



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1195581  
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: \_\_\_\_\_

119581

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 <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
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:				

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:  Yes  No

Date of First, Resumed Production, SWD or ENHR: \_\_\_\_\_ Producing Method:  
 Flowing  Pumping  Gas Lift  Other *(Explain)* \_\_\_\_\_

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	Hartman Oil Co., Inc.
Well Name	Calkins 15-1
Doc ID	1195581

All Electric Logs Run

Borehole Compensated Sonic Array
Array Compensated True Resistivity
Micro Log
Dual Spaced Neutron Spectral Density

Form	ACO1 - Well Completion
Operator	Hartman Oil Co., Inc.
Well Name	Calkins 15-1
Doc ID	1195581

Tops

Name	Top	Datum
Lansing	4008	-776
Mun Creek	4211	-979
Stark	4334	-1102
B/KC	4473	-1241
Marmaton	4500	-1268
Pawnee	4604	-1372
Ft Scott	4636	-1404
Cherokee	4652	-1420
Morrow Shale	4898	-1666
Mississippian	4981	-1895
LTD	5127	-1895





PO Box 93999  
Southlake, TX 76092

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

# INVOICE

Invoice Number: 141767  
Invoice Date: Mar 5, 2014  
Page: 1

<b>Bill To:</b>
Hartman Oil Co., Inc. H2 Drilling & H2 Trucking 3545 W. Jones Avenue Garden City, KS 67846

Customer ID	Field Ticket #	Payment Terms	
Hart	62509	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Mar 5, 2014	4/4/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Calkins #15-1 <i>82045</i>		
280.00	CEMENT MATERIALS	Class A Common	17.90	5,012.00
135.00	CEMENT MATERIALS	Class A Common	17.90	2,416.50
5.00	CEMENT MATERIALS	Gel	23.40	117.00
10.00	CEMENT MATERIALS	Chloride	64.00	640.00
5.00	CEMENT MATERIALS	Chloride	64.00	320.00
565.28	CEMENT SERVICE	Cubic Feet Charge	2.48	1,401.89
2,073.60	CEMENT SERVICE	Ton Mileage Charge	2.60	5,391.36
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
1.00	CEMENT SERVICE	Surface	1,250.00	1,250.00
80.00	CEMENT SERVICE	Pump Truck Mileage	7.70	616.00
1.00	CEMENT SERVICE	Manifold Head Rental	275.00	275.00
80.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	352.00
1.00	EQUIPMENT SALES	8-5/8 Wooden Plug	107.64	107.64
1.00	CEMENT SUPERVISOR	LaRene Wentz		
1.00	EQUIPMENT OPERATOR	Paul Beaver		
1.00	EQUIPMENT OPERATOR	Talon Jones		

**NEW WELL  
DRILLED**

*A. V. Mitchell*  
*3-17-14*

*P&A*

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

\$ **5,018.91**

ONLY IF PAID ON OR BEFORE  
**Mar 30, 2014**

Subtotal	19,411.64
Sales Tax	529.71
Total Invoice Amount	19,941.35
Payment/Credit Applied	
<b>TOTAL</b>	<b>19,941.35</b>

# ALLIED OIL & GAS SERVICES, LLC 062509

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT:  
Ogklay, Ky  
11:05 am to 11:30 am

DATE <u>3-5-14</u>	SEC. <u>15</u>	TWP. <u>21</u>	RANGE <u>36</u>	CALLED OUT	ON LOCATION <u>5:00 am</u>	JOB START <u>11:05 am</u>	JOB FINISH <u>11:30 am</u>
LEASE <u>Calkins</u>	WELL # <u>15-1</u>	LOCATION <u>Friend W to Red W (7 mi)</u>			COUNTY <u>Keating</u>	STATE <u>KY</u>	
OLD OR NEW (Circle one) <u>NEW</u>		<u>35 to 340, 3w, 1 N-wire</u>					

CONTRACTOR <u>H2 Rig 2</u>	OWNER <u>same</u>
TYPE OF JOB <u>Surface</u>	
HOLE SIZE <u>12 1/4</u> T.D. <u>348'</u>	CEMENT
CASING SIZE <u>9 5/8</u> DEPTH <u>348'</u>	AMOUNT ORDERED <u>280 sks com 3% cc</u>
TUBING SIZE DEPTH	<u>2 7/8 gel.</u>
DRILL PIPE DEPTH	<u>250 sks com 3% cc</u>
TOOL DEPTH	
PRES. MAX MINIMUM	COMMON <u>280 sks @ 12.90 5012.00</u>
MEAS. LINE SHOE JOINT	POZMIX <u>195 @ 12.90 2496.50</u>
CEMENT LEFT IN CSG. <u>15'</u>	GEL <u>5 sks @ 23.90 119.00</u>
PERFS.	CHLORIDE <u>10 sks @ 64.00 640.00</u>
DISPLACEMENT <u>21.31 bbl</u>	ASC <u>5 sks @ 64.00 320.00</u>

EQUIPMENT		
PUMP TRUCK CEMENTER <u>Lakona G Wentz</u>		
# <u>431</u> HELPER <u>Paul Beaver</u>		
BULK TRUCK		
# <u>386/310</u> DRIVER <u>Talon Jones</u>		
BULK TRUCK		
# DRIVER		
	HANDLING <u>563.28743 @ 2.48 1396.87</u>	
	MILEAGE <u>25.72 km x 80 x 2.60 5321.36</u>	
	TOTAL <u>15228.25</u>	

REMARKS: with hulls  
Mix 280 sks cement, Displace with  
water, Cement did not circulate  
Fell back to 95' deep.  
Mix 195 sks to fill hole & collar.

Thank you

CHARGE TO: Hartmondil

STREET \_\_\_\_\_

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

SERVICE	
DEPTH OF JOB <u>348'</u>	
PUMP TRUCK CHARGE <u>1512.25</u>	
EXTRA FOOTAGE @ _____	
MILEAGE <u>MHW 80 @ 7.70 616.00</u>	
MANIFOLD <u>Head 275.00</u>	
<u>MELU 80 @ 4.40 352.00</u>	
	TOTAL <u>4005.25</u>

PLUG & FLOAT EQUIPMENT	
<u>Wooden plug @ 107.64</u>	
	TOTAL <u>107.64</u>

To: Allied Oil & Gas Services, 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 STEVE CRAIG

SIGNATURE [Signature]

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

TOTAL CHARGES 19,411.14

DISCOUNT 5,018.91 IF PAID IN 30 DAYS

14,392.23 Net.





PO Box 93999  
Southlake, TX 76092

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

# INVOICE

Invoice Number: 141887  
Invoice Date: Mar 15, 2014  
Page: 1

<b>Bill To:</b>
Hartman Oil Co., Inc. H2 Drilling & H2 Trucking 3545 W. Jones Avenue Garden City, KS 67846

Customer ID	Field Ticket #	Payment Terms	
Hart	62016	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-03	Oakley	Mar 15, 2014	4/14/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Calkins #15-1 <i>82045</i>		
150.00	CEMENT MATERIALS	Class A Commo	17.90	2,685.00
100.00	CEMENT MATERIALS	Pozmix	9.35	935.00
9.00	CEMENT MATERIALS	Gel	23.40	210.60
62.50	CEMENT MATERIALS	Flo Seal	2.97	185.63
268.50	CEMENT SERVICE	Cubic Feet Charge	2.48	665.88
896.80	CEMENT SERVICE	Ton Mileage Charge	2.60	2,331.68
1.00	CEMENT SERVICE	Plug to Abandon	2,483.59	2,483.59
80.00	CEMENT SERVICE	Pump Truck Mileage	7.70	616.00
80.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	352.00
1.00	EQUIPMENT OPERATOR	Paul Beaver		
1.00	EQUIPMENT OPERATOR	Tyler Flipse		

**NEW WELL COMPLETION**  
*3-24-14 DHA*

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

\$ 2,722.55

ONLY IF PAID ON OR BEFORE  
Apr 9, 2014

Subtotal	10,465.38
Sales Tax	643.62
Total Invoice Amount	11,109.00
Payment/Credit Applied	
<b>TOTAL</b>	<b>11,109.00</b>



# ALLIED OIL & GAS SERVICES, LLC 062016

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT Oakley, KS

DATE <u>3-15-14</u>	SEG <u>15</u>	TWP <u>21</u>	RANGE <u>36</u>	CALLED OUT	ON LOCATION	JOB START <u>4:00 a.m.</u>	JOB FINISH <u>5:00 a.m.</u>
LEASE <u>Cal Kings</u>	WELL # <u>15-1</u>	LOCATION <u>Friend w/ to Rd w/ 3.5 to</u>	COUNTY <u>Keftney</u>	STATE <u>KS</u>			
OLD OR NEW (Circle one) <u>NEW</u>		<u>Rd 340, 342, 1W, 2140</u>					

CONTRACTOR Hertman Oil OWNER Same

TYPE OF JOB PTA

HOLE SIZE <u>7 7/8</u>	TD <u>4500'</u>
CASING SIZE	DEPTH
TUBING SIZE	DEPTH
DRILL PIPE <u>4 1/2</u>	DEPTH <u>2300'</u>
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT

CEMENT LEFT IN CSG.

PERFS.

DISPLACEMENT 5 cu/yd / 20.4 in/cy

EQUIPMENT

PUMP TRUCK # 120 CEMENTER Paul Bower

BULK TRUCK # 373 HELPER Tyler Hoge

BULK TRUCK DRIVER Don 2 (FOS)

BULK TRUCK DRIVER

REMARKS:

mix 50 sks @ 2300'

D. Saba w/ mud

mix 80 sks @ 1080'

Diaph w/ water

mix 50 sks @ 725'

mix 20 sks @ 100'

in 1/2 30 sks in R.H

mix 20 sks in m.H

CHARGE TO: Hertman Oil

STREET

CITY STATE ZIP

To: Allied Oil & Gas Services, 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 St Paul & 41 Oakley

SIGNATURE Don Crain

CEMENT AMOUNT ORDERED 250 sks 60/40

4 1/2 size 1 1/4 Flt Seal

COMMON	<u>150 sks @ 17.90</u>	<u>2685.00</u>
POZMIX	<u>100 sks @ 9.35</u>	<u>935.00</u>
GEL	<u>9 sks @ 23.90</u>	<u>210.60</u>
CHLORIDE		
ASC		
<u>Flt seal</u>	<u>62.5 @ 2.97</u>	<u>185.63</u>

HANDLING 268.50 @ 2.48 665.88

MILEAGE 1121 mi @ 2.10 2331.68

TOTAL 7013.99

SERVICE

DEPTH OF JOB 2300'

PUMP TRUCK CHARGE 2483.59

EXTRA FOOTAGE @

MILEAGE MILV 80 @ 7.70 616.00

MANIFOLD

MILV 80 @ 4.40 352.00

TOTAL 3457.59

PLUG & FLOAT EQUIPMENT

	@	
	@	
	@	
	@	
	@	
	@	

TOTAL

SALES TAX (if Any)

TOTAL CHARGES 10,471.38

DISCOUNT 2,722.55 IF PAID IN 30 DAYS

7,748.82 Net.

FILE COPY



## DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Company**

10500 E Berkeley Sq PKWY Ste 100  
Wichita, KS 67206

ATTN: Kitt Noah

### **Calkins #15-1**

#### **15-21s-36w Kearny,KS**

Start Date: 2014.03.10 @ 23:42:15

End Date: 2014.03.11 @ 07:05:15

Job Ticket #: 55646                      DST #: 1

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

Printed: 2014.03.19 @ 17:05:53



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Hartman Oil Company

**15-21s-36w Kearny,KS**

10500 E Berkeley Sq PKWY Ste 100  
Wichita, KS 67206

**Calkins #15-1**

Job Ticket: 55646

**DST#: 1**

ATTN: Kitt Noah

Test Start: 2014.03.10 @ 23:42:15

## GENERAL INFORMATION:

Formation: **Altamont B**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:01:45

Time Test Ended: 07:05:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 60

**Interval: 4517.00 ft (KB) To 4541.00 ft (KB) (TVD)**

Reference Elevations: 3232.00 ft (KB)

Total Depth: 4541.00 ft (KB) (TVD)

3222.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8373**

**Inside**

Press@RunDepth: 483.39 psig @ 4518.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.03.10

End Date:

2014.03.11

Last Calib.: 2014.03.11

Start Time: 23:42:20

End Time:

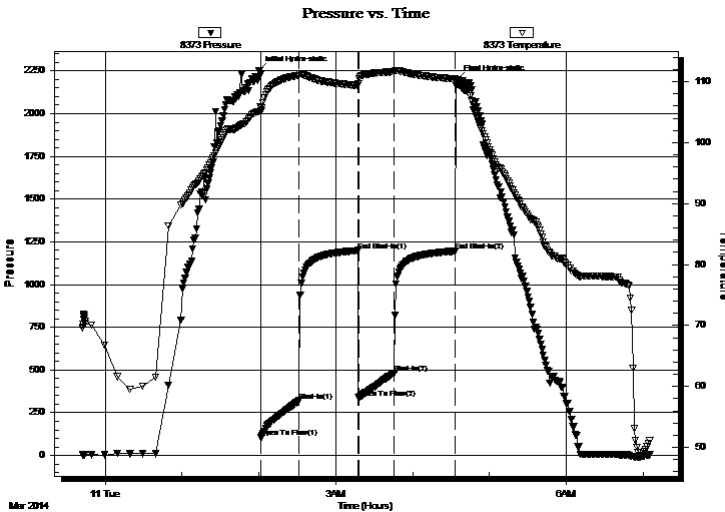
07:05:14

Time On Btm: 2014.03.11 @ 02:00:15

Time Off Btm: 2014.03.11 @ 04:34:45

TEST COMMENT: IF: BOB in 5 min.  
IS: No return.  
FF: BOB in 8 min.  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2253.32	105.03	Initial Hydro-static
2	103.90	105.17	Open To Flow (1)
31	319.69	111.03	Shut-In(1)
77	1198.88	109.38	End Shut-In(1)
78	337.33	109.67	Open To Flow (2)
106	483.39	111.63	Shut-In(2)
153	1195.06	110.43	End Shut-In(2)
155	2200.49	109.69	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
744.00	water 100%w	8.12
217.00	mcw 80%w 20%m	3.04

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Hartman Oil Company

**15-21s-36w Kearny,KS**

10500 E Berkeley Sq PKWY Ste 100  
Wichita, KS 67206

**Calkins #15-1**

Job Ticket: 55646

**DST#: 1**

ATTN: Kitt Noah

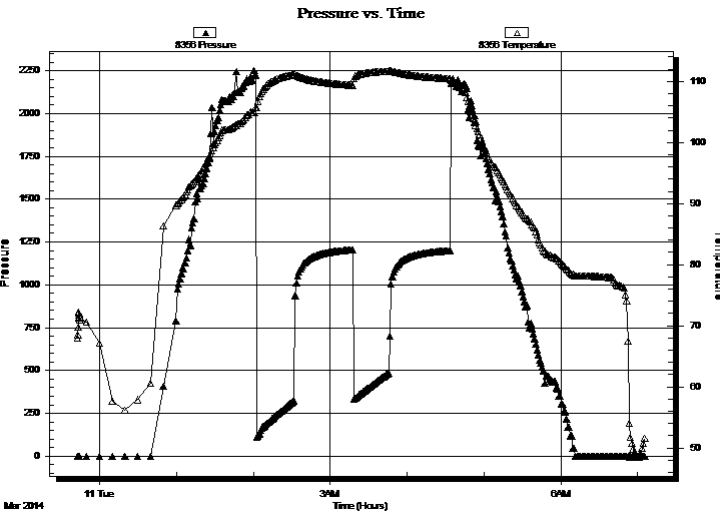
Test Start: 2014.03.10 @ 23:42:15

**GENERAL INFORMATION:**

Formation:	<b>Altamont B</b>			Test Type:	Conventional Bottom Hole (Initial)
Deviated:	No Whipstock:		ft (KB)	Tester:	Brandon Turley
Time Tool Opened:	02:01:45			Unit No:	60
Time Test Ended:	07:05:15				
<b>Interval:</b>	<b>4517.00 ft (KB) To 4541.00 ft (KB) (TVD)</b>			Reference Elevations:	3232.00 ft (KB)
Total Depth:	4541.00 ft (KB) (TVD)				3222.00 ft (CF)
Hole Diameter:	7.88 inches	Hole Condition:	Good	KB to GR/CF:	10.00 ft

<b>Serial #: 8356</b>	<b>Outside</b>			Capacity:	8000.00 psig
Press@RunDepth:	psig @	4518.00 ft (KB)		Last Calib.:	2014.03.11
Start Date:	2014.03.10	End Date:	2014.03.11	Time On Btm:	
Start Time:	23:42:33	End Time:	07:05:27	Time Off Btm:	

TEST COMMENT: IF: BOB in 5 min.  
 IS: No return.  
 FF: BOB in 8 min.  
 FS: No return.



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
744.00	water 100%w	8.12
217.00	mcw 80%w 20%m	3.04

**Gas Rates**

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hartman Oil Company

**15-21s-36w Kearny,KS**

10500 E Berkeley Sq PKWY Ste 100  
Wichita, KS 67206

**Calkins #15-1**

Job Ticket: 55646

**DST#: 1**

ATTN: Kitt Noah

Test Start: 2014.03.10 @ 23:42:15

## Tool Information

Drill Pipe:	Length: 4255.00 ft	Diameter: 3.80 inches	Volume: 59.69 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: 254.00 ft	Diameter: 2.25 inches	Volume: 1.25 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 60.94 bbl</u>	Tool Chased 4.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4517.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	52.00 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			4490.00	
Shut In Tool	5.00			4495.00	
Hydraulic tool	5.00			4500.00	
Jars	5.00			4505.00	
Safety Joint	3.00			4508.00	
Packer	5.00			4513.00	28.00 Bottom Of Top Packer
Packer	4.00			4517.00	
Stubb	1.00			4518.00	
Recorder	0.00	8373	Inside	4518.00	
Recorder	0.00	8356	Outside	4518.00	
Perforations	18.00			4536.00	
Bullnose	5.00			4541.00	24.00 Bottom Packers & Anchor

**Total Tool Length: 52.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Hartman Oil Company

**15-21s-36w Kearny,KS**

10500 E Berkeley Sq PKWY Ste 100  
Wichita, KS 67206

**Calkins #15-1**

Job Ticket: 55646

**DST#: 1**

ATTN: Kitt Noah

Test Start: 2014.03.10 @ 23:42:15

### 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:

69000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3600.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
744.00	water 100%w	8.123
217.00	mcw 80%w 20%m	3.044

Total Length: 961.00 ft      Total Volume: 11.167 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

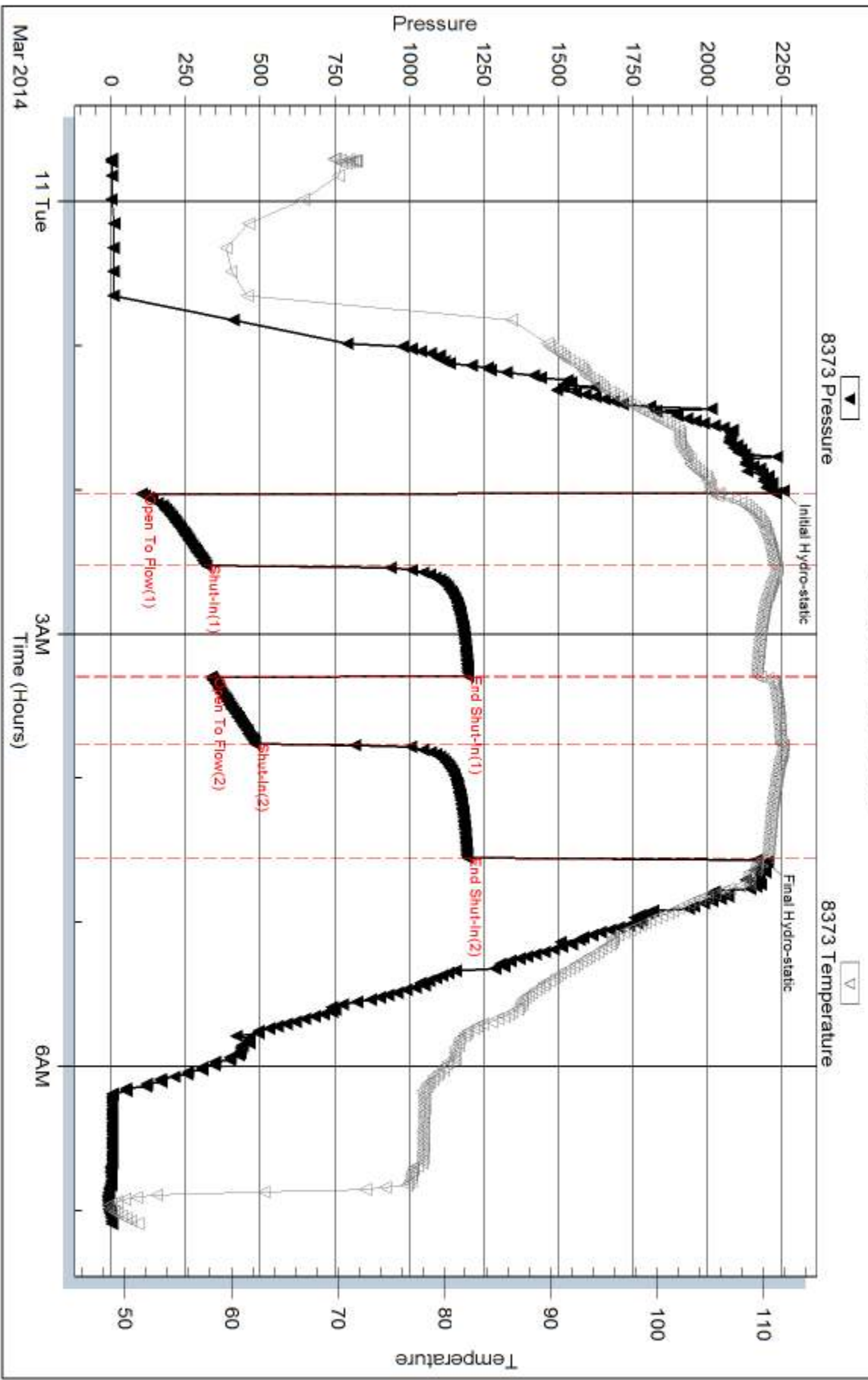
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .16@50=69000

### Pressure vs. Time

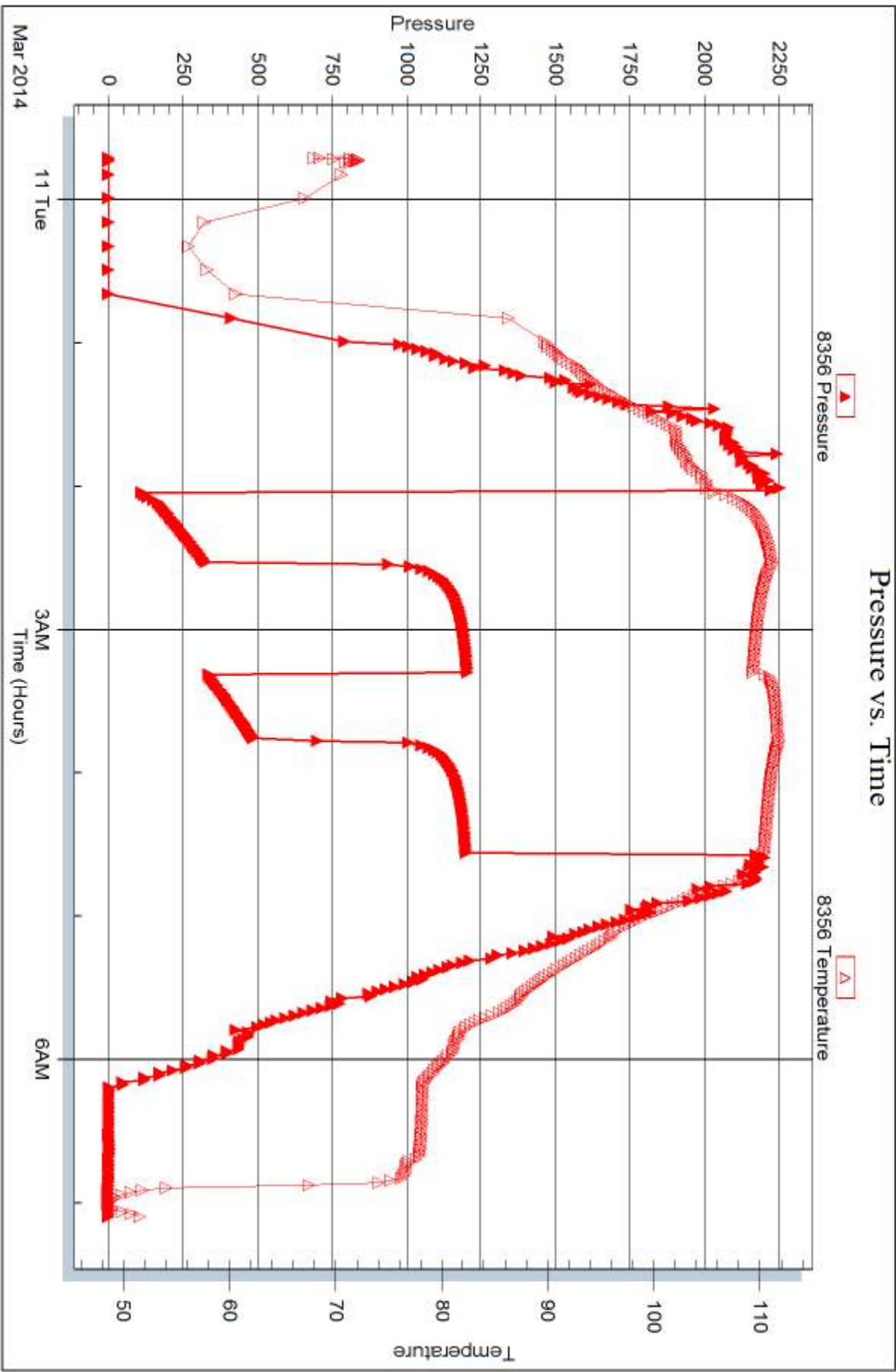


Serial #: 8356

Outside Hartman Oil Company

Calkins #15-1

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 55646

Printed: 2014.03.19 @ 17:05:55





## DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Company**

10500 E Berkeley Sq PKWY Ste 100  
Wichita, KS 67206

ATTN: Kitt Noah

### **Calkins #15-1**

#### **15-21s-36w Kearny,KS**

Start Date: 2014.03.12 @ 02:32:59

End Date: 2014.03.12 @ 11:04:59

Job Ticket #: 55647                      DST #: 2

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

Printed: 2014.03.19 @ 17:05:21



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Hartman Oil Company  
 10500 E Berkeley Sq PKWY Ste 100  
 Wichita, KS 67206  
 ATTN: Kitt Noah

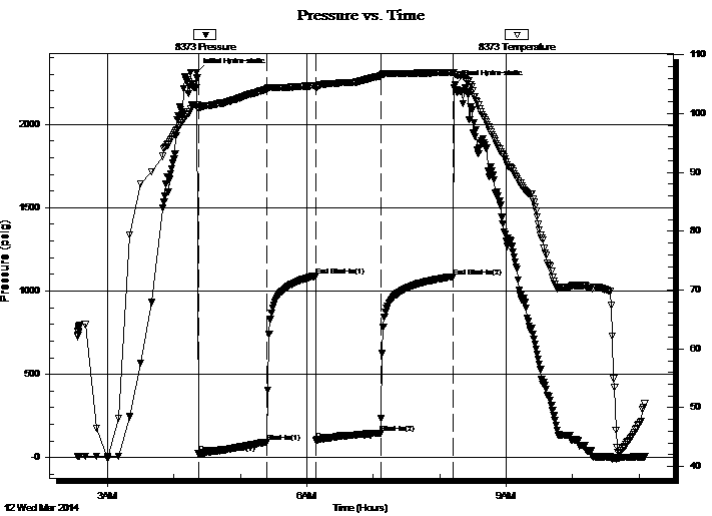
**15-21s-36w Kearny,KS**  
**Calkins #15-1**  
 Job Ticket: 55647 **DST#: 2**  
 Test Start: 2014.03.12 @ 02:32:59

## GENERAL INFORMATION:

Formation: **Ft Scott**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 04:21:59  
 Time Test Ended: 11:04:59  
 Interval: **4618.00 ft (KB) To 4650.00 ft (KB) (TVD)**  
 Total Depth: 4650.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brandon Turley  
 Unit No: 60  
 Reference Elevations: 3232.00 ft (KB)  
 3222.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 8373 Inside**  
 Press@RunDepth: 147.74 psig @ 4619.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.03.12 End Date: 2014.03.12 Last Calib.: 2014.03.12  
 Start Time: 02:33:04 End Time: 11:04:58 Time On Btm: 2014.03.12 @ 04:20:29  
 Time Off Btm: 2014.03.12 @ 08:13:59

TEST COMMENT: IF: Surface blow built to 4"  
 IS: No return.  
 FF: Surface blow built to 2"  
 FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2311.24	101.43	Initial Hydro-static
2	24.50	100.83	Open To Flow (1)
64	94.50	104.18	Shut-In(1)
108	1091.41	104.71	End Shut-In(1)
108	106.19	104.35	Open To Flow (2)
166	147.74	106.34	Shut-In(2)
232	1086.00	106.99	End Shut-In(2)
234	2235.62	106.63	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
126.00	mcw 80%w 20%m	0.62
159.00	w cm 20%w 80%m	1.06

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Hartman Oil Company  
10500 E Berkeley Sq PKWY Ste 100  
Wichita, KS 67206  
ATTN: Kitt Noah

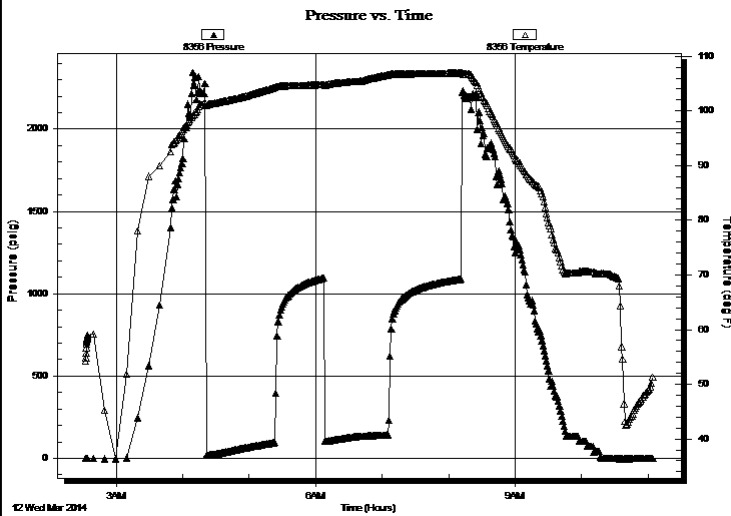
**15-21s-36w Kearny,KS**  
**Calkins #15-1**  
Job Ticket: 55647 **DST#: 2**  
Test Start: 2014.03.12 @ 02:32:59

## GENERAL INFORMATION:

Formation: **Ft Scott**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 04:21:59  
Time Test Ended: 11:04:59  
Interval: **4618.00 ft (KB) To 4650.00 ft (KB) (TVD)**  
Total Depth: 4650.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Reference Elevations: 3232.00 ft (KB)  
3222.00 ft (CF)  
KB to GR/CF: 10.00 ft  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Brandon Turley  
Unit No: 60

**Serial #: 8356** Outside  
Press@RunDepth: psig @ 4619.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2014.03.12 End Date: 2014.03.12 Last Calib.: 2014.03.12  
Start Time: 02:32:14 End Time: 11:04:08 Time On Btm:  
Time Off Btm:

TEST COMMENT: IF: Surface blow built to 4"  
IS: No return.  
FF: Surface blow built to 2"  
FS: No return.



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
126.00	mcw 80%w 20%m	0.62
159.00	w cm 20%w 80%m	1.06

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hartman Oil Company

**15-21s-36w Kearny,KS**

10500 E Berkeley Sq PKWY Ste 100  
Wichita, KS 67206

**Calkins #15-1**

Job Ticket: 55647

**DST#: 2**

ATTN: Kitt Noah

Test Start: 2014.03.12 @ 02:32:59

## Tool Information

Drill Pipe:	Length: 4351.00 ft	Diameter: 3.80 inches	Volume: 61.03 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: 254.00 ft	Diameter: 2.25 inches	Volume: 1.25 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 62.28 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4618.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	60.00 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			4591.00	
Shut In Tool	5.00			4596.00	
Hydraulic tool	5.00			4601.00	
Jars	5.00			4606.00	
Safety Joint	3.00			4609.00	
Packer	5.00			4614.00	28.00 Bottom Of Top Packer
Packer	4.00			4618.00	
Stubb	1.00			4619.00	
Recorder	0.00	8373	Inside	4619.00	
Recorder	0.00	8356	Outside	4619.00	
Perforations	26.00			4645.00	
Bullnose	5.00			4650.00	32.00 Bottom Packers & Anchor

**Total Tool Length: 60.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Hartman Oil Company

**15-21s-36w Kearny,KS**

10500 E Berkeley Sq PKWY Ste 100  
Wichita, KS 67206

**Calkins #15-1**

Job Ticket: 55647

**DST#: 2**

ATTN: Kitt Noah

Test Start: 2014.03.12 @ 02:32:59

### 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:

44000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 79.90 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
126.00	mcw 80%w 20%m	0.620
159.00	w cm 20%w 80%m	1.064

Total Length: 285.00 ft      Total Volume: 1.684 bbl

Num Fluid Samples: 0

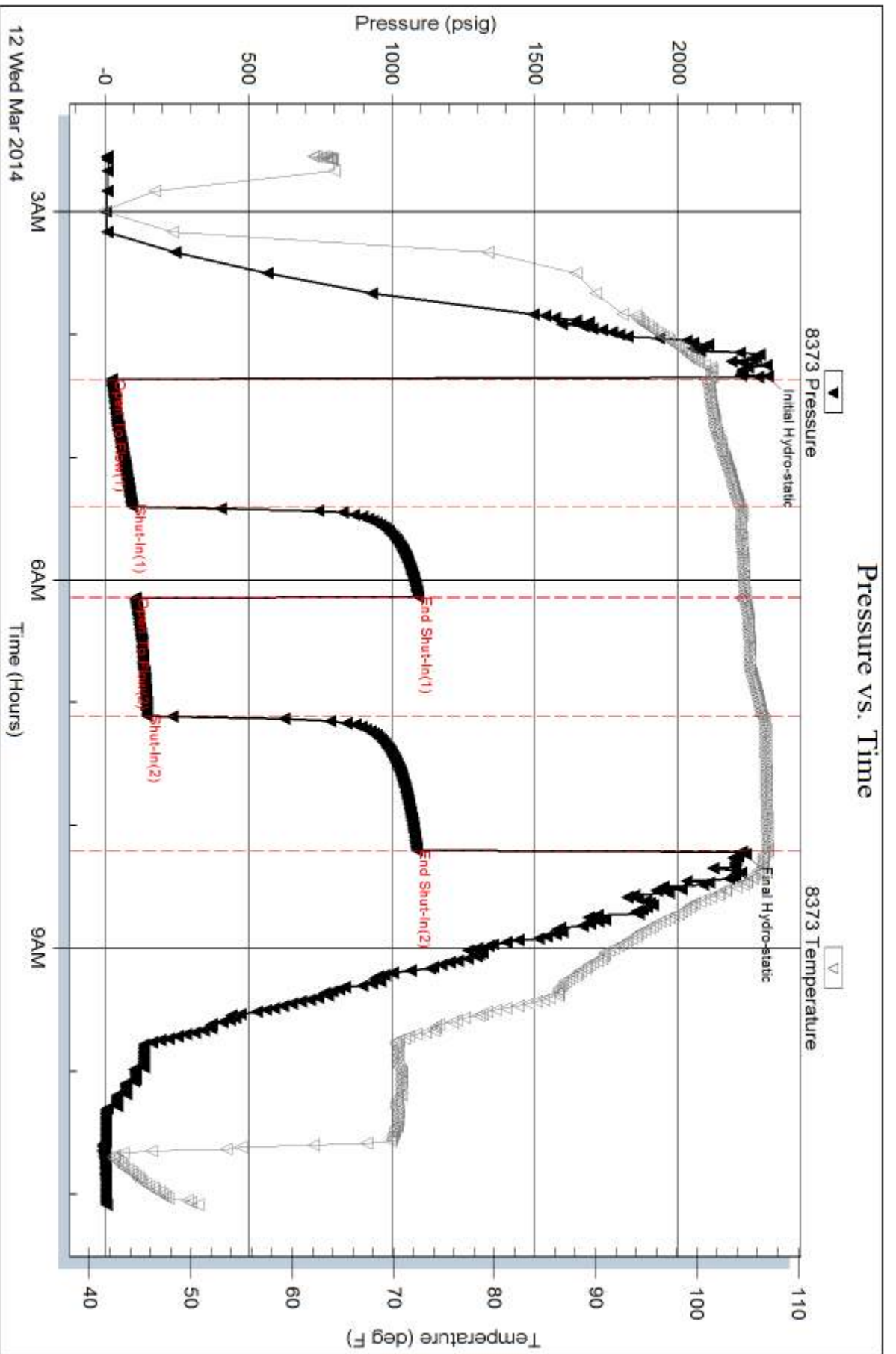
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .25@48=44000

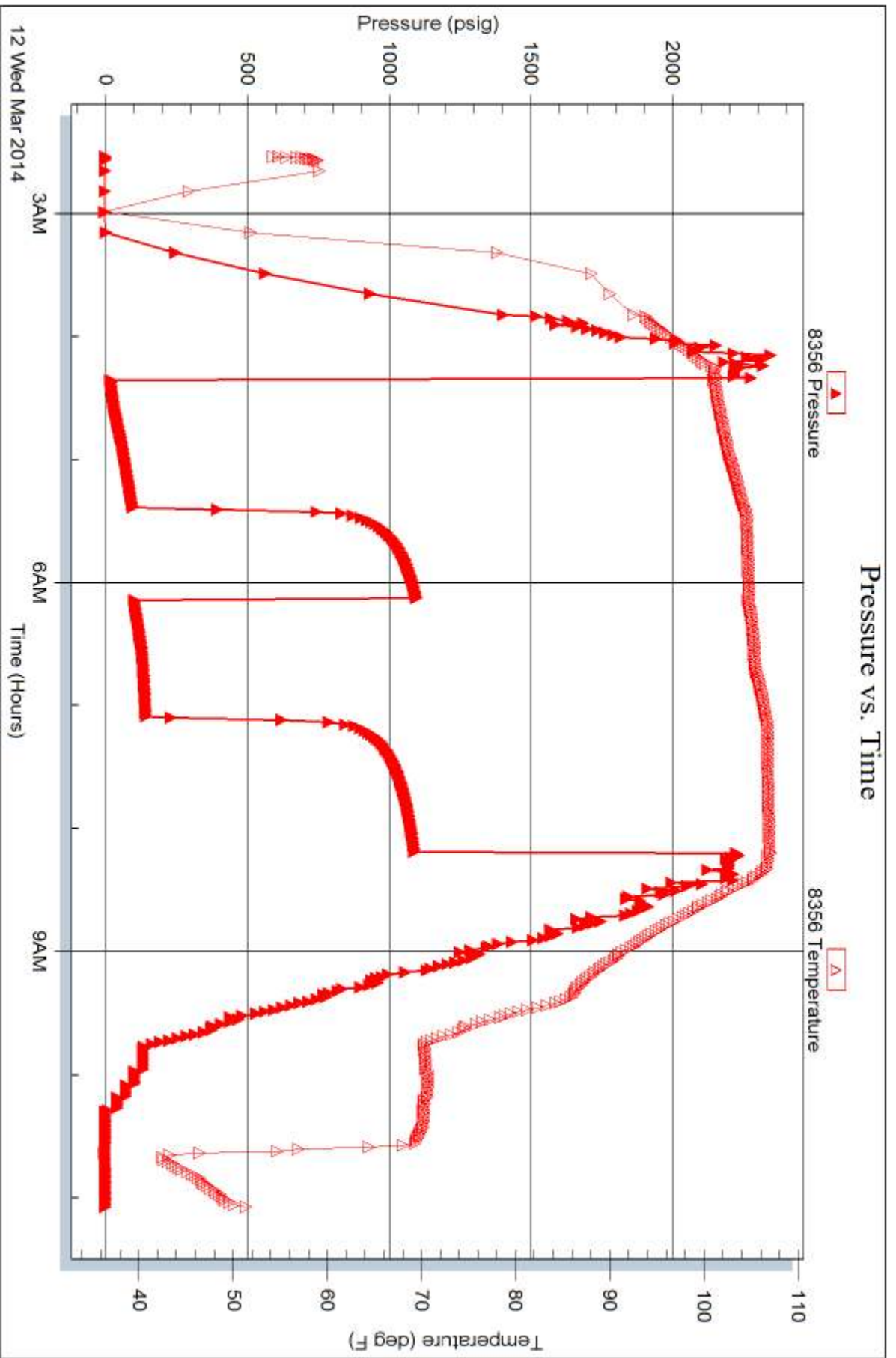


Serial #: 8356

Outside Hartman Oil Company

Calkins #15-1

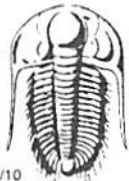
DST Test Number: 2



Tribble Testing, Inc

Ref. No: 55647

Printed: 2014.03.19 @ 17:05:23



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55646

Well Name & No. Calkins 15-1 Test No. 1 Date 3-16-14  
 Company Hartman oil company Elevation 3232 KB 3222 GL  
 Address 10500 E Berkeley Sq Pkwy Ste 100 Wichita, KS 67206  
 Co. Rep / Geo. Kitt Noah Rig H2 #2  
 Location: Sec. 15 Twp. 21S Rge. 36W Co. Kearny State KS

Interval Tested 4517 4541 Zone Tested Altamont B  
 Anchor Length 24 Drill Pipe Run 4255 Mud Wt. 9.3  
 Top Packer Depth 4512 Drill Collars Run 254 Vis 58  
 Bottom Packer Depth 4517 Wt. Pipe Run — WL 8.0  
 Total Depth 4541 Chlorides 3600 ppm System LCM 3

Blow Description IF: BoB in 5 mins.  
IS: No return,  
EF: BoB in 8 mins,  
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>217</u>	<u>mcw</u>		<u>80</u>	<u>20</u>	
<u>744</u>	<u>water</u>		<u>100</u>		

Rec Total 961 BHT 110 Gravity — API RW .16 @ 50° F Chlorides 89,000 ppm

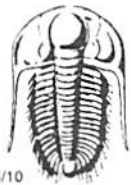
(A) Initial Hydrostatic 2253  Test 1250 T-On Location 19:45  
 (B) First Initial Flow 103  Jars 250 T-Started 23:42  
 (C) First Final Flow 319  Safety Joint 75 T-Open 2:01  
 (D) Initial Shut-In 1198  Circ Sub N/C T-Pulled 4:31  
 (E) Second Initial Flow 337  Hourly Standby 1 1/2 T-Out 7:10  
 (F) Second Final Flow 483  Mileage 78 - 120.90  
 (G) Final Shut-In 1195  Sampler  
 (H) Final Hydrostatic 2200  Straddle

Shale Packer  
 Shale Packer  
 Extra Packer  
 Extra Recorder  
 Day Standby  
 Accessibility 150  
 Initial Open 30  
 Initial Shut-In 45  
 Final Flow 30 45  
 Final Shut-In 45  
 Sub Total 1845.90  
 Total 1845.90  
 MP/DST Disc't

Approved By [Signature] 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.





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55647

Well Name & No. Collins 15-1 Test No. 2 Date 3-12-14  
 Company Hartman Oil Company Elevation 3232 KB 3222 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Kitt North Rig H2 #2  
 Location: Sec. 15 Twp. 21S Rge. 36W Co. Kerny State KS

Interval Tested 4618 4650 Zone Tested Ft. Scott  
 Anchor Length 32 Drill Pipe Run 4351 Mud Wt. 9.3  
 Top Packer Depth 4613 Drill Collars Run 254 Vis 50  
 Bottom Packer Depth 4618 Wt. Pipe Run — WL 8.0  
 Total Depth 4650 Chlorides 4000 ppm System LCM 2

Blow Description FF: Surface blow built to 4,  
IS: No return.  
FF: surface blow built to 2,  
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>159</u>					
<u>126</u>					

Rec Total 285 BHT 106 Gravity — API RW .25 @ 48 ° F Chlorides 44,000 ppm

(A) Initial Hydrostatic 2311  Test 1250 T-On Location 1:30  
 (B) First Initial Flow 24  Jars 250 T-Started 2:32  
 (C) First Final Flow 94  Safety Joint 75 T-Open 4:20  
 (D) Initial Shut-In 1091  Circ Sub NIL T-Pulled 8:05  
 (E) Second Initial Flow 106  Hourly Standby \_\_\_\_\_ T-Out 11:00  
 (F) Second Final Flow 147  Mileage 78-k2 241.80 Comments load 8:00 pm  
 (G) Final Shut-In 1086  Sampler \_\_\_\_\_ on the 3-13-14  
 (H) Final Hydrostatic 2235  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_

Initial Open 60  Day Standby 1d 9h Sub Total 800  
 Initial Shut-In 45  Accessibility 150 Total 2766.80  
 Final Flow 60 Sub Total 1966.80 MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 60

Approved By [Signature] 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.



## DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Company**

10500 E Berkeley Sq PKWY Ste 100  
Wichita, KS 67206

ATTN: Kitt Noah

### **Calkins #15-1**

#### **15-21s-36w Kearny,KS**

Start Date: 2014.03.10 @ 23:42:15

End Date: 2014.03.11 @ 07:05:15

Job Ticket #: 55646                      DST #: 1

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

Printed: 2014.03.19 @ 17:05:53



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Hartman Oil Company  
 10500 E Berkeley Sq PKWY Ste 100  
 Wichita, KS 67206  
 ATTN: Kitt Noah

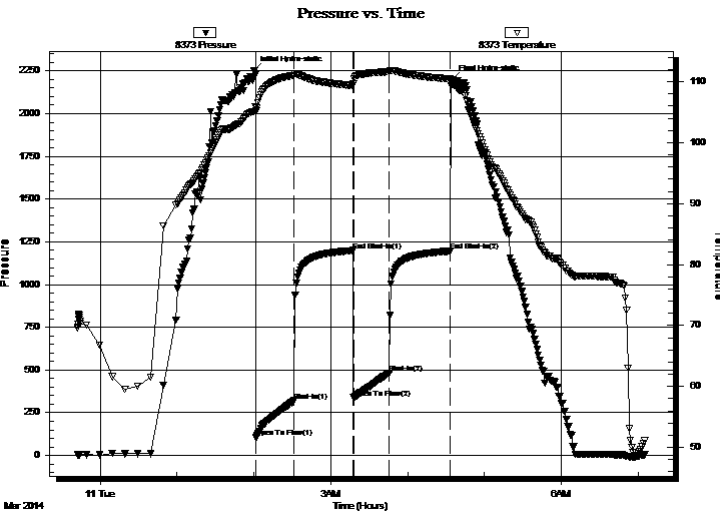
**15-21s-36w Kearny,KS**  
**Calkins #15-1**  
 Job Ticket: 55646 **DST#: 1**  
 Test Start: 2014.03.10 @ 23:42:15

## GENERAL INFORMATION:

Formation: **Altamont B**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 02:01:45  
 Time Test Ended: 07:05:15  
 Interval: **4517.00 ft (KB) To 4541.00 ft (KB) (TVD)**  
 Total Depth: 4541.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Brandon Turley  
 Unit No: 60  
 Reference Elevations: 3232.00 ft (KB)  
 3222.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 8373 Inside**  
 Press@RunDepth: 483.39 psig @ 4518.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.03.10 End Date: 2014.03.11 Last Calib.: 2014.03.11  
 Start Time: 23:42:20 End Time: 07:05:14 Time On Btm: 2014.03.11 @ 02:00:15  
 Time Off Btm: 2014.03.11 @ 04:34:45

TEST COMMENT: IF: BOB in 5 min.  
 IS: No return.  
 FF: BOB in 8 min.  
 FS: No return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2253.32	105.03	Initial Hydro-static
2	103.90	105.17	Open To Flow (1)
31	319.69	111.03	Shut-In(1)
77	1198.88	109.38	End Shut-In(1)
78	337.33	109.67	Open To Flow (2)
106	483.39	111.63	Shut-In(2)
153	1195.06	110.43	End Shut-In(2)
155	2200.49	109.69	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
744.00	water 100%w	8.12
217.00	mcw 80%w 20%m	3.04

## Gas Rates

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



# DRILL STEM TEST REPORT

Hartman Oil Company

15-21s-36w Kearny,KS

10500 E Berkeley Sq PKWY Ste 100  
Wichita, KS 67206

Calkins #15-1

Job Ticket: 55646

DST#: 1

ATTN: Kitt Noah

Test Start: 2014.03.10 @ 23:42:15

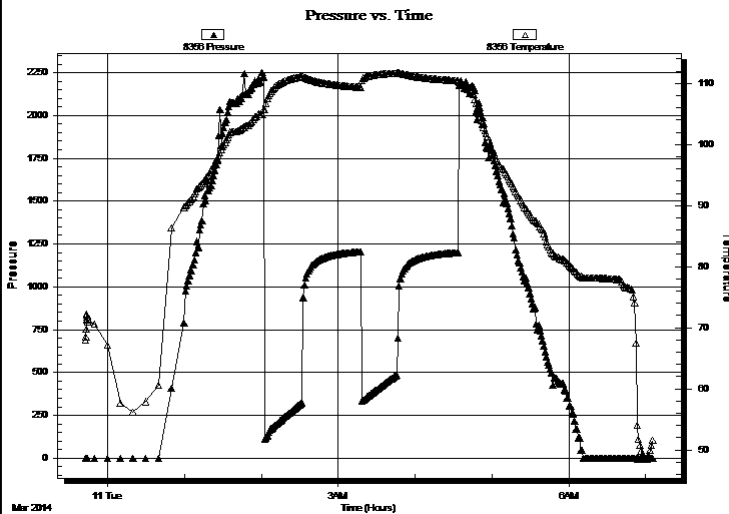
## GENERAL INFORMATION:

Formation: **Altamont B**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 02:01:45  
Time Test Ended: 07:05:15  
Interval: **4517.00 ft (KB) To 4541.00 ft (KB) (TVD)**  
Total Depth: 4541.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Reference Elevations: 3232.00 ft (KB)  
3222.00 ft (CF)  
KB to GR/CF: 10.00 ft

Serial #: 8356 Outside

Press@RunDepth: psig @ 4518.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2014.03.10 End Date: 2014.03.11 Last Calib.: 2014.03.11  
Start Time: 23:42:33 End Time: 07:05:27 Time On Btm:  
Time Off Btm:

TEST COMMENT: IF: BOB in 5 min.  
IS: No return.  
FF: BOB in 8 min.  
FS: No return.



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
744.00	water 100%w	8.12
217.00	mcw 80%w 20%m	3.04

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hartman Oil Company

**15-21s-36w Kearny,KS**

10500 E Berkeley Sq PKWY Ste 100  
Wichita, KS 67206

**Calkins #15-1**

Job Ticket: 55646

**DST#: 1**

ATTN: Kitt Noah

Test Start: 2014.03.10 @ 23:42:15

## Tool Information

Drill Pipe:	Length: 4255.00 ft	Diameter: 3.80 inches	Volume: 59.69 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: 254.00 ft	Diameter: 2.25 inches	Volume: 1.25 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 60.94 bbl</u>	Tool Chased 4.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4517.00 ft			Final 72000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	52.00 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			4490.00	
Shut In Tool	5.00			4495.00	
Hydraulic tool	5.00			4500.00	
Jars	5.00			4505.00	
Safety Joint	3.00			4508.00	
Packer	5.00			4513.00	28.00 Bottom Of Top Packer
Packer	4.00			4517.00	
Stubb	1.00			4518.00	
Recorder	0.00	8373	Inside	4518.00	
Recorder	0.00	8356	Outside	4518.00	
Perforations	18.00			4536.00	
Bullnose	5.00			4541.00	24.00 Bottom Packers & Anchor

**Total Tool Length: 52.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Hartman Oil Company

**15-21s-36w Kearny,KS**

10500 E Berkeley Sq PKWY Ste 100  
Wichita, KS 67206

**Calkins #15-1**

Job Ticket: 55646

**DST#: 1**

ATTN: Kitt Noah

Test Start: 2014.03.10 @ 23:42:15

### 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:

69000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3600.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
744.00	water 100%w	8.123
217.00	mcw 80%w 20%m	3.044

Total Length: 961.00 ft      Total Volume: 11.167 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

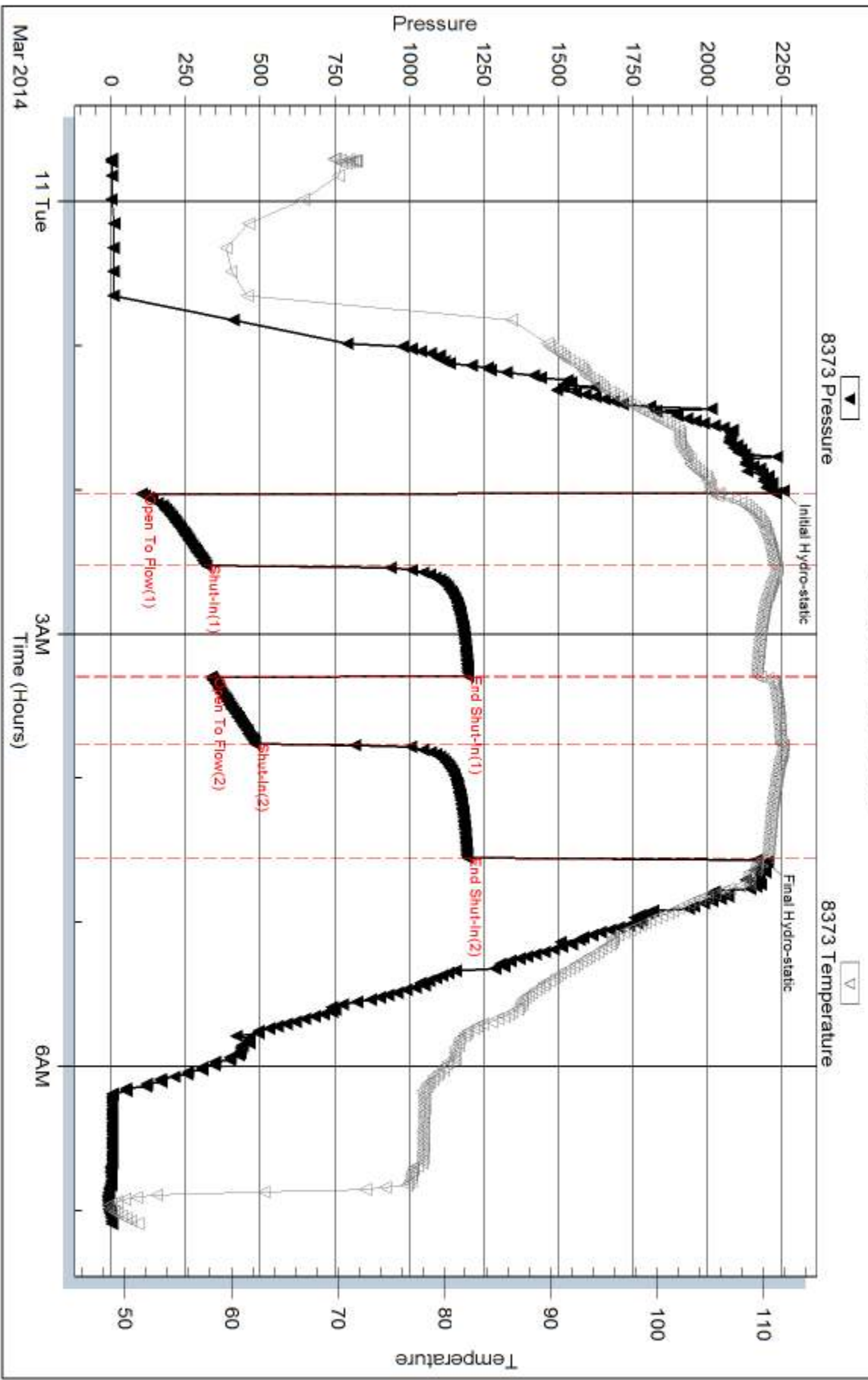
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .16@50=69000

### Pressure vs. Time

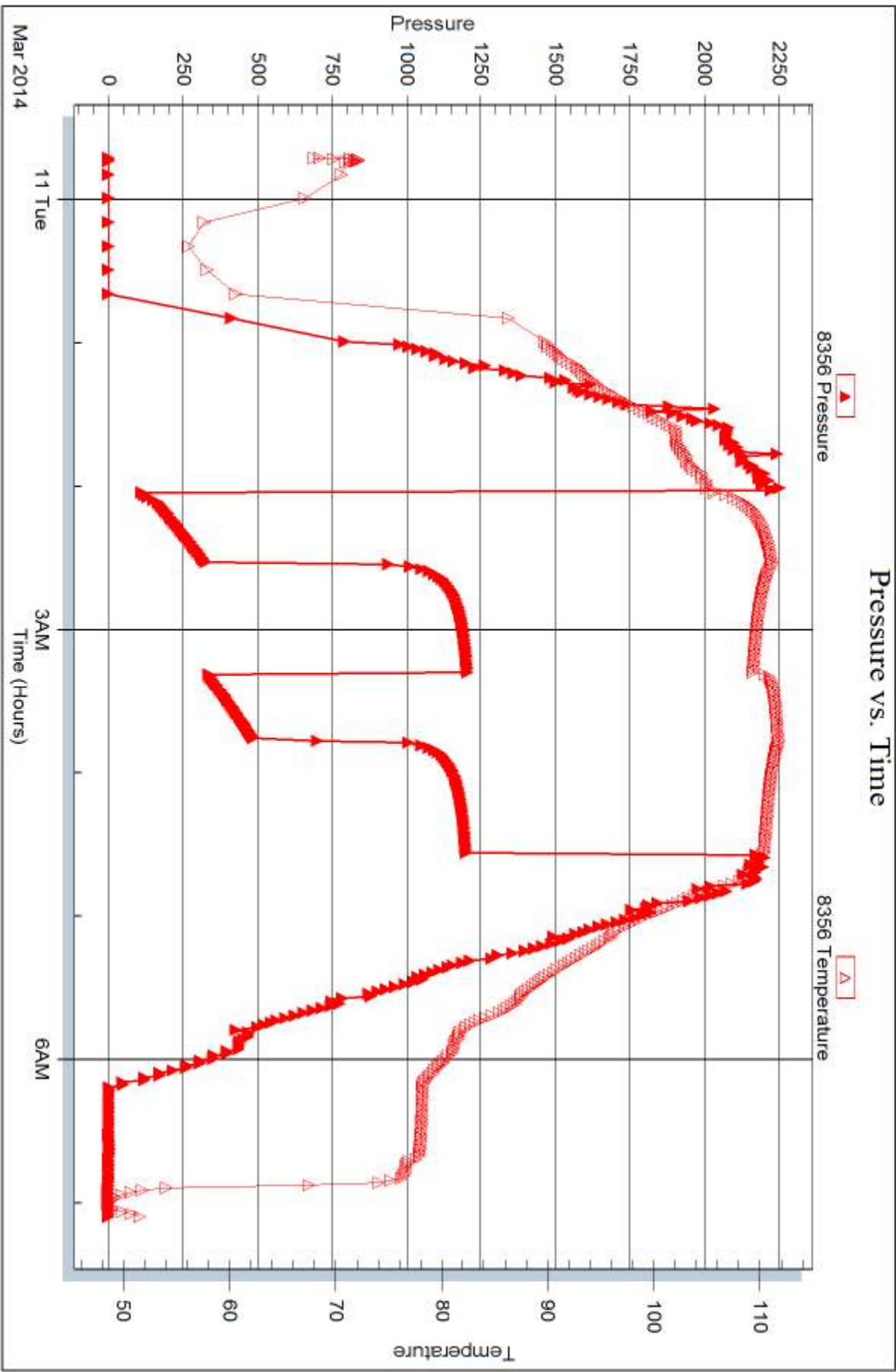


Serial #: 8356

Outside Hartman Oil Company

Calkins #15-1

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 55646

Printed: 2014.03.19 @ 17:05:55





## DRILL STEM TEST REPORT

Prepared For: **Hartman Oil Company**

10500 E Berkeley Sq PKWY Ste 100  
Wichita, KS 67206

ATTN: Kitt Noah

### **Calkins #15-1**

#### **15-21s-36w Kearny,KS**

Start Date: 2014.03.12 @ 02:32:59

End Date: 2014.03.12 @ 11:04:59

Job Ticket #: 55647                      DST #: 2

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

Printed: 2014.03.19 @ 17:05:21



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Hartman Oil Company

**15-21s-36w Kearny,KS**

10500 E Berkeley Sq PKWY Ste 100  
Wichita, KS 67206

**Calkins #15-1**

Job Ticket: 55647

**DST#: 2**

ATTN: Kitt Noah

Test Start: 2014.03.12 @ 02:32:59

## GENERAL INFORMATION:

Formation: **Ft Scott**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:21:59

Time Test Ended: 11:04:59

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 60

**Interval: 4618.00 ft (KB) To 4650.00 ft (KB) (TVD)**

Reference Elevations: 3232.00 ft (KB)

Total Depth: 4650.00 ft (KB) (TVD)

3222.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

**Serial #: 8373**

**Inside**

Press@RunDepth: 147.74 psig @ 4619.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.03.12

End Date:

2014.03.12

Last Calib.:

2014.03.12

Start Time: 02:33:04

End Time:

11:04:58

Time On Btm:

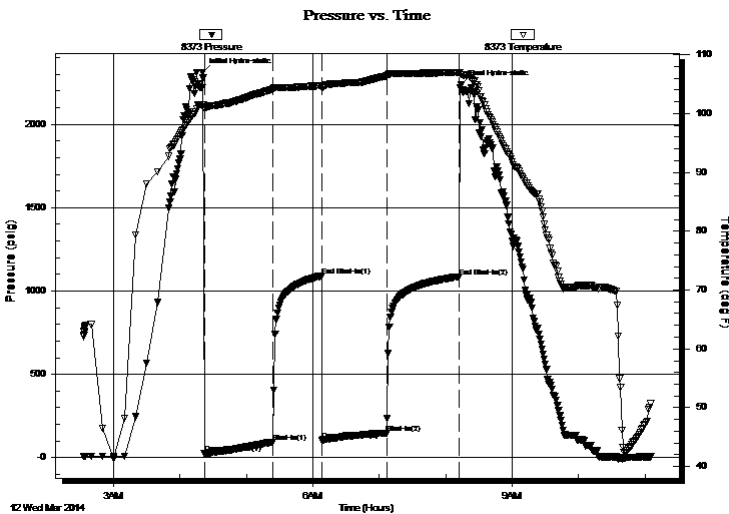
2014.03.12 @ 04:20:29

Time Off Btm:

2014.03.12 @ 08:13:59

TEST COMMENT: IF: Surface blow built to 4"  
IS: No return.  
FF: Surface blow built to 2"  
FS: No return.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2311.24	101.43	Initial Hydro-static
2	24.50	100.83	Open To Flow (1)
64	94.50	104.18	Shut-In(1)
108	1091.41	104.71	End Shut-In(1)
108	106.19	104.35	Open To Flow (2)
166	147.74	106.34	Shut-In(2)
232	1086.00	106.99	End Shut-In(2)
234	2235.62	106.63	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
126.00	mcw 80%w 20%m	0.62
159.00	w cm 20%w 80%m	1.06

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Hartman Oil Company  
 10500 E Berkeley Sq PKWY Ste 100  
 Wichita, KS 67206  
 ATTN: Kitt Noah

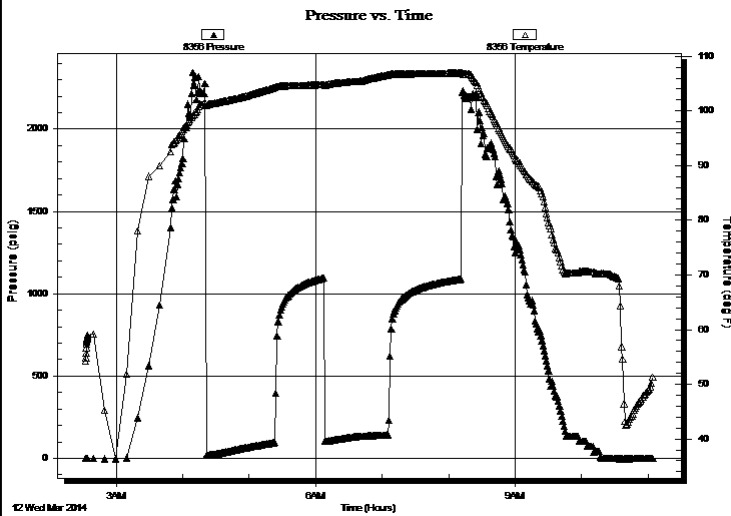
**15-21s-36w Kearny,KS**  
**Calkins #15-1**  
 Job Ticket: 55647 **DST#: 2**  
 Test Start: 2014.03.12 @ 02:32:59

## GENERAL INFORMATION:

Formation: **Ft Scott**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 04:21:59  
 Time Test Ended: 11:04:59  
 Interval: **4618.00 ft (KB) To 4650.00 ft (KB) (TVD)**  
 Total Depth: 4650.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Brandon Turley  
 Unit No: 60  
 Reference Elevations: 3232.00 ft (KB)  
 3222.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 8356 Outside**  
 Press@RunDepth: psig @ 4619.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.03.12 End Date: 2014.03.12 Last Calib.: 2014.03.12  
 Start Time: 02:32:14 End Time: 11:04:08 Time On Btm:  
 Time Off Btm:

TEST COMMENT: IF: Surface blow built to 4"  
 IS: No return.  
 FF: Surface blow built to 2"  
 FS: No return.



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
126.00	mcw 80%w 20%m	0.62
159.00	w cm 20%w 80%m	1.06

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hartman Oil Company

**15-21s-36w Kearny,KS**

10500 E Berkeley Sq PKWY Ste 100  
Wichita, KS 67206

**Calkins #15-1**

Job Ticket: 55647

**DST#: 2**

ATTN: Kitt Noah

Test Start: 2014.03.12 @ 02:32:59

## Tool Information

Drill Pipe:	Length: 4351.00 ft	Diameter: 3.80 inches	Volume: 61.03 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: 254.00 ft	Diameter: 2.25 inches	Volume: 1.25 bbl	Weight to Pull Loose: 74000.00 lb
			<u>Total Volume: 62.28 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 65000.00 lb
Depth to Top Packer:	4618.00 ft			Final 65000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	60.00 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			4591.00	
Shut In Tool	5.00			4596.00	
Hydraulic tool	5.00			4601.00	
Jars	5.00			4606.00	
Safety Joint	3.00			4609.00	
Packer	5.00			4614.00	28.00 Bottom Of Top Packer
Packer	4.00			4618.00	
Stubb	1.00			4619.00	
Recorder	0.00	8373	Inside	4619.00	
Recorder	0.00	8356	Outside	4619.00	
Perforations	26.00			4645.00	
Bullnose	5.00			4650.00	32.00 Bottom Packers & Anchor

**Total Tool Length: 60.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Hartman Oil Company

**15-21s-36w Kearny,KS**

10500 E Berkeley Sq PKWY Ste 100  
Wichita, KS 67206

**Calkins #15-1**

Job Ticket: 55647

**DST#: 2**

ATTN: Kitt Noah

Test Start: 2014.03.12 @ 02:32:59

### 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:

44000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 79.90 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
126.00	mcw 80%w 20%m	0.620
159.00	w cm 20%w 80%m	1.064

Total Length: 285.00 ft      Total Volume: 1.684 bbl

Num Fluid Samples: 0

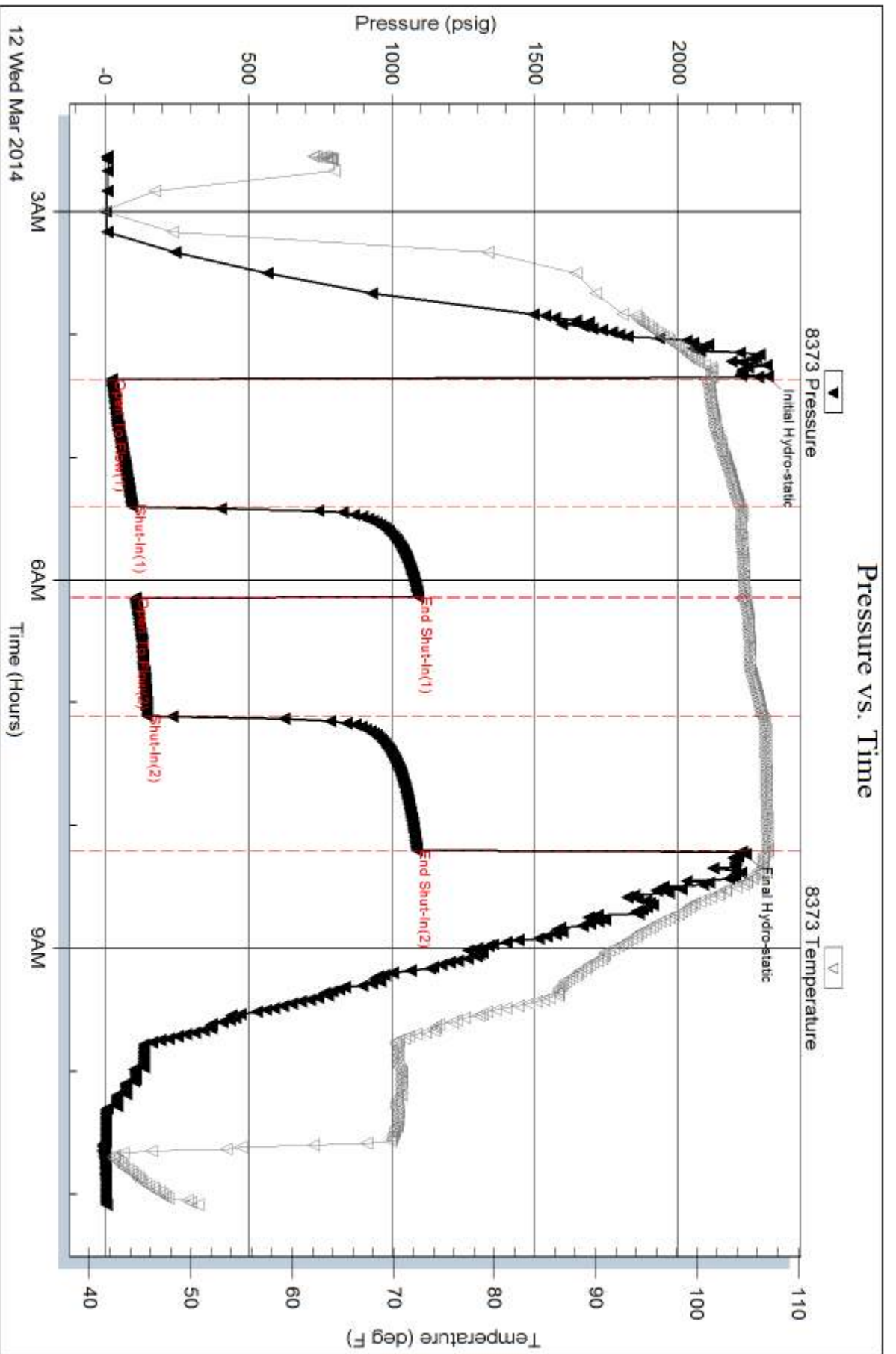
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .25@48=44000

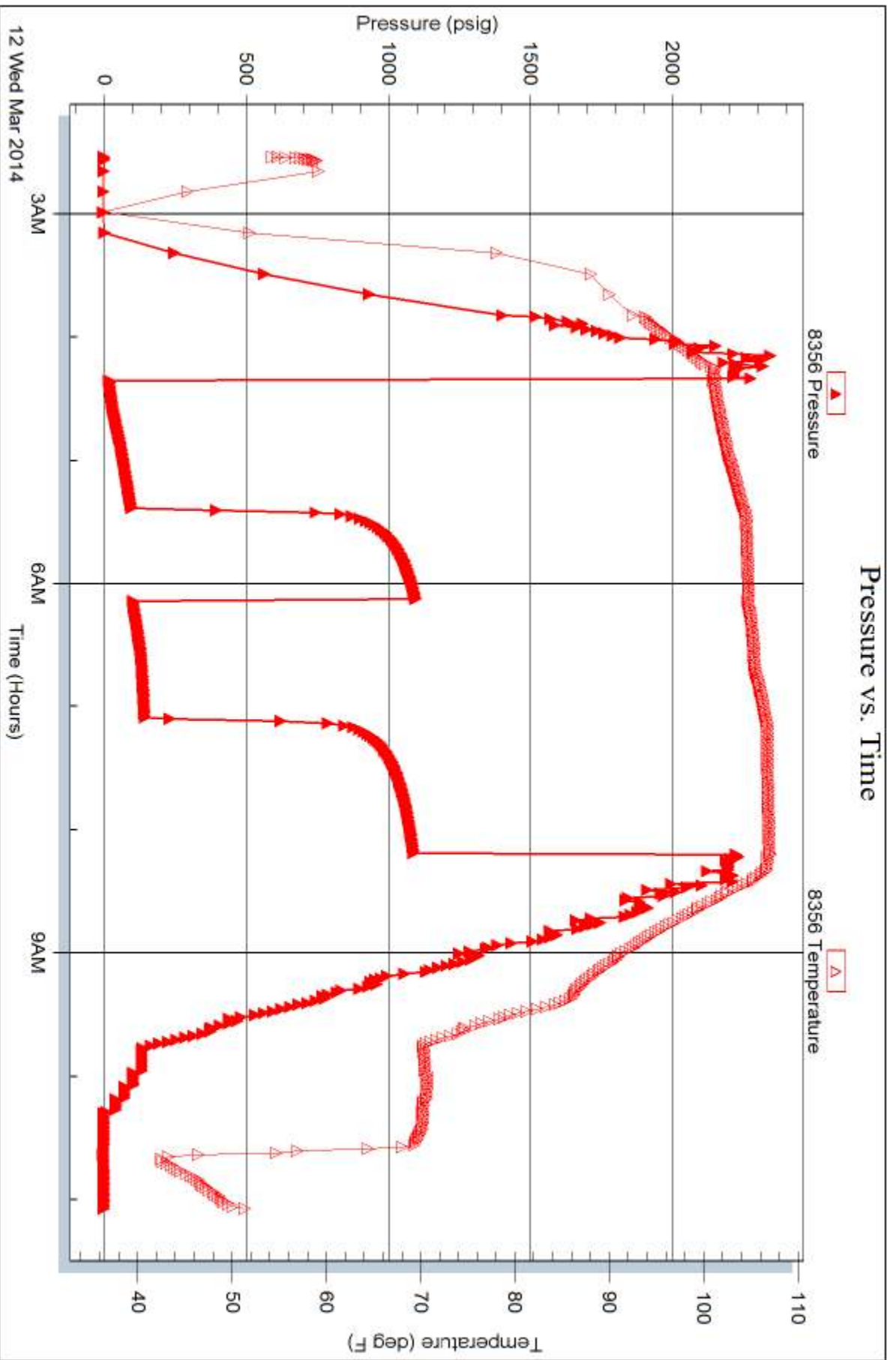


Serial #: 8356

Outside Hartman Oil Company

Calkins #15-1

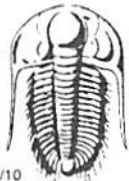
DST Test Number: 2



Tribble Testing, Inc

Ref. No: 55647

Printed: 2014.03.19 @ 17:05:23



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55646

Well Name & No. Calkins 15-1 Test No. 1 Date 3-16-14  
 Company Hartman oil company Elevation 3232 KB 3222 GL  
 Address 10500 E Berkeley Sq Pkwy Ste 100 Wichita, KS 67206  
 Co. Rep / Geo. Kitt Noah Rig H2 #2  
 Location: Sec. 15 Twp. 21S Rge. 36W Co. Kearny State KS

Interval Tested 4517 4541 Zone Tested Altamont B  
 Anchor Length 24 Drill Pipe Run 4255 Mud Wt. 9.3  
 Top Packer Depth 4512 Drill Collars Run 254 Vis 58  
 Bottom Packer Depth 4517 Wt. Pipe Run — WL 8.0  
 Total Depth 4541 Chlorides 3600 ppm System LCM 3

Blow Description IF: BoB in 5 mins.  
IS: No return,  
EF: BoB in 8 mins,  
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>217</u>	<u>mcw</u>		<u>80</u>	<u>20</u>	
<u>744</u>	<u>water</u>		<u>100</u>		

Rec Total 961 BHT 110 Gravity — API RW .16 @ 50° F Chlorides 89,000 ppm

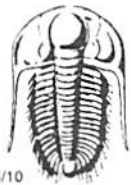
(A) Initial Hydrostatic 2253  Test 1250 T-On Location 19:45  
 (B) First Initial Flow 103  Jars 250 T-Started 23:42  
 (C) First Final Flow 319  Safety Joint 75 T-Open 2:01  
 (D) Initial Shut-In 1198  Circ Sub N/C T-Pulled 4:31  
 (E) Second Initial Flow 337  Hourly Standby 1 1/2 T-Out 7:10  
 (F) Second Final Flow 483  Mileage 78 - 120.90  
 (G) Final Shut-In 1195  Sampler  
 (H) Final Hydrostatic 2200  Straddle

Shale Packer  
 Extra Packer  
 Extra Recorder  
 Day Standby  
 Accessibility 150  
 Initial Open 30  
 Initial Shut-In 45  
 Final Flow 30 45  
 Final Shut-In 45  
 Sub Total 1845.90  
 Total 1845.90  
 MP/DST Disc't

Approved By [Signature] Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 55647

Well Name & No. Collins 15-1 Test No. 2 Date 3-12-14  
 Company Hartman Oil Company Elevation 3232 KB 3222 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Kitt North Rig H2 #2  
 Location: Sec. 15 Twp. 21S Rge. 36W Co. Kerny State KS

Interval Tested 4618 4650 Zone Tested Ft. Scott  
 Anchor Length 32 Drill Pipe Run 4351 Mud Wt. 9.3  
 Top Packer Depth 4613 Drill Collars Run 254 Vis 50  
 Bottom Packer Depth 4618 Wt. Pipe Run — WL 8.0  
 Total Depth 4650 Chlorides 4000 ppm System LCM 2  
 Blow Description FF: Surface blow built to 4,  
IS: No return.  
FF: surface blow built to 2,  
IS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>159</u>					
<u>126</u>					

Rec Total 285 BHT 106 Gravity — API RW .25 @ 48 ° F Chlorides 44,000 ppm

(A) Initial Hydrostatic <u>2311</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>1:30</u>
(B) First Initial Flow <u>24</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>2:32</u>
(C) First Final Flow <u>94</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>4:20</u>
(D) Initial Shut-In <u>1091</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>8:05</u>
(E) Second Initial Flow <u>106</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>11:00</u>
(F) Second Final Flow <u>147</u>	<input checked="" type="checkbox"/> Mileage <u>78-k2</u> 241.80	Comments <u>load 8:00 pm</u>
(G) Final Shut-In <u>1086</u>	<input type="checkbox"/> Sampler	<u>on the 3-13-14</u>
(H) Final Hydrostatic <u>2235</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>60</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>800</u>
Final Shut-In <u>60</u>	<input checked="" type="checkbox"/> Day Standby <u>1d 9h</u>	Total <u>2766.80</u>
	<input checked="" type="checkbox"/> Accessibility <u>150</u>	MP/DST Disc't _____
	Sub Total <u>1966.80</u>	

Approved By [Signature] 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.