



KANSAS CORPORATION COMMISSION 1052301  
OIL & GAS CONSERVATION DIVISION

Form ACO-1  
June 2009  
Form Must Be Typed  
Form must be Signed  
All blanks must be Filled

**WELL COMPLETION FORM**  
**WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # 30717  
Name: Downing-Nelson Oil Co Inc  
Address 1: PO BOX 372  
Address 2: \_\_\_\_\_  
City: HAYS State: KS Zip: 67601 + 0372  
Contact Person: Michle Meier  
Phone: ( 785 ) 621-2610  
CONTRACTOR: License # 31548  
Name: Discovery Drilling  
Wellsite Geologist: Marc Downing  
Purchaser: None

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  
 Conv. to GSW  
 Plug Back: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_  
 Commingled    Permit #: \_\_\_\_\_  
 Dual Completion    Permit #: \_\_\_\_\_  
 SWD    Permit #: \_\_\_\_\_  
 ENHR    Permit #: \_\_\_\_\_  
 GSW    Permit #: \_\_\_\_\_

|                                   |                   |   |
|-----------------------------------|-------------------|---|
| <u>02/18/2011</u>                 | <u>02/23/2011</u> | <u>02/24/2011</u>                       |
| Spud Date or<br>Recompletion Date | Date Reached TD   | Completion Date or<br>Recompletion Date |

API No. 15 - 15-135-25217-00-00  
Spot Description: \_\_\_\_\_  
SE NE NE NW Sec. 24 Twp. 16 S. R. 23  East  West  
490 Feet from  North /  South Line of Section  
2,610 Feet from  East /  West Line of Section  
Footages Calculated from Nearest Outside Section Corner:  
 NE  NW  SE  SW  
County: Ness  
Lease Name: Pfaff-Toedman Well #: 1-24  
Field Name: \_\_\_\_\_  
Producing Formation: None  
Elevation: Ground: 2438 Kelly Bushing: 2446  
Total Depth: 4550 Plug Back Total Depth: \_\_\_\_\_  
Amount of Surface Pipe Set and Cemented at: 223 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: 16000 ppm Fluid volume: 320 bbls  
Dewatering method used: Evaporated  
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**

Letter of Confidentiality Received  
Date: \_\_\_\_\_  
 Confidential Release Date: \_\_\_\_\_  
 Wireline Log Received  
 Geologist Report Received  
 UIC Distribution  
ALT  I  II  III Approved by: Deanna Garrison Date: 02/21/2011



1052301

Operator Name: Downing-Nelson Oil Co Inc Lease Name: Pfaff-Toedman Well #: 1-24  
 Sec. 24 Twp. 16 S. R. 23  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 complete copy of all Electric Wire-line 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>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>Electric Log Submitted Electronically <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No<br><i>(If no, Submit Copy)</i><br><br>List All E. Logs Run:<br><br><small>Micro<br/>Compensated Density Neutron<br/>Dual Induction</small> | <input checked="" type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample<br><br>Name Top Datum<br>Attached Attached Attached |
|---|--|

| 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 Pipe  | 12.25             | 8.625                     | 23                | 223           | 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:<br><input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain) _____ |
|---|---|

|                                   |           |         |             |               |         |
|-----------------------------------|-----------|---------|-------------|---------------|---------|
| Estimated Production Per 24 Hours | Oil Bbls. | Gas Mcf | Water Bbls. | Gas-Oil Ratio | Gravity |
|-----------------------------------|-----------|---------|-------------|---------------|---------|

|   |   |  |
|---|---|--|
| DISPOSITION OF GAS:<br><input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease<br><i>(If vented, Submit ACO-18.)</i> | METHOD OF COMPLETION:<br><input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled<br><i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i><br><input type="checkbox"/> Other (Specify) _____ | PRODUCTION INTERVAL:<br>_____<br>_____ |
|---|---|--|

|           |                           |
|-----------|---------------------------|
| Form      | ACO1 - Well Completion    |
| Operator  | Downing-Nelson Oil Co Inc |
| Well Name | Pfaff-Toedman 1-24        |
| Doc ID    | 1052301                   |

Tops

|                |      |       |
|----------------|------|-------|
|                |      |       |
| Top Anhydrite  | 1789 | +658  |
| Base Anhydrite | 1824 | +623  |
| Heebner        | 3838 | -1391 |
| Toronto        | 3858 | -1411 |
| LKC            | 3872 | -1425 |
| BKC            | 1411 | -1697 |
| Pawnee         | 4247 | -1800 |
| Fort Scott     | 4340 | -1893 |
| Cherokee Shale | 4363 | -1916 |
| Cherokee Sand  | 4428 | -1981 |
| Mississippi    | 4458 | -2011 |

# ALLIED CEMENTING CO., LLC. 038699

BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT:  
Great Bend KS

|                                    |                |                    |                            |                                       |             |                          |                           |
|------------------------------------|----------------|--------------------|----------------------------|---------------------------------------|-------------|--------------------------|---------------------------|
| DATE <u>2-18-11</u><br><u>Post</u> | SEC. <u>11</u> | TWP. <u>14S</u>    | RANGE <u>20W</u>           | CALLED OUT                            | ON LOCATION | JOB START <u>7:00 PM</u> | JOB FINISH <u>7:30 PM</u> |
| LEASE <u>Toedman</u>               |                | WELL # <u>1-24</u> |                            | LOCATION <u>Brownell west To X RD</u> |             | COUNTY <u>Ness</u>       | STATE <u>KS</u>           |
| OLD OR <u>NEW</u> (Circle one)     |                |                    | <u>1/2 north west into</u> |                                       |             |                          |                           |

CONTRACTOR Discovery 4 OWNER Downing & Nelson

TYPE OF JOB Surface

|                                |                  |
|--------------------------------|------------------|
| HOLE SIZE <u>12 1/4</u>        | T.D. <u>223</u>  |
| CASING SIZE <u>8 3/4</u>       | DEPTH <u>223</u> |
| TUBING SIZE                    | DEPTH            |
| DRILL PIPE                     | DEPTH            |
| TOOL                           | DEPTH            |
| PRES. MAX                      | MINIMUM          |
| MEAS. LINE                     | SHOE JOINT       |
| CEMENT LEFT IN CSG. <u>15</u>  |                  |
| PERFS.                         |                  |
| DISPLACEMENT <u>13.25 BBLS</u> |                  |

CEMENT  
AMOUNT ORDERED 150 SK Class A  
+ 3% cc + 2% Gel

**EQUIPMENT**

|              |                       |
|--------------|-----------------------|
| PUMP TRUCK   | CEMENTER <u>Wayne</u> |
| # <u>366</u> | HELPER <u>Bob-R</u>   |
| BULK TRUCK   |                       |
| # <u>341</u> | DRIVER <u>Bill</u>    |
| BULK TRUCK   |                       |
| #            | DRIVER                |

|          |                       |   |                   |                |
|----------|-----------------------|---|-------------------|----------------|
| COMMON   | <u>150</u>            | @ | <u>13.50</u>      | <u>2025.00</u> |
| POZMIX   |                       | @ |                   |                |
| GEL      | <u>3</u>              | @ | <u>20.25</u>      | <u>60.75</u>   |
| CHLORIDE | <u>5</u>              | @ | <u>51.50</u>      | <u>257.50</u>  |
| ASC      |                       | @ |                   |                |
|          |                       | @ |                   |                |
|          |                       | @ |                   |                |
|          |                       | @ |                   |                |
|          |                       | @ |                   |                |
|          |                       | @ |                   |                |
|          |                       | @ |                   |                |
| HANDLING | <u>150</u>            | @ | <u>2.25</u>       | <u>337.50</u>  |
| MILEAGE  | <u>150 x 16 x .10</u> |   | <del>240.00</del> | <u>240.00</u>  |
|          |                       |   | <b>TOTAL</b>      | <u>2980.75</u> |

**REMARKS:**

Pipe on Bottom Break circulation  
with Rig mud Shut down  
Hookup To Cement line Mix 150  
SK Class A 3% cc + 2% Gel  
Displace 13.25 BBLS fresh water  
Shut in. Cement did circulate  
Rig Down

**SERVICE**

|                   |            |   |                             |
|-------------------|------------|---|-----------------------------|
| DEPTH OF JOB      | <u>223</u> |   |                             |
| PUMP TRUCK CHARGE |            |   | <u>991.00</u>               |
| EXTRA FOOTAGE     |            | @ |                             |
| MILEAGE           | <u>16</u>  | @ | <u>7.00</u> <u>112.00</u>   |
| MANIFOLD          |            | @ |                             |
|                   |            | @ |                             |
|                   |            | @ |                             |
|                   |            |   | <b>TOTAL</b> <u>1103.00</u> |

CHARGE TO: Downing & Nelson

STREET \_\_\_\_\_

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

**PLUG & FLOAT EQUIPMENT**

|  |   |  |
|--|---|--|
|  | @ |  |
|  | @ |  |
|  | @ |  |
|  | @ |  |

To Allied Cementing Co., LLC.  
You are hereby requested to rent cementing equipment

# ALLIED CEMENTING CO., LLC. 038709

ATTN: P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT:  
Great Bend KS

|                                |      |                   |                               |                                  |             |                             |                              |
|--------------------------------|------|-------------------|-------------------------------|----------------------------------|-------------|-----------------------------|------------------------------|
| DATE <u>2-24-11</u>            | SEC. | TWP.              | RANGE                         | CALLED OUT                       | ON LOCATION | JOB START<br><u>4:30 PM</u> | JOB FINISH<br><u>5:30 PM</u> |
| LEASE <u>Toedman</u>           |      | WELL# <u>1-24</u> |                               | LOCATION <u>Brownell US west</u> |             | COUNTY<br><u>NESS</u>       | STATE<br><u>KS</u>           |
| OLD OR <u>NEW</u> (Circle one) |      |                   | <u>TO XRD 1 North west TO</u> |                                  |             |                             |                              |

|                                   |                               |
|-----------------------------------|-------------------------------|
| CONTRACTOR <u>Discovery Rig 3</u> | OWNER <u>Downing + Nelson</u> |
| TYPE OF JOB <u>Rotary plug</u>    |                               |
| HOLE SIZE <u>7 7/8</u>            | T.D. <u>4550</u>              |
| CASING SIZE                       | DEPTH                         |
| TUBING SIZE                       | DEPTH                         |
| DRILL PIPE <u>4 1/2</u>           | DEPTH <u>1860</u>             |
| TOOL                              | DEPTH                         |
| PRES. MAX                         | MINIMUM                       |
| MEAS. LINE                        | SHOE JOINT                    |
| CEMENT LEFT IN CSG.               |                               |
| PERFS.                            |                               |
| DISPLACEMENT                      |                               |

|                   |                            |                                |
|-------------------|----------------------------|--------------------------------|
| CEMENT            |                            |                                |
| AMOUNT ORDERED    | <u>290 SX 60/40 7% Gel</u> |                                |
| <u>7 7/8 seal</u> |                            |                                |
| COMMON            | <u>174</u>                 | @ <u>13.50</u> <u>2,349.00</u> |
| POZMIX            | <u>116</u>                 | @ <u>7.55</u> <u>875.80</u>    |
| GEL               | <u>10</u>                  | @ <u>20.25</u> <u>202.50</u>   |
| CHLORIDE          |                            | @                              |
| ASC               |                            | @                              |
| <u>7 7/8 seal</u> | <u>72#</u>                 | @ <u>2.45</u> <u>176.40</u>    |
|                   |                            | @                              |
|                   |                            | @                              |
|                   |                            | @                              |
|                   |                            | @                              |
|                   |                            | @                              |
|                   |                            | @                              |
| HANDLING          | <u>290</u>                 | @ <u>2.25</u> <u>652.50</u>    |
| MILEAGE           | <u>290 x 1.8 x 1.0</u>     | <u>522.00</u>                  |
|                   |                            | TOTAL <u>4778.20</u>           |

### EQUIPMENT

|              |                         |
|--------------|-------------------------|
| PUMP TRUCK   | CEMENTER <u>Wayne-D</u> |
| # <u>366</u> | HELPER <u>Bob-R</u>     |
| BULK TRUCK   |                         |
| # <u>344</u> | DRIVER <u>Greg</u>      |
| BULK TRUCK   |                         |
| #            | DRIVER                  |

### REMARKS:

|            |                            |
|------------|----------------------------|
| <u>1st</u> | <u>Plug 1860 mix 50 SX</u> |
| <u>2nd</u> | <u>Plug 1080 mix 80 SX</u> |
| <u>3rd</u> | <u>Plug 650 mix 50 SX</u>  |
| <u>4th</u> | <u>Plug 250 mix 40 SX</u>  |
| <u>5th</u> | <u>Plug 60 mix 20 SX</u>   |
|            | <u>Rathole 30 SX</u>       |
|            | <u>Mouse 20 SX</u>         |

CHARGE TO: Downing - Nelson  
STREET \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

### SERVICE

|                   |             |                             |
|-------------------|-------------|-----------------------------|
| DEPTH OF JOB      | <u>1860</u> |                             |
| PUMP TRUCK CHARGE |             | <u>991.00</u>               |
| EXTRA FOOTAGE     |             | @                           |
| MILEAGE           | <u>18</u>   | @ <u>7.00</u> <u>126.00</u> |
| MANIFOLD          |             | @                           |
|                   |             | @                           |
|                   |             | @                           |
|                   |             | TOTAL <u>1117.00</u>        |

### PLUG & FLOAT EQUIPMENT

|  |   |  |
|--|---|--|
|  | @ |  |
|  | @ |  |
|  | @ |  |
|  | @ |  |
|  | @ |  |

To Allied Cementing Co., LLC.  
You are hereby requested to rent cementing equipment

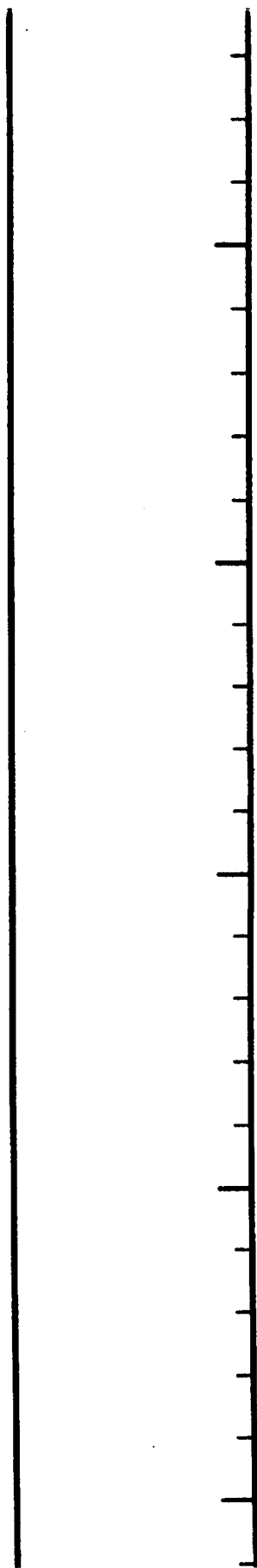
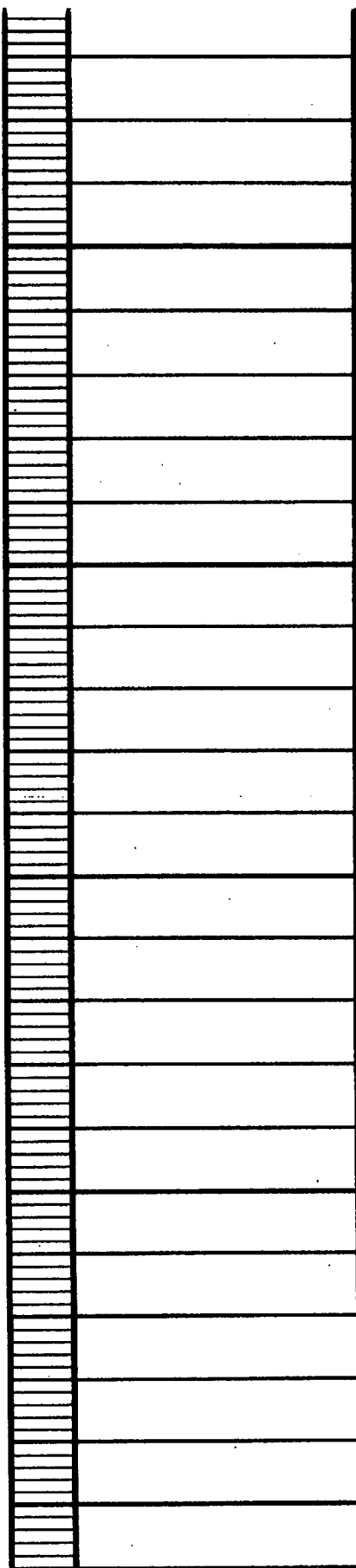
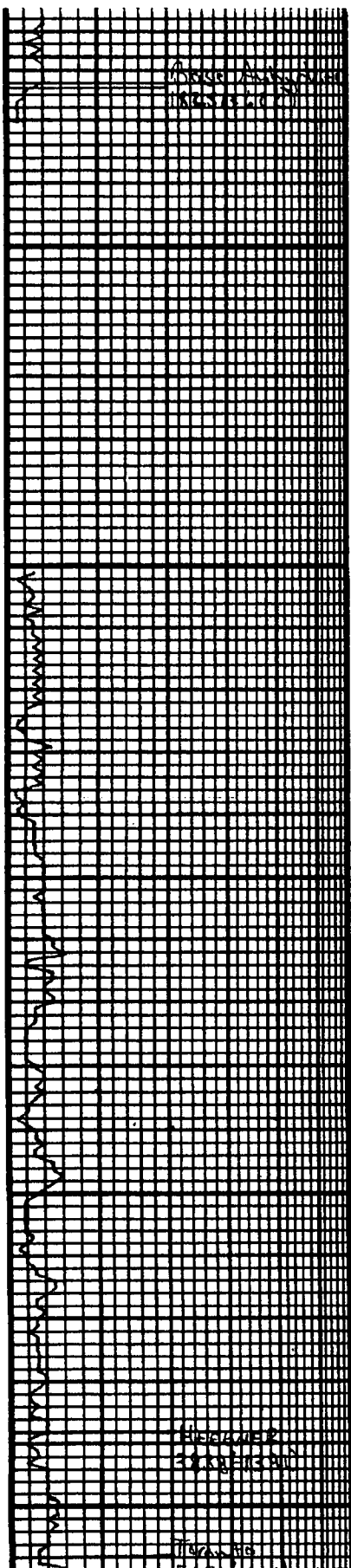


| DRILL STEM TESTS            |          |          |           |          |           |       |          |
|-----------------------------|----------|----------|-----------|----------|-----------|-------|----------|
| No.                         | Interval | IFP/Time | ISIP/Time | FFP/Time | FSIP/Time | HM-PM | RECOVERY |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
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|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
| REMARKS AND RECOMMENDATIONS |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |
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|                             |          |          |           |          |           |       |          |
|                             |          |          |           |          |           |       |          |

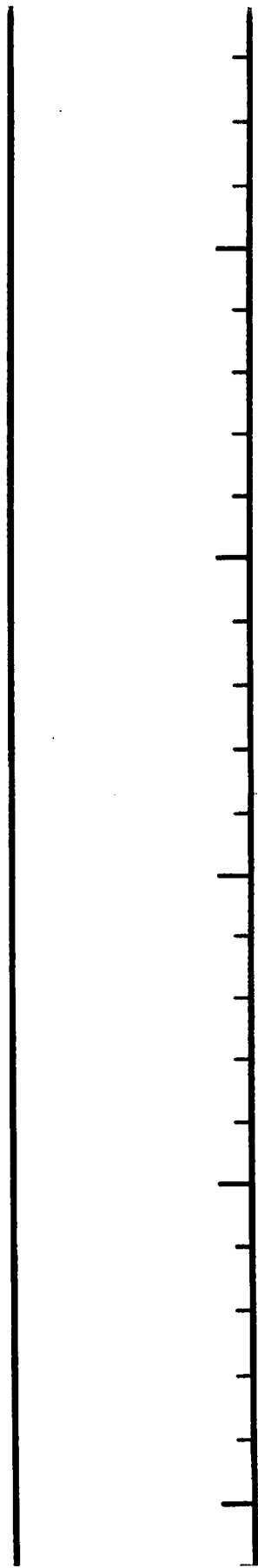
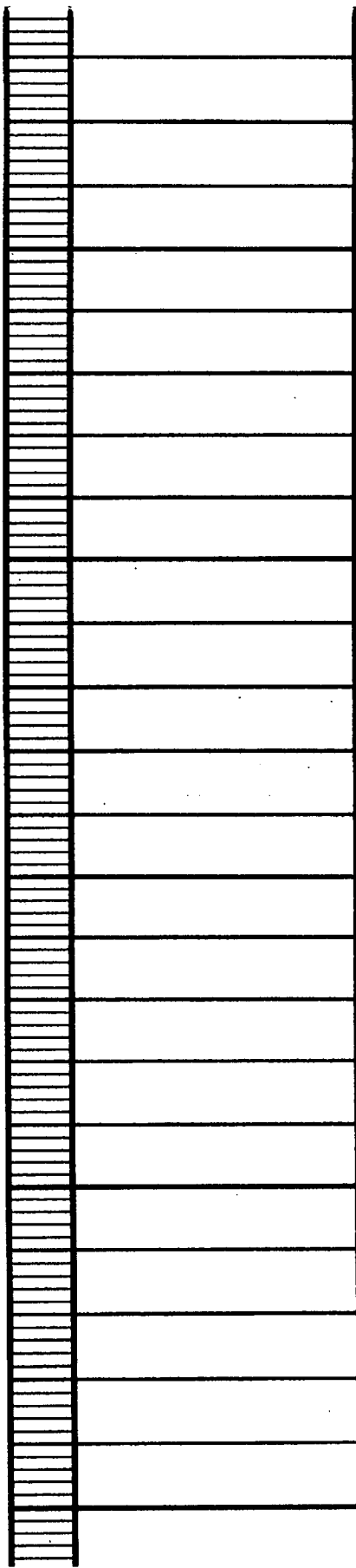
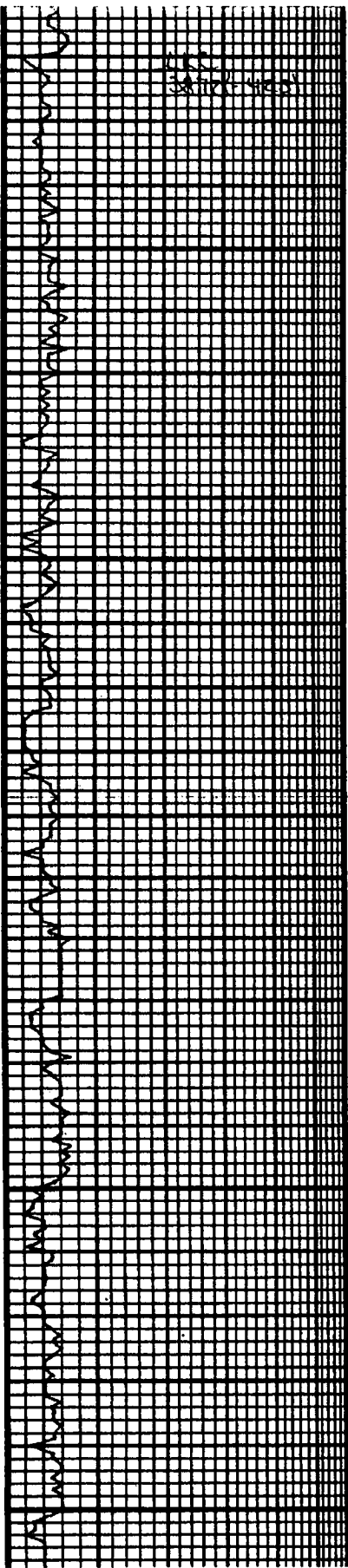
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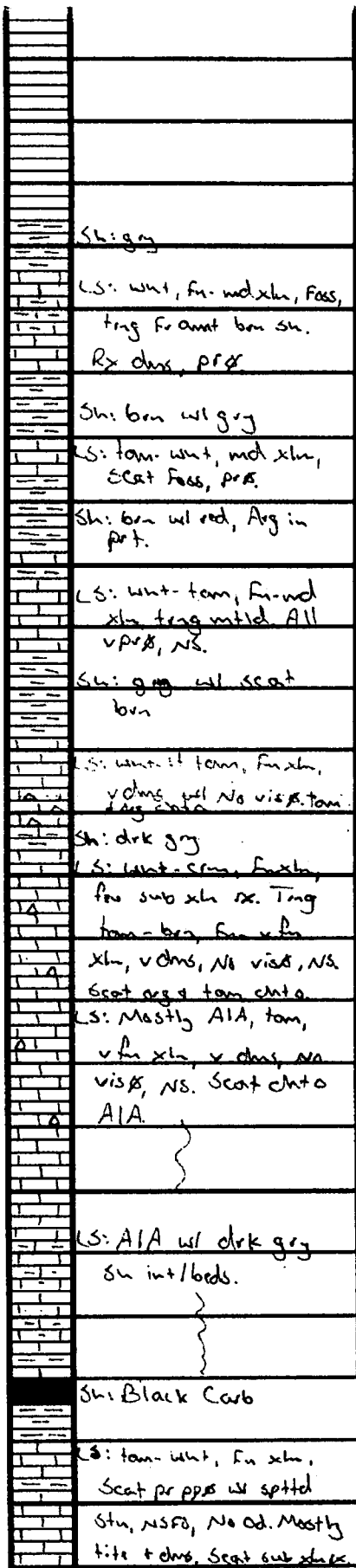
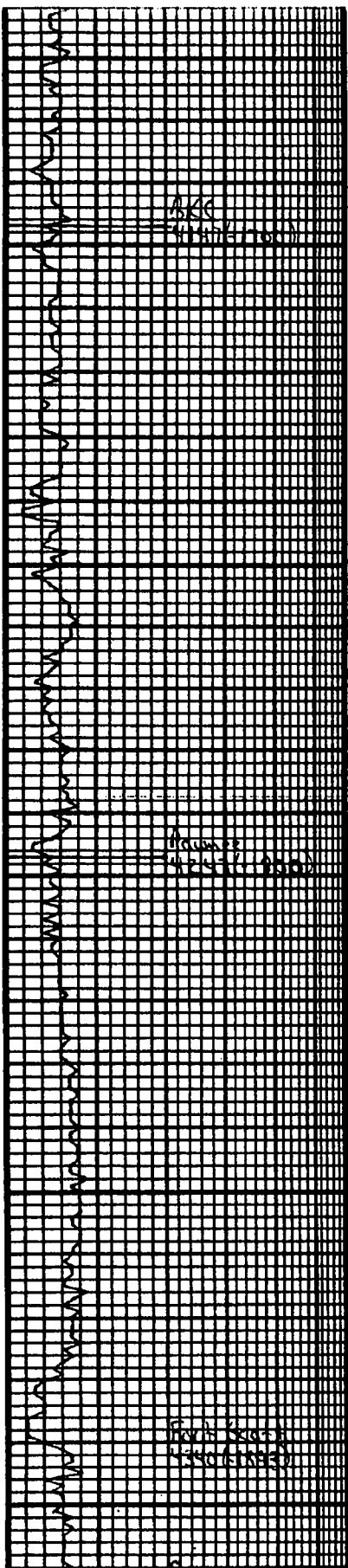
| LEGEND  | REMARKS             |
|---|---------------------|
|   |                     |
| <p style="text-align: center;">DRILLING TIME IN MINUTES<br/>PER FOOT<br/>Rate of Penetration Decreases</p> <p style="text-align: center;">5" 10" 15" 20" 25"</p> <p style="text-align: right;">1800</p> | OIL SHOWS           |
| LITHOLOGY   | SAMPLE DESCRIPTIONS |
| DEPTH   | REMARKS             |

LOG 7710

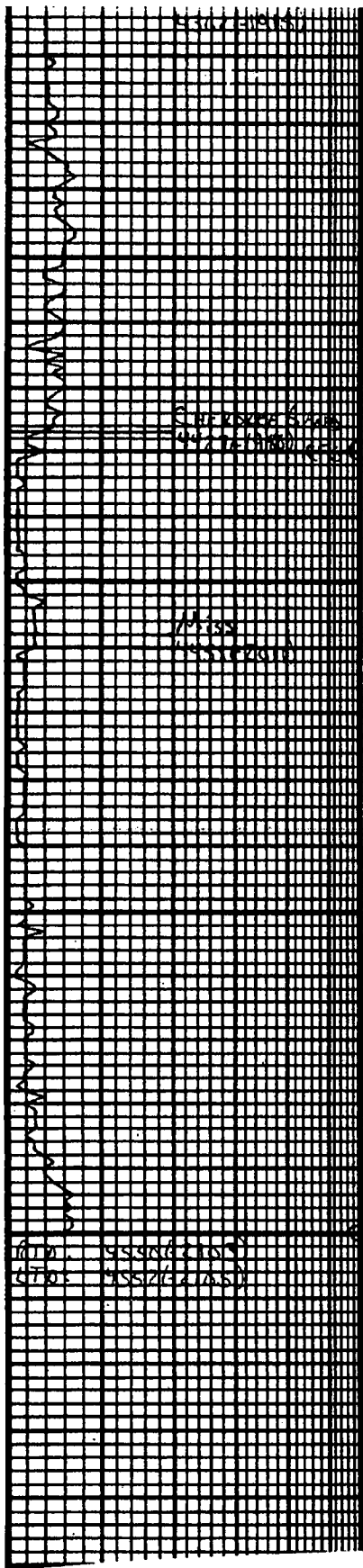








Vis: 55. wt: 9.4  
 OST #1  
 4387-4430



4400

50

4500

50

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1

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|   |
|---|
| Sh: brn-red.  |
| Sh: AIA   |
| Ls: tan-whit; oil, pgs  |
| Sh: brn-gry   |
| Ls: tan-whit, fm-mid xly, dms   |
| Sh: gry w/ brn  |
| Ls: tan, mid xly, oil.  |
| Sh: gry   |
| Ss: cl, mid-cro gtz chert, pr sort, v Ang. Fr 25% Frly friable  |
| Sh: grey, scat spotted sfb, mostly barren. No Od, No Fluor.   |
| Sh: Same AIA much chert   |
| tan-gel ss tang fm-mid gm, well sort, ang. Fr 25% w/ Fr. gd scat gd sfb, dms in act. No Od, No Fluor.                             |
| Sh: gry   |
| Ch: Ls: whit-tan, shp + fresh w/ fract w/ wath. Fess w/ trip in act. 1-2 pcs w/ resid ridge str. gd frags, NSFO, No Od. gel chrt. |
| Ch: Tang bone whit, fresh + shp gd frags, All NG.   |
| Ch: Fract AIA tang tan-gel Fess + trip  |
| shp, frags. Rx tot horizon w/ No Od.  |
| Sh: brn-red w/ gry  |
| Blank   |

|                        |
|------------------------|
| I.F. Bob 5min          |
| F.F. Bob 9min          |
| I.F.P. 93-220          |
| F.P.P. 232-333         |
| S.P.P. 1022-962        |
| H.P. 2276-2170         |
| Rec:                   |
| 315' WM 102m           |
| 330' MW 957m           |
| 10' m                  |
| BHT: 130° C/water: 32K |
| OST # 2 (Straddle)     |
| 4443-4460              |
| 45-45-45-45            |
| I.F. 7"                |
| F.F. 5 1/2"            |
| I.F.P. 25-62           |
| F.P.P. 67-95           |
| S.P.P. 1298-1267       |
| H.P. 2361-2190         |
| Rec:                   |
| 155' MW 907m           |
| BHT: 129° C/water: 41K |



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

DNOC  
PO Box 372  
Hays, Ks  
67601  
ATTN: Marc Downing

**Pfaff-Toedman 1-24**  
**24-16-23/Ness**  
Job Ticket: 41785      **DST#: 1**  
Test Start: 2011.02.23 @ 05:05:54

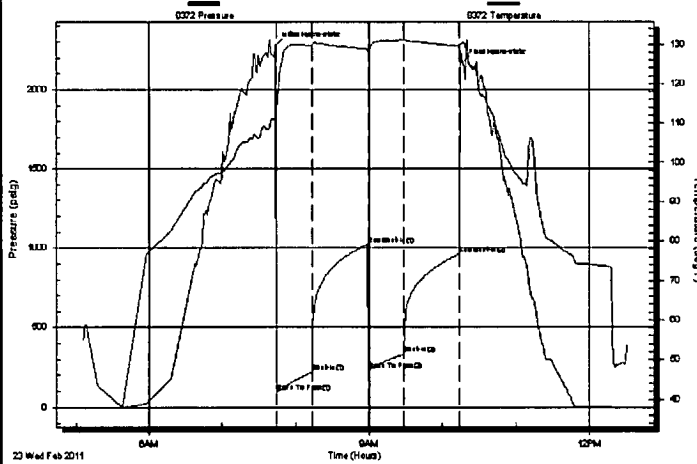
## GENERAL INFORMATION:

Formation: **Cherokee Sand**  
Deviated: No      Whipstock:      ft (KB)  
Time Tool Opened: 07:44:23  
Time Test Ended: 12:31:23  
Interval: **4387.00 ft (KB) To 4430.00 ft (KB) (TVD)**  
Total Depth: 4430.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches      Hole Condition:  
Test Type: Conventional Bottom Hole  
Tester: Brian Fairbank  
Unit No: 41  
Reference Elevations: 2447.00 ft (KB)  
2439.00 ft (CF)  
KB to GR/CF: 8.00 ft

**Serial #: 8372      Inside**  
Press@RunDepth: 333.14 psig @ 4390.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2011.02.23      End Date: 2011.02.23      Last Calib.: 2011.02.23  
Start Time: 05:05:54      End Time: 12:31:23      Time On Btm: 2011.02.23 @ 07:43:53  
Time Off Btm: 2011.02.23 @ 10:16:23

**TEST COMMENT:** IFF - BOB 5 min  
ISI - no blow back  
FFP - BOB 9 min  
FSI - no blow back

Pressure vs. Time



## PRESSURE SUMMARY

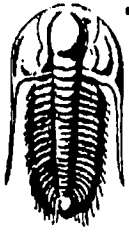
| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2275.72         | 110.90       | Initial Hydro-static |
| 1           | 93.11           | 109.48       | Open To Flow (1)     |
| 30          | 219.92          | 129.74       | Shut-In(1)           |
| 75          | 1022.15         | 128.76       | End Shut-In(1)       |
| 76          | 231.62          | 128.32       | Open To Flow (2)     |
| 105         | 333.14          | 131.05       | Shut-In(2)           |
| 150         | 961.82          | 129.48       | End Shut-In(2)       |
| 153         | 2169.76         | 130.29       | Final Hydro-static   |

## Recovery

| Length (ft) | Description   | Volume (bbl) |
|-------------|---------------|--------------|
| 10.00       | MUD 100%      | 0.05         |
| 330.00      | MW 95%W, 5%M  | 4.43         |
| 315.00      | WM 10%W, 90%M | 4.42         |
|             |               |              |
|             |               |              |

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

DNOC

**Pfaff-Toedman 1-24**

PO Box 372  
Hays, Ks  
67601

**24-16-23/Ness**

Job Ticket: 41785

**DST#: 1**

ATTN: Marc Downing

Test Start: 2011.02.23 @ 05:05:54

**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:

32000 ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: inches

**Recovery Information**

Recovery Table

| Length<br>ft | Description   | Volume<br>bbbl |
|--------------|---------------|----------------|
| 10.00        | MJD 100%      | 0.049          |
| 330.00       | MW 95%W, 5%M  | 4.429          |
| 315.00       | WM 10%W, 90%M | 4.419          |

Total Length: 655.00 ft

Total Volume: 8.897 bbl

Num Fluid Samples: 0

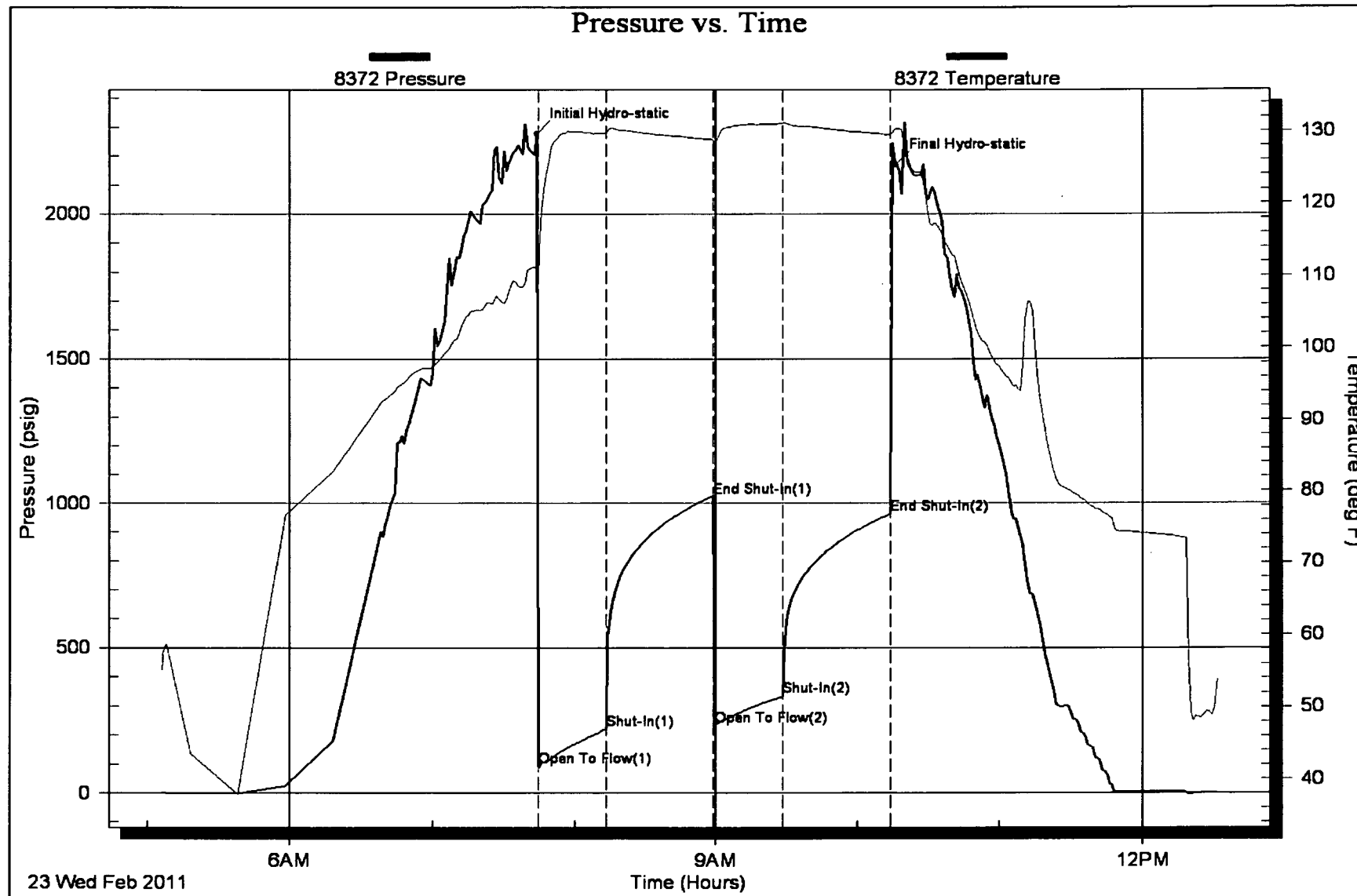
Num Gas Bombs: 0

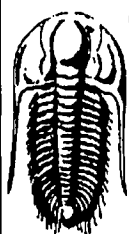
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

DNOC

**Pfaff-Toedman 1-24**

PO Box 372  
Hays, Ks  
67601

**24-16-23/Ness**

Job Ticket: 41786

**DST#: 2**

ATTN: Marc Downing

Test Start: 2011.02.24 @ 01:46:51

### GENERAL INFORMATION:

Formation: **Cong Sand**

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

Time Tool Opened: 03:57:50

Time Test Ended: 09:20:20

Test Type: **Conventional Straddle**

Tester: **Brian Fairbank**

Unit No: **41**

Interval: **4443.00 ft (KB) To 4460.00 ft (KB) (TVD)**

Total Depth: **4551.00 ft (KB) (TVD)**

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

Reference Elevations: **2447.00 ft (KB)**

**2439.00 ft (CF)**

KB to GR/CF: **8.00 ft**

**Serial #: 8372**

**Inside**

Press@RunDepth: **94.82 psig @ 4445.00 ft (KB)**

Start Date: **2011.02.24**

End Date:

**2011.02.24**

Capacity: **8000.00 psig**

Last Calib.: **2011.02.24**

Start Time: **01:46:51**

End Time:

**09:20:20**

Time On Btm: **2011.02.24 @ 03:56:20**

Time Off Btm: **2011.02.24 @ 07:01:20**

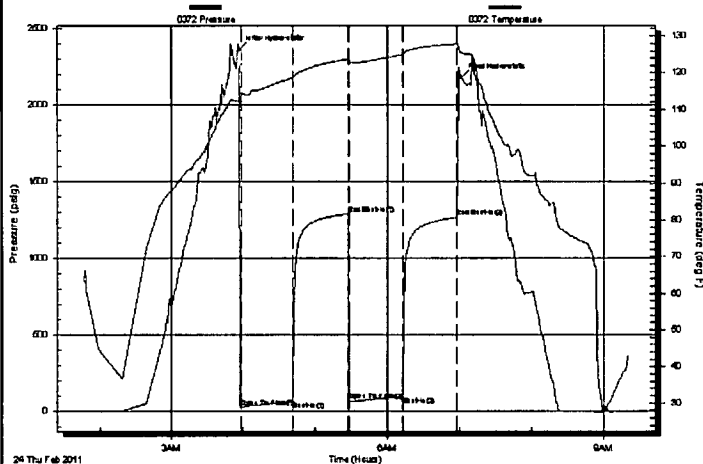
**TEST COMMENT:** IFP - weak to good blow - 1/2" - 7"

ISI - no blow back

FFP - weak to fair blow sur - 5 1/2"

FSI - no blow back

Pressure vs. Time



### PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2360.73         | 112.15       | Initial Hydro-static |
| 2           | 25.47           | 114.31       | Open To Flow (1)     |
| 45          | 62.37           | 118.78       | Shut-In(1)           |
| 91          | 1288.11         | 123.72       | End Shut-In(1)       |
| 92          | 67.50           | 123.08       | Open To Flow (2)     |
| 136         | 94.82           | 125.00       | Shut-In(2)           |
| 182         | 1266.73         | 127.85       | End Shut-In(2)       |
| 185         | 2180.19         | 125.53       | Final Hydro-static   |

### Recovery

| Length (ft) | Description   | Volume (bbl) |
|-------------|---------------|--------------|
| 155.00      | MW 90%W, 10%M | 1.88         |
|             |               |              |
|             |               |              |
|             |               |              |
|             |               |              |

### Gas Rates

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



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# DRILL STEM TEST REPORT

**DNOC**  
PO Box 372  
Hays, Ks  
67601  
ATTN: Marc Downing

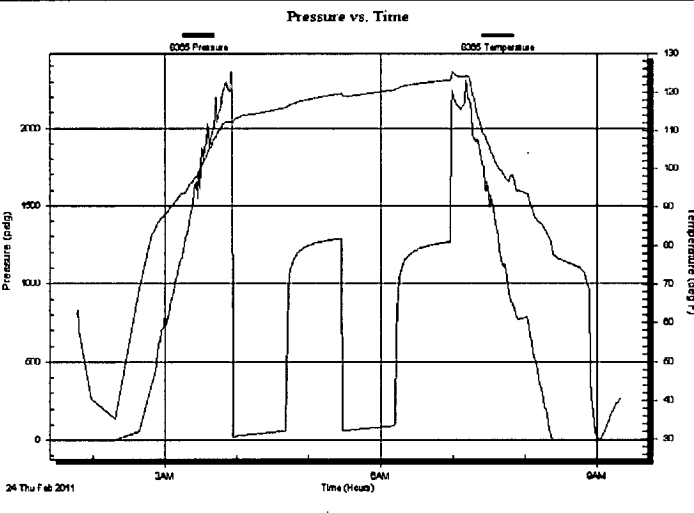
**Pfaff-Toedman 1-24**  
**24-16-23/Ness**  
Job Ticket: 41786      **DST#: 2**  
Test Start: 2011.02.24 @ 01:46:51

**GENERAL INFORMATION:**

Formation: **Cong Sand**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Straddle  
 Time Tool Opened: 03:57:50  
 Tester: Brian Fairbank  
 Time Test Ended: 09:20:20  
 Unit No: 41  
 Interval: **4443.00 ft (KB) To 4460.00 ft (KB) (TVD)**  
 Reference Elevations: 2447.00 ft (KB)  
 Total Depth: 4551.00 ft (KB) (TVD)  
 2439.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: KB to GR/CF: 8.00 ft

**Serial #: 8365      Outside**  
 Press@RunDepth:      psig @ 4445.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2011.02.24      End Date: 2011.02.24      Last Calib.: 2011.02.24  
 Start Time: 01:46:45      End Time: 09:19:44      Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** IFP - weak to good blow - 1/2" - 7"  
 ISI - no blow back  
 FFP - weak to fair blow sur - 5 1/2"  
 FSI - no blow back



| PRESSURE SUMMARY |                 |              |            |
|------------------|-----------------|--------------|------------|
| Time (Min.)      | Pressure (psig) | Temp (deg F) | Annotation |
|                  |                 |              |            |
|                  |                 |              |            |
|                  |                 |              |            |
|                  |                 |              |            |

| Recovery    |               |              |
|-------------|---------------|--------------|
| Length (ft) | Description   | Volume (bbl) |
| 155.00      | MW 90%W, 10%M | 1.88         |
|             |               |              |
|             |               |              |
|             |               |              |
|             |               |              |

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





**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

DNOC

**Pfaff-Toedman 1-24**

PO Box 372  
Hays, Ks  
67601

**24-16-23/Ness**

Job Ticket: 41786

**DST#: 2**

ATTN: Marc Downing

Test Start: 2011.02.24 @ 01:46:51

**Mud and Cushion Information**

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

41000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbl

Water Loss: 10.38 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: inches

**Recovery Information**

Recovery Table

| Length<br>ft | Description   | Volume<br>bbl |
|--------------|---------------|---------------|
| 155.00       | MW 90%W, 10%M | 1.883         |

Total Length: 155.00 ft

Total Volume: 1.883 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

