

## DRILL STEM TEST REPORT

Prepared For: **Landmark Resources, Inc.**

1616 S Voss Rd STE 600  
Houston, TX 77057

ATTN: Saman Sharifaie

### **Nicholson Unit 11-30**

### **30-11s-20w Ellis, KS**

Start Date: 2014.08.25 @ 00:11:00

End Date: 2014.08.25 @ 10:10:00

Job Ticket #: 58737                      DST #: 1

Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

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

Landmark Resources, Inc.

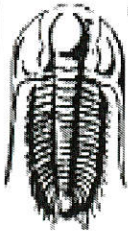
30-11s-20w Ellis, KS

Nicholson Unit 11-30

DST # 1

Oread-Toronto

2014.08.25



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Landmark Resources, Inc.

**30-11s-20w Ellis, KS**

1616 S Voss Rd STE 600  
Houston, TX 77057

**Nicholson Unit 11-30**

Job Ticket: 58737

**DST#: 1**

ATTN: Saman Sharifaie

Test Start: 2014.08.25 @ 00:11:00

## GENERAL INFORMATION:

Formation: **Oread-Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:17:30

Time Test Ended: 10:10:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Phillip Gage

Unit No: 77

Interval: **3413.00 ft (KB) To 3530.00 ft (KB) (TVD)**

Reference Elevations: 2273.00 ft (KB)

Total Depth: 3530.00 ft (KB) (TVD)

2268.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

**Serial #: 8898 Outside**

Press@RunDepth: 367.25 psig @ 3414.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.08.25

End Date:

2014.08.25

Last Calib.: 2014.08.25

Start Time: 00:11:01

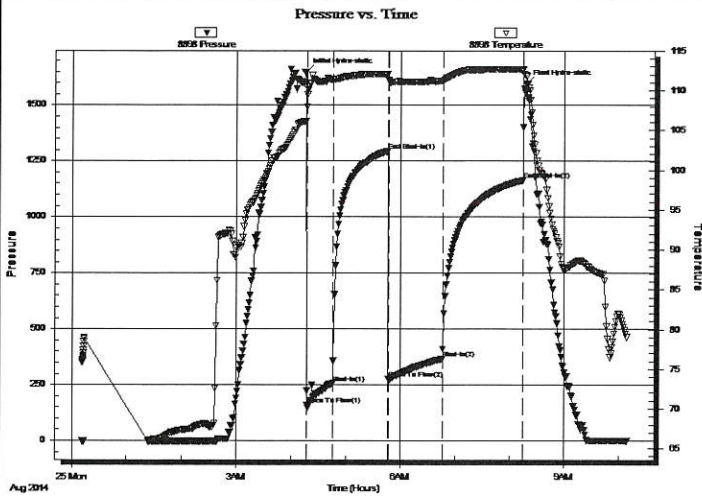
End Time:

10:10:00

Time On Btm: 2014.08.25 @ 04:16:00

Time Off Btm: 2014.08.25 @ 08:18:20

TEST COMMENT: 30-IF-BOB in 1 min  
60-ISI-No Return  
60-FF-BOB in 13 mins  
90-FSI-No Return



## PRESSURE SUMMARY

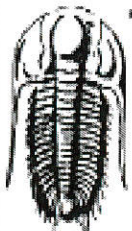
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1647.17	106.16	Initial Hydro-static
2	158.30	109.55	Open To Flow (1)
30	257.32	111.35	Shut-In(1)
90	1294.08	112.11	End Shut-In(1)
91	276.61	111.33	Open To Flow (2)
150	367.25	111.25	Shut-In(2)
239	1164.63	112.57	End Shut-In(2)
243	1598.03	111.79	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
189.00	VSOGWCM, 5%o, 15%g, 40%w, 40% m	2.40
252.00	VSOGWCM, 5%o, 5%g, 5%w, 85% m	3.53
312.00	M, 100% m, with oil spots	4.38

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Landmark Resources, Inc.

**30-11s-20w Ellis, KS**

1616 S Voss Rd STE 600  
Houston, TX 77057

**Nicholson Unit 11-30**

Job Ticket: 58737

**DST#: 1**

ATTN: Saman Sharifaie

Test Start: 2014.08.25 @ 00:11:00

## GENERAL INFORMATION:

Formation: **Oread-Toronto**

Deviated: **No** Whipstock: ft (KB)

Test Type: **Conventional Bottom Hole (Initial)**

Time Tool Opened: 04:17:30

Tester: **Phillip Gage**

Time Test Ended: 10:10:00

Unit No: **77**

Interval: **3413.00 ft (KB) To 3530.00 ft (KB) (TVD)**

Reference Elevations: **2273.00 ft (KB)**

Total Depth: **3530.00 ft (KB) (TVD)**

**2268.00 ft (CF)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

KB to GR/CF: **5.00 ft**

**Serial #: 8897** **Inside**

Press@RunDepth: psig @ 3414.00 ft (KB)

Capacity: **8000.00 psig**

Start Date: **2014.08.25** End Date: **2014.08.25**

Last Calib.: **2014.08.25**

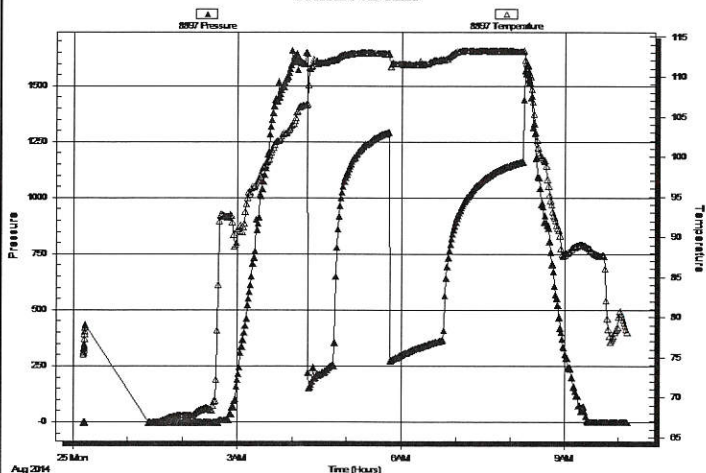
Start Time: **00:11:12** End Time: **10:10:11**

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IF-BOB in 1 min  
60-ISI-No Return  
60-FF-BOB in 13 mins  
90-FSI-No Return

Pressure vs. Time



## PRESSURE SUMMARY

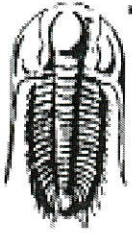
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
189.00	VSOGWCM, 5%o, 15%g, 40%w, 40%m	2.40
252.00	VSOGWCM, 5%o, 5%g, 5%w, 85%m	3.53
312.00	M,100%m, w with oil spots	4.38

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Landmark Resources, Inc.

**30-11s-20w Ellis, KS**

1616 S Voss Rd STE 600  
Houston, TX 77057

**Nicholson Unit 11-30**

Job Ticket: 58737

**DST#: 1**

ATTN: Saman Sharifaie

Test Start: 2014.08.25 @ 00:11:00

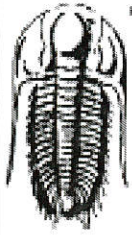
### Tool Information

Drill Pipe:	Length: 3391.00 ft	Diameter: 3.80 inches	Volume: 47.57 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 28.00 ft	Diameter: 2.25 inches	Volume: 0.14 bbl	Weight to Pull Loose: 54000.00 lb
			<u>Total Volume: 47.71 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 47000.00 lb
Depth to Top Packer:	3413.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	117.00 ft			
Tool Length:	144.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3391.00	
Hydraulic tool	5.00			3396.00	
Jars	5.00			3401.00	
Safety Joint	2.00			3403.00	
Packer	5.00			3408.00	27.00 Bottom Of Top Packer
Packer	5.00			3413.00	
Stubb	1.00			3414.00	
Recorder	0.00	8897	Inside	3414.00	
Recorder	0.00	8898	Outside	3414.00	
Perforations	17.00			3431.00	
Change Over Sub	1.00			3432.00	
Drill Pipe	94.00			3526.00	
Change Over Sub	1.00			3527.00	
Bullnose	3.00			3530.00	117.00 Bottom Packers & Anchor

**Total Tool Length: 144.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Landmark Resources, Inc.

**30-11s-20w Ellis, KS**

1616 S Voss Rd STE 600  
Houston, TX 77057

**Nicholson Unit 11-30**

Job Ticket: 58737

**DST#: 1**

ATTN: Saman Sharifaie

Test Start: 2014.08.25 @ 00:11:00

## 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: 59.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 900.00 ppm			
Filter Cake: 2.00 inches			

## Recovery Information

Recovery Table

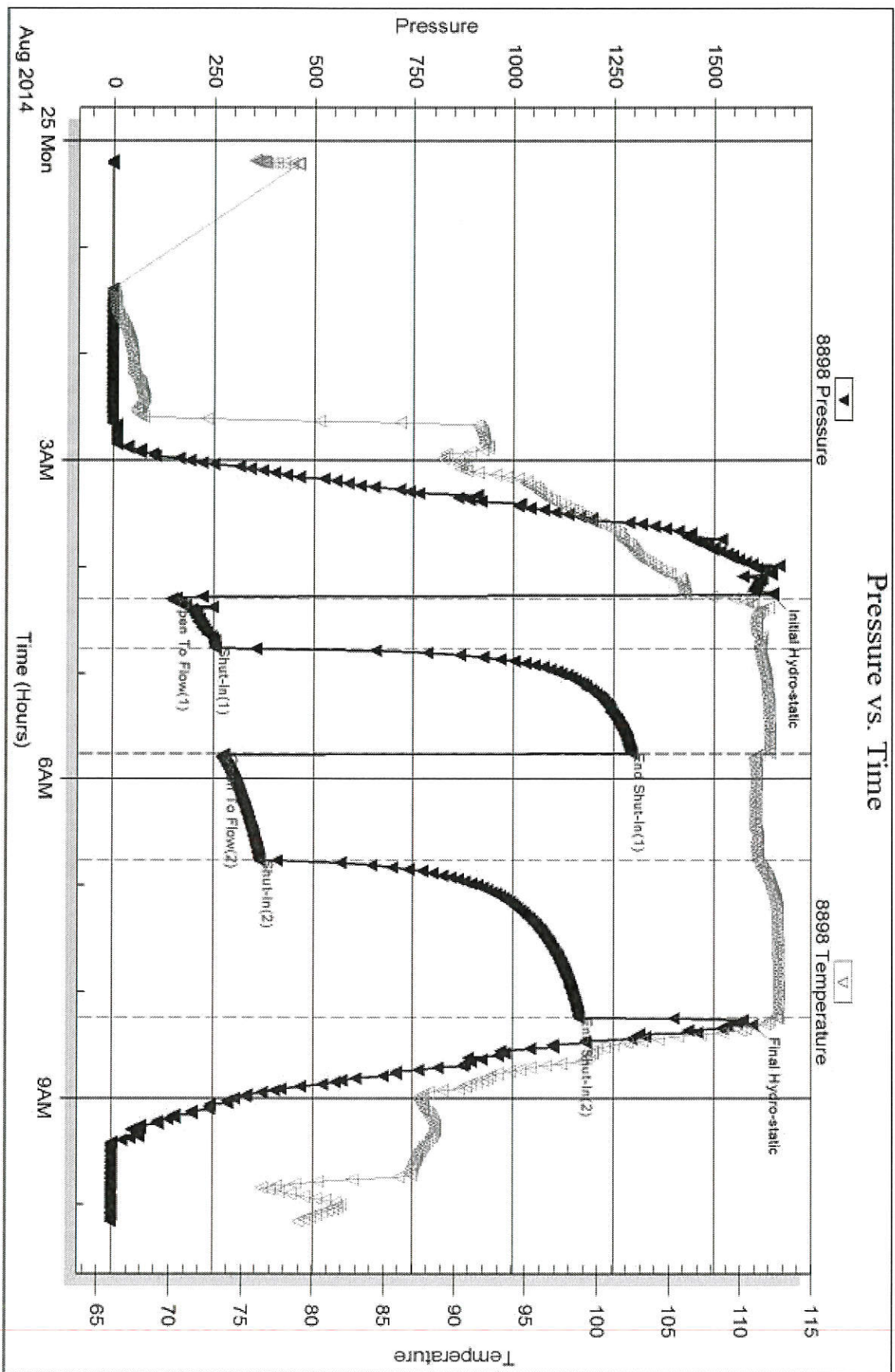
Length ft	Description	Volume bbl
189.00	VSOGWCM, 5%o, 15%g, 40%w, 40%m	2.396
252.00	VSOGWCM, 5%o, 5%g, 5%w, 85%m	3.535
312.00	M,100%m, w ith oil spots	4.377

Total Length: 753.00 ft      Total Volume: 10.308 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments: .51 @ 71 degrees = 13,000 Salinity



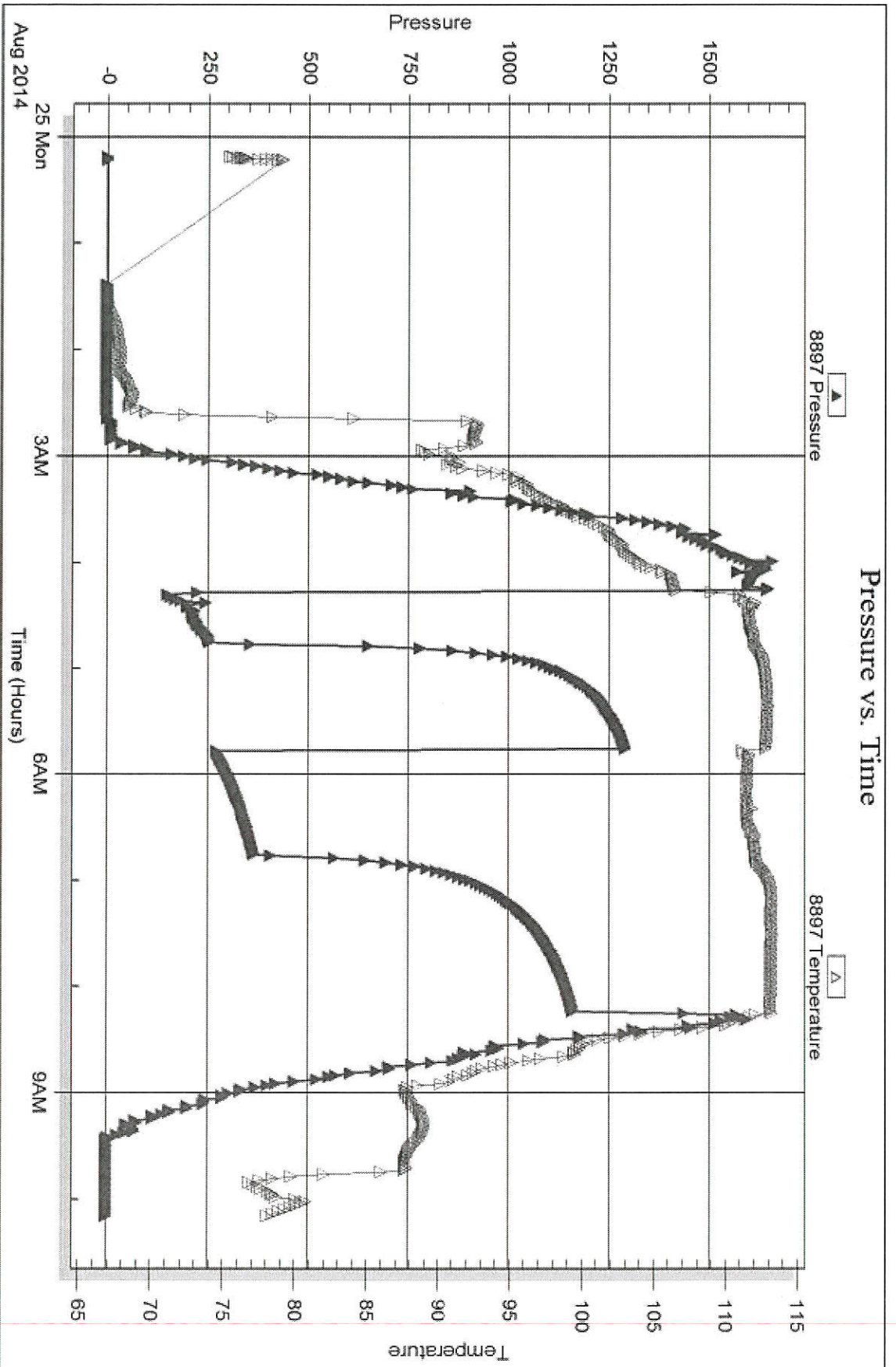
Serial #: 8897

Inside

Landmark Resources, Inc.

Nicholson Unit 11-30

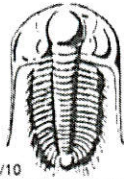
DST Test Number: 1



Triobite Testing, Inc

Ref. No: 58737

Printed: 2014.08.29 @ 14:24:09



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 58737

4/10

Well Name & No. Michalson Unit #11-30 Test No. 1 Date 8-24-14  
 Company Landmark Resources, Inc Elevation 2273 KB 2268 GL  
 Address 1616 S Voss RD STE 600 Houston, TX 77057  
 Co. Rep / Geo. Saman Sharif / Jeff Wood Rig Murfin 16  
 Location: Sec. 30 Twp. 11s Rge. 20w Co. Ellis State KS

Interval Tested 3413 - 3530 Zone Tested Orrad - Toronto  
 Anchor Length 117' Drill Pipe Run 3391 Mud Wt. 8.8  
 Top Packer Depth 3408 Drill Collars Run 28 Vis 59  
 Bottom Packer Depth 3413 Wt. Pipe Run 0 WL 7.6  
 Total Depth 3530 Chlorides 900 ppm System LCM 2#

Blow Description IF-BOB in 1mth  
FSI No Return  
FF BOB in 13mths  
FSI No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>184'</u>	<u>USO B WCM</u>	<u>15</u>	<u>5</u>	<u>40</u>	<u>40</u>
<u>252'</u>	<u>USO B WCM</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>85</u>
<u>312'</u>	<u>M, with oil spots</u>				<u>100</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 758' BHT 112 Gravity — API RW 151 @ 71 °F Chlorides 13,000 ppm

(A) Initial Hydrostatic <u>1647</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>22:58</u>
(B) First Initial Flow <u>158</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>00:11</u>
(C) First Final Flow <u>257</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>04:16</u>
(D) Initial Shut-In <u>1294</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>08:16</u>
(E) Second Initial Flow <u>276</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>10:10</u>
(F) Second Final Flow <u>367</u>	<input checked="" type="checkbox"/> Mileage <u>58 RT</u> 89.90	Comments
(G) Final Shut-In <u>1164</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1,598</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 60  
 Final Shut-In 90

Extra Packer  
 Extra Recorder  
 Day Standby  
 Accessibility

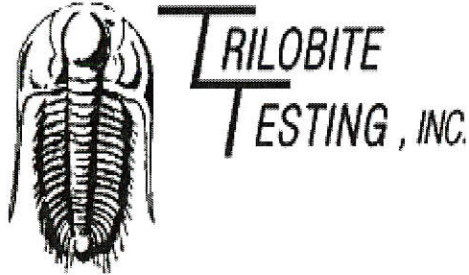
Sub Total 0  
 Total 1564.90  
 MP/DST Disc't

Sub Total 1564.90

Approved By \_\_\_\_\_ Our Representative Philp Sharp Thank You!

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.





## DRILL STEM TEST REPORT

Prepared For: **Landmark Resources, Inc.**

1616 S Voss Rd STE 600  
Houston, TX 77057

ATTN: Saman Sharifaie

### **Nicholson Unit 11-30**

#### **30-11s-20w Ellis, KS**

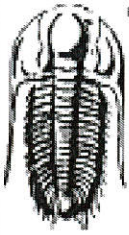
Start Date: 2014.08.26 @ 08:55:23

End Date: 2014.08.26 @ 12:45:13

Job Ticket #: 60509                      DST #: 2

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

Printed: 2014.08.29 @ 14:23:28



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Landmark Resources, Inc.

1616 S Voss Rd STE 600  
Houston, TX 77057

ATTN: Saman Sharifaie

**30-11s-20w Ellis, KS**

**Nicholson Unit 11-30**

Job Ticket: 60509

**DST#: 2**

Test Start: 2014.08.26 @ 08:55:23

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened:

Time Test Ended: 12:45:13

Test Type: Conventional Bottom Hole (Reset)

Tester: Tate Lang

Unit No: 77

Interval: **3824.00 ft (KB) To 3885.00 ft (KB) (TVD)**

Total Depth: 3885.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2273.00 ft (KB)

2268.00 ft (CF)

KB to GR/CF: 5.00 ft

**Serial #: 8898** Outside

Press@RunDepth: psig @ 3825.00 ft (KB)

Start Date: 2014.08.26

End Date: 2014.08.26

Start Time: 08:55:24

End Time: 12:45:13

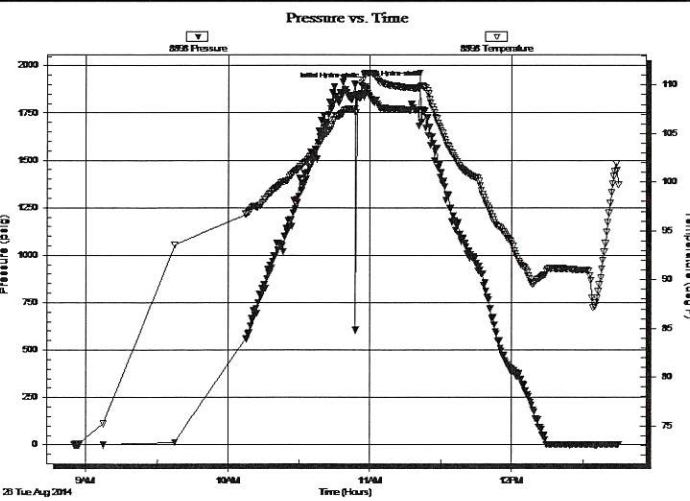
Capacity: 8000.00 psig

Last Calib.: 2014.08.26

Time On Btm: 2014.08.26 @ 10:53:43

Time Off Btm:

TEST COMMENT: PACKER FAILURE



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1900.75	107.57	Initial Hydro-static
5	1889.76	111.21	Initial Hydro-static

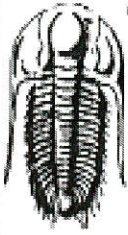
## Recovery

Length (ft)	Description	Volume (bbl)
150.00	100%M	1.83

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Landmark Resources, Inc.  
1616 S Voss Rd STE 600  
Houston, TX 77057  
ATTN: Saman Sharifaie

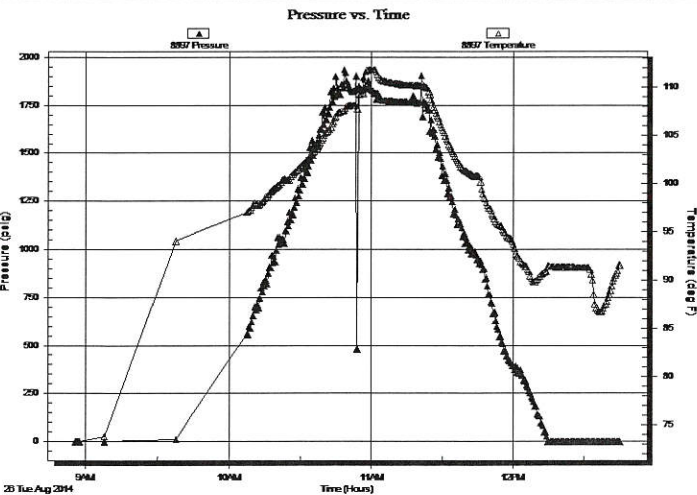
**30-11s-20w Ellis, KS**  
**Nicholson Unit 11-30**  
Job Ticket: 60509      **DST#: 2**  
Test Start: 2014.08.26 @ 08:55:23

## GENERAL INFORMATION:

Formation: **Arbuckle**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened:  
Time Test Ended: 12:45:13  
**Interval: 3824.00 ft (KB) To 3885.00 ft (KB) (TVD)**  
Total Depth: 3885.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Tate Lang  
Unit No: 77  
Reference Elevations: 2273.00 ft (KB)  
2268.00 ft (CF)  
KB to GR/CF: 5.00 ft

**Serial #: 8897**      **Inside**  
Press@RunDepth:                  psig @    3825.00 ft (KB)      Capacity:                      8000.00 psig  
Start Date:                      2014.08.26                  End Date:                      2014.08.26      Last Calib.:                  2014.08.26  
Start Time:                      08:55:25                  End Time:                      12:45:14      Time On Btm:  
Time Off Btm:

TEST COMMENT: PACKER FAILURE



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
150.00	100%M	1.83

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

TOOL DIAGRAM

Landmark Resources, Inc.

30-11s-20w Ellis, KS

1616 S Voss Rd STE 600  
Houston, TX 77057

Nicholson Unit 11-30

Job Ticket: 60509

DST#: 2

ATTN: Saman Sharifaie

Test Start: 2014.08.26 @ 08:55:23

### Tool Information

Drill Pipe:	Length: 3800.00 ft	Diameter: 3.80 inches	Volume: 53.30 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.75 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 58000.00 lb
			<u>Total Volume: 53.45 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	33.00 ft			String Weight: Initial 49000.00 lb
Depth to Top Packer:	3824.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	61.00 ft			
Tool Length:	88.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3802.00	
Hydraulic tool	5.00			3807.00	
Jars	5.00			3812.00	
Safety Joint	2.00			3814.00	
Packer	5.00			3819.00	27.00 Bottom Of Top Packer
Packer	5.00			3824.00	
Stubb	1.00			3825.00	
Recorder	0.00	8897	Inside	3825.00	
Recorder	0.00	8898	Outside	3825.00	
Perforations	23.00			3848.00	
Change Over Sub	1.00			3849.00	
Drill Pipe	32.00			3881.00	
Change Over Sub	1.00			3882.00	
Bullnose	3.00			3885.00	61.00 Bottom Packers & Anchor

**Total Tool Length: 88.00**



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Landmark Resources, Inc.

**30-11s-20w Ellis, KS**

1616 S Voss Rd STE 600  
Houston, TX 77057

**Nicholson Unit 11-30**

Job Ticket: 60509

**DST#: 2**

ATTN: Saman Sharifaie

Test Start: 2014.08.26 @ 08:55:23

### 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: 61.00 sec/qt

Cushion Volume:

bbl

Water Loss: 6.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2100.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
150.00	100%M	1.831

Total Length: 150.00 ft      Total Volume: 1.831 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

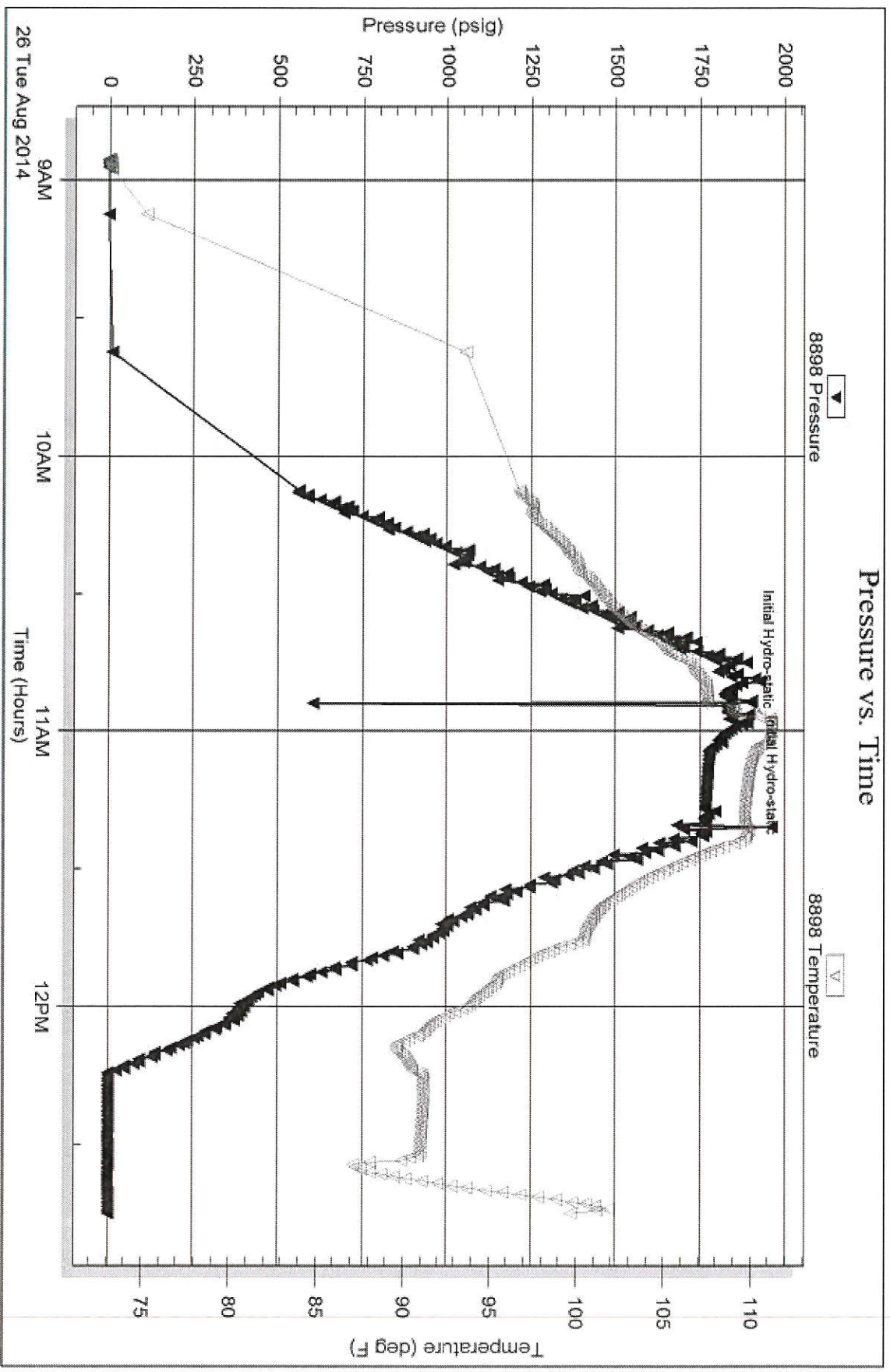
Recovery Comments:

Serial #: 8898

Outside Landmark Resources, Inc.

Nicholson Unit 11-30

DST Test Number: 2



Tribble Testing, Inc

Ref. No: 60509

Printed: 2014.08.29 @ 14:23:30

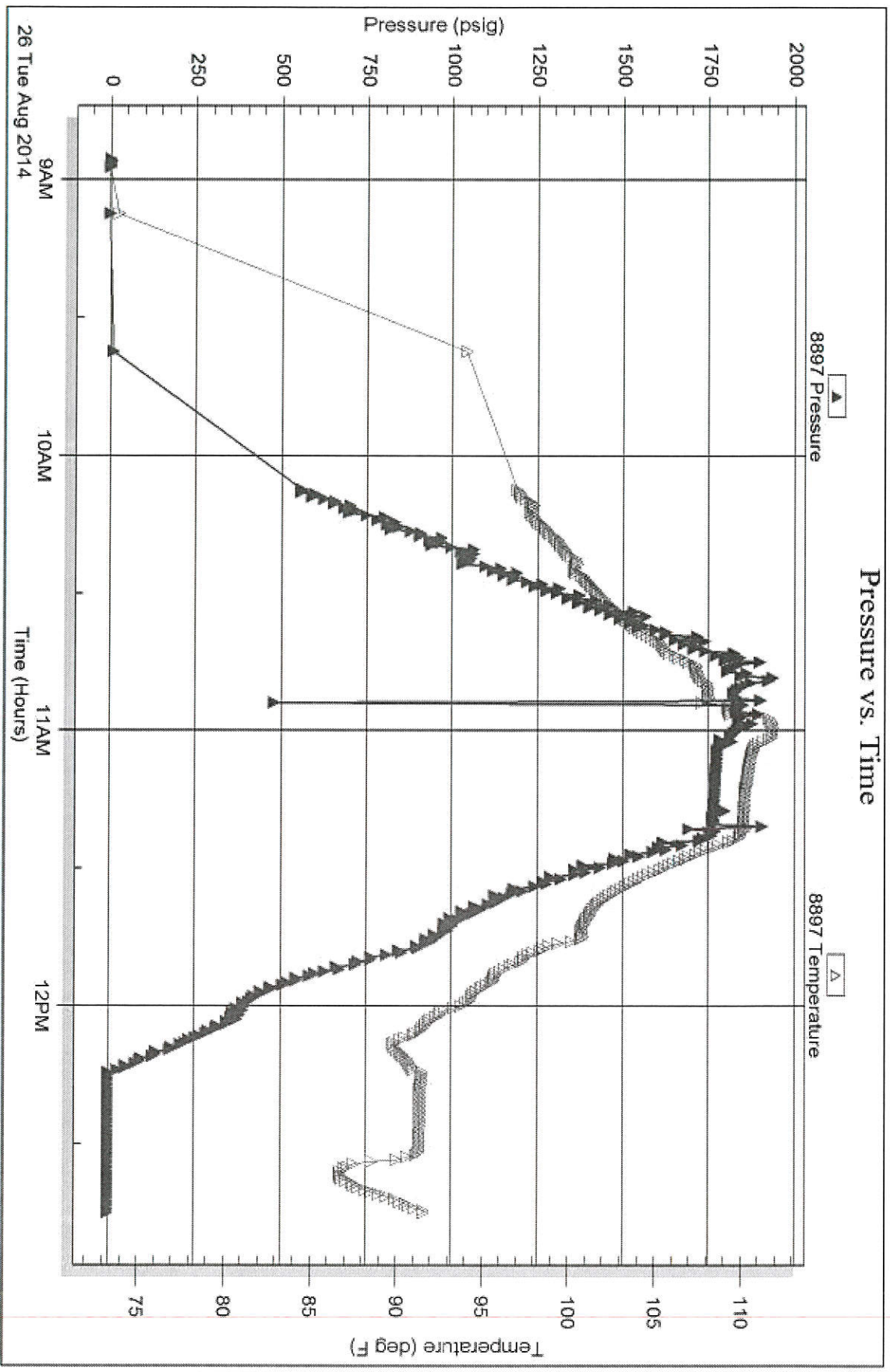
Serial #: 8897

Inside

Landmark Resources, Inc.

Nicholson Unit 11-30

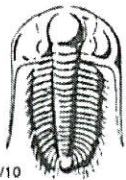
DST Test Number: 2



Tribble Testing, Inc

Ref. No: 60509

Printed: 2014.08.29 @ 14:23:30



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 60509

Well Name & No. Nicholson Unit #11-30 Test No. 2 Date 8-26-14  
 Company Landmark Resources, Inc. Elevation 2273 KB 2268 GL  
 Address 1665 Voss Rd STE 600 Houston TX 77057  
 Co. Rep / Geo. Saman Sharifaie / Jeff Wood Rig Murkin #16  
 Location: Sec. 30 Twp. 11S Rge. 20W Co. ELLIS State KS

Interval Tested 3824 3885 Zone Tested Arbuckle  
 Anchor Length 61 Drill Pipe Run 3800 Mud Wt. 9.0  
 Top Packer Depth 3819 Drill Collars Run 30 Vis 61  
 Bottom Packer Depth 3824 Wt. Pipe Run 0 WL 6.8  
 Total Depth 3885 Chlorides 2100 ppm System LCM 21#

Blow Description Packer Failure

Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>150</u>	Feet of <u>mud</u>	%gas	%oil	%water	<u>100</u> %mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 150 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1901  Test 950 T-On Location 07:58  
 (B) First Initial Flow \_\_\_\_\_  Jars 250 T-Started 08:55  
 (C) First Final Flow \_\_\_\_\_  Safety Joint 75 T-Open 10:55  
 (D) Initial Shut-In \_\_\_\_\_  Circ Sub \_\_\_\_\_ T-Pulled 11:15  
 (E) Second Initial Flow \_\_\_\_\_  Hourly Standby \_\_\_\_\_ T-Out 12:43  
 (F) Second Final Flow \_\_\_\_\_  Mileage 58RH X2 89.90 Comments Logged  
 (G) Final Shut-In \_\_\_\_\_  Sampler \_\_\_\_\_ 89.90 8-27-14  
 (H) Final Hydrostatic 1890  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_

Initial Open \_\_\_\_\_  Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Initial Shut-In NA  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Final Flow NA  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Shut-In \_\_\_\_\_  Day Standby \_\_\_\_\_ Total 1454.80  
 Accessibility \_\_\_\_\_ MP/DST Disc \_\_\_\_\_

Sub Total 1454.80

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.