



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1074235  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1074235

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
--	---

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
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Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Landmark Resources, Inc.
Well Name	Hay Creek 1 -11
Doc ID	1074235

All Electric Logs Run

Borehole Compensated Sonic Log
Dual Compensated Porosity Log
Dual Induction Log
Microresistivity Log

Form	ACO1 - Well Completion
Operator	Landmark Resources, Inc.
Well Name	Hay Creek 1 -11
Doc ID	1074235

Tops

Name	Top	Datum
Anhydrite	2134	+605
B/Anhydrite	2153	+586
Topeka	3432	-693
Heebner	3661	-922
Toronto	3676	-937
Lansing	3698	-959
C	3738	-999
D	3758	-1017
E	3781	-1043
F	3801	-1062
Muncie Creek	3861	-1122
H	3874	-1135
I	3912	-1173
J	3973	-1194
Stark Stale	3959	-1220
K	3967	-1228
L	4010	-1271
BKC	4033	-1294
Marmaton	4064	-1325
Altamont	4082	-1343
Pawnee	4173	-1434
Myrick Station	4204	-1465
Fort Scott	4219	-1480
Cherokee	4250	-1511

Form	ACO1 - Well Completion
Operator	Landmark Resources, Inc.
Well Name	Hay Creek 1 -11
Doc ID	1074235

Tops

Name	Top	Datum
Johnson Zone	4289	-1550
Up Morrow Sand	4340	-1601
Missippian	4364	-1625



## DRILL STEM TEST REPORT

Prepared For: **Landmark Resources**

1616 S Voss Rd Ste 150  
Houston, TX 77057

ATTN: Pat Deenihan

### **Hay Creek #1-11**

### **11-15-33 Logan,KS**

Start Date: 2011.12.27 @ 04:56:56

End Date: 2011.12.27 @ 11:29:35

Job Ticket #: 45307                      DST #: 1

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

Printed: 2012.01.10 @ 13:53:14



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Landmark Resources  
 1616 S Voss Rd Ste 150  
 Houston, TX 77057  
 ATTN: Pat Deenihan

**11-15-33 Logan, KS**  
**Hay Creek #1-11**  
 Job Ticket: 45307 **DST#: 1**  
 Test Start: 2011.12.27 @ 04:56:56

## GENERAL INFORMATION:

Formation: **Lansing C**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 07:24:51  
 Time Test Ended: 11:29:35  
 Interval: **3725.00 ft (KB) To 3750.00 ft (KB) (TVD)**  
 Total Depth: 3750.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Brandon Turley  
 Unit No: 35  
 Reference Elevations: 2739.00 ft (KB)  
 2729.00 ft (CF)  
 KB to GR/CF: 10.00 ft

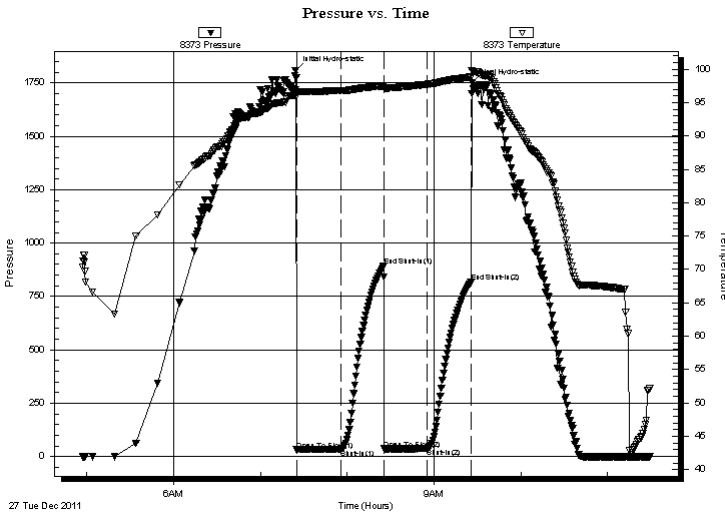
## Serial #: 8373

Inside

Press @ Run Depth: 36.84 psig @ 3726.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2011.12.27 End Date: 2011.12.27 Last Calib.: 2011.12.27  
 Start Time: 04:56:56 End Time: 11:29:35 Time On Btm: 2011.12.27 @ 07:24:06  
 Time Off Btm: 2011.12.27 @ 09:26:20

TEST COMMENT: IF: 1/4 blow died in 16 min.  
 IS: No retrun.  
 FF: No blow.  
 FS: No return.

## PRESSURE SUMMARY



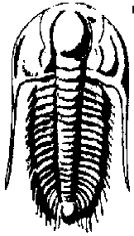
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1808.95	96.35	Initial Hydro-static
1	31.12	96.08	Open To Flow (1)
32	34.27	96.78	Shut-In(1)
61	891.23	97.53	End Shut-In(1)
62	35.49	97.16	Open To Flow (2)
92	36.84	97.75	Shut-In(2)
122	815.41	98.84	End Shut-In(2)
123	1749.23	99.83	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud 100% <sub>m</sub>	0.10

## Gas Rates

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



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

# DRILL STEM TEST REPORT

Landmark Resources  
1616 S Voss Rd Ste 150  
Houston, TX 77057  
ATTN: Pat Deenihan

**11-15-33 Logan, KS**  
**Hay Creek #1-11**  
Job Ticket: 45307      **DST#: 1**  
Test Start: 2011.12.27 @ 04:56:56

## GENERAL INFORMATION:

Formation: **Lansing C**  
Deviated: No Whipstock:      ft (KB)  
Time Tool Opened: 07:24:51  
Time Test Ended: 11:29:35  
**Interval: 3725.00 ft (KB) To 3750.00 ft (KB) (TVD)**  
Total Depth: 3750.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Initial)  
Tester: Brandon Turley  
Unit No: 35  
Reference Elevations: 2739.00 ft (KB)  
2729.00 ft (CF)  
KB to GR/CF: 10.00 ft

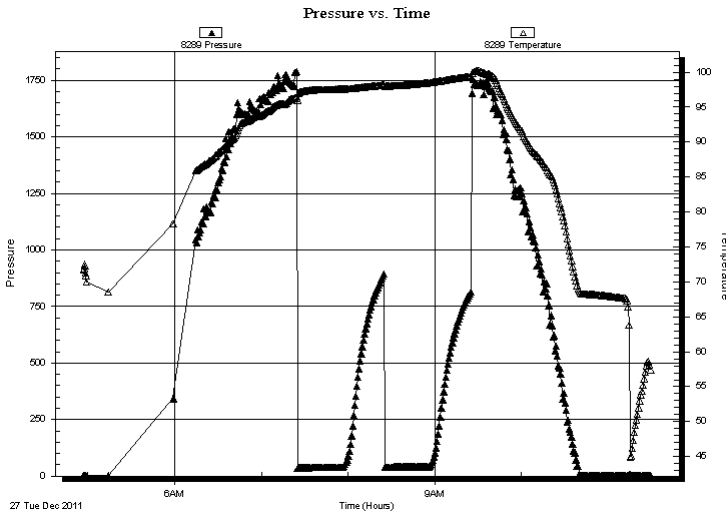
**Serial #: 8289      Outside**

Press @ Run Depth:      psig @ 3726.00 ft (KB)  
Start Date: 2011.12.27      End Date:  
Start Time: 04:56:56      End Time:

Capacity: 8000.00 psig  
Last Calib.: 2011.12.27  
Time On Btm:  
Time Off Btm:

**TEST COMMENT:** IF: 1/4 blow died in 16 min.  
IS: No retrun.  
FF: No blow .  
FS: No return.

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	mud 100% m	0.10

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Landmark Resources

**11-15-33 Logan,KS**

1616 S Voss Rd Ste 150  
Houston, TX 77057

**Hay Creek #1-11**

Job Ticket: 45307

**DST#: 1**

ATTN: Pat Deenihan

Test Start: 2011.12.27 @ 04:56:56

## Tool Information

Drill Pipe:	Length: 3492.00 ft	Diameter: 3.80 inches	Volume: 48.98 bbl	Tool Weight: 1500.00 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: 215.00 ft	Diameter: 2.25 inches	Volume: 1.06 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 50.04 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3725.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	25.00 ft			
Tool Length:	53.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00			3698.00	
Shut In Tool	5.00			3703.00	
Hydraulic tool	5.00			3708.00	
Jars	5.00			3713.00	
Safety Joint	3.00			3716.00	
Packer	5.00			3721.00	28.00 Bottom Of Top Packer
Packer	4.00			3725.00	
Stubb	1.00			3726.00	
Recorder	0.00	8373	Inside	3726.00	
Recorder	0.00	8289	Outside	3726.00	
Perforations	19.00			3745.00	
Bullnose	5.00			3750.00	25.00 Bottom Packers & Anchor

**Total Tool Length: 53.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Landmark Resources

**11-15-33 Logan,KS**

1616 S Voss Rd Ste 150  
Houston, TX 77057

**Hay Creek #1-11**

Job Ticket: 45307

**DST#: 1**

ATTN: Pat Deenihan

Test Start: 2011.12.27 @ 04:56:56

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 44.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4400.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	mud 100% <sub>m</sub>	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbl

Num Fluid Samples: 0

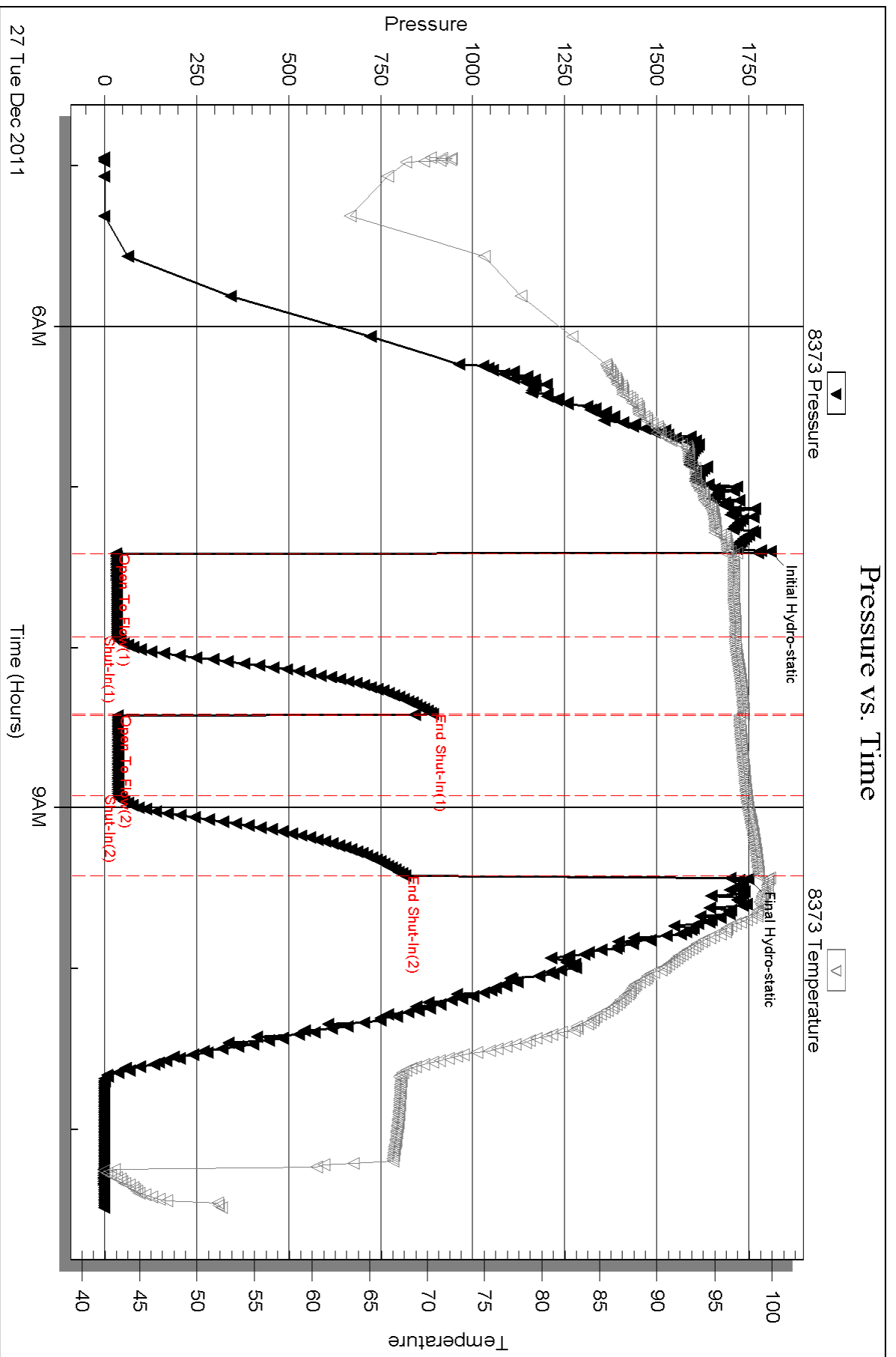
Num Gas Bombs: 0

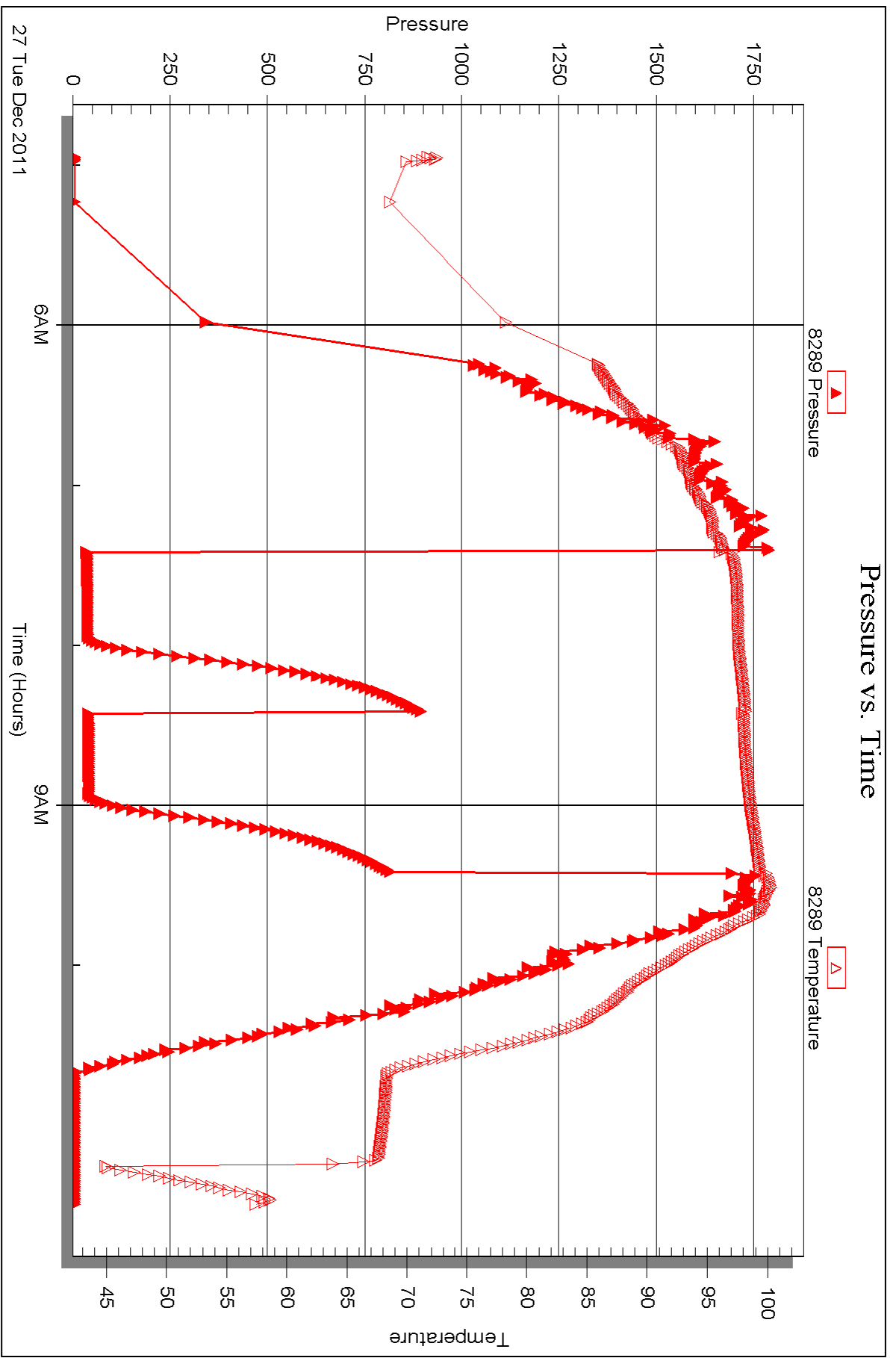
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Landmark Resources**

1616 S Voss Rd Ste 150  
Houston, TX 77057

ATTN: Pat Deenihan

### **Hay Creek #1-11**

### **11-15-33 Logan,KS**

Start Date: 2011.12.27 @ 20:46:05

End Date: 2011.12.28 @ 04:53:29

Job Ticket #: 45308                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.01.10 @ 13:52:33



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Landmark Resources  
1616 S Voss Rd Ste 150  
Houston, TX 77057  
ATTN: Pat Deenihan

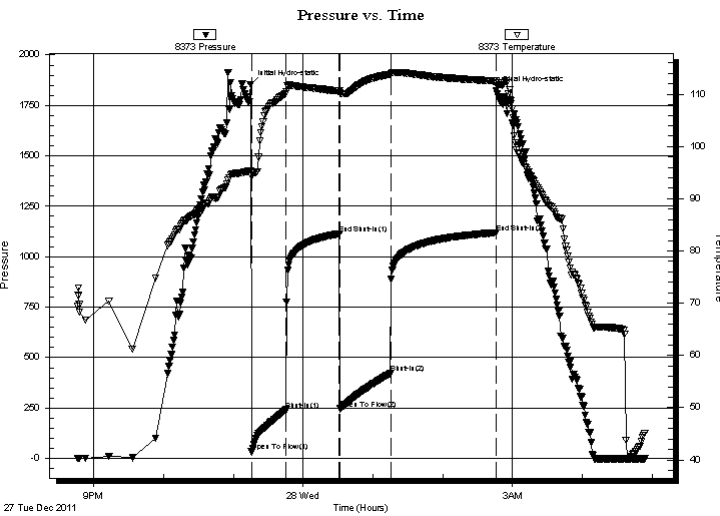
**11-15-33 Logan, KS**  
**Hay Creek #1-11**  
Job Ticket: 45308 **DST#: 2**  
Test Start: 2011.12.27 @ 20:46:05

## GENERAL INFORMATION:

Formation: **Lansing E-F**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 23:15:30  
Time Test Ended: 04:53:29  
Interval: **3770.00 ft (KB) To 3810.00 ft (KB) (TVD)**  
Total Depth: 3810.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Brandon Turley  
Unit No: 35  
Reference Elevations: 2739.00 ft (KB)  
2729.00 ft (CF)  
KB to GR/CF: 10.00 ft

**Serial #: 8373 Inside**  
Press @ Run Depth: 422.44 psig @ 3771.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2011.12.27 End Date: 2011.12.28 Last Calib.: 2011.12.28  
Start Time: 20:46:05 End Time: 04:53:29 Time On Btm: 2011.12.27 @ 23:14:30  
Time Off Btm: 2011.12.28 @ 02:45:59

**TEST COMMENT:** IF: BOB in 6 min.  
IS: No return.  
FF: BOB in 9 min.  
FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1852.97	95.40	Initial Hydro-static
1	33.25	94.27	Open To Flow (1)
31	241.01	110.12	Shut-In(1)
77	1113.76	110.58	End Shut-In(1)
77	246.50	110.22	Open To Flow (2)
121	422.44	113.79	Shut-In(2)
211	1119.34	112.51	End Shut-In(2)
212	1824.82	112.11	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
248.00	water 100%w	1.52
248.00	mcw 90%w 10%m	3.48
186.00	mw 50%w 50%m	2.61
217.00	w cm 10%w 90%m	3.04

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Landmark Resources  
1616 S Voss Rd Ste 150  
Houston, TX 77057  
ATTN: Pat Deenihan

**11-15-33 Logan,KS**  
**Hay Creek #1-11**  
Job Ticket: 45308      **DST#: 2**  
Test Start: 2011.12.27 @ 20:46:05

## GENERAL INFORMATION:

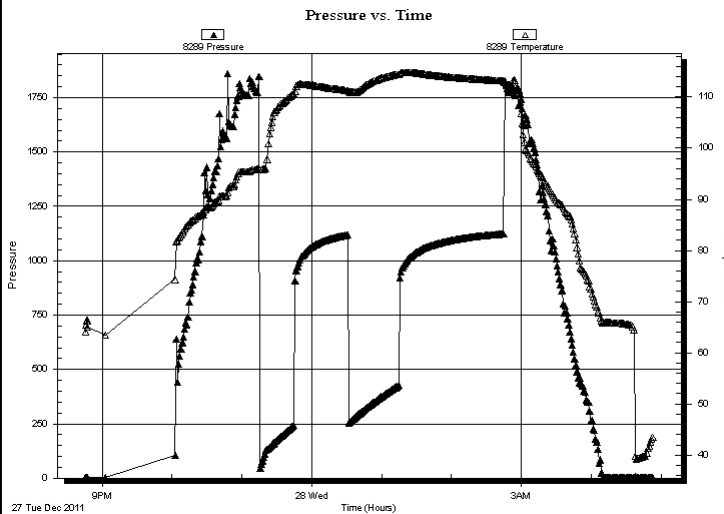
Formation: **Lansing E-F**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 23:15:30  
Time Test Ended: 04:53:29  
Interval: **3770.00 ft (KB) To 3810.00 ft (KB) (TVD)**  
Total Depth: 3810.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Reset)  
Tester: Brandon Turley  
Unit No: 35  
Reference Elevations: 2739.00 ft (KB)  
2729.00 ft (CF)  
KB to GR/CF: 10.00 ft

## Serial #: 8289      Outside

Press @ Run Depth:                      psig @      3771.00 ft (KB)      Capacity:                      8000.00 psig  
Start Date: 2011.12.27      End Date: 2011.12.28      Last Calib.: 2011.12.28  
Start Time: 20:45:50      End Time: 04:53:14      Time On Btm:  
Time Off Btm:

TEST COMMENT: IF: BOB in 6 min.  
IS: No return.  
FF: BOB in 9 min.  
FS: No return.



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
248.00	water 100%w	1.52
248.00	mcw 90%w 10%m	3.48
186.00	mw 50%w 50%m	2.61
217.00	w cm 10%w 90%m	3.04

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Landmark Resources

**11-15-33 Logan,KS**

1616 S Voss Rd Ste 150  
Houston, TX 77057

**Hay Creek #1-11**

Job Ticket: 45308

**DST#: 2**

ATTN: Pat Deenihan

Test Start: 2011.12.27 @ 20:46:05

## Tool Information

Drill Pipe:	Length: 3557.00 ft	Diameter: 3.80 inches	Volume: 49.90 bbl	Tool Weight: 1500.00 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: 215.00 ft	Diameter: 2.25 inches	Volume: 1.06 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 50.96 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3770.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.00 ft			
Tool Length:	68.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Stubb	1.00			3743.00	
Shut In Tool	5.00			3748.00	
Hydraulic tool	5.00			3753.00	
Jars	5.00			3758.00	
Safety Joint	3.00			3761.00	
Packer	5.00			3766.00	28.00 Bottom Of Top Packer
Packer	4.00			3770.00	
Stubb	1.00			3771.00	
Recorder	0.00	8373	Inside	3771.00	
Recorder	0.00	8289	Outside	3771.00	
Perforations	1.00			3772.00	
Change Over Sub	1.00			3773.00	
Drill Pipe	31.00			3804.00	
Change Over Sub	1.00			3805.00	
Bullnose	5.00			3810.00	40.00 Bottom Packers & Anchor

**Total Tool Length: 68.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Landmark Resources

**11-15-33 Logan,KS**

1616 S Voss Rd Ste 150  
Houston, TX 77057

**Hay Creek #1-11**

Job Ticket: 45308

**DST#: 2**

ATTN: Pat Deenihan

Test Start: 2011.12.27 @ 20:46:05

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

54000 ppm

Viscosity: 44.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.16 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4400.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
248.00	water 100%w	1.520
248.00	mcw 90%w 10%m	3.479
186.00	mw 50%w 50%m	2.609
217.00	wcm 10%w 90%m	3.044

Total Length: 899.00 ft

Total Volume: 10.652 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

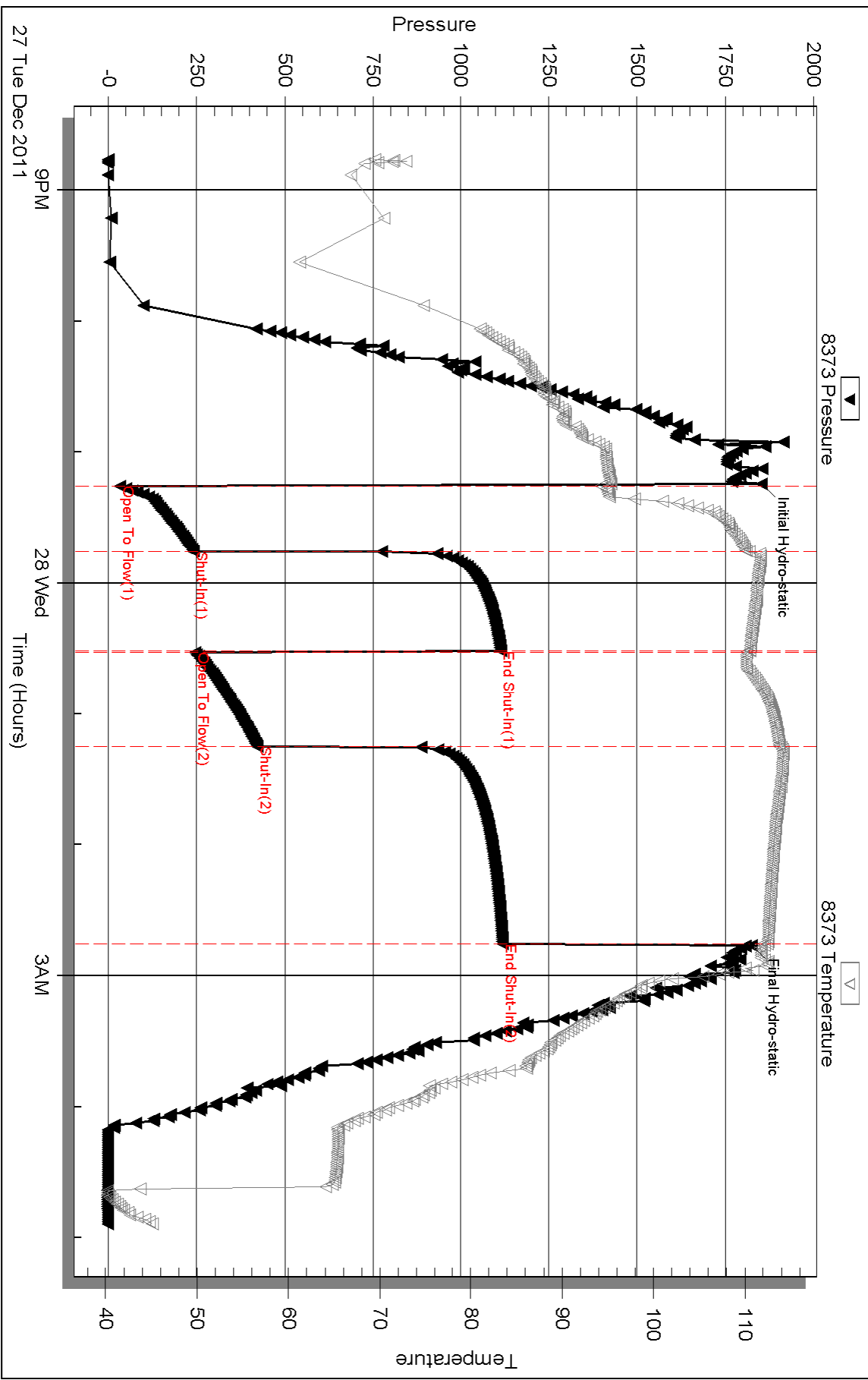
Serial #:

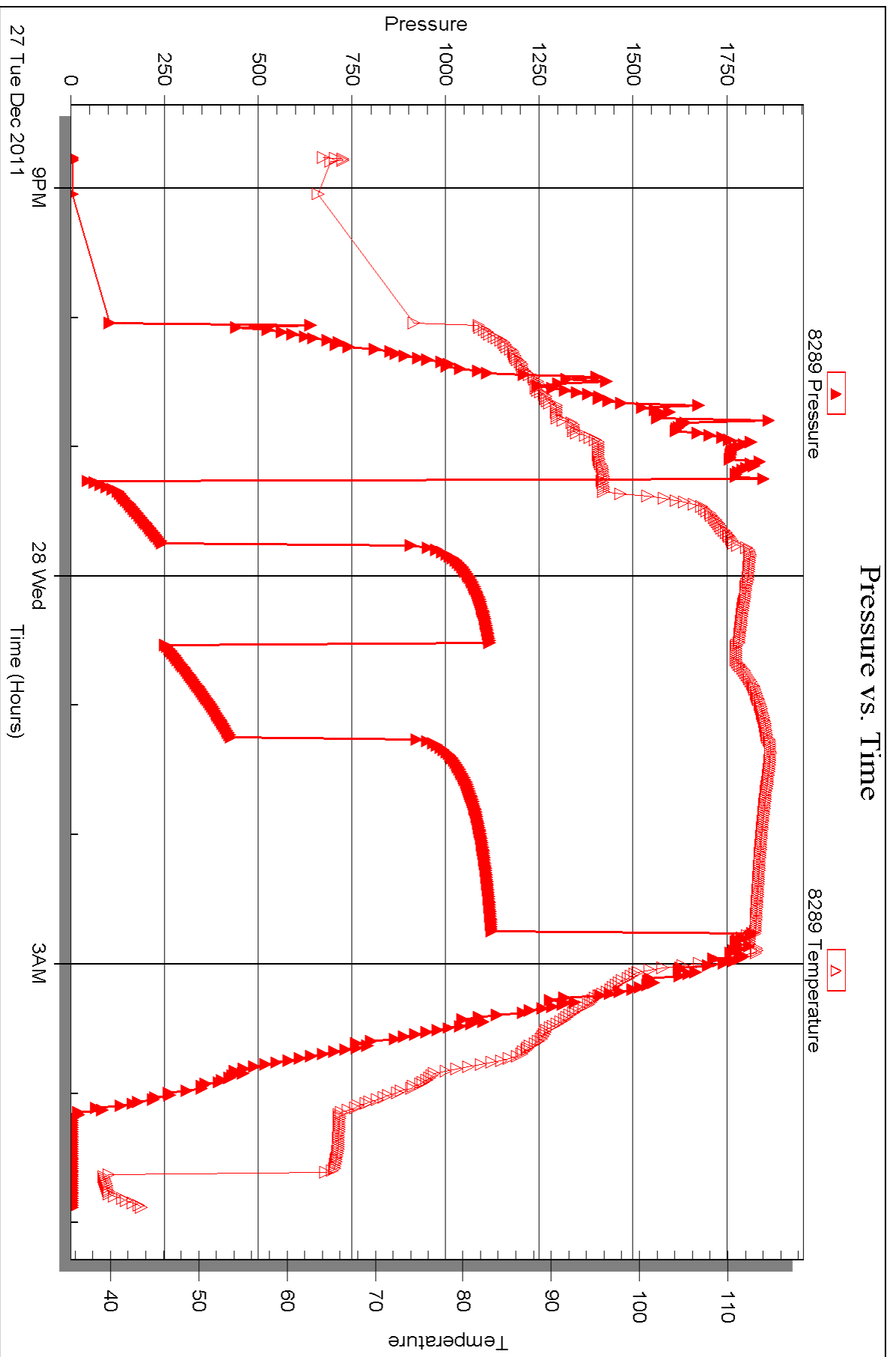
Laboratory Name:

Laboratory Location:

Recovery Comments: .34@29=54000

### Pressure vs. Time







## DRILL STEM TEST REPORT

Prepared For: **Landmark Resources**

1616 S Voss Rd Ste 150  
Houston, TX 77057

ATTN: Pat Deenihan

### **Hay Creek #1-11**

### **11-15-33 Logan,KS**

Start Date: 2011.12.28 @ 18:21:04

End Date: 2011.12.29 @ 02:49:13

Job Ticket #: 45309                      DST #: 3

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

Printed: 2012.01.10 @ 13:51:46

Landmark Resources  
11-15-33 Logan,KS  
Hay Creek #1-11  
DST # 3  
Lansing I & J  
2011.12.28



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Landmark Resources  
1616 S Voss Rd Ste 150  
Houston, TX 77057  
ATTN: Pat Deenihan

**11-15-33 Logan, KS**  
**Hay Creek #1-11**  
Job Ticket: 45309 **DST#: 3**  
Test Start: 2011.12.28 @ 18:21:04

## GENERAL INFORMATION:

Formation: **Lansing I & J**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 21:13:29  
Time Test Ended: 02:49:13  
Interval: **3896.00 ft (KB) To 3950.00 ft (KB) (TVD)**  
Total Depth: 3950.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Brandon Turley  
Unit No: 35  
Reference Elevations: 2739.00 ft (KB)  
2729.00 ft (CF)  
KB to GR/CF: 10.00 ft

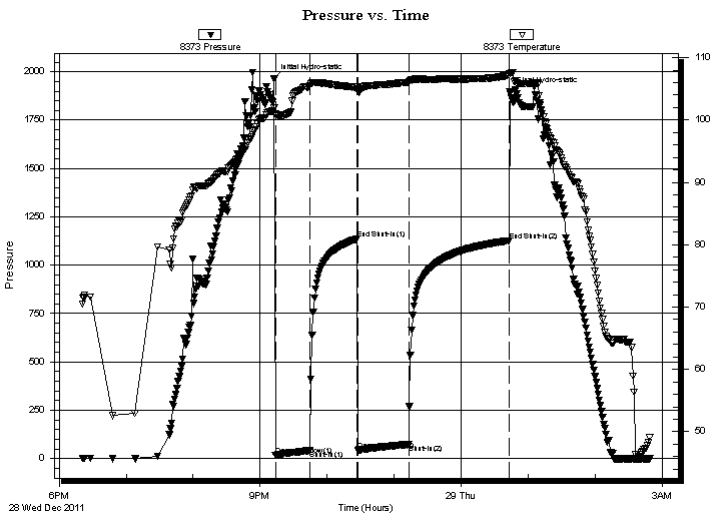
## Serial #: 8373

Inside

Press @ Run Depth: 73.27 psig @ 3897.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2011.12.28 End Date: 2011.12.29 Last Calib.: 2011.12.29  
Start Time: 18:21:04 End Time: 02:49:13 Time On Btm: 2011.12.28 @ 21:12:29  
Time Off Btm: 2011.12.29 @ 00:43:13

TEST COMMENT: IF: 1/4 blow built to 2 in 30 min.  
IS: No return.  
FF: Surface blow built to 2 in 45 min.  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1964.20	101.91	Initial Hydro-static
1	17.13	100.95	Open To Flow (1)
32	41.58	105.54	Shut-In (1)
75	1135.72	105.26	End Shut-In (1)
75	43.50	104.70	Open To Flow (2)
121	73.27	106.04	Shut-In (2)
211	1126.38	107.16	End Shut-In (2)
211	1894.93	107.46	Final Hydro-static

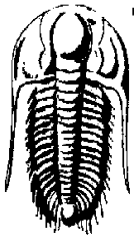
## Recovery

Length (ft)	Description	Volume (bbl)
93.00	wcmshow of oil 10%w 90%m	0.46

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Landmark Resources  
 1616 S Voss Rd Ste 150  
 Houston, TX 77057  
 ATTN: Pat Deenihan

**11-15-33 Logan,KS**  
**Hay Creek #1-11**  
 Job Ticket: 45309      **DST#: 3**  
 Test Start: 2011.12.28 @ 18:21:04

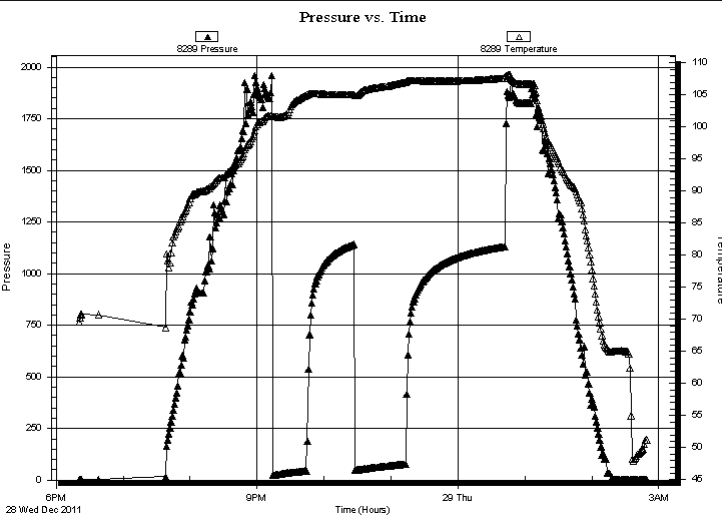
**GENERAL INFORMATION:**

Formation: **Lansing I & J**  
 Deviated: No Whipstock:      ft (KB)      Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 21:13:29      Tester: Brandon Turley  
 Time Test Ended: 02:49:13      Unit No: 35  
 Interval: **3896.00 ft (KB) To 3950.00 ft (KB) (TVD)**      Reference Elevations: 2739.00 ft (KB)  
 Total Depth: 3950.00 ft (KB) (TVD)      2729.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good      KB to GR/CF: 10.00 ft

**Serial #: 8289      Outside**

Press@RunDepth:      psig @ 3897.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2011.12.28      End Date: 2011.12.29      Last Calib.: 2011.12.29  
 Start Time: 18:21:04      End Time: 02:49:13      Time On Btm:  
    Time Off Btm

TEST COMMENT: IF: 1/4 blow built to 2 in 30 min.  
 IS: No return.  
 FF: Surface blow built to 2 in 45 min.  
 FS: No return.



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
93.00	wcmshow of oil 10%w 90%w	0.46

**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  
1616 S Voss Rd Ste 150  
Houston, TX 77057  
ATTN: Pat Deenihan

**11-15-33 Logan,KS**  
**Hay Creek #1-11**  
Job Ticket: 45309 **DST#: 3**  
Test Start: 2011.12.28 @ 18:21:04

## Tool Information

Drill Pipe:	Length: 3683.00 ft	Diameter: 3.80 inches	Volume: 51.66 bbl	Tool Weight: 1500.00 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: 215.00 ft	Diameter: 2.25 inches	Volume: 1.06 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 52.72 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3896.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	54.00 ft			
Tool Length:	82.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Stubb	1.00			3869.00	
Shut In Tool	5.00			3874.00	
Hydraulic tool	5.00			3879.00	
Jars	5.00			3884.00	
Safety Joint	3.00			3887.00	
Packer	5.00			3892.00	28.00 Bottom Of Top Packer
Packer	4.00			3896.00	
Stubb	1.00			3897.00	
Recorder	0.00	8373	Inside	3897.00	
Recorder	0.00	8289	Outside	3897.00	
Perforations	15.00			3912.00	
Change Over Sub	1.00			3913.00	
Drill Pipe	31.00			3944.00	
Change Over Sub	1.00			3945.00	
Bullnose	5.00			3950.00	54.00 Bottom Packers & Anchor

**Total Tool Length: 82.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Landmark Resources

**11-15-33 Logan,KS**

1616 S Voss Rd Ste 150  
Houston, TX 77057

**Hay Creek #1-11**

Job Ticket: 45309

**DST#: 3**

ATTN: Pat Deenihan

Test Start: 2011.12.28 @ 18:21:04

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 6400.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
93.00	wcmshow of oil 10%w 90%m	0.457

Total Length: 93.00 ft      Total Volume: 0.457 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



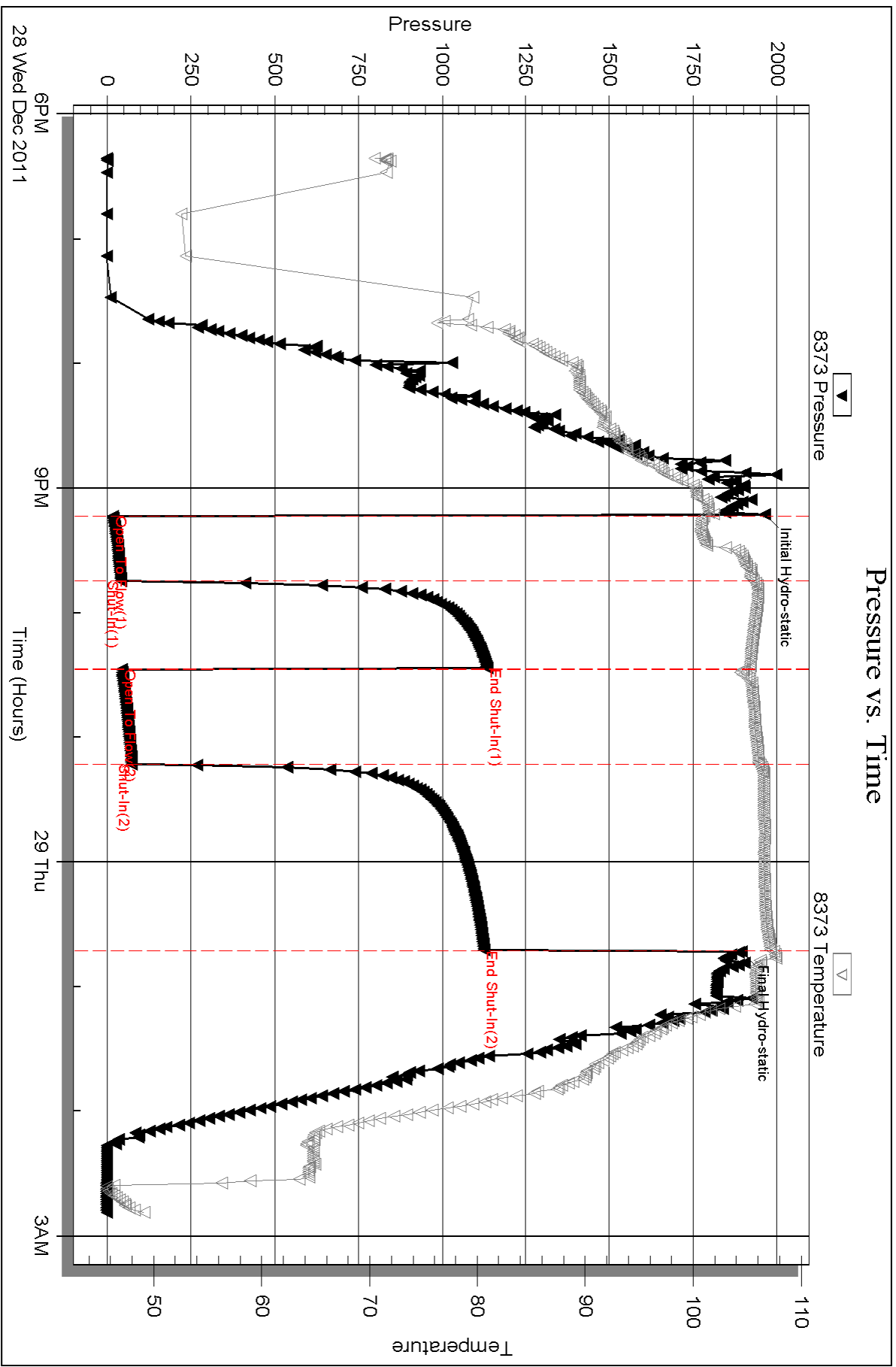
Serial #: 8373

Inside

Landmark Resources

Hay Creek #1-11

DST Test Number: 3

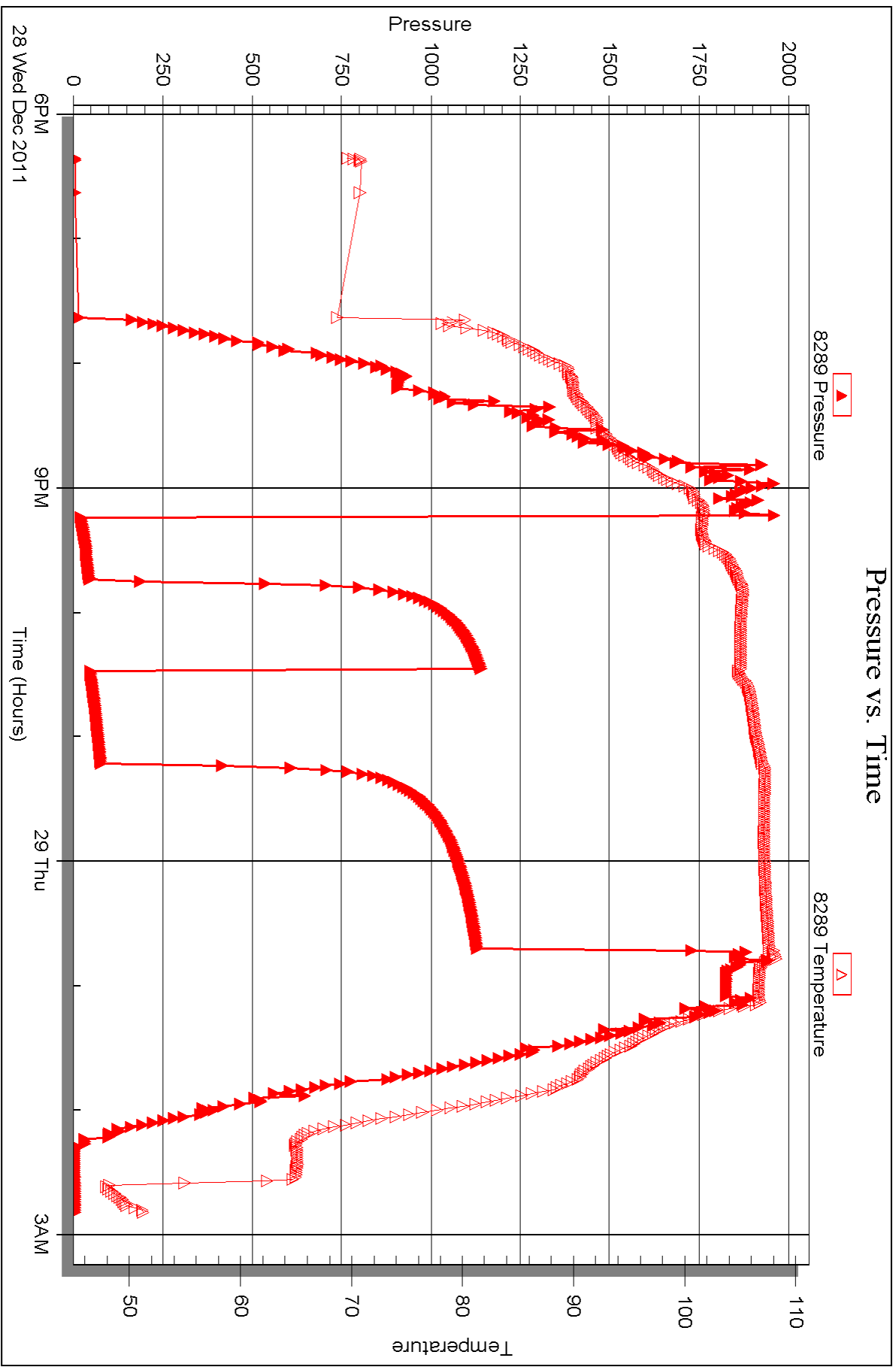


Serial #: 8289

Outside Landmark Resources

Hay Creek #1-11

DST Test Number: 3





## DRILL STEM TEST REPORT

Prepared For: **Landmark Resources**

1616 S Voss Rd Ste 150  
Houston, TX 77057

ATTN: Pat Deenihan

### **Hay Creek #1-11**

### **11-15-33 Logan,KS**

Start Date: 2011.12.29 @ 14:12:34

End Date: 2011.12.29 @ 22:21:28

Job Ticket #: 45310                      DST #: 4

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

Printed: 2012.01.10 @ 13:51:06



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Landmark Resources  
1616 S Voss Rd Ste 150  
Houston, TX 77057  
ATTN: Pat Deenihan

**11-15-33 Logan,KS**  
**Hay Creek #1-11**  
Job Ticket: 45310 **DST#: 4**  
Test Start: 2011.12.29 @ 14:12:34

## GENERAL INFORMATION:

Formation: **LKC J-K-L**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 16:28:59  
Time Test Ended: 22:21:28  
Interval: **3947.00 ft (KB) To 4017.00 ft (KB) (TVD)**  
Total Depth: 4017.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Brandon Turley  
Unit No: 35  
Reference Elevations: 2739.00 ft (KB)  
2729.00 ft (CF)  
KB to GR/CF: 10.00 ft

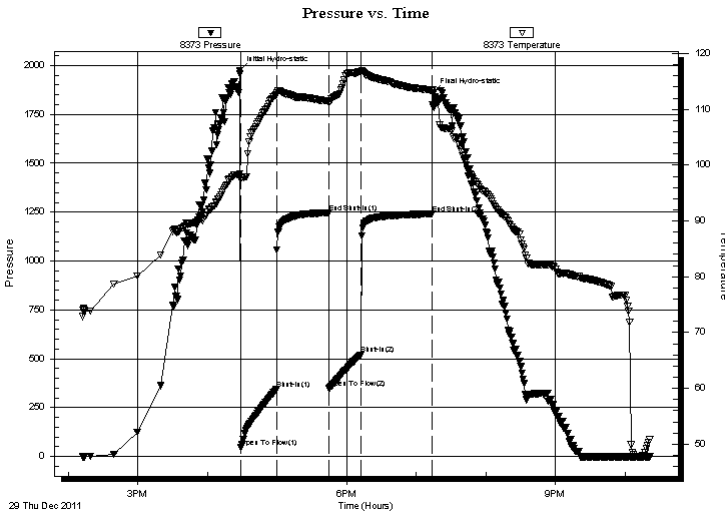
## Serial #: 8373

Inside

Press @ Run Depth: 521.55 psig @ 3948.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2011.12.29 End Date: 2011.12.29 Last Calib.: 2011.12.29  
Start Time: 14:12:34 End Time: 22:21:28 Time On Btm: 2011.12.29 @ 16:27:44  
Time Off Btm: 2011.12.29 @ 19:14:43

TEST COMMENT: IF: BOB in 4 min.  
IS: No return.  
FF: BOB in 6 min.  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1975.03	98.45	Initial Hydro-static
2	45.55	97.32	Open To Flow (1)
32	343.68	112.65	Shut-In (1)
77	1246.68	111.54	End Shut-In (1)
78	347.60	111.20	Open To Flow (2)
105	521.55	116.78	Shut-In (2)
166	1241.19	113.46	End Shut-In (2)
167	1862.49	110.48	Final Hydro-static

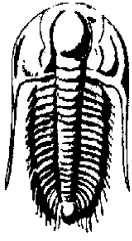
## Recovery

Length (ft)	Description	Volume (bbl)
248.00	mcw 90%w 10%m	1.52
248.00	mcw 60%w 40%m	3.48
248.00	w cm 40%w 60%m	3.48
279.00	w cm 5%w 95%m	3.91

\* Recovery from multiple tests

## Gas Rates

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



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Landmark Resources

11-15-33 Logan, KS

1616 S Voss Rd Ste 150  
Houston, TX 77057

**Hay Creek #1-11**

ATTN: Pat Deenihan

Job Ticket: 45310

**DST#: 4**

Test Start: 2011.12.29 @ 14:12:34

### GENERAL INFORMATION:

Formation: **LKC J-K-L**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:28:59

Time Test Ended: 22:21:28

**Interval: 3947.00 ft (KB) To 4017.00 ft (KB) (TVD)**

Total Depth: 4017.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 35

Reference Elevations: 2739.00 ft (KB)

2729.00 ft (CF)

KB to GR/CF: 10.00 ft

**Serial #: 8289 Outside**

Press @ Run Depth: psig @ 3948.00 ft (KB)

Start Date: 2011.12.29

End Date:

Start Time: 14:12:39

End Time:

Capacity: 8000.00 psig

Last Calib.: 2011.12.29

Time On Btm:

Time Off Btm:

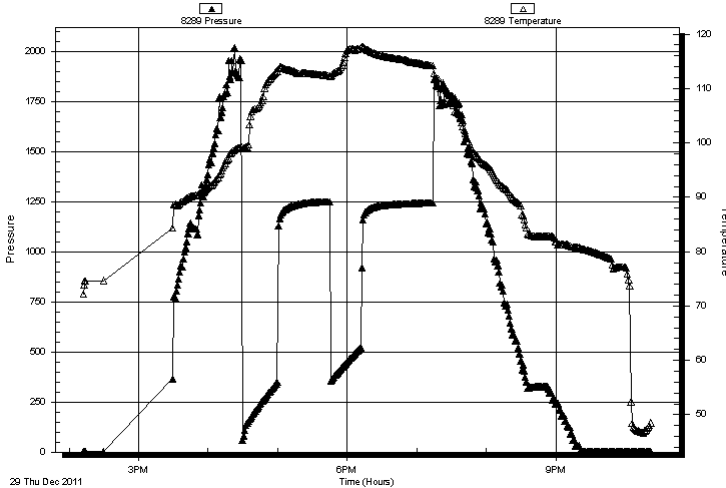
TEST COMMENT: IF: BOB in 4 min.

IS: No return.

FF: BOB in 6 min.

FS: No return.

Pressure vs. Time



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
248.00	mcw 90%w 10%m	1.52
248.00	mcw 60%w 40%m	3.48
248.00	w cm 40%w 60%m	3.48
279.00	w cm 5%w 95%m	3.91

### 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

**11-15-33 Logan,KS**

1616 S Voss Rd Ste 150  
Houston, TX 77057

**Hay Creek #1-11**

ATTN: Pat Deenihan

Job Ticket: 45310

**DST#: 4**

Test Start: 2011.12.29 @ 14:12:34

## Tool Information

Drill Pipe:	Length: 3714.00 ft	Diameter: 3.80 inches	Volume: 52.10 bbl	Tool Weight: 1500.00 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: 215.00 ft	Diameter: 2.25 inches	Volume: 1.06 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 53.16 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3947.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	70.00 ft			
Tool Length:	98.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Stubb	1.00			3920.00	
Shut In Tool	5.00			3925.00	
Hydraulic tool	5.00			3930.00	
Jars	5.00			3935.00	
Safety Joint	3.00			3938.00	
Packer	5.00			3943.00	28.00 Bottom Of Top Packer
Packer	4.00			3947.00	
Stubb	1.00			3948.00	
Recorder	0.00	8373	Inside	3948.00	
Recorder	0.00	8289	Outside	3948.00	
Perforations	1.00			3949.00	
Change Over Sub	1.00			3950.00	
Drill Pipe	61.00			4011.00	
Change Over Sub	1.00			4012.00	
Bullnose	5.00			4017.00	70.00 Bottom Packers & Anchor

**Total Tool Length: 98.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Landmark Resources

**11-15-33 Logan,KS**

1616 S Voss Rd Ste 150  
Houston, TX 77057

**Hay Creek #1-11**

Job Ticket: 45310

**DST#: 4**

ATTN: Pat Deenihan

Test Start: 2011.12.29 @ 14:12:34

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

34000 ppm

Viscosity: 66.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.17 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
248.00	mcw 90%w 10%m	1.520
248.00	mcw 60%w 40%m	3.479
248.00	wcm 40%w 60%m	3.479
279.00	wcm 5%w 95%m	3.914

Total Length: 1023.00 ft      Total Volume: 12.392 bbl

Num Fluid Samples: 0

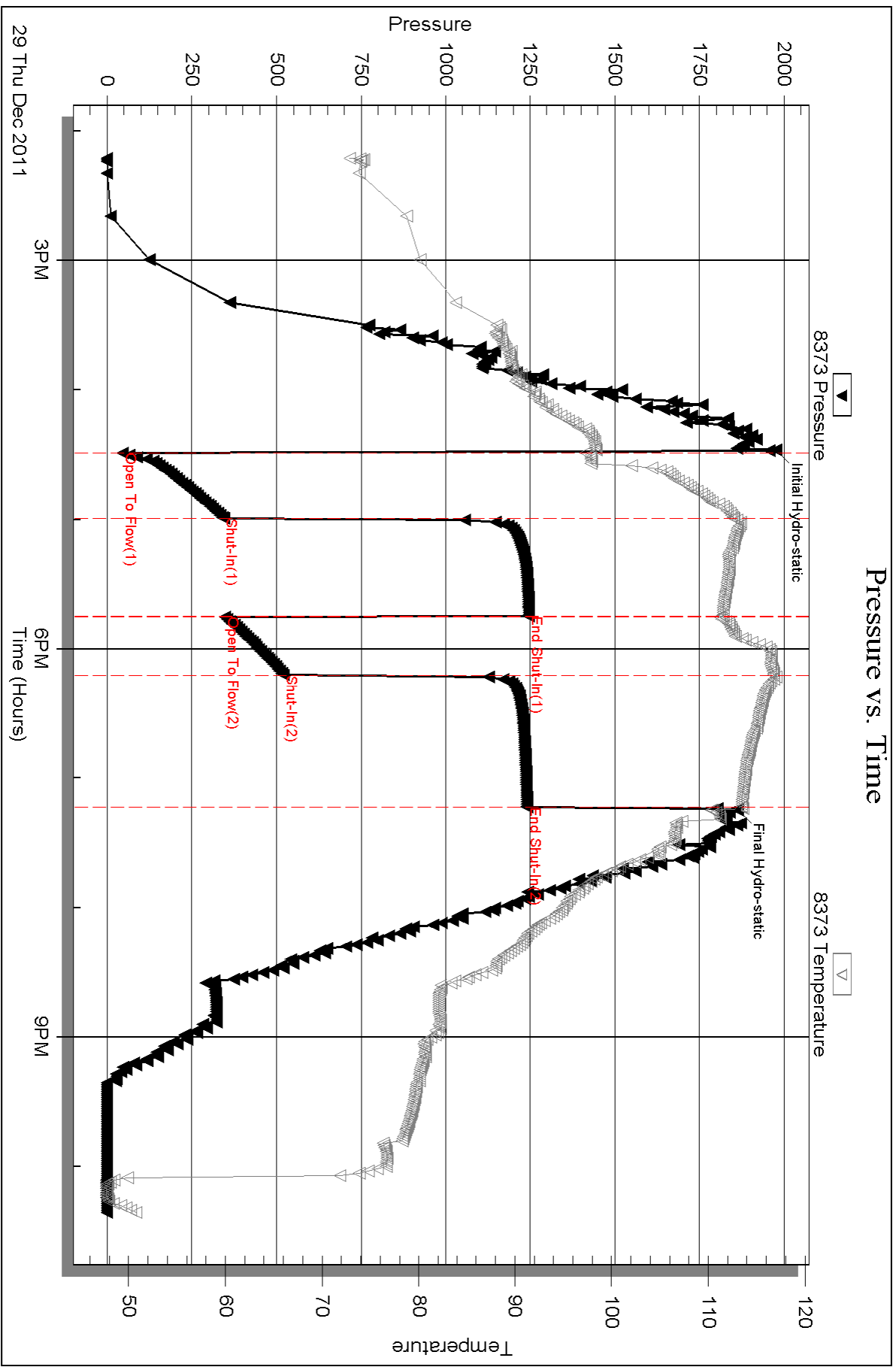
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .34@43=34000









## DRILL STEM TEST REPORT

Prepared For: **Landmark Resources**

1616 S Voss Rd Ste 150  
Houston, TX 77057

ATTN: Pat Deenihan

### **Hay Creek #1-11**

### **11-15-33 Logan,KS**

Start Date: 2011.12.30 @ 15:20:58

End Date: 2011.12.30 @ 22:52:22

Job Ticket #: 45311                      DST #: 5

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

Printed: 2012.01.10 @ 13:50:30



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Landmark Resources  
 1616 S Voss Rd Ste 150  
 Houston, TX 77057  
 ATTN: Pat Deenihan

**11-15-33 Logan, KS**  
**Hay Creek #1-11**  
 Job Ticket: 45311      **DST#: 5**  
 Test Start: 2011.12.30 @ 15:20:58

## GENERAL INFORMATION:

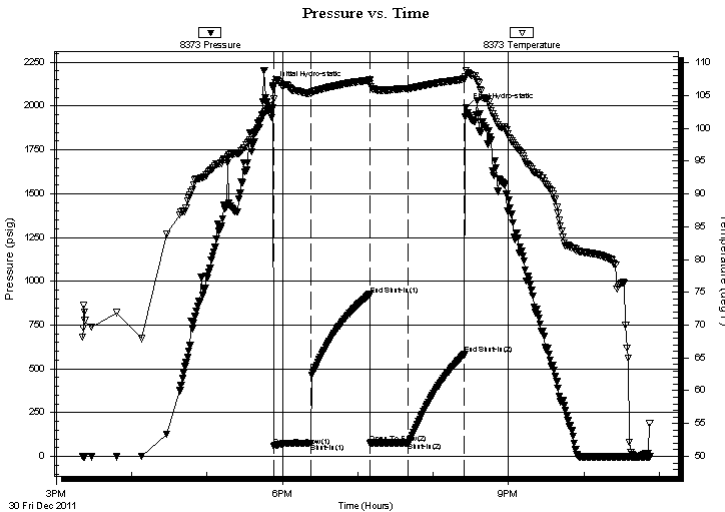
Formation: **Altamont**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 17:53:23  
 Time Test Ended: 22:52:22  
 Interval: **4068.00 ft (KB) To 4156.00 ft (KB) (TVD)**  
 Total Depth: 4156.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brandon Turley  
 Unit No: 35  
 Reference Elevations: 2739.00 ft (KB)  
 2729.00 ft (CF)  
 KB to GR/CF: 10.00 ft

## Serial #: 8373 Inside

Press @ Run Depth: 78.68 psig @ 4073.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2011.12.30 End Date: 2011.12.30 Last Calib.: 2011.12.30  
 Start Time: 15:20:58 End Time: 22:52:22 Time On Btm: 2011.12.30 @ 17:52:08  
 Time Off Btm: 2011.12.30 @ 20:26:22

TEST COMMENT: IF: 2 in blow built to 3 1/4 in 30 min.  
 IS: No return.  
 FF: No blow.  
 FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2118.57	103.17	Initial Hydro-static
2	59.22	104.43	Open To Flow (1)
31	75.99	105.27	Shut-In(1)
78	924.73	107.34	End Shut-In(1)
78	76.40	106.80	Open To Flow (2)
108	78.68	106.07	Shut-In(2)
153	582.48	107.48	End Shut-In(2)
155	1990.14	108.82	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
70.00	mud 100% m	0.34

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Landmark Resources  
 1616 S Voss Rd Ste 150  
 Houston, TX 77057  
 ATTN: Pat Deenihan

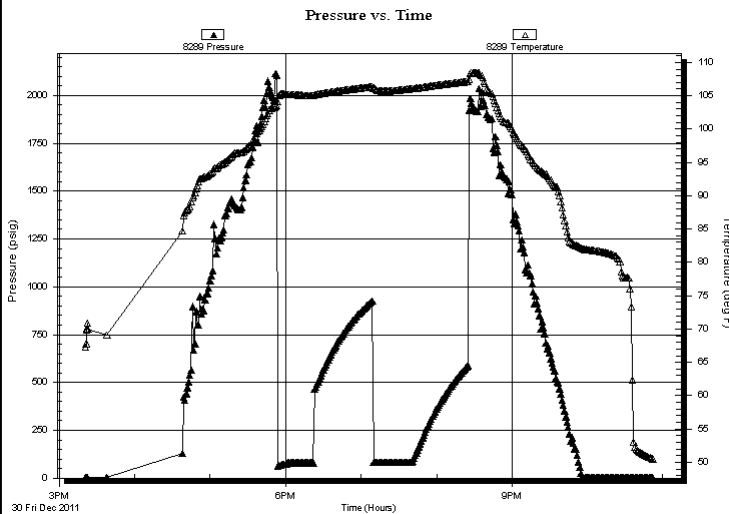
**11-15-33 Logan,KS**  
**Hay Creek #1-11**  
 Job Ticket: 45311 **DST#: 5**  
 Test Start: 2011.12.30 @ 15:20:58

**GENERAL INFORMATION:**

Formation: <b>Altamont</b>		Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: ft (KB)		Tester: Brandon Turley
Time Tool Opened: 17:53:23		Unit No: 35
Time Test Ended: 22:52:22		Reference Elevations: 2739.00 ft (KB)
<b>Interval: 4068.00 ft (KB) To 4156.00 ft (KB) (TVD)</b>		2729.00 ft (CF)
Total Depth: 4156.00 ft (KB) (TVD)		KB to GR/CF: 10.00 ft
Hole Diameter: 7.88 inches Hole Condition: Good		

<b>Serial #: 8289</b>	<b>Outside</b>			Capacity: 8000.00 psig
Press @RunDepth: psig @ 4073.00 ft (KB)		2011.12.30	End Date: 2011.12.30	Last Calib.: 2011.12.30
Start Date: 2011.12.30		22:52:22	End Time: 22:52:22	Time On Btm:
Start Time: 15:20:58				Time Off Btm:

**TEST COMMENT:** IF: 2 in blow built to 3 1/4 in 30 min.  
 IS: No return.  
 FF: No blow.  
 FS: No return.



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
70.00	mud 100% <sub>m</sub>	0.34

**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

**11-15-33 Logan,KS**

1616 S Voss Rd Ste 150  
Houston, TX 77057

**Hay Creek #1-11**

Job Ticket: 45311

**DST#: 5**

ATTN: Pat Deenihan

Test Start: 2011.12.30 @ 15:20:58

## Tool Information

Drill Pipe:	Length: 3843.00 ft	Diameter: 3.80 inches	Volume: 53.91 bbl	Tool Weight: 1500.00 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: 215.00 ft	Diameter: 2.25 inches	Volume: 1.06 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 54.97 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	14.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4068.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	92.00 ft			
Tool Length:	116.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Stubb	1.00			4045.00	
Shut In Tool	5.00			4050.00	
Hydraulic tool	5.00			4055.00	
Jars	5.00			4060.00	
Safety Joint	3.00			4063.00	
Packer	5.00			4068.00	24.00 Bottom Of Top Packer
Packer - Shale	4.00			4072.00	
Stubb	1.00			4073.00	
Recorder	0.00	8373	Inside	4073.00	
Recorder	0.00	8289	Outside	4073.00	
Perforations	18.00			4091.00	
Change Over Sub	1.00			4092.00	
Drill Pipe	62.00			4154.00	
Change Over Sub	1.00			4155.00	
Bullnose	5.00			4160.00	92.00 Anchor Tool

**Total Tool Length: 116.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Landmark Resources

**11-15-33 Logan,KS**

1616 S Voss Rd Ste 150  
Houston, TX 77057

**Hay Creek #1-11**

Job Ticket: 45311

**DST#: 5**

ATTN: Pat Deenihan

Test Start: 2011.12.30 @ 15:20:58

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 6400.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	mud 100%m	0.344

Total Length: 70.00 ft      Total Volume: 0.344 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

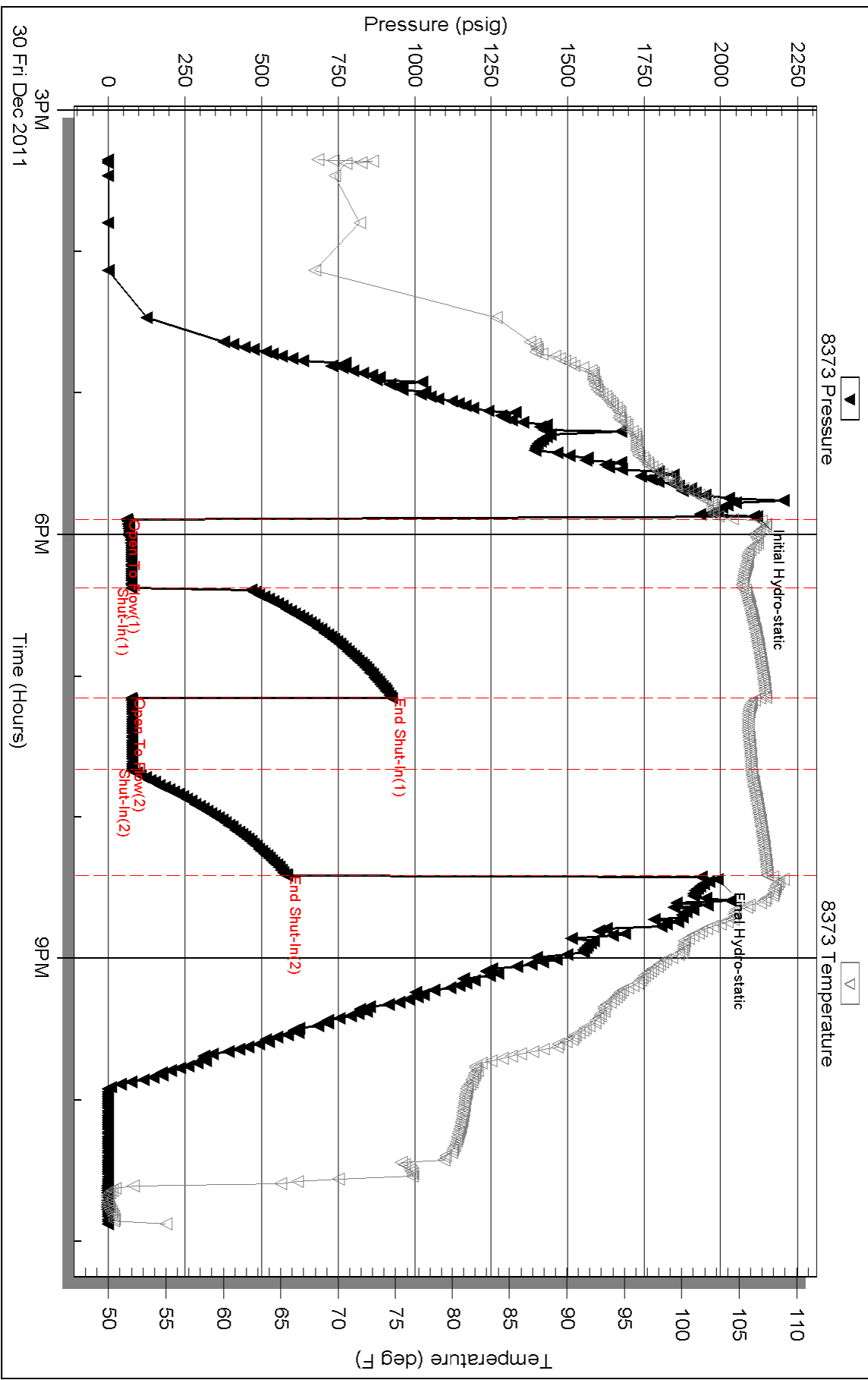
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

### Pressure vs. Time

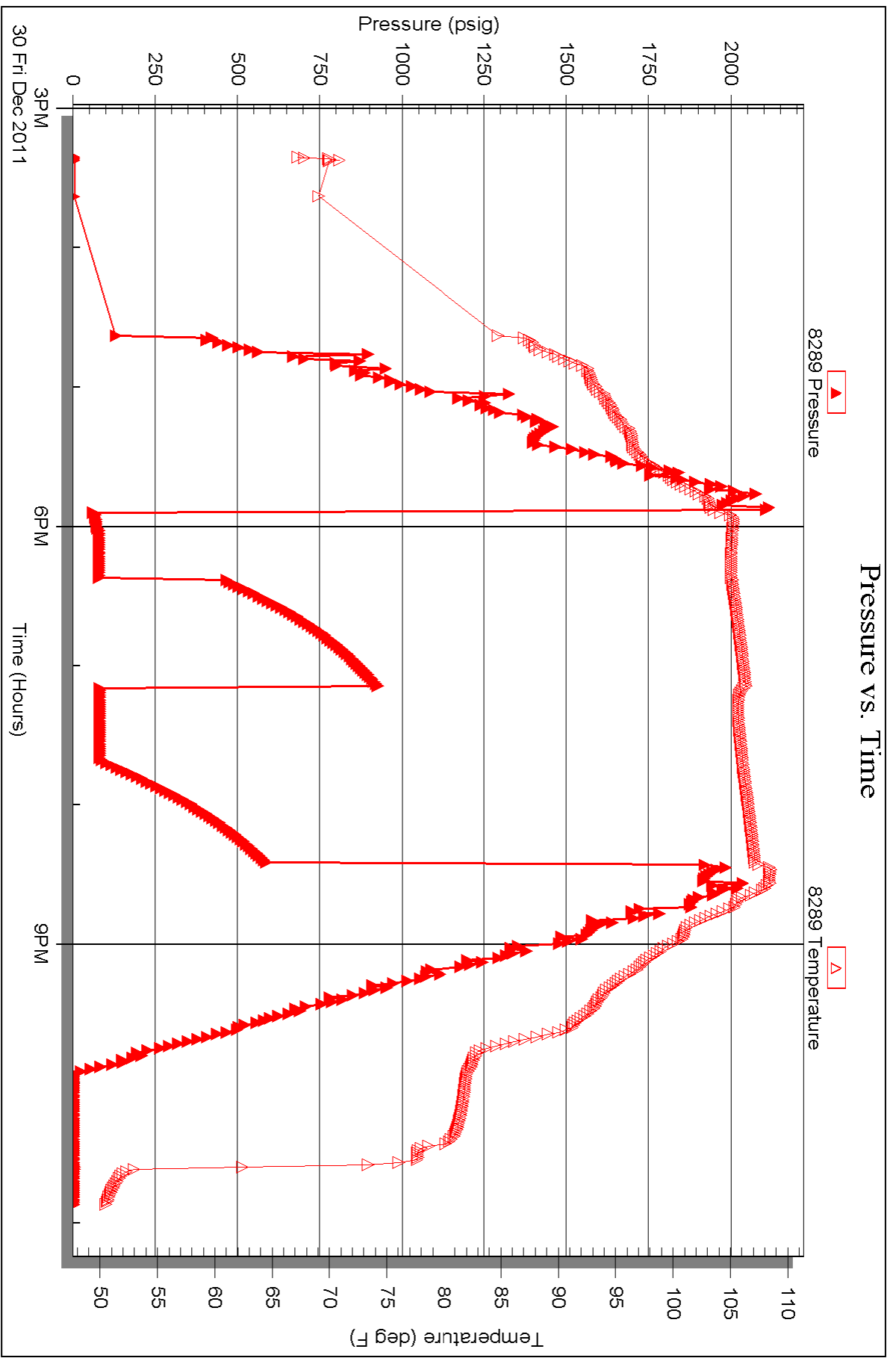


Serial #: 8289

Outside Landmark Resources

Hay Creek #1-11

DST Test Number: 5







PO Box 31  
Russell, KS 67665

Voice: (817) 546-7282  
Fax: (817) 246-3361

ck # 40702  
\$5377.68  
PAID JAN 18 2012  
71730

# INVOICE

Invoice Number: 129790  
Invoice Date: Jan 1, 2012  
Page: 1

Federal Tax I.D.#: 20-5975804

APPROVED JAN 18 2012

**Bill To:**  
Landmark Resources, Inc.  
1616 S. Voss  
ST #150  
Houston, TX 77057-1264

Customer ID	Well Name# or Customer P.O.	Payment Terms	
Land	Haycreek #1-11	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-03	Oakley	Jan 1, 2012	1/31/12

Quantity	Item	Description	Unit Price	Amount
132.00	MAT	Class A Common	16.25	2,145.00
88.00	MAT	Pozmix	8.50	748.00
8.00	MAT	Gel	21.25	170.00
55.00	MAT	Flo Seal	2.70	148.50
230.00	SER	Handling	2.25	517.50
30.00	SER	Mileage 230 sx @.11	25.30	759.00
1.00	SER	Plug to Abandon	1,250.00	1,250.00
30.00	SER	Pump Truck Mileage	7.00	210.00
30.00	SER	Light Vehicle Mileage	4.00	120.00
1.00	EQP	8.5/8 Dry Hole Plug	92.00	92.00
1.00	CEMENTER	Andrew Forslund		
1.00	EQUIP OPER	Jerry Yates		
1.00	OPER ASSIST	Brandon Wilkinson		

6,609.68+  
1,232.00-

000

5,377.68\*+

Subtotal	6,160.00
Sales Tax	449.68
Total Invoice Amount	6,609.68
Payment/Credit Applied	
<b>TOTAL</b>	<b>6,609.68</b>

ALL PRICES ARE NET, PAYABLE  
30 DAYS FOLLOWING DATE OF  
INVOICE. 1 1/2% CHARGED  
THEREAFTER. IF ACCOUNT IS  
CURRENT, TAKE DISCOUNT OF

\$1232.00

ONLY IF PAID ON OR BEFORE  
Jan 26, 2012

# ALLIED CEMENTING CO., LLC. 035307

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT: Oakley

DATE <u>1-1-12</u>	SEC. <u>11</u>	TWP. <u>15</u>	RANGE <u>33</u>	CALLED OUT	ON LOCATION	JOB START <u>12:00 AM</u>	JOB FINISH <u>1:30 AM</u>
LEASE <u>HAYCREEK</u>	WELL # <u>1-11</u>	LOCATION <u>Oakley 23s 4 1/2 W 15</u>			COUNTY <u>Logan</u>	STATE <u>KS</u>	
OLD OR <u>NEW</u> (Circle one)				SWINTO			

CONTRACTOR Murkin 2

TYPE OF JOB PTA

HOLE SIZE 2 7/8 T.D. 4425

CASING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_

TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_

DRILL PIPE 4 1/2 DEPTH 2142'

TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_

PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_

MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_

CEMENT LEFT IN CSG. \_\_\_\_\_

PERFS. \_\_\_\_\_

DISPLACEMENT \_\_\_\_\_

OWNER Same

CEMENT AMOUNT ORDERED 220 sks 60/40 4 bags

1/4" flo-seal

COMMON	<u>132 sks</u>	@	<u>16.25</u>	<u>2145.00</u>
POZMIX	<u>88 sks</u>	@	<u>8.50</u>	<u>748.00</u>
GEL	<u>8 sks</u>	@	<u>21.25</u>	<u>170.00</u>
CHLORIDE		@		
ASC		@		
<u>Flo-seal 55#</u>		@	<u>2.70</u>	<u>148.50</u>
		@		
		@		
		@		
		@		
		@		
		@		
		@		
		@		
		@		
		@		
HANDLING	<u>230 sks</u>	@	<u>2.25</u>	<u>517.50</u>
MILEAGE	<u>110 sk/mile</u>			<u>759.00</u>
TOTAL				<u>4488.00</u>

EQUIPMENT

PUMP TRUCK CEMENTER Andrew

# 422 HELPER Jerry

BULK TRUCK

# 347 DRIVER Brandon

BULK TRUCK

# \_\_\_\_\_ DRIVER \_\_\_\_\_

REMARKS:

- 25 sks @ 2142'
- 100 sks @ 1021'
- 40 sks @ 252'
- 10 sks @ 40'
- 15 sks mouse hole
- 30 sks Rat hole

Thank you

CHARGE TO: Landmark Resources

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SERVICE

DEPTH OF JOB	<u>2142'</u>		
PUMP TRUCK CHARGE			<u>1250.00</u>
EXTRA FOOTAGE		@	
MILEAGE	<u>30 mile</u>	@	<u>7.00</u> <u>210.00</u>
MANIFOLD		@	
<u>Light vehicle</u>		@	<u>4.00</u> <u>120.00</u>
		@	
TOTAL <u>1580.00</u>			

PLUG & FLOAT EQUIPMENT

<u>8 5/8</u>			
<u>1 Dry hole plug</u>	@		<u>92.00</u>
	@		
	@		
	@		
TOTAL <u>92.00</u>			

To Allied Cementing Co., LLC.  
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME \_\_\_\_\_

SIGNATURE 

SALES TAX (If Any) \_\_\_\_\_

TOTAL CHARGES \_\_\_\_\_

DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS



# INVOICE

24 S. Lincoln Street  
 P.O. Box 31  
 Russell, KS 67665-2906  
 Voice: (817) 546-7282  
 Fax: (817) 246-3361

Invoice Number: 129661  
 Invoice Date: Dec 16, 2011  
 Page: 1

**Bill To:**

Federal Tax I.D.#: 20-5975804

Landmark Resources, Inc.  
 1616 S. Voss  
 ST #150  
 Houston, TX 77057-1264

Customer ID	Well Name# or Customer P.O.	Payment Terms	
Land	HayCreek #1-11	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS2-01	Oakley	Dec 16, 2011	1/15/12

Quantity	Item	Description	Unit Price	Amount
165.00	MAT	Class a Common	16.25	2,681.25
3.00	MAT	Gel	21.25	63.75
6.00	MAT	Chloride	58.20	349.20
174.00	SER	Handling	2.25	391.50
30.00	SER	Mileage	19.14	574.20
1.00	SER	Surface	1,125.00	1,125.00
30.00	SER	Heavy Vehicle Mileage	7.00	210.00
1.00	SER	Manifold Swedge Rental	325.00	325.00
30.00	SER	Light Vehicle Mileage	4.00	120.00
1.00	CEMENTER	Larene Wentz		
1.00	EQUIP OPER	Darren Racette		
1.00	OPER ASSIST	Tyler Flipse		

Subtotal	5,839.90
Sales Tax	225.88
Total Invoice Amount	6,065.78
Payment/Credit Applied	
<b>TOTAL</b>	<b>6,065.78</b>

ALL PRICES ARE NET, PAYABLE  
 30 DAYS FOLLOWING DATE OF  
 INVOICE. 1 1/2% CHARGED  
 THEREAFTER. IF ACCOUNT IS  
 CURRENT, TAKE DISCOUNT OF

\$ 1147.98

ONLY IF PAID ON OR BEFORE  
 Jan 10, 2012

# ALLIED CEMENTING CO., LLC. 036146

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT: Dakley, KS

DATE <u>12-17-11</u>	SEC. <u>11</u>	TWP. <u>15</u>	RANGE <u>33</u>	CALLED OUT	ON LOCATION <u>1.00am</u>	JOB START <u>2:40 am</u>	JOB FINISH <u>2:50 am</u>
LEASE <u>Harcreek</u>	WELL# <u>1-11</u>	LOCATION <u>Dakley, KS 235, 4th W,</u>			COUNTY <u>Hogan</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one) <u>NEW</u>		<u>15, 3/4 W SW into</u>					

CONTRACTOR Murofin #2

TYPE OF JOB Surface

HOLE SIZE 12 1/4" T.D. 227'

CASING SIZE 8 1/2" DEPTH 227'

TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_

DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_

TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_

PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_

MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_

CEMENT LEFT IN CSG. 15 ft

PERFS. \_\_\_\_\_

DISPLACEMENT 13.5 bbl

OWNER same

CEMENT AMOUNT ORDERED 165 sks com 390cc

2 bags

COMMON	<u>169.3/10 @ 16.25</u>	<u>2686.25</u>
POZMIX	@	
GEL	<u>3 sk @ 21.25</u>	<u>63.75</u>
CHLORIDE	<u>65K @ 58.20</u>	<u>347.20</u>
ASC	@	
	@	
	@	
	@	
	@	
	@	
	@	
HANDLING	<u>174 sk @ 2.25</u>	<u>376.20</u>
MILEAGE	<u>116 sk/cube</u>	<u>574.20</u>
TOTAL		<u>4052.20</u>

EQUIPMENT

PUMP TRUCK CEMENTER Lakene

# 431 HELPER Darren

BULK TRUCK

# 396/306 DRIVER Tyler

BULK TRUCK

# \_\_\_\_\_ DRIVER \_\_\_\_\_

REMARKS:

mix 169 sks down casing

Displace with water.

Cement did circulate

J. Houbert 404.

CHARGE TO: Landmark oil

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SERVICE

DEPTH OF JOB	<u>227'</u>	
PUMP TRUCK CHARGE		<u>1125.00</u>
EXTRA FOOTAGE	@	
MILEAGE	<u>30 @ 7.00</u>	<u>210.00</u>
MANIFOLD <u>sawedge</u>	@	<u>323.00</u>
<u>L.O. mileage</u>	@ <u>4.00</u>	<u>120.00</u>
	@	
TOTAL		<u>1780.00</u>

PLUG & FLOAT EQUIPMENT

_____	@	_____
_____	@	_____
_____	@	_____
_____	@	_____
_____	@	_____
_____	@	_____
TOTAL		_____

To Allied Cementing Co., LLC.  
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME Cesar Tinoco

SIGNATURE Cesar Tinoco

SALES TAX (if Any) \_\_\_\_\_

TOTAL CHARGES \_\_\_\_\_

DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS

Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 2078  
Wichita, KS 67202-3802



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Mark Sievers, Chairman  
Ward Loyd, Commissioner  
Thomas E. Wright, Commissioner

Sam Brownback, Governor

February 20, 2012

Jeff Wood  
Landmark Resources, Inc.  
1616 S VOSS RD STE 150  
HOUSTON, TX 77057-2641

Re: ACO1  
API 15-109-21050-00-00  
Hay Creek 1 -11  
NE/4 Sec.11-15S-33W  
Logan County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,  
Jeff Wood