



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1146586  
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: \_\_\_\_\_



1146586

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](mailto: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
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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> _____ <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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## DRILL STEM TEST REPORT

Prepared For: **H & C Oil Operating**

PO Box 86  
Plainville, KS 67663

ATTN: Mike Bair

### **Mighell #18-1**

#### **18-10s-25w Graham, KS**

Start Date: 2013.05.20 @ 09:15:20

End Date: 2013.05.20 @ 16:15:14

Job Ticket #: 49206                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.05.29 @ 13:54:08



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

H & C Oil Operating  
PO Box 86  
Plainville, KS 67663  
ATTN: Mike Bair

**18-10s-25w Graham, KS**

**Mighell #18-1**

Job Ticket: 49206

**DST#: 1**

Test Start: 2013.05.20 @ 09:15:20

## GENERAL INFORMATION:

Formation: **Toronto - C**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:12:15

Time Test Ended: 16:15:14

Test Type: Conventional Bottom Hole (Initial)

Tester: Shane McBride

Unit No: 55

**Interval: 3772.00 ft (KB) To 3850.00 ft (KB) (TVD)**

Reference Elevations: 2569.00 ft (KB)

Total Depth: 3850.00 ft (KB) (TVD)

2558.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 8368 Outside**

Press @ Run Depth: 70.71 psig @ 3773.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.20 End Date: 2013.05.20

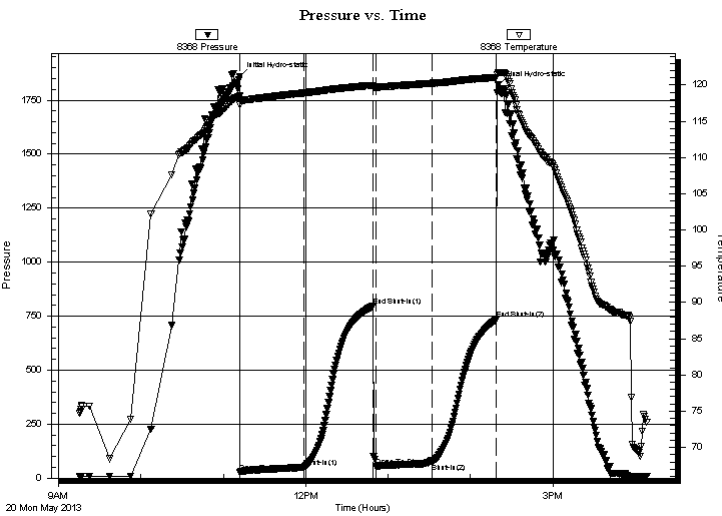
Last Calib.: 2013.05.20

Start Time: 09:15:20 End Time: 16:08:14

Time On Btm: 2013.05.20 @ 11:12:00

Time Off Btm: 2013.05.20 @ 14:20:15

**TEST COMMENT:** 3 1/4" blow  
No return  
3" blow  
No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1858.20	118.47	Initial Hydro-static
1	27.13	117.32	Open To Flow (1)
47	49.04	118.90	Shut-In(1)
97	796.53	119.95	End Shut-In(1)
99	53.39	119.71	Open To Flow (2)
140	70.71	120.24	Shut-In(2)
187	734.73	121.06	End Shut-In(2)
189	1818.97	121.65	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	h o c m 40%o 60%m	0.15
60.00	o c m 15%o 85%m	0.30

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

H & C Oil Operating  
PO Box 86  
Plainville, KS 67663  
ATTN: Mike Bair

**18-10s-25w Graham, KS**

**Mighell #18-1**

Job Ticket: 49206

**DST#: 1**

Test Start: 2013.05.20 @ 09:15:20

## GENERAL INFORMATION:

Formation: **Toronto - C**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:12:15

Time Test Ended: 16:15:14

Test Type: Conventional Bottom Hole (Initial)

Tester: Shane McBride

Unit No: 55

**Interval: 3772.00 ft (KB) To 3850.00 ft (KB) (TVD)**

Reference Elevations: 2569.00 ft (KB)

Total Depth: 3850.00 ft (KB) (TVD)

2558.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

**Serial #: 6667** Inside

Press @ Run Depth: psig @ 3773.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.20

End Date: 2013.05.20

Last Calib.: 2013.05.20

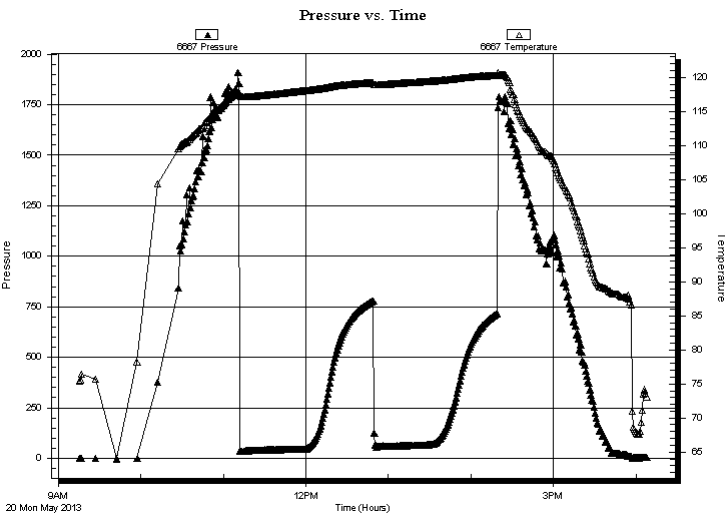
Start Time: 09:15:30

End Time: 16:08:15

Time On Btm:

Time Off Btm:

TEST COMMENT: 3 1/4" blow  
No return  
3" blow  
No return



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
30.00	h o c m 40% o 60% m	0.15
60.00	o c m 15% o 85% m	0.30

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H & C Oil Operating  
PO Box 86  
Plainville, KS 67663  
ATTN: Mike Bair

**18-10s-25w Graham, KS**  
**Mighell #18-1**  
Job Ticket: 49206      **DST#: 1**  
Test Start: 2013.05.20 @ 09:15:20

**Tool Information**

Drill Pipe:	Length: 3518.00 ft	Diameter: 3.80 inches	Volume: 49.35 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: 234.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 50.50 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 78000.00 lb
Depth to Top Packer:	3772.00 ft			Final 79000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	78.00 ft			
Tool Length:	106.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
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Change Over Sub	1.00			3745.00	
Shut In Tool	5.00			3750.00	
Hydraulic tool	5.00			3755.00	
Jars	5.00			3760.00	
Safety Joint	3.00			3763.00	
Packer	5.00			3768.00	28.00      Bottom Of Top Packer
Packer	4.00			3772.00	
Stubb	1.00			3773.00	
Recorder	0.00	6667	Inside	3773.00	
Recorder	0.00	8368	Outside	3773.00	
Perforations	6.00			3779.00	
Change Over Sub	1.00			3780.00	
Drill Pipe	64.00			3844.00	
Change Over Sub	1.00			3845.00	
Bullnose	5.00			3850.00	78.00      Bottom Packers & Anchor

**Total Tool Length: 106.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H & C Oil Operating  
PO Box 86  
Plainville, KS 67663  
ATTN: Mike Bair

**18-10s-25w Graham, KS**  
**Mighell #18-1**  
Job Ticket: 49206      **DST#: 1**  
Test Start: 2013.05.20 @ 09:15:20

## 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: 60.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 500.00 ppm			
Filter Cake: 1.00 inches			

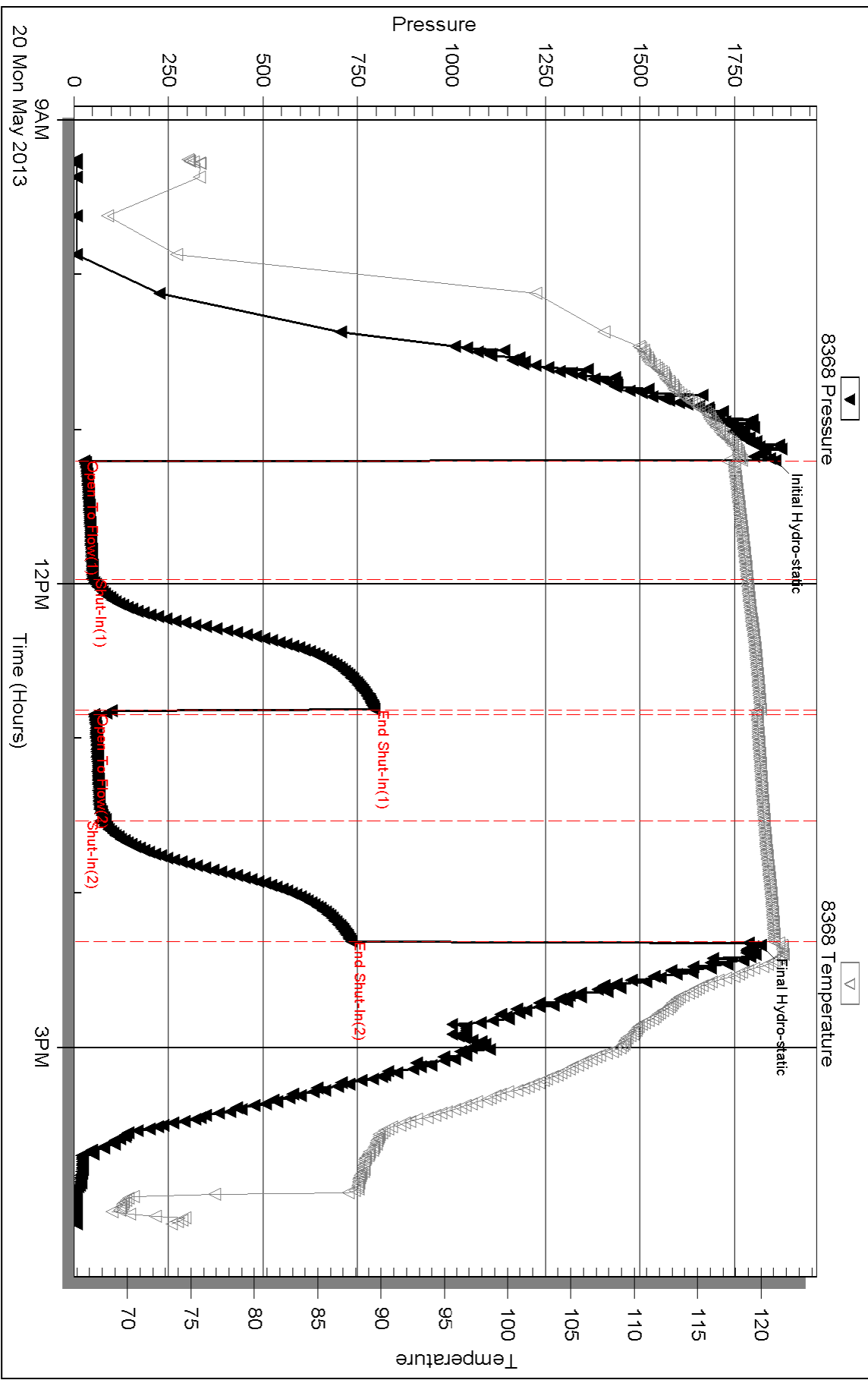
## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	h o c m 40%o 60%m	0.148
60.00	o c m 15%o 85%m	0.295

Total Length: 90.00 ft      Total Volume: 0.443 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

### Pressure vs. Time





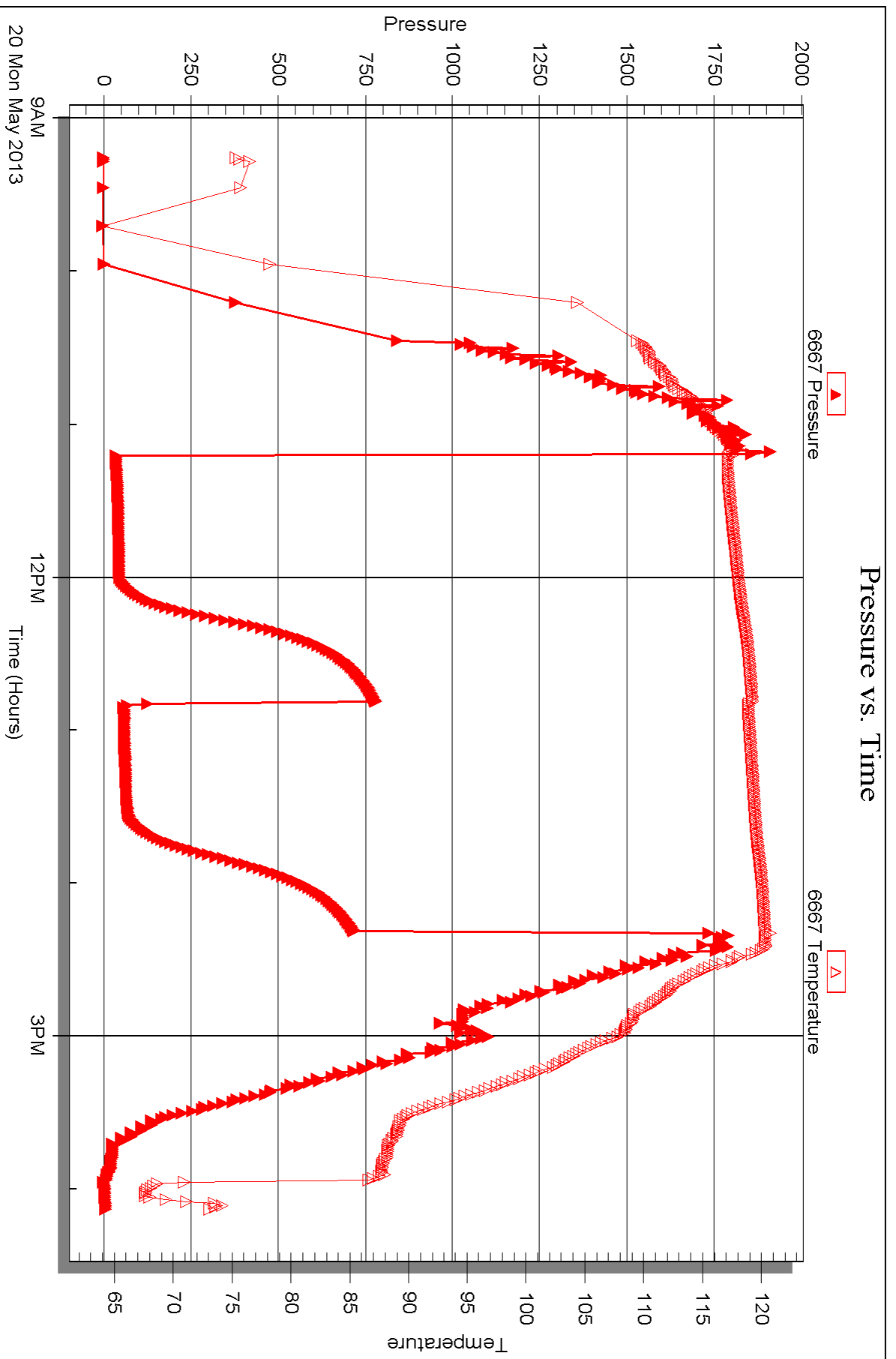
Serial #: 6667

Inside

H & C Oil Operating

Mghell #18-1

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **H & C Oil Operating**

PO Box 86  
Plainville, KS 67663

ATTN: Mike Bair

### **Mighell #18-1**

#### **18-10s-25w Graham, KS**

Start Date: 2013.05.20 @ 23:30:00

End Date: 2013.05.21 @ 06:24:00

Job Ticket #: 62631                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.05.29 @ 13:53:21



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

H & C Oil Operating  
PO Box 86  
Plainville, KS 67663  
ATTN: Mike Bair

**18-10s-25w Graham, KS**

**Mighell #18-1**

Job Ticket: 62631

**DST#: 2**

Test Start: 2013.05.20 @ 23:30:00

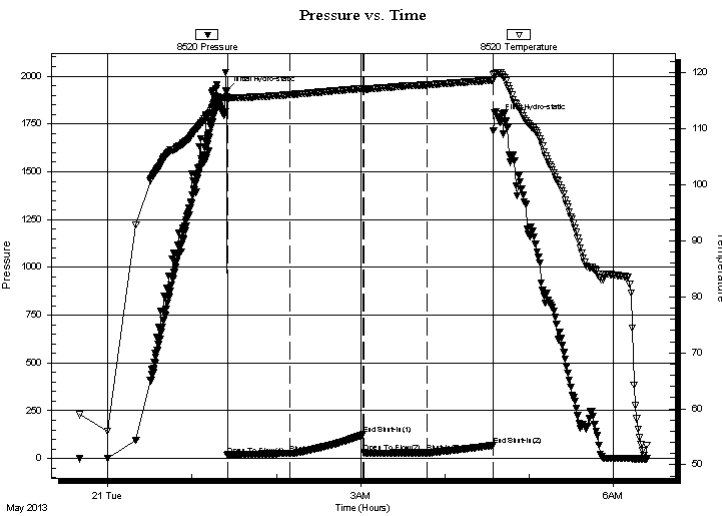
## GENERAL INFORMATION:

Formation: **LKC "D"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 01:25:10  
 Tester: Kevin Mack  
 Time Test Ended: 06:24:00  
 Unit No: 66  
**Interval: 3837.00 ft (KB) To 3868.00 ft (KB) (TVD)**  
 Reference Elevations: 2569.00 ft (KB)  
 Total Depth: 3868.00 ft (KB) (TVD)  
 2558.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good  
 KB to GR/CF: 11.00 ft

## Serial #: 8520 Outside

Press @ Run Depth: 30.54 psig @ 3838.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.05.20 End Date: 2013.05.21 Last Calib.: 2013.05.21  
 Start Time: 23:40:00 End Time: 06:24:00 Time On Btm: 2013.05.21 @ 01:24:50  
 Time Off Btm: 2013.05.21 @ 04:38:00

TEST COMMENT: 45 - IF- 1/8" Blow built to 1"  
 45 - IS- No Return  
 30 - FF- Surface Blow built to 3/4"  
 30 - FS- No Return



## PRESSURE SUMMARY

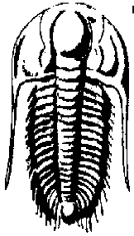
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1922.91	115.73	Initial Hydro-static
1	18.58	115.20	Open To Flow (1)
45	26.60	116.13	Shut-In(1)
97	125.83	117.23	End Shut-In(1)
98	30.74	117.10	Open To Flow (2)
143	30.54	117.87	Shut-In(2)
190	68.96	118.71	End Shut-In(2)
194	1777.94	120.07	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	OSM 100M (oil spots)	0.05

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

H & C Oil Operating

**18-10s-25w Graham, KS**

PO Box 86  
Plainville, KS 67663

**Mighell #18-1**

Job Ticket: 62631

**DST#: 2**

ATTN: Mike Bair

Test Start: 2013.05.20 @ 23:30:00

## GENERAL INFORMATION:

Formation: **LKC "D"**

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

Time Tool Opened: **01:25:10**

Time Test Ended: **06:24:00**

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

Tester: **Kevin Mack**

Unit No: **66**

Interval: **3837.00 ft (KB) To 3868.00 ft (KB) (TVD)**

Total Depth: **3868.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **2569.00 ft (KB)**

**2558.00 ft (CF)**

KB to GR/CF: **11.00 ft**

**Serial #: 8354** **Inside**

Press @ Run Depth: **psig @ 3838.00 ft (KB)**

Start Date: **2013.05.20** End Date: **2013.05.21**

Start Time: **23:39:30** End Time: **06:24:30**

Capacity: **8000.00 psig**

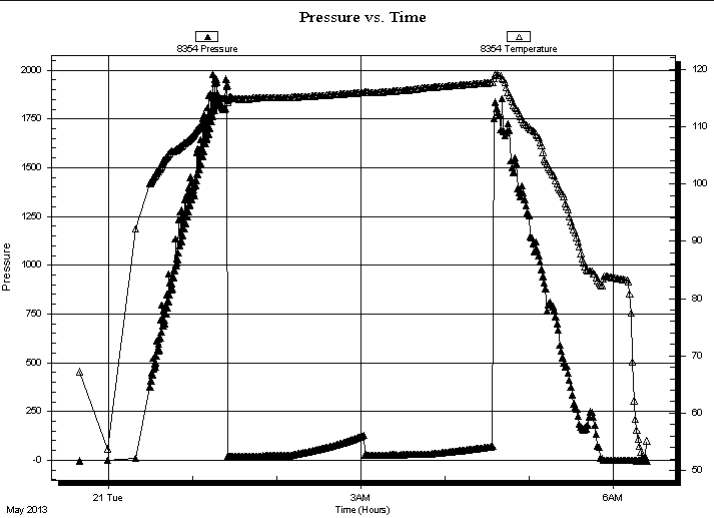
Last Calib.: **2013.05.21**

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 45 - IF- 1/8" Blow built to 1"  
45 - IS- No Return  
30 - FF- Surface Blow built to 3/4"  
30 - FS- No Return

## PRESSURE SUMMARY



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

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	OSM 100M (oil spots)	0.05

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H & C Oil Operating

**18-10s-25w Graham, KS**

PO Box 86  
Plainville, KS 67663

**Mighell #18-1**

Job Ticket: 62631

**DST#: 2**

ATTN: Mike Bair

Test Start: 2013.05.20 @ 23:30:00

## Tool Information

Drill Pipe:	Length: 3582.00 ft	Diameter: 3.80 inches	Volume: 50.25 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 234.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose: 95000.00 lb
			<u>Total Volume: 51.40 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 75000.00 lb
Depth to Top Packer:	3837.00 ft			Final 75000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	31.00 ft			
Tool Length:	59.00 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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Change Over Sub	1.00			3810.00	
Shut In Tool	5.00			3815.00	
Hydraulic tool	5.00			3820.00	
Jars	5.00			3825.00	
Safety Joint	3.00			3828.00	
Packer	5.00			3833.00	28.00 Bottom Of Top Packer
Packer	4.00			3837.00	
Stubb	1.00			3838.00	
Recorder	0.00	8354	Inside	3838.00	
Recorder	0.00	8520	Outside	3838.00	
Perforations	25.00			3863.00	
Bullnose	5.00			3868.00	31.00 Bottom Packers & Anchor

**Total Tool Length: 59.00**



**TRILOBITE  
TESTING, INC.**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

H & C Oil Operating  
PO Box 86  
Plainville, KS 67663  
ATTN: Mike Bair

**18-10s-25w Graham, KS**  
**Mighell #18-1**  
Job Ticket: 62631      **DST#: 2**  
Test Start: 2013.05.20 @ 23:30:00

**Mud and Cushion Information**

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 60.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 500.00 ppm			
Filter Cake: 1.00 inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
10.00	OSM 100M (oil spots)	0.049

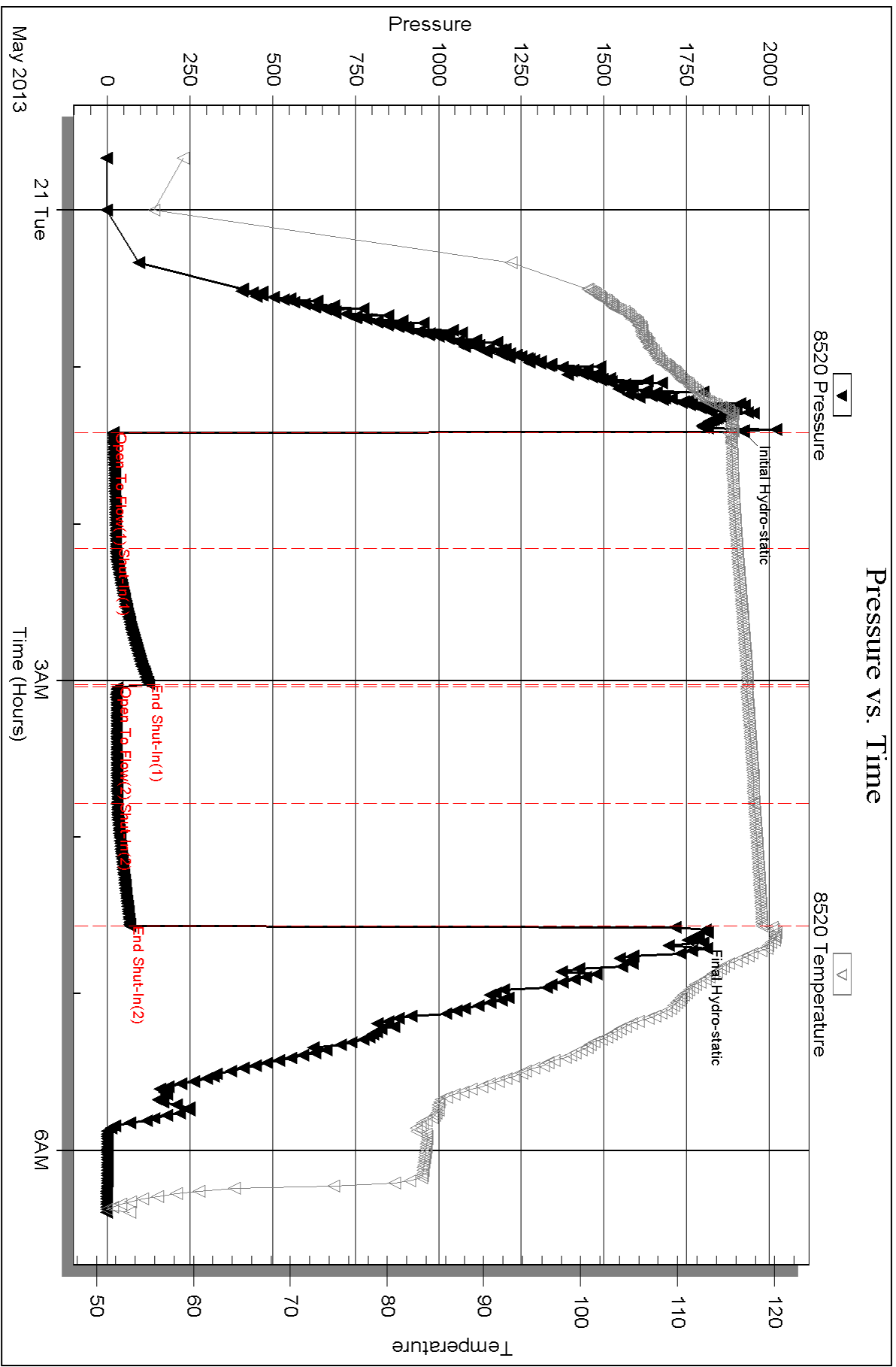
Total Length: 10.00 ft      Total Volume: 0.049 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:

Serial #: 8520

Outside H & C Oil Operating

Mghell #18-1

DST Test Number: 2



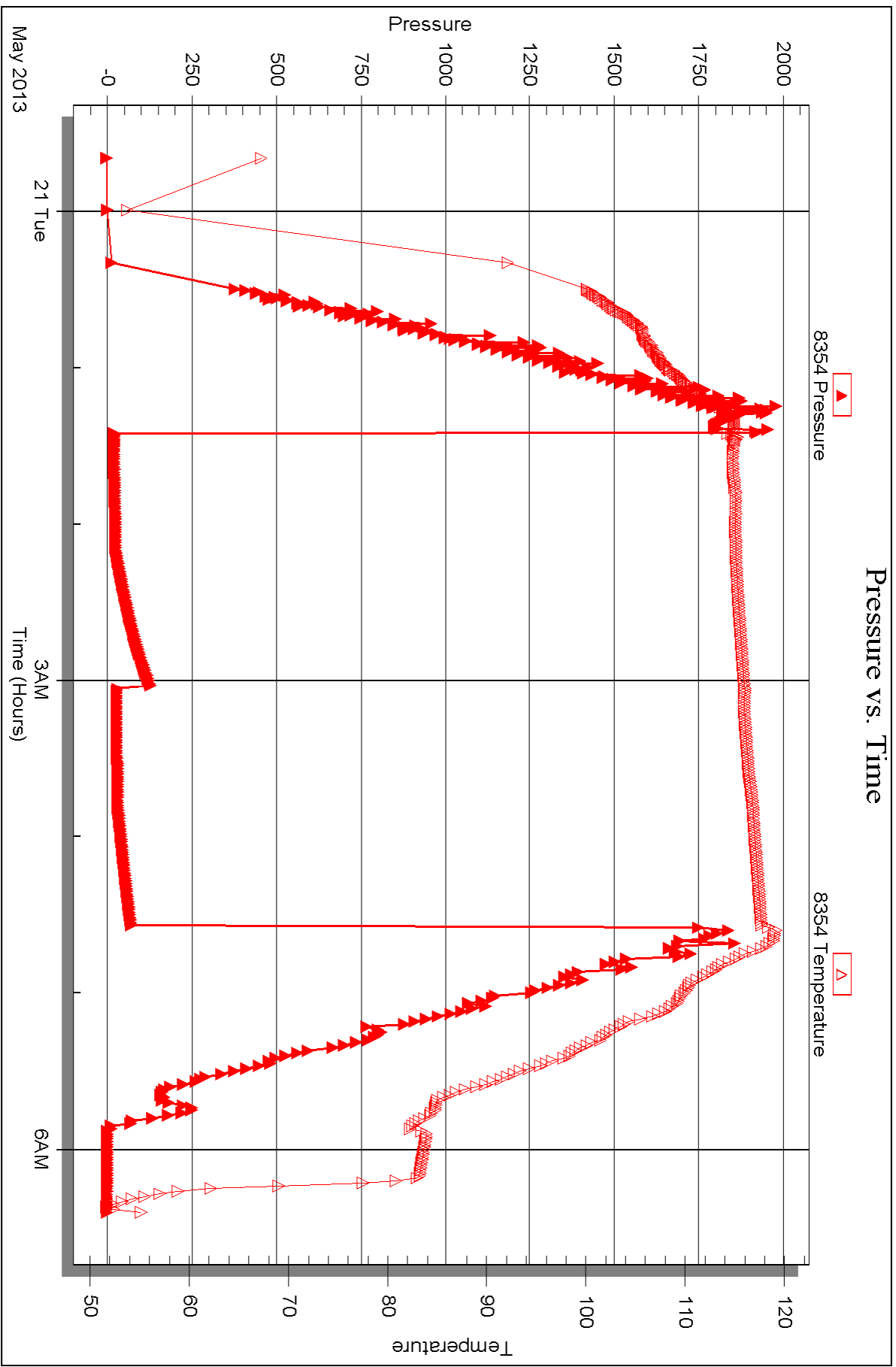
Serial #: 8354

Inside

H & C Oil Operating

Mghell #18-1

DST Test Number: 2







## DRILL STEM TEST REPORT

Prepared For: **H & C Oil Operating**

PO Box 86  
Plainville, KS 67663

ATTN: Mike Bair

### **Mighell #18-1**

#### **18-10s-25w Graham, KS**

Start Date: 2013.05.22 @ 12:00:00

End Date: 2013.05.22 @ 18:37:30

Job Ticket #: 52633                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.05.29 @ 13:52:41

H & C Oil Operating

18-10s-25w Graham, KS

Mighell #18-1

DST # 3

LKC "H-J"

2013.05.22



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

H & C Oil Operating  
 PO Box 86  
 Plainville, KS 67663  
 ATTN: Mike Bair

**18-10s-25w Graham, KS**

**Mighell #18-1**

Job Ticket: 52633

**DST#: 3**

Test Start: 2013.05.22 @ 12:00:00

## GENERAL INFORMATION:

Formation: **LKC "H-J"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:16:30  
 Time Test Ended: 18:37:30  
 Interval: **3934.00 ft (KB) To 4008.00 ft (KB) (TVD)**  
 Total Depth: 4008.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Kevin Mack  
 Unit No: 66  
 Reference Elevations: 2569.00 ft (KB)  
 2558.00 ft (CF)  
 KB to GR/CF: 11.00 ft

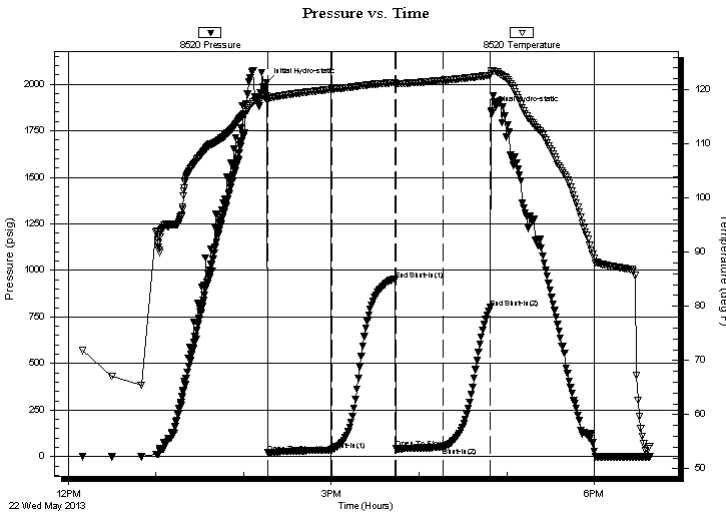
**Serial #: 8520**

**Outside**

Press @ Run Depth: 50.12 psig @ 3935.00 ft (KB)  
 Start Date: 2013.05.22 End Date: 2013.05.22  
 Start Time: 12:10:00 End Time: 18:37:30  
 Capacity: 8000.00 psig  
 Last Calib.: 2013.05.22  
 Time On Btm: 2013.05.22 @ 14:16:00  
 Time Off Btm: 2013.05.22 @ 16:49:00

**TEST COMMENT:** 45 - IF- 1/4" Blow built to 1 1/4"  
 45 - IS- No Return  
 30 - FF- No Blow  
 30 - FS- No Return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2009.73	118.86	Initial Hydro-static
1	20.06	118.33	Open To Flow (1)
44	35.65	120.06	Shut-In(1)
88	950.46	121.31	End Shut-In(1)
88	42.80	121.07	Open To Flow (2)
121	50.12	121.73	Shut-In(2)
153	799.96	122.63	End Shut-In(2)
153	1858.94	123.00	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
59.00	OSM 100M (Oil Spots)	0.29
1.00	Free Oil 100o	0.00

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

H & C Oil Operating  
PO Box 86  
Plainville, KS 67663  
ATTN: Mike Bair

**18-10s-25w Graham, KS**  
**Mighell #18-1**  
Job Ticket: 52633      **DST#: 3**  
Test Start: 2013.05.22 @ 12:00:00

**Tool Information**

Drill Pipe:	Length: 3685.00 ft	Diameter: 3.80 inches	Volume: 51.69 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 234.00 ft	Diameter: 2.25 inches	Volume: 1.15 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume: 52.84 bbl</u>	Tool Chased	ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial	76000.00 lb
Depth to Top Packer:	3934.00 ft			Final	76000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	74.00 ft				
Tool Length:	94.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

<b>Tool Description</b>	<b>Length (ft)</b>	<b>Serial No.</b>	<b>Position</b>	<b>Depth (ft)</b>	<b>Accum. Lengths</b>
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Change Over Sub	1.00			3915.00	
Shut In Tool	5.00			3920.00	
Hydraulic tool	5.00			3925.00	
Packer	5.00			3930.00	20.00      Bottom Of Top Packer
Packer	4.00			3934.00	
Stubb	1.00			3935.00	
Recorder	0.00	8354	Inside	3935.00	
Recorder	0.00	8520	Outside	3935.00	
Perforations	3.00			3938.00	
Change Over Sub	1.00			3939.00	
Drill Pipe	63.00			4002.00	
Change Over Sub	1.00			4003.00	
Bullnose	5.00			4008.00	74.00      Bottom Packers & Anchor

**Total Tool Length: 94.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

H & C Oil Operating  
PO Box 86  
Plainville, KS 67663  
ATTN: Mike Bair

**18-10s-25w Graham, KS**  
**Mighell #18-1**  
Job Ticket: 52633      **DST#: 3**  
Test Start: 2013.05.22 @ 12:00:00

## Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 63.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 800.00 ppm			
Filter Cake: 1.00 inches			

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
59.00	OSM 100M (Oil Spots)	0.290
1.00	Free Oil 100o	0.005

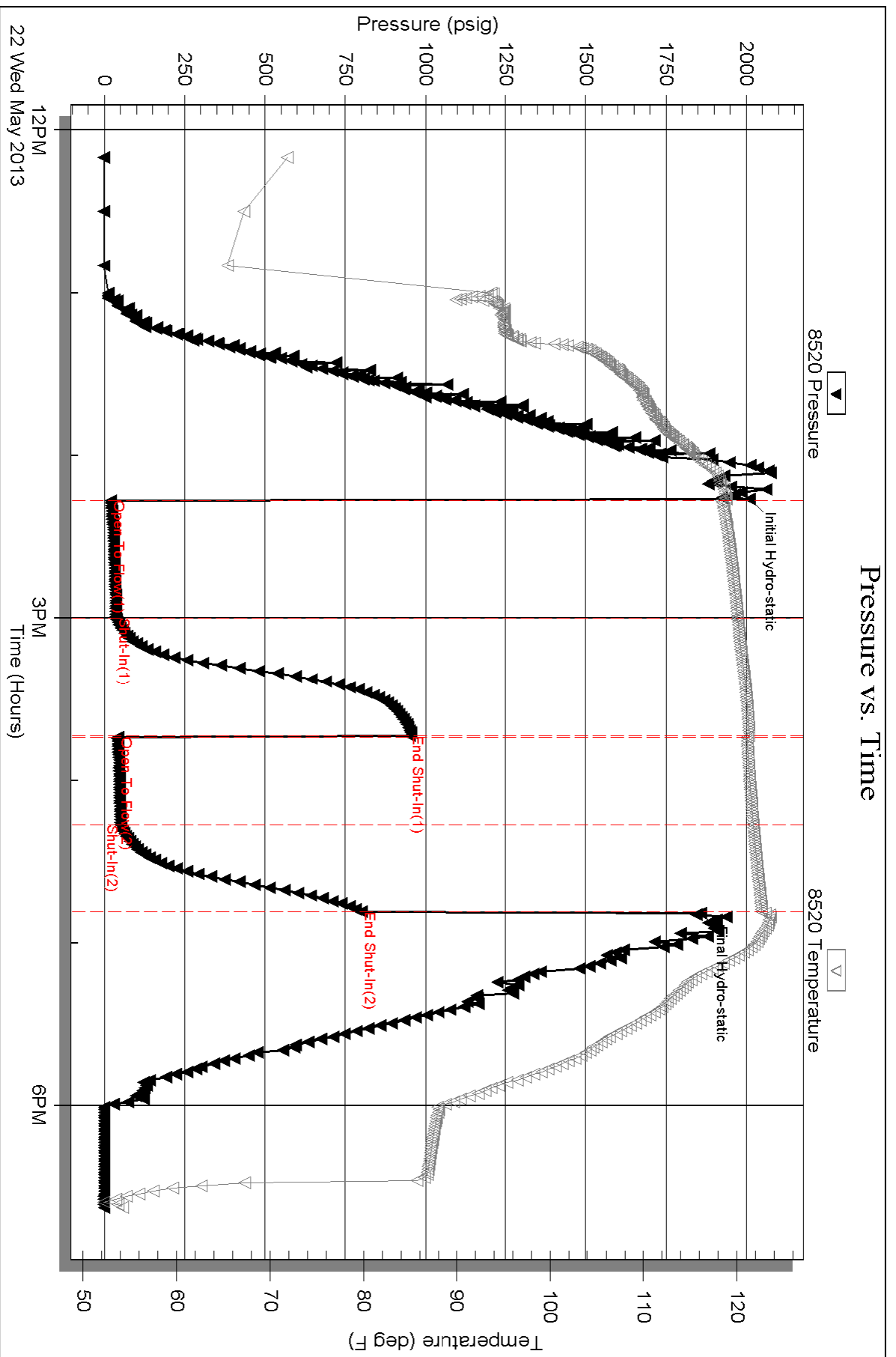
Total Length: 60.00 ft      Total Volume: 0.295 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:

Serial #: 8520

Outside H & C Oil Operating

Mghell #18-1

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 52633

Printed: 2013.05.29 @ 13:52:44

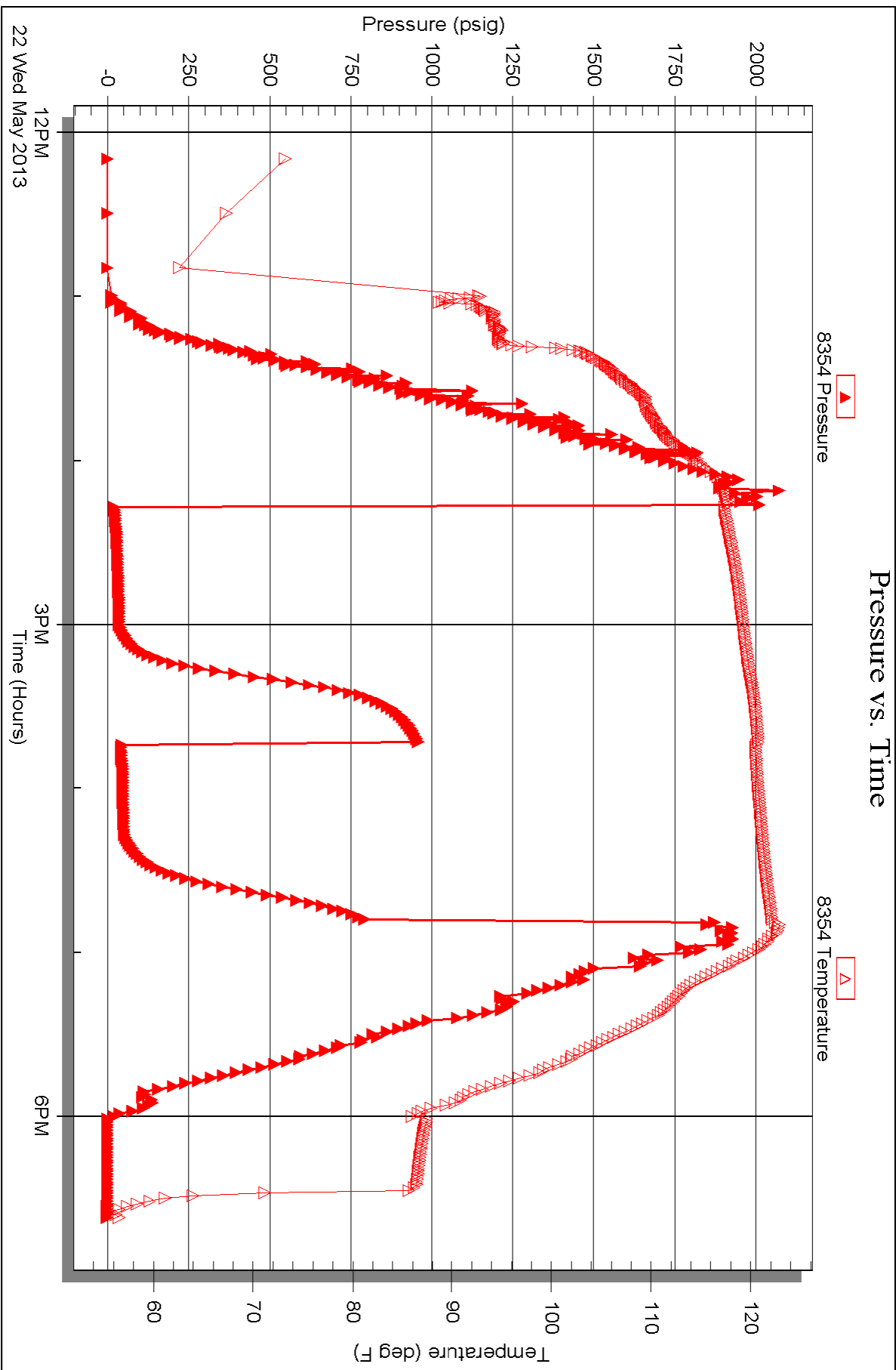
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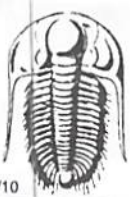
Inside

H & C Oil Operating

Mghell #18-1

DST Test Number: 3





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 49206

4/10

Well Name & No. Wighell #18-1 Test No. #1 Date 5/20/13  
 Company H3C Oil Operating Elevation 2569 KB 2558 GL  
 Address P.O. Box 86 Plainville, Ks 67663  
 Co. Rep / Geo. Mike Bair Rig Mudwin #21  
 Location: Sec. 18 Twp. 10 Rge. 25 Co. Graham State Ks

Interval Tested 3772 3850 Zone Tested Toronto - C  
 Anchor Length 78 Drill Pipe Run 3518 Mud Wt. 9.1  
 Top Packer Depth 3767 Drill Collars Run 234 Vis 60  
 Bottom Packer Depth 3772 Wt. Pipe Run --- WL 7.4  
 Total Depth 3850 Chlorides 500 ppm System LCM #2 1/2  
 Blow Description 3 1/4" in blow  
No return  
3' in blow  
No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>30'</u>	<u>HOCM</u>	<u>40</u>	<u>---</u>	<u>60</u>	<u>---</u>
<u>60'</u>	<u>OCM</u>	<u>15</u>	<u>---</u>	<u>85</u>	<u>---</u>
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

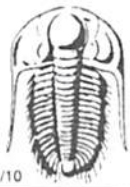
Rec Total 90' BHT 122° Gravity --- API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic <u>1858</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>07:50</u>
(B) First Initial Flow <u>27</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>09:15</u>
(C) First Final Flow <u>49</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>11:12</u>
(D) Initial Shut-In <u>796</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/E</u>	T-Pulled <u>14:12</u>
(E) Second Initial Flow <u>53</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>16:15</u>
(F) Second Final Flow <u>70</u>	<input checked="" type="checkbox"/> Mileage <u>180 RT</u> 124rt 192.20	Comments
(G) Final Shut-In <u>734</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1818</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Open <u>45</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Initial Shut-In <u>45</u>	<input type="checkbox"/> Day Standby	Total <u>1667.20</u>
Final Flow <u>45</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
Final Shut-In <u>45</u>	Sub Total <u>1667.20</u>	

Approved By \_\_\_\_\_ Our Representative [Signature]

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





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 52631

Well Name & No. Mighell # 18-1 Test No. 2 Date 5-20-13  
 Company Hac Oil Operating Elevation 2569 KB 2558 GL  
 Address PO Box 86 Plainville, KS 67663  
 Co. Rep / Geo. Mike Bair Rig Murfin 21  
 Location: Sec. 18 Twp. 10 Rge. 25 Co. Graham State KS

Interval Tested 3837-3868 Zone Tested LKC "D"  
 Anchor Length 31' Drill Pipe Run 3582 Mud Wt. 9.1  
 Top Packer Depth 3833 Drill Collars Run 234' Vis 60  
 Bottom Packer Depth 3837 Wt. Pipe Run Ø WL 7.6  
 Total Depth 3868 Chlorides 5000 ppm System LCM 2.5#

Blow Description IF - 1/8" Blow built to 1"  
ISI - No Return  
FF - Surface Blow built to 3/4"  
FSL - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>10</u>	<u>OSM</u>	<u>SPOTS</u>		<u>1000</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 10 BHT 119 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic <u>1922</u>	<input checked="" type="checkbox"/> Test 1150	T-On Location <u>9:50 PM</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>11:30 PM</u>
(C) First Final Flow <u>26</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>1:25 AM</u>
(D) Initial Shut-In <u>135</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>4:25 AM</u>
(E) Second Initial Flow <u>30</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>6:30 AM</u>
(F) Second Final Flow <u>30</u>	<input checked="" type="checkbox"/> Mileage <u>132 RT</u> 192.20	Comments _____
(G) Final Shut-In <u>68</u>	<input type="checkbox"/> Sampler	<input type="checkbox"/> Ruined Shale Packer
(H) Final Hydrostatic <u>1777</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Packer
Initial Open <u>45</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	Sub Total <u>0</u>
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	Total <u>1667.20</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Day Standby	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility	
	Sub Total <u>1667.20</u>	

Approved By \_\_\_\_\_ Our Representative [Signature]

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



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 52633

Well Name & No. Mighell # 18-1 Test No. 3 Date 5-21-13  
 Company H & C Oil Operating Elevation 2569 KB 2558 GL  
 Address PO Box 86 Plainville, KS 67663  
 Co. Rep / Geo. Mike Burr Rig MURFIN #21  
 Location: Sec. 18 Twp. 10 Rge. 25 Co. Graham State KS

Interval Tested 3934-4008 Zone Tested LKC "H, I, J"  
 Anchor Length 74' Drill Pipe Run 3685 Mud Wt. 9.2  
 Top Packer Depth 3930 Drill Collars Run 234' Vis 63  
 Bottom Packer Depth 3934 Wt. Pipe Run 0 WL 7.6  
 Total Depth 4008 Chlorides 8000 ppm System LCM 2#

Blow Description IF - 1/4" Blow built to 1 1/4"  
ISD - No Return  
FF - No Blow  
FSD - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>1</u>	<u>Free oil</u>	<u>100</u>			
<u>59</u>	<u>OSM</u>	<u>Spots</u>		<u>100</u>	

Rec Total 60 BHT 123 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>20009</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>9:25 PM</u>
(B) First Initial Flow <u>20</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>12:00 AM</u>
(C) First Final Flow <u>35</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>2:15 AM</u>
(D) Initial Shut-In <u>950</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>4:45 AM</u>
(E) Second Initial Flow <u>42</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>6:50 AM</u>
(F) Second Final Flow <u>50</u>	<input checked="" type="checkbox"/> Mileage <u>132 RT X2</u>	Comments <u>loaded tanks</u>
(G) Final Shut-In <u>799</u>	<input type="checkbox"/> Sampler _____	<u>1:30 AM 5-22-13</u>
(H) Final Hydrostatic <u>1858</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____

Initial Open <u>45</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>300</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Shut-In <u>300</u>	<input type="checkbox"/> Day Standby _____	Total <u>1959.40</u>
	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1959.40</u>	

Approved By \_\_\_\_\_ Our Representative [Signature]

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

# QUALITY OILWELL CEMENTING, INC.

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

Federal Tax I.D.# 20-2886107  
No. 6901

Sec.	Range	County	State	On Location	Finish
18	10 25	Coleman	KS		2:30 p.m.
Date	Location				
5-16-13	Sta Peter 3w to HDave 1 s 1w				

Lease	Well No.	Owner
Mighell	18-1	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cement and helper to assist owner or contractor to do work as listed.
Contractor		
MWb. #21		
Type Job	Charge To	Street
Surface	ABC	
Hole Size	T.D.	City
12 1/4	254	
Csg.	Depth	State
8 5/8	253	
Tbg. Size	Depth	
Tool	Depth	
Cement Left in Csg.	Shoe Joint	
15"		

Meas Line	Displace	Cement Amount Ordered
	15231	150 ccm 30pcc 20bldr
<b>EQUIPMENT</b>		
Pumptrk No.	Cement Helper	Common
5	Gray	150
Bulktrk No.	Driver	Poz. Mix
3	3	
Bulktrk No.	Driver	Gel.
5	5	
Bulktrk No.	Driver	Calcium

<b>JOB SERVICES &amp; REMARKS</b>	
Remarks:	
Rat Hole	
Mouse Hole	
Centralizers	
Baskets	
D/V or Port Collar	
8 5/8 on bottom. Est. Circulation.	
Mix 150 ccm & Displace	
Cement Controller	
8 5/8 Surge	
FLOAT EQUIPMENT	
Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
Pumptrk Charge	Surface
Mileage	35

Signature		Tax
Juan Pano		
Discount		Total Charge

# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

6819

Home Office P.O. Box 32 Russell, KS 67665

No.

Phone 785-483-2025

Cell 785-324-1041

Date	5-23-13	Sec.	18	Twp.	10	Range	25	County	Graham	State	Ks	On Location	8:00 AM
Lease	Mig well												
Contractor	Macfio #21												
Type Job	Plug												
Hole Size	7 7/8"												
Csg.	T.D. 4110'												
Tbg. Size	4 1/2" D.P. 2200'												
Tool	Depth												
Cement Left in Csg.	Shoe Joint												
Meas Line	Displace H2O/mud												
EQUIPMENT													
Pumptrk	15	No.	Cementer	Nick									
Bulktrk	14	No.	Driver	Billy									
Bulktrk	P.C.	No.	Driver	Rick									
JOB SERVICES & REMARKS													
Remarks:													
Rat Hole	Flowseal 50#												
Mouse Hole	Kol-Seal												
Centralizers	Mud CLR 48												
Baskets	CFL-117 or CD110 CAF 38												
D/V or Port Collar	Sand												
	Handling 228												
	Mileage												
	FLOAT EQUIPMENT												
	Guide Shoe												
	Centralizer												
	Baskets												
	AFU Inserts												
	Float Shoe												
	Latch Down												
	1 - Dry hole plug												
	Pumptrk Charge plug												
	Mileage 35												
	Tax												
	Discount												
	Total Charge												

X Signature *Juan Anzo*

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  
Thomas E. Wright, Commissioner  
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

June 10, 2013

Charles Ramsay  
H & C Oil Operating Inc.  
PO BOX 86  
PLAINVILLE, KS 67663-0086

Re: ACO1  
API 15-065-23912-00-00  
Mighell 18-1  
SE/4 Sec.18-10S-25W  
Graham 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,  
Charles Ramsay

**MUD LOG**  
**WellSight Systems**  
Scale 1:240 (5"=100') Imperial  
Measured Depth Log

Well Name: **Mighell 18-1**  
Location: **E/2 W/2 SE SE Sec. 18 ;Twnsp. 10S.; Rge. 25W.**  
License Number: **8914** Region: **Graham County, KS**  
Spud Date: **May 16, 2013** Drilling Completed: **May 22, 2013**  
Surface Coordinates: **660' FSL & 800' FEL**  
Sec. 18-10S-25W  
Bottom Hole Coordinates:  
Ground Elevation (ft): **2558'** K.B. Elevation (ft): **2569'**  
Logged Interval (ft): **3400'** To: **4107'** Total Depth (ft): **RTD 4110'**  
Formation:  
Type of Drilling Fluid: **Chemical**

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

**OPERATOR**

Company: **H & C Oil Operating, Inc.**  
Address: **P.O. Box 86**  
**Plainville, KS 67663**

**GEOLOGIST**

Name: **Mike Bair**  
Company: **Basin Resources L.L.C.**  
Address: **Longmont, CO.**

**FORMATION TOPS**

FORMATION	SAMPLE	LOG TOP
Anhydrite		2183 (+386)
Topeka	3568 (-999)	3565 (-996)
Heebner	3776 (-1207)	3576 (-1207)
Toronto	3798 (-1229)	3799 (-1230)
Lansing	3816 (-1247)	3818 (-1249)
BKC	4054 (-1485)	4052 (-1483)
TD	4110 (-1541)	4108 (1539)

## DSTs

### DST #1 3772 - 3850 45-45-45-45

IFP: Bit to 3 1/4" blow ; FSIP: No blow back

FFP: Bit to 3" bow: FSIP: No blow back

FP: (27-49)(53-70) SIP: 796-734 HP: BHT: 122

REC: 90' Total Recovery: 30' HOcm (40% oil 60% mud), 60' OCM (15% oil 85% mud)

### DST #2 3837 - 3868 45-45-45-45

IFP: Wk blding to 1" FSIP: Wk blkding to 3/4"

FP: (18-26)(31-31) FSIP: 125-68

HP: 1922-1777 BHT: 119

REC: 10' Oil Spk'd Mud

### DST #3 3934 - 4008' 45-45-30-30

IFP: Wk blow blding to 1 1/4" ISIP: No blow back

FFP: No blow (leaking connection) FSIP: No blow back

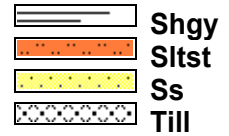
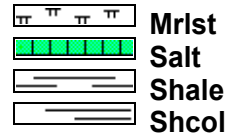
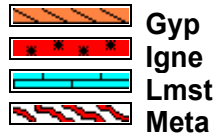
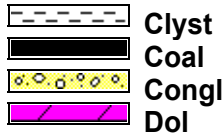
FP: (20-35)(42-50) SIP: 950-799 (final shut in chart did not break over) HP: 2009-1858 BHT: 123

REC: 1' Free Oil 59' Oil Spk'd mud (less than 1%)

## Comments

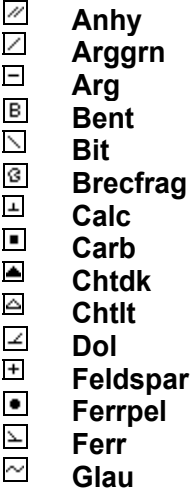
Based on DST results and log analysis, all parties agreed to plug and abandon the Mighell 18-1.

## ROCK TYPES

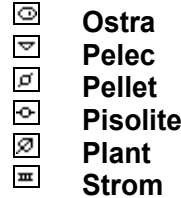
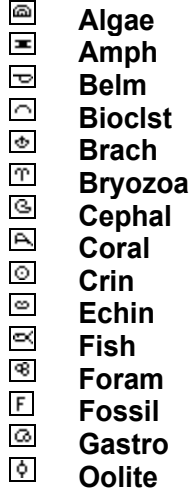


## ACCESSORIES

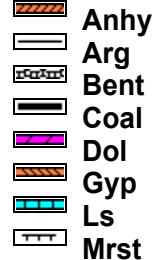
### MINERAL



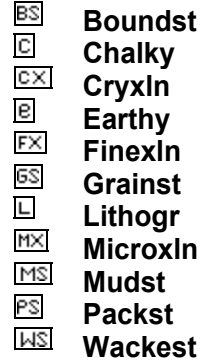
### FOSSIL



### STRINGER



### TEXTURE



OTHER SYMBOLS

- POROSITY**  
 [E] Earthy  
 [F] Fenest  
 [X] Fracture  
 [M] Moldic  
 [O] Organic  
 [P] Pinpoint

[V] Vuggy

- SORTING**  
 [W] Well  
 [M] Moderate  
 [P] Poor

- ROUNDING**  
 [R] Rounded  
 [r] Subrnd  
 [a] Subang  
 [A] Angular

**OIL SHOW**  
 [●] Even

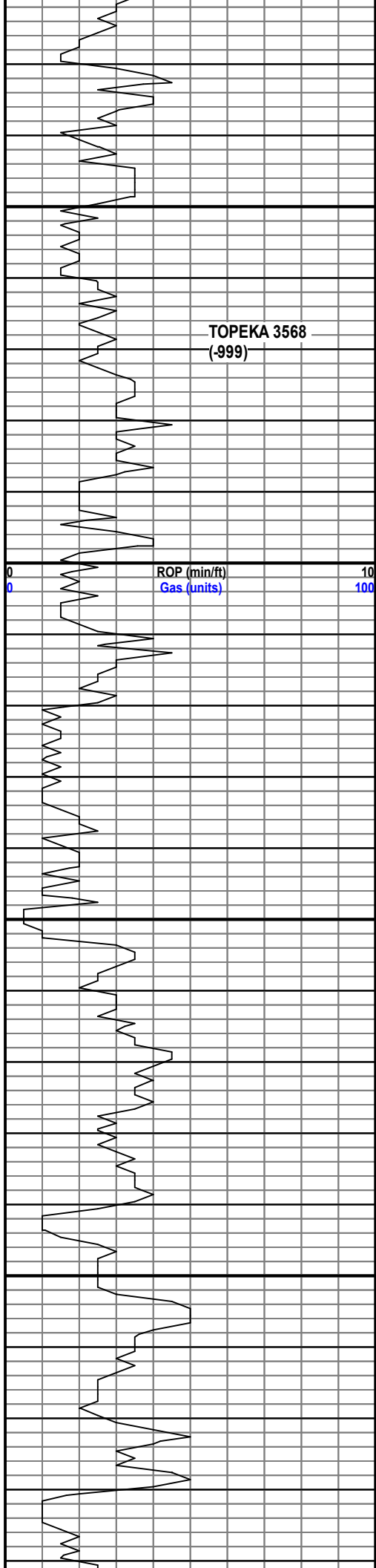
- [●] Spotted  
 [○] Ques  
 [D] Dead

- INTERVAL**  
 [■] Core  
 [□] Dst

- EVENT**  
 [▽] Rft  
 [▶] Sidewall

Curve Track 1		Depth	Lithology	Geological Descriptions	Remarks	
ROP (min/ft)	Gas (units)				TG (Units)	
0	0	10			1	1000
		3400				
<p><b>ANHYDRITE</b> NOTE: Log Top 2183</p> <p>Top 2196 (+373)</p> <p>Base 2223 (+346)</p>						
		3450				
		3500		<p>3500 Ls, gry-tan, fxl to sl gran, sl ixgran por, r pc Ls, wh, sl gran, sl ixgran por, spt'd surf stn, sl sfo, n/o</p> <p>3510 Ls, tan - gry, fxl to pell, pr vis por, few pcs, Ls, sl gran, sl por, sl-fr sfo wh bxn, n/o</p> <p>Ls, crm-tan, fxl to gran, foss, ns, n/o</p> <p>a/a, cky in pt, r pc sh, blk</p> <p>Ls, tan-brn, fxl, pr vis por, r pc SS, qtz, cluster,</p>	<p>Andy's Mud 3464</p> <p>Wt. 8.8</p> <p>Vis 57</p> <p>WL 7.6</p> <p>Chlr 400</p> <p>LCM 2 1/2#</p>	



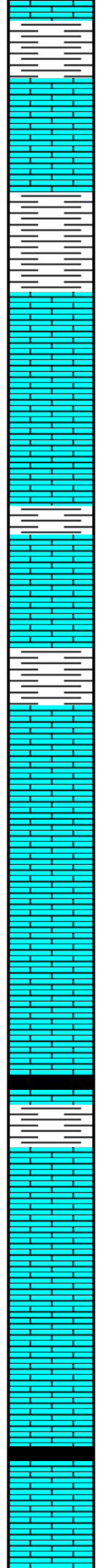


3550

3600

3650

3700



rd, tr srt, ns, n/o

Ls, tan, fxl, pr vis por, ns, n/o 3550

Ls, crm-tan, mst fxl, few foss, nvp; r pc Chert, wh; Sh, gry

Ls, crm-gry, fxl, ns, n/o

a/a; Slst, gry, mica, argil, ns, n/o

Ls, wh-tan, mst fxl, some cky, ns, n/o

a/a to Ls, brn, mdstn, nvp, ns, n/o 3600

Ls, wh-crm, fxl to sl gran, ns, n/o

Ls, crm-tan, fxl to sl gran, poss sl gran por, ns, n/o

Ls, crm-tan, a/a

Ls, crm, fxl to gran, sl ixgran por, ns, n/o; fr pc Sh, re

Ls, a/a to Ls, brn, cherty, nvp; Sh, gry-red, ns, n/o 3650

Ls, crm-gry, some gn stone, pr vis por, ns, n/o; Sh, v.c.

Ls, crm, gran, sl cky, fr ixgran por to Dolo, fgrn, suc, ns, n/o

a/a

Ls, crm, fxl to gran, poss ixgran por, ns, n/o

Sh, soft red, gry; Slst, argil, gy-grn, ns, n/o 3700

Ls, crm, fxl to sl gran, poss ixgran por, few pc Chert, crm-tan, fresh, dse, ns, n/o

a/a, incr chert

Ls, crm-tan, fxl, sct'd gn stone, ns, n/o

Ls, crm, sl gran poss ixgran por, ns; sct'd Chert; Sh, blk, ns, n/o

Ls, crm, ool, pr ool por, sct'd v sl pp por, ns, n/o 3750

1

1000

Ls, ool, ,crm-brn, pr ool por, few pc sl oom por, no stn, ns, n/o

Ls, crm, fxl to sl gran, ns, n/o; sh, gry

Sh, blk, carb 3282 20 min sample Flood shale 40 min sample

Ls,tan, fxl, some cal rexln, nvp in most; Chert, wh, foss frags; Sh, gry-grn, Slst, gry-grn, ns, n/o

Ls, tan, fxl, ns, n/o 3800

Sh, gry-grn; Slst, gry-grn, r pc Ss, qtz, sm xls, rd, fr srt, glauc, friable, ns, n/o

Ls, wh, ool, mst spt'd pr-sl ixgran to sl pp por, few Low fr por, sl-low fr sfo wh bxn, poss v wk odor, fr rep. few pc sl cky 3820

Sh, red, gry; Chert, tan, dse, nvp, ns,n/o 30 min

Ls, crm-tan, ool, pr ool por, spt'd stn, sl sfo, no odor, fr rep, 3823 60 min

Ls, wh-crm, flx, nvp, few foss frags, sct'd cky, few w micr-pyrite xls, ns, n/o

Sh, red, gry; couple of Ls, wh, ool, v sl ixool por, v sl sfo wh bxn, no odor, spt'd surf stn 3848 30 min

Ls, wh, fxl, rare rx ool, pr-v sl ool por, v sl sfo, v spt'd surf stn, n/o 3848 30 min

Ls, crm-tan, ool, spt'd sl pp por to sl ixgran por, few gs bbls wh bxn, lt sfo, fr rep; Chert, wh, oil stn on sides, trip por, no odor 3860

Ls, ool to sl oom, fr sfo in few rx, few rx low-fr ixl por, some sl oom por, gs bbls wh bxn; Chert, a/a; lt odor, fr-gd rep 3863 - 3863 30 min

Ls, crm, ool, sl sfo low-fr ixool por, spt'd stn to few sl sat'd stn, low fr sfo wh bxn, some sparry cal, sat'd surf stn, sl sfo, fr rep, fr odor 3863 60 min

3868 30 min: Ls, ool to fxl, sl to few gd por, vg por in few rx, fr-low gd sfo in few rx, L-fr odor

3868 60 min a/a, dec odor, sl dec in show

3900 Ls, wh, fxl, sct'd pp por, few spt'd vg, spt'd surf stn, v sl sfo, r pc sat'd stn, sl sfo to Ls, crm, fxl, pr por, spt'd surf stn, mst barren, poss v sl odor

3901 60 min Ls, wh, mst barren, few rxs f gran, spt'd stn, v sl sfo wh bxn, 1 Ls, dse w blks stn on side, low rep, v sl odor

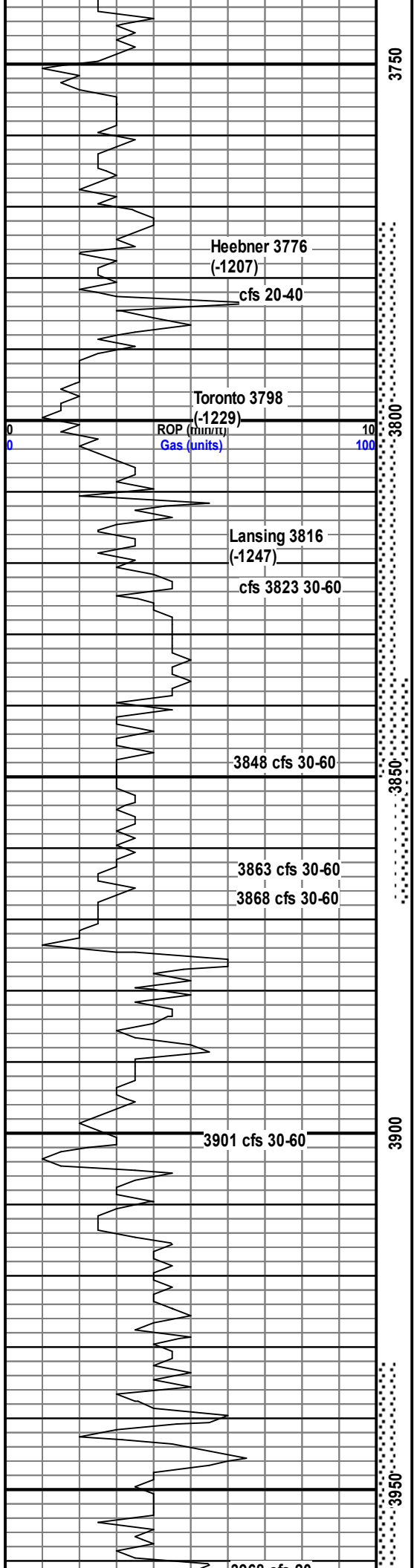
3910 Ls, wh, fxl, cky in pt, 2 pc Ls, fxl, spt'd vy por, oil stn in vg, poss v wk odor, mst barren, Chert, bone white, Sh, gry

3920 Ls, wh, fxl to gran few ool, surf stn, sl sfo, lt odor, pr vis por to sl ixgran por

3930 Ls, wh, gran-ool, sl ixgran por, spt'd surf stn, sl sfo in few rx; 1 rx sat'd stn, lt fr sfo wh bxn, lt odor

Ls, wh, fxl, sl cky; Ls, wh ool-gran, sl por to few oom, sl sfo r pc Ls wh, ool, hvy blk stn poss v wk odor 3940

3968 Ls, ool, sl to some fr ixool por, fr sfo, fr odor, gd rep, gas bbls wh bxn



**DST #1  
3772-3850**

3823 drilling sample very low rep of show rx

**DST #2  
3837-3868**

3848 short trip

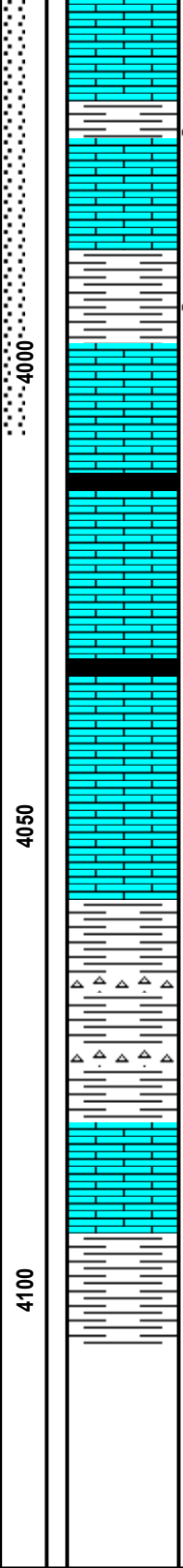
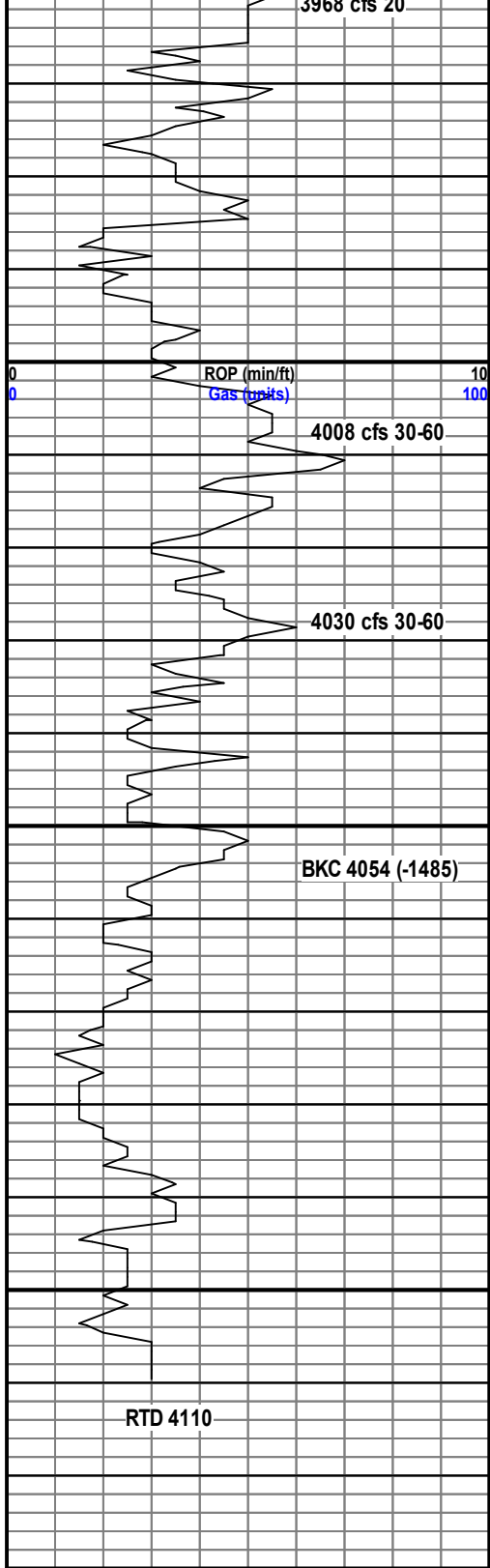
Andy's Mud 3850  
Wt 9.1  
Vis 60  
WL 7.6  
Chlr 500  
LCM 2 1/2#

3868 Ls, a/a dec show, v sl odor

Andy's Mud 3868  
Wt 9.2  
Vis 63  
WL 7.6  
Chlr 800  
LCM 2#

3990 sample-not caught

Sh, gry-grn, Ls, wh fxl, ns, n/o 3950



Ls, wh, fxl, nvp, ns, sl cky, n/o; Sh, gry-grn; Chert gry 3980

Sh, blk, Ls, wh, fxl, cl cky to Lsm wh, ool sl ixool por, spt'd surf stn, v sl sfo wh bxn, sl odr wh bxn 3990

Ls, wh, sl gran, cky, surf stn, nsfo, nvp 4000

Ls, wh, sl cky, ns to Ls, a/a few pcs Ls, clr, gran, sl ixgran por, lt sfo wh bxn, few pcs ool v sl ixool, v sl sfo wh bxn. 4008/30/60 min

Sh, gry-mrn-grn

Ls, wh, crm, fxl, nvp, couple pcs Ls, wh-brn, ool, pr ixool por, spt'd surf stn, nsfo, n/o

Ls, wh, fxl to sl gran, pr vis por, ns, n/o

Ls, wh, ool, pr-v sl ixool por, spt'd surf stn, sl sfo wh bxn, 1 pc fr sfo wh bxn, n/o 4008 60 min

Ls, wh-crm, fxl, nvp couple pcs Ls, wh-brn, pr por to sl pp por, spt'd surf stn, nsfo, n/o

Ls, mst wh, fxl to tan, mic, pr por, ns, n/o

a/a; Sh, gry, blk, mrn

Ls, wh,-crm, fxl, nvp to few pc Ls, wh ool (med), spt'd surf stn, sl sfo wh bxn, n/o; Sh, gry mrn, grn, brn

Ls, wh-crm. fxl, coms sl cky to sdy, r pc w sl surf stn, nsfo; Chert, org; Sh, a/a

Ls, wh, fxl, pr vis por r pc w sm vg, sl oil stn in vg, nsfo, n/o; Chert, org; Sh a/a

Ls, crm, fxl, few sl gran, pr vis por, ns, n/o Sh, gry, mrn

**DST #3**  
**3934-4008**

Pulled tight on 6th stand off of btm, short trip CTCH 60 min

1 1000

Andy's Mud 4008  
Wt 9.3  
Vic 66  
WL 8.0  
Chlr 1000  
LCM 1 1/2#

Geo-Shot survey  
.1 degree