

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

ORIGINAL

Form ACO-1  
October 2008  
Form Must Be Typed

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 5663  
Name: Hess Oil Company  
Address 1: P. O. Box 1009  
Address 2: \_\_\_\_\_  
City: McPherson State: KS Zip: 67460 + 1009  
Contact Person: Bryan Hess  
Phone: ( 620 ) 241-4640  
CONTRACTOR: License # 4958  
Name: Mallard JV, Inc.  
Wellsite Geologist: James C. Hess  
Purchaser: \_\_\_\_\_

Designate Type of Completion:  
 New Well  Re-Entry  Workover  
 Oil  SWD  SLOW  
 Gas  ENHR  SIGW  
 CM (Coal Bed Methane)  Temp. Abd.  
 Dry  Other \_\_\_\_\_  
(Core, WSW, Expl., Cathodic, 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: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_  
 Commingled Docket No.: \_\_\_\_\_  
 Dual Completion Docket No.: \_\_\_\_\_  
 Other (SWD or Enhr.?) Docket No.: \_\_\_\_\_  
10/26/2009 11/2/2009 11/2/2009  
Spud Date or Recompletion Date Date Reached TD Completion Date or Recompletion Date

API No. 15 - 135-24967-00-00  
Spot Description: Approx  
NE NE SE SW Sec. 7 Twp. 16 S. R. 22  East  West  
1125 Feet from  North /  South Line of Section  
2810 Feet from  East /  West Line of Section  
Footages Calculated from Nearest Outside Section Corner:  
 NE  NW  SE  SW  
County: Ness  
Lease Name: Ruby B Well #: 1  
Field Name: \_\_\_\_\_  
Producing Formation: \_\_\_\_\_  
Elevation: Ground: 2437 Kelly Bushing: 2439  
Total Depth: 4450 Plug Back Total Depth: \_\_\_\_\_  
Amount of Surface Pipe Set and Cemented at: 231 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 P+A AH II NR  
(Data must be collected from the Reserve Pit) 12-1-09  
Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls  
Dewatering method used: \_\_\_\_\_  
Location of fluid disposal if hauled offsite: \_\_\_\_\_  
Operator Name: \_\_\_\_\_  
Lease Name: \_\_\_\_\_ License No.: \_\_\_\_\_  
Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West  
County: \_\_\_\_\_ Docket No.: \_\_\_\_\_

**INSTRUCTIONS:** An original and two copies of this form shall be filed with the Kansas Corporation Commission, 130 S. Market - Room 2078, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information of side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

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.

Signature: Bryan Hess  
Title: President Date: 11/20/2009  
Subscribed and sworn to before me this 20<sup>th</sup> day of November,  
20 09.  
Notary Public: Carol A. Nickel  
Date Commission Expires: \_\_\_\_\_



**KCC Office Use ONLY**  
 Letter of Confidentiality Received  
If Denied, Yes  Date: \_\_\_\_\_  
 Wireline Log Received  
 Geologist Report Received  
\_\_\_\_\_  
UIC Distribution  
**RECEIVED**  
**NOV 23 2009**

KCC WICHITA

Operator Name: Hess Oil Company Lease Name: Ruby B Well #: 1  
 Sec. 7 Twp. 16 S. R. 22  East  West County: Ness

**INSTRUCTIONS:** Show important tops and base 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. Attach copy of all Electric Wireline Logs surveyed. Attach final geological well site report.

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

| CASING RECORD <input checked="" 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 |
| Surface   | 12-1/4"           | 8-5/8"                    | 20                | 224'          | common         | 150          | 2% gel, 3% cc              |
|   |                   |                           |                   |               |                |              |                            |
|   |                   |                           |                   |               |                |              |                            |

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

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

|                |       |         |            |   |
|----------------|-------|---------|------------|---|
| TUBING RECORD: | Size: | Set At: | Packer At: | Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No |
|----------------|-------|---------|------------|---|

|   |   |
|---|---|
| Date of First, Resumed Production, SWD or Enhr. | Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> |
| Estimated Production Per 24 Hours               | Oil Bbls.      Gas Mcf      Water Bbls.      Gas-Oil Ratio      Gravity   |

|  |  |   |
|--|--|---|
| <b>DISPOSITION OF GAS:</b><br><input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease<br><i>(If vented, Submit ACO-18.)</i> | <b>METHOD OF COMPLETION:</b><br><input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled<br><input type="checkbox"/> Other <i>(Specify)</i> _____ | <b>PRODUCTION INTERVAL:</b><br>_____<br>_____ |
|--|--|---|

# HESS OIL COMPANY

P.O. BOX 1009  
McPHERSON, KANSAS 67460-1009  
(620) 241-4640

ACO-1 Completion Form Attachment

## Ruby B #1

Approx. NE NE SE SW

1125' FSL, 2810' FEL, Section 7-16-22W

Ness County, Kansas

API# 15-135-24967-00-00

Elevation: 2439' KB

| <u>FORMATION</u> | <u>SAMPLE TOP</u> | <u>DATUM</u> |
|------------------|-------------------|--------------|
| Anhydrite        | 1789'             | (+650')      |
| Base Anhydrite   | 1825'             | (+614')      |
| Heebner          | 3803'             | (-1364')     |
| Toronto          | 3823'             | (-1384')     |
| Lansing          | 3840'             | (-1401')     |
| Stark Shale      | 4059'             | (-1620')     |
| Base Kansas City | 4110'             | (-1671')     |
| Marmaton         | 4137'             | (-1698')     |
| Pawnee           | 4208'             | (-1769')     |
| Fort Scott       | 4294'             | (-1855')     |
| Cherokee Shale   | 4320'             | (-1881')     |
| Cherokee Sand    | 4389'             | (-1950')     |
| Mississippi      | 4430'             | (-1991')     |
| RTD              | 4450'             | (-2011')     |
| LTD              | 4451'             | (-2012')     |

## DST #1

Depth: 4318' - 4394'

Times: 30-30-5-0

Blows: IF - 1/4" blow died in 8 min.

ISI - no return

FF - no blow

FSI - pulled tool

Recoveries: 30' OCM ( 5% O, 95% M)

Pressures: IH 2194#, IF 24-35#, ISI 1124#, FF 41-42#, FSI ---, FH 2185#

## DST #2

Depth: 4318' - 4400'

Times: 15-15-0-0

Blows: IF - BOB in 1 1/2 min.

ISI - no return

Recoveries: 244' MCW (90% W, 10% M), 575' MCW (80% W, 20% M), 189' WCM (40% W, 60% M), 189' WCM w/oil spots (5% W, 95% M)

Pressures: IH 2205#, IF 123-481#, ISI 1286#, FF ---, FSI ---, FH 2210#

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NOV 23 2009

KCC WICHITA

# QUALITY OILWELL CEMENTING, INC.

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

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

No. 3862

|                                   |                      |          |            |  |   |       |    |        |      |       |    |             |  |        |         |
|-----------------------------------|----------------------|----------|------------|--|---|-------|----|--------|------|-------|----|-------------|--|--------|---------|
| Date                              | 10/26/09             | Sec.     | 7          | Twp.   | 16  | Range | 22 | County | Ness | State | KS | On Location |  | Finish | 7:15 PM |
| Lease                             | Ruby B               | Well No. | 1          | Location Brownell, 2 W, 2 N, 12 <sup>th</sup> , N into |   |       |    |        |      |       |    |             |  |        |         |
| Contractor                        | Mallard Drilling Inc |          |            |  | Owner<br>To Quality Oilwell Cementing, Inc.<br>You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed. |       |    |        |      |       |    |             |  |        |         |
| Type Job                          | Surface              |          |            |  | Charge To<br>Hess Oil Company   |       |    |        |      |       |    |             |  |        |         |
| Hole Size                         | 12 1/4"              |          | T.D.       |  | 231'  |       |    |        |      |       |    |             |  |        |         |
| Csg.                              | 8 5/8" 20#           |          | Depth      |  | 231'  |       |    |        |      |       |    |             |  |        |         |
| Tbg. Size                         |                      |          | Depth      |  |   |       |    |        |      |       |    |             |  |        |         |
| Tool                              |                      |          | Depth      |  | City State  |       |    |        |      |       |    |             |  |        |         |
| Cement Left in Csg.               | 15'                  |          | Shoe Joint |  | The above was done to satisfaction and supervision of owner agent or contractor.  |       |    |        |      |       |    |             |  |        |         |
| Meas Line                         |                      |          | Displace   |  | 14 bbls<br><b>CEMENT</b>  |       |    |        |      |       |    |             |  |        |         |
| <b>EQUIPMENT</b>                  |                      |          |            | Amount Ordered 150 Sk Common 3% CC 2% Gel              |   |       |    |        |      |       |    |             |  |        |         |
| Pumptrk                           | 9                    | No.      | Cementer   | Paul   | Common  |       |    |        |      |       |    |             |  |        |         |
| Bulktrk                           | 11                   | No.      | Driver     | Blake  | Poz. Mix  |       |    |        |      |       |    |             |  |        |         |
| Bulktrk                           | 14                   | No.      | Driver     | Neate  | Gel.  |       |    |        |      |       |    |             |  |        |         |
| <b>JOB SERVICES &amp; REMARKS</b> |                      |          |            | Calcium  |   |       |    |        |      |       |    |             |  |        |         |
| Remarks:                          |                      |          |            |  | Hulls RECEIVED  |       |    |        |      |       |    |             |  |        |         |
|                                   |                      |          |            |  | Salt NOV 23 2009  |       |    |        |      |       |    |             |  |        |         |
|                                   |                      |          |            |  | Flowseal KCC WICHITA  |       |    |        |      |       |    |             |  |        |         |
|                                   |                      |          |            |  | Handling  |       |    |        |      |       |    |             |  |        |         |
|                                   |                      |          |            |  | Mileage   |       |    |        |      |       |    |             |  |        |         |
|                                   | Cement Circulated    |          |            |  | <b>FLOAT EQUIPMENT</b>  |       |    |        |      |       |    |             |  |        |         |
|                                   |                      |          |            |  | Guide Shoe  |       |    |        |      |       |    |             |  |        |         |
|                                   |                      |          |            |  | Centralizer   |       |    |        |      |       |    |             |  |        |         |
|                                   |                      |          |            |  | Baskets   |       |    |        |      |       |    |             |  |        |         |
|                                   |                      |          |            |  | AFU Inserts   |       |    |        |      |       |    |             |  |        |         |
|                                   |                      |          |            |  | 8 5/8 Surge   |       |    |        |      |       |    |             |  |        |         |
|                                   |                      |          |            |  | Pumptrk Charge  |       |    |        |      |       |    |             |  |        |         |
|                                   |                      |          |            |  | Mileage   |       |    |        |      |       |    |             |  |        |         |
|                                   |                      |          |            |  | Tax   |       |    |        |      |       |    |             |  |        |         |
|                                   |                      |          |            |  | Discount  |       |    |        |      |       |    |             |  |        |         |
|                                   |                      |          |            |  | Total Charge  |       |    |        |      |       |    |             |  |        |         |
| X Signature                       | [Signature]          |          |            |  |   |       |    |        |      |       |    |             |  |        |         |

Thank you?

Quality Oilwell Cementing

# QUALITY OILWELL CEMENTING, INC.

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

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

No. 3878

|                                    |              |          |               |   |    |                          |    |  |              |       |    |             |  |        |      |  |
|------------------------------------|--------------|----------|---------------|---|----|--------------------------|----|--|--------------|-------|----|-------------|--|--------|------|--|
| Date                               | 11-2-09      | Sec.     | 7             | Twp.  | 16 | Range                    | 22 | County   | NESS         | State | Ks | On Location |  | Finish | 7:00 |  |
| Lease                              | Ruby B       | Well No. | #1            | Location  |    | Brownell, Ks 2 1/2 W 2 N |    |  |              |       |    |             |  |        |      |  |
| Contractor                         | Mallard Oelg |          |               |   |    |                          |    | Owner  | 1/2 W N INTO |       |    |             |  |        |      |  |
| Type Job                           | PTA          |          |               |   |    |                          |    | To Quality Oilwell Cementing, Inc.<br>You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed. |              |       |    |             |  |        |      |  |
| Hole Size                          | 7 7/8        |          | T.D.          | 4450  |    |                          |    |  |              |       |    |             |  |        |      |  |
| Csg.                               |              |          | Depth         | Charge To HESS OIL CO   |    |                          |    |  |              |       |    |             |  |        |      |  |
| Tbg. Size                          | 4 1/2 D.P.   |          | Depth         | Street  |    |                          |    |  |              |       |    |             |  |        |      |  |
| Tool                               |              |          | Depth         | City State  |    |                          |    |  |              |       |    |             |  |        |      |  |
| Cement Left in Csg.                |              |          | Shoe Joint    | The above was done to satisfaction and supervision of owner agent or contractor |    |                          |    |  |              |       |    |             |  |        |      |  |
| Meas Line                          |              |          | Displace      | CEMENT  |    |                          |    |  |              |       |    |             |  |        |      |  |
| EQUIPMENT                          |              |          |               | Amount Ordered 300x 60/40 Poz 4% GEL 1/4" CF.                                   |    |                          |    |  |              |       |    |             |  |        |      |  |
| Pumptrk                            | 5            | No.      | Cement Helper | JOE   |    |                          |    |  |              |       |    |             |  |        |      |  |
| Bulktrk                            | 10           | No.      | Driver        | DOUG  |    |                          |    |  |              |       |    |             |  |        |      |  |
| Bulktrk                            | PV           | No.      | Driver        | TODD  |    |                          |    |  |              |       |    |             |  |        |      |  |
| JOB SERVICES & REMARKS             |              |          |               | Common 180  |    |                          |    |  |              |       |    |             |  |        |      |  |
| Remarks:                           |              |          |               | Poz. Mix 120  |    |                          |    |  |              |       |    |             |  |        |      |  |
| 1st Plug 1830'                     |              |          |               | Gel. 10   |    |                          |    |  |              |       |    |             |  |        |      |  |
| 50x 60/40 Poz 4% GEL 1/4" CF.      |              |          |               | Calcium   |    |                          |    |  |              |       |    |             |  |        |      |  |
| Disp w/mud                         |              |          |               | RECEIVED  |    |                          |    |  |              |       |    |             |  |        |      |  |
| 2nd Plug 1330'                     |              |          |               | Hulls   |    |                          |    |  |              |       |    |             |  |        |      |  |
| 80x 60/40 Poz 4% GEL 1/4" CF.      |              |          |               | NOV 23 2009   |    |                          |    |  |              |       |    |             |  |        |      |  |
| Disp w/H <sub>2</sub> O            |              |          |               | Salt  |    |                          |    |  |              |       |    |             |  |        |      |  |
| 3rd Plug 690'                      |              |          |               | Flowseal 75#  |    |                          |    |  |              |       |    |             |  |        |      |  |
| 50x 60/40 Poz 4% GEL 1/4" CF.      |              |          |               | KCC WICHITA   |    |                          |    |  |              |       |    |             |  |        |      |  |
| Disp w/H <sub>2</sub> O            |              |          |               | Handling 310  |    |                          |    |  |              |       |    |             |  |        |      |  |
| 4th Plug 270'                      |              |          |               | Mileage 03 PER 1/4 PER M, 1/8   |    |                          |    |  |              |       |    |             |  |        |      |  |
| 50x 60/40 Poz 4% GEL 1/4" CF.      |              |          |               | FLOAT EQUIPMENT   |    |                          |    |  |              |       |    |             |  |        |      |  |
| 100' 20s 60/40 Poz 4% GEL 1/4" CF. |              |          |               | Guide Shoe  |    |                          |    |  |              |       |    |             |  |        |      |  |
| R-h 30s 60/40 Poz 4% GEL 1/4" CF.  |              |          |               | Centralizer   |    |                          |    |  |              |       |    |             |  |        |      |  |
| M-h 20s 60/40 Poz 4% GEL 1/4" CF.  |              |          |               | Baskets   |    |                          |    |  |              |       |    |             |  |        |      |  |
| 195' Bottom Plug                   |              |          |               | AFU Inserts   |    |                          |    |  |              |       |    |             |  |        |      |  |
| Pumptrk Charge PTA                 |              |          |               |   |    |                          |    |  |              |       |    |             |  |        |      |  |
| Mileage                            |              |          |               |   |    |                          |    |  |              |       |    |             |  |        |      |  |
| THANKS                             |              |          |               | Tax   |    |                          |    |  |              |       |    |             |  |        |      |  |
| TODD JOE DOUG                      |              |          |               | Discount  |    |                          |    |  |              |       |    |             |  |        |      |  |
| Signature                          |              |          |               | Total Charge  |    |                          |    |  |              |       |    |             |  |        |      |  |

# HESS OIL COMPANY

225 N. Market, Suite 300

Wichita, Kansas 67202

(316) 263-2243

## GEOLOGICAL REPORT

### RUBY #B - 1

1125' FSL, 2810' FEL of

SECTION 7 - 16S - 22W

NESS COUNTY, KANSAS

|             |              |                  |                    |
|-------------|--------------|------------------|--------------------|
| Commenced:  | 10-26-09     | Elevations:      | 2434' GR, 2439' KB |
| Completed:  | 11-2-09      | Surface Pipe:    | 8-5/8" @ 231' KB   |
| Contractor: | Mallard J.V. | Production Pipe: | none               |

One foot drilling time was kept from 1760 to 1840' KB and from 3700' to rotary total depth. Ten foot drilling samples (wet & dry) were kept from 4100' to RTD.

Following are sample tops, descriptions of zones of interest (including all shows of oil & gas), and the results of all drill stem tests.

|                       |             |                |
|-----------------------|-------------|----------------|
| <u>ANHYDRITE</u>      | <u>1789</u> | <u>( +650)</u> |
| <u>BASE ANHYDRITE</u> | <u>1825</u> | <u>( +614)</u> |
| <u>HEEBNER</u>        | <u>3803</u> | <u>(-1364)</u> |

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KCC WICHITA

# HESS OIL COMPANY

225 N. Market, Suite 300

Wichita, Kansas 67202

(316) 263-2243

Ruby #B - 1  
Page 2

|                         |             |                |
|-------------------------|-------------|----------------|
| <u>TORONTO</u>          | <u>3823</u> | <u>(-1384)</u> |
| <u>LANSING</u>          | <u>3840</u> | <u>(-1401)</u> |
| <u>STARK SHALE</u>      | <u>4059</u> | <u>(-1620)</u> |
| <u>BASE KANSAS CITY</u> | <u>4110</u> | <u>(-1671)</u> |
| <u>MARMATON</u>         | <u>4137</u> | <u>(-1698)</u> |
| <u>PAWNEE</u>           | <u>4208</u> | <u>(-1769)</u> |
| <u>FORT SCOTT</u>       | <u>4294</u> | <u>(-1855)</u> |

4310-14' KB

Tan, very finely crystalline, slightly fossiliferous, limestone. Very slight show of free oil in very poor intercrystalline porosity, no odor, slight stain, and a very slight cut.

CHEROKEE SHALE

4320 (-1881)

4389-94' KB

Clear, fine to medium grained, well sorted, fairly rounded, sandstone clusters & loose grains. Fair show of free oil in fair intergranular porosity, fair odor, good stain, and a strong cut.

DRILL STEM TEST #1

4318 to 4394' KB

76' Anchor

Blow:  $\frac{1}{4}$ " died in 8 min.

Times: open 30, Closed 30, Open 5, Closed 0.

Recovered: 30' Oil Cut Mud (5% oil, 95% mud)

Pressures: IH 2194# IF 24 - 35# ISIP 1124#  
FH 2185# FF --- FSIP ---

4395 - 4400' KB

Clear to tan, medium grained, fairly sorted, fairly rounded, sandstone clusters & loose grains. Fair show of free oil in good intergranular porosity, no odor, fair stain, and a good cut. Some white sharp cherts.

DRILL STEM TEST #2

4318 to 4400' KB

82' Anchor

Blow: bottom of bucket in  $1\frac{1}{2}$  min. !!

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KCC WICHITA

# HESS OIL COMPANY

225 N. Market, Suite 300

Wichita, Kansas 67202

(316) 263-2243

Ruby #B - 1  
Page 3

DST #2 (cont. )

Times: Open 15, Closed 15, Open 0, Closed 0.

Recovered: 189' SW cut Mud w/oil spots (5% SW, 95% Mud)  
1008' Mud cut SW [ 1197' total]

Pressures: IH 2205# IF 123 - 481# ISIP 1286#  
FH 2210# FF --- FSIP ---

4401-08' KB Clear to tan, medium grained, fairly sorted, fairly rounded, sandstone clusters & loose grains. Weak show of free oil in good intergranular porosity, no odor, slight stain, and a slight cut. Lots of white sharp & weathered cherts.

MISSISSIPPI

4430 (-1991)

ROTARY TOTAL DEPTH

4450 (-2011)

A Radiation Guard Log was run to confirm sample tops and check for the Cherokee Sand. Due to the low structure and good porosity, the Ruby #B - 1 tested mostly SW on DST #2. The Ruby #B - 1 was plugged on 11-2-09.

Sincerely,

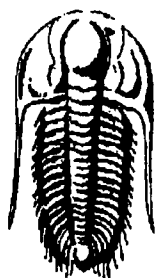
  
James C. Hess  
Geologist

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**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Hess Oil Company**

P.O. Box 1009  
Mcpherson, Ks 67460

ATTN: Jamie Hess

**7-16-22 Ness, Ks**

**Ruby B #1**

Start Date: 2009.11.01 @ 01:06:56

End Date: 2009.11.01 @ 06:04:20

Job Ticket #: 35290                      DST #: 1

Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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

Printed: 2009.11.04 @ 14:27:10 Page 1

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**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

Hess Oil Company  
P.O. Box 1009  
Mcpherson, Ks 67460  
ATTN: Jamie Hess

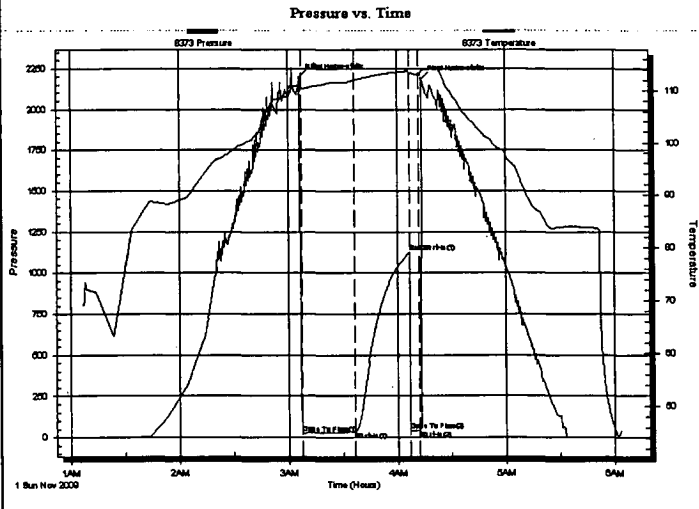
**Ruby B #1**  
**7-16-22 Ness, Ks**  
Job Ticket: 35290      **DST#: 1**  
Test Start: 2009.11.01 @ 01:06:56

**GENERAL INFORMATION:**

Formation: **Cherokee**  
Deviated: **No Whipstock**      ft (KB)  
Time Tool Opened: 03:07:21  
Time Test Ended: 06:04:20  
Interval: **4318.00 ft (KB) To 4394.00 ft (KB) (TVD)**  
Total Depth: **4394.00 ft (KB) (TVD)**  
Hole Diameter: **7.88 inches** Hole Condition: **Good**  
Test Type: **Conventional Bottom Hole**  
Tester: **Brandon Turley**  
Unit No: **35**  
Reference Elevations: **2436.00 ft (KB)**  
**2431.00 ft (CF)**  
KB to GR/CF: **5.00 ft**

**Serial #: 8373**      **Inside**  
Press@RunDepth: **35.16 psig @ 4319.00 ft (KB)**      Capacity: **8000.00 psig**  
Start Date: **2009.11.01**      End Date: **2009.11.01**      Last Calib.: **2009.11.01**  
Start Time: **01:06:56**      End Time: **06:04:20**      Time On Btrm: **2009.11.01 @ 03:06:36**  
Time Off Btrm: **2009.11.01 @ 04:13:51**

**TEST COMMENT:** IF: 1/4 blow died in 8 min.  
IS: No return.  
FF: No blow.  
FS: Pulled tool.



**PRESSURE SUMMARY**

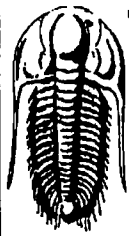
| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2194.55         | 110.98       | Initial Hydro-static |
| 1           | 24.76           | 110.33       | Open To Flow (1)     |
| 30          | 35.16           | 111.99       | Shut-In(1)           |
| 61          | 1124.00         | 113.74       | End Shut-In(1)       |
| 61          | 41.45           | 113.21       | Open To Flow (2)     |
| 66          | 42.72           | 113.06       | Shut-In(2)           |
| 68          | 2185.06         | 113.80       | Final Hydro-static   |

**Recovery**

| Length (ft) | Description   | Volume (bbl) |
|-------------|---------------|--------------|
| 30.00       | ocm 5%o 95%rm | 0.15         |
|             |               |              |
|             |               |              |
|             |               |              |
|             |               |              |

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hess Oil Company

**Ruby B #1**

P.O. Box 1009  
Mcpherson, Ks 67460

**7-16-22 Ness, Ks**

Job Ticket: 35290

**DST#: 1**

ATTN: Jamie Hess

Test Start: 2009.11.01 @ 01:06:56

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 4076.00 ft | Diameter: 3.80 inches | Volume: 57.18 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: 30000.00 lb  |
| Drill Collar:             | Length: 244.00 ft  | Diameter: 2.25 inches | Volume: 1.20 bbl               | Weight to Pull Loose: 55000.00 lb  |
|                           |                    |                       | <u>Total Volume: 58.38 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 30.00 ft           |                       |                                | String Weight: Initial 40000.00 lb |
| Depth to Top Packer:      | 4318.00 ft         |                       |                                | Final 40000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 76.00 ft           |                       |                                |                                    |
| Tool Length:              | 104.00 ft          |                       |                                |                                    |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                                    |

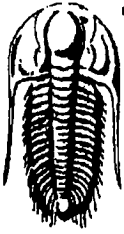
Tool Comments:

## Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Stubb            | 1.00        |            |          | 4291.00    |                               |
| Shut In Tool     | 5.00        |            |          | 4296.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 4301.00    |                               |
| Jars             | 5.00        |            |          | 4306.00    |                               |
| Safety Joint     | 3.00        |            |          | 4309.00    |                               |
| Packer           | 5.00        |            |          | 4314.00    | 28.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 4318.00    |                               |
| Stubb            | 1.00        |            |          | 4319.00    |                               |
| Recorder         | 0.00        | 6772       | Inside   | 4319.00    |                               |
| Recorder         | 0.00        | 8373       | Inside   | 4319.00    |                               |
| Perforations     | 4.00        |            |          | 4323.00    |                               |
| Change Over Sub  | 1.00        |            |          | 4324.00    |                               |
| Drill Pipe       | 64.00       |            |          | 4388.00    |                               |
| Change Over Sub  | 1.00        |            |          | 4389.00    |                               |
| Bullnose         | 5.00        |            |          | 4394.00    | 76.00 Bottom Packers & Anchor |

**Total Tool Length: 104.00**

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**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Hess Oil Company

**Ruby B #1**

P.O. Box 1009  
Mcperson, Ks 67460

**7-16-22 Ness, Ks**

Job Ticket: 35290

**DST#: 1**

ATTN: Jamie Hess

Test Start: 2009.11.01 @ 01:06:56

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 42.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.56 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description  | Volume<br>bbl |
|--------------|--------------|---------------|
| 30.00        | ocm 5%o 95%m | 0.148         |

Total Length: 30.00 ft

Total Volume: 0.148 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

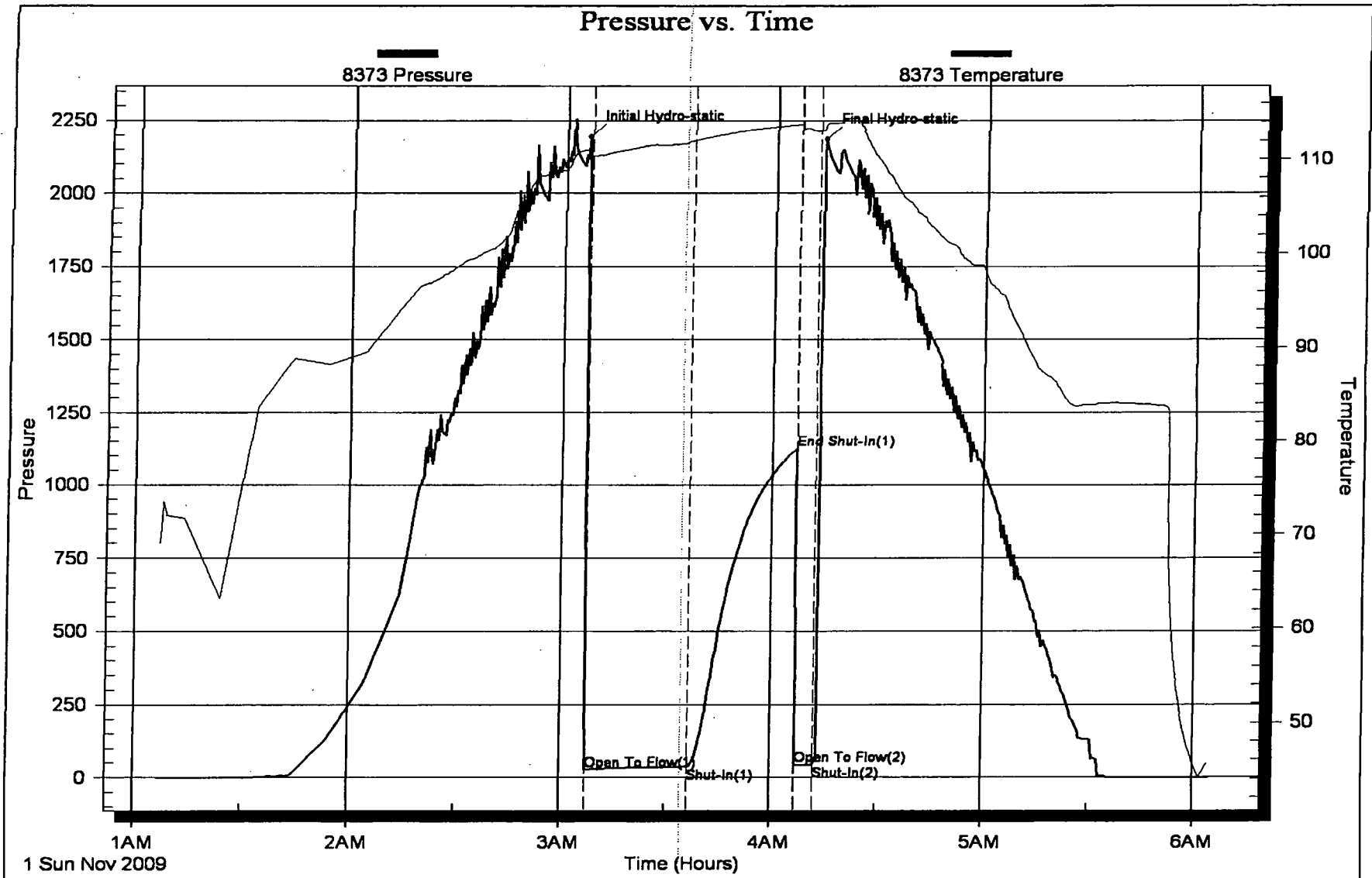
Recovery Comments:

Serial #: 8373

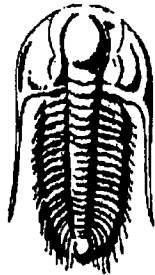
Inside Hess Oil Company

7-16-22 Ness, Ks

DST Test Number: 1



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**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Prepared For: **Hess Oil Company**

P.O. Box 1009  
Mcperson, Ks 67460

ATTN: Jamie Hess

**7-16-22 Ness, Ks**

**Ruby B #1**

Start Date: 2009.11.01 @ 10:16:16

End Date: 2009.11.01 @ 14:51:25

Job Ticket #: 35291                      DST #: 2

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Trilobite Testing, Inc

PO Box 1733 Hays, KS 67601

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Hess Oil Company  
P.O. Box 1009  
Mcpherson, Ks 67460  
ATTN: Jamie Hess

**Ruby B #1**  
**7-16-22 Ness, Ks**  
Job Ticket: 35291      **DST#: 2**  
Test Start: 2009.11.01 @ 10:16:16

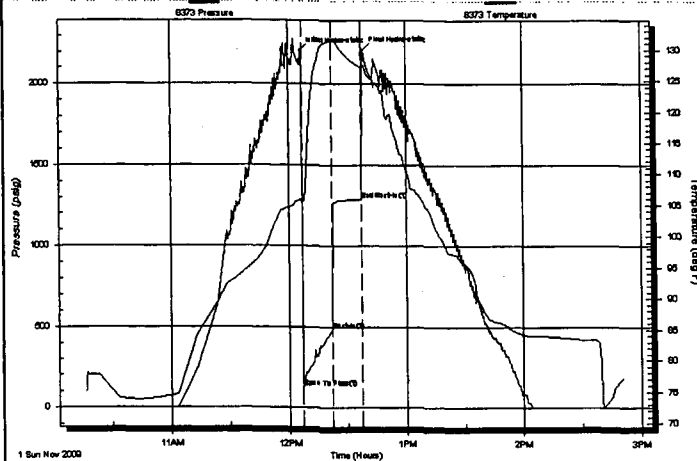
## GENERAL INFORMATION:

Formation: **Cherokee**  
Deviated: **No Whipstock**      ft (KB)  
Time Tool Opened: 12:07:11  
Time Test Ended: 14:51:25  
Test Type: **Conventional Bottom Hole**  
Tester: **Brandon Turley**  
Unit No: **35**  
Interval: **4318.00 ft (KB) To 4400.00 ft (KB) (TVD)**  
Reference Elevations: **2436.00 ft (KB)**  
Total Depth: **4400.00 ft (KB) (TVD)**      **2431.00 ft (CF)**  
Hole Diameter: **7.88 inches** Hole Condition: **Good**      **KB to GR/CF: 5.00 ft**

**Serial #: 8373**      **Inside**  
Press@RunDepth: **481.20 psig @ 4319.00 ft (KB)**      Capacity: **8000.00 psig**  
Start Date: **2009.11.01**      End Date: **2009.11.01**      Last Calib.: **2009.11.01**  
Start Time: **10:16:16**      End Time: **14:51:25**      Time On Btrr: **2009.11.01 @ 12:06:11**  
Time Off Btrr: **2009.11.01 @ 12:37:56**

TEST COMMENT: IF: BOB in 1 1/2 min.  
IS: No return.

Pressure vs. Time



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2205.24         | 105.93       | Initial Hydro-static |
| 1           | 123.54          | 105.39       | Open To Flow (1)     |
| 16          | 481.20          | 131.53       | Shut-in(1)           |
| 31          | 1286.43         | 127.15       | End Shut-in(1)       |
| 32          | 2210.33         | 127.53       | Final Hydro-static   |

## Recovery

| Length (ft) | Description             | Volume (bbl) |
|-------------|-------------------------|--------------|
| 244.00      | mcw 90%w 10%m           | 1.20         |
| 575.00      | mcw 80%w 20%m           | 8.07         |
| 189.00      | w cm 40%w 60%m          | 2.65         |
| 189.00      | w cm Oil spots 5%w 95%m | 2.65         |
|             |                         |              |
|             |                         |              |

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Hess Oil Company  
P.O. Box 1009  
Mcpherson, Ks 67460  
ATTN: Jamie Hess

**Ruby B #1**  
**7-16-22 Ness, Ks**  
Job Ticket: 35291      **DST#: 2**  
Test Start: 2009.11.01 @ 10:16:16

**Tool Information**

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 4076.00 ft | Diameter: 3.80 inches | Volume: 57.18 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: 30000.00 lb  |
| Drill Collar:             | Length: 244.00 ft  | Diameter: 2.25 inches | Volume: 1.20 bbl               | Weight to Pull Loose: 50000.00 lb  |
|                           |                    |                       | <b>Total Volume: 58.38 bbl</b> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 30.00 ft           |                       |                                | String Weight: Initial 40000.00 lb |
| Depth to Top Packer:      | 4318.00 ft         |                       |                                | Final 40000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 82.00 ft           |                       |                                |                                    |
| Tool Length:              | 110.00 ft          |                       |                                |                                    |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                                    |

Tool Comments:

**Tool Description**

| Tool Description          | Length (ft)   | Serial No. | Position | Depth (ft) | Accum. Lengths                |
|---------------------------|---------------|------------|----------|------------|-------------------------------|
| Stubb                     | 1.00          |            |          | 4291.00    |                               |
| Shut In Tool              | 5.00          |            |          | 4296.00    |                               |
| Hydraulic tool            | 5.00          |            |          | 4301.00    |                               |
| Jars                      | 5.00          |            |          | 4306.00    |                               |
| Safety Joint              | 3.00          |            |          | 4309.00    |                               |
| Packer                    | 5.00          |            |          | 4314.00    | 28.00 Bottom Of Top Packer    |
| Packer                    | 4.00          |            |          | 4318.00    |                               |
| Stubb                     | 1.00          |            |          | 4319.00    |                               |
| Recorder                  | 0.00          | 6772       | Inside   | 4319.00    |                               |
| Recorder                  | 0.00          | 8373       | Inside   | 4319.00    |                               |
| Perforations              | 10.00         |            |          | 4329.00    |                               |
| Change Over Sub           | 1.00          |            |          | 4330.00    |                               |
| Drill Pipe                | 64.00         |            |          | 4394.00    |                               |
| Change Over Sub           | 1.00          |            |          | 4395.00    |                               |
| Bullnose                  | 5.00          |            |          | 4400.00    | 82.00 Bottom Packers & Anchor |
| <b>Total Tool Length:</b> | <b>110.00</b> |            |          |            |                               |

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**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Hess Oil Company  
P.O. Box 1009  
Mcpherson, Ks 67460  
ATTN: Jamie Hess

**Ruby B #1**  
**7-16-22 Ness, Ks**  
Job Ticket: 35291      **DST#: 2**  
Test Start: 2009.11.01 @ 10:16:16

### 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: 24000 ppm |
| Viscosity: 50.00 sec/qt          | Cushion Volume: bbl        |                           |
| Water Loss: 9.97 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<br>ft | Description            | Volume<br>bbl |
|--------------|------------------------|---------------|
| 244.00       | mcw 90%w 10%m          | 1.200         |
| 575.00       | mcw 80%w 20%m          | 8.066         |
| 189.00       | wcm 40%w 60%m          | 2.651         |
| 189.00       | wcm Oil spots 5%w 95%m | 2.651         |

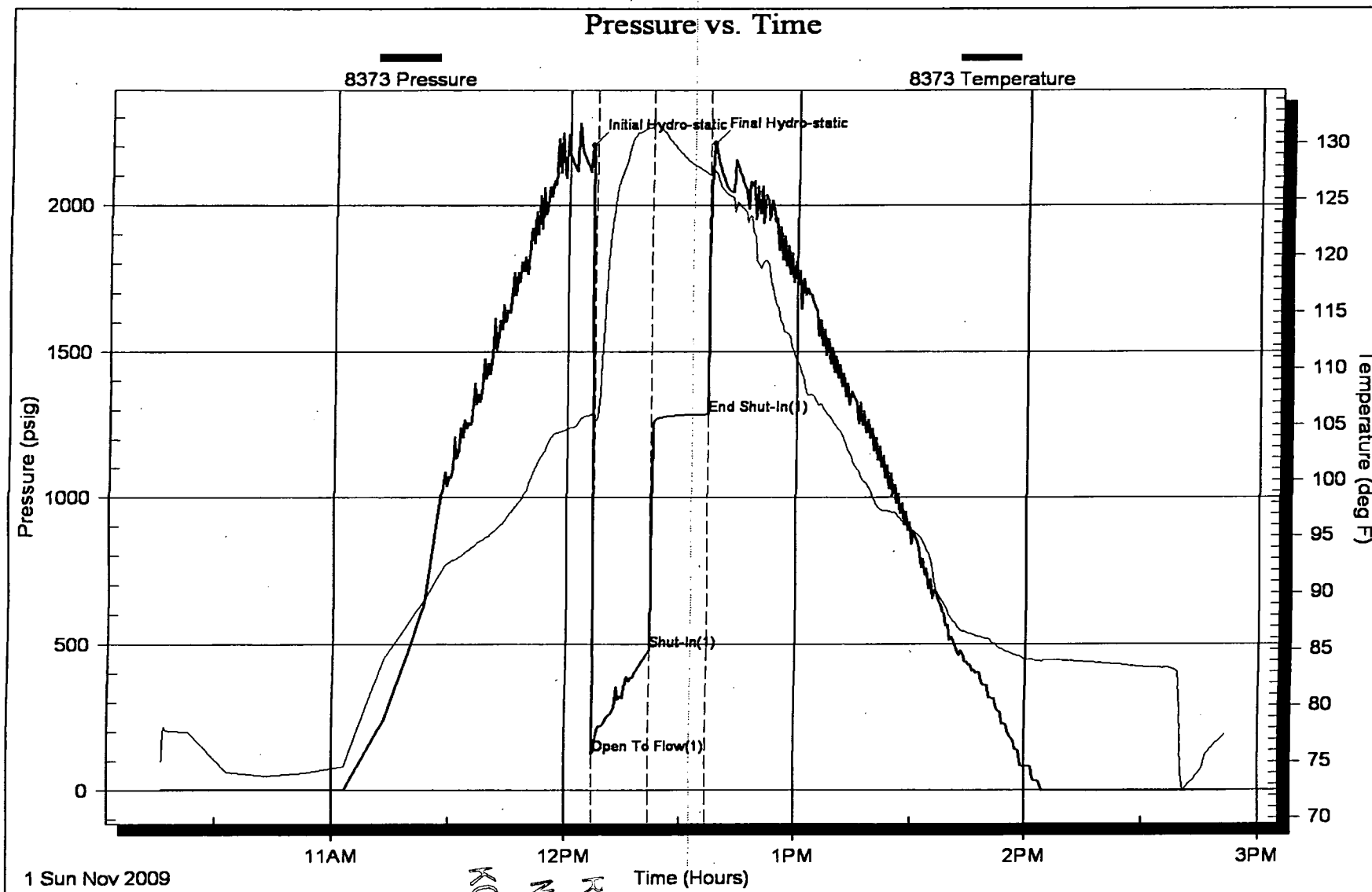
Total Length: 1197.00 ft      Total Volume: 14.568 bbl  
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments: .27@74= 24000

Serial #: 8373

Inside Hess Oil Company

7-16-22 Ness, Ks

DST Test Number: 2



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