

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1251346
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

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

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

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

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

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

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

| | | |
|-----------------------------------|-----------------|---|
| Spud Date or Recompletion Date | Date Reached TD | Completion Date or Recompletion Date |
|-----------------------------------|-----------------|---|

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: _____

1251346

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

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

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

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

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

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

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

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

Date of First, Resumed Production, SWD or ENHR. _____ Producing Method:
 Flowing Pumping Gas Lift Other *(Explain)* _____

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

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

| | |
|-----------|---------------------------|
| Form | ACO1 - Well Completion |
| Operator | Murfin Drilling Co., Inc. |
| Well Name | Theron 4-10 |
| Doc ID | 1251346 |

All Electric Logs Run

| |
|------|
| |
| DIL |
| DUCP |
| MEL |
| BHCS |



*acct
Prod-mg*

INVOICE

PO Box 93999
Southlake, TX 76092

Invoice Number: 149110
Invoice Date: Mar 23, 2015
Page: 1

Voice: (817) 546-7282
Fax: (817) 246-3361

Federal Tax I.D.#: 20-8651475

| |
|---|
| Bill To: |
| Murfin Drlg. Co., Inc. 250 N. Water STE #300 Wichita, KS 67202 |

| Customer ID | Field Ticket # | Payment Terms | |
|--------------|----------------|---------------|----------|
| Murfin | 64159 | Net 30 Days | |
| Job Location | Camp Location | Service Date | Due Date |
| KS1-01 | Oakley | Mar 23, 2015 | 4/22/15 |

| Quantity | Item | Description | Unit Price | Amount |
|----------|--------------------|------------------------|------------|----------|
| 1.00 | WELL NAME | Theron #4-10 | | |
| 240.00 | CEMENT MATERIALS | Class A Common | 17.90 | 4,296.00 |
| 677.00 | CEMENT MATERIALS | Chloride | 1.10 | 744.70 |
| 252.00 | CEMENT SERVICE | Cubic Feet Charge | 2.48 | 624.96 |
| 1,162.00 | CEMENT SERVICE | Ton Mileage Charge | 2.75 | 3,195.50 |
| 1.00 | CEMENT SERVICE | Surface | 1,512.25 | 1,512.25 |
| 100.00 | CEMENT SERVICE | Heavy Vehicle Mileage | 7.70 | 770.00 |
| 1.00 | CEMENT SERVICE | Swedge Manifold Rental | 275.00 | 275.00 |
| 100.00 | CEMENT SERVICE | Light Vehicle Mileage | 4.40 | 440.00 |
| 1.00 | CEMENT SUPERVISOR | Paul Beaver | | |
| 1.00 | EQUIPMENT OPERATOR | Brandon Wilkinson | | |
| 1.00 | CEMENT SUPERVISOR | LaRene Wentz | | |

ALL PRICES ARE NET, PAYABLE
30 DAYS FOLLOWING DATE OF
INVOICE. 1 1/2% CHARGED
THEREAFTER. IF ACCOUNT IS
CURRENT, TAKE DISCOUNT OF

\$ 5,336.28 *JK*

ONLY IF PAID ON OR BEFORE
Apr 22, 2015

| | |
|------------------------|------------------|
| Subtotal | 11,858.41 |
| Sales Tax | 410.82 |
| Total Invoice Amount | 12,269.23 |
| Payment/Credit Applied | |
| TOTAL | 12,269.23 |

- 5336.28

6932.95

OK JR

ALLIED OIL & GAS SERVICES, LLC 064159

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999
SOUTHLAKE, TEXAS 76092

SERVICE POINT:
Oakley KS

| | | | | | | | |
|--------------------------------|-------------------|---|------------------|------------------------|---------------------------|-------------------------|--------------------------|
| DATE <u>3-23-15</u> | SEC. <u>10</u> | TWP. <u>1S</u> | RANGE <u>37W</u> | CALLED OUT | ON LOCATION <u>7:00pm</u> | JOB START <u>7:00pm</u> | JOB FINISH <u>7:30pm</u> |
| LEASE <u>Theron</u> | WELL# <u>4-10</u> | LOCATION <u>Bird City N to AA, E to T,</u> | | COUNTY <u>Cherokee</u> | STATE <u>KS</u> | | |
| OLD OR <u>NEW</u> (Circle one) | | <u>2 N, E + N through ea the guards, S + E + N into</u> | | | | | |

CONTRACTOR Murfin 2

TYPE OF JOB Surface

HOLE SIZE 12 1/4 T.D. 220'

CASING SIZE 8 5/8 DEPTH 218'

TUBING SIZE _____ DEPTH _____

DRILL PIPE _____ DEPTH _____

TOOL _____ DEPTH _____

PRES. MAX _____ MINIMUM _____

MEAS. LINE _____ SHOE JOINT _____

CEMENT LEFT IN CSG. 15

PERFS. _____

DISPLACEMENT 13 bbl / H2O

OWNER Same

CEMENT

AMOUNT ORDERED 240 sks Com 3' / cc

| | | |
|-------------------------------------|----------------|-----------------|
| COMMON <u>240 sks</u> | @ <u>17.90</u> | <u>4296.00</u> |
| POZMIX _____ | @ _____ | _____ |
| GEL _____ | @ _____ | _____ |
| CHLORIDE <u>677 #</u> | @ <u>1.10</u> | <u>744.70</u> |
| ASC _____ | @ _____ | _____ |
| _____ | @ _____ | _____ |
| <u>Material Total</u> | @ _____ | <u>5,040.70</u> |
| _____ | @ _____ | _____ |
| <u>(2268.32 / 45%)</u> | @ _____ | _____ |
| _____ | @ _____ | _____ |
| _____ | @ _____ | _____ |
| HANDLING <u>25.2 ft³</u> | @ <u>2.48</u> | <u>624.96</u> |
| MILEAGE <u>11.62 hrs x 100mi x</u> | <u>2.75</u> | <u>3195.50</u> |
| TOTAL _____ | | _____ |

EQUIPMENT

PUMP TRUCK CEMENTER Paul Beamer

431 HELPER Brandon Wilkinson

BULK TRUCK DRIVER Lorene Wentz

373/306

BULK TRUCK DRIVER _____

REMARKS:

mix 240 sks

Displace w/ water

ceMENT did circ

Thank You!

Paul + Crew

CHARGE TO: Murfin Drlg

STREET _____

CITY _____ STATE _____ ZIP _____

SERVICE

DEPTH OF JOB 220'

PUMP TRUCK CHARGE 1572.25

EXTRA FOOTAGE @ _____

MILEAGE ml/hr 100 @ 7.70 770.00

MANIFOLD Swedge @ _____ 275.00

mix 100 @ 4.40 440.00

_____ @ _____ _____

_____ @ _____ _____

TOTAL (3067.96 / 45%) 6,817.71

PLUG & FLOAT EQUIPMENT

_____ @ _____ _____

_____ @ _____ _____

_____ @ _____ _____

_____ @ _____ _____

TOTAL _____

To: Allied Oil & Gas Services, 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.

SALES TAX (If Any) _____

TOTAL CHARGES 11,858.41

DISCOUNT 5,336.28 (45%) IF PAID IN 30 DAYS

6,522.12 Net

PRINTED NAME Amelia Cephalos

SIGNATURE Amelia Cephalos



P. O. Box 466
Ness City, KS 67560
Off: 785-798-2300



Invoice

| | |
|----------|-----------|
| DATE | INVOICE # |
| 4/1/2015 | 27107 |

| |
|--|
| BILL TO |
| Murfin Drilling Co Inc PO Box 661 Colby, KS 67701-0661 |
| USED FOR <u>IC 103</u> |
| APPROVED <u>JK RK</u> |

- Acidizing
- Cement
- Tool Rental

| TERMS | Well No. | Lease | County | Contractor | Well Type | Well Category | Job Purpose | Operator |
|-------------------------------------|--|--------|----------|---------------|-----------|---------------|-------------|-------------|
| Net 30 | #4-10 | Theron | Cheyenne | Company Tools | Oil | Development | LongString | David E. |
| PRICE REF. | DESCRIPTION | | | | QTY | UM | UNIT PRICE | AMOUNT |
| 575D | Mileage - 1 Way | | | | 150 | Miles | 5.00 | 750.00 |
| 579D | Pump Charge - Top To Bottom LongString | | | | 1 | Job | 1,700.00 | 1,700.00 |
| 290 | D-Air | | | | 5 | Gallon(s) | 42.00 | 210.00T |
| 221 | Liquid KCL (Clayfix) | | | | 4 | Gallon(s) | 25.00 | 100.00T |
| 281 | Mud Flush | | | | 500 | Gallon(s) | 1.25 | 625.00T |
| 409-5 | 5 1/2" Turbolizer | | | | 15 | Each | 75.00 | 1,125.00T |
| 403-5 | 5 1/2" Cement Basket | | | | 3 | Each | 250.00 | 750.00T |
| 406-5 | 5 1/2" Latch Down Plug & Baffle | | | | 1 | Each | 225.00 | 225.00T |
| 407-5 | 5 1/2" Insert Float Shoe With Auto Fill | | | | 1 | Each | 300.00 | 300.00T |
| 413-5 | 5 1/2" Roto Wall Scratcher | | | | 20 | Each | 35.00 | 700.00T |
| 419-5 | 5 1/2" Rotating Head Rental | | | | 1 | Each | 200.00 | 200.00T |
| 330 | Swift Multi-Density Standard (MIDCON II) | | | | 300 | Sacks | 15.75 | 4,725.00T |
| 325 | Standard Cement | | | | 200 | Sacks | 12.25 | 2,450.00T |
| 284 | Calseal | | | | 10 | Sack(s) | 30.00 | 300.00T |
| 283 | Salt | | | | 1,082 | Lb(s) | 0.20 | 216.40T |
| 285 | CFR-1 | | | | 135 | Lb(s) | 4.50 | 607.50T |
| 276 | Flocele | | | | 200 | Lb(s) | 2.25 | 450.00T |
| 581D | Service Charge Cement | | | | 500 | Sacks | 1.50 | 750.00 |
| 583D | Drayage | | | | 3,825 | Ton Miles | 0.75 | 2,868.75 |
| Subtotal | | | | | | | | 19,052.65 |
| Sales Tax Cheyenne County | | | | | | | 8.15% | 1,058.19 |
| We Appreciate Your Business! | | | | | | Total | | \$20,110.84 |

*Acby -
cc:WF
cc: Mang D*



TICKET 27107

CHARGE TO: Murfin Drilling Co
 ADDRESS:
 CITY, STATE, ZIP CODE:

PAGE 1 OF 2

WELL/PROJECT NO. 4-10 LEASE Theron COUNTY/PARISH Cheyenne CITY KS DATE 4-1-15 OWNER
 SERVICE LOCATIONS:
 1. Hays KS
 2. Ness City KS
 3. Oil
 4. Development Long Spring

TICKET TYPE: SERVICE SALES CONTRACTOR Co Tools
 RIG NAME/NO. Rig #2 DELIVERED TO location
 WELL TYPE Oil WELL CATEGORY Development JOB PURPOSE Development Long Spring WELL PERMIT NO.
 INVOICE INSTRUCTIONS

| PRICE REFERENCE | SECONDARY REFERENCE/PART NUMBER | ACCOUNTING | | DESCRIPTION | QTY. | UM | QTY. | UM | UNIT PRICE | AMOUNT |
|-----------------|---------------------------------|------------|------|--------------------------------|------|-----|------|----|------------|---------|
| | | LOC | ACCT | | | | | | | |
| 575 | | 1 | | | | | 150 | Mi | 5.00 | 750.00 |
| 579 | | 1 | | Pump charge - top to bottom | | EA | | | 1700.00 | 1700.00 |
| 290 | | 1 | | D-Air | 5 | Gal | | | 42.00 | 210.00 |
| 221 | | 1 | | Liquid Kcl | 4 | Gal | | | 25.00 | 100.00 |
| 281 | | 1 | | Mud Flush | 500 | Gal | | | 1.25 | 625.00 |
| 409 | | 1 | | Centralizer - Turbo | 15 | EA | 5/1 | | 75.00 | 1125.00 |
| 403 | | 1 | | Cmt Basket | 3 | EA | | | 250.00 | 750.00 |
| 406 | | 1 | | Watch Down plug & baffle | 1 | EA | | | 225.00 | 225.00 |
| 407 | | 1 | | Insert float shoe w/ auto fill | 1 | EA | | | 300.00 | 300.00 |
| 413 | | 1 | | Roto wall scratcher | 20 | EA | | | 35.00 | 700.00 |
| 419 | | 1 | | Rotating head rental | 1 | EA | | | 200.00 | 200.00 |

REMIT PAYMENT TO:
 SWIFT SERVICES, INC.
 P.O. BOX 466
 NESS CITY, KS 67560
 785-798-2300

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY**, and **LIMITED WARRANTY** provisions.
 MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

X David Edge/ton TIME SIGNED 8:40 A.M. P.M.
 DATE SIGNED 4-1-15

SURVEY
 OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?
 WE UNDERSTOOD AND MET YOUR NEEDS?
 YOUR SERVICE WAS PERFORMED WITHOUT DELAY?
 WE OPERATED THE EQUIPMENT AND PERFORMED THE JOB CALCULATIONS SATISFACTORILY?
 ARE YOU SATISFIED WITH OUR SERVICE? YES NO

AGREE **UN-DECIDED** **DIS-AGREE**

PAGE TOTAL 6685.00
 P.D. 12367.65
 TOTAL 20,110.84

CHEYENNE TAX 8.15% 1058.19

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.
 SWIFT OPERATOR David Edge/ton APPROVAL

Thank You!



PO Box 466
Ness City, KS 67560
Off: 785-798-2300

TICKET CONTINUATION

TICKET No. 27107

| PRICE REFERENCE | SECONDARY REFERENCE/ PART NUMBER | ACCOUNTING | | TIME | DESCRIPTION | QTY | | U/M | QTY | U/M | UNIT PRICE | AMOUNT |
|-----------------|----------------------------------|------------|------|------|-----------------------------|--------------|---------|-----|-----|-----|------------|---------|
| | | LOC | ACCT | | | DF | QTY | | | | | |
| 330 | | 2 | | | Swift - Multi-Density | 300 | SKS | | | | 15 | 4725.00 |
| 325 | | 2 | | | Standard Cmt | 200 | SKS | | | | 12 | 2450.00 |
| 284 | | 2 | | | Calseal | 10 | SKS | | | | 30 | 360.00 |
| 283 | | 2 | | | Salt | 1082 | LBS | | | | 20 | 216.40 |
| 285 | | 2 | | | CFR-1 | 135 | LBS | | | | 4.50 | 607.50 |
| 276 | | 2 | | | Flocele | 200 | LBS | | | | 2.25 | 450.00 |
| 581 | | 2 | | | Service Charge Cmt | | | | | | 1.50 | 750.00 |
| 583 | | 2 | | | Mileage Total Weight Charge | 50996 | | | | | 75 | 2868.75 |
| | | | | | | CUBIC FEET | 500 SKS | | | | | |
| | | | | | | TON MILES | 3825 | | | | | |
| | | | | | | LOADED MILES | 150 | | | | | |

WELL: Theron 4-10
DATE: 4-1-15
PAGE: 2 OF 2

CONTINUATION TOTAL
12367.65

JOB LOG

SWIFT Services, Inc.

DATE **4-1-15** PAGE NO. **1**
TICKET NO. **27107**

CUSTOMER **Murfin**

WELL NO. **4-10**

LEASE **Theron**

JOB TYPE **Long String**

| CHART NO. | TIME | RATE (BPM) | VOLUME (BBL) (GAL) | PUMPS | | PRESSURE (PSI) | | DESCRIPTION OF OPERATION AND MATERIALS |
|-----------|----------------|------------|--------------------|-------|---|----------------|--------|--|
| | | | | T | C | TUBING | CASING | |
| | 100 | | | | | | | On location w/ float equip |
| | | | | | | | | RTD - 4761' |
| | | | | | | | | Total Csg - 4755' |
| | | | | | | | | Shoe - 22.5 |
| | | | | | | | | Cent - 1-9, 11, 13, 15, 25, 37, 62 |
| | | | | | | | | baskets - 16, 38, 63 |
| | 225 | | | | | | | Start running Csg |
| | 355 | | | | | | | Circulate on Joint 62 |
| | 425 | | | | | | | Resume running Csg |
| | 530 | | | | | | | break circ on bottom |
| | 630 | 2 | | | | | | Plug rat & mouse hole 30/20 |
| | 645 | 5.5 | 0 | | | 300 | | start mudflush |
| | 655 | 5.5 | 12/0 | | | 300 | | End mudflush / start KCl spacer |
| | 705 | 5.5 | 20/0 | | | 300 | | End KCl / start Cmt |
| | 835 | 5.5 | 206 | | | 300 | | End Cmt - 300 SMD & 200 END |
| | 840 | | | | | | | wash P & L / Drop plug |
| | 845 | 5.5 | 0 | | | 300 | | Start Disp |
| | | | 100 | | | 706 | | Cmt to Surface - 30 sks to pit |
| | 815 | 3 | 115 | | | 1200/1600 | | End Disp |
| | | | | | | | | |
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| | | | | | | | | |

Thanks
DAVID, Austin, Tyler, Rob

MDCI
Theron #4-10
1980' FSL 660' FEL
Sec. 10-T1S-R37W
3227' KB

| Formation | Sample top | Datum | Ref | Log Top | Datum | Ref |
|-------------|------------|-------|------|---------|-------|-----|
| Anhydrite | 3170 | +57 | +2 | 3169 | +58 | +3 |
| B/Anhydrite | 3202 | +25 | Flat | 3201 | +26 | +1 |
| Neva | 3621 | -394 | +5 | 3621 | -394 | +5 |
| Red Eagle | 3689 | -462 | +3 | 3685 | -458 | +7 |
| Foraker | 3732 | -505 | +5 | 3730 | -503 | +7 |
| Topeka | 3953 | -726 | +4 | 3955 | -728 | +3 |
| Oread | 4088 | -861 | +7 | 4091 | -864 | +4 |
| Lansing | 4170 | -943 | +6 | 4174 | -947 | +2 |
| Stark | 4393 | -1166 | Flat | 4392 | -1165 | +1 |
| BKC | 4448 | -1221 | Flat | 4444 | -1217 | +4 |
| Pawnee | 4568 | -1341 | +4 | 4564 | -1337 | +8 |
| Cherokee | 4661 | -1434 | +2 | 4656 | -1429 | +7 |
| RTD | 4761 | -1534 | | | | |
| LTD | | | | 4762 | -1535 | |



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc.**

250 N. Water STE 300
Wichita, KS 67202

ATTN: Robert Hendrix

Theron #4-10

10-1s-37w Cheyenne,KS

Start Date: 2015.03.26 @ 01:11:00

End Date: 2015.03.26 @ 08:56:30

Job Ticket #: 62202 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.03.31 @ 16:17:36



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

10-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Theron #4-10

Job Ticket: 62202

DST#: 1

ATTN: Robert Hendrix

Test Start: 2015.03.26 @ 01:11:00

GENERAL INFORMATION:

Formation: **Foraker**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:07:00

Time Test Ended: 08:56:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 83

Interval: 3700.00 ft (KB) To 3747.00 ft (KB) (TVD)

Reference Elevations: 3227.00 ft (KB)

Total Depth: 3747.00 ft (KB) (TVD)

3216.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8366 Outside

Press@RunDepth: 49.01 psig @ 3701.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.03.26

End Date: 2015.03.26

Last Calib.: 2015.03.26

Start Time: 01:11:05

End Time: 08:56:29

Time On Btm: 2015.03.26 @ 03:06:30

Time Off Btm: 2015.03.26 @ 07:09:45

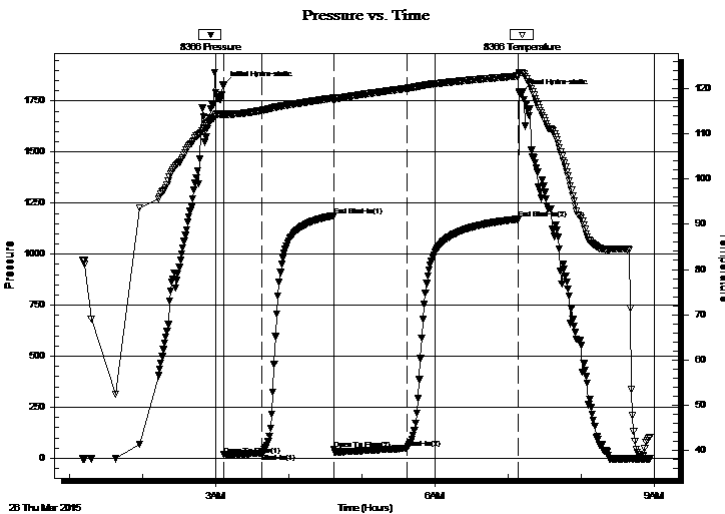
TEST COMMENT: 30 - IF - Weak surface blow built to 3 1/4" in 30 min. (In Diesel)

60 - ISI - No return

60 - FF - Weak surface blow built to 3 3/4" in 60 min.

90 - FSI - No return

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1828.41 | 114.39 | Initial Hydro-static |
| 1 | 16.41 | 113.92 | Open To Flow (1) |
| 32 | 25.48 | 115.09 | Shut-In(1) |
| 91 | 1188.79 | 117.84 | End Shut-In(1) |
| 91 | 42.45 | 117.26 | Open To Flow (2) |
| 151 | 49.01 | 119.97 | Shut-In(2) |
| 242 | 1171.44 | 122.70 | End Shut-In(2) |
| 244 | 1786.27 | 123.40 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-----------------|--------------|
| 29.00 | MCO - 35M - 65o | 0.14 |
| 37.00 | Free oil | 0.18 |
| | | |
| | | |
| | | |

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

10-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Theron #4-10

Job Ticket: 62202

DST#: 1

ATTN: Robert Hendrix

Test Start: 2015.03.26 @ 01:11:00

GENERAL INFORMATION:

Formation: **Foraker**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:07:00

Time Test Ended: 08:56:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Donovan Baumann

Unit No: 83

Interval: 3700.00 ft (KB) To 3747.00 ft (KB) (TVD)

Reference Elevations: 3227.00 ft (KB)

Total Depth: 3747.00 ft (KB) (TVD)

3216.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 11.00 ft

Serial #: 8791

Inside

Press@RunDepth: psig @ 3701.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.03.26

End Date:

2015.03.26

Last Calib.:

2015.03.26

Start Time: 01:11:05

End Time:

08:56:29

Time On Btm:

Time Off Btm:

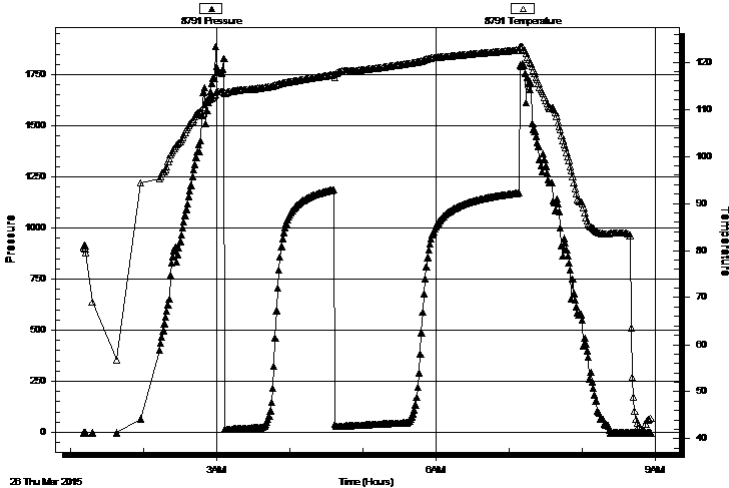
TEST COMMENT: 30 - IF - Weak surface blow built to 3 1/4" in 30 min. (In Diesel)

60 - ISI - No return

60 - FF - Weak surface blow built to 3 3/4" in 60 min.

90 - FSI - No return

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-----------------|--------------|
| 29.00 | MCO - 35M - 65o | 0.14 |
| 37.00 | Free oil | 0.18 |
| | | |
| | | |
| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc.

10-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Theron #4-10

Job Ticket: 62202

DST#: 1

ATTN: Robert Hendrix

Test Start: 2015.03.26 @ 01:11:00

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 3471.16 ft | Diameter: 3.80 inches | Volume: 48.69 bbl | Tool Weight: 2500.00 lb |
| Heavy Wt. Pipe: | Length: 0.00 ft | Diameter: 0.00 inches | Volume: 0.00 bbl | Weight set on Packer: 25000.00 lb |
| Drill Collar: | Length: 205.92 ft | Diameter: 2.25 inches | Volume: 1.01 bbl | Weight to Pull Loose: 72000.00 lb |
| | | | <u>Total Volume: 49.70 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 5.08 ft | | | String Weight: Initial 68000.00 lb |
| Depth to Top Packer: | 3700.00 ft | | | Final 70000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 47.00 ft | | | |
| Tool Length: | 75.00 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:

Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Shut In Tool | 5.00 | | | 3677.00 | |
| Hydraulic tool | 5.00 | | | 3682.00 | |
| Jars | 5.00 | | | 3687.00 | |
| Safety Joint | 3.00 | | | 3690.00 | |
| Packer | 5.00 | | | 3695.00 | 28.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 3700.00 | |
| Stubb | 1.00 | | | 3701.00 | |
| Recorder | 0.00 | 8791 | Inside | 3701.00 | |
| Recorder | 0.00 | 8366 | Outside | 3701.00 | |
| Perforations | 10.00 | | | 3711.00 | |
| change Over Sub | 1.00 | | | 3712.00 | |
| drill Pipe | 31.00 | | | 3743.00 | |
| change Over Sub | 1.00 | | | 3744.00 | |
| Bullnose | 3.00 | | | 3747.00 | 47.00 Bottom Packers & Anchor |

Total Tool Length: 75.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc.

10-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Theron #4-10

Job Ticket: 62202

DST#: 1

ATTN: Robert Hendrix

Test Start: 2015.03.26 @ 01:11:00

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: 47.00 sec/qt

Cushion Volume:

bbf

Water Loss: 5.98 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbf |
|--------------|-----------------|---------------|
| 29.00 | MCO - 35M - 65o | 0.143 |
| 37.00 | Free oil | 0.182 |

Total Length: 66.00 ft Total Volume: 0.325 bbf

Num Fluid Samples: 0

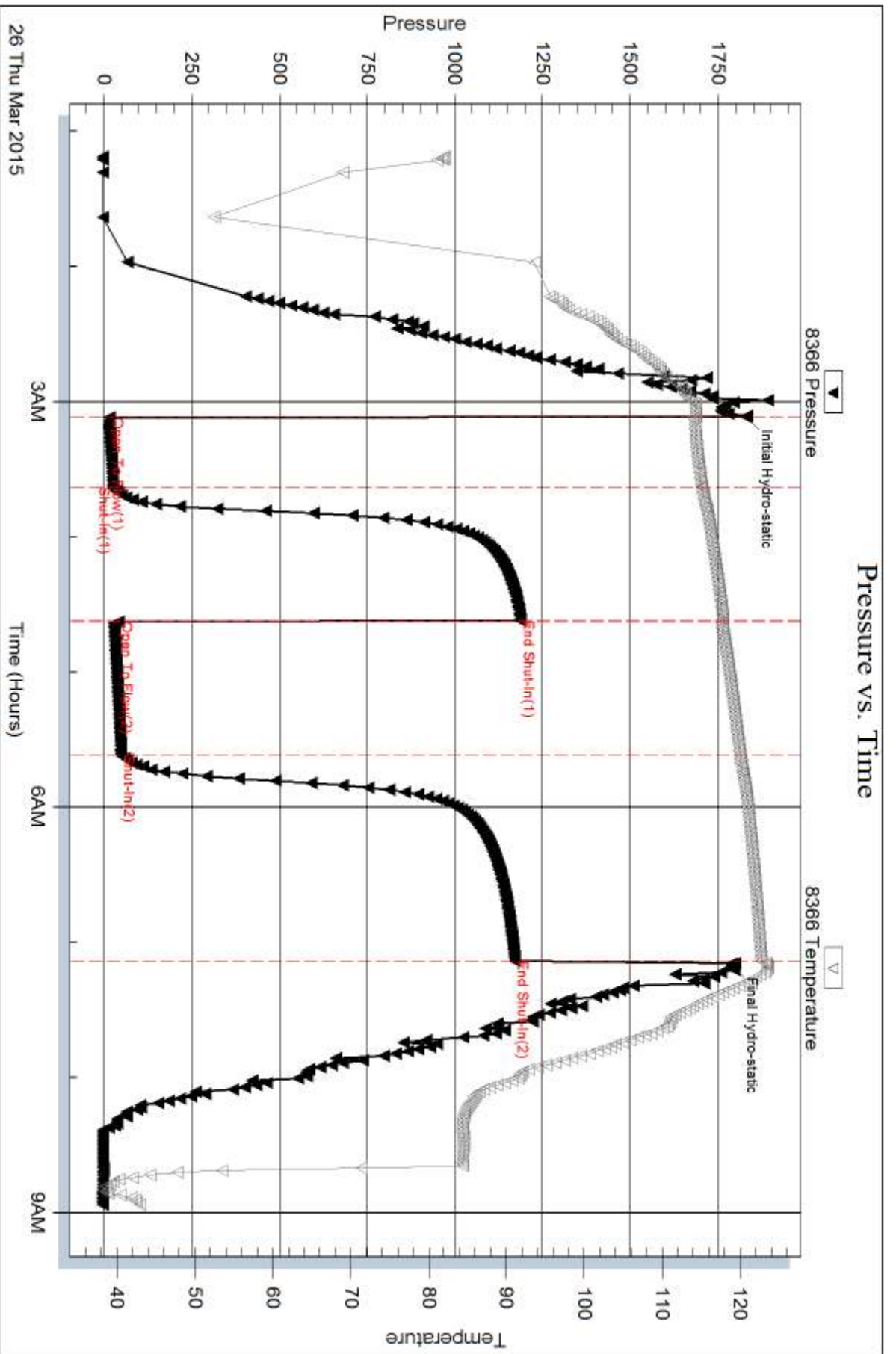
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 28 Gravity



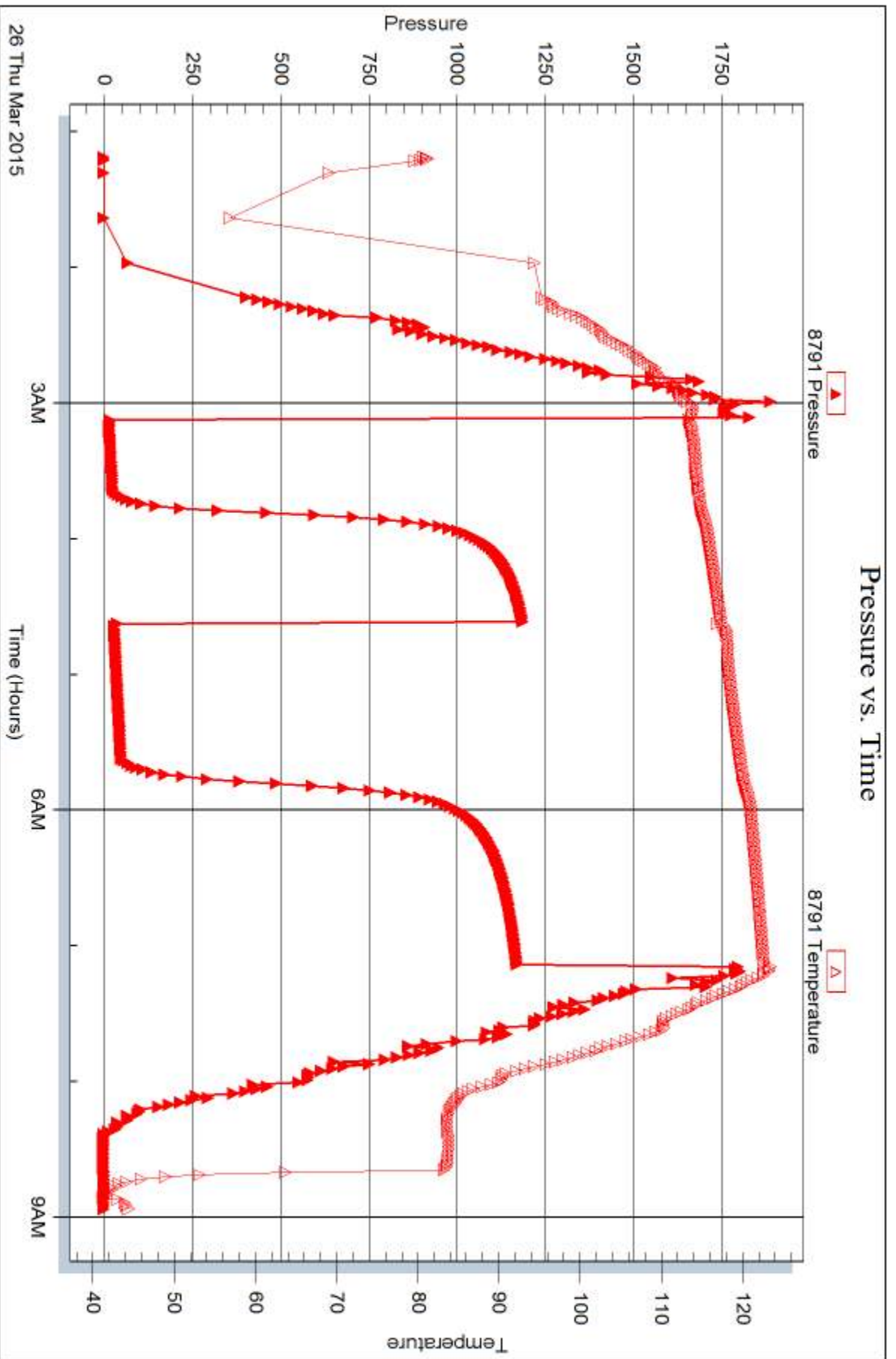
Serial #: 8791

Inside

Murfin Drilling Co Inc.

Theron #4-10

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc.**

250 N. Water STE 300
Wichita, KS 67202

ATTN: Robert Hendrix

Theron #4-10

10-1s-37w Cheyenne,KS

Start Date: 2015.03.28 @ 01:04:00

End Date: 2015.03.28 @ 09:11:45

Job Ticket #: 65026 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.03.31 @ 16:17:15



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

10-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Theron #4-10

Job Ticket: 65026

DST#: 2

ATTN: Robert Hendrix

Test Start: 2015.03.28 @ 01:04:00

GENERAL INFORMATION:

Formation: **LKC "D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:11:00

Time Test Ended: 09:11:45

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4173.00 ft (KB) To 4240.00 ft (KB) (TVD)

Reference Elevations: 3227.00 ft (KB)

Total Depth: 4240.00 ft (KB) (TVD)

3216.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8791

Inside

Press@RunDepth: 69.55 psig @ 4174.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.03.28

End Date:

2015.03.28

Last Calib.:

2015.03.28

Start Time:

01:04:05

End Time:

09:11:44

Time On Btm:

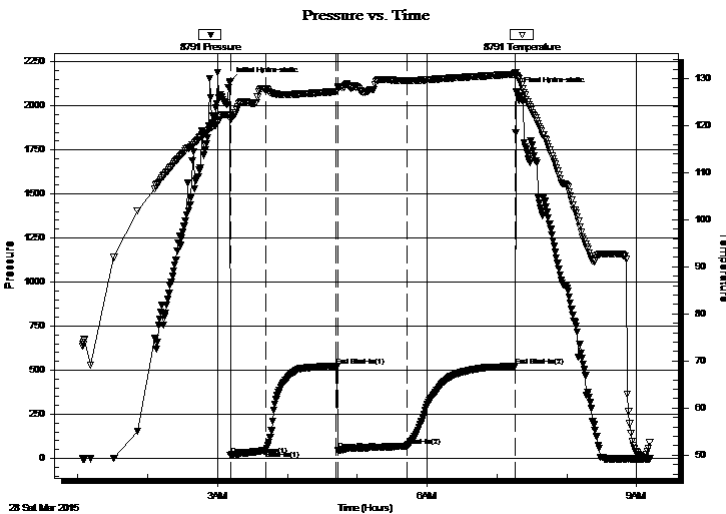
2015.03.28 @ 03:10:45

Time Off Btm:

2015.03.28 @ 07:17:00

TEST COMMENT: 30 - IF: 1/4" Blow at open, built to 3"
60 - IS: No blow back
60 - FF: Surface blow started at 14 min., built to just over 1"
90 - FS: No blow back

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2136.74 | 122.14 | Initial Hydro-static |
| 1 | 17.26 | 121.22 | Open To Flow (1) |
| 31 | 43.48 | 127.78 | Shut-In(1) |
| 92 | 524.08 | 127.23 | End Shut-In(1) |
| 93 | 44.73 | 128.22 | Open To Flow (2) |
| 152 | 69.55 | 129.58 | Shut-In(2) |
| 245 | 521.17 | 130.94 | End Shut-In(2) |
| 247 | 2081.33 | 130.59 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|--|--------------|
| 60.00 | SOWCM 84% <i>m</i> , 7% <i>w</i> , 5% <i>g</i> , 4% <i>o</i> | 0.30 |
| 15.00 | OCM 88% <i>m</i> , 12% <i>o</i> | 0.07 |
| 45.00 | MCO 90% <i>o</i> , 10% <i>m</i> | 0.22 |
| | | |
| | | |

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

10-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Theron #4-10

Job Ticket: 65026

DST#: 2

ATTN: Robert Hendrix

Test Start: 2015.03.28 @ 01:04:00

GENERAL INFORMATION:

Formation: **LKC "D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 03:11:00

Time Test Ended: 09:11:45

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4173.00 ft (KB) To 4240.00 ft (KB) (TVD)

Total Depth: 4240.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3227.00 ft (KB)

3216.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8366 Outside

Press@RunDepth: psig @ 4174.00 ft (KB)

Start Date: 2015.03.28

End Date:

2015.03.28

Start Time: 01:04:05

End Time:

09:11:14

Capacity: 8000.00 psig

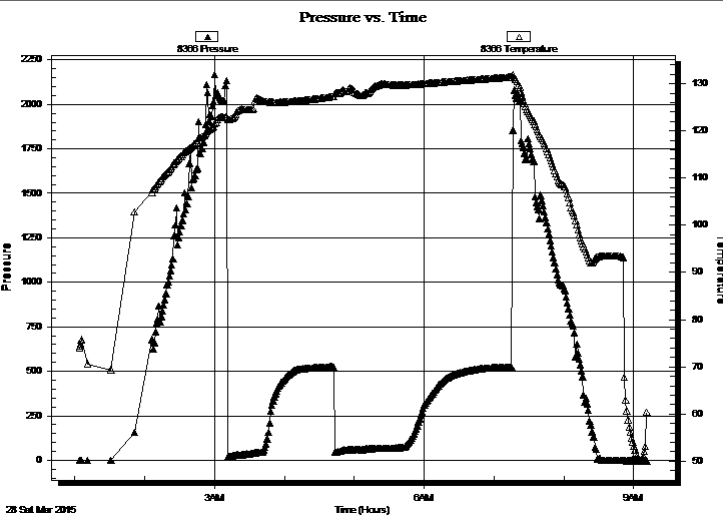
Last Calib.:

2015.03.28

Time On Btm:

Time Off Btm:

TEST COMMENT: 30 - IF: 1/4" Blow at open, built to 3"
60 - ISI: No blow back
60 - FF: Surface blow started at 14 min., built to just over 1"
90 - FSI: No blow back



PRESSURE SUMMARY

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

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|---------------------------|--------------|
| 60.00 | SOWCM 84%m, 7%w, 5%g, 4%o | 0.30 |
| 15.00 | OCM 88%m, 12%o | 0.07 |
| 45.00 | MCO 90%o, 10%m | 0.22 |
| | | |
| | | |
| | | |

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc.

10-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Theron #4-10

Job Ticket: 65026

DST#: 2

ATTN: Robert Hendrix

Test Start: 2015.03.28 @ 01:04:00

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 3944.00 ft | Diameter: 3.80 inches | Volume: 55.32 bbl | Tool Weight: 2500.00 lb |
| Heavy Wt. Pipe: | Length: 0.00 ft | Diameter: 0.00 inches | Volume: 0.00 bbl | Weight set on Packer: 25000.00 lb |
| Drill Collar: | Length: 206.00 ft | Diameter: 2.25 inches | Volume: 1.01 bbl | Weight to Pull Loose: 80000.00 lb |
| | | | <u>Total Volume: 56.33 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 5.00 ft | | | String Weight: Initial 72000.00 lb |
| Depth to Top Packer: | 4173.00 ft | | | Final 72000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 67.00 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 |
|------------------|-------------|------------|----------|------------|----------------|
|------------------|-------------|------------|----------|------------|----------------|

| | | | | | |
|-----------------|-------|------|---------|---------|-------------------------------|
| Shut In Tool | 5.00 | | | 4150.00 | |
| Hydraulic tool | 5.00 | | | 4155.00 | |
| Jars | 5.00 | | | 4160.00 | |
| Safety Joint | 3.00 | | | 4163.00 | |
| Packer | 5.00 | | | 4168.00 | 28.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 4173.00 | |
| Stubb | 1.00 | | | 4174.00 | |
| Recorder | 0.00 | 8791 | Inside | 4174.00 | |
| Recorder | 0.00 | 8366 | Outside | 4174.00 | |
| Perforations | 30.00 | | | 4204.00 | |
| change Over Sub | 1.00 | | | 4205.00 | |
| drill Pipe | 31.00 | | | 4236.00 | |
| change Over Sub | 1.00 | | | 4237.00 | |
| Bullnose | 3.00 | | | 4240.00 | 67.00 Bottom Packers & Anchor |

Total Tool Length: 95.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc.

10-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Theron #4-10

Job Ticket: 65026

DST#: 2

ATTN: Robert Hendrix

Test Start: 2015.03.28 @ 01:04:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

23.4 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 600.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbf |
|--------------|---------------------------|---------------|
| 60.00 | SOWCM 84%m, 7%w, 5%g, 4%o | 0.295 |
| 15.00 | OCM 88%m, 12%o | 0.074 |
| 45.00 | MCO 90%o, 10%m | 0.221 |

Total Length: 120.00 ft Total Volume: 0.590 bbf

Num Fluid Samples: 0

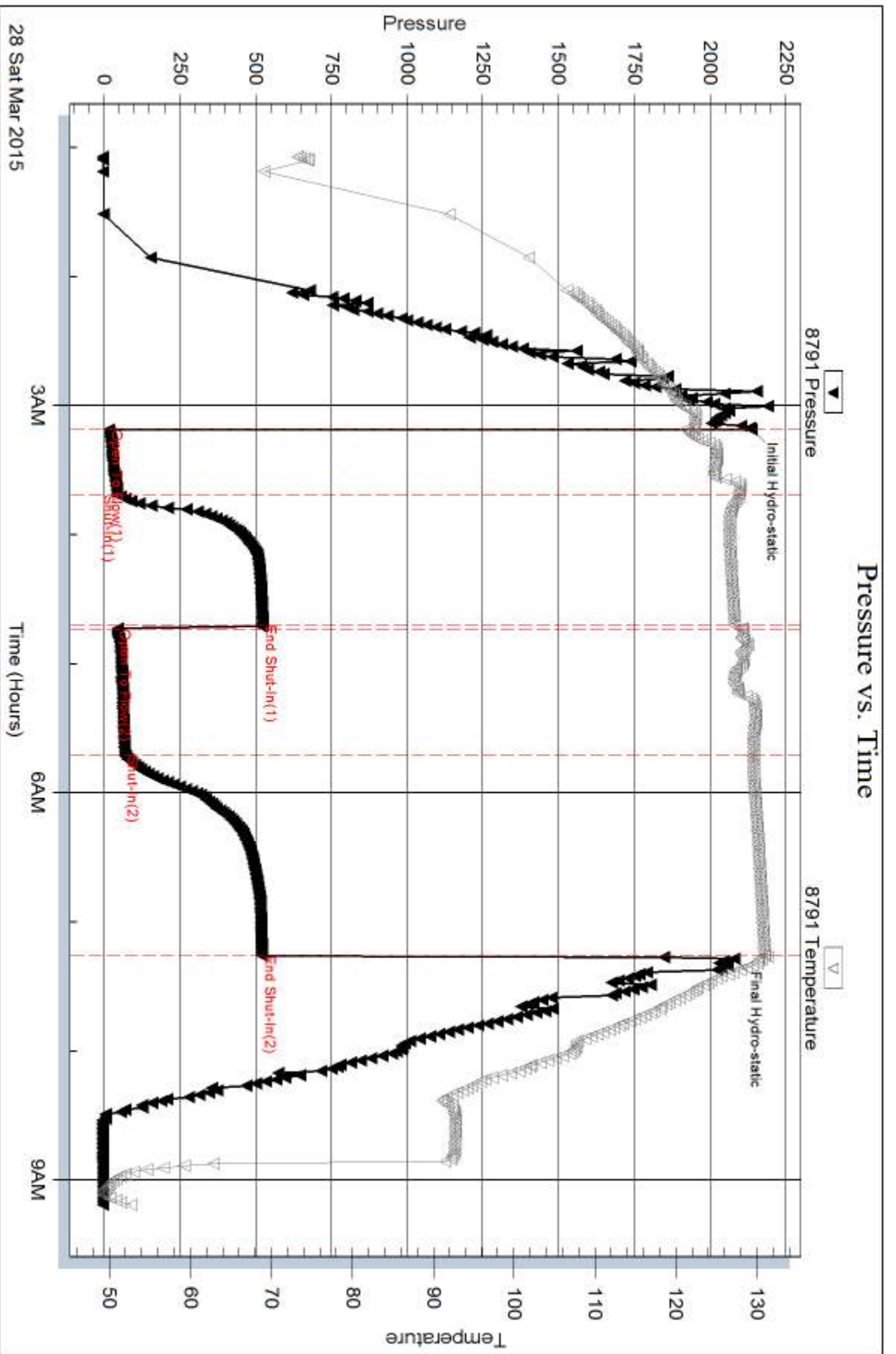
Num Gas Bombs: 0

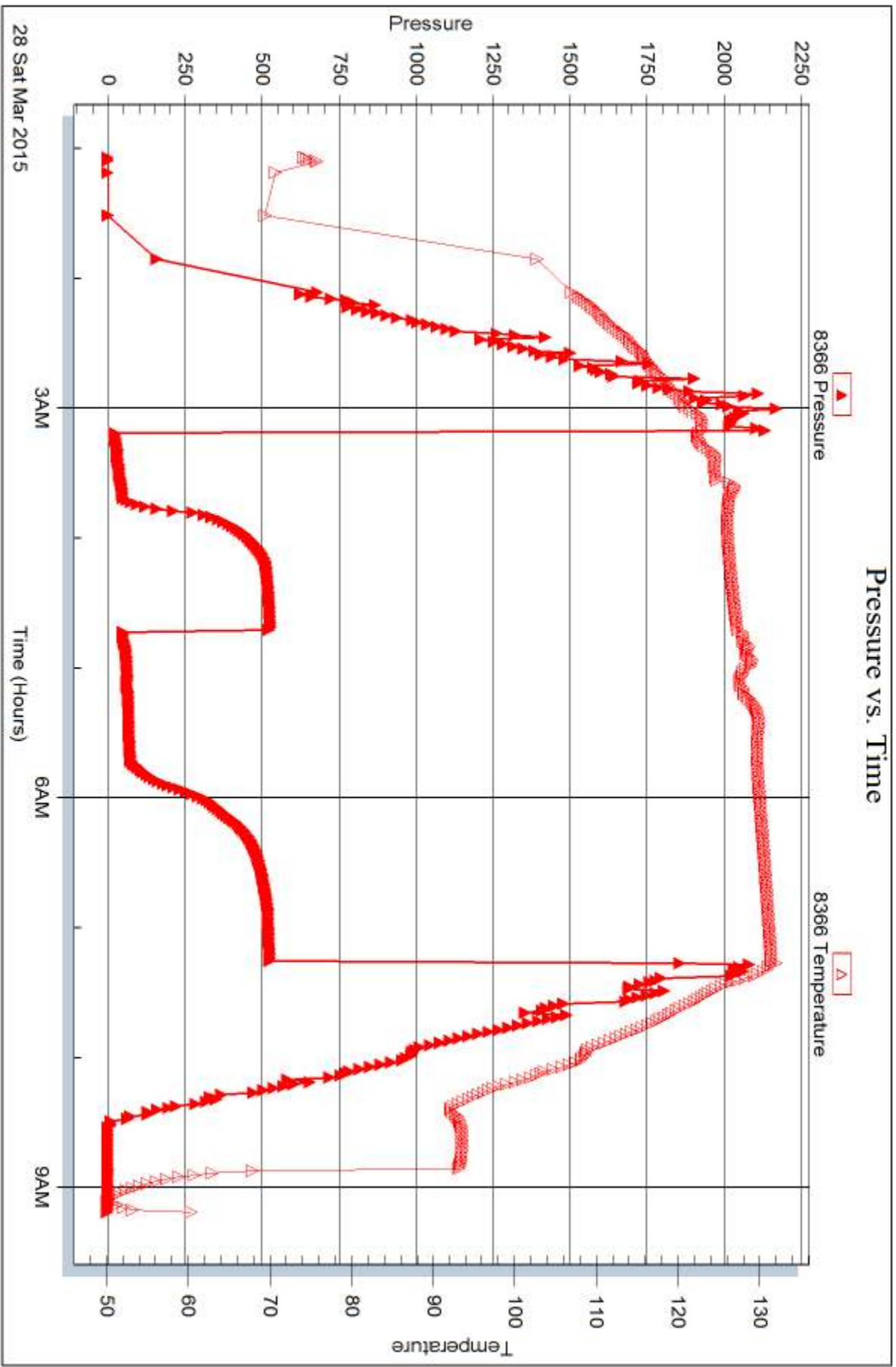
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 23.6 api @ 60.2 deg F







DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co Inc.**

250 N. Water STE 300
Wichita, KS 67202

ATTN: Robert Hendrix

Theron #4-10

10-1s-37w Cheyenne,KS

Start Date: 2015.03.28 @ 19:05:00

End Date: 2015.03.29 @ 01:56:30

Job Ticket #: 65027 DST #: 3

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.04.01 @ 10:41:45



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

10-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Theron #4-10

Job Ticket: 65027

DST#: 3

ATTN: Robert Hendrix

Test Start: 2015.03.28 @ 19:05:00

GENERAL INFORMATION:

Formation: **LKC "G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:03:45

Time Test Ended: 01:56:30

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4247.00 ft (KB) To 4303.00 ft (KB) (TVD)

Reference Elevations: 3227.00 ft (KB)

Total Depth: 4303.00 ft (KB) (TVD)

3216.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8791

Inside

Press@RunDepth: 18.15 psig @ 4248.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.03.28

End Date:

2015.03.29

Last Calib.:

2015.03.29

Start Time:

19:05:05

End Time:

01:56:29

Time On Btm:

2015.03.28 @ 21:03:30

Time Off Btm:

2015.03.29 @ 00:06:00

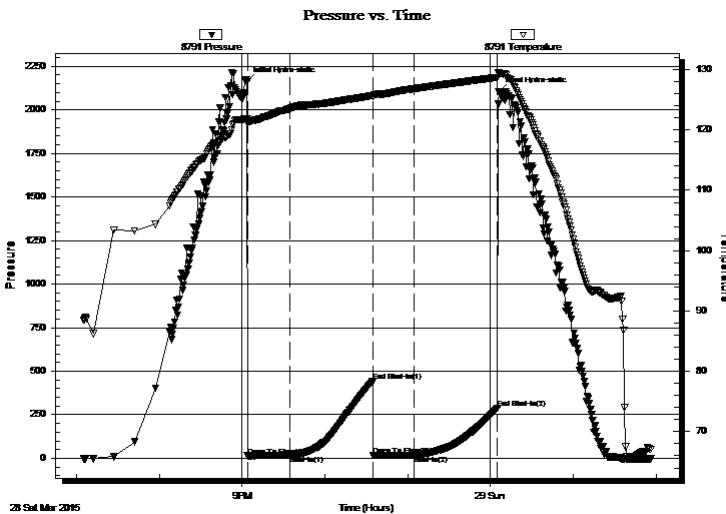
TEST COMMENT: 30 - IF: Weak surface blow, dead at 11 min.

60 - IS: No blow

30 - FF: No blow

60 - FS: No blow

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2161.19 | 121.84 | Initial Hydro-static |
| 1 | 14.41 | 121.14 | Open To Flow (1) |
| 31 | 16.22 | 123.52 | Shut-In(1) |
| 91 | 440.75 | 125.70 | End Shut-In(1) |
| 92 | 16.36 | 125.56 | Open To Flow (2) |
| 121 | 18.15 | 126.82 | Shut-In(2) |
| 182 | 287.06 | 128.72 | End Shut-In(2) |
| 183 | 2105.64 | 129.44 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|---------------------------|--------------|
| 10.00 | Mud w/oil spots 98%m, 2%o | 0.05 |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co Inc.

10-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Theron #4-10

Job Ticket: 65027

DST#: 3

ATTN: Robert Hendrix

Test Start: 2015.03.28 @ 19:05:00

GENERAL INFORMATION:

Formation: **LKC "G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:03:45

Time Test Ended: 01:56:30

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: **4247.00 ft (KB) To 4303.00 ft (KB) (TVD)**

Total Depth: 4303.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3227.00 ft (KB)

3216.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 8366

Outside

Press@RunDepth: psig @ 4248.00 ft (KB)

Start Date: 2015.03.28

End Date:

2015.03.29

Start Time: 19:05:05

End Time:

01:55:59

Capacity: 8000.00 psig

Last Calib.:

2015.03.29

Time On Btm:

Time Off Btm:

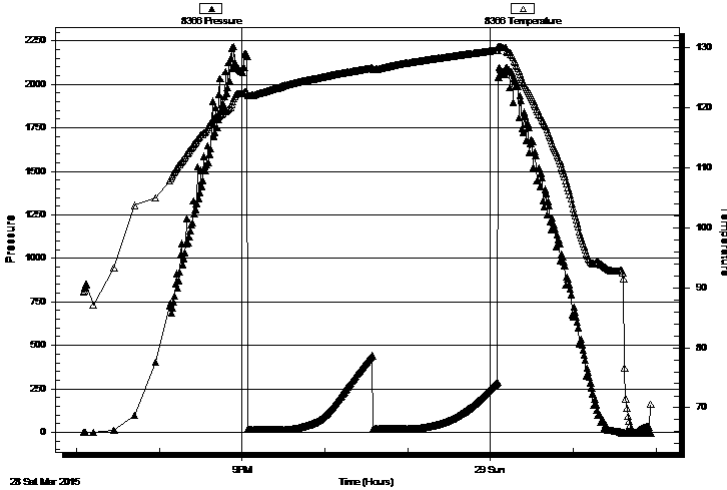
TEST COMMENT: 30 - IF: Weak surface blow , dead at 11 min.

60 - IS: No blow

30 - FF: No blow

60 - FS: No blow

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|----------------------------|--------------|
| 10.00 | Mud w /oil spots 98%m, 2%o | 0.05 |
| | | |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co Inc.

10-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Theron #4-10

Job Ticket: 65027

DST#: 3

ATTN: Robert Hendrix

Test Start: 2015.03.28 @ 19:05:00

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 4038.00 ft | Diameter: 3.80 inches | Volume: 56.64 bbl | Tool Weight: 2500.00 lb |
| Heavy Wt. Pipe: | Length: 0.00 ft | Diameter: 0.00 inches | Volume: 0.00 bbl | Weight set on Packer: 25000.00 lb |
| Drill Collar: | Length: 206.00 ft | Diameter: 2.25 inches | Volume: 1.01 bbl | Weight to Pull Loose: 78000.00 lb |
| | | | <u>Total Volume: 57.65 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 25.00 ft | | | String Weight: Initial 76000.00 lb |
| Depth to Top Packer: | 4247.00 ft | | | Final 76000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 56.00 ft | | | |
| Tool Length: | 84.00 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|----------------|
|------------------|-------------|------------|----------|------------|----------------|

| | | | | | |
|-----------------|-------|------|---------|---------|-------------------------------|
| Shut In Tool | 5.00 | | | 4224.00 | |
| Hydraulic tool | 5.00 | | | 4229.00 | |
| Jars | 5.00 | | | 4234.00 | |
| Safety Joint | 3.00 | | | 4237.00 | |
| Packer | 5.00 | | | 4242.00 | 28.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 4247.00 | |
| Stubb | 1.00 | | | 4248.00 | |
| Recorder | 0.00 | 8791 | Inside | 4248.00 | |
| Recorder | 0.00 | 8366 | Outside | 4248.00 | |
| Perforations | 19.00 | | | 4267.00 | |
| change Over Sub | 1.00 | | | 4268.00 | |
| drill Pipe | 31.00 | | | 4299.00 | |
| change Over Sub | 1.00 | | | 4300.00 | |
| Bullnose | 3.00 | | | 4303.00 | 56.00 Bottom Packers & Anchor |

Total Tool Length: 84.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co Inc.

10-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Theron #4-10

Job Ticket: 65027

DST#: 3

ATTN: Robert Hendrix

Test Start: 2015.03.28 @ 19:05:00

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: 58.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.38 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbf |
|--------------|----------------------------|---------------|
| 10.00 | Mud w /oil spots 98%m, 2%o | 0.049 |

Total Length: 10.00 ft Total Volume: 0.049 bbf

Num Fluid Samples: 0

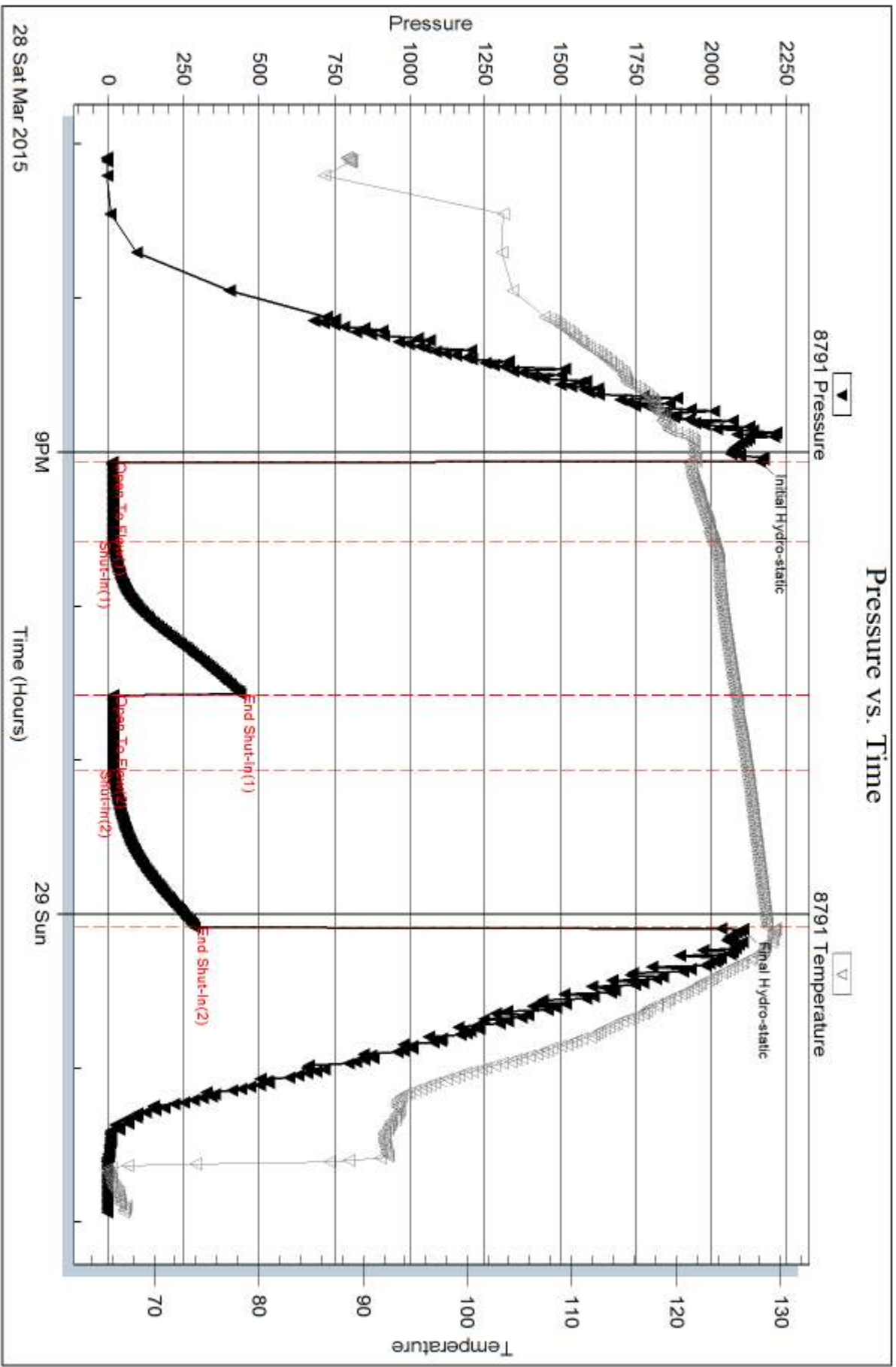
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

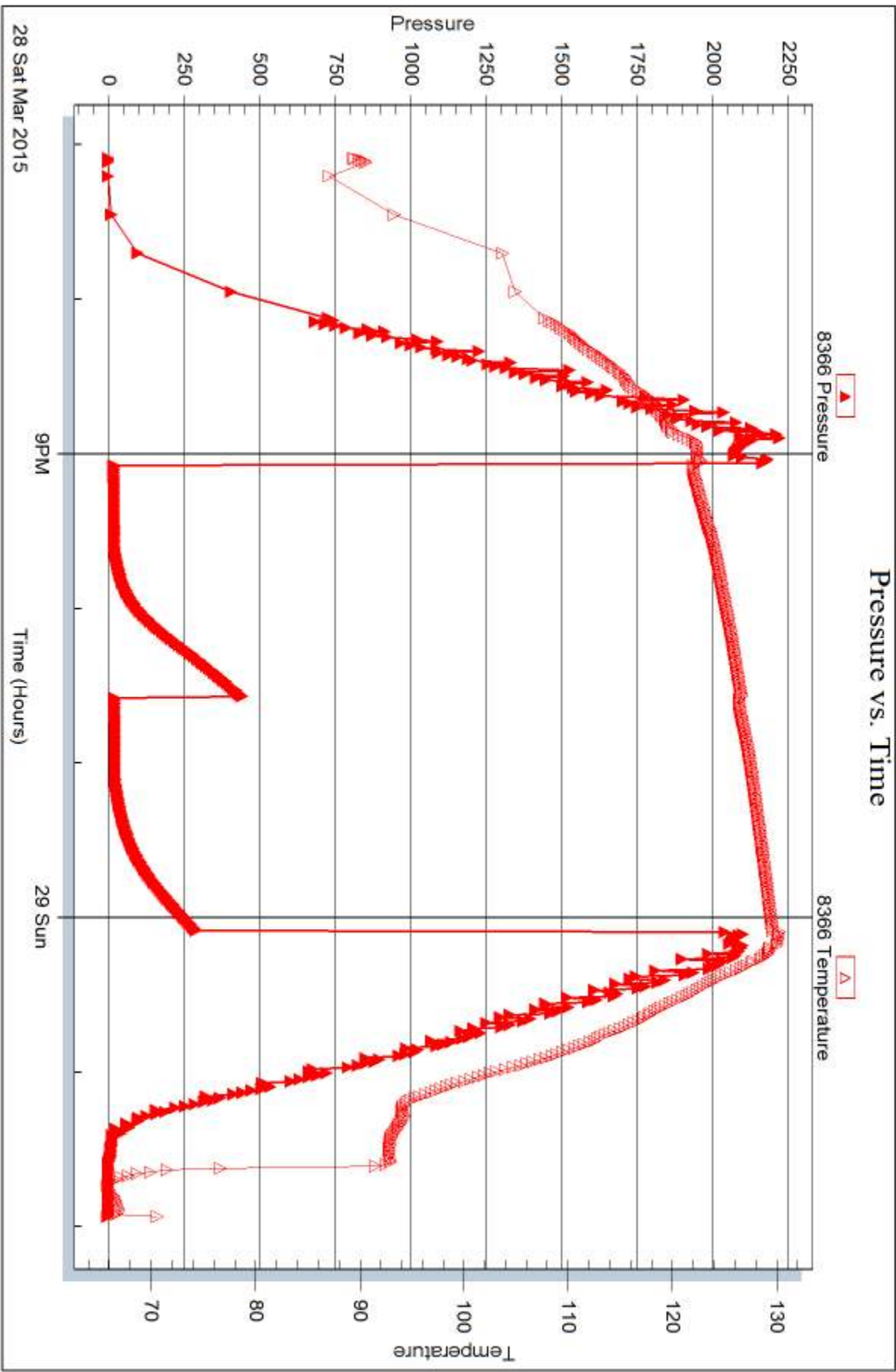


Serial #: 8366

Outside Murfin Drilling Co Inc.

Theron #4-10

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 65027

Printed: 2015.04.01 @ 10:41:47



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling CO., Inc.**

250 N. Water STE 300
Wichita, KS 67202

ATTN: Robert Hendrix

Theron #4-10

10-1s-37w Cheyenne,KS

Start Date: 2015.03.30 @ 08:52:00

End Date: 2015.03.30 @ 17:28:00

Job Ticket #: 65028 DST #: 4

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2015.03.31 @ 16:16:19



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Murfin Drilling CO., Inc.

10-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Theron #4-10

Job Ticket: 65028

DST#: 4

ATTN: Robert Hendrix

Test Start: 2015.03.30 @ 08:52:00

GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:51:30

Time Test Ended: 17:28:00

Test Type: Conventional Bottom Hole (Reset)

Tester: James Winder

Unit No: 83

Interval: 4541.00 ft (KB) To 4596.00 ft (KB) (TVD)

Reference Elevations: 3227.00 ft (KB)

Total Depth: 4596.00 ft (KB) (TVD)

3216.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 11.00 ft

Serial #: 8791

Inside

Press@RunDepth: 204.16 psig @ 4542.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.03.30

End Date: 2015.03.30

Last Calib.: 2015.03.30

Start Time: 08:52:05

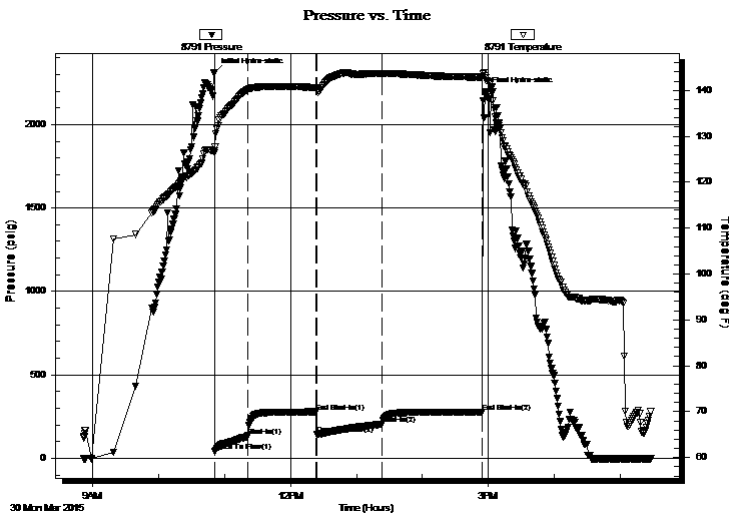
End Time: 17:28:00

Time On Btm: 2015.03.30 @ 10:50:45

Time Off Btm: 2015.03.30 @ 14:56:45

TEST COMMENT: 30 - IF: Blow built to BOB (11") at 5 3/4 min.
60 - IS: Bled off at 3 min., Blow back built to BOB at 45 min.
60 - FF: Blow built to BOB at 14 1/4 min.
90 - FS: Blow back built to 2"

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2313.32 | 126.88 | Initial Hydro-static |
| 1 | 41.24 | 127.66 | Open To Flow (1) |
| 31 | 130.84 | 140.17 | Shut-In(1) |
| 93 | 278.11 | 140.56 | End Shut-In(1) |
| 93 | 144.62 | 140.41 | Open To Flow (2) |
| 153 | 204.16 | 143.69 | Shut-In(2) |
| 244 | 276.90 | 142.89 | End Shut-In(2) |
| 246 | 2198.93 | 143.16 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|--------------------------|--------------|
| 118.00 | GOCM 50% m, 31% g, 19% o | 0.58 |
| 120.00 | SMCGO 77% o, 20% g, 3% m | 0.88 |
| 284.00 | CGO 68% o, 32% g | 3.98 |
| 0.00 | GIP = 850' | 0.00 |
| | | |
| | | |

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling CO., Inc.

10-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Theron #4-10

Job Ticket: 65028

DST#: 4

ATTN: Robert Hendrix

Test Start: 2015.03.30 @ 08:52:00

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 4322.00 ft | Diameter: 3.80 inches | Volume: 60.63 bbl | Tool Weight: 2500.00 lb |
| Heavy Wt. Pipe: | Length: 0.00 ft | Diameter: 0.00 inches | Volume: 0.00 bbl | Weight set on Packer: 25000.00 lb |
| Drill Collar: | Length: 206.00 ft | Diameter: 2.25 inches | Volume: 1.01 bbl | Weight to Pull Loose: 90000.00 lb |
| | | | <u>Total Volume: 61.64 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 15.00 ft | | | String Weight: Initial 80000.00 lb |
| Depth to Top Packer: | 4541.00 ft | | | Final 86000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 55.00 ft | | | |
| Tool Length: | 83.00 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|----------------|
|------------------|-------------|------------|----------|------------|----------------|

| | | | | | |
|-----------------|-------|------|---------|---------|-------------------------------|
| Shut In Tool | 5.00 | | | 4518.00 | |
| Hydraulic tool | 5.00 | | | 4523.00 | |
| Jars | 5.00 | | | 4528.00 | |
| Safety Joint | 3.00 | | | 4531.00 | |
| Packer | 5.00 | | | 4536.00 | 28.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 4541.00 | |
| Stubb | 1.00 | | | 4542.00 | |
| Recorder | 0.00 | 8791 | Inside | 4542.00 | |
| Recorder | 0.00 | 8366 | Outside | 4542.00 | |
| Perforations | 18.00 | | | 4560.00 | |
| change Over Sub | 1.00 | | | 4561.00 | |
| drill Pipe | 31.00 | | | 4592.00 | |
| change Over Sub | 1.00 | | | 4593.00 | |
| Bullnose | 3.00 | | | 4596.00 | 55.00 Bottom Packers & Anchor |

Total Tool Length: 83.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling CO., Inc.

10-1s-37w Cheyenne,KS

250 N. Water STE 300
Wichita, KS 67202

Theron #4-10

Job Ticket: 65028

DST#: 4

ATTN: Robert Hendrix

Test Start: 2015.03.30 @ 08:52:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

35 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 73.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.59 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 700.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbbl |
|--------------|---|----------------|
| 118.00 | GOCM 50% <i>m</i> , 31% <i>g</i> , 19% <i>o</i> | 0.580 |
| 120.00 | SMCGO 77% <i>o</i> , 20% <i>g</i> , 3% <i>m</i> | 0.882 |
| 284.00 | CGO 68% <i>o</i> , 32% <i>g</i> | 3.984 |
| 0.00 | GIP = 850' | 0.000 |

Total Length: 522.00 ft Total Volume: 5.446 bbl

Num Fluid Samples: 0

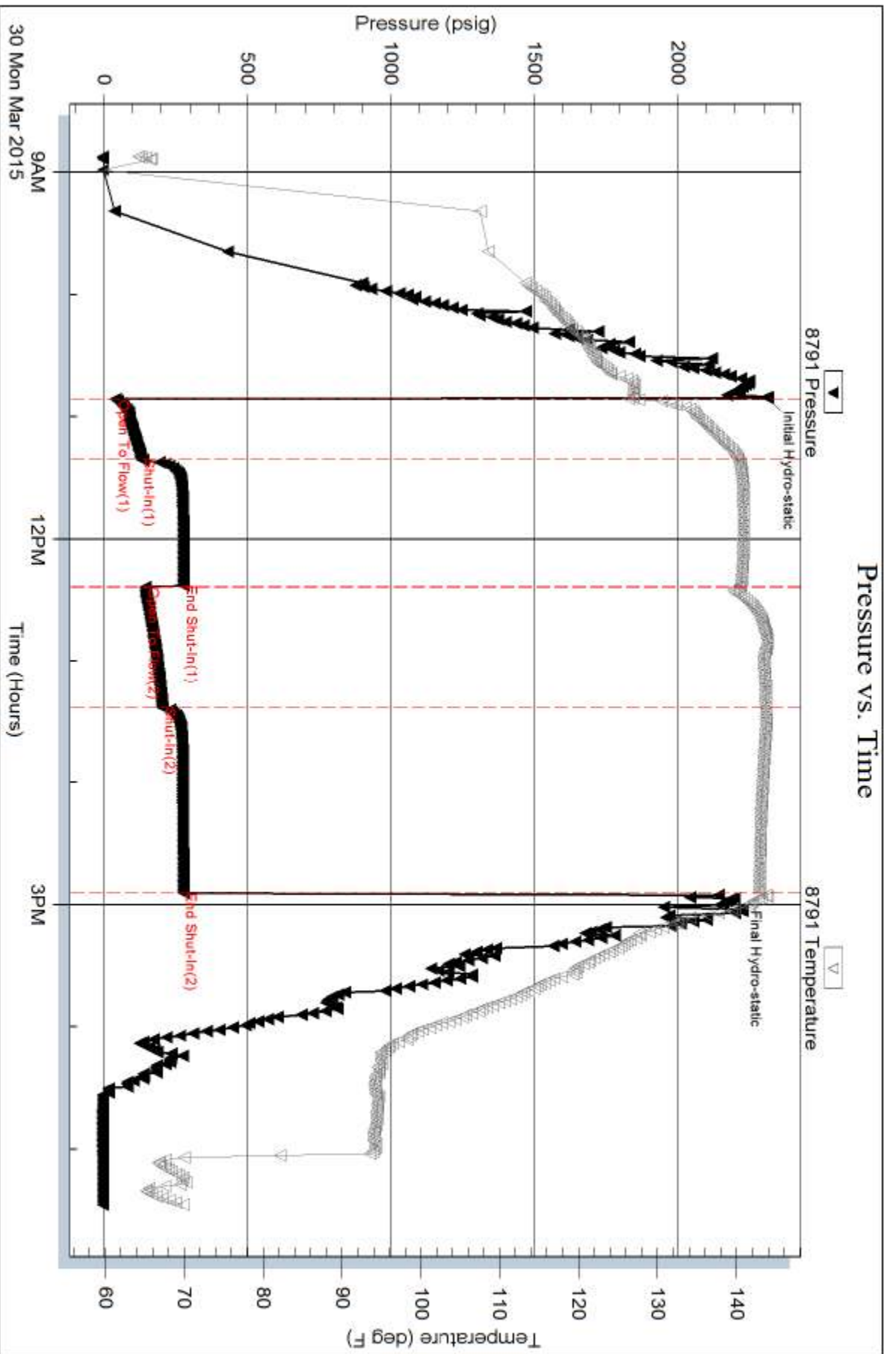
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity = 37 api @ 80 deg F

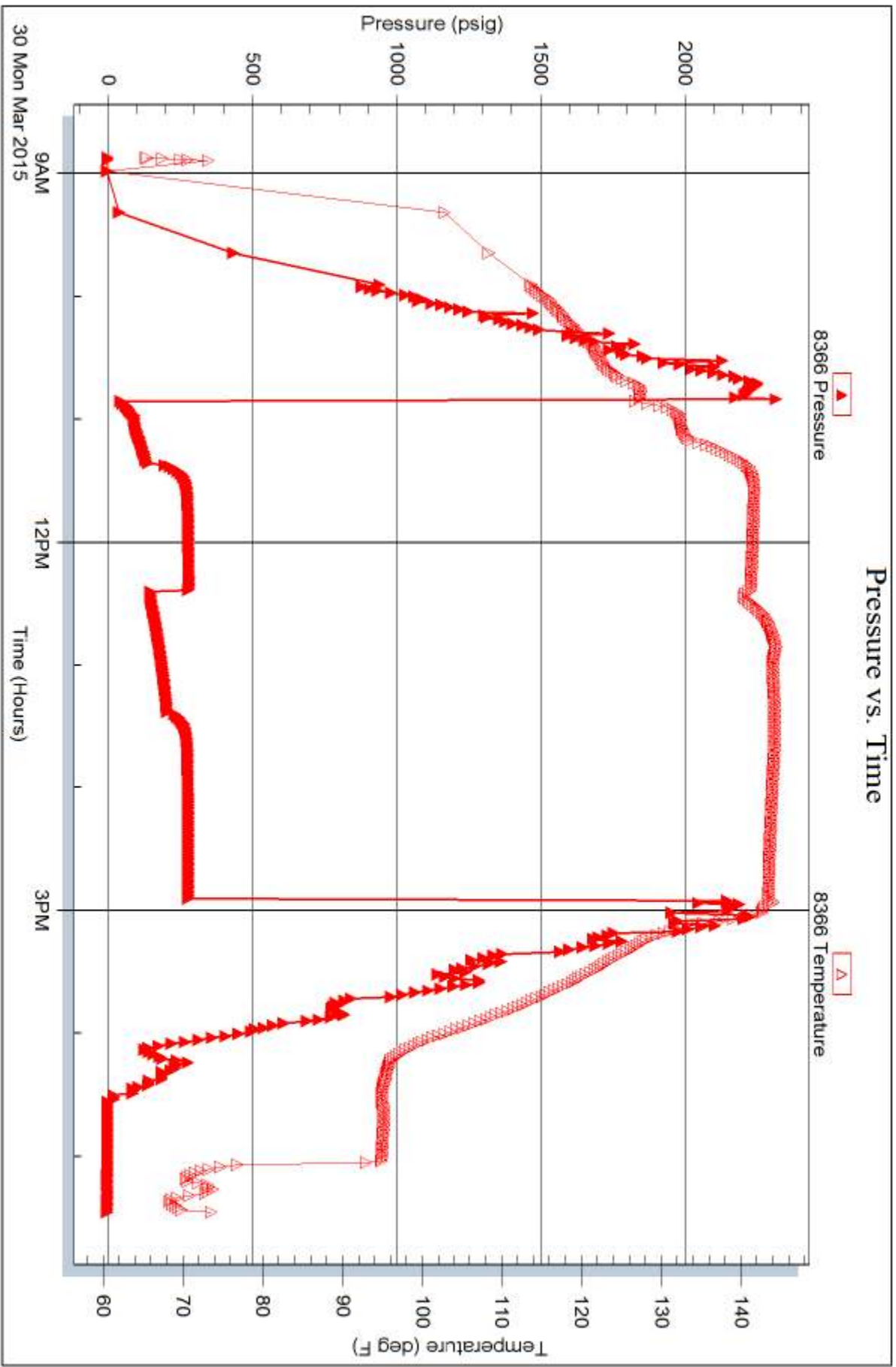


Serial #: 8366

Outside Murfin Drilling CO., Inc.

Theron #4-10

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 65028

Printed: 2015.03.31 @ 16:16:20



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62202

Well Name & No. Theron 4-10 Test No. 1 Date 3-25-15
 Company Murfin Drilling Co., Inc. Elevation 3227 KB 3216 GL
 Address 250 N. Water STE 300 Wichita, KS, 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2
 Location: Sec. 10 Twp. 1 Rge. 37 Co. Cheyenne State KS

Interval Tested 3700'-3747' Zone Tested Foraker
 Anchor Length 47' Drill Pipe Run 3471.16 Mud Wt. 8.7
 Top Packer Depth 3695' Drill Collars Run 205.92 Vis 47
 Bottom Packer Depth 3700' Wt. Pipe Run 0 WL 6.0
 Total Depth 3747' Chlorides 600 ppm System LCM #6
 Blow Description IF - weak surface blow built to 3 1/4 in. in 30 min. (in Diesel)
ISI - No return
FF - weak surface blow built to 3 3/4 in. in 60 min.
FSI - No return

| Rec | Feet of | %gas | %oil | %water | %mud |
|-----|----------|------|------|--------|------|
| 37 | Free oil | | 100 | | |
| 29 | MCO | | 65 | | 35 |
| | | | | | |
| | | | | | |
| | | | | | |

Rec Total 66 BHT 123 Gravity 28 API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 1828 Test 1050 T-On Location 12:14 am
 (B) First Initial Flow 16 Jars 250 T-Started 1:11 am
 (C) First Final Flow 25 Safety Joint 75 T-Open 3:08 am
 (D) Initial Shut-In 1189 Circ Sub N/C T-Pulled 7:09 am
 (E) Second Initial Flow 42 Hourly Standby _____ T-Out 8:57 am
 (F) Second Final Flow 49 Mileage 168 R/T 128 Comments _____
 (G) Final Shut-In 1171 Sampler _____
 (H) Final Hydrostatic 1786 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1503

Initial Open 30
 Initial Shut-In 60
 Final Flow 60
 Final Shut-In 90

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1503
 MP/DST Disc't _____

Approved By _____ Our Representative [Signature]

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65026**

Well Name & No. Theron # 4-10 Test No. 2 Date 3-28-15
 Company Murfin Drilling Co. Inc. Elevation 3227 KB 3216 GL
 Address 250 N. Water STE 300 Wichita, KS 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2
 Location: Sec. 10 Twp. 15 Rge. 37w Co. Cheyenne State KS

Interval Tested 4173 - 4240 Zone Tested Lans. "D"
 Anchor Length 67 Drill Pipe Run 3944 Mud Wt. 9.0
 Top Packer Depth 4168 Drill Collars Run 206 Vis 60
 Bottom Packer Depth 4173 Wt. Pipe Run - WL 7.2
 Total Depth 4240 Chlorides 600 ppm System LCM 12
 Blow Description IF: 1/4" Blow at open, built to 3"
ISI: No blowback
FF: Surface blow started at 14 min, built to just over 1"
FSI: No blowback

| Rec | Feet of | %gas | %oil | %water | %mud |
|-----------|--------------|----------|-----------|----------|-----------|
| <u>45</u> | <u>mco</u> | <u>-</u> | <u>90</u> | <u>-</u> | <u>10</u> |
| <u>15</u> | <u>OCM</u> | <u>-</u> | <u>12</u> | <u>-</u> | <u>88</u> |
| <u>60</u> | <u>SOWCM</u> | <u>5</u> | <u>4</u> | <u>7</u> | <u>84</u> |
| | | | | | |
| | | | | | |

Rec Total 120 BHT 131 Gravity 23.4 API RW @ ° F Chlorides ppm
 (A) Initial Hydrostatic 2137 Test 1150 T-On Location 00:30
 (B) First Initial Flow 17 Jars 250 T-Started 1:04
 (C) First Final Flow 43 Safety Joint 75 T-Open 3:11
 (D) Initial Shut-In 524 Circ Sub _____ T-Pulled 7:15
 (E) Second Initial Flow 45 Hourly Standby _____ T-Out 9:00
 (F) Second Final Flow 70 Mileage 168 RT 128 Comments _____
 (G) Final Shut-In 521 Sampler _____
 (H) Final Hydrostatic 2081 Straddle _____
 Initial Open 30 Shale Packer _____
 Initial Shut-In 60 Shale Packer _____
 Final Flow 60 Extra Packer _____
 Final Shut-In 90 Extra Recorder _____
 Day Standby 1.5d 3.5h Sub Total 116.67
 Accessibility _____ Total 1719.67
 Sub Total 1603 MP/DST Disc't _____

Approved By [Signature]

Our Representative James Winder

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65027**

Well Name & No. Theron #3-10 Test No. 3 Date 3-28-15
 Company Murfin Drilling Co. Inc Elevation 3227 KB 3216 GL
 Address 250 N. Water STE 300 Wichita, Ks 67202
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2
 Location: Sec. 10 Twp. 1s Rge. 37w Co. Cheyenne State KS

Interval Tested 4247 - 4303 Zone Tested Lans. "6"
 Anchor Length 56 Drill Pipe Run 4038 Mud Wt. 9.2
 Top Packer Depth 4242 Drill Collars Run 206 Vis 58
 Bottom Packer Depth 4247 Wt. Pipe Run - WL 6.4
 Total Depth 4303 Chlorides 700 ppm System LCM 12

Blow Description IF: weak surface blow, dead at 11min.
ISI: No blow
FF: No blow
FSI: No blow

| Rec | Feet of | %gas | %oil | %water | %mud |
|-----------|------------------------|----------|----------|----------|-----------|
| <u>10</u> | <u>mud w/oil spots</u> | <u>-</u> | <u>2</u> | <u>-</u> | <u>98</u> |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |

Rec Total 10 BHT 129 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2161 Test 1150 T-On Location 18:15 328
 (B) First Initial Flow 14 Jars 250 T-Started 19:05
 (C) First Final Flow 16 Safety Joint 75 T-Open 21:03
 (D) Initial Shut-In 441 Circ Sub _____ T-Pulled 00:05
 (E) Second Initial Flow 16 Hourly Standby _____ T-Out 1:50 329
 (F) Second Final Flow 18 Mileage 168RT 128 Comments _____
 (G) Final Shut-In 287 Sampler _____
 (H) Final Hydrostatic 2106 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer 320
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 320
 Initial Shut-In 60 Day Standby _____ Total 1923
 Final Flow 30 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 60 Sub Total 1603

Approved By [Signature] Our Representative James Winder

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **65028**

Well Name & No. Theron #4-10 Test No. 4 Date 3-30-15
 Company Murfin Drilling Co. Inc Elevation 3227 KB 3216 GL
 Address 250 N. Water STE 300 Wichita, KS 67749
 Co. Rep / Geo. Robert Hendrix Rig Murfin #2
 Location: Sec. 10 Twp. 1s Rge. 37w Co. Cheyenne State KS

Interval Tested 4541 - 4596 Zone Tested Pawnee
 Anchor Length 55 Drill Pipe Run 4322 Mud Wt. 9.1
 Top Packer Depth 4536 Drill Collars Run 206 Vis 73
 Bottom Packer Depth 4541 Wt. Pipe Run - WL 5.6
 Total Depth 4596 Chlorides 700 ppm System LCM 12

Blow Description IF: Blow built to BOB (11") at 5 3/4 min.
ISI: Bled off at 3 min., Blowback built to BOB at 45 min.
FF: Blow built to BOB at 14 1/4 min.
FSI: Blowback built to 2"

| Rec | Feet of | %gas | %oil | %water | %mud |
|----------------------|----------------------------|-------------------|-----------------|--------------------|-------------|
| <u>284</u> | <u>CGO C 60</u> | <u>32</u> | <u>68</u> | <u>-</u> | <u>-</u> |
| <u>120</u> | <u>SMCGO</u> | <u>20</u> | <u>77</u> | <u>-</u> | <u>3</u> |
| <u>118</u> | <u>60CM</u> | <u>31</u> | <u>19</u> | <u>-</u> | <u>50</u> |
| <u>Rec</u> | <u>Feet of GIP = 850'</u> | <u>%gas</u> | <u>%oil</u> | <u>%water</u> | <u>%mud</u> |
| <u>Rec</u> | <u>Feet of</u> | <u>%gas</u> | <u>%oil</u> | <u>%water</u> | <u>%mud</u> |
| <u>Rec Total 522</u> | <u>BHT 143</u> | <u>Gravity 35</u> | <u>API RW @</u> | <u>F Chlorides</u> | <u>ppm</u> |

(A) Initial Hydrostatic 2313 Test 1150 T-On Location 8:15
 (B) First Initial Flow 41 Jars 250 T-Started 8:52
 (C) First Final Flow 131 Safety Joint 75 T-Open 10:51
 (D) Initial Shut-In 278 Circ Sub _____ T-Pulled 14:54
 (E) Second Initial Flow 145 Hourly Standby _____ T-Out 17:15
 (F) Second Final Flow 204 Mileage 168RT 128 Comments _____
 (G) Final Shut-In 277 Sampler _____
 (H) Final Hydrostatic 2199 Straddle _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1603

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1603
 MP/DST Disc't _____

Approved By R.D. White Our Representative James Winder
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Robert D. Hendrix

Petroleum Geologist

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY **Murfin Drilling Co., Inc.**

LEAD **Theron #4-10**

FIELD **Jones Cannon Southeast**

LOCATION **1980Tsl & 660T6l**

SEC **10** TWP **1S** RGE **37W**

COUNTY **Cheyenne STATE Kansas**

CONTRACTOR **Murfin Drilling Co. Inc. #12**

SPUD **3/23/2015** COMP **3/31/2015**

RTD **4/6/15** LTD **4/6/22**

MUD UP **3:25** TYPE MUD **Chemical**

SAMPLES SAVED FROM **3520'** TO **TD**

DRILLING TIME KEPT FROM **3520'** TO **TD**

SAMPLES EXAMINED FROM **3520'** TO **TD**

GEOLOGICAL SUPERVISION FROM **3612'**

GEOLOGIST ON WELL **Robert D. Hendrix**

FORMATION TOPS

ELECTRIC LOG

SAMPLE

ANhydrite

Topeka

Oread

Lansing

BKC

Cherokee

ELEVATIONS

K8 32927'

DF

GI 3216'

Measurements Are All From **Kelly Busting**

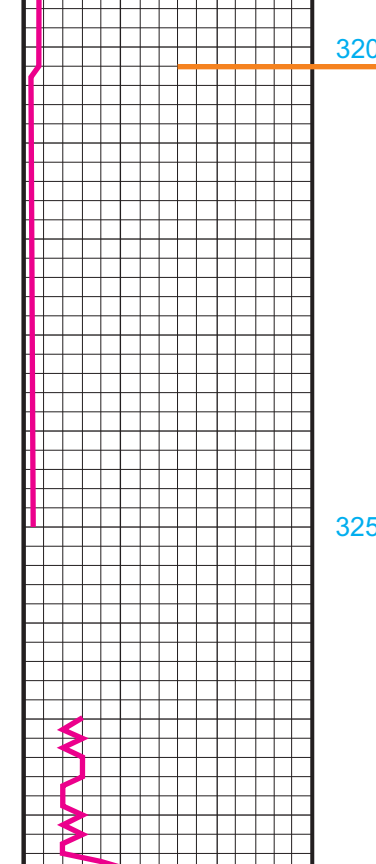
CASING

CONDUIT

5.51" @ 220'

PRODUCTION 8.12" @ 4755'

| FORMATION TOPS | ELECTRIC LOG | SAMPLE |
|----------------|--------------|-------------|
| ANhydrite | 3169 (-58) | 3120 (-57) |
| Topeka | 3629 (-89) | 3653 (-76) |
| Oread | 3957 (-29) | 4088 (-8) |
| Lansing | 4124 (-87) | 4178 (-9) |
| BKC | 4391 (-16) | 4393 (-16) |
| Cherokee | 4444 (-21) | 4488 (-22) |
| | 4583 (-138) | 4588 (-134) |
| | 4553 (-128) | 4601 (-134) |



REMARKS:

