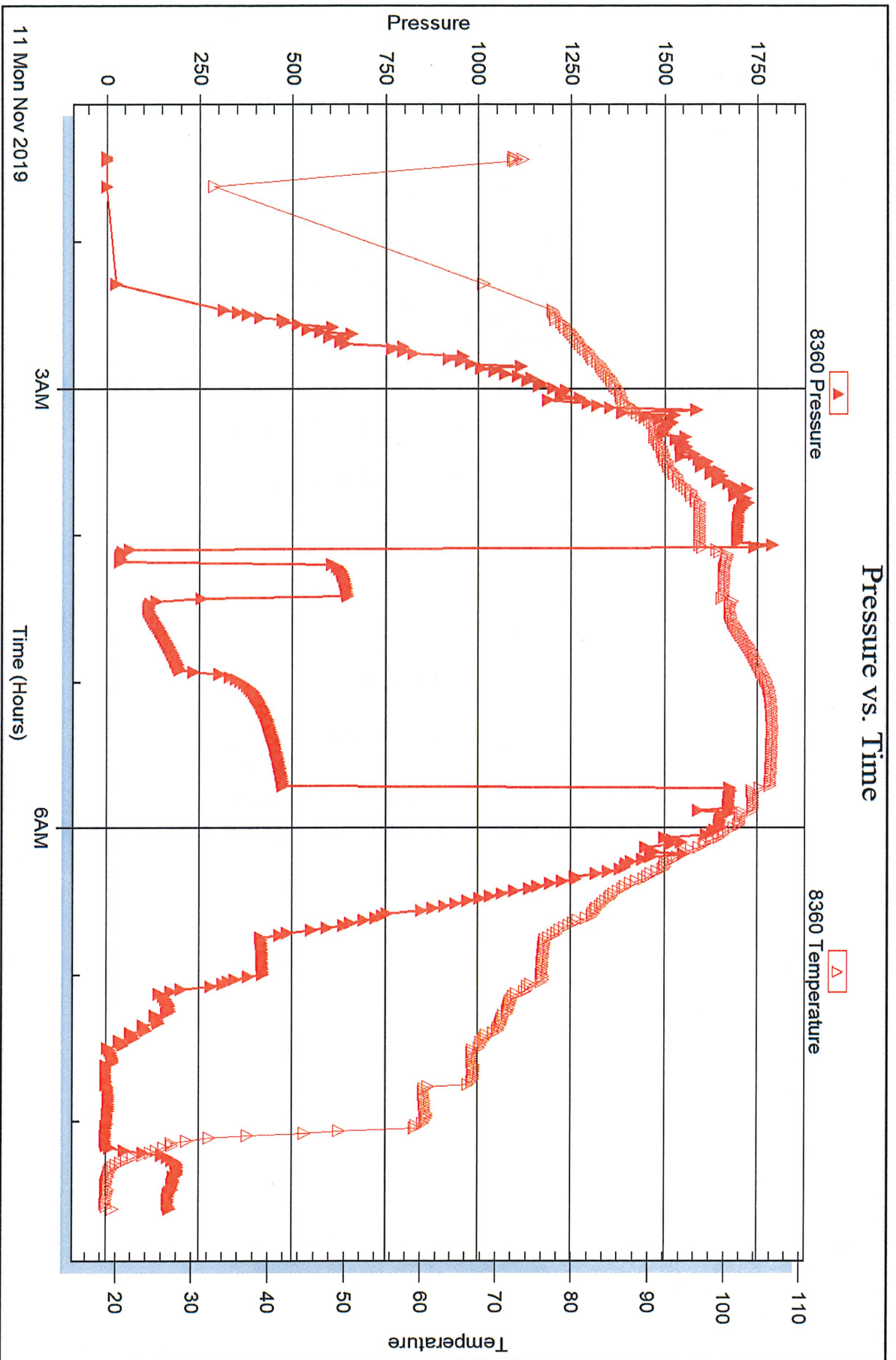
Serial #: 8360

Inside

Diethl Oil Inc.

Rome A #4

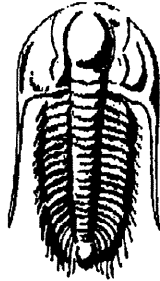
DST Test Number: 1



Tribolite Testing, Inc

Ref. No: 66328

Printed: 2019.11.12 @ 16:17:55



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Diehl Oil Inc.**

PO Box 234  
Hays KS 67601

ATTN: Roger Moses

**Rome A #4**

**22-13S-17W Ellis,KS**

Start Date: 2019.11.11 @ 15:39:00

End Date: 2019.11.11 @ 21:58:15

Job Ticket #: 66329                      DST #: 2

Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2019.11.12 @ 16:17:25





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Diehl Oil Inc.  
PO Box 234  
Hays KS 67601  
ATTN: Roger Moses

**22-13S-17W Ellis,KS**  
**Rome A #4**  
Job Ticket: 66329      **DST#: 2**  
Test Start: 2019.11.11 @ 15:39:00

## GENERAL INFORMATION:

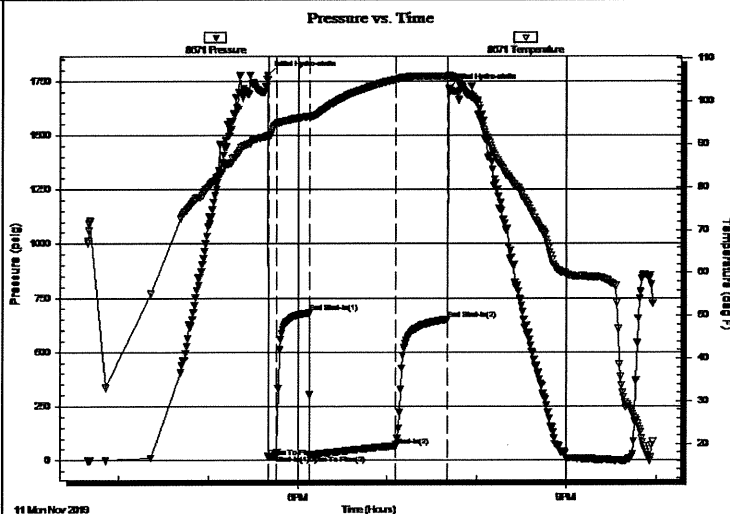
Formation: **Arbuckle**  
 Deviated: No      Whipstock:      ft (KB)  
 Time Tool Opened: 17:39:45  
 Time Test Ended: 21:58:15  
 Interval: **3555.00 ft (KB) To 3567.00 ft (KB) (TVD)**  
 Total Depth: 3567.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches      Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Royal Fisher  
 Unit No: 77  
 Reference Elevations: 1983.00 ft (KB)  
 1973.00 ft (CF)  
 KB to GR/CF: 10.00 ft

## Serial #: 8671

**Outside**

Press@RunDepth: 66.69 psig @ 3556.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2019.11.11      End Date: 2019.11.11      Last Calib.: 2019.11.11  
 Start Time: 15:39:05      End Time: 21:58:14      Time On Btm: 2019.11.11 @ 17:39:30  
 Time Off Btm: 2019.11.11 @ 19:41:15

TEST COMMENT: 5 - IFP - Surface blow built up to 2"  
 20 - ISI - No Return  
 60 - FFP - Surface blow built up to 7"  
 30 - FSI - No Return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1776.09	91.97	Initial Hydro-static
1	17.26	91.45	Open To Flow (1)
6	22.47	94.73	Shut-In(1)
28	681.56	96.50	End Shut-In(1)
29	24.06	96.31	Open To Flow (2)
87	66.69	105.12	Shut-In(2)
122	651.80	105.76	End Shut-In(2)
122	1714.72	106.12	Final Hydro-static

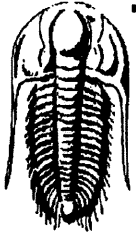
## Recovery

Length (ft)	Description	Volume (bbl)
63.00	OCMW - 40%o - 10%m - 50%w	0.65
50.00	OCMW - 50%o - 10%m - 40%w	0.51

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Diehl Oil Inc.  
PO Box 234  
Hays KS 67601  
  
ATTN: Roger Moses

**22-13S-17W Ellis,KS**  
  
**Rome A #4**  
Job Ticket: 66329      **DST#: 2**  
  
Test Start: 2019.11.11 @ 15:39:00

### Tool Information

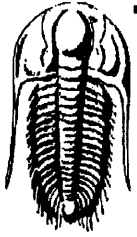
Drill Pipe:	Length: 3560.00 ft	Diameter: 3.25 inches	Volume: 36.53 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	42000.00 lb
			<u>Total Volume: 36.53 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial	40000.00 lb
Depth to Top Packer:	3555.00 ft			Final	40000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	12.00 ft				
Tool Length:	38.00 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			3534.00	
Hydraulic tool	5.00			3539.00	
EM Tool	3.00			3542.00	
Safety Joint	3.00			3545.00	
Packer	5.00			3550.00	26.00      Bottom Of Top Packer
Packer	5.00			3555.00	
Stubb	1.00			3556.00	
Recorder	0.00	8360	Inside	3556.00	
Recorder	0.00	8671	Outside	3556.00	
Perforations	8.00			3564.00	
Bullnose	3.00			3567.00	12.00      Bottom Packers & Anchor

**Total Tool Length: 38.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Diehl Oil Inc.

**22-13S-17W Ellis,KS**

PO Box 234  
Hays KS 67601

**Rome A #4**

Job Ticket: 66329

**DST#: 2**

ATTN: Roger Moses

Test Start: 2019.11.11 @ 15:39:00

## 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: 54.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.99 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbf
63.00	OCMW - 40%o - 10%m - 50%w	0.646
50.00	OCMW - 50%o - 10%m - 40%w	0.513

Total Length: 113.00 ft

Total Volume: 1.159 bbf

Num Fluid Samples: 0

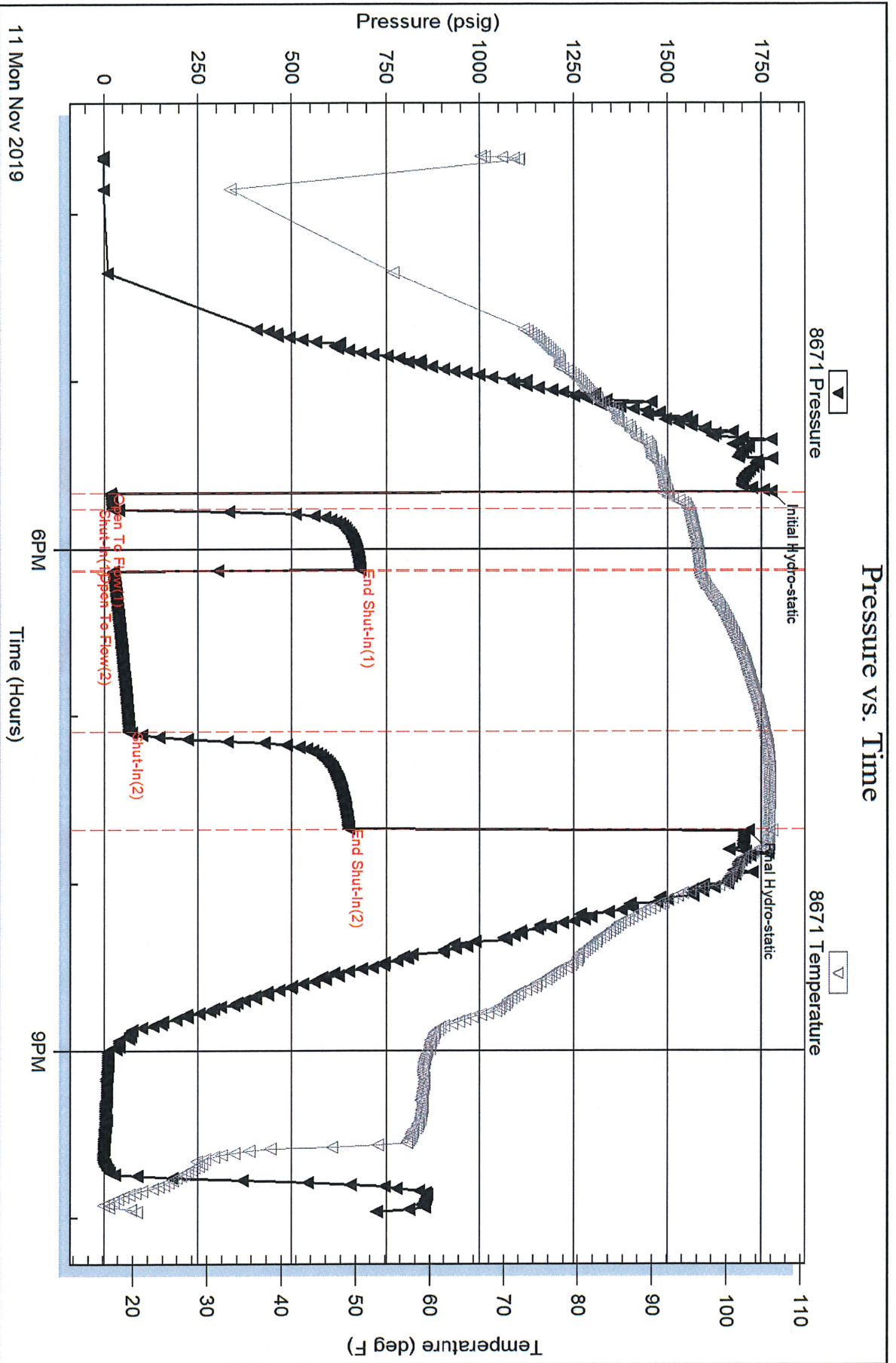
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



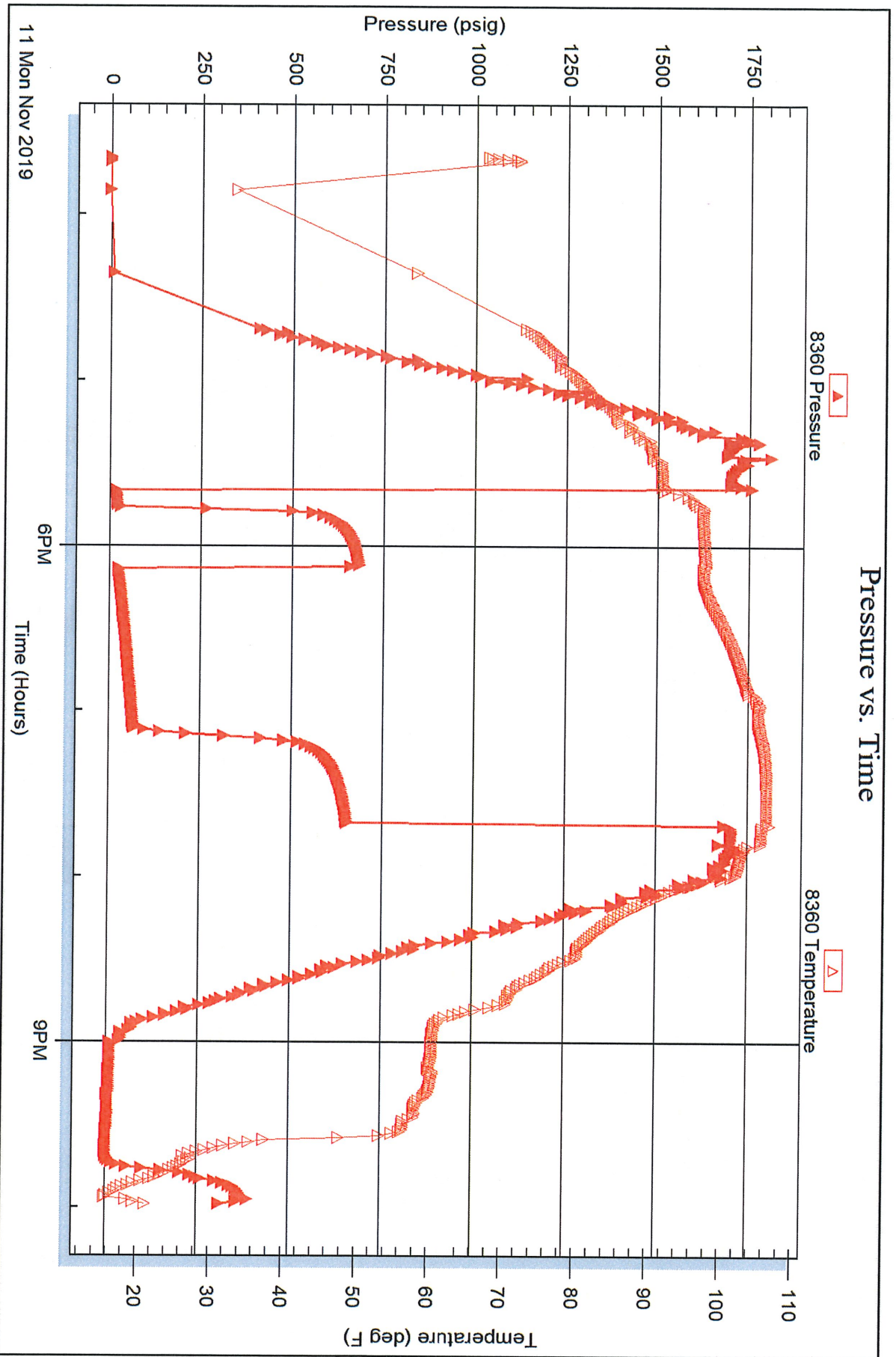
Serial #: 8360

Inside

Diehl Oil Inc.

Rome A #4

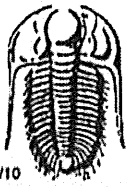
DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 66329

Printed: 2019.11.12 @ 16:17:27



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 66328

NO.

Well Name & No. Rome A-4 Test No. 1 Date 11-11-19  
 Company Diel Oil Inc. Elevation 1983 KB 1973 GL  
 Address PO Box 234 Hays Ks 67601  
 Co. Rep / Geo. Pross Moses Rig Southwind #8  
 Location: Sec. 22 Twp 13S Rge. 17W Co. Ellis State Ks

Interval Tested 3508' - 3555' Zone Tested Arbuckle  
 Anchor Length 47' Drill Pipe Run 3477' Mud Wt. 8.9  
 Top Packer Depth 3503' Drill Collars Run Ø Vis 60  
 Bottom Packer Depth 3508' Wt. Pipe Run Ø WL 8.8  
 Total Depth 3555' Chlorides 4000 ppm System LCM 1/2#

Blow Description IFF - Surface blow built to 7"  
IST - No Return  
FFP - Surface blow built to B.O.B in 3 mins  
PSI - Faint Return started 5 mins. in & built to

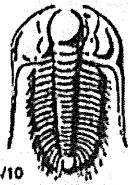
Rec	Feet of	%gas	%oil	%water	%mud
<u>126'</u>	<u>OCMW</u>	<u>10</u>	<u>85</u>	<u>5</u>	
<u>189'</u>	<u>Free Oil</u>	<u>100</u>			
<u>128'</u>	<u>OCM</u>	<u>20</u>		<u>80</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 443 BHT 100°F Gravity 31@60° API RW 601 @ 22 °F Chlorides 30,000 ppm  
 (A) Initial Hydrostatic 1749  Test 1200 T-On Location 12:35am  
 (B) First Initial Flow 32  Jars \_\_\_\_\_ T-Started 1:25am  
 (C) First Final Flow 40  Safety Joint 75 T-Open 4:05am  
 (D) Initial Shut-In 1045  Circ Sub \_\_\_\_\_ T-Pulled 5:40am  
 (E) Second Initial Flow 95  Hourly Standby \_\_\_\_\_ T-Out 8:24am  
 (F) Second Final Flow 197  Mileage 1/2 BIT 16 Comments \_\_\_\_\_  
 (G) Final Shut-In 475  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1710  Straddle \_\_\_\_\_  EM Tool 350 First  
 Shale Packer \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_ Time  
 Extra Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  Extra Copies \_\_\_\_\_

Initial Open 5  
 Initial Shut-In 15  
 Final Flow 30  
 Final Shut-In 45  
 Sub Total 1291  
 Total 1291  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative \_\_\_\_\_

Trilobite Testing Inc. shall not be liable for damaged or 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.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket 66329

NO.

Well Name & No. Rome A-4 Test No. 2 Date 11-11-19  
 Company Dipl Oil Inc. Elevation 1983 KB 1973 GL  
 Address PO Box 234 Hays Ks 67601  
 Co. Rep / Geo. Reger Moses Rig Southwind #8  
 Location: Sec. 22 Twp 13S Rge. 17 W Co. Ellis State Ks

Interval Tested 3555' - 3567' Zone Tested Arbuckle  
 Anchor Length 12' Drill Pipe Run 3560 Mud Wt. 8.8  
 Top Packer Depth 3550' Drill Collars Run 0 Vls 54  
 Bottom Packer Depth 3555' Wt. Pipe Run 0 WL 8  
 Total Depth 3567' Chlorides 4000 ppm System LCM 1#

Blow Description JFP-Surface blow built to 2"  
ISI-No Return  
FFP-Surface blow built up to 7"  
FSI-No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>63'</u>	<u>OCmw</u>	<u>50</u>	<u>40</u>	<u>10</u>	
<u>50'</u>	<u>OCmw</u>	<u>40</u>	<u>50</u>	<u>10</u>	

Rec Total 113' BHT 106°F Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

- (A) Initial Hydrostatic 1776
- (B) First Initial Flow 17
- (C) First Final Flow 22
- (D) Initial Shut-In 1682
- (E) Second Initial Flow 24
- (F) Second Final Flow 167
- (G) Final Shut-In 1652
- (H) Final Hydrostatic 1715

- Test 1200
- Jars \_\_\_\_\_
- Safety Joint 75
- Circ Sub \_\_\_\_\_
- Hourly Standby \_\_\_\_\_
- Mileage 16 B/T 16
- Sampler \_\_\_\_\_
- Straddle \_\_\_\_\_
- Shale Packer \_\_\_\_\_
- Extra Packer \_\_\_\_\_
- Extra Recorder \_\_\_\_\_
- Day Standby \_\_\_\_\_
- Accessibility \_\_\_\_\_
- Sub Total 1291

- T-On Location 2:45pm
- T-Started 3:39pm
- T-Open 5:40pm
- T-Pulled 7:35pm
- T-Out 9:59pm
- Comments Loaded Tool after test
- EM Tool 350
- Ruined Shale Packer \_\_\_\_\_
- Ruined Packer \_\_\_\_\_
- Extra Copies \_\_\_\_\_
- Sub Total 350
- Total 1641
- MP/DST Disc't \_\_\_\_\_

Initial Open 5  
 Initial Shut-In 20  
 Final Flow 160  
 Final Shut-In 30

Approved By \_\_\_\_\_

Our Representative [Signature]

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.