



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1170576  
OIL & GAS CONSERVATION DIVISION

Form ACO-1  
August 2013

Form must be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

|                                   |                 |   |
|-----------------------------------|-----------------|---|
| Spud Date or<br>Recompletion Date | Date Reached TD | Completion Date or<br>Recompletion Date |
|-----------------------------------|-----------------|---|

API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-  
Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-  
Feet from  North /  South Line of Section

\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_-  
Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite: \_\_\_\_\_

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1170576

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

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

| CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used  |                   |                           |                   |               |                |              |                            |
|---|-------------------|---------------------------|-------------------|---------------|----------------|--------------|----------------------------|
| Report all strings set-conductor, surface, intermediate, production, etc. |                   |                           |                   |               |                |              |                            |
| Purpose of String   | Size Hole Drilled | Size Casing Set (In O.D.) | Weight Lbs. / Ft. | Setting Depth | Type of Cement | # Sacks Used | Type and Percent Additives |
|   |                   |                           |                   |               |                |              |                            |
|   |                   |                           |                   |               |                |              |                            |
|   |                   |                           |                   |               |                |              |                            |

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

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

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

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

|   |  |
|---|--|
| Date of First, Resumed Production, SWD or ENHR. | Producing Method:<br><input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____ |
|---|--|

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

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



# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

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

No. 7897

|       |          |      |   |      |   |       |    |          |       |                            |    |             |         |        |          |
|-------|----------|------|---|------|---|-------|----|----------|-------|----------------------------|----|-------------|---------|--------|----------|
| Date  | 10-31-13 | Sec. | 5 | Twp. | 7 | Range | 20 | County   | Rawls | State                      | KS | On Location | 9.00 PM | Finish | 10.00 PM |
| Lease |          |      |   |      |   |       |    | Location |       | Stockton W to RD 2 5 1/2 N |    |             |         |        |          |

|                     |          |            |  |                               |       |       |
|---------------------|----------|------------|--|-------------------------------|-------|-------|
| Lease               | Fischli  |            | Well No.   | 1                             | Owner | Einto |
| Contractor          | WV 6     |            | To Quality Oilwell Cementing, Inc.<br>You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed. |                               |       |       |
| Type Job            | Surface  |            | Charge To Gaspar Company   |                               |       |       |
| Hole Size           | 12 1/4   | T.D.       | 219  | St. P.O. Box 1120             |       |       |
| Csg.                | 85/8     | Depth      | 219  | City Hays State KS 67601-1120 |       |       |
| Tbg. Size           | Depth    |            | The above was done to satisfaction and supervision of owner agent or contractor.   |                               |       |       |
| Tool                | Depth    |            | Cement Amount Ordered 175 3% CC 296  |                               |       |       |
| Cement Left in Csg. | 20 ft    | Shoe Joint | 20 ft  | Cement                        |       |       |
| Meas Line           | Displace |            | 17.34 BBL  | Common 175                    |       |       |

| EQUIPMENT |    |                          |
|-----------|----|--------------------------|
| Pumptrk   | 5  | No. Cementer/Helper Matt |
| Bulktrk   | 14 | No. Driver Lonnie        |
| Bulktrk   | pu | No. Driver Clayton       |

| JOB SERVICES & REMARKS |  |
|------------------------|--|
| Remarks:               |  |
| Rat Hole               |  |
| Mouse Hole             |  |
| Centralizers           |  |
| Baskets                |  |
| D/V or Port Collar     |  |

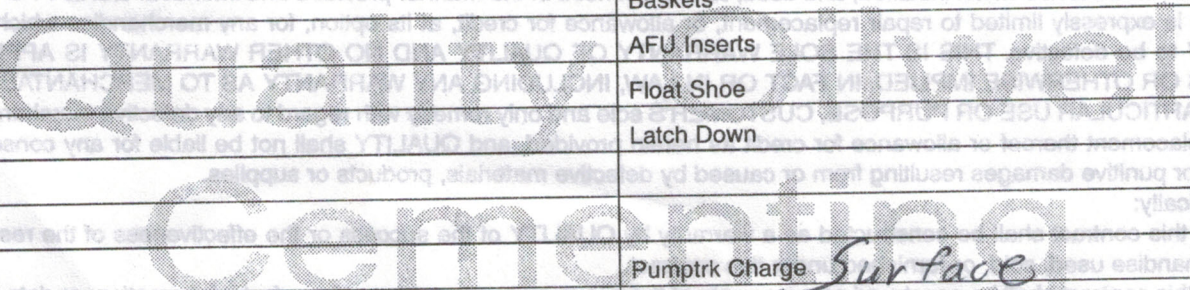
|                         |     |
|-------------------------|-----|
| Poz. Mix                |     |
| Gel.                    | 3   |
| Calcium                 | 6   |
| Hulls                   |     |
| Salt                    |     |
| Flowseal                |     |
| Kol-Seal                |     |
| Mud CLR 48              |     |
| CFL-117 or CD110 CAF 38 |     |
| Sand                    |     |
| Handling                | 184 |
| Mileage                 |     |

Cement did  
Circulate

| FLOAT EQUIPMENT |  |
|-----------------|--|
| Guide Shoe      |  |
| Centralizer     |  |
| Baskets         |  |
| AFU Inserts     |  |
| Float Shoe      |  |
| Latch Down      |  |

|                |         |
|----------------|---------|
| Pumptrk Charge | Surface |
| Mileage        | 46      |
| Tax            |         |
| Discount       |         |
| Total Charge   |         |

X Signature *[Signature]*



# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

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

No. 7004

| Date    | Sec. | Twp. | Range | County | State | On Location | Finish   |
|---------|------|------|-------|--------|-------|-------------|----------|
| 11-6-13 | 5    | 7    | 20    | Rooks  | KS    |             | 11:00 PM |

Location *Station W 10 2nd Rd 5 1/2 N E 1/4*

|                                   |                         |  |
|-----------------------------------|-------------------------|--|
| Lease <i>Fishl</i>                | Well No. <i>11</i>      | Owner  |
| Contractor <i>WW #6</i>           |                         | To Quality Oilwell Cementing, Inc.<br>You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed. |
| Type Job <i>Production String</i> |                         | Charge To <i>Jasper</i>  |
| Hole Size <i>7 7/8</i>            | T.D. <i>3802'</i>       | Street   |
| Csg. <i>5 1/2</i>                 | Depth <i>3795</i>       | City   |
| Tbg. Size                         | Depth                   | State  |
| Tool                              | Depth                   | The above was done to satisfaction and supervision of owner agent or contractor.   |
| Cement Left in Csg. <i>31.18</i>  | Shoe Joint <i>31.18</i> | Cement Amount Ordered <i>150 com 10% salt 5% Gilsen</i>  |

Meas Line Displace *89 1/2 bbl* *450 QMDC 1/2 fluz*

**EQUIPMENT**

|                   |                           |                     |          |
|-------------------|---------------------------|---------------------|----------|
| Pumptrk <i>15</i> | No. Cementer <i>Nick</i>  | Helper <i>Brett</i> | Common   |
| Bulktrk <i>19</i> | No. Driver <i>Clayton</i> |                     | Poz. Mix |
| Bulktrk <i>1</i>  | No. Driver <i>Davy</i>    |                     | Gel.     |
|                   |                           |                     | Calcium  |

**JOB SERVICES & REMARKS**

|   |                           |
|---|---------------------------|
| Remarks:  | Hulls                     |
| Rat Hole <i>30"</i>                                       | Salt                      |
| Mouse Hole  | Flowseal                  |
| Centralizers <i>1, 3, 4, 6, 8, 10, 12, 14, 16, 18, 47</i> | Kol-Seal                  |
| Baskets <i>2, 15, 17 &amp; 48</i>                         | Mud CLR 48 <i>500 gal</i> |
| D/V or Port Collar  | CFL-117 or CD110 CAF 38   |
|   | Sand                      |
|   | Handling                  |

*May 500 gal M-L fluid  
Plugged Rat hole  
Miscel 420 gal QMDC then  
150 com 10% salt 5% Gilsen  
Displaced 89 1/2 bbl  
Lift pressure 850 lbs  
Landed Plug @ 2000 lbs  
Cement circulated*

**FLOAT EQUIPMENT**

|  |           |                         |
|--|-----------|-------------------------|
|  | <i>5'</i> | Guide Shoe              |
|  |           | Centralizer - <i>11</i> |
|  |           | Baskets - <i>6</i>      |
|  |           | AFU Inserts             |
|  |           | Float Shoe              |
|  |           | Latch Down - <i>1</i>   |
|  |           | <i>Rubber Plug 1</i>    |
|  |           | Pumptrk Charge          |
|  |           | Mileage                 |

|              |  |
|--------------|--|
| Tax          |  |
| Discount     |  |
| Total Charge |  |

X Signature *[Signature]* *Shane Vohryz*

# JASPAR COMPANY INC.

Scale 1:240 Imperial

Well Name: FISCHLI #1  
Surface Location: SW NW NE SW Sec. 5 - 7S - 20W  
Bottom Location:  
API: 15-163-24149-00-00  
License Number: 34903  
Spud Date: 10/31/2013 Time: 3:15 AM  
Region: ROOKS COUNTY, KS  
Drilling Completed: 11/6/2013 Time: 12:39 AM  
Surface Coordinates: 2110' FSL & 1560' FWL  
Bottom Hole Coordinates:  
Ground Elevation: 2208.00ft  
K.B. Elevation: 2213.00ft  
Logged Interval: 3000.00ft To: 3802.00ft  
Total Depth: 3797.00ft  
Formation: TORONTO, LANSING - KANSAS CITY  
Drilling Fluid Type: FRESH WATER / CHEMICAL GEL

## OPERATOR

Company: JASPAR COMPANY, INC.  
Address: 1681 LIMESTONE ROAD SOUTH  
P.O. BOX 1120  
HAYS, KS  
Contact Geologist: SHANE VEHIGE  
Contact Phone Nbr: (785) 623-6982  
Well Name: FISCHLI #1  
Location: SW NW NE SW Sec. 5 - 7S - 20W API: 15-163-24149-00-00  
Pool: UNNAMED  
State: KANSAS Country: USA

## SURFACE CO-ORDINATES

Well Type: Vertical  
Longitude: -99.5783957 Latitude: 39.4723674  
N/S Co-ord: 2110' FSL  
E/W Co-ord: 1560' FWL

## LOGGED BY



Company: SOLUTIONS CONSULTING, INC.  
Address: 108 W 35TH  
HAYS, KS 67601  
Phone Nbr: (785)259-3737  
Logged By: Geologist Name: JEFF LAWLER

## CONTRACTOR

Contractor: WW DRILLING, LLC  
Pic #: 6

Rig #: 0  
 Rig Type: MUD ROTARY  
 Spud Date: 10/31/2013  
 TD Date: 11/6/2013  
 Rig Release: 11/6/2013

Time: 3:15 AM  
 Time: 12:39 AM  
 Time: 10:00 PM

### ELEVATIONS

K.B. Elevation: 2213.00ft  
 K.B. to Ground: 5.00ft

Ground Elevation: 2208.00ft

### NOTES

DUE TO ECONOMICAL RECOVERY ON DST #2, STRUCTURAL POSITION, AND LOG ANALYSIS DECISION WAS MADE TO RUN 5 1/2" PRODUCTION CASING AND FURTHER EVALUATE WITH PERFORATION.


SAMPLES WERE SAVED AND WILL BE SENT TO AND AVAILABLE AT KANSAS GEOLOGICAL SURVEY SAMPLE REPOSITORY.

RESPECTFULLY SUBMITTED,  
 JEFF LAWLER

### WELL COMPARISON SHEET

| FORMATION     | FISCHLI #1 |             |          |             | RITCHIE EXPLORATION |             |                 |             | BOWMAN OIL COMPANY |             |                    |             | BAIRD OIL COMPANY, LLC |             |                |             | BOWMAN OIL COMPANY |             |       |       |
|---------------|------------|-------------|----------|-------------|---------------------|-------------|-----------------|-------------|--------------------|-------------|--------------------|-------------|------------------------|-------------|----------------|-------------|--------------------|-------------|-------|-------|
|               | KB         |             | GL       |             | KB                  |             | W2 E2 SW 5-7-20 |             | R.A. BENOIT #1     |             | NW SW NE NW 5-7-20 |             | ROY-FISCHLI UNIT #1-8  |             | DEAN LESAGE #2 |             | SE NE SW NE 8-7-20 |             |       |       |
|               | 2213       |             | 2208     |             | 2205                |             | 2230            |             | 2211               |             | 2214               |             |                        |             |                |             |                    |             |       |       |
|               | LOG TOPS   | SAMPLE TOPS | LOG TOPS | SAMPLE TOPS | LOG TOPS            | SAMPLE TOPS | LOG TOPS        | SAMPLE TOPS | LOG TOPS           | SAMPLE TOPS | LOG TOPS           | SAMPLE TOPS | LOG TOPS               | SAMPLE TOPS | LOG TOPS       | SAMPLE TOPS | LOG TOPS           | SAMPLE TOPS |       |       |
| DEPTH         | DATUM      | DEPTH       | DATUM    | DEPTH       | DATUM               | DEPTH       | DATUM           | DEPTH       | DATUM              | DEPTH       | DATUM              | DEPTH       | DATUM                  | DEPTH       | DATUM          | DEPTH       | DATUM              | DEPTH       | DATUM |       |
| ANHYDRITE TOP | 1803       | 410         | 1799     | 414         | 1795                | 410         | + 0             | + 4         | 1815               | 415         | - 5                | - 1         | 1789                   | 422         | - 12           | - 8         | 1786               | 428         | - 18  | - 14  |
| BASE          | 1834       | 379         | 1831     | 382         | 1825                | 380         | - 1             | + 2         |                    |             |                    |             | 1825                   | 386         | - 7            | - 4         | 1818               | 396         | - 17  | - 14  |
| TOPEKA        | 3201       | -988        | 3200     | -987        | 3196                | -991        | + 3             | + 4         | 3206               | -976        | - 12               | - 11        | 3183                   | -972        | - 16           | - 15        | 3187               | -973        | - 15  | - 14  |
| HEEDNER SHALE | 3405       | -1192       | 3399     | -1186       | 3400                | -1195       | + 3             | + 9         | 3410               | -1180       | - 12               | - 6         | 3394                   | -1183       | - 9            | - 3         | 3383               | -1169       | - 23  | - 17  |
| TORONTO       | 3428       | -1215       | 3422     | -1209       | 3422                | -1217       | + 2             | + 8         |                    |             |                    |             | 3414                   | -1203       | - 12           | - 6         |                    |             |       |       |
| LKC           | 3441       | -1228       | 3436     | -1223       | 3436                | -1231       | + 3             | + 8         | 3446               | -1216       | - 12               | - 7         | 3431                   | -1220       | - 8            | - 3         | 3414               | -1200       | - 28  | - 23  |
| BKC           | 3635       | -1422       | 3631     | -1418       | 3630                | -1425       | + 3             | + 7         | 3638               | -1408       | - 14               | - 10        | 3622                   | -1411       | - 11           | - 7         | 3617               | -1403       | - 19  | - 15  |
| MARMATON      | 3658       | -1445       | 3652     | -1439       |                     |             |                 |             |                    |             |                    |             |                        |             |                |             |                    |             |       |       |
| ARBUCKLE      | 3722       | -1509       | 3722     | -1509       | 3722                | -1517       | + 8             | + 8         | 3676               | -1446       | - 63               | - 63        | 3663                   | -1452       | - 57           | - 57        | 3650               | -1436       | - 73  | - 73  |
| TOTAL DEPTH   | 3802       | -1589       | 3797     | -1584       | 3725                | -1520       | - 69            | - 64        | 3710               | -1480       | - 109              | - 104       | 3705                   | -1494       | - 95           | - 90        | 3672               | -1458       | - 131 | - 126 |

### DST #1 TORONTO - LKC A 3398' - 3452'



**TRILOBITE TESTING, INC.**

### DRILL STEM TEST REPORT

Jasper Co. **5-7s-20w Rooks**

PO Box 1120  
Hays Ks. 67601

ATTN: Jeff Lawler

**Fischli #1**

Job Ticket: 54333 **DST#: 1**

Test Start: 2013.11.03 @ 23:15:01

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**GENERAL INFORMATION:**

Formation: **Tor-LKC"A"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:52:00  
 Time Test Ended: 06:07:30

Interval: **3398.00 ft (KB) To 3452.00 ft (KB) (TVD)**  
 Total Depth: 3452.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor

Test Type: Conventional Bottom Hole (Initial)  
 Tester: Andy Carreira  
 Unit No: 68

Reference Elevations: 2213.00 ft (KB)  
 2208.00 ft (CF)  
 KB to GR/CF: 5.00 ft

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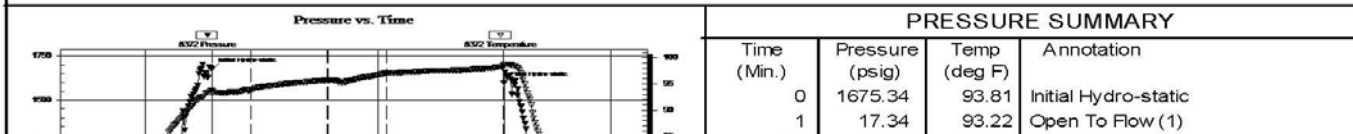
**Serial #: 8372 Inside**

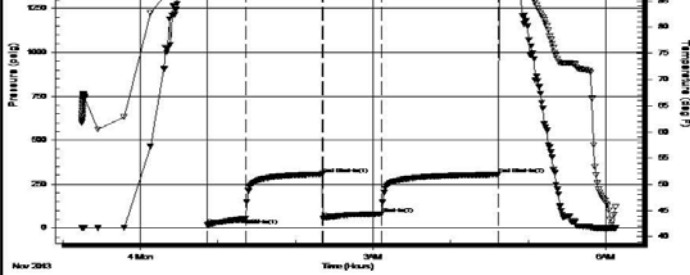
Press@RunDepth: 80.87 psig @ 3405.00 ft (KB)  
 Start Date: 2013.11.03 End Date: 2013.11.04  
 Start Time: 23:15:01 End Time: 06:07:30

Capacity: 8000.00 psig  
 Last Calib.: 2013.11.04  
 Time On Btm: 2013.11.04 @ 00:51:30  
 Time Off Btm: 2013.11.04 @ 04:37:30

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**TEST COMMENT:** IF:(30min) 1" blow in 5 min. 2" in 13 min. Built to 13 min.  
 ISI:(60min) No Return  
 FF:(45min) Surface blow in 7 min. 1" in 28 min. Built to 1.75"  
 FSI:(90min) No Return





|     |         |       |                    |
|-----|---------|-------|--------------------|
| 30  | 53.46   | 93.80 | Shut-In(1)         |
| 90  | 307.81  | 95.73 | End Shut-In(1)     |
| 90  | 54.76   | 95.59 | Open To Flow (2)   |
| 135 | 80.87   | 97.03 | Shut-In(2)         |
| 226 | 305.77  | 98.36 | End Shut-In(2)     |
| 226 | 1596.70 | 98.76 | Final Hydro-static |

**Recovery**

| Length (ft) | Description             | Volume (bbl) |
|-------------|-------------------------|--------------|
| 140.00      | Mud w/ oil spks in tool | 0.86         |
|             |                         |              |
|             |                         |              |
|             |                         |              |
|             |                         |              |

**Gas Rates**

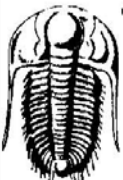
| Choke (inches) | Pressure (psig) | Gas Rate (Mcf/d) |
|----------------|-----------------|------------------|
|                |                 |                  |

Trilobite Testing, Inc

Ref. No: 54333

Printed: 2013.11.04 @ 06:51:55

**DST #2 LKC C - D 3454' - 3500'**



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Jasper Co. **5-7s-20w Rooks**

PO Box 1120 **Fischli #1**

Hays Ks. 67601 Job Ticket: 54334 **DST#: 2**

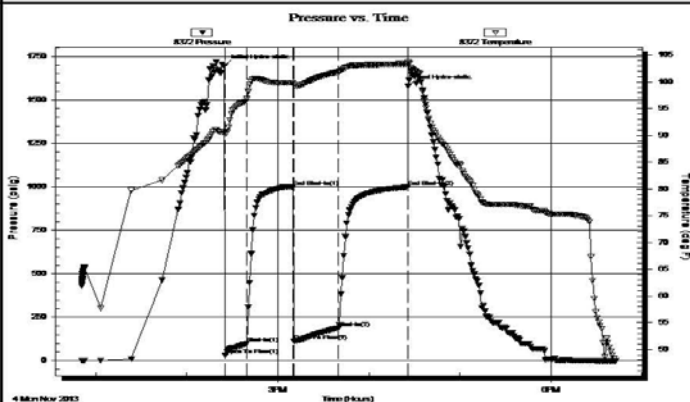
ATTN: Jeff Lawler Test Start: 2013.11.04 @ 12:51:01

**GENERAL INFORMATION:**

Formation: **LKC"C-D"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:25:30  
 Time Test Ended: 18:43:00  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Andy Carreira  
 Unit No: 68  
 Interval: **3454.00 ft (KB) To 3500.00 ft (KB) (TVD)**  
 Total Depth: 3500.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Reference Elevations: 2213.00 ft (KB)  
 2208.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8372 Inside**  
 Press@RunDepth: 189.62 psig @ 3459.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.11.04 End Date: 2013.11.04 Last Calib.: 2013.11.04  
 Start Time: 12:51:01 End Time: 18:43:00 Time On Btm: 2013.11.04 @ 14:25:00  
 Time Off Btm: 2013.11.04 @ 16:26:00

**TEST COMMENT:** IF:(15min) BOB in 5 min.  
 ISl:(30min) Return blow 30 sec after bleed off. Built to BOB in 25 min.  
 FF:(30min) BOB immediately.  
 FSl:(45min) Return blow immediately after bleed off. Built to BOB in 12 min.



**PRESSURE SUMMARY**

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1695.66         | 90.70        | Initial Hydro-static |
| 1           | 31.89           | 90.27        | Open To Flow (1)     |
| 15          | 98.85           | 96.84        | Shut-In(1)           |
| 45          | 1000.64         | 99.82        | End Shut-In(1)       |
| 46          | 112.98          | 99.44        | Open To Flow (2)     |
| 75          | 189.62          | 101.86       | Shut-In(2)           |
| 121         | 999.15          | 103.36       | End Shut-In(2)       |
| 121         | 1579.50         | 103.75       | Final Hydro-static   |

**Recovery**

| Length (ft) | Description             | Volume (bbl) |
|-------------|-------------------------|--------------|
| 120.00      | HOCGM α=20% o=20% m=60% | 0.59         |

**Gas Rates**

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



|        |                 |      |
|--------|-----------------|------|
| 360.00 | CGO g=15% o=85% | 5.04 |
|        |                 |      |
|        |                 |      |
|        |                 |      |


\* Recovery from multiple tests

Trilobite Testing, Inc

Ref. No: 54334

Printed: 2013.11.04 @ 23:02:47

### DST #3 LKC E - F 3501' - 3525'

|  |  |   |
|--|--|---|
|  <b>TRILOBITE TESTING, INC.</b> | <b>DRILL STEM TEST REPORT</b>                                    |   |
|  | Jasper Co.<br>PO Box 1120<br>Hays Ks. 67601<br>ATTN: Jeff Lawler | <b>5-7s-20w Rooks</b><br><b>Fischli #1</b><br>Job Ticket: 54335 <b>DST#: 3</b><br>Test Start: 2013.11.05 @ 01:21:01 |

**GENERAL INFORMATION:**

Formation: **LKC"EF"**  
 Deviated: No Whipstock:                      ft (KB)  
 Time Tool Opened: 03:15:30  
 Time Test Ended: 08:16:30

**Interval: 3501.00 ft (KB) To 3525.00 ft (KB) (TVD)**  
 Total Depth: 3525.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor

Test Type: Conventional Bottom Hole (Reset)  
 Tester: Andy Carreira  
 Unit No: 68

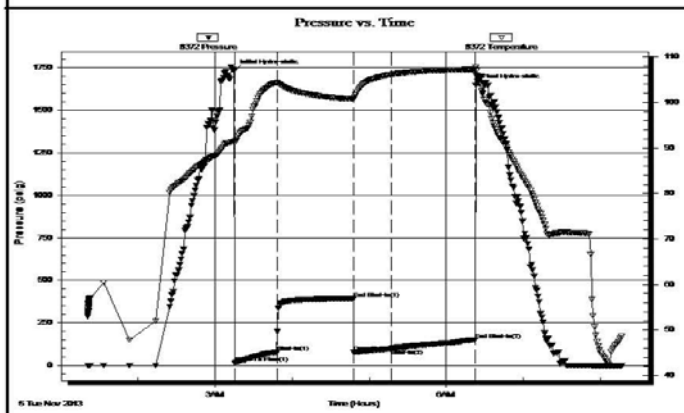
Reference Elevations: 2213.00 ft (KB)  
 2208.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8372      Inside**

Press@RunDepth: 98.46 psig @ 3502.00 ft (KB)  
 Start Date: 2013.11.05      End Date: 2013.11.05  
 Start Time: 01:21:01      End Time: 08:16:30

Capacity: 8000.00 psig  
 Last Calib.: 2013.11.05  
 Time On Btm: 2013.11.05 @ 03:15:00  
 Time Off Btm: 2013.11.05 @ 06:23:00

**TEST COMMENT:** IF:(30min) 2" blow in 5 min. 4" in 14 min. Built to 7"  
 ISl:(60min) No Return  
 FF:(30min) 2" blow in 14 min. Built to 4"  
 FSl:(60min) No Return



| PRESSURE SUMMARY |                 |              |                      |
|------------------|-----------------|--------------|----------------------|
| Time (Min.)      | Pressure (psig) | Temp (deg F) | Annotation           |
| 0                | 1731.80         | 91.46        | Initial Hydro-static |
| 1                | 15.80           | 91.07        | Open To Flow (1)     |
| 33               | 78.98           | 104.23       | Shut-In(1)           |
| 93               | 393.45          | 100.79       | End Shut-In(1)       |
| 93               | 77.41           | 100.66       | Open To Flow (2)     |
| 123              | 98.46           | 106.14       | Shut-In(2)           |
| 188              | 151.19          | 107.24       | End Shut-In(2)       |
| 188              | 1644.70         | 107.83       | Final Hydro-static   |

| Recovery    |             |              |
|-------------|-------------|--------------|
| Length (ft) | Description | Volume (bbl) |
| 260.00      | MW          | 2.54         |
|             |             |              |
|             |             |              |
|             |             |              |

\* Recovery from multiple tests

Trilobite Testing, Inc

Ref. No: 54335

Printed: 2013.11.05 @ 08:46:50

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

**ROCK TYPES**

|         |           |            |            |
|---------|-----------|------------|------------|
| Cht     | Lmst fw<7 | shale, grn | Shblk      |
| Congl   | Lmst fw>7 | shale, gry | shale, red |
| Dolprim | Dol Lime  | Carbon Sh  | Ss         |

**ACCESSORIES**

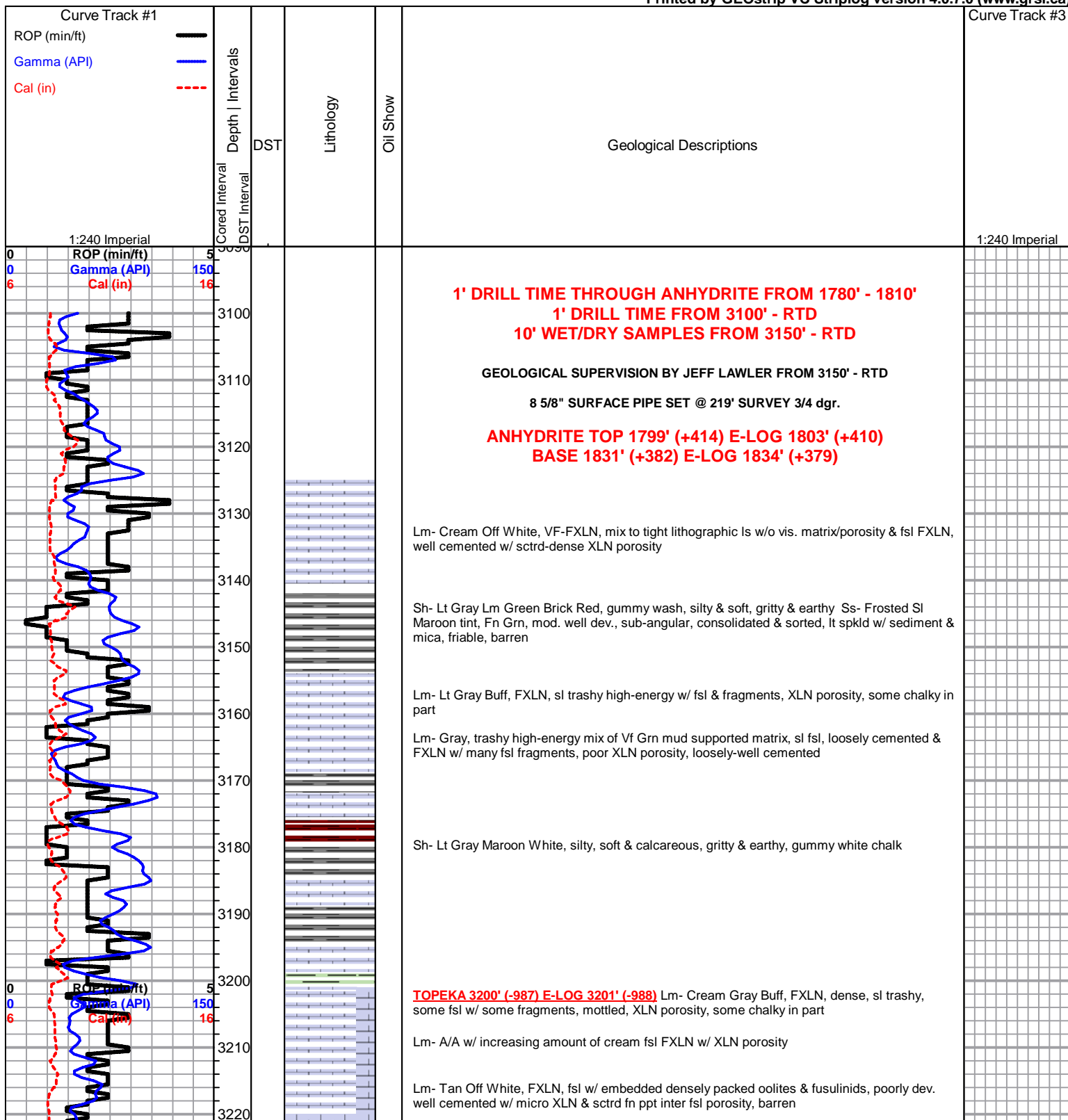
|                |               |
|----------------|---------------|
| <b>MINERAL</b> | <b>FOSSIL</b> |
| • Sandy        | ◇ Oolite      |

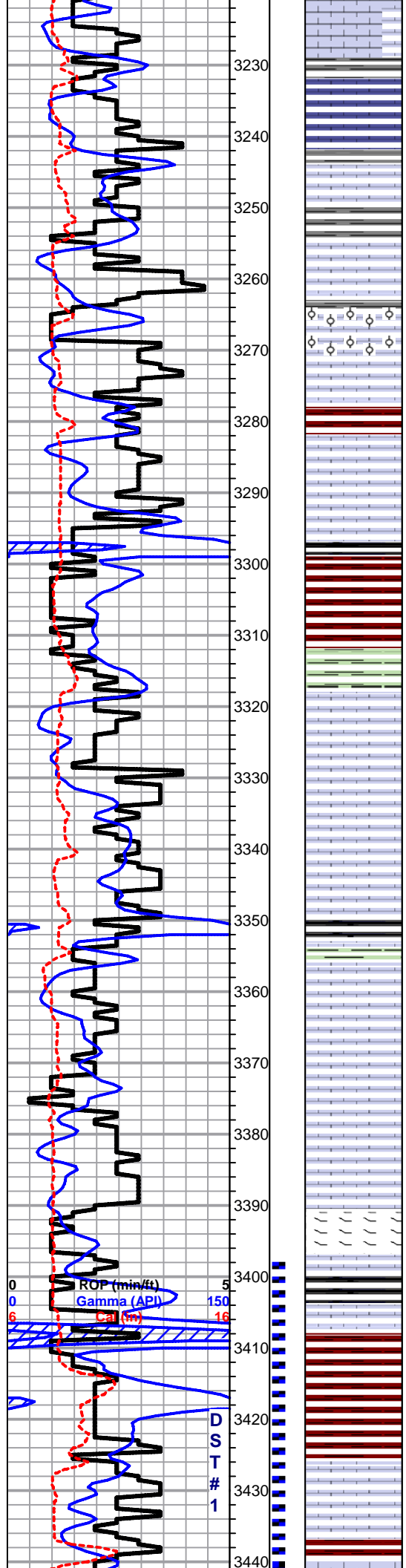
**OTHER SYMBOLS**

**DST**

|  |         |
|--|---------|
|  | DST Int |
|  | DST alt |

Printed by GEOstrip VC Striplog version 4.0.7.0 (www.grsi.ca)





Lm- Cream, Vf Grn, dense, sl fsl mud supported matrix, poor intergranular vis. porosity

Sh- Gray Maroon Lm Green, silty & soft, calcareous, gritty & earthy

Lm- Drk & Lt Gray, mix of vf grn mud supported matrix & vfxln, all high-energy, fsl & poor vis. porosity, trashy

Lm- Cream Tan, Vf Grn, siltstone, dense, loosely cemented, some chalky in part, no vis. porosity

Lm- Cream Off White, FXLN, dense, loosely cemented, fsl & poorly dev., chalky, micro XLN at best, barren, massive pyrite pcs

Lm- Cream Off White, FXLN, poorly dev. fsl & sl oolitic, loosely-well cemented, mostly consistant vry fn ppt interoolite porosity, clean & barren, pcs of smokey white fresh bedded fsl chert

Lm- Buf Tan, CryptoXLN, dense cherty ls w/o vis. porosity, some vitreous

Lm- Cream Buff, VF-FXLN, dense, most well cemented, some loosely cemented & sl chalky, fsl w/ micro XLN & XLN porosity, barren

Sh- Black Lm Green Maroon, soft, gritty, carbonaceous, lm green wash, gritty & earthy

Sh- Maroon Lm Green White, soft, sl sandy wash

Lm- Cream Tan Buff, FXLN, sl fsl, poorly dev. w/ XLN porosity, mottled, barren

Lm- Cream Off White, VF-FXLN, dense, loosely cemented & chalky, micro pyrite inclusions, poor vis. porosity, vry clean

Lm- Cream Tan, FXLN, mix of tight sl dolomitic ls & fsl FXLN ls, all poorly dev. w/ XLN porosity, well cemented, barren

Sh- Black Brown Lm Green, soft, fissile, carbonaceous, gritty & earthy, gummy lm green lime

Lm- Cream Tan, FXLN, dense, fsl & sl oolitic, poorly & inconsistently dev. w/ micro XLN to XLN porosity, mostly barren, few pcs w/ WK DRK SCTRD STN ALONG EDGE PLANES, 2-3 PCS W/ HVY & SUB-TARRY STN, SL TR OF FO, NO ODR

Lm- Cream, FXLN, fsl & sl unconsolidated & spkld, poor vis. porosity, barren

Lm- Cream Tan, FXLN, fsl, dense, poorly dev. w/ XLN porosity & med-crs secondary recrystallization porosity, barren, ?? WK TR ODR ??, FEW PCS OF OREAD IN SAMPLE W/ STN A/A

Lm- Lt Gray, Vf Grn VF-FXLN, dense, sl chalky in part, some mud supported matrix, all w/ poor vis. porosity, barren

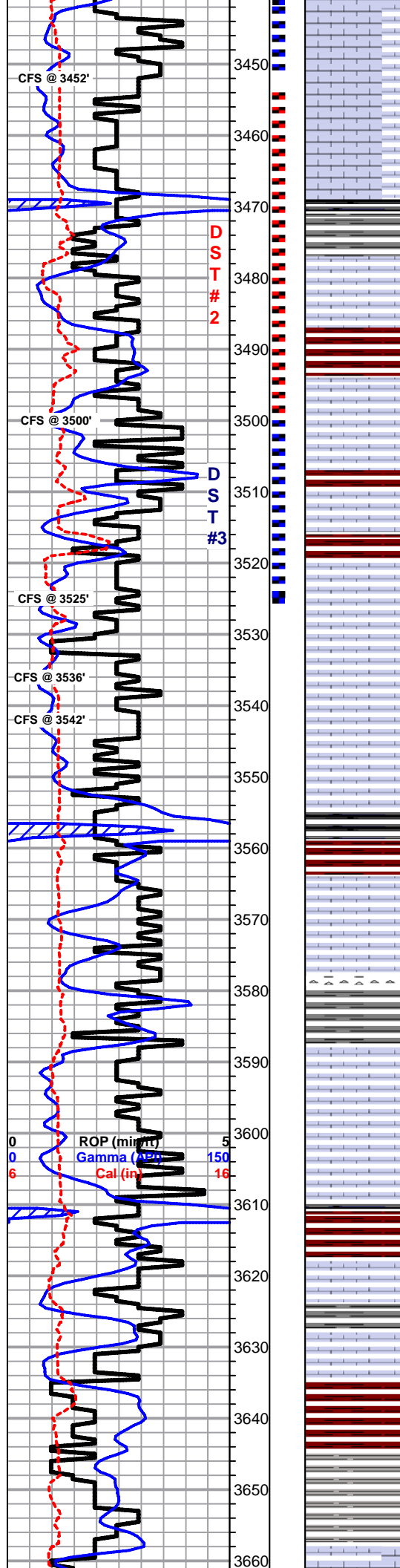
Lm- Tan, Tan, VF-FXLN, dense dolomitic ls, sub-sucrosic, consistant micro XLN porosity, throughout, NO VIS. STN, NSFO, WK ODR, WK LT YLW HALO FLOR.

**HEEBNER 3399' (-1186) E-LOG 3405' (-1192)** Sh- Black Maroon, silty & soft, carbonaceous, gritty & earthy

Sh- Maroon, gritty & earthy, maroon wash

**TORONTO 3422' (-1209) E-LOG 3428' (-1215)** Lm- Cream Tan, VF-FXLN, mix of fsl ls w/ XLN porosity, & dense, vry well cemented, massive dolomitic sl cherty ls, poorly dev. w/ sctrd dense vry fn ppt porosity, few sctrd crs recrystallized inclusions, SCTRD DRK STN, SFO UPON CRUSH, WK ODR

SHORT TRIP SURVEY 1/4 dgr.  
DST #1  
TORONTO - LKC A  
3398' - 3452'



**LKC 3436' (-1223) E-LOG 3441' (-1228)** Lm- Cream Off White, F-Med XLN, fsl & oolitic, mod. dev. w/ inter fsl XLN porosity & sctrd ppt porosity, some of lesser dev. pcs w/ recrystallization w/in porosity, SCTRD LT BRWN STN, SL FLAKEY, TR GSY FO, GD SULFURIC ODR

Lm- White Off White, VF-FXLN, dense, sl fsl, mostly tight, micro XLN & sctrd XLN porosity, some soft white chalk, vry clean & barren

Sh- Black Drk Gray Maroon Lm Green, fissile, carbonaceous, dense & blocky, silty & calcareous

Lm- Tan, VF-FXLN, well cemented, sub-sucrosic, mod well dev. w/ consistant porosity throughout, LT BRWN STN, FR SFO, GD ODR, mixed w/ white off white VF-FXLN, dense, fsl w/ XLN porosity & some soft white chalk

Sh- Maroon, gritty & earthy

Lm- Off White Cream, FXLN, vry well cemented, fsl & sl dev. w/ sctrd ppt & XLN porosity, WK SCTRD STN, NSFO, TR ODR

Lm- Tan, VFXLN, dense, vry well cemented, tight sl cherty ls w/ limited micro XLN porosity

Lm- White Off White, mix of VF-FXLN & Vf Grn, dense, sl fsl, mostly tight w/ micro XLN porosity, some mud supported matrix & dense soft white chalk, all vry clean

Lm- Cream Off White, FXLN, dense, well cemented, sctrd dev. w/ vry fn to fn ppt porosity, LT SCTRD STN, TR FO, WK ODR, some soft lt lm green mud supported matrix w/ poor vis. porosity

Lm/Chert- White Off White, VFXLN, dense, loosely cemented & chalky to poorly dev. & well cemented, sl fsl, micro XLN & XLN porosity, vry clean & barren, pcs of milky white sl fsl fresh bedded angular chert, some w/ sl dolomitic ls contact, all barren

Lm- White Off White, FXLN Fn Grn, poorly dev. sl fsl, mostly tight w/ sctrd XLN porosity, some soft white chalk, vry clean, barren

Lm- A/A

Sh- Black Maroon Lt Gray, dense & vry well compacted, fissile, carbonaceous, gritty & earthy, silty & sl calcareous

Lm- Cream Tan, VF-FXLN, sl fsl w/ fusulinids, poorly dev, mostly tight w/ micro XLN & XLN porosity, barren, few pcs w/ increased dev. porosity A/A w/ sctrd vry fn ppt inter fsl porosity, WK SPOTTY STN, NSFO, WK TR ODR

Lm/Chert- A/A & chalky, some cream/tan fsl fresh bedded chert

Sh- Dove Gray Maroon, vry soft, calcareous, some sl sandy lime, gritty & earthy

Lm- Cream Tan, mix of VF & FXLN, most fsl & loosely cemented to chalky in part, mod. dev. w/ sctrd-dense fenestral porosity, barren, & vry well cemeneted, fsl w/ fusulinids, mod. dev. w/ dense vry fn inner fsl porosity, DRK BRWN STN, SFO, FR ODR

Lm- Cream, VF-FXLN, sl fsl, sctrd dev. mostly tight w/ minimal vis. porosity, areas of dense micro XLN & vry fn ppt porosity, sl chalky in part, LT BRWN STN, SL FLAKEY, WK TR FO, FR ODR, FR OIL SCUM ON WET CUP

Sh- Maroon Black, gritty & earthy, some maroon wash, 2-3 pcs of lt black, silty & vry soft

Lm- Tan, FXLN, sl fsl, mod. dev. w/ XLN porosity, loosely cemented, LT BRWN STN, SL SFO, WK-FR ODR

Lm- White Off White, Vf Grn FXLN, mix of fsl & oolitic FXLN, mod. dev. w/ sctrd ppt interoolite porosity & dense mud supported matrix, loosely cemented, DRK BRWN STN, NSFO, FR-GD ODR, some oolitic FXLN w/ reworked appearance & vry dense micro XLN porosity, barren

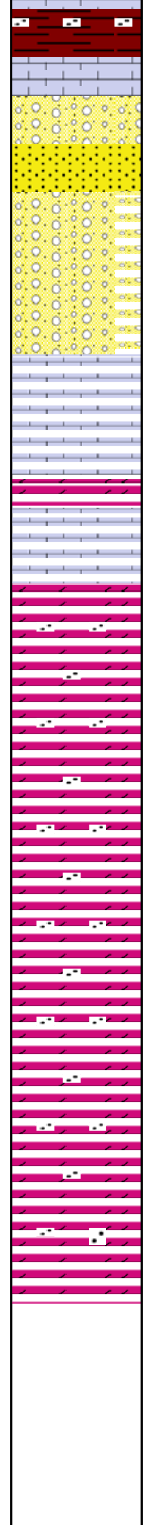
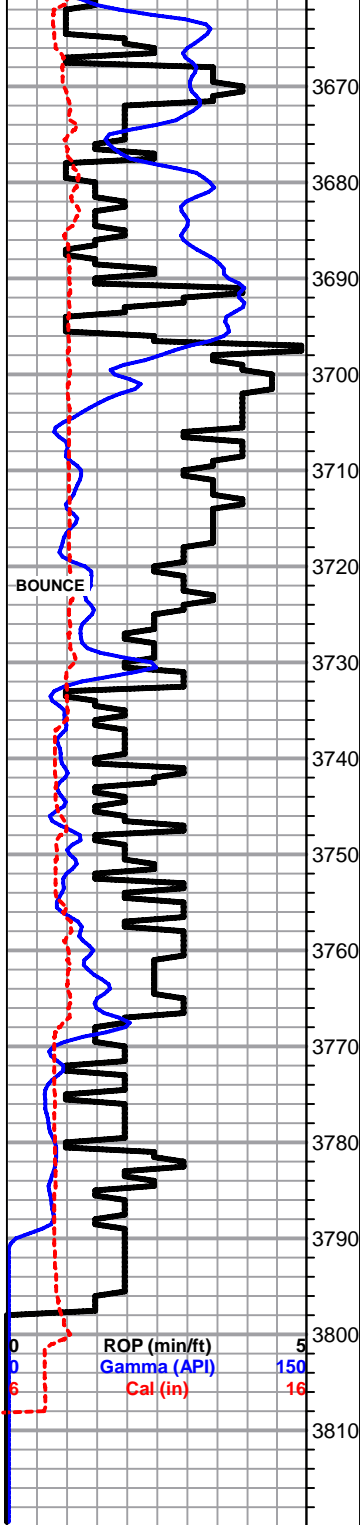
**BKC 3631' (-1418) E-LOG 3635' (-1422)** Sh- Maroon Lm Green, shaley maroon Ss & sandy lime, some wash, sl waxy & dense

Sh- A/A, w/ gray wash & silty gray shale

**MARMATON 3652' (-1439) E-LOG 3658' (-1445)** Lm- White, FXLN Vf Grn, dense, loosely cemented, sl fsl, XLN porosity, much soft white chalk, vry clean, barren

DST #2  
LKC C - D  
3454' - 3500'

DST #3  
LKC E - F  
3501' - 3525'



**D**

Ss/Snd- Much gummy argillaceous red clumps & wash, Snd- Clear, Med Grn, well sorted & consolidated, mature & rounded to sub-rounded, loosely cementation, BLK DO STN, NSFO, NO ODR

● Conglomerate- Various dark colored shales Sand- A/A, some unconsolidated & shaley, DRK BRWN STN, GD SFO Dolomite- Cream Tan, some tinted w/ shale & conglomerate, FXLN, well dev. w/ good porosity mostly throughout, some sucrosic, SAT-BLEEDING STN, GD SFO, NO ODR, GD-VRY GD SCUM OF FREE OIL ON TOP OF WET CUP, some fresh bedded angular chert

Lm- White, VF-FXLN, dense, loosely-well cemented, micro XLN & XLN porosity, vry clean, barren

Dolomite- Cream Tan, VFXLN, dense, vry well cemented, poorly dev., mostly tight w/ micro XLN porosity, barren

Lm- White Off White, VFXLN, dense, vry well cemented, sl sandy ls, lt spkld w/ glauconite/chlorite, poor vis. porosity, some sl chalky & soft, vry clean, barren

**ARBUCKLE 3722' (-1509) E-LOG 3722' (-1509)** Dol- Cream Tan White, mix of VFXLN, dense, vry well cemented & poorly dev. w/ micro XLN porosity & loosely white dolomite w/ clean frmed qtz. inclusions & spkld w/ glauconite, all vry clean & barren

● Dolomite- Cream Off White, Med-Crse XLN, sandy dolomite A/A, mod-well dev w/ micro XLN & ppt porosity, spkld w/ glauconite, MOSTLY BARREN POROSITY, SEVERAL PCS W/ DRK SCTRD STN, NSFO, NO ODR

Dolomite- Tan Cream, VFXLN, dense, vry well cemented, mostly tight w/ micro XLN porosity, barren, much soft white chalk

● Dolomite- White Off White, Med-Crs XLN, sandy, loosely cemented & friable, vry well dev., some w/ sub-euhedral rhombs, spkld w/ glauconite, much barren porosity, several pcs w/ SCTRD DRK STN, NSFO, NO ODR, soft white chalk A/A

Dolomite- Tan Lt Salmon tint, VF-FXLN, dense, poorly dev., mostly tight sl cherty dolomite w/ micro XLN & sctrd XLN porosity, barren

Dolomite- Cream Tan, VF-FXLN, sandy w/ decreasing qtz content, rounded to sub-rounded inclusions, most well cemented, some lt spkld w/ glauconite, poorly dev. barren

● Dolomite- Cream Semi-Frosted, Med-Crs Grn, increasing qtz content, minimal cementation, friable, mod-hvy spkld w/ glauconite & w/ pyrite inclusions, many barren cluster, some w/ BLK & LT BRWN STN, 1-2 PCS W/ SL SFO, NO ODR

● Dolomite- Cream Off White, VF-FXLN, dense, poorly dev. some w/ qtz inclusions, poor XLN porosity, barren, few lt spkld w/ glauconite

**RTD 3797' (-1584) LTD 3802' (-1589) @ 12:39 11/6/2013**

10 STAND MINI  
TRIP  
CTCH  
SURVEY 3/4 dgr.  
TOH FOR LOG



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Jasper Co.  
 PO Box 1120  
 Hays Ks. 67601  
 ATTN: Jeff Lawler

**5-7s-20w Rooks**  
**Fischli #1**  
 Job Ticket: 54333 **DST#: 1**  
 Test Start: 2013.11.03 @ 23:15:01

## GENERAL INFORMATION:

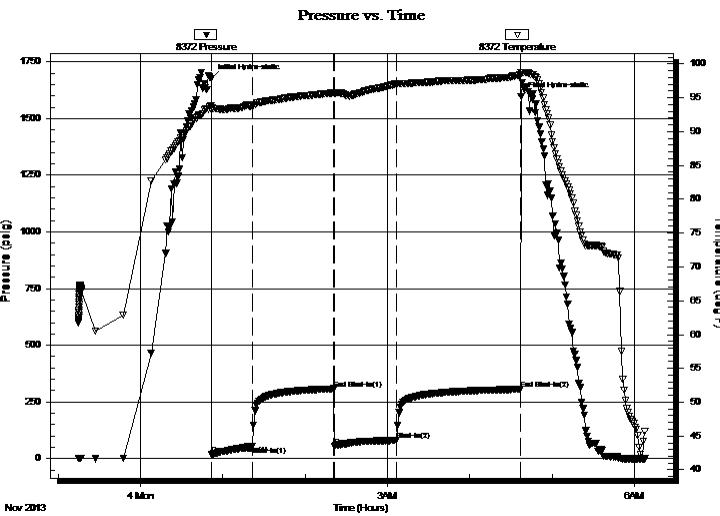
Formation: **Tor-LKC"A"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:52:00  
 Time Test Ended: 06:07:30  
 Interval: **3398.00 ft (KB) To 3452.00 ft (KB) (TVD)**  
 Total Depth: 3452.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Andy Carreira  
 Unit No: 68  
 Reference Elevations: 2213.00 ft (KB)  
 2208.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8372

Inside

Press@RunDepth: 80.87 psig @ 3405.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.11.03 End Date: 2013.11.04 Last Calib.: 2013.11.04  
 Start Time: 23:15:01 End Time: 06:07:30 Time On Btm: 2013.11.04 @ 00:51:30  
 Time Off Btm: 2013.11.04 @ 04:37:30

TEST COMMENT: IF:(30min) 1" blow in 5 min. 2" in 13 min. Built to 13 min.  
 ISl:(60min) No Return  
 FF:(45min) Surface blow in 7 min. 1" in 28 min. Built to 1.75"  
 FSl:(90min) No Return



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1675.34         | 93.81        | Initial Hydro-static |
| 1           | 17.34           | 93.22        | Open To Flow (1)     |
| 30          | 53.46           | 93.80        | Shut-In(1)           |
| 90          | 307.81          | 95.73        | End Shut-In(1)       |
| 90          | 54.76           | 95.59        | Open To Flow (2)     |
| 135         | 80.87           | 97.03        | Shut-In(2)           |
| 226         | 305.77          | 98.36        | End Shut-In(2)       |
| 226         | 1596.70         | 98.76        | Final Hydro-static   |

## Recovery

| Length (ft) | Description              | Volume (bbl) |
|-------------|--------------------------|--------------|
| 140.00      | Mud w / oil spks in tool | 0.86         |
|             |                          |              |
|             |                          |              |
|             |                          |              |

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Jasper Co.

**5-7s-20w Rooks**

PO Box 1120  
Hays Ks. 67601

**Fischli #1**

Job Ticket: 54333

**DST#: 1**

ATTN: Jeff Lawler

Test Start: 2013.11.03 @ 23:15:01

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.60 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

| Length<br>ft | Description              | Volume<br>bbl |
|--------------|--------------------------|---------------|
| 140.00       | Mud w / oil spks in tool | 0.859         |

Total Length: 140.00 ft      Total Volume: 0.859 bbl

Num Fluid Samples: 0

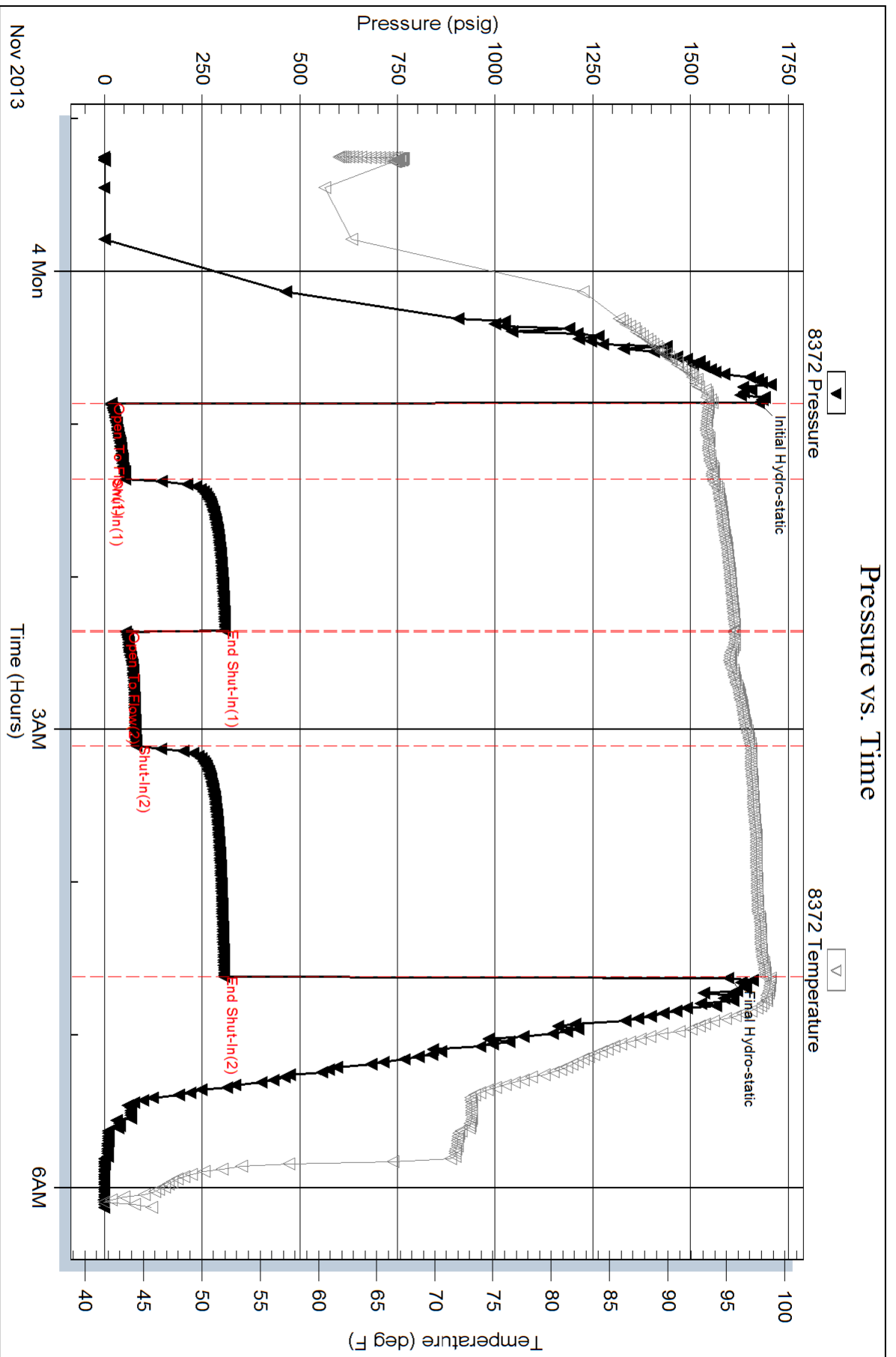
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Jasper Co.  
 PO Box 1120  
 Hays Ks. 67601  
 ATTN: Jeff Lawler

**5-7s-20w Rooks**  
**Fischli #1**  
 Job Ticket: 54334      **DST#: 2**  
 Test Start: 2013.11.04 @ 12:51:01

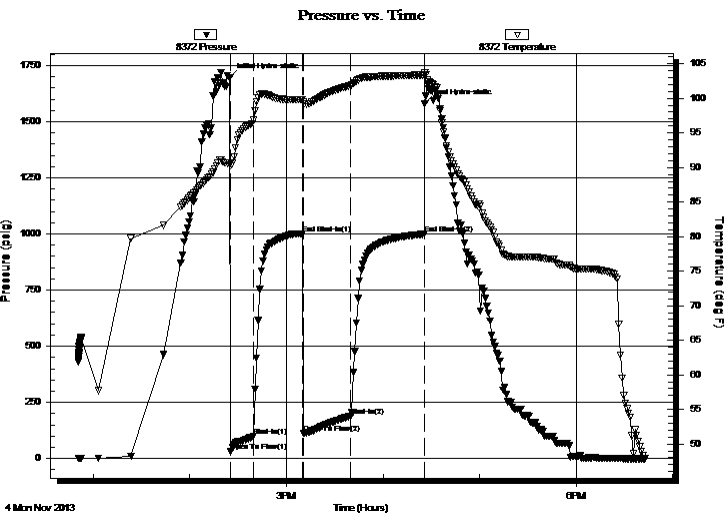
## GENERAL INFORMATION:

Formation: **LKC"C-D"**  
 Deviated: No Whipstock:      ft (KB)  
 Time Tool Opened: 14:25:30  
 Time Test Ended: 18:43:00  
 Interval: **3454.00 ft (KB) To 3500.00 ft (KB) (TVD)**  
 Total Depth: 3500.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Andy Carreira  
 Unit No: 68  
 Reference Elevations: 2213.00 ft (KB)  
 2208.00 ft (CF)  
 KB to GR/CF: 5.00 ft

## Serial #: 8372 Inside

Press @ Run Depth: 189.62 psig @ 3459.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2013.11.04      End Date: 2013.11.04      Last Calib.: 2013.11.04  
 Start Time: 12:51:01      End Time: 18:43:00      Time On Btm: 2013.11.04 @ 14:25:00  
 Time Off Btm: 2013.11.04 @ 16:26:00

**TEST COMMENT:** IF:(15min) BOB in 5 min.  
 IS:(30min) Return blow 30 sec after bleed off. Built to BOB in 25 min.  
 FF:(30min) BOB immediately.  
 FS:(45min) Return blow immediately after bleed off. Built to BOB in 12 min.



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1695.66         | 90.70        | Initial Hydro-static |
| 1           | 31.89           | 90.27        | Open To Flow (1)     |
| 15          | 98.85           | 96.84        | Shut-In(1)           |
| 45          | 1000.64         | 99.82        | End Shut-In(1)       |
| 46          | 112.98          | 99.44        | Open To Flow (2)     |
| 75          | 189.62          | 101.86       | Shut-In(2)           |
| 121         | 999.15          | 103.36       | End Shut-In(2)       |
| 121         | 1579.50         | 103.75       | Final Hydro-static   |

## Recovery

| Length (ft) | Description             | Volume (bbl) |
|-------------|-------------------------|--------------|
| 120.00      | HOCGM g=20% o=20% m=60% | 0.59         |
| 360.00      | CGO g=15% o=85%         | 5.04         |
|             |                         |              |
|             |                         |              |
|             |                         |              |

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Jasper Co.  
PO Box 1120  
Hays Ks. 67601  
ATTN: Jeff Lawler

**5-7s-20w Rooks**  
**Fischli #1**  
Job Ticket: 54334      **DST#: 2**  
Test Start: 2013.11.04 @ 12:51:01

## Mud and Cushion Information

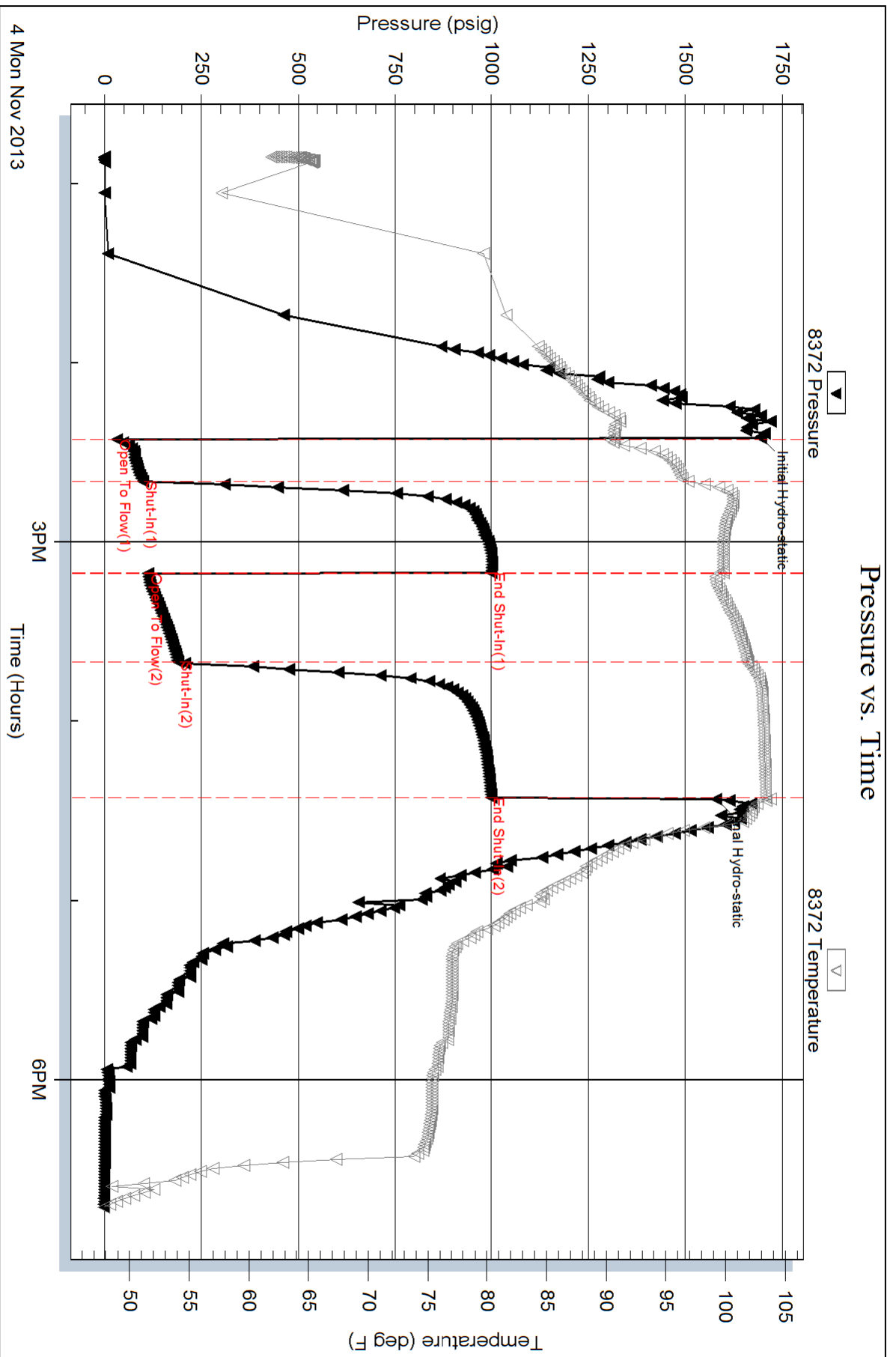
|                                  |                            |                 |         |
|----------------------------------|----------------------------|-----------------|---------|
| Mud Type: Gel Chem               | Cushion Type:              | Oil API:        | deg API |
| Mud Weight: 9.00 lb/gal          | Cushion Length: ft         | Water Salinity: | ppm     |
| Viscosity: 60.00 sec/qt          | Cushion Volume: bbl        |                 |         |
| Water Loss: 7.59 in <sup>3</sup> | Gas Cushion Type:          |                 |         |
| Resistivity: ohm.m               | Gas Cushion Pressure: psig |                 |         |
| Salinity: 1000.00 ppm            |                            |                 |         |
| Filter Cake: inches              |                            |                 |         |

## Recovery Information

Recovery Table

| Length<br>ft | Description             | Volume<br>bbl |
|--------------|-------------------------|---------------|
| 120.00       | HOCGM g=20% o=20% m=60% | 0.590         |
| 360.00       | CGO g=15% o=85%         | 5.038         |

Total Length: 480.00 ft      Total Volume: 5.628 bbl  
 Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:  
 Laboratory Name:      Laboratory Location:  
 Recovery Comments:





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Jasper Co.  
 PO Box 1120  
 Hays Ks. 67601  
 ATTN: Jeff Lawler

**5-7s-20w Rooks**  
**Fischli #1**  
 Job Ticket: 54335      **DST#: 3**  
 Test Start: 2013.11.05 @ 01:21:01

## GENERAL INFORMATION:

Formation: **LKC"EF"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 03:15:30  
 Time Test Ended: 08:16:30  
 Interval: **3501.00 ft (KB) To 3525.00 ft (KB) (TVD)**  
 Total Depth: 3525.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Andy Carreira  
 Unit No: 68  
 Reference Elevations: 2213.00 ft (KB)  
 2208.00 ft (CF)  
 KB to GR/CF: 5.00 ft

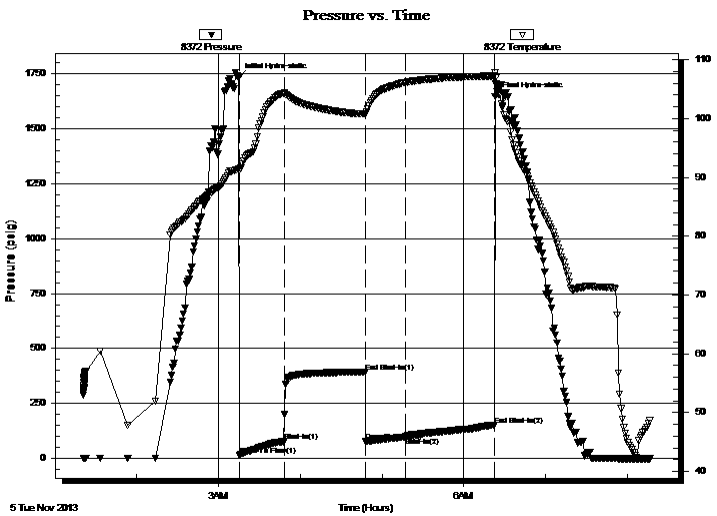
## Serial #: 8372

Inside

Press @ Run Depth: 98.46 psig @ 3502.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2013.11.05      End Date: 2013.11.05      Last Calib.: 2013.11.05  
 Start Time: 01:21:01      End Time: 08:16:30      Time On Btm: 2013.11.05 @ 03:15:00  
 Time Off Btm: 2013.11.05 @ 06:23:00

TEST COMMENT: IF:(30min) 2" blow in 5 min. 4" in 14 min. Built to 7"  
 ISl:(60min) No Return  
 FF:(30min) 2" blow in 14 min. Built to 4"  
 FSl:(60min) No Return

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1731.80         | 91.46        | Initial Hydro-static |
| 1           | 15.80           | 91.07        | Open To Flow (1)     |
| 33          | 78.98           | 104.23       | Shut-In(1)           |
| 93          | 393.45          | 100.79       | End Shut-In(1)       |
| 93          | 77.41           | 100.66       | Open To Flow (2)     |
| 123         | 98.46           | 106.14       | Shut-In(2)           |
| 188         | 151.19          | 107.24       | End Shut-In(2)       |
| 188         | 1644.70         | 107.83       | Final Hydro-static   |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 260.00      | MW          | 2.54         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Jasper Co.

**5-7s-20w Rooks**

PO Box 1120  
Hays Ks. 67601

**Fischli #1**

Job Ticket: 54335

**DST#: 3**

ATTN: Jeff Lawler

Test Start: 2013.11.05 @ 01:21:01

## 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:

78000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 260.00       | MW          | 2.543         |

Total Length: 260.00 ft      Total Volume: 2.543 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Resistivity- .178 @ 41 deg = 78000

