

11/30/13

KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION

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

**CONFIDENTIAL**

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

OPERATOR: License # 4767  
Name: Ritchie Exploration, Inc.  
Address 1: P.O. Box 783188  
Address 2: \_\_\_\_\_  
City: Wichita State: KS Zip: 67278 + 3188  
Contact Person: Peter Fiorini  
Phone: ( 316 ) 691-9500  
CONTRACTOR: License # 30606  
Name: Murfin Drilling Co., Inc.  
Wellsite Geologist: Ted Jochems  
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  
 Conv. to GSW  
 Plug Back: \_\_\_\_\_ Plug Back Total Depth  
 Commingled    Permit #: \_\_\_\_\_  
 Dual Completion    Permit #: \_\_\_\_\_  
 SWD    Permit #: \_\_\_\_\_  
 ENHR    Permit #: \_\_\_\_\_  
 GSW    Permit #: \_\_\_\_\_

| 8/13/11                           | 8/25/11         | 8/25/11                                 |
|-----------------------------------|-----------------|---|
| Spud Date or<br>Recompletion Date | Date Reached TD | Completion Date or<br>Recompletion Date |

API No. 15 - 063-21934-00-00  
Spot Description: 70' N & 9' E  
W/2 W/2 E/2 Sec. 28 Twp. 13 S. R. 31  East  West  
2,570 Feet from  North /  South Line of Section  
2,301 Feet from  East /  West Line of Section  
Footages Calculated from Nearest Outside Section Corner:  
 NE     NW     SE     SW  
County: Gove  
Lease Name: Shipley 28AD Unit Well #: 1  
Field Name: \_\_\_\_\_  
Producing Formation: LKC/Myrick  
Elevation: Ground: 2833 Kelly Bushing: 2843  
Total Depth: 4605 Plug Back Total Depth: 4573  
Amount of Surface Pipe Set and Cemented at: 217 Feet  
Multiple Stage Cementing Collar Used?  Yes  No  
If yes, show depth set: 2283 Feet  
If Alternate II completion, cement circulated from: surface  
feet depth to: 2283 w/ 340 sx cmt.

**Drilling Fluid Management Plan**  
(Data must be collected from the Reserve Pit)  
Chloride content: 12000 ppm Fluid volume: 950 bbls  
Dewatering method used: evaporation  
Location of fluid disposal if hauled offsite: \_\_\_\_\_  
Operator Name: \_\_\_\_\_  
Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_  
Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West  
County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**CONFIDENTIAL**

**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.

**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.  
Signature: \_\_\_\_\_  
Title: Development/Production Geologist Date: 11/30/11

**KCC Office Use ONLY**  
 Letter of Confidentiality Received  
Date: 11-30-11 to 11-30-13  
 Confidential Release Date: \_\_\_\_\_  
 Wireline Log Received  
 Geologist Report Received  
 UIC Distribution  
ALT  I  II  III Approved by: NO Date: 125711

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Operator Name: Ritchie Exploration, Inc. Lease Name: ShIPLEY 28AD Unit Well #: 1  
 Sec. 28 Twp. 13 S. R. 31  East  West County: Gove

**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 checked="" type="checkbox"/> Yes <input 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><b>Dual Induction Log</b><br><b>Compensated Density/Neutron Log</b> | <input type="checkbox"/> Log Formation (Top), Depth and Datum <input checked="" type="checkbox"/> Sample<br>Name Top Datum<br><br><p style="text-align: center; font-weight: bold;">SEE ATTACHED</p> |
|---|--|

| 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                     | 23                | 217           | common         | 175          | 3% cc, 2% gel                      |
| Production  | 7-7/8             | 5-1/2                     | 15.5              | 4604          | ASC            | 200          | 10% salt, 2% gel & 5#/sx gilsonite |
|   |                   |                           |                   |               |                |              |                                    |

| 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>(Amount and Kind of Material Used) | Depth |
|----------------|---|---|-------|
| 4              | 3930.5' - 3934' (9/7/11)  | 500 gallons 15% NE (9/9/11)   |       |
| 4              | 4077' - 4080' (9/7/11)  | 500 gallons 15% NE (9/8/11)   |       |
| 4              | 4352.5' - 4357.5' (9/7/11)  | 500 gallons 15% NE (9/8/11)   |       |
|                |   |   |       |

|  |  |  |
|--|--|--|
| TUBING RECORD: Size: <u>2-7/8"</u> Set At: <u>4522;</u> Packer At: _____ |  | Liner Run: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No         |
| Date of First, Resumed Production, SWD or ENHR.<br><u>9/14/11</u>        | Producing Method:<br><input type="checkbox"/> Flowing <input checked="" type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain) _____ |  |
| Estimated Production Per 24 Hours  | Oil Bbls. <u>83.4</u>  | Gas Mcf _____<br>Water Bbls. <u>16.6</u><br>Gas-Oil Ratio _____<br>Gravity <u>38.1</u> |

|   |   |  |
|---|---|--|
| 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><p style="text-align: center; font-weight: bold; font-size: 1.2em;">CONFIDENTIAL</p> <p style="text-align: center; font-weight: bold; font-size: 1.2em;">NOV 30 2013</p> |
|---|---|--|



**#1 Shipley 28AD Unit**  
2570' FNL & 2301' FEL  
70'N & 9'E of W/2 W/2 E/2 Section 28-13S-31W  
Gove County, Kansas  
API# 15-063-21934-0000  
Elevation: 2833' GL: 2843' KB

| <u>Sample Tops</u> |       |       | <u>Ref.</u> | <u>Well</u> |
|--------------------|-------|-------|-------------|-------------|
| Anhydrite          | 2320' | +523  | +10         |             |
| B/Anhydrite        | 2347' | +496  | +7          |             |
| Heebner            | 3835' | -992  | +12         |             |
| Lansing            | 3878' | -1035 | +13         |             |
| LKC "C"            | 3914' | -1071 | +12         |             |
| LKC "D"            | 3930' | -1087 | +12         |             |
| Muncie Shale       | 4025' | -1182 | +14         |             |
| Stark Shale        | 4114' | -1271 | +13         |             |
| Hush               | 4151' | -1308 | +11         |             |
| BKC                | 4188' | -1345 | +10         |             |
| Marmaton           | 4219' | -1376 | +11         |             |
| Altamont           | 4243' | -1400 | +13         |             |
| Pawnee             | 4314' | -1471 | +11         |             |
| Myrick             | 4352' | -1509 | +9          |             |
| Fort Scott         | 4370' | -1527 | +11         |             |
| Cherokee Shale     | 4397' | -1554 | +10         |             |
| Johnson            | 4440' | -1597 | +11         |             |
| Morrow Sand        | 4470' | -1627 | +11         |             |
| Mississippian      | 4479' | -1636 | +15         |             |
| RTD                | 4605' | -1762 |             |             |

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# ALLIED CEMENTING CO., LLC. 043399

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

SERVICE POINT: Daklay, Ks

|                              |                 |  |                 |             |                    |                         |                          |
|------------------------------|-----------------|--|-----------------|-------------|--------------------|-------------------------|--------------------------|
| DATE <u>8-26-11</u>          | SEC. <u>28</u>  | TWP. <u>13</u>                               | RANGE <u>31</u> | CALLED OUT  | ON LOCATION        | JOB START <u>5:00am</u> | JOB FINISH <u>5:30am</u> |
| LEASE <u>Shiplay AD Unit</u> | WELL # <u>1</u> | LOCATION <u>Daklay, Ks 11S, 3E, 5S, 1/2E</u> |                 |             | COUNTY <u>Gove</u> | STATE <u>Ks</u>         |                          |
| OLD OR NEW (Circle one)      |                 |  |                 | <u>Sink</u> |                    |                         |                          |

|   |  |
|---|--|
| CONTRACTOR <u>Murfin #14</u>                | OWNER <u>same</u>                          |
| TYPE OF JOB <u>production</u>               |  |
| HOLE SIZE <u>7 7/8</u> T.D. <u>4608'</u>    | CEMENT                                     |
| CASING SIZE <u>5 1/2</u> DEPTH <u>4604'</u> | AMOUNT ORDERED <u>250 sks APC 107 salt</u> |
| TUBING SIZE                                 | <u>5# gilsonite 220 gal - 25% CD 31</u>    |
| DRILL PIPE                                  |  |
| TOOL <u>port collar</u> DEPTH <u>2286'</u>  |  |
| PRES. MAX                                   | COMMON _____ @ _____                       |
| MEAS. LINE                                  | POZMIX _____ @ _____                       |
| CEMENT LEFT IN CSG. <u>21'</u>              | GEL <u>5 sks @ 21.25 106.25</u>            |
| PERFS.                                      | CHLORIDE _____ @ _____                     |
| DISPLACEMENT <u>109.08</u>                  | ASC <u>250 sks @ 18.00 4500.00</u>         |

| EQUIPMENT                   |                        |                                       |  |  |
|-----------------------------|------------------------|---------------------------------------|--|--|
| PUMP TRUCK # <u>431</u>     | CEMENTER <u>Lakeme</u> |                                       |  |  |
|                             | HELPER <u>Darren</u>   |                                       |  |  |
| BULK TRUCK # <u>394/287</u> | DRIVER <u>Ethan</u>    |                                       |  |  |
| BULK TRUCK # _____          | DRIVER _____           |                                       |  |  |
|                             |                        | HANDLING <u>331 sks @ 2.25 722.25</u> |  |  |
|                             |                        | MILEAGE <u>114 sk/mile 706.20</u>     |  |  |
|                             |                        | TOTAL <u>10252.60</u>                 |  |  |

REMARKS:  
Mix WFR2, plug mouse hole & rat hole.  
mix cement down casing, displace  
with water at 800 #, land plug  
at 1300 # release pressure  
float hold.

*Thank you.*

CHARGE TO: Ritchie Exploration  
STREET \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

| SERVICE                      |               |                      |  |
|------------------------------|---------------|----------------------|--|
| DEPTH OF JOB                 | <u>4604'</u>  |                      |  |
| PUMP TRUCK CHARGE            |               | <u>2405.00</u>       |  |
| EXTRA FOOTAGE                | @ _____       |                      |  |
| MILEAGE <u>20x2</u>          | @ <u>2.00</u> | <u>280.00</u>        |  |
| MANIFOLD <u>head</u>         | @ _____       | <u>200.00</u>        |  |
| <u>light vehicle mileage</u> | @ <u>4.00</u> | <u>160.00</u>        |  |
|                              | @ _____       |                      |  |
|                              |               | TOTAL <u>3045.00</u> |  |

| PLUG & FLOAT EQUIPMENT       |                 |                      |  |
|------------------------------|-----------------|----------------------|--|
| (CW) - 1 - guideshoe         |                 | <u>240.00</u>        |  |
| (CW) - 1 - SAFU Insert       | @ _____         | <u>286.00</u>        |  |
| (IR) - 1 - Port Collar       | @ _____         | <u>2600.00</u>       |  |
| (3IR) (CW) - 7 - turbolizers | @ <u>48.00</u>  | <u>336.00</u>        |  |
| (3IR) (CW) - 4 - Bas Kets    | @ <u>337.00</u> | <u>1348.00</u>       |  |
| (3IR) (CW) - 1 - Rubber plug | @ _____         | <u>73.00</u>         |  |
|                              |                 | TOTAL <u>4890.00</u> |  |

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

PRINTED NAME \_\_\_\_\_  
SIGNATURE [Signature]

SALES TAX (If Any) \_\_\_\_\_  
TOTAL CHARGES \_\_\_\_\_  
DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS \_\_\_\_\_

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# ALLIED CEMENTING CO., LLC. 043403

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

SERVICE POINT:  
*Oakley, ks*

|                                       |                |   |                 |                        |                    |                         |                          |
|---------------------------------------|----------------|---|-----------------|------------------------|--------------------|-------------------------|--------------------------|
| DATE <i>10-27-11</i>                  | SEC. <i>28</i> | TWP. <i>13</i>                          | RANGE <i>31</i> | CALLED OUT             | ON LOCATION        | JOB START <i>2:00pm</i> | JOB FINISH <i>3:00pm</i> |
| LEASE <i>Shipley AD Unit</i>          | WELL# <i>1</i> | LOCATION <i>Oakley, ks 11S, 3E, 4S,</i> |                 |                        | COUNTY <i>Gove</i> | STATE <i>Ks</i>         |                          |
| OLD OR NEW (Circle one)<br><i>NEW</i> |                |   |                 | <i>1 1/2 E, S into</i> |                    |                         |                          |

CONTRACTOR *H2 Plains*  
 TYPE OF JOB *production*  
 HOLE SIZE \_\_\_\_\_ T.D. \_\_\_\_\_  
 CASING SIZE *5 1/2"* DEPTH *4604*  
 TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 TOOL *port collar* DEPTH *2283*  
 PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_  
 MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_  
 CEMENT LEFT IN CSG. \_\_\_\_\_  
 PERFS. \_\_\_\_\_  
 DISPLACEMENT *13.24 63'*

OWNER *same*  
 CEMENT  
 AMOUNT ORDERED *450 sks 6040 670 gal*  
*14 # flo seal*  
*500# cottonseed hulls*

|                             |                        |                |
|-----------------------------|------------------------|----------------|
| COMMON                      | <i>204 sks @ 16.25</i> | <i>3315.00</i> |
| POZMIX                      | <i>136 sks @ 8.50</i>  | <i>1156.00</i> |
| GEL                         | <i>20 sks @ 21.25</i>  | <i>425.00</i>  |
| CHLORIDE                    | @                      |                |
| ASC                         | @                      |                |
| <i>flo seal 80#</i>         | @ <i>2.70</i>          | <i>216.00</i>  |
| <i>cottonseed hulls 6sk</i> | @ <i>31.85</i>         | <i>191.10</i>  |
|                             | @                      |                |
|                             | @                      |                |
|                             | @                      |                |
|                             | @                      |                |
| HANDLING <i>428 sks</i>     | @ <i>2.25</i>          | <i>1898.00</i> |
| MILEAGE <i>119.5 miles</i>  |                        | <i>1073.60</i> |

EQUIPMENT  
 PUMP TRUCK CEMENTER *Karlene*  
 # *431* HELPER *Darren*  
 BULK TRUCK  
 # *397/287* DRIVER *Terry H*  
 BULK TRUCK  
 # \_\_\_\_\_ DRIVER \_\_\_\_\_

TOTAL *7474.70*

REMARKS:  
*pressure system to 1200#. Open port collar, mix 340 sks cement down tubing & displace with water, close port collar, pressure to 1200#. run in 5 joints & wash out.*

SERVICE

|                                       |               |                |
|---------------------------------------|---------------|----------------|
| DEPTH OF JOB                          | <i>2283'</i>  |                |
| PUMP TRUCK CHARGE                     |               | <i>2125.00</i> |
| EXTRA FOOTAGE                         | @             |                |
| MILEAGE <i>20 x 2</i>                 | @ <i>7.00</i> | <i>280.00</i>  |
| MANIFOLD <i>Light vehicle mileage</i> | @ <i>4.00</i> | <i>160.00</i>  |
|                                       | @             |                |

*Thank you.*

TOTAL *2565.00*

CHARGE TO: *Ritchie Exploration*  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PLUG & FLOAT EQUIPMENT

|       |   |  |
|-------|---|--|
|       | @ |  |
|       | @ |  |
|       | @ |  |
|       | @ |  |
|       | @ |  |
| TOTAL |   |  |

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

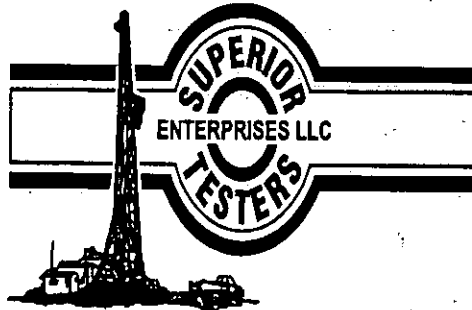
PRINTED NAME \_\_\_\_\_  
 SIGNATURE *[Signature]*

SALES TAX (if Any) \_\_\_\_\_  
 TOTAL CHARGES \_\_\_\_\_  
 DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS

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*[Handwritten mark]*





## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 East 22 nd Street North  
#700 Wichita, Kansas 67278+  
3188 P.O.Box.783188

ATTN: Ted Jochems

**28/13S/31W Gove Co.**

**#1 Shipley 28 AD Unit**

Start Date: 2011.08.18 @ 12:15:00

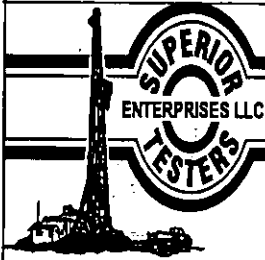
End Date: 2011.08.18 @ 19:08:30

Job Ticket #: 18712 DST #: 1

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**KCC**

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.08.29 @ 12:01:01



# DRILL STEM TEST REPORT

Ritchie Exploration  
 8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochems

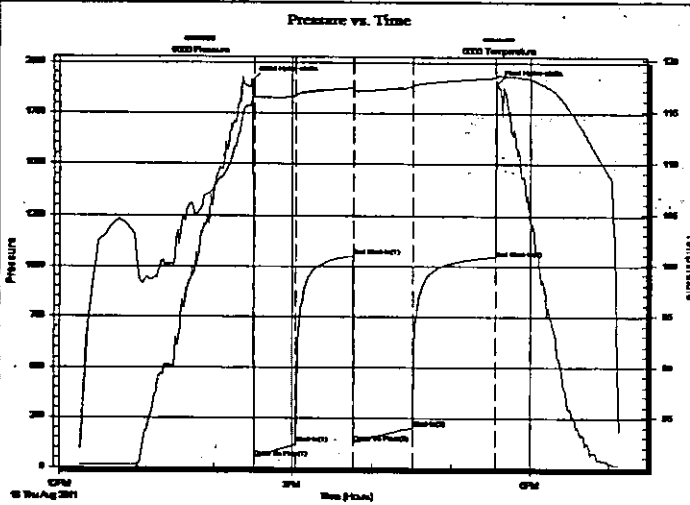
**#1 Shipley 28 AD Unit**  
**28/13S/31W Gove Co.**  
 Job Ticket: 18712      DST#: 1  
 Test Start: 2011.08.18 @ 12:15:00

## GENERAL INFORMATION:

Formation: **Lansing "C" Zone**  
 Deviated: **No Whipstock:**      ft (KB)  
 Time Tool Opened: 14:30:30  
 Time Test Ended: 19:08:30  
 Interval: **3898.00 ft (KB) To 3925.00 ft (KB) (TVD)**  
 Total Depth: **3925.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**  
 Test Type: **Conventional Bottom Hole (Initial)**  
 Tester: **Dylan E Ellis**  
 Unit No: **3345/Great Bend/362**  
 Reference Elevations: **2843.00 ft (KB)**  
    **2833.00 ft (CF)**  
    KB to GR/CF: **10.00 ft**

**Serial #: 6666**      **Outside**  
 Press@RunDepth: **201.36 psia @ 3922.00 ft (KB)**      Capacity: **5000.00 psia**  
 Start Date: **2011.08.18**      End Date: **2011.08.18**      Last Calib.: **2011.08.18**  
 Start Time: **12:16:00**      End Time: **19:08:30**      Time On Btm: **2011.08.18 @ 14:29:00**  
    **19:08:30**      Time Off Btm: **2011.08.18 @ 17:35:00**

**TEST COMMENT:** 1ST Opening 30 Minutes weak but building blow / blow blew 6 inches into bucket of water  
 1ST Shut-In 45 Minutes no blow back  
 2ND Opening 45 Minutes weak but building blow / blow blew 3 inches into bucket of water  
 2ND Shut-In 60 Minutes no blow back



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1912.05         | 116.43       | Initial Hydro-static |
| 2           | 47.58           | 116.36       | Open To Flow (1)     |
| 34          | 116.79          | 116.43       | Shut-In(1)           |
| 77          | 1052.66         | 117.26       | End Shut-In(1)       |
| 78          | 123.65          | 116.98       | Open To Flow (2)     |
| 122         | 201.36          | 117.38       | Shut-In(2)           |
| 185         | 1041.14         | 118.30       | End Shut-In(2)       |
| 186         | 1896.57         | 118.52       | Final Hydro-static   |

## Recovery

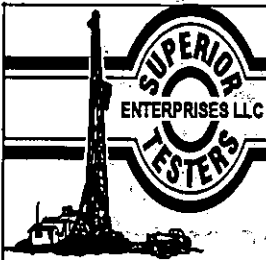
| Length (ft) | Description                     | Volume (bbl) |
|-------------|---------------------------------|--------------|
| 190.00      | Lightly Oil cut Muddy Water     | 0.93         |
| 0.00        | Oil 25% Mud 35% Water 40%       | 0.00         |
| 190.00      | Lightly Oil cut Muddy Water     | 0.93         |
| 0.00        | Oil 10% Mud 40% Water 50%       | 0.00         |
| 0.00        | Chlorides were 32,000           | 0.00         |
| 0.00        | Resistivity was .3 @ 84 degrees | 0.00         |

## Gas Rates

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







# DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration  
 8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochems

#1 Shipley 28 AD Unit  
 28/13S/31W Gove Co.  
 Job Ticket: 18712      DST#: 1  
 Test Start: 2011.08.18 @ 12:15:00

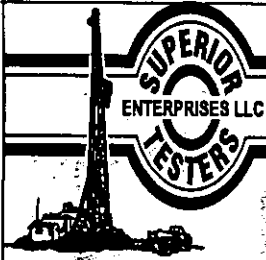
## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 3352.00 ft | Diameter: 3.80 inches | Volume: 47.02 bbl              | Tool Weight: 2000.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer: 20000.00 lb  |
| Drill Collar:             | Length: 531.14 ft  | Diameter: 2.25 inches | Volume: 2.61 bbl               | Weight to Pull Loose: 25000.00 lb  |
|                           |                    |                       | <u>Total Volume: 49.63 bbl</u> | Tool Chased 3.00 ft                |
| Drill Pipe Above KB:      | 14.14 ft           |                       |                                | String Weight: Initial 70000.00 lb |
| Depth to Top Packer:      | 3898.00 ft         |                       |                                | Final 72000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 27.00 ft           |                       |                                |                                    |
| Tool Length:              | 56.00 ft           |                       |                                |                                    |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                                    |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                     |
|------------------|-------------|------------|----------|------------|------------------------------------|
| Change Over Sub  | 1.00        |            |          | 3870.00    |                                    |
| Shut-In Tool     | 5.00        |            |          | 3875.00    |                                    |
| Hydroic Tool     | 5.00        |            |          | 3880.00    |                                    |
| Jars             | 6.00        |            |          | 3886.00    |                                    |
| Safety Joint     | 2.00        |            |          | 3888.00    |                                    |
| Packer           | 5.00        |            |          | 3893.00    | 29.00      Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3898.00    |                                    |
| Perforations     | 22.00       |            |          | 3920.00    |                                    |
| Recorder         | 1.00        | 6731       | Inside   | 3921.00    |                                    |
| Recorder         | 1.00        | 6666       | Outside  | 3922.00    |                                    |
| Bullnose         | 3.00        |            |          | 3925.00    | 27.00      Bottom Packers & Anchor |

**Total Tool Length: 56.00**



# DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#1 Shipley 28 AD Unit

8100 East 22 nd Street North  
#700 Wichita, Kansas 67278+  
3188 P.O.Box 783188

28/13S/31W Gove Co.

Job Ticket: 18712 DST#: 1

ATTN: Ted Jochems

Test Start: 2011.08.18 @ 12:15:00

## 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:

bbf

Water Loss: 6.37 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psia

Salinity: 1500.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description                     | Volume<br>bbf |
|--------------|---------------------------------|---------------|
| 190.00       | Lightly Oil cut Muddy Water     | 0.934         |
| 0.00         | Oil 25% Mud 35% Water 40%       | 0.000         |
| 190.00       | Lightly Oil cut Muddy Water     | 0.934         |
| 0.00         | Oil 10% Mud 40% Water 50%       | 0.000         |
| 0.00         | Chlorides were 32,000           | 0.000         |
| 0.00         | Resistivity was .3 @ 84 degrees | 0.000         |

Total Length: 380.00 ft

Total Volume: 1.868 bbf

Num Fluid Samples: 0

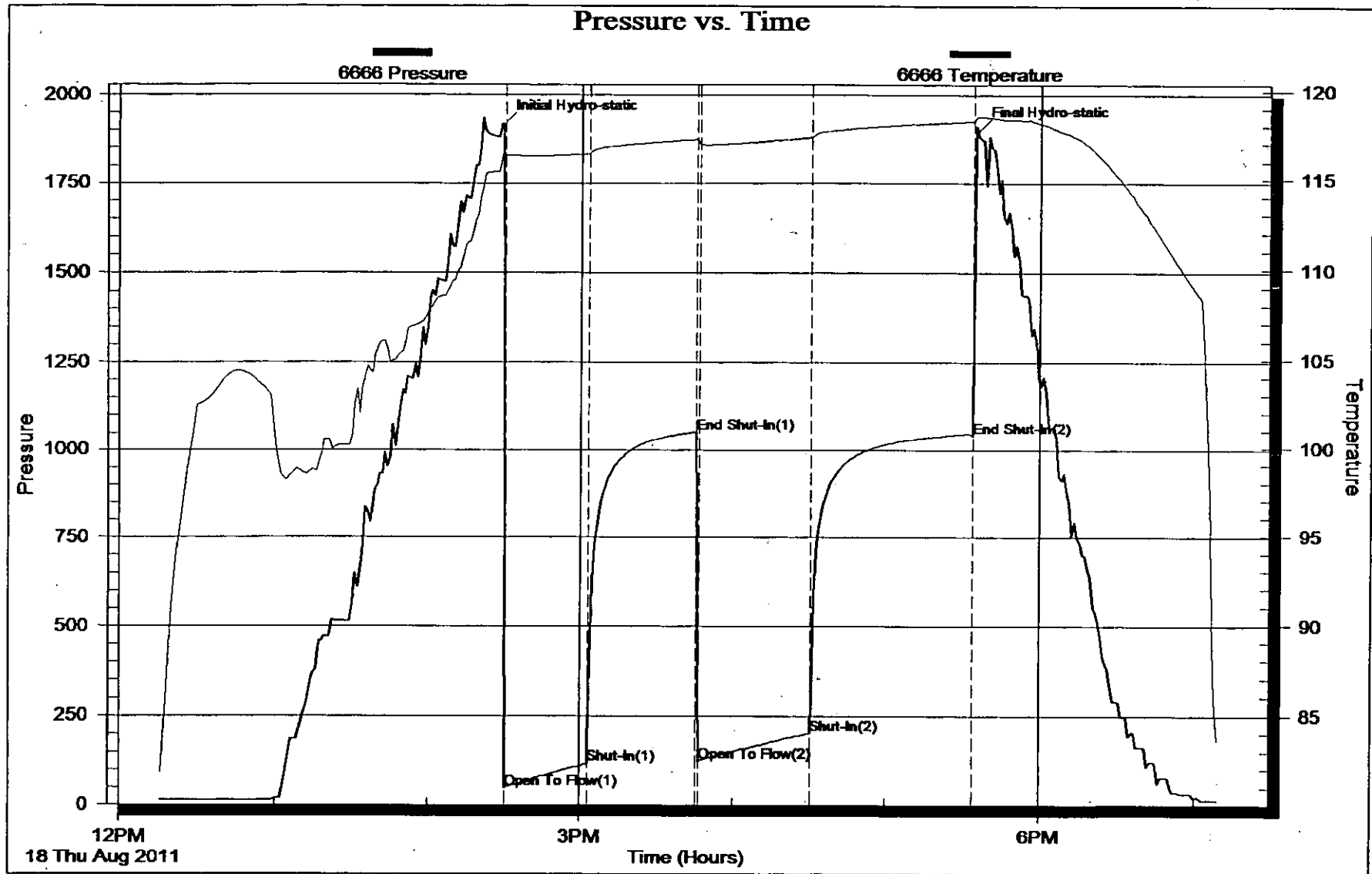
Num Gas Bombs: 0

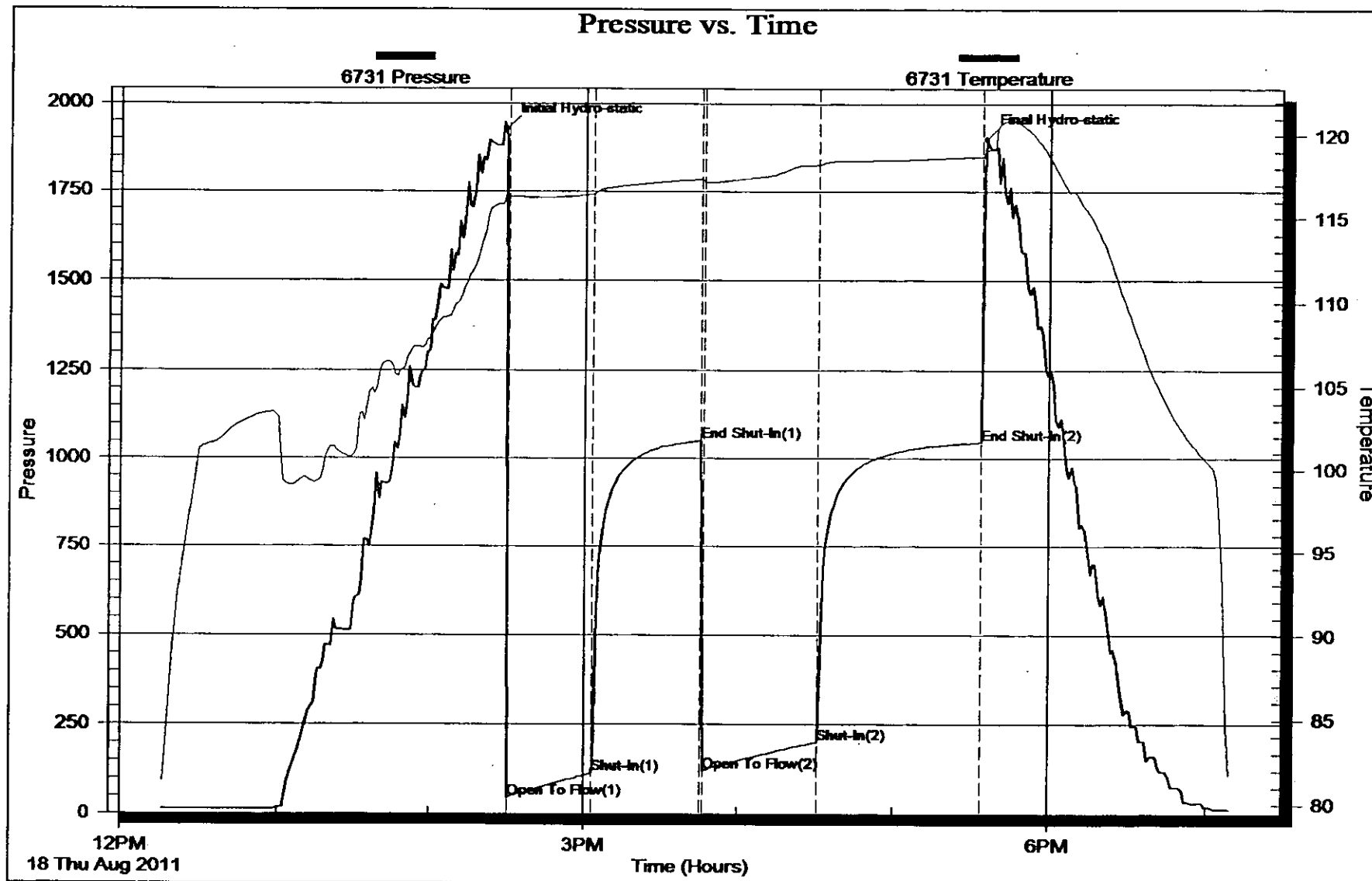
Serial #:

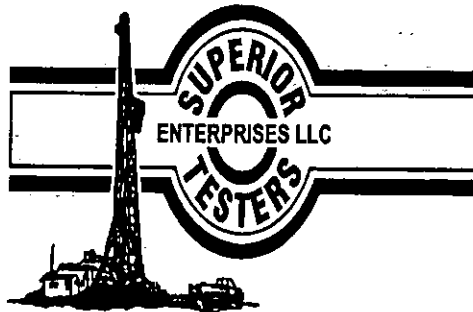
Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 East 22 nd Street North  
#700 Wichita, Kansas 67278+  
3188 P.O.Box 783188

ATTN: Ted Jochems

**28/13S/31W Gove Co.**

**#1 Shipley 28 AD Unit**

Start Date: 2011.08.19 @ 01:07:00

End Date: 2011.08.19 @ 00:00:00

Job Ticket #: 18713                      DST #: 2

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.08.29 @ 12:02:53

Ritchie Exploration

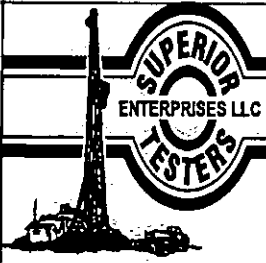
#1 Shipley 28 AD Unit

28/13S/31W Gove Co.

DST # 2

Lansing "D,E,F" Zo

2011.08.19



# DRILL STEM TEST REPORT

Ritchie Exploration  
 8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochems

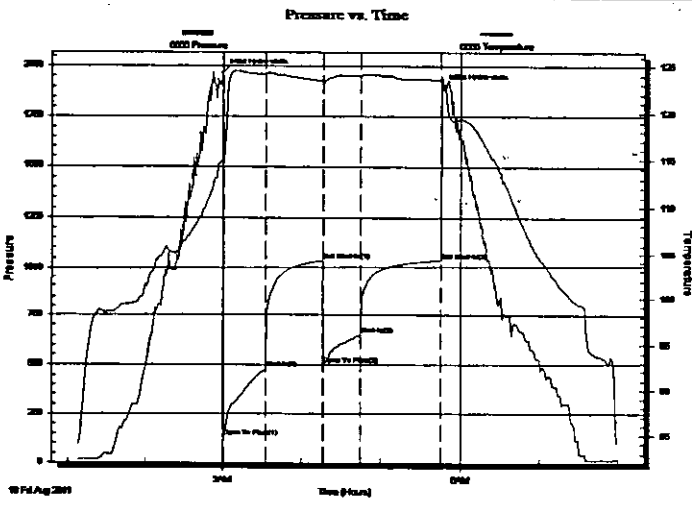
**#1 Shipley 28 AD Unit**  
**28/13S/31W Gove Co.**  
 Job Ticket: 18713      **DST#: 2**  
 Test Start: 2011.08.19 @ 01:07:00

## GENERAL INFORMATION:

Formation: **Lansing " D,E,F" Zo**  
 Deviated: **No** Whipstock:      ft (KB)  
 Test Type: **Conventional Bottom Hole (Initial)**  
 Time Tool Opened: 00:00:00      Tester: **Dylan E Ellis**  
 Time Test Ended: 00:00:00      Unit No: **3345/Scott City/46**  
 Interval: **3925.00 ft (KB) To 3978.00 ft (KB) (TVD)**      Reference Elevations: **2843.00 ft (KB)**  
 Total Depth: **3978.00 ft (KB) (TVD)**      **2833.00 ft (CF)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**      KB to GR/CF: **10.00 ft**

**Serial #: 6666**      **Outside**  
 Press@RunDepth: **1040.68 psia @ 3975.03 ft (KB)**      Capacity: **5000.00 psia**  
 Start Date: **2011.08.19**      End Date: **2011.08.19**      Last Calib.: **2011.08.18**  
 Start Time: **01:08:00**      End Time: **07:59:30**      Time On Btm: **2011.08.19 @ 02:59:30**  
 Time Off Btm:

**TEST COMMENT:** 1ST Opening 30 Minutes good steady building blow /blow blew bottom of bucket in 2 minutes  
 1ST Shut-In 45 Minutes yes blow back  
 2ND Opening 30 Minutes fair blow / blow blew to bottom of bucket in 5 minutes  
 2ND Shut-In 60 Minutes yes blow back



## PRESSURE SUMMARY

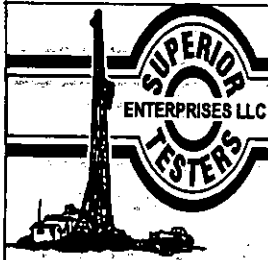
| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1965.81         | 114.94       | Initial Hydro-static |
| 1           | 129.45          | 114.53       | Open To Flow (1)     |
| 33          | 482.25          | 124.14       | Shut-In(1)           |
| 77          | 1039.71         | 123.42       | End Shut-In(1)       |
| 78          | 503.82          | 123.19       | Open To Flow (2)     |
| 105         | 653.52          | 123.95       | Shut-In(2)           |
| 165         | 1040.68         | 123.56       | End Shut-In(2)       |
| 167         | 1893.58         | 123.53       | Initial Hydro-static |

## Recovery

| Length (ft) | Description                     | Volume (bbl) |
|-------------|---------------------------------|--------------|
| 0.00        | Mud 15% Oil 85%                 | 0.00         |
| 475.00      | Lightly Water cut Muddy Oil     | 2.34         |
| 0.00        | Water 5% Mud 25% Oil 70%        | 0.00         |
| 0.00        | Gravity of Oil corrected was 36 | 0.00         |
|             |                                 |              |
|             |                                 |              |

## Gas Rates

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



# DRILL STEM TEST REPORT

Ritchie Exploration

#1 Shipley 28 AD Unit

8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jocherns

#28/13S/31W: Gove Co.

Job Ticket: 18713

DST#: 2

Test Start: 2011.08.19 @ 01:07:00

## GENERAL INFORMATION:

Formation: Lansing " D,E,F' Zo  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:00:00  
 Time Test Ended: 00:00:00

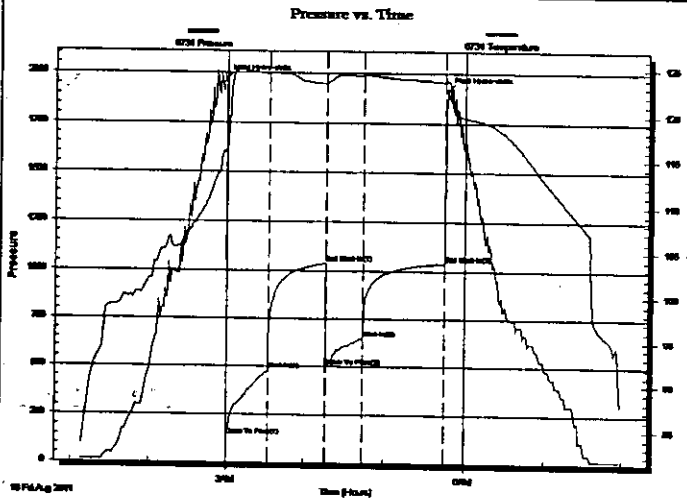
Test Type: Conventional Bottom Hole (Initial)  
 Tester: Dylan E Ellis  
 Unit No: 3345/Scott City/46

Interval: 3925.00 ft (KB) To 3978.00 ft (KB) (TVD)  
 Total Depth: 3978.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2843.00 ft (KB)  
 -2833.00 ft (CF)  
 KB to GR/CF: 10.00 ft

Serial #: 6731 Inside  
 Press@RunDepth: 1041.09 psia @ 3974.03 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2011.08.19 End Date: 2011.08.19 Last Calib.: 2011.08.18  
 Start Time: 01:08:00 End Time: 07:59:00 Time On Btm: 2011.08.19 @ 02:59:00  
 Time Off Btm: 2011.08.19 @ 05:46:30

TEST COMMENT: 1ST Opening 30 Minutes good steady building blow /blow blew bottom of bucket in 2 minutes  
 1ST Shut-In 45 Minutes yes blow back  
 2ND Opening 30 Minutes fair blow / blow blew to bottom of bucket in 5 minutes.  
 2ND Shut-In 60 Minutes yes blow back



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1966.08         | 115.85       | Initial Hydro-static |
| .2          | 136.84          | 116.04       | Open To Flow (1)     |
| 33          | 482.24          | 124.50       | Shut-In(1)           |
| 77          | 1040.42         | 123.41       | End Shut-In(1)       |
| 78          | 503.93          | 123.37       | Open To Flow (2)     |
| 105         | 654.02          | 124.29       | Shut-In(2)           |
| 166         | 1041.09         | 123.67       | End Shut-In(2)       |
| 168         | 1913.43         | 123.72       | Final Hydro-static   |

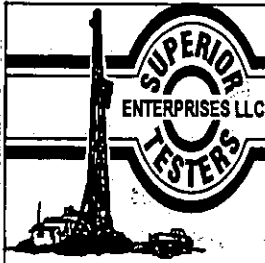
## Recovery

| Length (ft) | Description                     | Volume (bbl) |
|-------------|---------------------------------|--------------|
| 0.00        | Mud 15% Oil 85%                 | 0.00         |
| 475.00      | Lightly Water cut Muddy Oil     | 2.34         |
| 0.00        | Water 5% Mud 25% Oil 70%        | 0.00         |
| 0.00        | Gravity of Oil corrected was 36 | 0.00         |
|             |                                 |              |
|             |                                 |              |

## Gas Rates

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





# DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration  
 8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochems

#1 Shipley 28 AD Unit  
 28/13S/31W Gove Co.  
 Job Ticket: 18713      DST#: 2  
 Test Start: 2011.08.19 @ 01:07:00

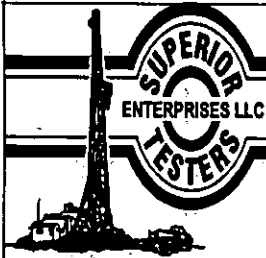
## Tool Information

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3387.00 ft | Diameter: 3.80 inches | Volume: 47.51 bbl              | Tool Weight:           | 2000.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer:  | 20000.00 lb |
| Drill Collar:             | Length: 531.14 ft  | Diameter: 2.25 inches | Volume: 2.61 bbl               | Weight to Pull Loose:  | 20000.00 lb |
|                           |                    |                       | <u>Total Volume: 50.12 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 22.14 ft           |                       |                                | String Weight: Initial | 70000.00 lb |
| Depth to Top Packer:      | 3925.00 ft         |                       |                                | Final                  | 79000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 53.03 ft           |                       |                                |                        |             |
| Tool Length:              | 82.03 ft           |                       |                                |                        |             |
| Number of Packers:        | 2                  | Diameter:             | 6.75 inches                    |                        |             |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                     |
|------------------|-------------|------------|----------|------------|------------------------------------|
| Change Over Sub  | 1.00        |            |          | 3897.00    |                                    |
| Shut-in Tool     | 5.00        |            |          | 3902.00    |                                    |
| Hydroic Tool     | 5.00        |            |          | 3907.00    |                                    |
| Jars             | 6.00        |            |          | 3913.00    |                                    |
| Safety Joint     | 2.00        |            |          | 3915.00    |                                    |
| Packer           | 5.00        |            |          | 3920.00    | 29.00      Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 3925.00    |                                    |
| Perforations     | 5.00        |            |          | 3930.00    |                                    |
| Change Over Sub  | 0.75        |            |          | 3930.75    |                                    |
| Drill Pipe       | 31.53       |            |          | 3962.28    |                                    |
| Change Over Sub  | 0.75        |            |          | 3963.03    |                                    |
| Perforations     | 10.00       |            |          | 3973.03    |                                    |
| Recorder         | 1.00        | 6731       | Inside   | 3974.03    |                                    |
| Recorder         | 1.00        | 6666       | Outside  | 3975.03    |                                    |
| Bullnose         | 3.00        |            |          | 3978.03    | 53.03      Bottom Packers & Anchor |

**Total Tool Length: 82.03**



# DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#1 Shipley 28 AD Unit

8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochens

28/13S/31W Gove Co.  
 Job Ticket: 18713 DST#: 2  
 Test Start: 2011.08.19 @ 01:07:00

## 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: 64.00 sec/qt          | Cushion Volume: bbl        |                 |         |
| Water Loss: 7.17 in <sup>3</sup> | Gas Cushion Type:          |                 |         |
| Resistivity: ohm.m               | Gas Cushion Pressure: psia |                 |         |
| Salinity: 2200.00 ppm            |                            |                 |         |
| Filter Cake: 1.00 inches         |                            |                 |         |

## Recovery Information

Recovery Table

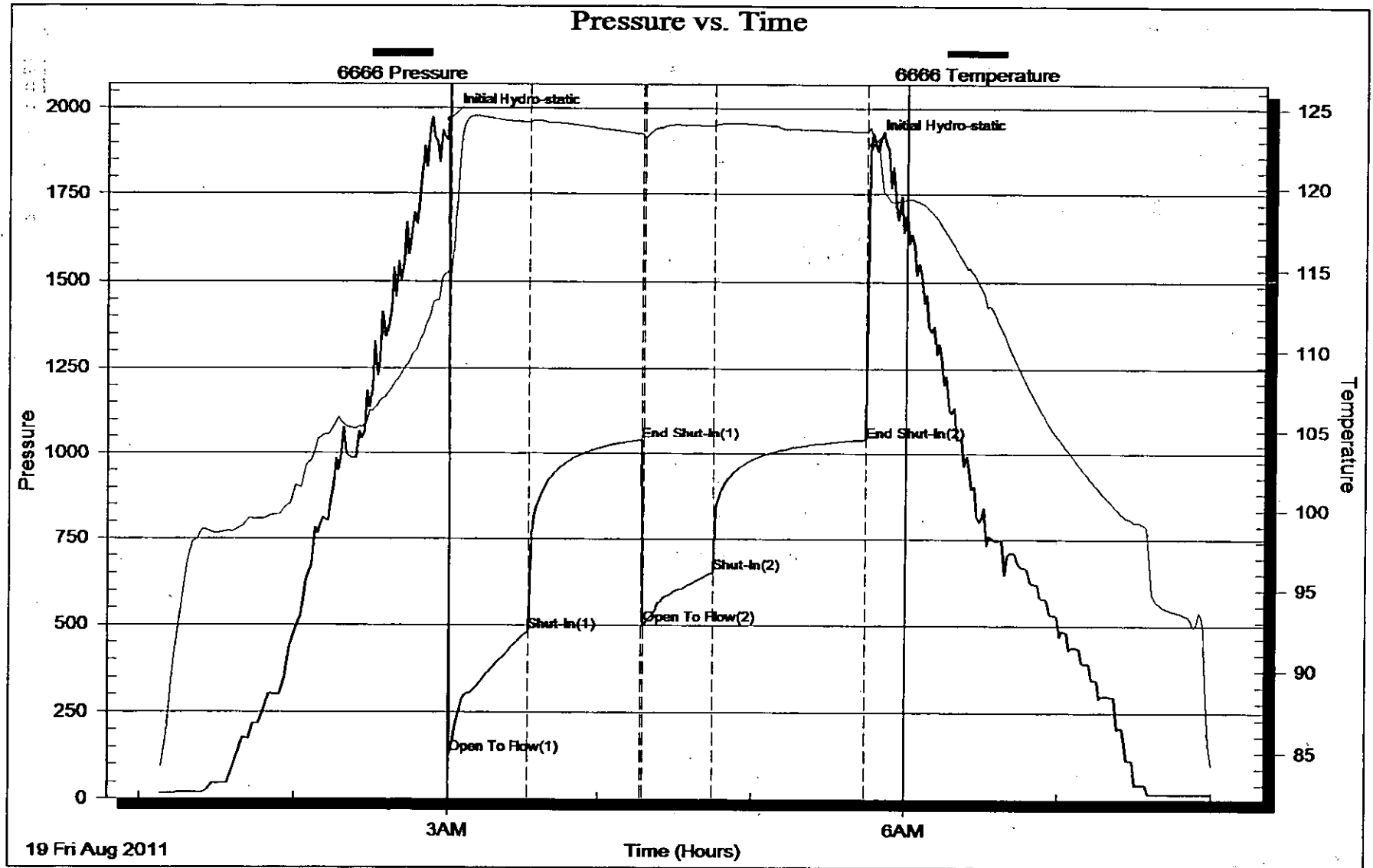
| Length<br>ft | Description                     | Volume<br>bbl |
|--------------|---------------------------------|---------------|
| 0.00         | Mud 15% Oil 85%                 | 0.000         |
| 475.00       | Lightly Water cut Muddy Oil     | 2.336         |
| 0.00         | Water 5% Mud 25% Oil 70%        | 0.000         |
| 0.00         | Gravity of Oil corrected was 36 | 0.000         |

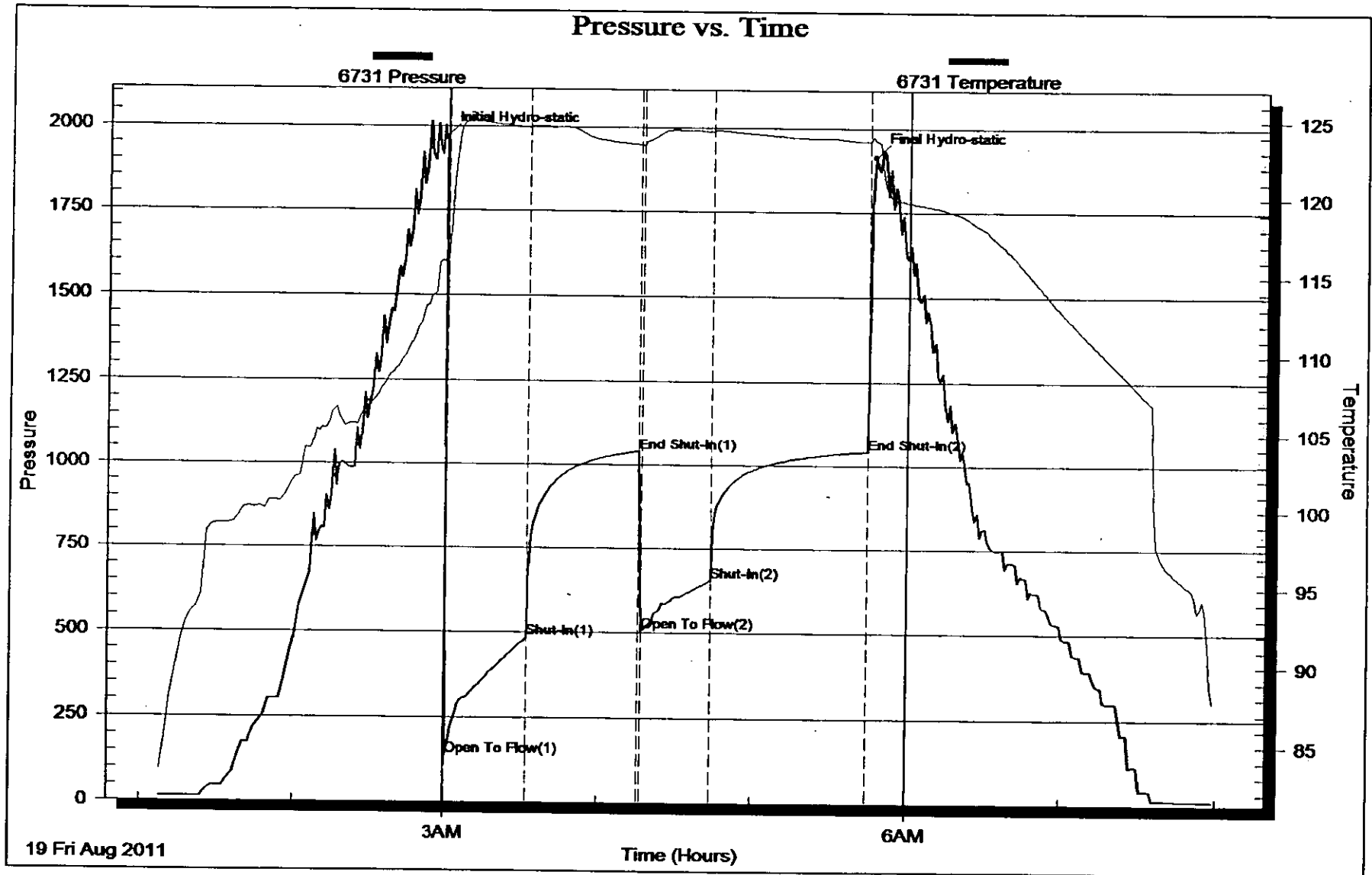
Total Length: ft Total Volume: 17.956 bbl

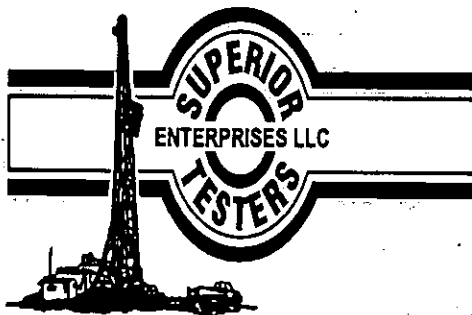
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: There was not enough water to check the chlorides or the resistivity of the water sorry it just wouldnt work







## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 East 22 nd Street North  
#700 Wichita, Kansas 67278+  
3188 P.O.Box 783188

ATTN: Ted Jochems

**28/13S/31W Gove Co.**

**#1 Shipley 28 AD Unit**

Start Date: 2011.08.20 @ 06:49:00

End Date: 2011.08.20 @ 13:10:00

Job Ticket #: 18714                      DST #: 3

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.08.29 @ 12:03:04

Ritchie Exploration

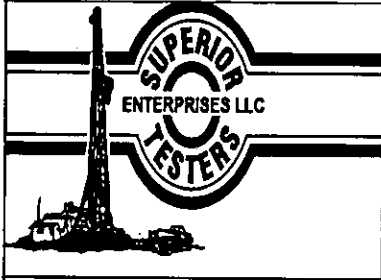
#1 Shipley 28 AD Unit

28/13S/31W Gove Co.

DST # 3

Lansing H zone

2011.08.20



# DRILL STEM TEST REPORT

Ritchie Exploration  
 8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochems

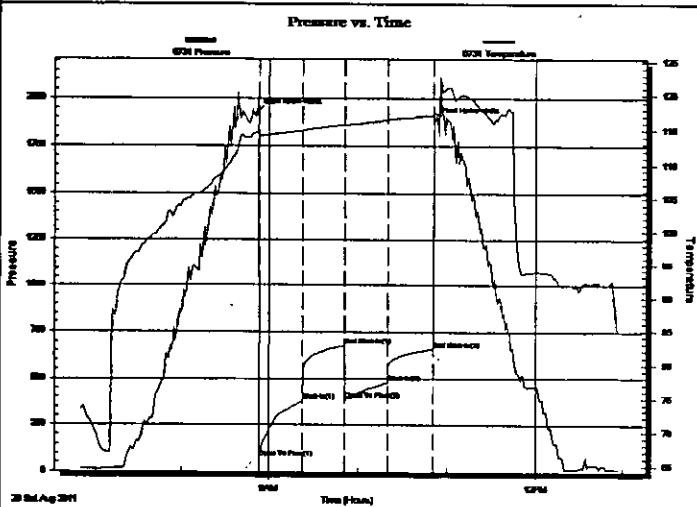
#1 Shipley 28 AD Unit  
 28/13S/31W Gove Co.  
 Job Ticket: 18714      DST#: 3  
 Test Start: 2011.08.20 @ 06:49:00

## GENERAL INFORMATION:

Formation: **Lansing H zone**  
 Deviated: No      Whipstock:      ft (KB)  
 Time Tool Opened: 08:53:30  
 Time Test Ended: 13:10:00  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ken Swinney  
 Unit No: 3345 Scott City/46  
 Interval: **4023.00 ft (KB) To 4057.00 ft (KB) (TVD)**  
 Total Depth: 4057.00 ft (KB) (TVD)  
 Reference Elevations: 2843.00 ft (KB)  
 Hole Diameter: 7.88 inches      Hole Condition: Fair      2833.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 6731**      Inside  
 Press@RunDepth: 476.16 psia @ 4053.00 ft (KB)      Capacity: 5000.00 psia  
 Start Date: 2011.08.20      End Date: 2011.08.20      Last Calib.: 2011.08.19  
 Start Time: 06:50:00      End Time: 12:57:30      Time On Btm: 2011.08.20 @ 08:51:30  
 Time Off Btm: 2011.08.20 @ 10:51:30

**TEST COMMENT:** 1ST Open      30 Minutes/Weak blow/Blow built to 3/4 inch in 2 minutes then died back to weak surface blow  
 1ST Shut In      30 Minutes/No blow back  
 2ND Open      30 Minutes/Weak surface blow/Blow died in 26 minutes  
 2ND Shut In      30 Minutes/No blow back



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1923.90         | 114.64       | Initial Hydro-static |
| 2           | 73.37           | 114.03       | Open To Flow (1)     |
| 32          | 378.51          | 114.92       | Shut-In(1)           |
| 60          | 676.38          | 115.78       | End Shut-In(1)       |
| 60          | 387.08          | 115.71       | Open To Flow (2)     |
| 89          | 476.16          | 116.47       | Shut-In(2)           |
| 120         | 656.73          | 117.23       | End Shut-In(2)       |
| 120         | 1882.93         | 117.63       | Final Hydro-static   |

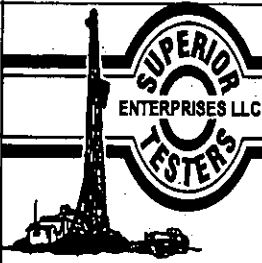
## Recovery

| Length (ft) | Description                  | Volume (bbl) |
|-------------|------------------------------|--------------|
| 120.00      | Muddy water with show of oil | 0.59         |
| 0.00        | 35% Mud 65% Water            | 0.00         |
| 822.00      | Muddy water                  | 7.79         |
| 0.00        | 10% Mud 90% Water            | 0.00         |
| 0.00        | Recovery Chlorides 47000 ppm | 0.00         |
| 0.00        | Resistivity .08 @ 86 degrees | 0.00         |

## Gas Rates

| Choke (Inches) | Pressure (psia) | Gas Rate (Mcf/d) |
|----------------|-----------------|------------------|
|                |                 |                  |





# DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration  
 8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochems

#1 Shipley 28 AD Unit  
 28/13S/31W Gove Co.  
 Job Ticket: 18714      DST#: 3  
 Test Start: 2011.08.20 @ 06:49:00

**Tool Information**

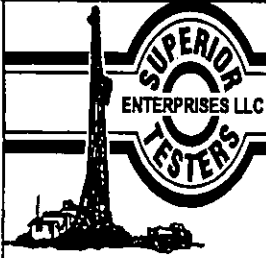
|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 3490.00 ft | Diameter: 3.80 inches | Volume: 48.96 bbl              | Tool Weight: 2000.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer: 20000.00 lb  |
| Drill Collar:             | Length: 531.14 ft  | Diameter: 2.25 inches | Volume: 2.61 bbl               | Weight to Pull Loose: 108000.0 lb  |
|                           |                    |                       | <u>Total Volume: 51.57 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 21.14 ft           |                       |                                | String Weight: Initial 76000.00 lb |
| Depth to Top Packer:      | 4023.00 ft         |                       |                                | Final 76000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 34.00 ft           |                       |                                |                                    |
| Tool Length:              | 57.00 ft           |                       |                                |                                    |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                                    |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                     |
|------------------|-------------|------------|----------|------------|------------------------------------|
| Change Over Sub  | 1.00        |            |          | 4001.00    |                                    |
| Shut-In Tool     | 5.00        |            |          | 4006.00    |                                    |
| Hydroic Tool     | 5.00        |            |          | 4011.00    |                                    |
| Jars             | 0.00        |            |          | 4011.00    |                                    |
| Safety Joint     | 2.00        |            |          | 4013.00    |                                    |
| Packer           | 5.00        |            |          | 4018.00    | 23.00      Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 4023.00    |                                    |
| Perforations     | 29.00       |            |          | 4052.00    |                                    |
| Recorder         | 1.00        | 6731       | Inside   | 4053.00    |                                    |
| Recorder         | 1.00        | 6666       | Outside  | 4054.00    |                                    |
| Bullnose         | 3.00        |            |          | 4057.00    | 34.00      Bottom Packers & Anchor |

**Total Tool Length: 57.00**





# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Ritchie Exploration

**#1 Shipley 28 AD Unit**

8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188

**28/13S/31W Gove Co.**

Job Ticket: 18714      **DST#: 3**

ATTN: Ted Jochems

Test Start: 2011.08.20 @ 06:49:00

## Mud and Cushion Information

Mud Type: Gel Chem  
 Mud Weight: 9.00 lb/gal  
 Viscosity: 59.00 sec/qt  
 Water Loss: 8.77 in<sup>3</sup>  
 Resistivity: ohm.m  
 Salinity: 2600.00 ppm  
 Filter Cake: 1.00 inches

Cushion Type:  
 Cushion Length: ft  
 Cushion Volume: bbl  
 Gas Cushion Type:  
 Gas Cushion Pressure: psia

Oil API: deg API  
 Water Salinity: ppm

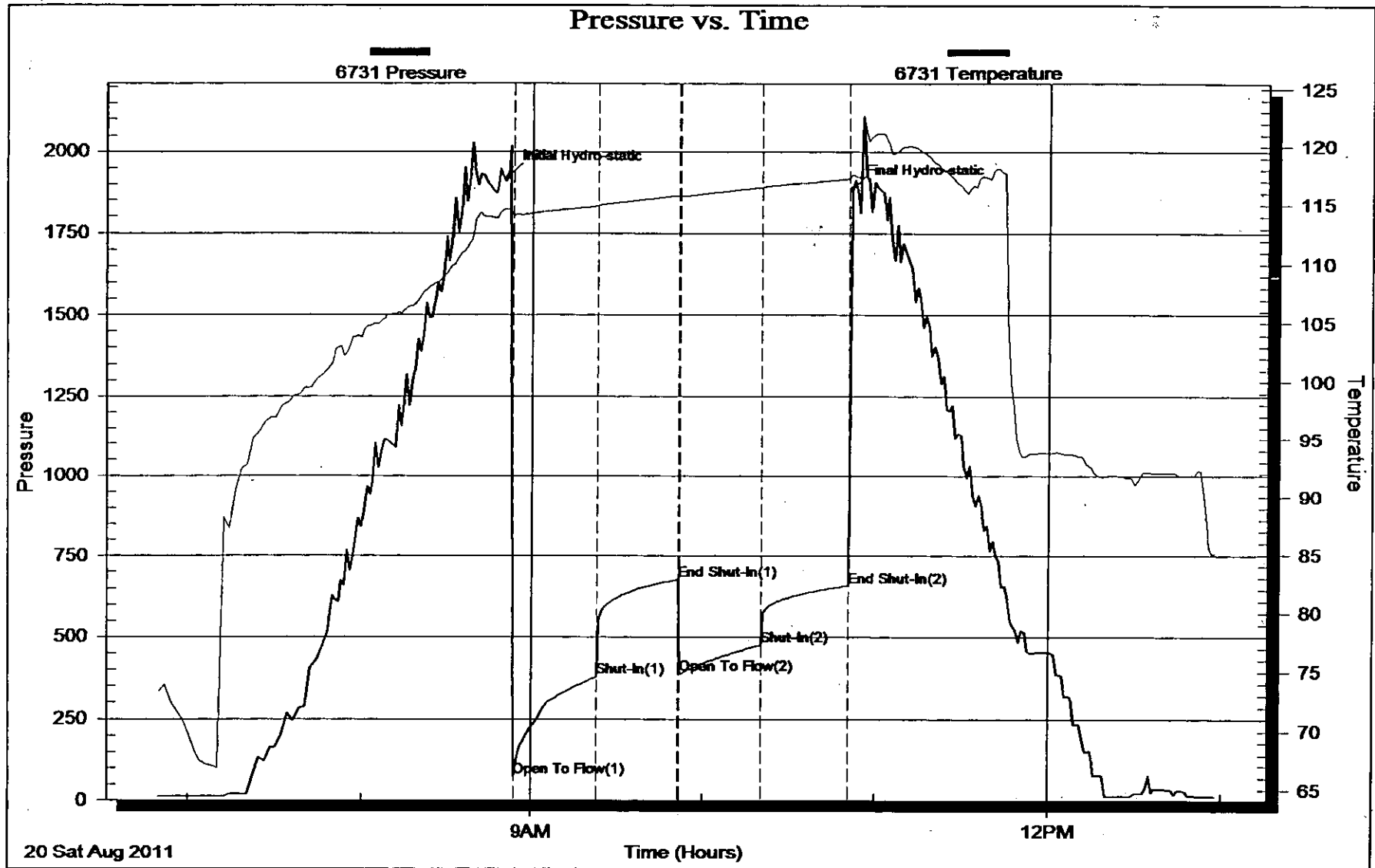
## Recovery Information

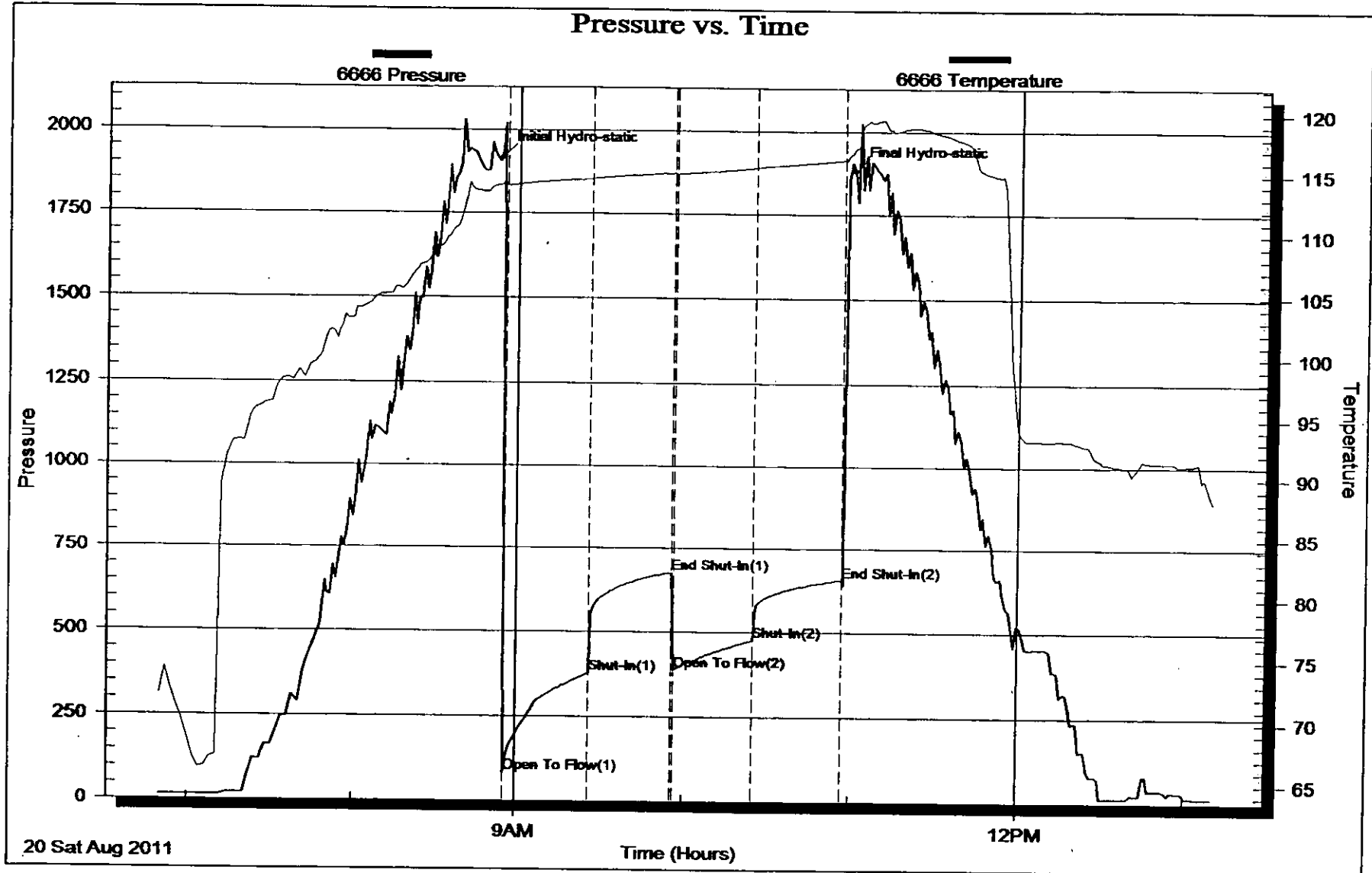
Recovery Table

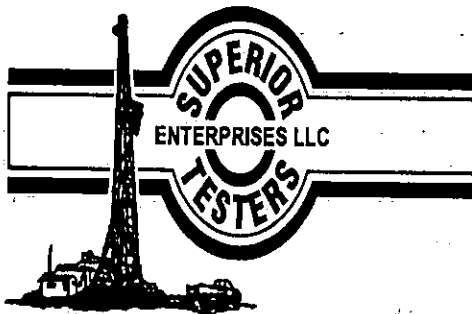
| Length<br>ft | Description                  | Volume<br>bbl |
|--------------|------------------------------|---------------|
| 120.00       | Muddy water with show of oil | 0.590         |
| 0.00         | 35% Mud 65% Water            | 0.000         |
| 822.00       | Muddy water                  | 7.785         |
| 0.00         | 10% Mud 90% Water            | 0.000         |
| 0.00         | Recovery Chlorides 47000 ppm | 0.000         |
| 0.00         | Resistivity .08 @ 86 degrees | 0.000         |

Total Length: 942.00 ft      Total Volume: 8.375 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 East 22 nd Street North  
#700 Wichita, Kansas 67278+  
3188 P.O.Box 783188

ATTN: Ted Jochems

**28/13S/31W Gove Co.**

**#1 Shipley 28 AD Unit**

Start Date: 2011.08.20 @ 20:12:00

End Date: 2011.08.21 @ 03:07:30

Job Ticket #: 18715                      DST #: 4

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.08.29 @ 12:03:16

Ritchie Exploration

#1 Shipley 28 AD Unit

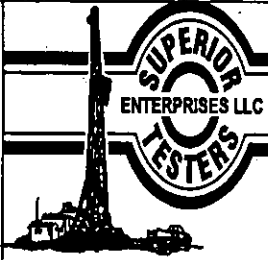
28/13S/31W Gove Co.

DST # 4

Lansing 1 zone

2011.08.20





# DRILL STEM TEST REPORT

Ritchie Exploration

#1 Shipley 28 AD Unit

8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochems

28/13S/31W Gove Co.

Job Ticket: 18715

DST#: 4

Test Start: 2011.08.20 @ 20:12:00

## GENERAL INFORMATION:

Formation: Lansing I zone

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:55:30

Time Test Ended: 03:07:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 3345 Scott City/46

Interval: 4056.00 ft (KB) To 4082.00 ft (KB) (TVD)

Total Depth: 4082.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2843.00 ft (KB)

2833.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 6731

Inside

Press@RunDepth: 1176.18 psia @ 4078.00 ft (KB)

Capacity: 5000.00 psia

Start Date: 2011.08.20

End Date:

2011.08.21

Last Calib.: 2011.08.20

Start Time: 20:13:00

End Time:

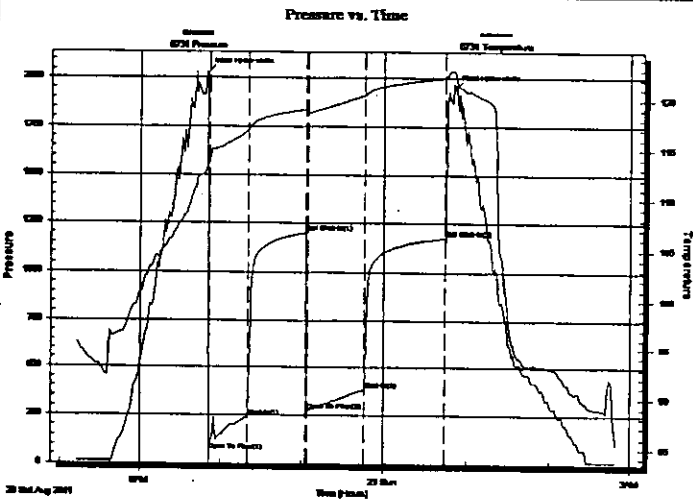
02:49:30

Time On Btm: 2011.08.20 @ 21:50:30

Time Off Btm: 2011.08.21 @ 00:51:00

## TEST COMMENT:

1ST Open 30 Minutes/Good blow /Blow built to bottom of bucket in 5 minutes  
 1ST Shut In 45 Minutes/Blow back to bottom of bucket in 17 minutes slight die off at 40 minutes  
 2ND Open 45 Minutes/Good blow /Blow built to bottom of bucket in 6 minutes  
 2ND Shut In 60 Minutes/Blow back to bottom of bucket in 13 minutes



## PRESSURE SUMMARY

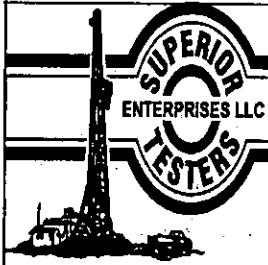
| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2026.18         | 113.34       | Initial Hydro-static |
| 1           | 66.05           | 113.88       | Open To Flow (1)     |
| 30          | 240.27          | 116.98       | Shut-In(1)           |
| 73          | 1200.39         | 119.00       | End Shut-In(1)       |
| 74          | 276.74          | 118.70       | Open To Flow (2)     |
| 116         | 383.19          | 120.47       | Shut-In(2)           |
| 174         | 1176.18         | 122.17       | End Shut-In(2)       |
| 181         | 1946.12         | 122.80       | Final Hydro-static   |

## Recovery

| Length (ft) | Description                | Volume (bbl) |
|-------------|----------------------------|--------------|
| 2375.00     | Gas in pipe                | 29.58        |
| 0.00        | Gas 100%                   | 0.00         |
| 955.00      | Slightly Mud cut Gassy Oil | 13.97        |
| 0.00        | Mud 1% Gas 29% Oil 70%     | 0.00         |
| 95.00       | Gassy Oil cut Mud          | 1.39         |
| 0.00        | Gas 15% Oil 15% Mud 70%    | 0.00         |

## Gas Rates

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



# DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration  
 8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochems

#1 Shipley 28 AD Unit  
 28/13S/31W Gove Co.  
 Job Ticket: 18715      DST#: 4  
 Test Start: 2011.08.20 @ 20:12:00

## Tool Information

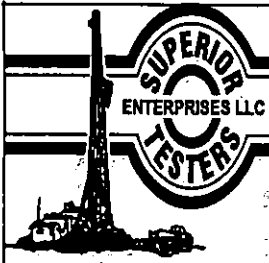
|                           |                    |                         |                   |                                    |
|---------------------------|--------------------|-------------------------|-------------------|------------------------------------|
| Drill Pipe:               | Length: 3510.00 ft | Diameter: 3.88 inches   | Volume: 51.33 bbl | Tool Weight: 2000.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches   | Volume: 0.00 bbl  | Weight set on Packer: 20000.00 lb  |
| Drill Collar:             | Length: 531.14 ft  | Diameter: 2.25 inches   | Volume: 2.61 bbl  | Weight to Pull Loose: 90000.00 lb  |
|                           |                    | Total Volume: 53.94 bbl |                   | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 8.14 ft            |                         |                   | String Weight: Initial 76000.00 lb |
| Depth to Top Packer:      | 4056.00 ft         |                         |                   | Final 80000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                         |                   |                                    |
| Interval between Packers: | 26.00 ft           |                         |                   |                                    |
| Tool Length:              | 49.00 ft           |                         |                   |                                    |
| Number of Packers:        | 2                  | Diameter: 6.75 inches   |                   |                                    |

Tool Comments:

## Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                     |
|------------------|-------------|------------|----------|------------|------------------------------------|
| Change Over Sub  | 1.00        |            |          | 4034.00    |                                    |
| Shut-in Tool     | 5.00        |            |          | 4039.00    |                                    |
| Hydroic Tool     | 5.00        |            |          | 4044.00    |                                    |
| Jars             | 0.00        |            |          | 4044.00    |                                    |
| Safety Joint     | 2.00        |            |          | 4046.00    |                                    |
| Packer           | 5.00        |            |          | 4051.00    | 23.00      Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 4056.00    |                                    |
| Perforations     | 21.00       |            |          | 4077.00    |                                    |
| Recorder         | 1.00        | 6731       | Inside   | 4078.00    |                                    |
| Recorder         | 1.00        | 6666       | Outside  | 4079.00    |                                    |
| Bullnose         | 3.00        |            |          | 4082.00    | 26.00      Bottom Packers & Anchor |

**Total Tool Length: 49.00**



# DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#1 Shipley 28 AD Unit

8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188

28/13S/31W Gove Co.

Job Ticket: 18715 DST#: 4

ATTN: Ted Jochems

Test Start: 2011.08.20 @ 20:12:00

## 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: 59.00 sec/qt          | Cushion Volume: bbl        |                 |         |
| Water Loss: 8.78 in <sup>3</sup> | Gas Cushion Type:          |                 |         |
| Resistivity: ohm.m               | Gas Cushion Pressure: psia |                 |         |
| Salinity: 2600.00 ppm            |                            |                 |         |
| Filter Cake: 1.00 inches         |                            |                 |         |

## Recovery Information

Recovery Table

| Length<br>ft | Description                    | Volume<br>bbl |
|--------------|--------------------------------|---------------|
| 2375.00      | Gas in pipe                    | 29.577        |
| 0.00         | Gas 100%                       | 0.000         |
| 955.00       | Slightly Mud cut Gassy Oil     | 13.966        |
| 0.00         | Mud 1% Gas 29% Oil 70%         | 0.000         |
| 95.00        | Gassy Oil cut Mud              | 1.389         |
| 0.00         | Gas 15% Oil 15% Mud 70%        | 0.000         |
| 0.00         | Gravity of oil corrected is 41 | 0.000         |

Total Length: 3425.00 ft      Total Volume: 44.932 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

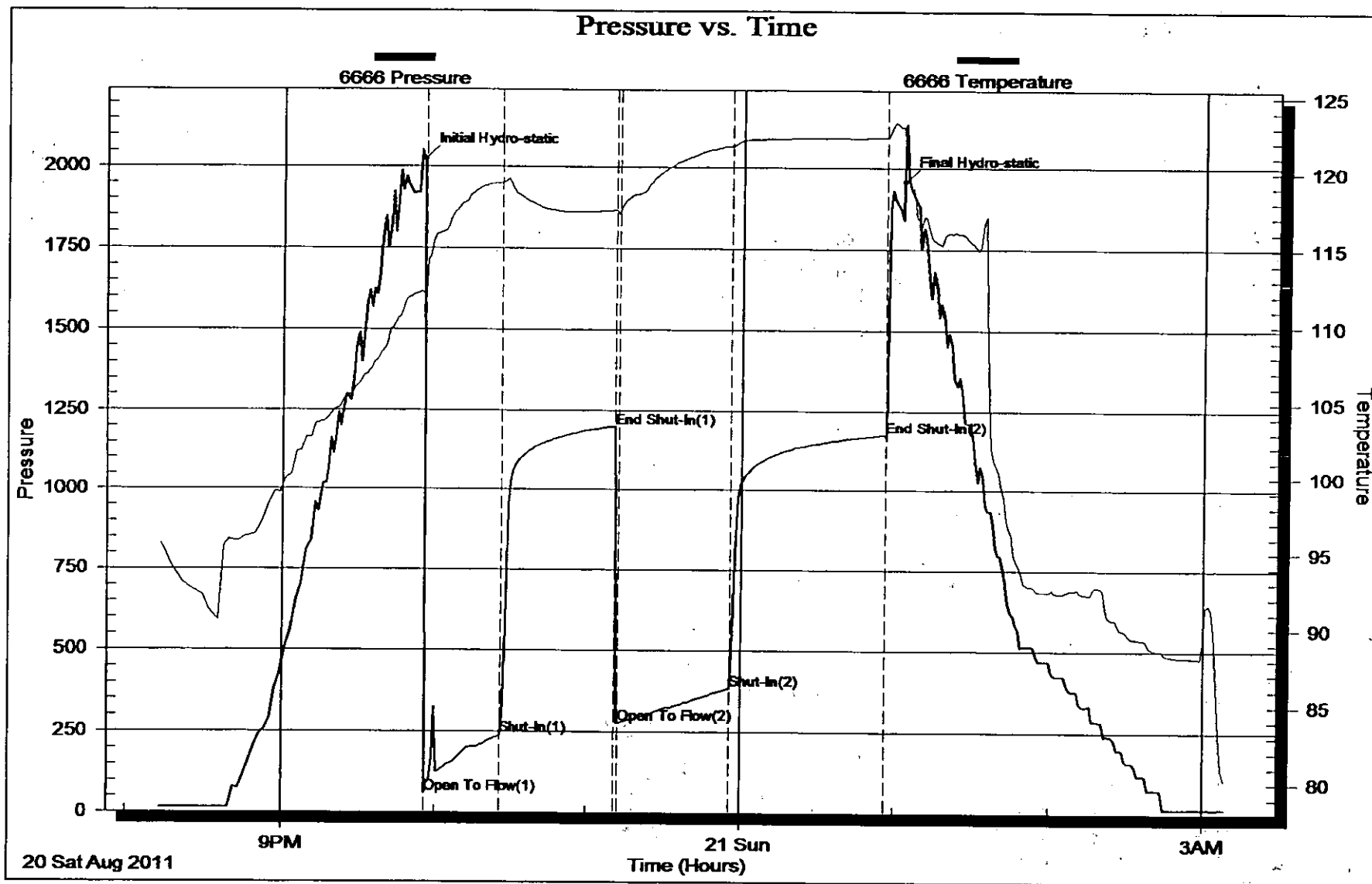
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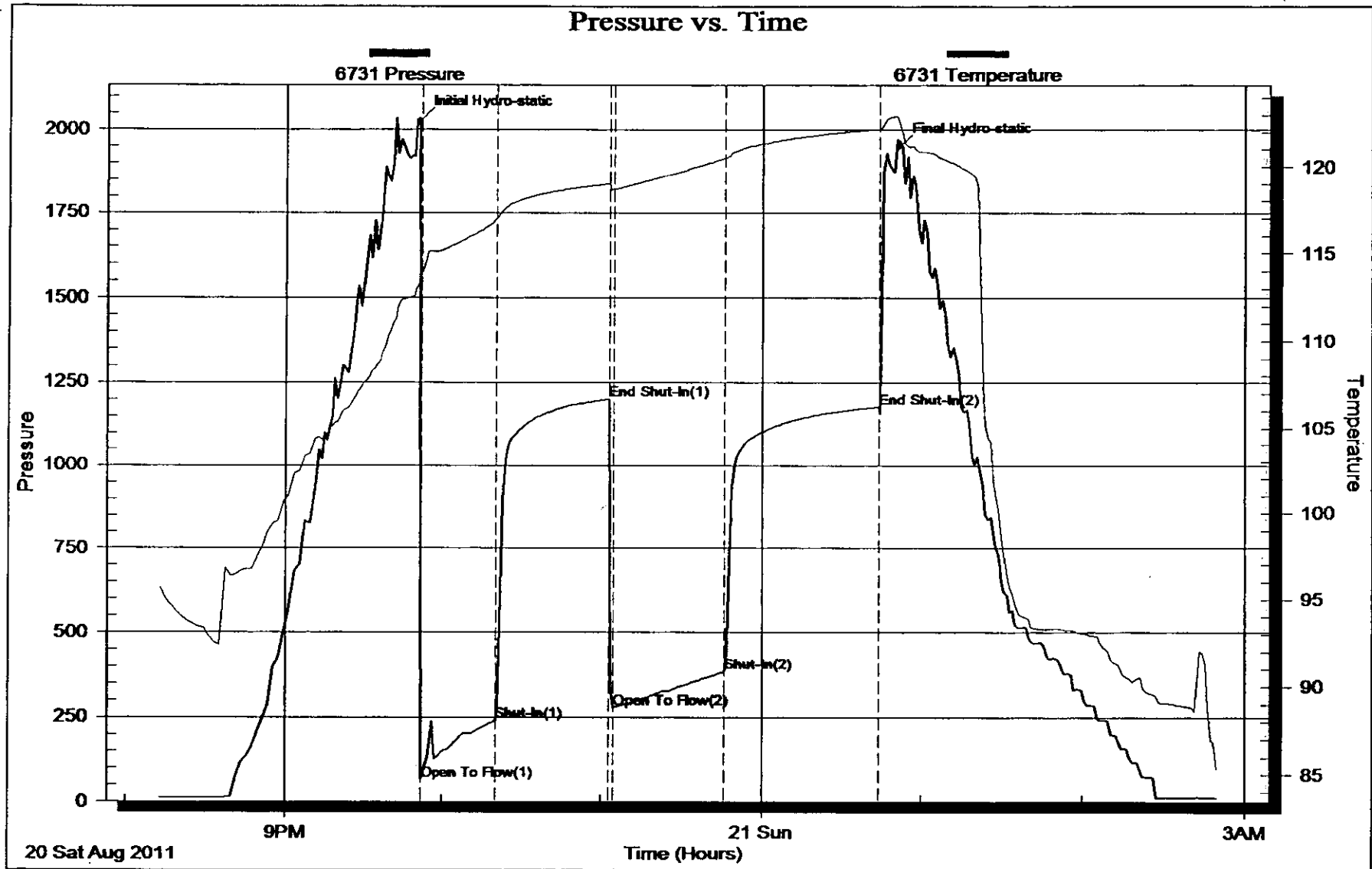
Laboratory Name:

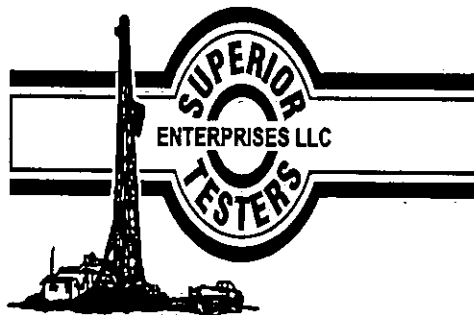
Laboratory Location:

Recovery Comments:









## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 East 22 nd Street North  
#700 Wichita, Kansas 67278+  
3188 P.O.Box 783188

ATTN: Ted Jochems

**28/13S/31W Gove Co.**

**#1 Shipley 28 AD Unit**

Start Date: 2011.08.21 @ 11:31:00

End Date: 2011.08.21 @ 17:56:00

Job Ticket #: 18716                      DST #: 5

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.08.29 @ 12:06:03

Ritchie Exploration

#1 Shipley 28 AD Unit

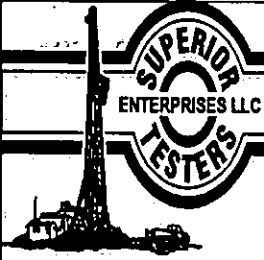
28/13S/31W Gove Co.

DST # 5

Lansing J zone

2011.08.21





# DRILL STEM TEST REPORT

Ritchie Exploration  
 8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochems

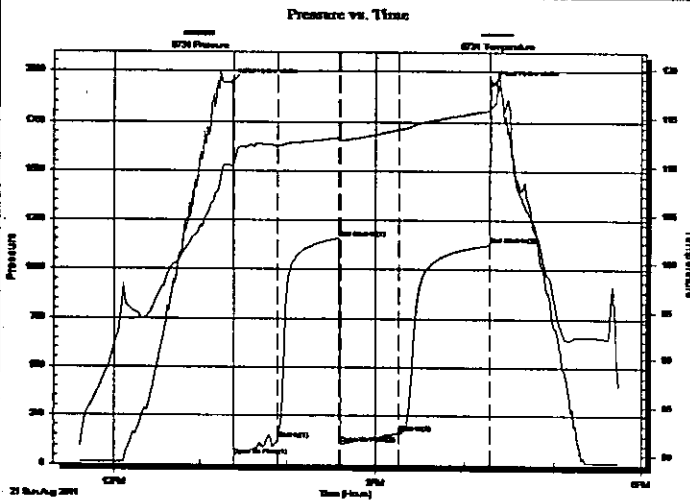
#1 Shipley 28 AD Unit  
 28/13S/31W Gove Co.  
 Job Ticket: 18716 DST#: 5  
 Test Start: 2011.08.21 @ 11:31:00

## GENERAL INFORMATION:

Formation: Lansing J zone  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 13:23:00  
 Time Test Ended: 17:56:00  
 Interval: 4082.00 ft (KB) To 4108.00 ft (KB) (TVD)  
 Total Depth: 4108.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Ken Swinney  
 Unit No: 3345 Scott City/46  
 Reference Elevations: 2843.00 ft (KB)  
 2833.00 ft (CF)  
 KB to GR/CF: 10.00 ft

Serial #: 6731 Inside  
 Press@RunDepth: 1125.27 psia @ 4104.00 ft (KB) Capacity: 5000.00 psia  
 Start Date: 2011.08.21 End Date: 2011.08.21 Last Calib.: 2011.08.20  
 Start Time: 11:37:00 End Time: 17:44:30 Time On Btm: 2011.08.21 @ 13:22:00  
 Time Off Btm: 2011.08.21 @ 16:19:00

TEST COMMENT: 1ST Open 30 Minutes/Weak blow/Blow built to 4 inches in bucket of water  
 1ST Shut In 45 Minutes/No blow back  
 2ND Open 45 Minutes/Fair blow/Blow built to 8 inches in bucket of water  
 2ND Shut In 60 Minutes/Weak surface blow back/Died in 10 minutes



## PRESSURE SUMMARY

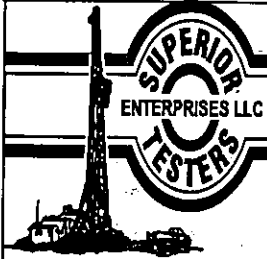
| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1941.39         | 110.11       | Initial Hydro-static |
| 2           | 41.52           | 110.66       | Open To Flow (1)     |
| 31          | 126.67          | 112.24       | Shut-In(1)           |
| 74          | 1155.77         | 113.03       | End Shut-In(1)       |
| 75          | 106.26          | 112.76       | Open To Flow (2)     |
| 114         | 160.97          | 113.87       | Shut-In(2)           |
| 175         | 1125.27         | 115.80       | End Shut-In(2)       |
| 177         | 1935.81         | 116.28       | Final Hydro-static   |

## Recovery

| Length (ft) | Description               | Volume (bbl) |
|-------------|---------------------------|--------------|
| 95.00       | Gas in pipe               | 0.47         |
| 95.00       | Oil cut muddy water       | 0.47         |
| 0.00        | Oil 10% Mud 20% Water 70% | 0.00         |
| 95.00       | Gassy oil cut mud         | 0.47         |
| 0.00        | Gas 25% Oil 25% Mud 50%   | 0.00         |
| 95.00       | Gassy oil cut mud         | 0.47         |

## Gas Rates

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



# DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration  
 8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochems

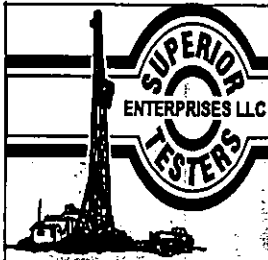
#1 Shipley 28 AD Unit  
 28/13S/31W Gove Co.  
 Job Ticket: 18716      DST#: 5  
 Test Start: 2011.08.21 @ 11:31:00

**Tool Information**

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 3553.00 ft | Diameter: 3.80 inches | Volume: 49.84 bbl              | Tool Weight: 2000.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer: 20000.00 lb  |
| Drill Collar:             | Length: 531.14 ft  | Diameter: 2.25 inches | Volume: 2.61 bbl               | Weight to Pull Loose: 100000.0 lb  |
|                           |                    |                       | <u>Total Volume: 52.45 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 25.14 ft           |                       |                                | String Weight: Initial 76000.00 lb |
| Depth to Top Packer:      | 4082.00 ft         |                       |                                | Final 76000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 26.00 ft           |                       |                                |                                    |
| Tool Length:              | 49.00 ft           |                       |                                |                                    |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                                    |
| Tool Comments:            |                    |                       |                                |                                    |

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                     |
|------------------|-------------|------------|----------|------------|------------------------------------|
| Change Over Sub  | 1.00        |            |          | 4060.00    |                                    |
| Shut-In Tool     | 5.00        |            |          | 4065.00    |                                    |
| Hydroic Tool     | 5.00        |            |          | 4070.00    |                                    |
| Jars             | 0.00        |            |          | 4070.00    |                                    |
| Safety Joint     | 2.00        |            |          | 4072.00    |                                    |
| Packer           | 5.00        |            |          | 4077.00    | 23.00      Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 4082.00    |                                    |
| Perforations     | 21.00       |            |          | 4103.00    |                                    |
| Recorder         | 1.00        | 6731       | Inside   | 4104.00    |                                    |
| Recorder         | 1.00        | 6666       | Outside  | 4105.00    |                                    |
| Bullnose         | 3.00        |            |          | 4108.00    | 26.00      Bottom Packers & Anchor |

**Total Tool Length: 49.00**



# DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#1 Shipley 28 AD Unit

8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188

28/13S/31W Gove Co.

Job Ticket: 18716 DST#: 5

ATTN: Ted Jochens

Test Start: 2011.08.21 @ 11:31:00

## 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: 67.00 sec/qt

Cushion Volume:

bbl

Water Loss: 11.17 in\*

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psia

Salinity: 3300.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description               | Volume<br>bbl |
|--------------|---------------------------|---------------|
| 95.00        | Gas in pipe               | 0.467         |
| 95.00        | Oil cut muddy w ater      | 0.467         |
| 0.00         | Oil 10% Mud 20% Water 70% | 0.000         |
| 95.00        | Gassy oil cut mud         | 0.467         |
| 0.00         | Gas 25% Oil 25% Mud 50%   | 0.000         |
| 95.00        | Gassy oil cut mud         | 0.467         |
| 0.00         | Gas 15% Oil 20% Mud 65%   | 0.000         |

Total Length: 380.00 ft

Total Volume: 1.868 bbl

Num Fluid Samples: 0

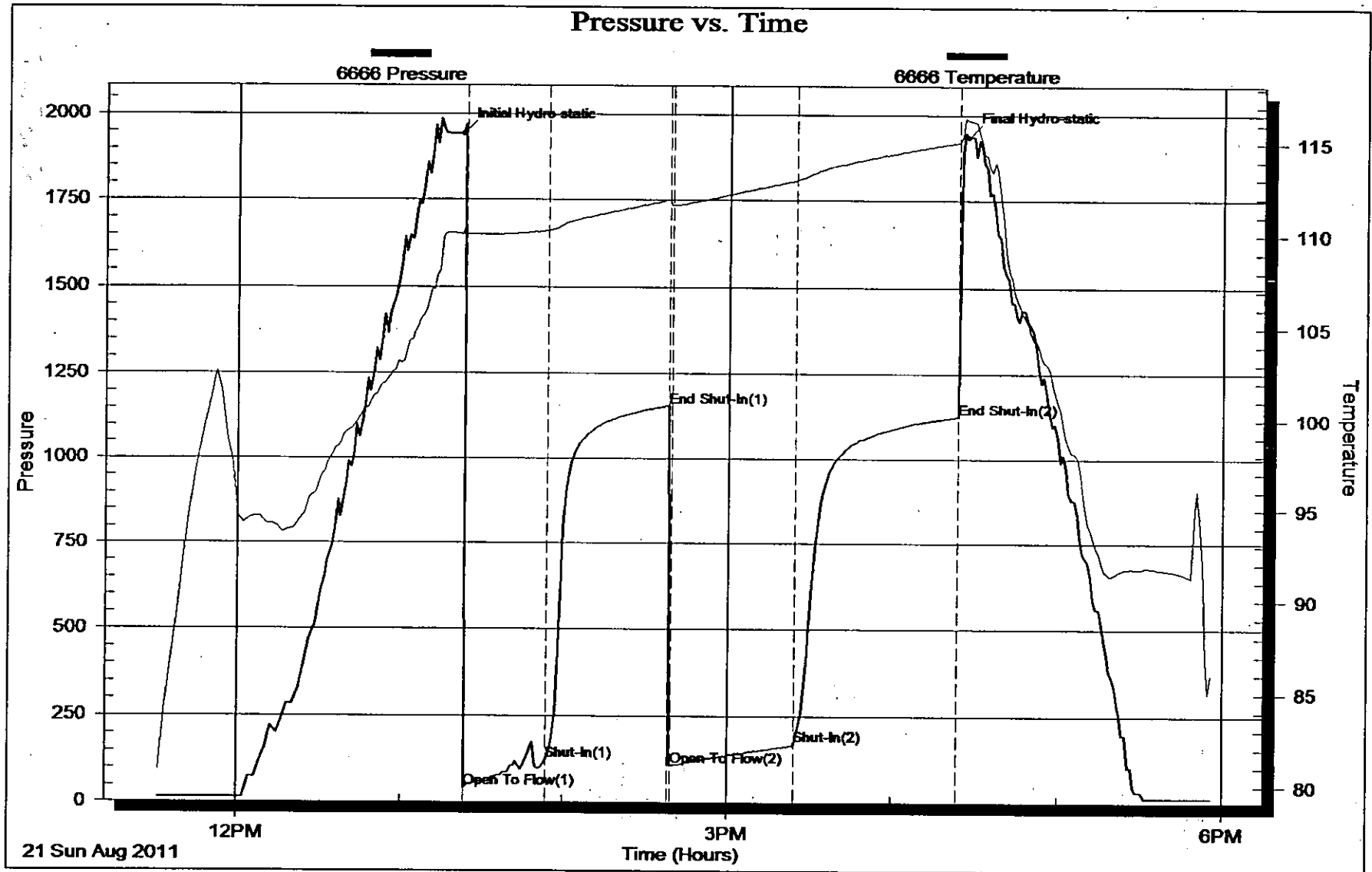
Num Gas Bombs: 0

Serial #:

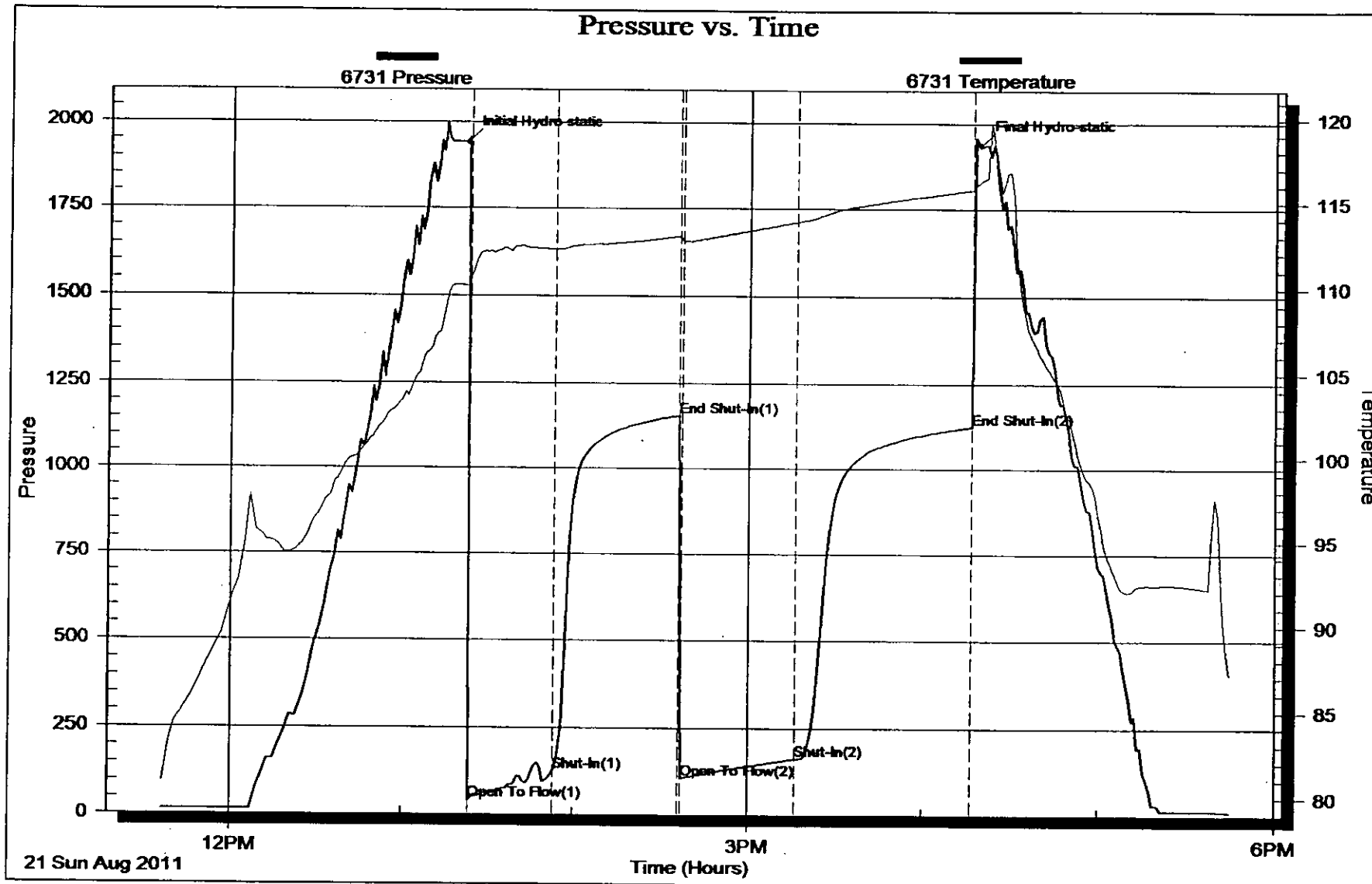
Laboratory Name:

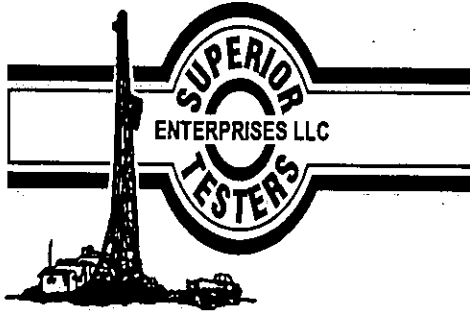
Laboratory Location:

Recovery Comments:









## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 East 22 nd Street North  
#700 Wichita, Kansas 67278+  
3188 P.O.Box 783188

ATTN: Ted Jochems

**28/13S/31W Gove Co.**

**#1 Shipley 28 AD Unit**

Start Date: 2011.08.22 @ 06:29:00

End Date: 2011.08.22 @ 12:12:00

Job Ticket #: 18717                      DST #: 6

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.08.29 @ 12:06:13

Ritchie Exploration

#1 Shipley 28 AD Unit

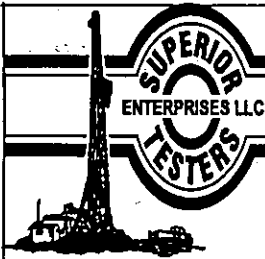
28/13S/31W Gove Co.

DST # 6

Lansing K&L zones

2011.08.22





# DRILL STEM TEST REPORT

Ritchie Exploration  
 8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochems

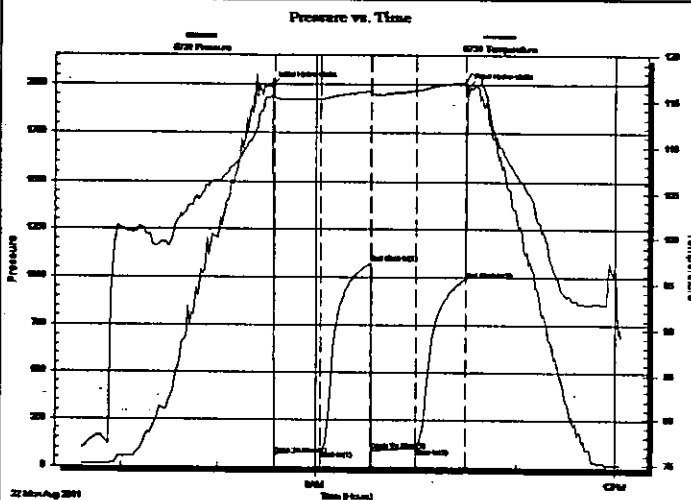
**#1 Shipley 28 AD Unit**  
**28/13S/31W Gove Co.**  
 Job Ticket: 18717      DST#: 6  
 Test Start: 2011.08.22 @ 06:29:00

## GENERAL INFORMATION:

Formation: **Lansing K&L zones**  
 Deviated: **No Whipstock:**                      ft (KB)  
 Time Tool Opened: 08:33:30  
 Time Test Ended: 12:12:00  
 Interval: **4112.00 ft (KB) To 4185.00 ft (KB) (TVD)**  
 Total Depth: **4185.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**  
 Test Type: **Conventional Bottom Hole (Initial)**  
 Tester: **Ken Swinney**  
 Unit No: **3345 Scott City/46**  
 Reference Elevations: **2843.00 ft (KB)**  
    **2833.00 ft (CF)**  
 KB to GR/CF: **10.00 ft**

**Serial #: 6731**      Inside  
 Press@RunDepth: **989.80 psia @ 4178.00 ft (KB)**      Capacity: **5000.00 psia**  
 Start Date: **2011.08.22**      End Date: **2011.08.22**      Last Calib.: **2011.08.21**  
 Start Time: **06:36:00**      End Time: **12:03:30**      Time On Btm: **2011.08.22 @ 08:33:00**  
    **12:03:30**      Time Off Btm: **2011.08.22 @ 10:30:30**

**TEST COMMENT:** 1ST Open      30 Minutes/Weak surface blow /Blow died in 18 minutes  
 1ST Shut In      30 Minutes/No blow back  
 2ND Open      30 Minutes/Weak surface blow /Blow died in 5 minutes  
 2ND Shut In      30 Minutes/No blow back



## PRESSURE SUMMARY

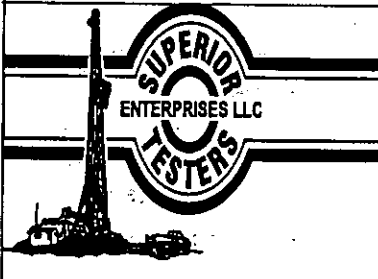
| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1990.98         | 115.45       | Initial Hydro-static |
| 2           | 64.34           | 115.42       | Open To Flow (1)     |
| 30          | 84.42           | 115.25       | Shut-In(1)           |
| 60          | 1074.64         | 116.07       | End Shut-In(1)       |
| 61          | 91.23           | 115.81       | Open To Flow (2)     |
| 87          | 102.45          | 116.14       | Shut-In(2)           |
| 117         | 989.80          | 117.11       | End Shut-In(2)       |
| 118         | 1987.24         | 117.40       | Final Hydro-static   |

## Recovery

| Length (ft) | Description                  | Volume (bbl) |
|-------------|------------------------------|--------------|
| 95.00       | Mud with show of oil in tool | 0.47         |
|             |                              |              |
|             |                              |              |
|             |                              |              |
|             |                              |              |

## Gas Rates

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



# DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration  
 8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochens

#1 Shipley 28 AD Unit  
 28/13S/31W Gove Co.  
 Job Ticket: 18717      DST#: 6  
 Test Start: 2011.08.22 @ 06:29:00

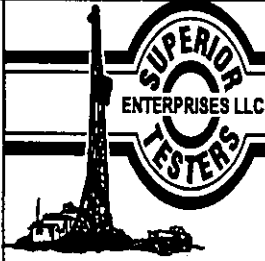
## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 3586.00 ft | Diameter: 3.80 inches | Volume: 50.30 bbl              | Tool Weight: 2000.00 lb            |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer: 20000.00 lb  |
| Drill Collar:             | Length: 531.14 ft  | Diameter: 2.25 inches | Volume: 2.61 bbl               | Weight to Pull Loose: 105000.0 lb  |
|                           |                    |                       | <u>Total Volume: 52.91 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 28.14 ft           |                       |                                | String Weight: Initial 77000.00 lb |
| Depth to Top Packer:      | 4112.00 ft         |                       |                                | Final 77000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 72.00 ft           |                       |                                |                                    |
| Tool Length:              | 95.00 ft           |                       |                                |                                    |
| Number of Packers:        | 2                  | Diameter: 6.75 inches |                                |                                    |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                     |
|------------------|-------------|------------|----------|------------|------------------------------------|
| Change Over Sub  | 1.00        |            |          | 4090.00    |                                    |
| Shut-In Tool     | 5.00        |            |          | 4095.00    |                                    |
| Hydroic Tool     | 5.00        |            |          | 4100.00    |                                    |
| Jars             | 0.00        |            |          | 4100.00    |                                    |
| Safety Joint     | 2.00        |            |          | 4102.00    |                                    |
| Packer           | 5.00        |            |          | 4107.00    | 23.00      Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 4112.00    |                                    |
| Perforations     | 4.00        |            |          | 4116.00    |                                    |
| Change Over Sub  | 0.65        |            |          | 4116.65    |                                    |
| Drill Pipe       | 31.70       |            |          | 4148.35    |                                    |
| Change Over Sub  | 0.65        |            |          | 4149.00    |                                    |
| Perforations     | 28.00       |            |          | 4177.00    |                                    |
| Recorder         | 1.00        | 6731       | Inside   | 4178.00    |                                    |
| Recorder         | 1.00        | 6666       | Outside  | 4179.00    |                                    |
| Bullnose         | 5.00        |            |          | 4184.00    | 72.00      Bottom Packers & Anchor |

**Total Tool Length: 95.00**



# DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration

#1 Shipley 28 AD Unit

8100 East 22 nd Street North  
#700 Wichita, Kansas 67278+  
3188 P.O.Box 783188  
ATTN: Ted Jochems

28/13S/31W Gove Co.  
Job Ticket: 18717      DST#: 6  
Test Start: 2011.08.22 @ 06:29:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 54.00 sec/qt  
Water Loss: 7.98 in\*  
Resistivity: ohm.m  
Salinity: 3000.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psia

Oil API: deg API  
Water Salinity: ppm

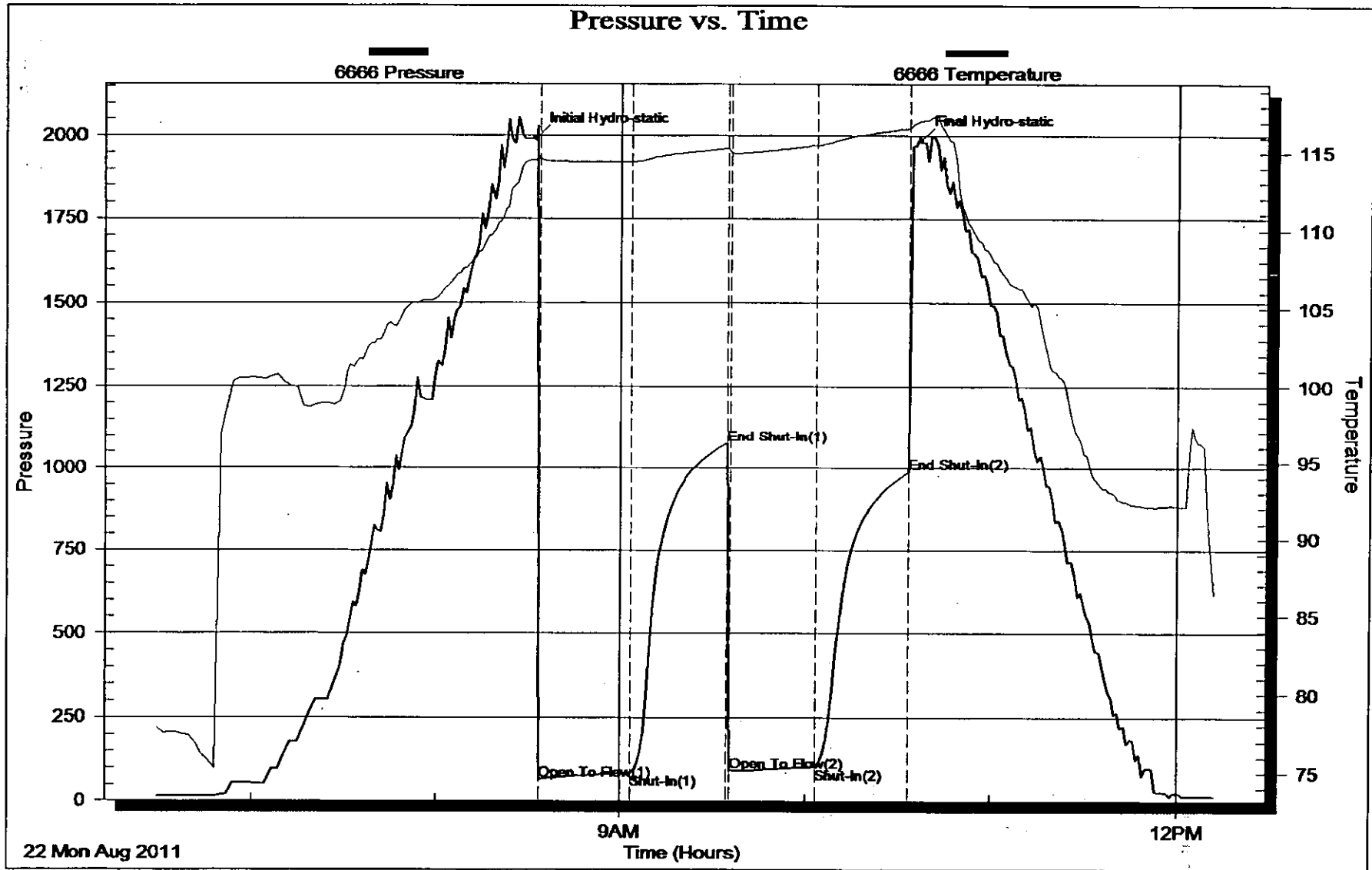
## Recovery Information

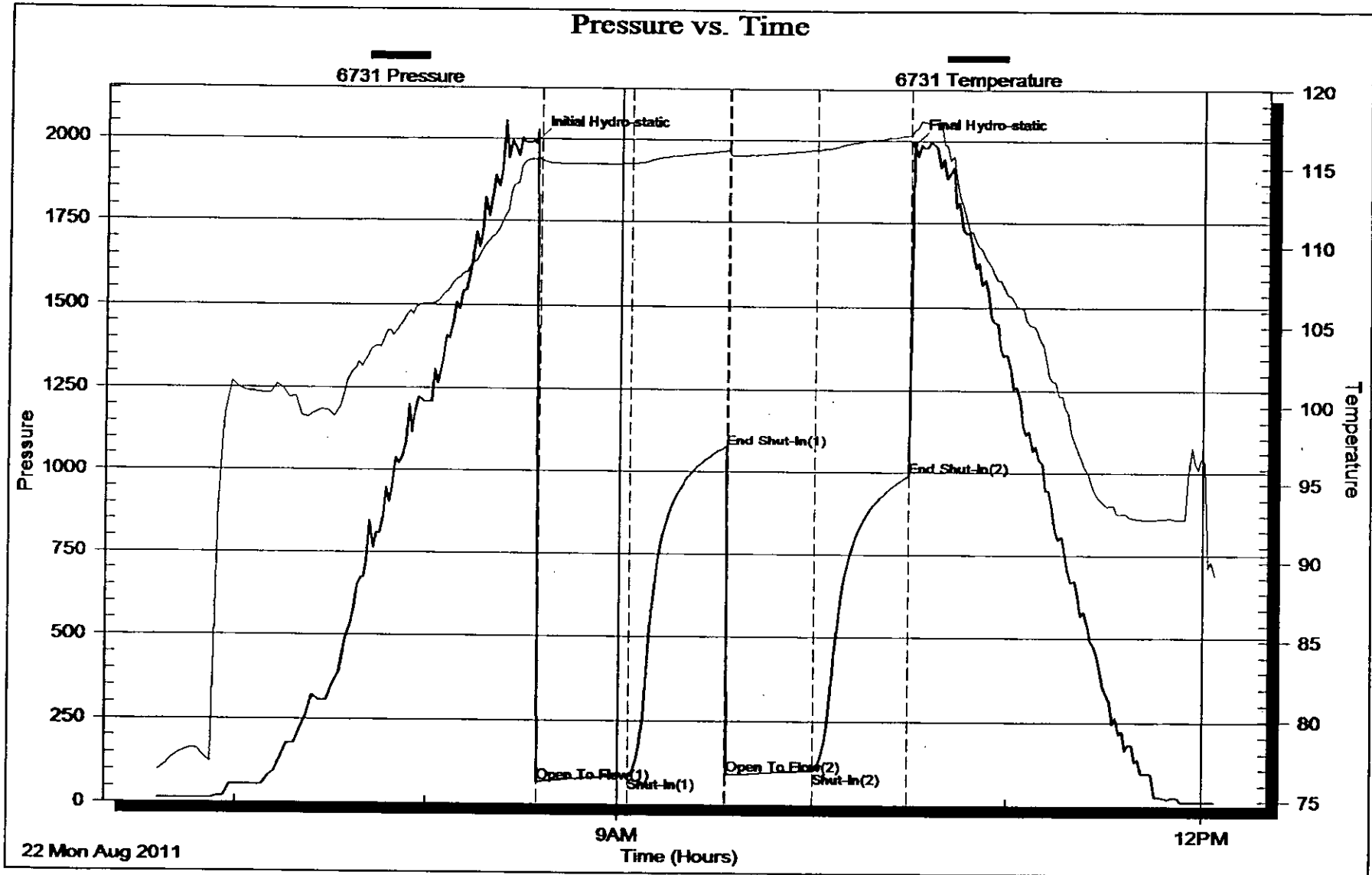
Recovery Table

| Length<br>ft | Description                  | Volume<br>bbl |
|--------------|------------------------------|---------------|
| 95.00        | Mud with show of oil in tool | 0.467         |

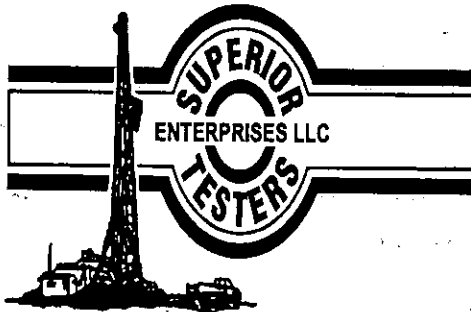
Total Length: 95.00 ft      Total Volume: 0.467 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
Laboratory Name:      Laboratory Location:  
Recovery Comments:









## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 East 22 nd Street North  
#700 Wichita, Kansas 67278+  
3188 P.O.Box 783188

ATTN: Ted Jochems

**28/13S/31W Gove Co.**

**#1 Shibley 28 AD Unit**

Start Date: 2011.08.23 @ 14:05:00

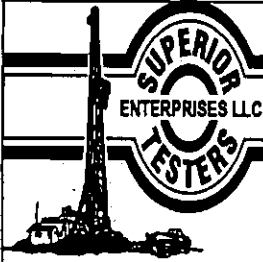
End Date: 2011.08.23 @ 23:23:00

Job Ticket #: 18718                      DST #: 7

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.08.29 @ -12:06:26

Ritchie Exploration #1 Shibley 28 AD Unit 28/13S/31W Gove Co. DST # 7 Myrick/Fort Scott 2011.08.23



# DRILL STEM TEST REPORT

Ritchie Exploration

#1 Shipley 28 AD Unit

8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochems

28/13S/31W Gove Co.

Job Ticket: 18718      DST#: 7

Test Start: 2011.08.23 @ 14:05:00

## GENERAL INFORMATION:

Formation: Myrick/Fort Scott

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:05:00

Time Test Ended: 23:23:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 3345 Scott City/46

Interval: 4336.00 ft (KB) To 4388.00 ft (KB) (TVD)

Total Depth: 4388.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2843.00 ft (KB)

2833.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 6666 Outside

Press@RunDepth: 583.68 psia @ 4384.96 ft (KB)

Start Date: 2011.08.23

End Date: 2011.08.23

Start Time: 14:06:00

End Time: 23:23:00

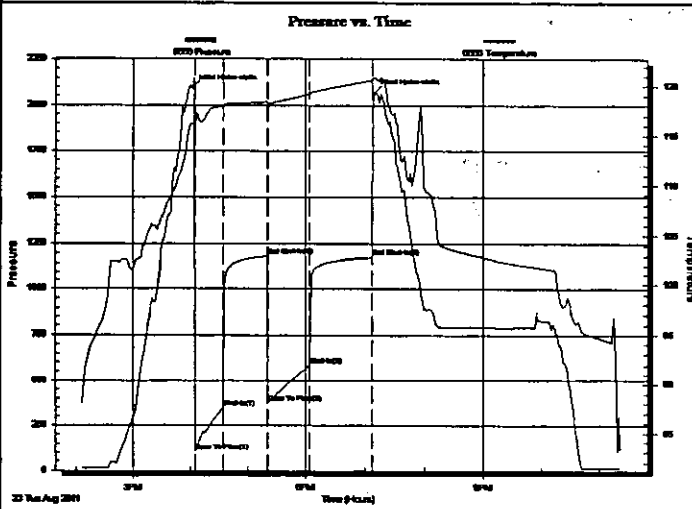
Capacity: 5000.00 psia

Last Calib.: 2011.08.22

Time On Btm: 2011.08.23 @ 16:02:00

Time Off Btm: 2011.08.23 @ 19:09:30

TEST COMMENT: 1ST Open 30 Minutes/Strong blow /Blow to bottom of bucket in 3 minutes/Gas to surface in 9 minutes  
 1ST Shut In 45 Minutes/Blow back to bottom of bucket in 22 minutes  
 2ND Open 45 Minutes/Fair blow /Blow built to 5 inches in 10 minutes/Started to die back after 25 minutes/Died back to 3 inches



## PRESSURE SUMMARY

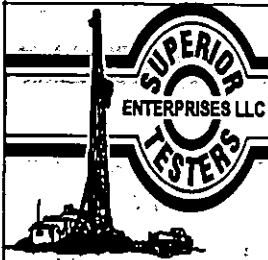
| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2092.09         | 116.13       | Initial Hydro-static |
| 3           | 104.29          | 115.77       | Open To Flow (1)     |
| 33          | 349.88          | 117.95       | Shut-In(1)           |
| 77          | 1184.12         | 118.44       | End Shut-In(1)       |
| 78          | 374.35          | 118.22       | Open To Flow (2)     |
| 122         | 583.68          | 119.14       | Shut-In(2)           |
| 186         | 1177.91         | 120.58       | End Shut-In(2)       |
| 188         | 2067.18         | 120.87       | Final Hydro-static   |

## Recovery

| Length (ft) | Description                 | Volume (bbl) |
|-------------|-----------------------------|--------------|
| 1615.00     | Slightly mud cut gassy oil  | 18.46        |
| 0.00        | Mud 5% Gas 25% Oil 70%      | 0.00         |
| 95.00       | Muddy Oil                   | 1.39         |
| 0.00        | 40% Mud 60% Oil             | 0.00         |
| 0.00        | Gravity of oil corrected 35 | 0.00         |

## Gas Rates

|                | Choke (inches) | Pressure (psia) | Gas Rate (Mcf/d) |
|----------------|----------------|-----------------|------------------|
| First Gas Rate | 0.13           | 6.10            | 2.28             |



# DRILL STEM TEST REPORT

Ritchie Exploration

#1 Shipley 28 AD Unit

8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jocherns

28/13S/31W Gove Co.

Job Ticket: 18718

DST#: 7

Test Start: 2011.08.23 @ 14:05:00

## GENERAL INFORMATION:

Formation: Myrick/Fort Scott

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:05:00

Time Test Ended: 23:23:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 3345 Scott City/46

Interval: 4336.00 ft (KB) To 4388.00 ft (KB) (TVD)

Total Depth: 4388.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2843.00 ft (KB)

2833.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 6731

Inside

Press@RunDepth: 1177.39 psia @ 4383.96 ft (KB)

Start Date: 2011.08.23

End Date:

2011.08.23

Start Time: 14:11:00

End Time:

23:04:00

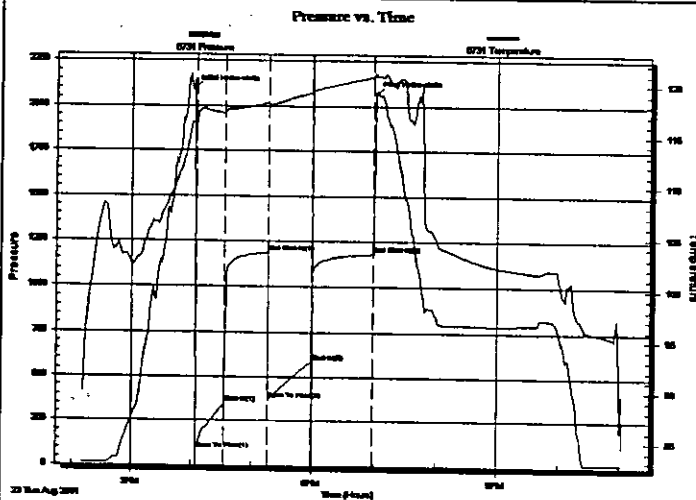
Capacity: 5000.00 psia

Last Calib.: 2011.08.22

Time On Btm: 2011.08.23 @ 16:02:00

Time Off Btm: 2011.08.23 @ 19:01:30

TEST COMMENT: 1ST Open 30 Minutes/Strong blow/Blow to bottom of bucket in 3 minutes/Gas to surface in 9 minutes  
 1ST Shut In 45 Minutes/Blow back to bottom of bucket in 22 minutes  
 2ND Open 45 Minutes/Fair blow/Blow built to 5 inches in 10 minutes/Started to die back after 25 minutes/Died back to 3 inches



## PRESSURE SUMMARY

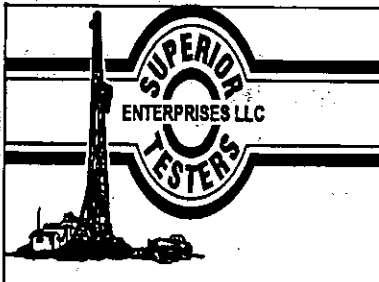
| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2090.29         | 116.33       | Initial Hydro-static |
| 3           | 90.84           | 115.89       | Open To Flow (1)     |
| 31          | 349.68          | 117.29       | Shut-In(1)           |
| 74          | 1183.53         | 118.29       | End Shut-In(1)       |
| 74          | 371.43          | 118.09       | Open To Flow (2)     |
| 117         | 584.00          | 119.26       | Shut-In(2)           |
| 178         | 1177.39         | 120.81       | End Shut-In(2)       |
| 180         | 2066.00         | 121.17       | Final Hydro-static   |

## Recovery

| Length (ft) | Description                 | Volume (bbl) |
|-------------|-----------------------------|--------------|
| 1615.00     | Slightly mud cut gassy oil  | 18.46        |
| 0.00        | Mud 5% Gas 25% Oil 70%      | 0.00         |
| 95.00       | Muddy Oil                   | 1.39         |
| 0.00        | 40% Mud 60% Oil             | 0.00         |
| 0.00        | Gravity of oil corrected 35 | 0.00         |

## Gas Rates

|                | Choke (inches) | Pressure (psia) | Gas Rate (Mcf/d) |
|----------------|----------------|-----------------|------------------|
| First Gas Rate | 0.13           | 6.10            | 2.28             |



# DRILL STEM TEST REPORT

-TOOL DIAGRAM

Ritchie Exploration  
 8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochems

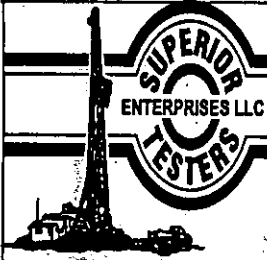
#1 Shipley 28 AD Unit  
 28/13S/31W Gove Co.  
 Job Ticket: 18718      DST#: 7  
 Test Start: 2011.08.23 @ 14:05:00

## Tool Information

|                                    |                    |                       |                                |                        |             |
|------------------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:                        | Length: 3806.00 ft | Diameter: 3.88 inches | Volume: 55.66 bbl              | Tool Weight:           | 2000.00 lb  |
| Heavy Wt. Pipe:                    | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer:  | 20000.00 lb |
| Drill Collar:                      | Length: 531.14 ft  | Diameter: 2.25 inches | Volume: 2.61 bbl               | Weight to Pull Loose:  | 105000.0 lb |
|                                    |                    |                       | <u>Total Volume: 58.27 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:               | 24.14 ft           |                       |                                | String Weight: Initial | 80000.00 lb |
| Depth to Top Packer:               | 4336.00 ft         |                       |                                | Final                  | 85000.00 lb |
| Depth to Bottom Packer:            | ft                 |                       |                                |                        |             |
| Interval between Packers:          | 51.96 ft           |                       |                                |                        |             |
| Tool Length:                       | 74.96 ft           |                       |                                |                        |             |
| Number of Packers:                 | 2                  | Diameter: 6.75 inches |                                |                        |             |
| Tool Comments: Circulating sub Yes |                    |                       |                                |                        |             |

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                     |
|------------------|-------------|------------|----------|------------|------------------------------------|
| Change Over Sub  | 1.00        |            |          | 4314.00    |                                    |
| Shut-In Tool     | 5.00        |            |          | 4319.00    |                                    |
| Hydroic Tool     | 5.00        |            |          | 4324.00    |                                    |
| Jars             | 0.00        |            |          | 4324.00    |                                    |
| Safety Joint     | 2.00        |            |          | 4326.00    |                                    |
| Packer           | 5.00        |            |          | 4331.00    | 23.00      Bottom Of Top Packer    |
| Packer           | 5.00        |            |          | 4336.00    |                                    |
| Perforations     | 4.00        |            |          | 4340.00    |                                    |
| Change Over Sub  | 0.63        |            |          | 4340.63    |                                    |
| Drill Pipe       | 31.70       |            |          | 4372.33    |                                    |
| Change Over Sub  | 0.63        |            |          | 4372.96    |                                    |
| Perforations     | 10.00       |            |          | 4382.96    |                                    |
| Recorder         | 1.00        | 6731       | Inside   | 4383.96    |                                    |
| Recorder         | 1.00        | 6666       | Outside  | 4384.96    |                                    |
| Bullnose         | 3.00        |            |          | 4387.96    | 51.96      Bottom Packers & Anchor |

**Total Tool Length: 74.96**



# DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration  
 8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochems

#1 Shipley 28 AD Unit  
 28/13S/31W Gove Co.  
 Job Ticket: 18718 DST#:7  
 Test Start: 2011.08.23 @ 14:05:00

## 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: 72.00 sec/qt          | Cushion Volume: bbl        |                 |         |
| Water Loss: 7.19 in <sup>3</sup> | Gas Cushion Type:          |                 |         |
| Resistivity: ohm.m               | Gas Cushion Pressure: psia |                 |         |
| Salinity: 2800.00 ppm            |                            |                 |         |
| Filter Cake: 1.00 inches         |                            |                 |         |

## Recovery Information

Recovery Table

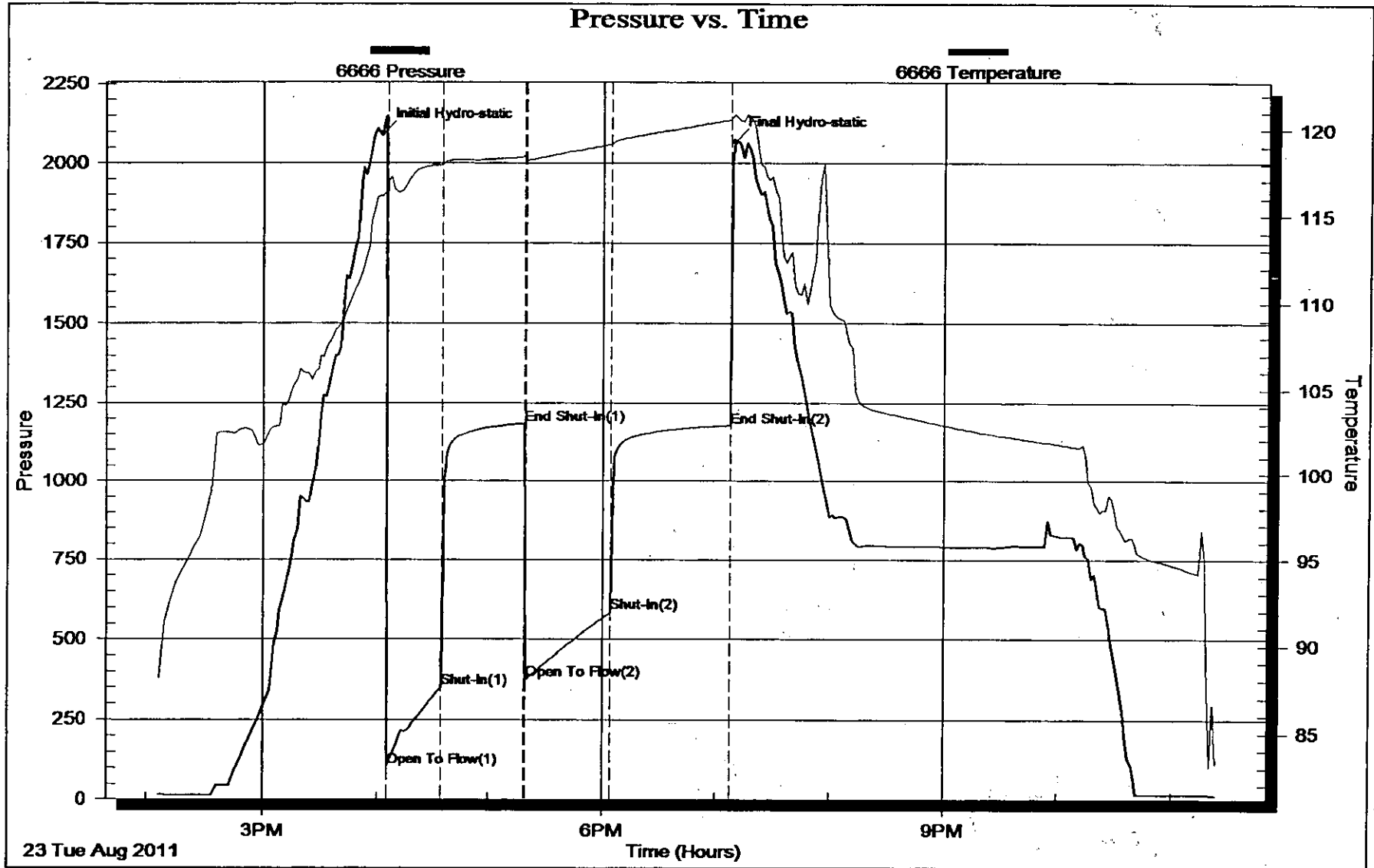
| Length<br>ft | Description                 | Volume<br>bbl |
|--------------|-----------------------------|---------------|
| 1615.00      | Slightly mud cut gassy oil  | 18.463        |
| 0.00         | Mud 5% Gas 25% Oil 70%      | 0.000         |
| 95.00        | Muddy Oil                   | 1.389         |
| 0.00         | 40% Mud 60% Oil             | 0.000         |
| 0.00         | Gravity of oil corrected 35 | 0.000         |

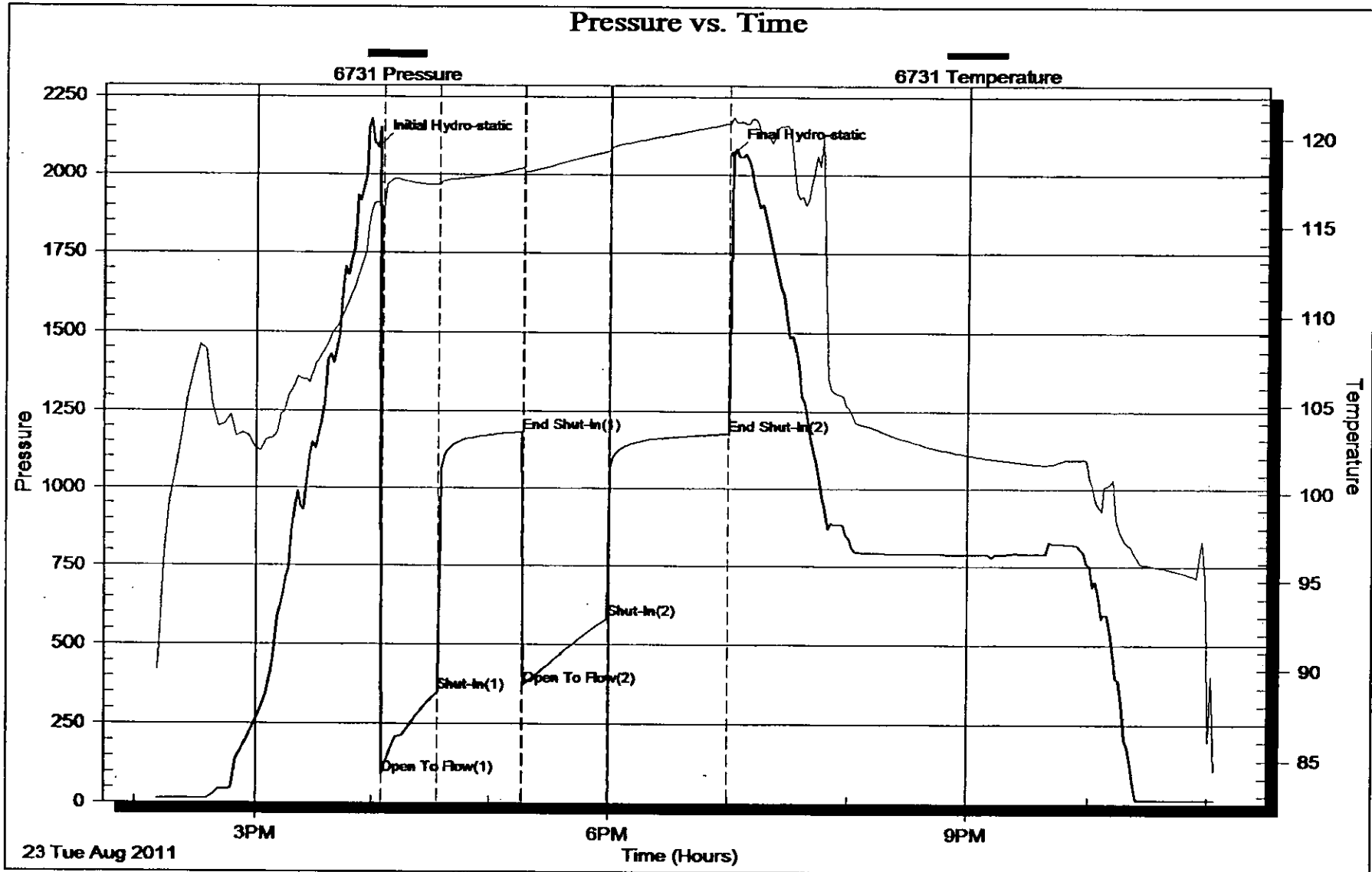
Total Length: 1710.00 ft      Total Volume: 19.852 bbl

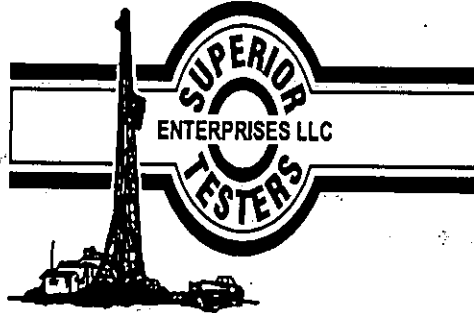
Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments: Circulating sub yes







## DRILL STEM TEST REPORT

Prepared For: **Ritchie Exploration**

8100 East 22 nd Street North  
#700 Wichita, Kansas 67278+  
3188 P.O.Box 783188

ATTN: Ted Jochems

**28/13S/31W Gove Co.**

**#1 Shipley 28 AD Unit**

Start Date: 2011.08.24 @ 10:21:00

End Date: 2011.08.24 @ 16:14:00

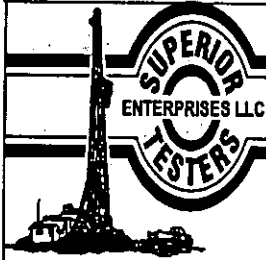
Job Ticket #: 18719                      DST #: 8

Superior Testers Enterprises LLC  
PO Box 138 Great Bend KS 67530  
1-800-792-6902

Printed: 2011.08.29 @ 12:00:45

Ritchie Exploration    #1 Shipley 28 AD Unit    28/13S/31W Gove Co.    DST # 8    Johnson    2011.08.24





# DRILL STEM TEST REPORT

Ritchie Exploration  
 8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochems

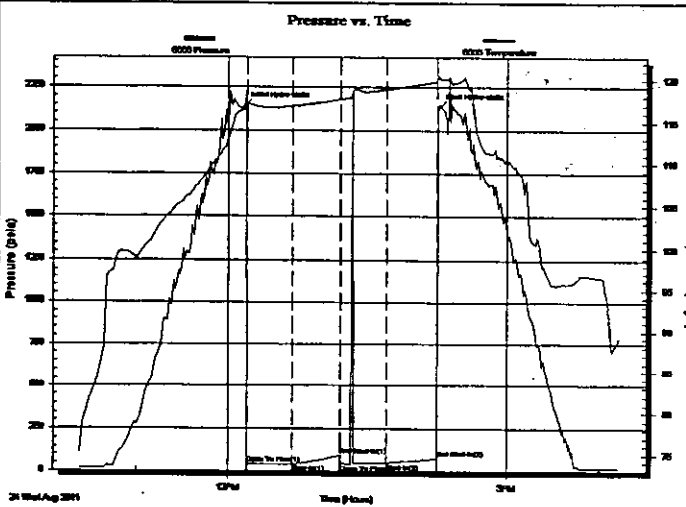
**#1 Shipley 28 AD Unit**  
**28/13S/31W Gove Co.**  
 Job Ticket: 18719      DST#: 8  
 Test Start: 2011.08.24 @ 10:21:00

## GENERAL INFORMATION:

Formation: **Johnson**  
 Deviated: **No Whipstock:**      ft (KB)  
 Time Tool Opened: 12:12:30  
 Time Test Ended: 16:14:00  
 Interval: **4430.00 ft (KB) To 4450.00 ft (KB) (TVD)**  
 Total Depth: **4450.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: Fair  
 Test Type: **Conventional Bottom Hole (Initial)**  
 Tester: **Ken Swinney**  
 Unit No: **3345 Scott City/46**  
 Reference Elevations: **2843.00 ft (KB)**  
    **2833.00 ft (CF)**  
 KB to GRVCF: **10.00 ft**

Serial #: **6666**      Outside  
 Press@RunDepth: **46.08 psia @ 4447.00 ft (KB)**      Capacity: **5000.00 psia**  
 Start Date: **2011.08.24**      End Date: **2011.08.24**      Last Calib.: **2011.08.23**  
 Start Time: **10:22:00**      End Time: **16:14:00**      Time On Btm: **2011.08.24 @ 12:10:30**  
                   Time Off Btm: **2011.08.24 @ 14:16:00**

TEST COMMENT: 1ST Open      30 Minutes/Very weak surface blow/Blow died in 21 minutes  
 1ST Shut In      30 Minutes/No blow back  
 2ND Open      30 Minutes/No blow /Flush tool/Didnt help  
 2ND Shut In      30 Minutes/No blow back



## PRESSURE SUMMARY

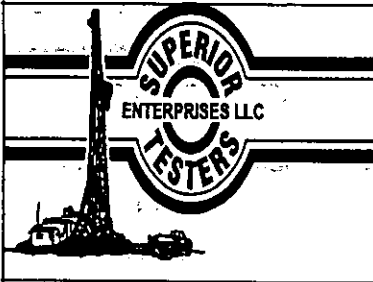
| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2134.00         | 116.53       | Initial Hydro-static |
| 2           | 37.15           | 117.13       | Open To Flow (1)     |
| 33          | 39.38           | 116.88       | Shut-In(1)           |
| 63          | 91.69           | 117.72       | End Shut-In(1)       |
| 63          | 41.17           | 117.73       | Open To Flow (2)     |
| 93          | 46.08           | 118.87       | Shut-In(2)           |
| 124         | 74.20           | 119.79       | End Shut-In(2)       |
| 126         | 2128.96         | 120.47       | Final Hydro-static   |

## Recovery

| Length (ft) | Description          | Volume (bbl) |
|-------------|----------------------|--------------|
| 10.00       | Oil spotted mud 100% | 0.05         |
|             |                      |              |
|             |                      |              |
|             |                      |              |
|             |                      |              |

## Gas Rates

| Choke (Inches) | Pressure (psia) | Gas Rate (Mcf/d) |
|----------------|-----------------|------------------|
|                |                 |                  |



# DRILL STEM TEST REPORT

Ritchie Exploration  
 8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochems

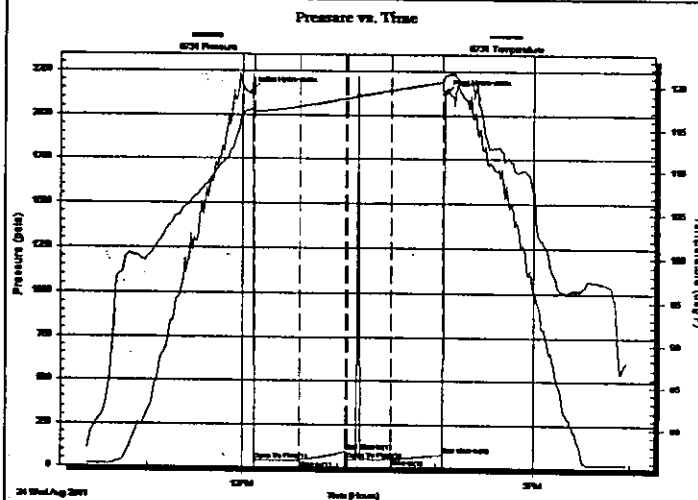
#1 Shipley 28 AD Unit  
 28/13S/31W Gove Co.  
 Job Ticket: 18719 DST#: 8  
 Test Start: 2011.08.24 @ 10:21:00

## GENERAL INFORMATION:

Formation: **Johnson**  
 Deviated: **No** Whipstock: **ft (KB)**  
 Time Tool Opened: **12:12:30**  
 Time Test Ended: **16:14:00**  
 Interval: **4430.00 ft (KB) To 4450.00 ft (KB) (TVD)**  
 Total Depth: **4450.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**  
 Test Type: **Conventional Bottom Hole (Initial)**  
 Tester: **Ken Swinney**  
 Unit No: **3345 Scott City/46**  
 Reference Elevations: **2843.00 ft (KB)**  
**2833.00: ft (CF)**  
 KB to GR/CF: **10.00 ft**

Serial #: **6731** Inside  
 Press@RunDepth: **74.95 psia @ 4446.00 ft (KB)** Capacity: **5000.00 psia**  
 Start Date: **2011.08.24** End Date: **2011.08.24** Last Calib.: **2011.08.23**  
 Start Time: **10:22:00** End Time: **15:59:00** Time On Btm: **2011.08.24 @ 12:06:00**  
 Time Off Btm: **2011.08.24 @ 14:06:00**

TEST COMMENT: 1ST Open 30 Minutes/Very weak surface blow /Blow died in 21 minutes  
 1ST Shut In 30 Minutes/No blow back  
 2ND Open 30 Minutes/No blow /Flush tool/Didnt help  
 2ND Shut In 30 Minutes/No blow back



## PRESSURE SUMMARY

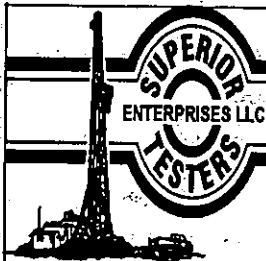
| Time (Min.) | Pressure (psia) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2131.44         | 117.34       | Initial Hydro-static |
| 2           | 37.64           | 116.94       | Open To Flow (1)     |
| 31          | 39.91           | 117.67       | Shut-In(1)           |
| 59          | 92.32           | 118.61       | End Shut-In(1)       |
| 60          | 41.68           | 118.63       | Open To Flow (2)     |
| 87          | 46.78           | 119.52       | Shut-In(2)           |
| 119         | 74.95           | 120.55       | End Shut-In(2)       |
| 120         | 2122.65         | 121.31       | Final Hydro-static   |

## Recovery

| Length (ft) | Description          | Volume (bbl) |
|-------------|----------------------|--------------|
| 10.00       | Oil spotted mud 100% | 0.05         |
|             |                      |              |
|             |                      |              |
|             |                      |              |
|             |                      |              |

## Gas Rates

|  | Choke (Inches) | Pressure (psia) | Gas Rate (Mcf/d) |
|--|----------------|-----------------|------------------|
|  |                |                 |                  |



# DRILL STEM TEST REPORT

TOOL DIAGRAM

Ritchie Exploration  
 8100 East 22 nd Street North  
 #700 Wichita, Kansas 67278+  
 3188 P.O.Box 783188  
 ATTN: Ted Jochems

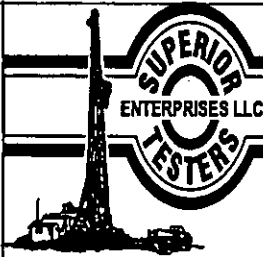
#1 Shipley 28 AD Unit  
 28/13S/31W Gove Co.  
 Job-Ticket: 18719 DST#: 8  
 Test Start: 2011.08.24 @ 10:21:00

## Tool Information

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 3902.00 ft | Diameter: 3.88 inches | Volume: 57.06 bbl              | Tool Weight:           | 2000.00 lb  |
| Heavy Wt. Pipe:           | Length: 0.00 ft    | Diameter: 0.00 inches | Volume: 0.00 bbl               | Weight set on Packer:  | 20000.00 lb |
| Drill Collar:             | Length: 531.14 ft  | Diameter: 2.25 inches | Volume: 2.61 bbl               | Weight to Pull Loose:  | 110000.0 lb |
|                           |                    |                       | <u>Total Volume: 59.67 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 26.14 ft           |                       |                                | String Weight: Initial | 80000.00 lb |
| Depth to Top Packer:      | 4430.00 ft         |                       |                                | Final                  | 80000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 20.00 ft           |                       |                                |                        |             |
| Tool Length:              | 43.00 ft           |                       |                                |                        |             |
| Number of Packers:        | 2                  | Diameter:             | 6.75 inches                    |                        |             |

Tool Comments:

| Tool Description          | Length (ft) | Serial No.   | Position | Depth (ft) | Accum. Lengths                |
|---------------------------|-------------|--------------|----------|------------|-------------------------------|
| Change Over Sub           | 1.00        |              |          | 4408.00    |                               |
| Shut-In Tool              | 5.00        |              |          | 4413.00    |                               |
| Hydroic Tool              | 5.00        |              |          | 4418.00    |                               |
| Jars                      | 0.00        |              |          | 4418.00    |                               |
| Safety Joint              | 2.00        |              |          | 4420.00    |                               |
| Packer                    | 5.00        |              |          | 4425.00    | 23.00 Bottom Of Top Packer    |
| Packer                    | 5.00        |              |          | 4430.00    |                               |
| Perforations              | 15.00       |              |          | 4445.00    |                               |
| Recorder                  | 1.00        | 6731         | Inside   | 4446.00    |                               |
| Recorder                  | 1.00        | 6666         | Outside  | 4447.00    |                               |
| Bullnose                  | 3.00        |              |          | 4450.00    | 20.00 Bottom Packers & Anchor |
| <b>Total Tool Length:</b> |             | <b>43.00</b> |          |            |                               |



# DRILL STEM TEST REPORT

FLUID SUMMARY

Ritchie Exploration  
8100 East 22 nd Street North  
#700 Wichita, Kansas 67278+  
3188 P.O.Box 783188  
ATTN: Ted Jochems

#1 Shipley 28 AD Unit  
28/13S/31W Gove Co.  
Job Ticket: 18719      DST#: 8  
Test Start: 2011.08.24 @ 10:21:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 66.00 sec/qt  
Water Loss: 8.79 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 3200.00 ppm  
Filter Cake: 1.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psia

Oil API: deg API  
Water Salinity: ppm

## Recovery Information

Recovery Table

| Length<br>ft | Description          | Volume<br>bbl |
|--------------|----------------------|---------------|
| 10.00        | Oil spotted mud 100% | 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 #: 6666

Outside Ritchie Exploration

28/13S/31W Gove Co.

DST Test Number: 8

