



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1200904
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: _____

1200904

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 | TDI, Inc. |
| Well Name | Alvin 1 |
| Doc ID | 1200904 |

Tops

| Name | Top | Datum |
|---------------------|-------|--------|
| Anhydrite | 1318' | +757' |
| Topeka | 3026' | -951' |
| Heebner | 3248' | -1173' |
| Lansing/Kansas City | 3292' | -1217' |
| Base Kansas City | 3526' | -1451' |
| Conglomerate | 3576' | -1501' |
| Simpson Shale | 3647' | -1572' |
| Simpson Dol. | 3656' | -1581' |
| Arbuckle | 3679' | -1604' |

OPERATOR

Company: TDI, INC.
 Address: 1310 BISON ROAD
 HAYS, KANSAS 67601

Contact Geologist: TOM DENNING
 Contact Phone Nbr: 785-628-2593
 Well Name: ALVIN # 1
 Location: SW SW NE NW Sec.27-10s-17w API: 15-163-24,185-00-00
 Pool: WILDCAT Field: UNNAMED
 State: KANSAS Country: USA



Scale 1:240 Imperial

Well Name: ALVIN # 1
 Surface Location: SW SW NE NW Sec.27-10s-17w
 Bottom Location:
 API: 15-163-24,185-00-00
 License Number: 4787
 Spud Date: 4/4/2014 Time: 8:28 PM
 Region: ROOKS COUNTY
 Drilling Completed: 4/10/2014 Time: 10:05 AM
 Surface Coordinates: 1235' FNL & 1400' FWL
 Bottom Hole Coordinates:
 Ground Elevation: 2065.00ft
 K.B. Elevation: 2075.00ft
 Logged Interval: 2900.00ft To: 3750.00ft
 Total Depth: 3750.00ft
 Formation: CONGLOMERATE
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: -99.2091033 Latitude: 39.1582372
 N/S Co-ord: 1235' FNL
 E/W Co-ord: 1400' FWL

LOGGED BY

Company: SOLUTIONS CONSULTING, INC.
 Address: 108 W 35TH
 HAYS, KS 67601
 Phone Nbr: (785) 639-1337
 Logged By: GEOLOGIST Name: HERB DEINES

CONTRACTOR

Contractor: SOUTHWIND DRILLING, INC.
 Rig #: 1
 Rig Type: MUD ROTARY
 Spud Date: 4/4/2014 Time: 8:28 PM
 TD Date: 4/10/2014 Time: 10:05 AM
 Rig Release: 4/11/2014 Time: 2:00 PM

ELEVATIONS

K.B. Elevation: 2075.00ft Ground Elevation: 2065.00ft
 K.B. to Ground: 10.00ft

NOTES

DECISION TO PLUG AND ABANDON WELL BASED ON NEGATIVE RESULTS OF FOUR DSTS.
 OPEN HOLE LOGGING BY PIONEER ENERGY SERVICES: DUAL INDUCTION LOG, DUAL COMPENSATED POROSITY LOG, MICRORESISTIVITY LOG
 DRILL STEM STEM TESTING BY TRILOBITE TESTING INC: TWO (2) CONVENTIONAL TESTS AND TWO (2) STRADDLE TESTS

FORMATION TOPS COMPARISON AND CHRONOLOGY OF DAILY ACTIVITY


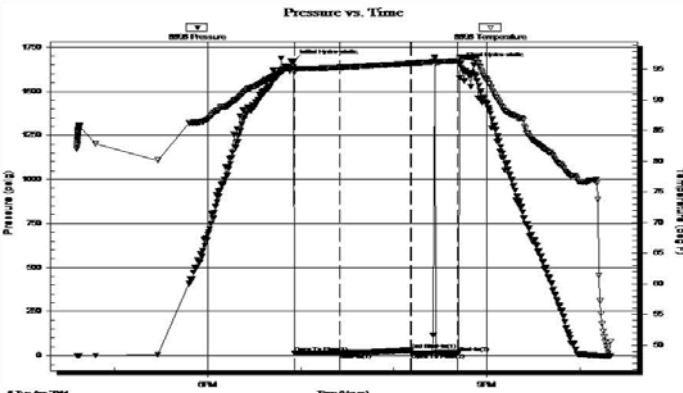
| | ALVIN # 1 | COLBY # 1 | MARSTON A 1-27 |
|------------------|------------------|------------------|-----------------------|
| | SW SW NE NW | NE NE SW | SW NE NE NE |
| | SEC.27-10S-17W | SEC.27-10-17W | SEC.27-10-17W |
| | 2065'GL 2075'KB | KB 2070' | KB 2073' |
| <u>FORMATION</u> | <u>LOG TOPS</u> | <u>LOG TOPS</u> | <u>LOG TOPS</u> |
| Anhydrite | 1318 +757 | + 755 | +763 |
| B-Anhydrite | 1354 +721 | NG | +725 |
| Topeka | 3026 -951 | - 948 | - 947 |

| | | | |
|---------------|-----------|-------|-------|
| Heebner Sh. | 3248-1173 | -1173 | -1170 |
| Toronto | 3277-1202 | -1195 | -1193 |
| LKC | 3292-1217 | -1214 | -1213 |
| BKC | 3526-1451 | -1455 | -1457 |
| Conglomerate | 3576-1501 | -1513 | -1500 |
| Simpson Shale | 3647-1572 | -1568 | -1573 |
| Simpson Dol. | 3656-1581 | -1572 | -1583 |
| Arbuckle | 3679-1604 | -1604 | -1601 |
| RTD | 3750-1675 | -1608 | -1652 |

SUMMARY OF DAILY ACTIVITY

- 4-04-14 RU, Spud 6:00 PM
- 4-05-14 222', set 8 5/8" surface casing to 221' w/ 160 sxs Common 2%Gel 3%CC, slope 3/4 degree, plug down 12:30AM, WOC 8 hrs
- 4-06-14 1850', drilling
- 4-07-14 2630', drilling, displaced 2668' to 2699'
- 4-08-14 3269', drilling, CFS 3370', short trip, TOWB, DST # 1 3338'-3370' "D"
- 4-09-14 3489', drilling, CFS 3685', DST # 2 3534'- 3685' Cg and Simpson
- 4-10-14 3685', finish DST # 2, TIWB, RTD 3750' @10:05AM, CCH, TOWB, logs, DST # 3 straddle test 3464' to 3552' "J" to "Marmaton", start DST # 4 straddle test 3460'-3540' "K" – Marmaton
- 4-11-14 3750', finish DST # 4, P&A

DST # 1 3338' TO 3370' "D" ZONE LKC

|  | DRILL STEM TEST REPORT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|--|----------------------|------------------|-------------|--------------|------|-------------|-----------------|--------------|------------|---|---------|-------|----------------------|---|-------|-------|------------------|----|-------|--|------------|----|-----------|-------|----------------|----|-------|----------------|------------------|------------------|-------|-------|------------|-----|---------|-------|--------------------|--|
| | TDI 1310 Bison Rd Hays, Ks 67601 ATTN: Herb Deines | 27-10-17w-Rooks Co. Alvin #1 Job Ticket: 57559 Test Start: 2014.04.08 @ 16:35:52 | DST#: 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GENERAL INFORMATION: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Formation: "D" Deviated: No Whipstock: ft (KB) Time Tool Opened: 18:55:52 Time Test Ended: 22:19:52 | | Test Type: Conventional Bottom Hole (Initial) Tester: Tate Lang Unit No: 41 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Interval: 3338.00 ft (KB) To 3370.00 ft (KB) (TVD) Total Depth: 3370.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Good | | Reference Elevations: 2075.00 ft (KB) 2065.00 ft (CF) KB to GR/CF: 10.00 ft | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Serial #: 8898 Outside Press@RunDepth: 15.63 psig @ 3342.00 ft (KB) Start Date: 2014.04.08 End Date: 2014.04.08 Start Time: 16:35:53 End Time: 22:19:52 Capacity: 8000.00 psig Last Calib.: 2014.04.08 Time On Btm: 2014.04.08 @ 18:55:42 Time Off Btm: 2014.04.08 @ 20:42:42 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TEST COMMENT: Weak surface blow died in 20 mins Dead no blow back Dead no blow flushed tool dead no blow Pulled tool | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">PRESSURE SUMMARY</th> </tr> <tr> <th>Time (Min.)</th> <th>Pressure (psig)</th> <th>Temp (deg F)</th> <th>Annotation</th> </tr> </thead> <tbody> <tr><td>0</td><td>1672.04</td><td>95.44</td><td>Initial Hydro-static</td></tr> <tr><td>1</td><td>14.10</td><td>94.52</td><td>Open To Flow (1)</td></tr> <tr><td>30</td><td>15.63</td><td>95.34</td><td>Shut-In(1)</td></tr> <tr><td>76</td><td>30.33</td><td>95.99</td><td>End Shut-In(1)</td></tr> <tr><td>76</td><td>14.43</td><td>95.99</td><td>Open To Flow (2)</td></tr> <tr><td>106</td><td>15.91</td><td>96.42</td><td>Shut-In(2)</td></tr> <tr><td>107</td><td>1658.54</td><td>97.05</td><td>Final Hydro-static</td></tr> </tbody> </table> | | | PRESSURE SUMMARY | | | | Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation | 0 | 1672.04 | 95.44 | Initial Hydro-static | 1 | 14.10 | 94.52 | Open To Flow (1) | 30 | 15.63 | 95.34 | Shut-In(1) | 76 | 30.33 | 95.99 | End Shut-In(1) | 76 | 14.43 | 95.99 | Open To Flow (2) | 106 | 15.91 | 96.42 | Shut-In(2) | 107 | 1658.54 | 97.05 | Final Hydro-static | |
| PRESSURE SUMMARY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 1672.04 | 95.44 | Initial Hydro-static | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 14.10 | 94.52 | Open To Flow (1) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 15.63 | 95.34 | Shut-In(1) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 76 | 30.33 | 95.99 | End Shut-In(1) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 76 | 14.43 | 95.99 | Open To Flow (2) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 106 | 15.91 | 96.42 | Shut-In(2) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 107 | 1658.54 | 97.05 | Final Hydro-static | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Recovery | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Length (ft) | Description | Volume (bbl) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.00 | 100%M | 0.01 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Gas Rates | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Choke (inches) | Pressure (psig) | Gas Rate (Mcf/d) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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DST # 2 3534' TO 3685' CONGLOMERATE AND SIMPSON

| | |
|--|--|
| | |
|--|--|



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays, Ks 67601
ATTN: Herb Deines

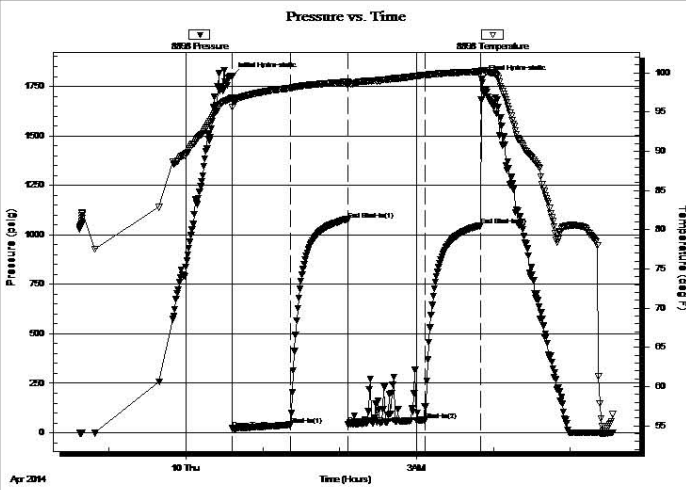
27-10-17w-Rooks Co.
Alvin #1
Job Ticket: 57560 **DST#: 2**
Test Start: 2014.04.09 @ 22:37:01

GENERAL INFORMATION:

Formation: **Cong. Simpson Sand**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:36:21
Time Test Ended: 05:33:40
Test Type: Conventional Bottom Hole (Reset)
Tester: Tate Lang
Unit No: 49
Interval: **3534.00 ft (KB) To 3685.00 ft (KB) (TVD)**
Total Depth: 3368.00 ft (KB) (TVD)
Reference Elevations: 2075.00 ft (KB)
2065.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good
KB to GR/CF: 10.00 ft

Serial #: 8898 Outside
Press@RunDepth: 64.50 psig @ 3539.00 ft (KB)
Start Date: 2014.04.09 End Date: 2014.04.10
Start Time: 22:37:02 End Time: 05:33:41
Capacity: 8000.00 psig
Last Calib.: 2014.04.10
Time On Btm: 2014.04.10 @ 00:36:11
Time Off Btm: 2014.04.10 @ 03:51:01

TEST COMMENT: Weak surface blow built to 3 in
Dead no blow
Weak surface blow built to 3 in
Dead no blow



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1802.30 | 96.80 | Initial Hydro-static |
| 1 | 21.74 | 95.67 | Open To Flow (1) |
| 46 | 39.08 | 98.05 | Shut-In(1) |
| 90 | 1076.82 | 98.85 | End Shut-In(1) |
| 91 | 44.57 | 98.38 | Open To Flow (2) |
| 151 | 64.50 | 99.66 | Shut-In(2) |
| 194 | 1046.28 | 100.16 | End Shut-In(2) |
| 195 | 1788.19 | 100.31 | Final Hydro-static |

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 90.00 | 100%M | 1.26 |
| | | |
| | | |
| | | |

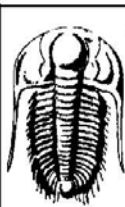
| Choke (inches) | Pressure (psig) | Gas Rate (Mcf/d) |
|----------------|-----------------|------------------|
| | | |
| | | |
| | | |

* Recovery from multiple tests
Trilobite Testing, Inc

Ref. No: 57560

Printed: 2014.04.10 @ 08:02:05

DST # 3 STRADDLE TEST 3534' TO 3685'



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays, Ks 67601
ATTN: Herb Deines

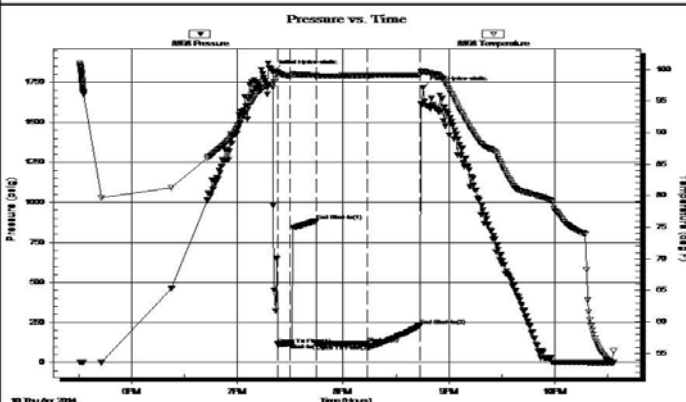
27-10-17w-Rooks Co.
Alvin #1
Job Ticket: **DST#: 3**
Test Start: 2014.04.10 @ 17:30:30

GENERAL INFORMATION:

Formation: **"J-L"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:22:40
Time Test Ended: 22:33:39
Test Type: Conventional Straddle (Reset)
Tester: Tate Lang
Unit No: 49
Interval: **3464.00 ft (KB) To 3552.00 ft (KB) (TVD)**
Total Depth: 3750.00 ft (KB) (TVD)
Reference Elevations: 2075.00 ft (KB)
2065.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good
KB to GR/CF: 10.00 ft

Serial #: 8898 Outside
Press@RunDepth: 117.65 psig @ 3465.00 ft (KB)
Start Date: 2014.04.10 End Date: 2014.04.10
Start Time: 17:30:31 End Time: 22:33:40
Capacity: 8000.00 psig
Last Calib.: 2014.04.10
Time On Btm: 2014.04.10 @ 19:20:00
Time Off Btm: 2014.04.10 @ 20:45:30

TEST COMMENT: B.O.B. in 1 min
Dead no blow back
Dead no blow
Dead no blow back



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1818.22 | 97.58 | Initial Hydro-static |
| 3 | 110.75 | 99.21 | Open To Flow (1) |
| 10 | 115.57 | 99.00 | Shut-In(1) |
| 25 | 884.45 | 99.12 | End Shut-In(1) |
| 25 | 111.42 | 98.68 | Open To Flow (2) |
| 54 | 117.65 | 99.05 | Shut-In(2) |
| 84 | 229.17 | 99.11 | End Shut-In(2) |
| 86 | 1717.60 | 99.64 | Final Hydro-static |

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| | | |
| | | |
| | | |

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

| | | |
|--------|-------|------|
| 170.00 | 100%M | 2.38 |
| | | |
| | | |
| | | |
| | | |
| | | |


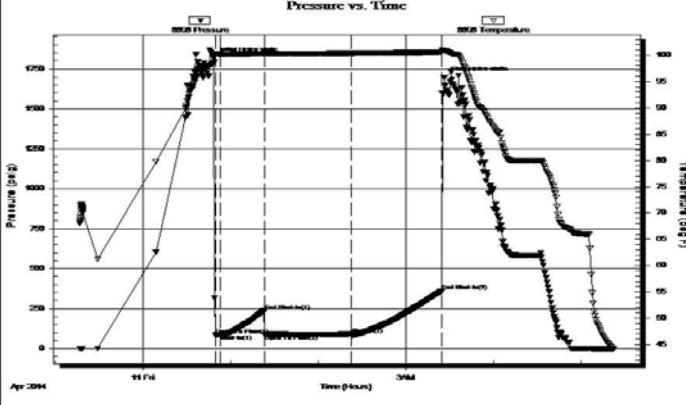
* Recovery from multiple tests

Trilobite Testing, Inc

Ref. No:

Printed: 2014.04.11 @ 00:54:58

DST # 4 STRADDLE TEST 3460' TO 3540' BOTTOM PACKER HELD












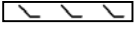


|  TRILOBITE TESTING, INC. | DRILL STEM TEST REPORT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|----------------------|--------------|-------------|--------------|---------|-------|----------------------|---|-------|--------|------------------|---|-------|--------|------------|----|--------|--------|----------------|---|-------|-----------|------------------|----|----------------|-----------------|------------------|-----|--------|--------|----------------|-----|---------|--------|--------------------|--|
| | TDI 1310 Bison Rd Hays, Ks 67601 ATTN: Herb Deines | 27-10-17w-Rooks Co. Alvin #1 Job Ticket: 57562 DST#: 4 Test Start: 2014.04.10 @ 23:16:48 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GENERAL INFORMATION: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Formation: J-L Deviated: No Whipstock: ft (KB) Time Tool Opened: 00:49:38 Time Test Ended: 05:22:57 | Test Type: Conventional Straddle (Reset) Tester: Tate Lang Unit No: 49 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Interval: 3460.00 ft (KB) To 3540.00 ft (KB) (TVD) Total Depth: 3750.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Good | Reference Elevations: 2075.00 ft (KB) 2065.00 ft (CF) KB to GR/CF: 10.00 ft | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Serial #: 8898 Outside Press@RunDepth: 88.08 psig @ 3461.00 ft (KB) Start Date: 2014.04.10 End Date: 2014.04.11 Start Time: 23:16:49 End Time: 05:22:58 | Capacity: 8000.00 psig Last Calib.: 2014.04.11 Time On Btm: 2014.04.11 @ 00:48:28 Time Off Btm: 2014.04.11 @ 03:26:28 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TEST COMMENT: B.O.B. in 30 sec Dead no blow Dead no blow Dead no blow | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | PRESSURE SUMMARY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1"> <thead> <tr> <th>Time (Min.)</th> <th>Pressure (psig)</th> <th>Temp (deg F)</th> <th>Annotation</th> </tr> </thead> <tbody> <tr><td>0</td><td>1817.54</td><td>98.47</td><td>Initial Hydro-static</td></tr> <tr><td>2</td><td>83.88</td><td>100.02</td><td>Open To Flow (1)</td></tr> <tr><td>5</td><td>89.75</td><td>100.20</td><td>Shut-In(1)</td></tr> <tr><td>35</td><td>235.99</td><td>100.27</td><td>End Shut-In(1)</td></tr> <tr><td>35</td><td>88.13</td><td>100.17</td><td>Open To Flow (2)</td></tr> <tr><td>94</td><td>88.08</td><td>100.38</td><td>Shut-In(2)</td></tr> <tr><td>157</td><td>358.89</td><td>100.58</td><td>End Shut-In(2)</td></tr> <tr><td>158</td><td>1693.89</td><td>100.87</td><td>Final Hydro-static</td></tr> </tbody> </table> | Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation | 0 | 1817.54 | 98.47 | Initial Hydro-static | 2 | 83.88 | 100.02 | Open To Flow (1) | 5 | 89.75 | 100.20 | Shut-In(1) | 35 | 235.99 | 100.27 | End Shut-In(1) | 35 | 88.13 | 100.17 | Open To Flow (2) | 94 | 88.08 | 100.38 | Shut-In(2) | 157 | 358.89 | 100.58 | End Shut-In(2) | 158 | 1693.89 | 100.87 | Final Hydro-static | |
| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 1817.54 | 98.47 | Initial Hydro-static | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 83.88 | 100.02 | Open To Flow (1) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 89.75 | 100.20 | Shut-In(1) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | 235.99 | 100.27 | End Shut-In(1) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | 88.13 | 100.17 | Open To Flow (2) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 94 | 88.08 | 100.38 | Shut-In(2) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 157 | 358.89 | 100.58 | End Shut-In(2) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 158 | 1693.89 | 100.87 | Final Hydro-static | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th colspan="3">Recovery</th> </tr> <tr> <th>Length (ft)</th> <th>Description</th> <th>Volume (bbl)</th> </tr> </thead> <tbody> <tr><td>125.00</td><td>100%M</td><td>1.75</td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> </tbody> </table> | Recovery | | | Length (ft) | Description | Volume (bbl) | 125.00 | 100%M | 1.75 | | | | | | | | | | | | | <table border="1"> <thead> <tr> <th colspan="3">Gas Rates</th> </tr> <tr> <th>Choke (inches)</th> <th>Pressure (psig)</th> <th>Gas Rate (Mcf/d)</th> </tr> </thead> <tbody> <tr><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> </tbody> </table> | | Gas Rates | | | Choke (inches) | Pressure (psig) | Gas Rate (Mcf/d) | | | | | | | | | |
| Recovery | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Length (ft) | Description | Volume (bbl) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 125.00 | 100%M | 1.75 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gas Rates | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Choke (inches) | Pressure (psig) | Gas Rate (Mcf/d) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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Trilobite Testing, Inc

Ref. No: 57562

Printed: 2014.04.11 @ 05:34:59

ROCK TYPES

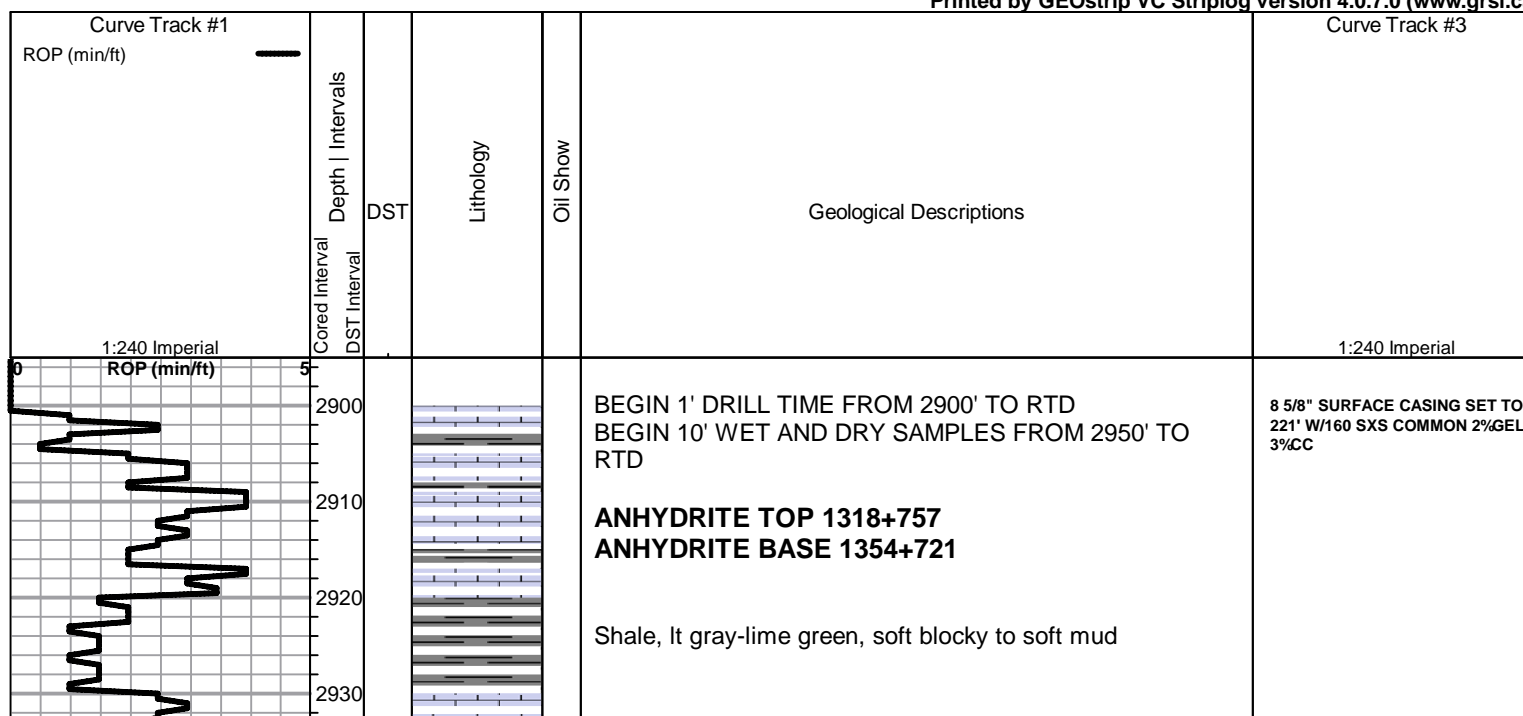
| | | | | |
|--|--|---|--|--|
|  Clystcol |  Dolprim |  Lmst fw<7 |  shale, grn |  shale, red |
|  Congl |  Dolsec |  Lmst fw7> |  shale, gry |  CglSandy |
|  Chtcong |  Dol Lime |  Lscong |  Carbon Sh | |

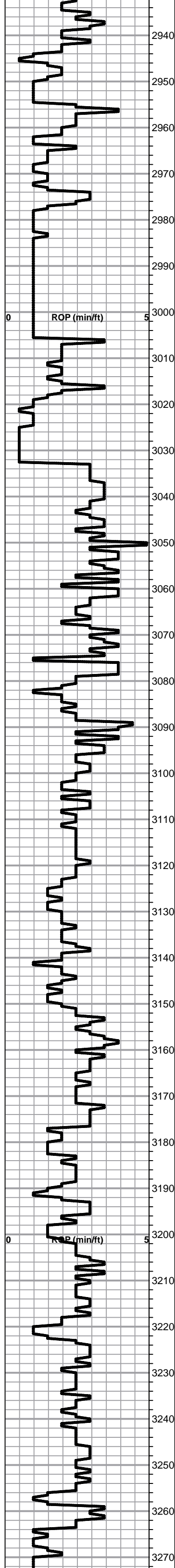
ACCESSORIES

MINERAL

- ▲ Chert, dark
- P Pyrite
- △ Chert White

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





Lime, lt-med brn-grayish brn, fnxln, slightly fossiliferous

Shale, lt gray-tan, soft mud

Shale, lt gray, soft mud

Shale, lt gray, soft mud to soft blocky

Lime, med gray, fnxln, thin fossil beds

Shale, med gray, soft mud to sticky clumps in part

TOPEKA SPL 3032-957

Lime, tan-lt brn, fnxln

Lime, lt brn-lt grayish brn, fnxln with some dark brn, microxn

Lime, tan-lt brn, fnxln, slight bedded chalk in part

Shale, gray-black, blocky

Lime, med brn-med grayish brn, fn-micro xln

Lime, lt brn, fnxln, slight bedded chalk

Lime, lt brn, fnxln-granular, slightly fossiliferous with fusulinids

Lime, lt brn-lt grayish brn, fnxln-granular, slightly fossiliferous

Lime, tan-lt brn-lt gray, fnxln-granular, slight bedded chalk

Shale, med gray with green tint in part, soft blocky, calcareous near shale-lime boundary

Lime, offwhite-crm, fn-micro xln, slight bedded chalk

Lime, crm-lt gray, fn-vfxln, slight fossiliferous

Lime, med brn-med gray, fn-micro xln

Lime, dark brn, fnxln, slightly fossiliferous

Shale, black carbonaceous
Med gray-brn, micro xln

Lime, crm-tan, fnxln, slight bedded chalk, slightly fossiliferous with fusulinids and crinoid segments

Lime, crm-med brn, fnxln, slightly fossilifeorous

Lime, crm-lt brn, fnxln, bedded chalk with white chalky wash, NS

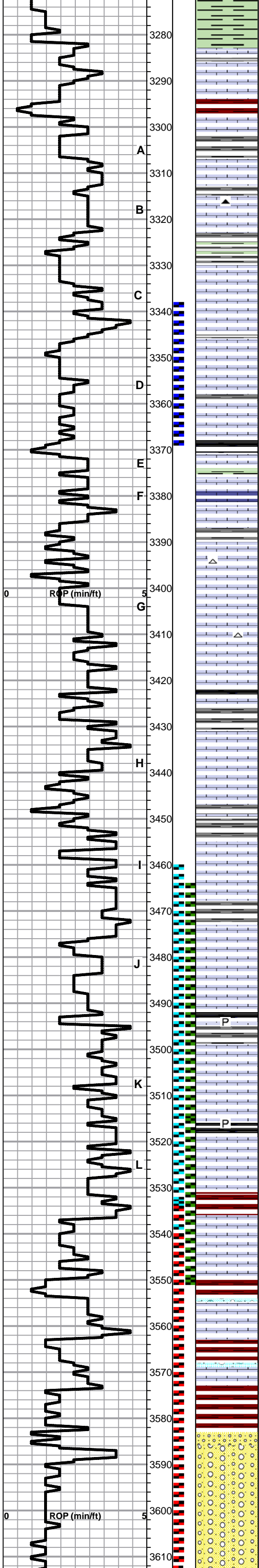
Lime, tan-lt brn, fnxln-granular in part, slight chalky matrix

Lime, crm-lt brn, fnxln-micro xln in part, slight bedded chalk

HEEBNER SHALE SPL 3254-1179

Shale, black carbonaceous, fissile, blocky
Lime, med brn, micro xln

Shale, lime green, soft sticky clumps



TORONTO SPL 3282-1207

Lime, crm-tan-lt brn, fnxln, NS

LKC SPL 3297-1222

Lime, crm, fn-vfxln

Lime, tan-lt brn, fn-micro xln, slight bedded chalk, NS

Lime, lt brn-lt gray, fnxln, thin fossil beds, NS

Shale, lime green-lt gray, soft sticky in part grading into calcareous lime near lime-shale boundary

Lime, crm-tan, fn-micro xln, bedded chalk in part, NS

○ Lime, crm, mostly fnxln, few chips with scattered vugs with lt stain and fine oil specks, very lt odor

Lime, crm, fn-micro xln

Shale, black carbonaceous, blocky
Lime, lt gray, fn-micro xln

Lime, crm-lt brn, fnxln, bedded chalk, NS

Lime, crm, fnxln with lt of bedded chalk, NS

Lime, tan-lt brn, fn-micro xln, bedded chalk
Chert, white, fresh, sharp

Lime, tan-lt brn, fn-vfxln, bedded chalk

Lime, crm-offwhite near shale boundary, fn-micro xln

Shale, black carbonaceous, blocky
Lime, med grayish brn, vfxln, slightly fossiliferous grading into soft sticky gray shale

Lime, crm, fnxln, lot of bedded chalk with white chalk wash

Lime, crm, fn-vfxln, bedded chalk, NS

○ Lime, tan, fn-vfxln, bedded chalk, trace of spotty staining, NFO, very lt odor, appears poorly developed

Shale, med gray-grayish brn, soft-firm blocky

* Lime, tan-lt brn, fn-micro xln, bedded chalk, NFO, trace spotty stain, very lt odor

Lime, tan-lt brn, fn-micro xln

Shale, black carbonaceous, fissile, blocky
lime, lt gray, vfxln

Lime, lt gray, fn-vfxln, mottling near shale boundary

Lime, lt-med gray, fn-vfxln, slightly fossiliferous, well cemented

Lime, crm-lt brn, fn-micro xln, slight bedded chalk, hard on crush

BKC SPL 3531-1456

Lime, tan, fnxln-granular, oolitic in part, slight chalk in part with sticky clumps, NS

Lime, crm, fnxln, bedded chalk. slight clastic mix in part

Shale, dark red wash, soft mud

Shale, brn-gray, firms blocky grading into soft sticky red shale

● Sandstone, vf grained, gritty, saturated stain, NFO, No Odor

Shale, red with with vari colored chert, NS

Shale, red wash, vari colored cherts, few chips with gilsonite, NFO, no odor

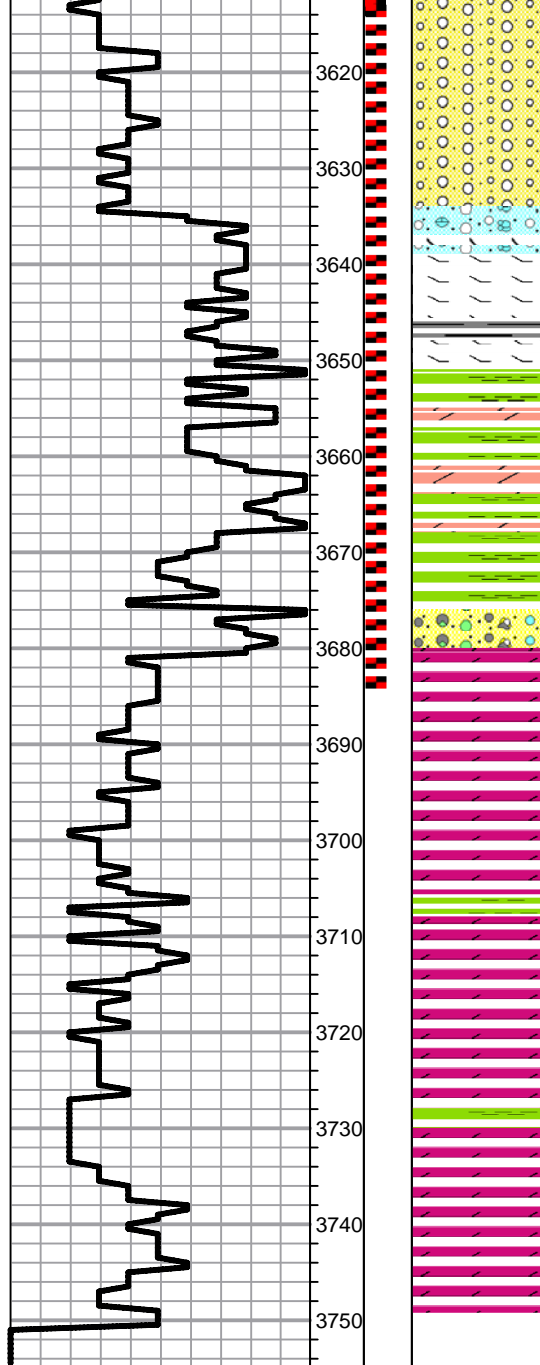
DST # 1 SAMPLE TOP
INTERVAL 3338' TO 3370' "D"
LKC SEE HEADER FOR TEST
SUMMARY PACKERS SET OFF
DRILL TIME

DST # 3 STRADDLE TEST LOG
INTERVAL 3464' TO 3552' SEE
HEADER FOR TEST SUMMARY
PACKERS SET OFF ELOG

DST # 4 STRADDLE TEST # 4
LOG INTERVAL 3460' TO 3540'
SEE HEADER FOR TEST
SUMMARY PACKERS SET OFF
ELOG

NOTE:DST # 3 RECOVERY AND
CHART LEFT QUESTION OF
BOTTOM PACKER SEAT
INTEGRITY, DST # 4 RAN WITH
DIFFERENT PACKER SEATS.

DST # 2 SAMPLE TOP
INTERVAL 3534' TO 3685'
SEE HEADER FOR TEST
SUMMARY PACKERS SET
OFF DRILL TIME



Shale, red with vari colored cherts

Lime, granular, red shale staining, NS

Lime, crm, granular

SIMPSON SHALE SPL 3651-1576

Shale, blue-green, soft weathered in part grading into firm blocky

Dolomite, lt brn, fnxln, NS

Shale, Shale, blue-green, firm blocky, fine xln pyrite inclusions

ARBUCKLE SPL 3680-1605

Dolomite, lt-med brn, fnxln, no odor, NFO, no staining, hard on crush

Dolomite, crm-lt brn, fnxln-granular

Dolomite, crm-lt brn, fnxln-granular in part, sucrosic in part

Dolomite, crm-lt brn, fnxln-granular, hard on crush

Dolomite, crm-lt brn, fnxln-granular, hard on crush

Dolomite, crm-lt brn, fnxln-granular

RTD 3750-1675 LTD 3747-1672

1ST PLUG @3690' W/50 SXS
 2ND PLUG @1345' W/25 SXS
 3RD PLUG @775' W/ 100 SXS
 4TH PLUG @270' W/40 SXS
 5TH PLUG @40' W/10 SXS
 RATHOLE W/30 SXS
 MOUSEHOLE W/20 SXS

USED 270 SXS 60/40POS 4%GEL
 ALLIED (TICKET 055190)

ALLIED OIL & GAS SERVICES, LLC 055210

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:
Russell, KS

| | | | | | | | |
|-------------------------|----------------|----------------------------------|-----------------|------------|---------------------|--------------------------|--------------------------|
| DATE <u>4-5-14</u> | SEC. <u>27</u> | TWP. <u>10</u> | RANGE <u>17</u> | CALLED OUT | ON LOCATION | JOB START <u>12:30am</u> | JOB FINISH <u>1:00AM</u> |
| LEASE <u>Alvin</u> | WELL# <u>1</u> | LOCATION <u>Plainville 25 4E</u> | | | COUNTY <u>Rooks</u> | STATE <u>KS</u> | |
| OLD OR NEW (Circle one) | | <u>25 Einto</u> | | | | | |

CONTRACTOR Southwind 1
 TYPE OF JOB Surface
 HOLE SIZE 12 1/4 T.D. 222
 CASING SIZE 8 5/8 20' DEPTH 221
 TUBING SIZE DEPTH
 DRILL PIPE DEPTH
 TOOL DEPTH
 PRES. MAX MINIMUM
 MEAS. LINE SHOE JOINT 15
 CEMENT LEFT IN CSG. 15
 PERFS.
 DISPLACEMENT 13.43

OWNER
 CEMENT
 AMOUNT ORDERED 160 con 390cc 29age 1

EQUIPMENT
 PUMP TRUCK CEMENTER Robert Y
 # 409 HELPER Nathan Kevin R
 BULK TRUCK
 # 410 DRIVER Glenn G
 BULK TRUCK
 # DRIVER

| | | | | |
|----------|----------------|---|--------------|----------------|
| COMMON | <u>160</u> | @ | <u>17.90</u> | <u>2864.00</u> |
| POZMIX | | @ | | |
| GEL | <u>302#</u> | @ | <u>.24</u> | <u>72.48</u> |
| CHLORIDE | <u>453#</u> | @ | <u>.80</u> | <u>362.40</u> |
| ASC | | @ | | |
| | | @ | | |
| | | @ | | |
| | | @ | | |
| | | @ | | |
| | | @ | | |
| HANDLING | <u>160 st</u> | @ | <u>2.48</u> | <u>396.80</u> |
| MILEAGE | <u>187 #/m</u> | @ | <u>2.60</u> | <u>490.75</u> |
| | <u>188.75</u> | | | |
| | | | TOTAL | <u>4186.43</u> |

REMARKS:

see log

cement did circulate to surface

Thanks !!!

CHARGE TO: TDI Inc.

STREET

CITY STATE ZIP

SERVICE

| | | | |
|-------------------|----------------|---|--------------------|
| DEPTH OF JOB | <u>222</u> | | |
| PUMP TRUCK CHARGE | <u>1512.25</u> | | |
| EXTRA FOOTAGE | | @ | |
| MILEAGE | <u>25 LVMI</u> | @ | <u>4.40 110.00</u> |
| MANIFOLD | | @ | |
| | <u>50 HVMI</u> | @ | <u>7.70 385.00</u> |
| | | @ | |

TOTAL 2007.25

PLUG & FLOAT EQUIPMENT

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

TOTAL 0

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 6193.68

DISCOUNT 1238.74 IF PAID IN 30 DAYS

net \$4954.94

PRINTED NAME K.L. Thompson

SIGNATURE K.L. Thompson

ALLIED OIL & GAS SERVICES, LLC 055190

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:
Russell, ks

| | | | | | | | |
|------------------------------------|-----------------|--------------------------------|-----------------|------------|--------------------|-----------------------|------------------------|
| DATE <u>4.11.14</u> | SEC. <u>27</u> | TWP. <u>10</u> | RANGE <u>17</u> | CALLED OUT | ON LOCATION | JOB START <u>3:00</u> | JOB FINISH <u>3:30</u> |
| LEASE <u>Alvin</u> | WELL # <u>1</u> | LOCATION <u>Plainville, ks</u> | | | COUNTY <u>Reks</u> | STATE <u>ks</u> | |
| OLD OR NEW (Circle one) <u>NEW</u> | | S to AA rd west to 22 rd | | | | | |

| | |
|---|---------------------------------------|
| CONTRACTOR <u>Shields #1</u> | OWNER |
| TYPE OF JOB <u>PTA</u> | CEMENT |
| HOLE SIZE <u>7 7/8</u> T.D. | AMOUNT ORDERED <u>270SK</u> |
| CASING SIZE DEPTH | <u>6040 + 41. gel + 1/4 710 - Sud</u> |
| TUBING SIZE DEPTH | |
| DRILL PIPE <u>4 1/2</u> DEPTH <u>-3690'</u> | |
| TOOL DEPTH | |
| PRES. MAX MINIMUM | COMMON <u>270SK @ 16.3 \$4131.00</u> |
| MEAS. LINE SHOE JOINT | POZMIX @ |
| CEMENT LEFT IN CSG. | GEL @ |
| PERFS. | CHLORIDE @ |
| DISPLACEMENT | ASC @ |

EQUIPMENT

| | | | | |
|-------------------------|--------------------------------|---------------------------|--------|-----------------|
| PUMP TRUCK # <u>417</u> | CEMENTER <u>Tony Plannsted</u> | FLW Seal <u>46815</u> | @ 2.97 | \$ 201.96 |
| BULK TRUCK # <u>473</u> | HELPER <u>Denny S.</u> | | @ | |
| BULK TRUCK # | DRIVER <u>Jesse C</u> | | @ | |
| BULK TRUCK # | DRIVER | | @ | |
| | | HANDLING <u>270SK Fls</u> | @ 2.48 | \$ 669.60 |
| | | MILEAGE <u>319.50 nm</u> | 2.40 | \$ 766.80 |
| | | | | TOTAL \$ 828.06 |

REMARKS:

See Cementing Job log

1457.01 @ 25%

SERVICE

| | |
|--------------------------|-------------------|
| DEPTH OF JOB | <u>3690'</u> |
| PUMP TRUCK CHARGE | <u>\$2,558.75</u> |
| EXTRA FOOTAGE | @ |
| MILEAGE <u>Heavy 50m</u> | @ 7.7 \$ 385.00 |
| MANIFOLD <u>high 25m</u> | @ 4.4 \$ 110.00 |
| | @ |

CHARGE TO: TDI INC.

STREET _____

CITY _____ STATE _____ ZIP _____

(Amend)

763.44 @ 25%

TOTAL \$8053.75

PLUG & FLOAT EQUIPMENT

| | | |
|-----------------------------|---|-----------|
| <u>1x 8 3/4 wooden Plug</u> | @ | \$ 110.00 |
| | @ | |
| | @ | |
| | @ | |

27.50 @ 25%

TOTAL \$ 110.00

SALES TAX (If Any) _____

TOTAL CHARGES \$ 8,991.81

DISCOUNT \$ 2,247.95 IF PAID IN 30 DAYS

Net 6743.86

PRINTED NAME Derek Pate

SIGNATURE [Signature]





DRILL STEM TEST REPORT

Prepared For: **TDI**

1310 Bison Rd
Hays, KS 67601

ATTN: Herb Deines

Alvin #1

27-10-17w Rooks,KS

Start Date: 2014.04.08 @ 16:35:52

End Date: 2014.04.08 @ 22:19:52

Job Ticket #: 57559 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.04.11 @ 13:56:46

TDI
27-10-17w Rooks,KS
Alvin #1
DST # 1
"D"
2014.04.08



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays, KS 67601
ATTN: Herb Deines

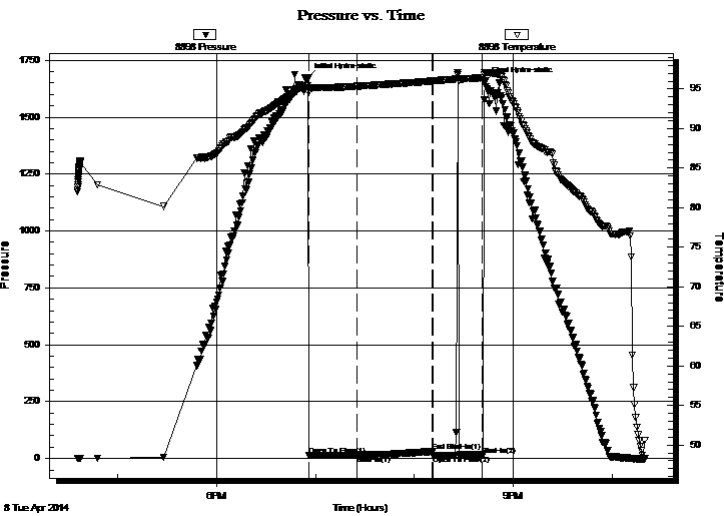
27-10-17w Rooks,KS
Alvin #1
Job Ticket: 57559 **DST#: 1**
Test Start: 2014.04.08 @ 16:35:52

GENERAL INFORMATION:

Formation: **"D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:55:52
Time Test Ended: 22:19:52
Interval: **3338.00 ft (KB) To 3370.00 ft (KB) (TVD)**
Total Depth: 3370.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Tate Lang
Unit No: 49
Reference Elevations: 2075.00 ft (KB)
2065.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8898 Outside
Press@RunDepth: 15.63 psig @ 3342.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.04.08 End Date: 2014.04.08 Last Calib.: 2014.04.08
Start Time: 16:35:53 End Time: 22:19:52 Time On Btm: 2014.04.08 @ 18:55:42
Time Off Btm: 2014.04.08 @ 20:42:42

TEST COMMENT: Weak surface blow died in 20 mins
Dead no blow back
Dead no blow flushed tool dead no blow
Pulled tool



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1672.04 | 95.44 | Initial Hydro-static |
| 1 | 14.10 | 94.52 | Open To Flow (1) |
| 30 | 15.63 | 95.34 | Shut-In(1) |
| 76 | 30.33 | 95.99 | End Shut-In(1) |
| 76 | 14.43 | 95.99 | Open To Flow (2) |
| 106 | 15.91 | 96.42 | Shut-In(2) |
| 107 | 1658.54 | 97.05 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 1.00 | 100%M | 0.01 |
| | | |
| | | |
| | | |

Gas Rates

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



DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays, KS 67601
ATTN: Herb Deines

27-10-17w Rooks,KS
Alvin #1
Job Ticket: 57559 **DST#: 1**
Test Start: 2014.04.08 @ 16:35:52

GENERAL INFORMATION:

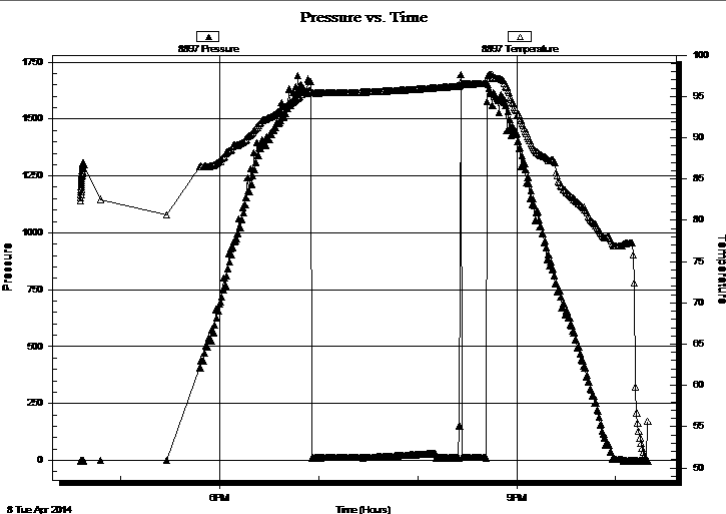
Formation: **"D"**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened: 18:55:52 Tester: Tate Lang
Time Test Ended: 22:19:52 Unit No: 49
Interval: 3338.00 ft (KB) To 3370.00 ft (KB) (TVD) Reference Elevations: 2075.00 ft (KB)
Total Depth: 3370.00 ft (KB) (TVD) 2065.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 10.00 ft

Serial #: 8897

Inside

Press@RunDepth: psig @ 3342.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.04.08 End Date: 2014.04.08 Last Calib.: 2014.04.08
Start Time: 16:35:40 End Time: 22:19:39 Time On Btm:
Time Off Btm:

TEST COMMENT: Weak surface blow died in 20 mins
Dead no blow back
Dead no blow flushed tool dead no blow
Pulled tool



PRESSURE SUMMARY

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

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 1.00 | 100%M | 0.01 |
| | | |
| | | |
| | | |
| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI

27-10-17w Rooks,KS

1310 Bison Rd
Hays, KS 67601

Alvin #1

Job Ticket: 57559

DST#: 1

ATTN: Herb Deines

Test Start: 2014.04.08 @ 16:35:52

Tool Information

| | | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe: | Length: 3341.00 ft | Diameter: 3.80 inches | Volume: 46.87 bbl | Tool Weight: | 2200.00 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: 0.00 ft | Diameter: 2.25 inches | Volume: 0.00 bbl | Weight to Pull Loose: | 55000.00 lb |
| | | | <u>Total Volume: 46.87 bbl</u> | Tool Chased | 0.00 ft |
| Drill Pipe Above KB: | 23.00 ft | | | String Weight: Initial | 43000.00 lb |
| Depth to Top Packer: | 3338.00 ft | | | Final | 43000.00 lb |
| Depth to Bottom Packer: | ft | | | | |
| Interval between Packers: | 32.00 ft | | | | |
| Tool Length: | 52.00 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 | | | 3323.00 | |
| Hydraulic tool | 5.00 | | | 3328.00 | |
| Packer | 5.00 | | | 3333.00 | 20.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 3338.00 | |
| Stubb | 1.00 | | | 3339.00 | |
| Perforations | 3.00 | | | 3342.00 | |
| Recorder | 0.00 | 8897 | Inside | 3342.00 | |
| Recorder | 0.00 | 8898 | Outside | 3342.00 | |
| Perforations | 25.00 | | | 3367.00 | |
| Bullnose | 3.00 | | | 3370.00 | 32.00 Bottom Packers & Anchor |
| Total Tool Length: | 52.00 | | | | |



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI **27-10-17w Rooks,KS**
 1310 Bison Rd **Alvin #1**
 Hays, KS 67601 Job Ticket: 57559 **DST#: 1**
 ATTN: Herb Deines Test Start: 2014.04.08 @ 16:35:52

Mud and Cushion Information

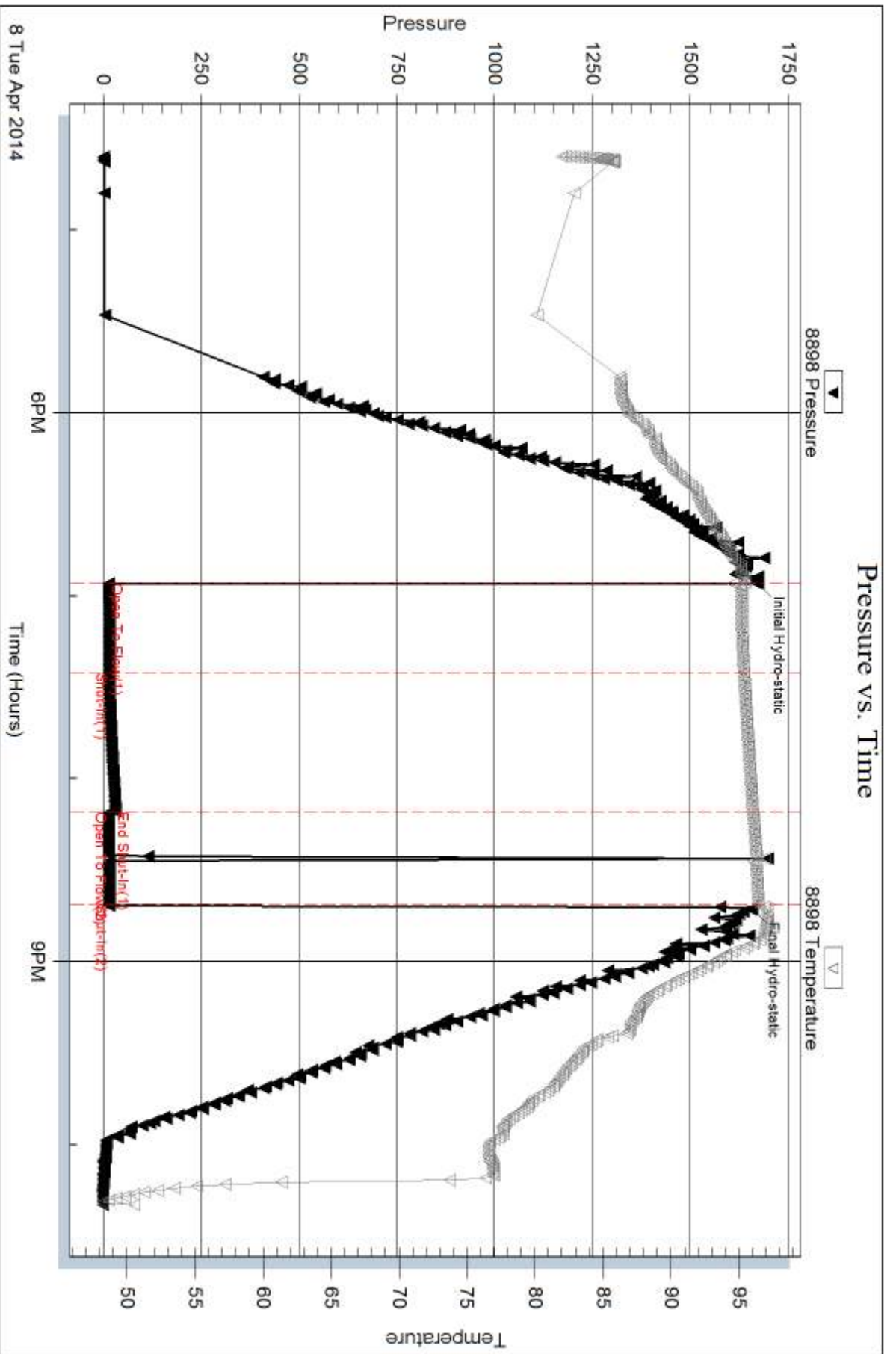
| | | | |
|----------------------------------|----------------------------|-----------------|---------|
| Mud Type: Gel Chem | Cushion Type: | Oil API: | deg API |
| Mud Weight: 9.00 lb/gal | Cushion Length: ft | Water Salinity: | ppm |
| Viscosity: sec/qt | Cushion Volume: bbl | | |
| Water Loss: 5.78 in ³ | Gas Cushion Type: | | |
| Resistivity: ohm.m | Gas Cushion Pressure: psig | | |
| Salinity: 2700.00 ppm | | | |
| Filter Cake: 1.00 inches | | | |

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-------------|---------------|
| 1.00 | 100%M | 0.014 |

Total Length: 1.00 ft Total Volume: 0.014 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

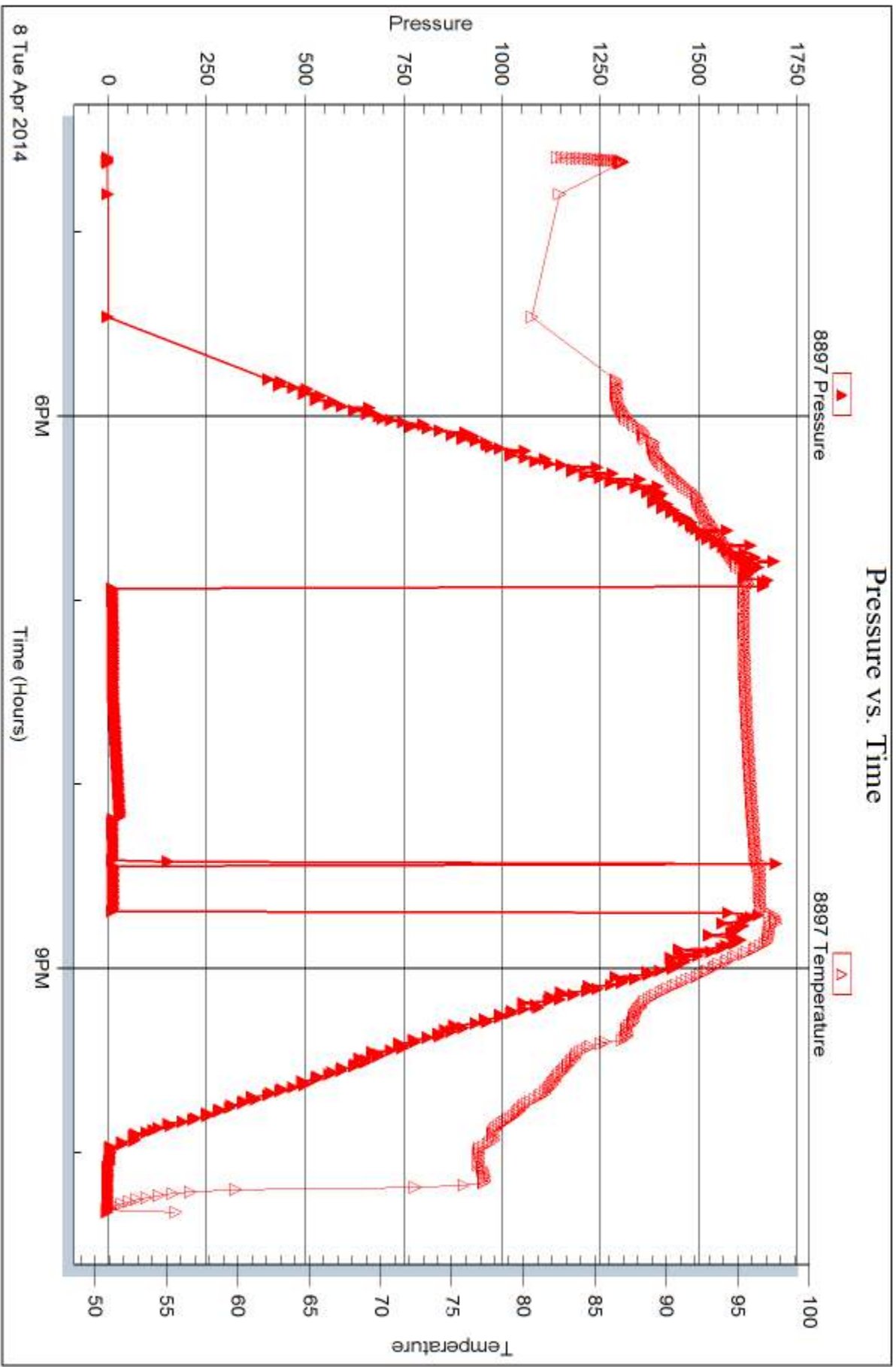


Serial #: 8897

Inside TDI

Alvin #1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 57559

Printed: 2014.04.11 @ 13:56:48



DRILL STEM TEST REPORT

Prepared For: **TDI**

1310 Bison Rd
Hays, KS 67601

ATTN: Herb Deines

Alvin #1

27-10-17w Rooks,KS

Start Date: 2014.04.09 @ 22:37:01

End Date: 2014.04.10 @ 05:33:40

Job Ticket #: 57560 DST #: 2

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.04.11 @ 13:56:19



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays, KS 67601
ATTN: Herb Deines

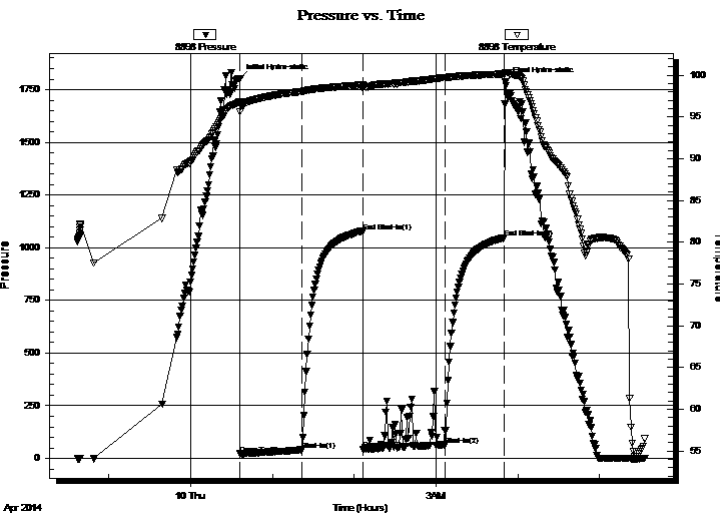
27-10-17w Rooks,KS
Alvin #1
Job Ticket: 57560 **DST#: 2**
Test Start: 2014.04.09 @ 22:37:01

GENERAL INFORMATION:

Formation: **Cong. Simpson Sand**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:36:21
 Time Test Ended: 05:33:40
 Interval: **3534.00 ft (KB) To 3685.00 ft (KB) (TVD)**
 Total Depth: 3368.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Tate Lang
 Unit No: 49
 Reference Elevations: 2075.00 ft (KB)
 2065.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8898 Outside
 Press@RunDepth: 64.50 psig @ 3539.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.09 End Date: 2014.04.10 Last Calib.: 2014.04.10
 Start Time: 22:37:02 End Time: 05:33:41 Time On Btm: 2014.04.10 @ 00:36:11
 Time Off Btm: 2014.04.10 @ 03:51:01

TEST COMMENT: Weak surface blow built to 3"
 Dead no blow
 Weak surface blow built to 3"
 Dead no blow



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1802.30 | 96.80 | Initial Hydro-static |
| 1 | 21.74 | 95.67 | Open To Flow (1) |
| 46 | 39.08 | 98.05 | Shut-In(1) |
| 90 | 1076.82 | 98.85 | End Shut-In(1) |
| 91 | 44.57 | 98.38 | Open To Flow (2) |
| 151 | 64.50 | 99.66 | Shut-In(2) |
| 194 | 1046.28 | 100.16 | End Shut-In(2) |
| 195 | 1788.19 | 100.31 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 90.00 | 100%M | 1.26 |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays, KS 67601

ATTN: Herb Deines

27-10-17w Rooks, KS

Alvin #1

Job Ticket: 57560

DST#: 2

Test Start: 2014.04.09 @ 22:37:01

GENERAL INFORMATION:

Formation: **Cong. Simpson Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:36:21

Time Test Ended: 05:33:40

Test Type: Conventional Bottom Hole (Reset)

Tester: Tate Lang

Unit No: 49

Interval: 3534.00 ft (KB) To 3685.00 ft (KB) (TVD)

Total Depth: 3368.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2075.00 ft (KB)

2065.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8897

Inside

Press@RunDepth: psig @ 3539.00 ft (KB)

Start Date: 2014.04.09

End Date:

2014.04.10

Start Time: 22:37:15

End Time:

05:33:54

Capacity: 8000.00 psig

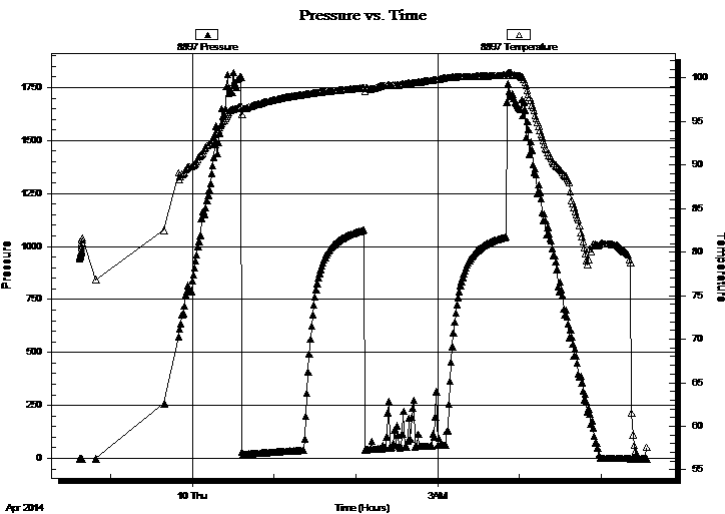
Last Calib.:

2014.04.10

Time On Btm:

Time Off Btm:

TEST COMMENT: Weak surface blow built to 3"
Dead no blow
Weak surface blow built to 3"
Dead no blow



PRESSURE SUMMARY

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

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 90.00 | 100%M | 1.26 |
| | | |
| | | |
| | | |
| | | |
| | | |

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI
1310 Bison Rd
Hays, KS 67601
ATTN: Herb Deines

27-10-17w Rooks,KS
Alvin #1
Job Ticket: 57560
Test Start: 2014.04.09 @ 22:37:01

DST#: 2

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 3529.00 ft | Diameter: 3.80 inches | Volume: 49.50 bbl | Tool Weight: 2200.00 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: 0.00 ft | Diameter: 2.25 inches | Volume: 0.00 bbl | Weight to Pull Loose: 50000.00 lb |
| | | | <u>Total Volume: 49.50 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 15.00 ft | | | String Weight: Initial 47000.00 lb |
| Depth to Top Packer: | 3534.00 ft | | | Final 47000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 151.00 ft | | | |
| Tool Length: | 171.00 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 | | | 3519.00 | |
| Hydraulic tool | 5.00 | | | 3524.00 | |
| Packer | 5.00 | | | 3529.00 | 20.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 3534.00 | |
| Stubb | 1.00 | | | 3535.00 | |
| Perforations | 4.00 | | | 3539.00 | |
| Recorder | 0.00 | 8897 | Inside | 3539.00 | |
| Recorder | 0.00 | 8898 | Outside | 3539.00 | |
| Change Over Sub | 1.00 | | | 3540.00 | |
| Drill Pipe | 126.00 | | | 3666.00 | |
| Change Over Sub | 1.00 | | | 3667.00 | |
| Perforations | 15.00 | | | 3682.00 | |
| Bullnose | 3.00 | | | 3685.00 | 151.00 Bottom Packers & Anchor |

Total Tool Length: 171.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI **27-10-17w Rooks,KS**
 1310 Bison Rd **Alvin #1**
 Hays, KS 67601 Job Ticket: 57560 **DST#: 2**
 ATTN: Herb Deines Test Start: 2014.04.09 @ 22:37:01

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: 5.99 in ³ | Gas Cushion Type: | | |
| Resistivity: ohm.m | Gas Cushion Pressure: psig | | |
| Salinity: 2800.00 ppm | | | |
| Filter Cake: 1.00 inches | | | |

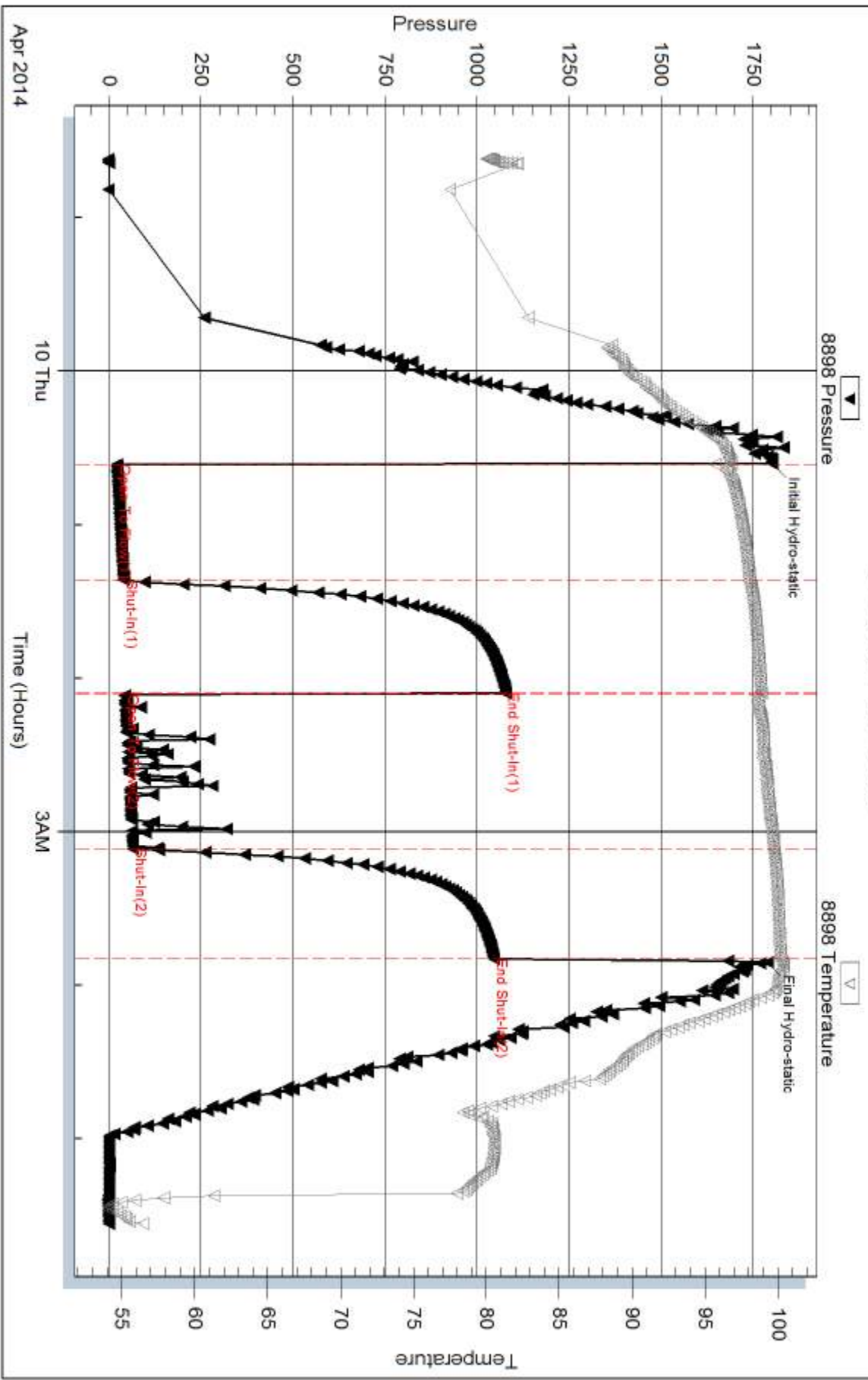
Recovery Information

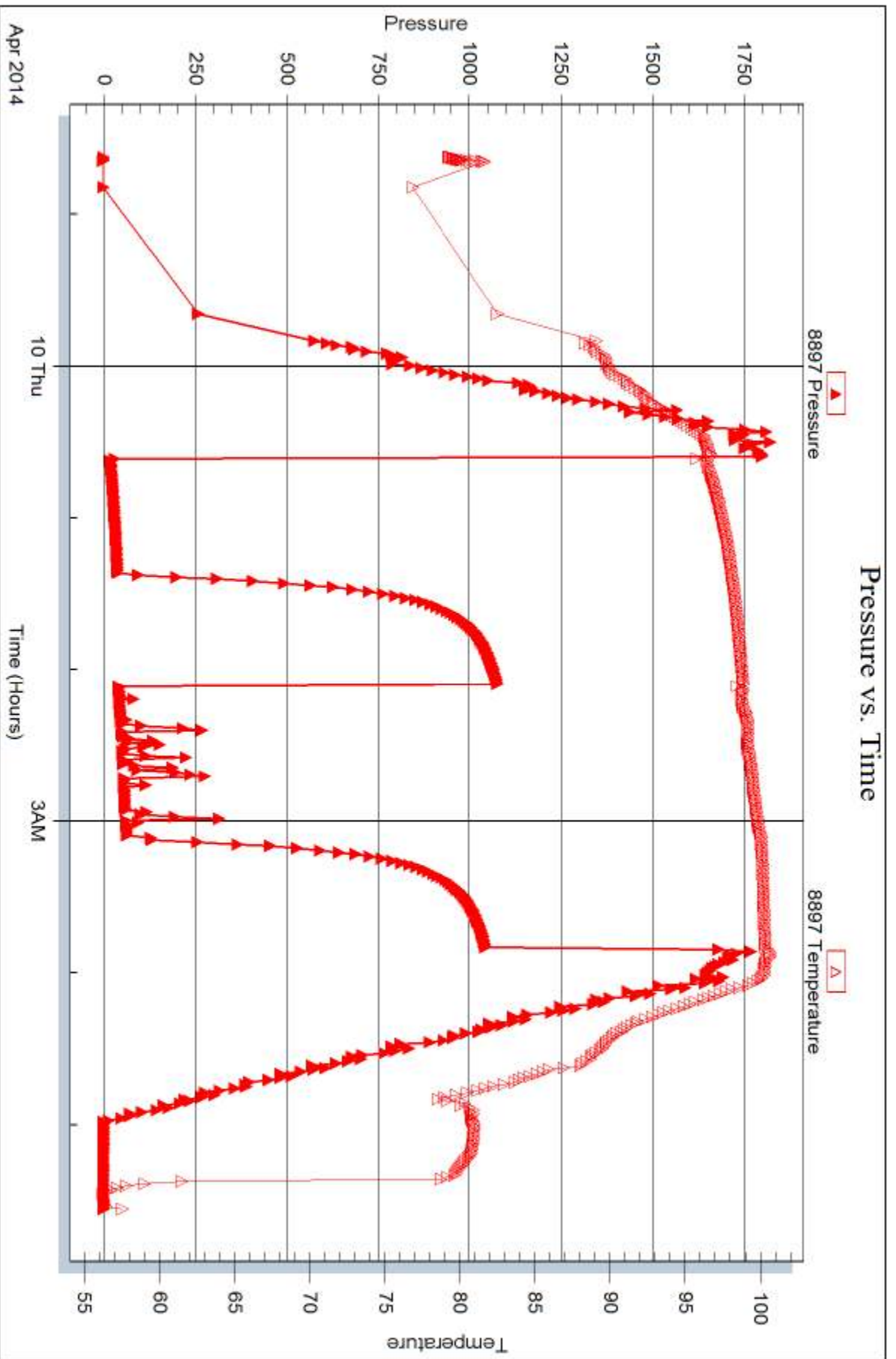
Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-------------|---------------|
| 90.00 | 100%M | 1.262 |

Total Length: 90.00 ft Total Volume: 1.262 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **TDI**

1310 Bison Rd
Hays, KS 67601

ATTN: Herb Deines

Alvin #1

27-10-17w Rooks,KS

Start Date: 2014.04.10 @ 17:30:30

End Date: 2014.04.10 @ 22:33:39

Job Ticket #: DST #: 3

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.04.11 @ 13:55:53

TDI
27-10-17w Rooks,KS
Alvin #1
DST # 3
"J-L"
2014.04.10



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays, KS 67601
ATTN: Herb Deines

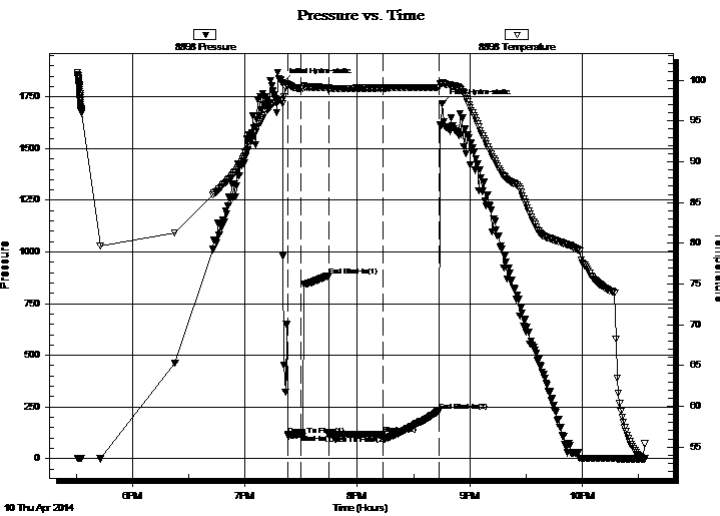
27-10-17w Rooks,KS
Alvin #1
Job Ticket: **DST#: 3**
Test Start: 2014.04.10 @ 17:30:30

GENERAL INFORMATION:

Formation: **"J-L"**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Straddle (Reset)
 Time Tool Opened: 19:22:40 Tester: Tate Lang
 Time Test Ended: 22:33:39 Unit No: 49
Interval: 3464.00 ft (KB) To 3552.00 ft (KB) (TVD) Reference Elevations: 2075.00 ft (KB)
 Total Depth: 3750.00 ft (KB) (TVD) 2065.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 10.00 ft

Serial #: 8898 Outside
 Press@RunDepth: 117.65 psig @ 3465.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.10 End Date: 2014.04.10 Last Calib.: 2014.04.10
 Start Time: 17:30:31 End Time: 22:33:40 Time On Btm: 2014.04.10 @ 19:20:00
 Time Off Btm: 2014.04.10 @ 20:45:30

TEST COMMENT: B.O.B. In 1 min
 Dead no blow back
 Dead no blow
 Dead no blow back



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1818.22 | 97.58 | Initial Hydro-static |
| 3 | 110.75 | 99.21 | Open To Flow (1) |
| 10 | 115.57 | 99.00 | Shut-In(1) |
| 25 | 884.45 | 99.12 | End Shut-In(1) |
| 25 | 111.42 | 98.68 | Open To Flow (2) |
| 54 | 117.65 | 99.05 | Shut-In(2) |
| 84 | 229.17 | 99.11 | End Shut-In(2) |
| 86 | 1717.60 | 99.64 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 170.00 | 100%M | 2.38 |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays, KS 67601
ATTN: Herb Deines

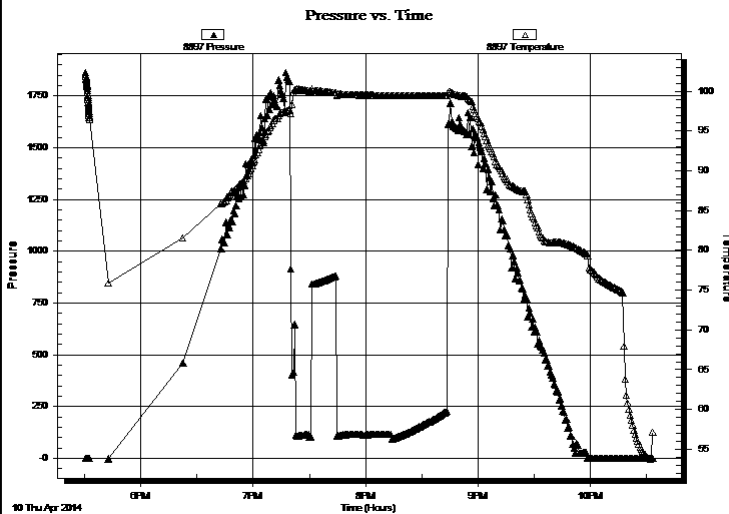
27-10-17w Rooks,KS
Alvin #1
Job Ticket: **DST#: 3**
Test Start: 2014.04.10 @ 17:30:30

GENERAL INFORMATION:

Formation: **"J-L"**
 Deviated: No Whipstock: ft (KB) Test Type: Conventional Straddle (Reset)
 Time Tool Opened: 19:22:40 Tester: Tate Lang
 Time Test Ended: 22:33:39 Unit No: 49
Interval: 3464.00 ft (KB) To 3552.00 ft (KB) (TVD) Reference Elevations: 2075.00 ft (KB)
 Total Depth: 3750.00 ft (KB) (TVD) 2065.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 10.00 ft

Serial #: 8897 Inside
 Press@RunDepth: psig @ 3465.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.04.10 End Date: 2014.04.10 Last Calib.: 2014.04.10
 Start Time: 17:30:26 End Time: 22:33:35 Time On Btm:
 Time Off Btm:

TEST COMMENT: B.O.B. In 1 min
 Dead no blow back
 Dead no blow
 Dead no blow back



PRESSURE SUMMARY

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

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 170.00 | 100%M | 2.38 |
| | | |
| | | |
| | | |
| | | |
| | | |

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays, KS 67601

ATTN: Herb Deines

27-10-17w Rooks,KS

Alvin #1

Job Ticket: **DST#: 3**

Test Start: 2014.04.10 @ 17:30:30

GENERAL INFORMATION:

Formation: **"J-L"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:22:40

Time Test Ended: 22:33:39

Test Type: Conventional Straddle (Reset)

Tester: Tate Lang

Unit No: 49

Interval: 3464.00 ft (KB) To 3552.00 ft (KB) (TVD)

Total Depth: 3750.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2075.00 ft (KB)

2065.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8354 Below (Straddle)

Press@RunDepth: psig @ 3561.00 ft (KB)

Start Date: 2014.04.10

End Date:

2014.04.10

Start Time: 17:30:45

End Time:

22:33:44

Capacity: 8000.00 psig

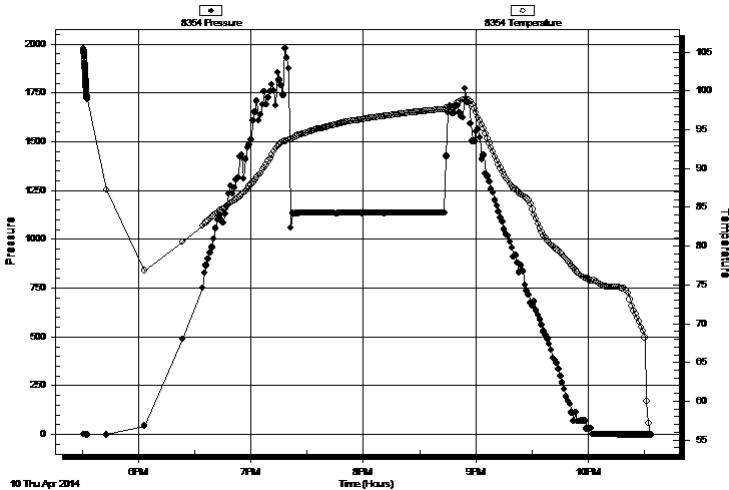
Last Calib.: 2014.04.10

Time On Btm:

Time Off Btm:

TEST COMMENT: B.O.B. In 1 min
Dead no blow back
Dead no blow
Dead no blow back

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 170.00 | 100%M | 2.38 |
| | | |
| | | |
| | | |
| | | |
| | | |

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

| | |
|---------------------------------|-----------------------------------|
| TDI | 27-10-17w Rooks,KS |
| 1310 Bison Rd Hays, KS 67601 | Alvin #1 |
| ATTN: Herb Deines | Job Ticket: DST#: 3 |
| | Test Start: 2014.04.10 @ 17:30:30 |

Tool Information

| | | | |
|------------------------------------|-------------------------|-------------------|------------------------------------|
| Drill Pipe: Length: 3460.00 ft | Diameter: 3.80 inches | Volume: 48.53 bbl | Tool Weight: 2200.00 lb |
| Heavy Wt. Pipe: Length: 0.00 ft | Diameter: 0.00 inches | Volume: 0.00 bbl | Weight set on Packer: 30000.00 lb |
| Drill Collar: Length: 0.00 ft | Diameter: 2.25 inches | Volume: 0.00 bbl | Weight to Pull Loose: lb |
| | Total Volume: 48.53 bbl | | Tool Chased 0.00 ft |
| Drill Pipe Above KB: 23.00 ft | | | String Weight: Initial 49000.00 lb |
| Depth to Top Packer: 3464.00 ft | | | Final lb |
| Depth to Bottom Packer: 3552.00 ft | | | |
| Interval between Packers: 88.00 ft | | | |
| Tool Length: 318.00 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 | | | 3442.00 | |
| Hydraulic tool | 5.00 | | | 3447.00 | |
| Jars | 5.00 | | | 3452.00 | |
| Safety Joint | 2.00 | | | 3454.00 | |
| Packer | 5.00 | | | 3459.00 | 27.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 3464.00 | |
| Stubb | 1.00 | | | 3465.00 | |
| Recorder | 0.00 | 8897 | Inside | 3465.00 | |
| Recorder | 0.00 | 8898 | Outside | 3465.00 | |
| Perforations | 3.00 | | | 3468.00 | |
| Change Over Sub | 1.00 | | | 3469.00 | |
| Drill Pipe | 62.00 | | | 3531.00 | |
| Change Over Sub | 1.00 | | | 3532.00 | |
| perforations | 15.00 | | | 3547.00 | |
| Blank Off Sub | 1.00 | | | 3548.00 | |
| Blank Spacing | 4.00 | | | 3552.00 | 88.00 Tool Interval |
| Packer | 5.00 | | | 3557.00 | |
| Stubb | 1.00 | | | 3558.00 | |
| Perforations | 3.00 | | | 3561.00 | |
| Recorder | 0.00 | 8354 | Below | 3561.00 | |
| Change Over Sub | 1.00 | | | 3562.00 | |
| Blank Spacing | 189.00 | | | 3751.00 | |
| Change Over Sub | 1.00 | | | 3752.00 | |
| Bullnose | 3.00 | | | 3755.00 | 203.00 Bottom Packers & Anchor |
| Total Tool Length: | 318.00 | | | | |



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI **27-10-17w Rooks,KS**
 1310 Bison Rd **Alvin #1**
 Hays, KS 67601 Job Ticket: **DST#: 3**
 ATTN: Herb Deines Test Start: 2014.04.10 @ 17:30:30

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: 5.99 in ³ | Gas Cushion Type: | | |
| Resistivity: ohm.m | Gas Cushion Pressure: psig | | |
| Salinity: 2800.00 ppm | | | |
| Filter Cake: 1.00 inches | | | |

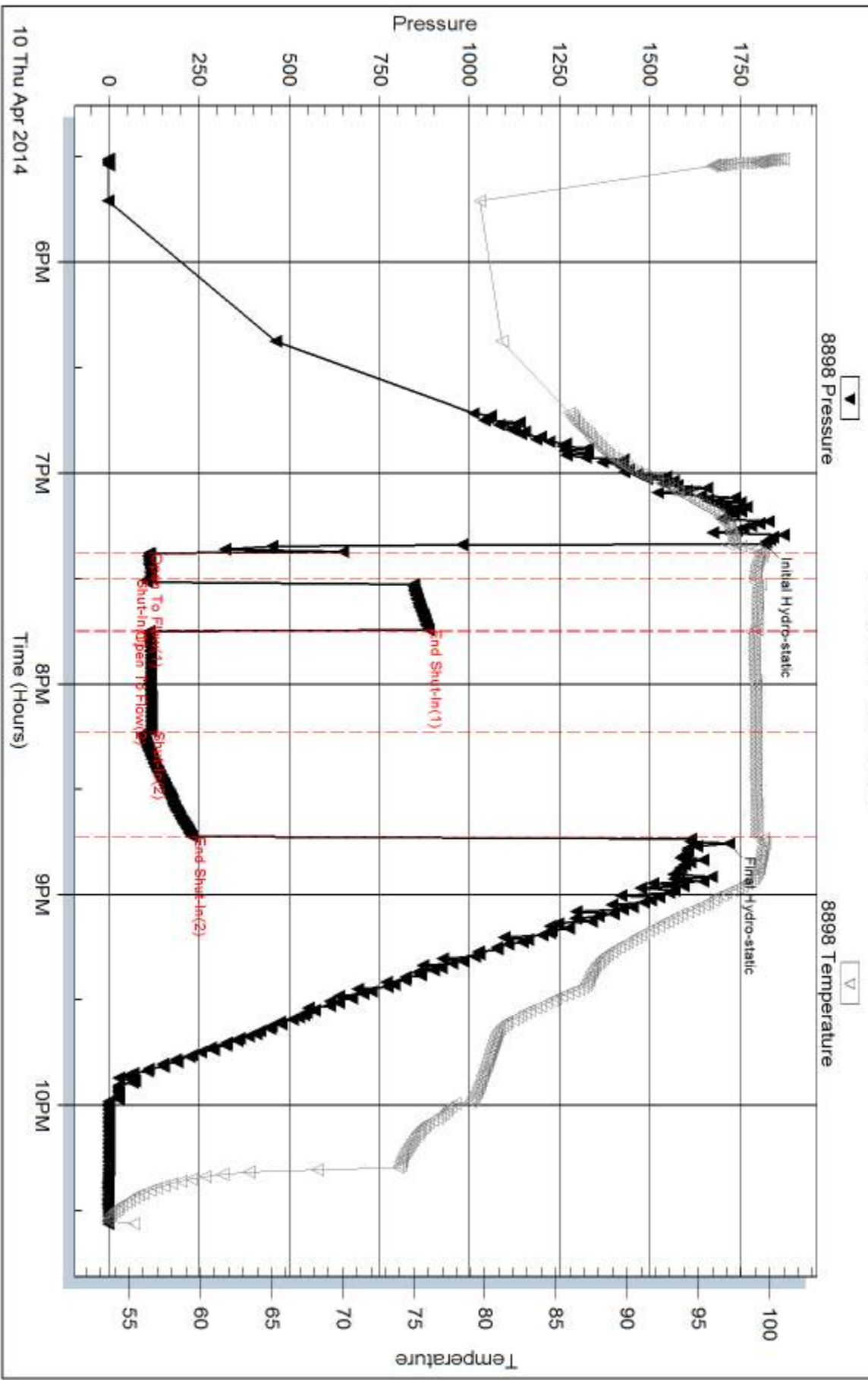
Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-------------|---------------|
| 170.00 | 100%M | 2.385 |

Total Length: 170.00 ft Total Volume: 2.385 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Pressure vs. Time

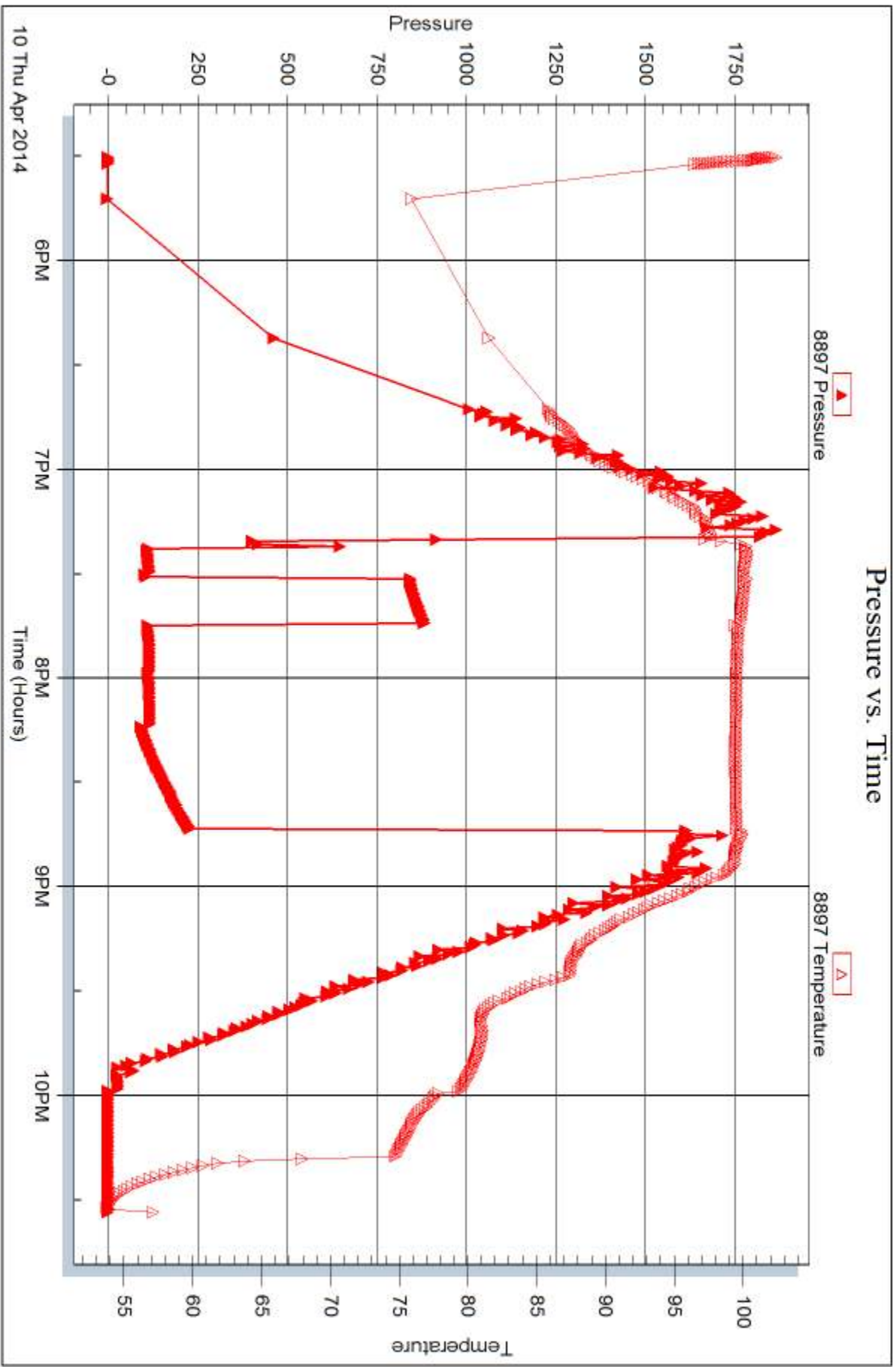


Serial #: 8897

Inside TDI

Alvin #1

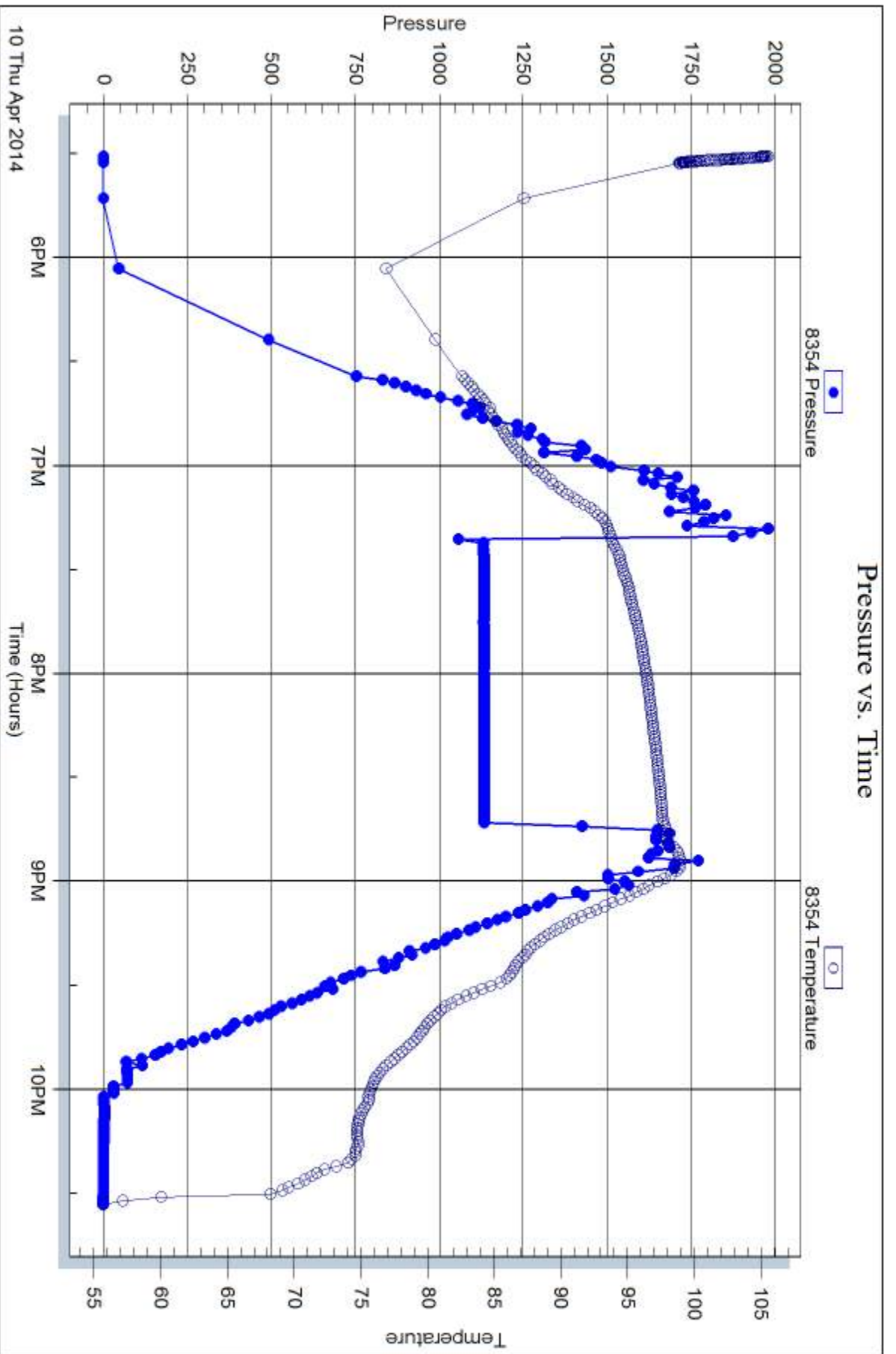
DST Test Number: 3



Trilobite Testing, Inc

Ref. No:

Printed: 2014.04.11 @ 13:55:56





DRILL STEM TEST REPORT

Prepared For: **TDI**

1310 Bison Rd
Hays, KS 67601

ATTN: Herb Deines

Alvin #1

27-10-17w Rooks,KS

Start Date: 2014.04.10 @ 23:16:48

End Date: 2014.04.11 @ 05:22:57

Job Ticket #: 57562 DST #: 4

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.04.11 @ 13:55:14

TDI
27-10-17w Rooks,KS
Alvin #1
DST # 4
J-L
2014.04.10



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

TDI
1310 Bison Rd
Hays, KS 67601
ATTN: Herb Deines

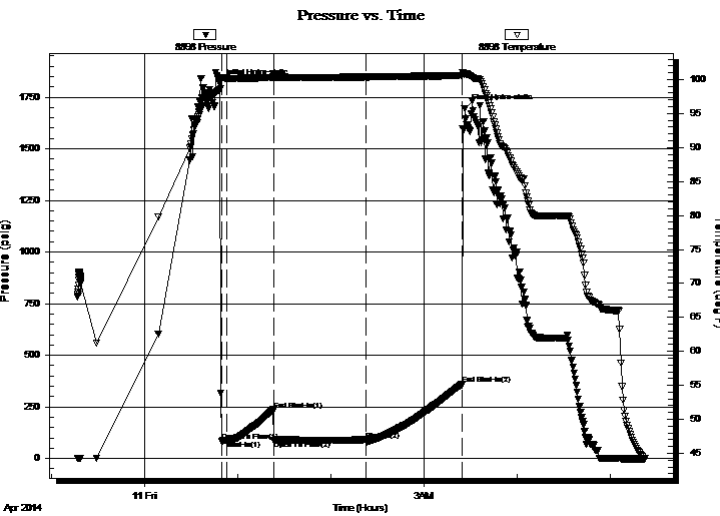
27-10-17w Rooks,KS
Alvin #1
Job Ticket: 57562 **DST#: 4**
Test Start: 2014.04.10 @ 23:16:48

GENERAL INFORMATION:

Formation: **J-L**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Straddle (Reset)
Time Tool Opened: 00:49:38 Tester: Tate Lang
Time Test Ended: 05:22:57 Unit No: 49
Interval: 3460.00 ft (KB) To 3540.00 ft (KB) (TVD) Reference Elevations: 2075.00 ft (KB)
Total Depth: 3750.00 ft (KB) (TVD) 2065.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 10.00 ft

Serial #: 8898 Outside
Press@RunDepth: 88.08 psig @ 3461.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.04.10 End Date: 2014.04.11 Last Calib.: 2014.04.11
Start Time: 23:16:49 End Time: 05:22:58 Time On Btm: 2014.04.11 @ 00:48:28
Time Off Btm: 2014.04.11 @ 03:26:28

TEST COMMENT: B.O.B. in 30 sec
Dead no blow
Dead no blow
Dead no blow



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1817.54 | 98.47 | Initial Hydro-static |
| 2 | 83.88 | 100.02 | Open To Flow (1) |
| 5 | 89.75 | 100.20 | Shut-In(1) |
| 35 | 235.99 | 100.27 | End Shut-In(1) |
| 35 | 88.13 | 100.17 | Open To Flow (2) |
| 94 | 88.08 | 100.38 | Shut-In(2) |
| 157 | 358.89 | 100.58 | End Shut-In(2) |
| 158 | 1693.89 | 100.87 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 125.00 | 100%M | 1.75 |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

TDI
 1310 Bison Rd
 Hays, KS 67601
 ATTN: Herb Deines

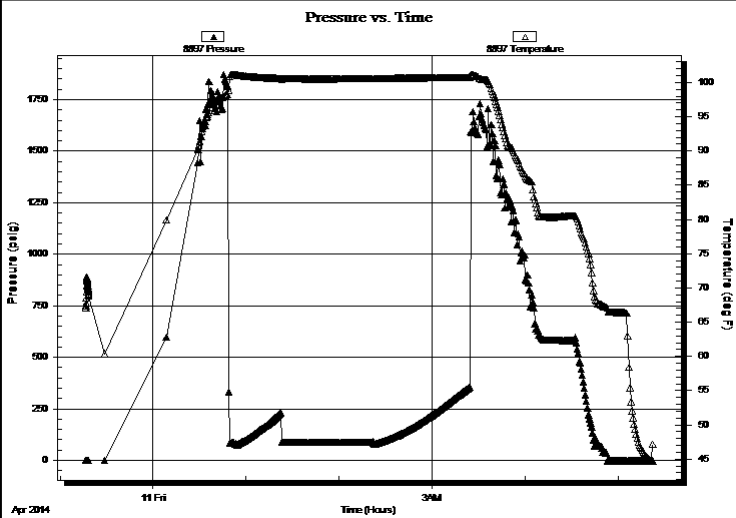
27-10-17w Rooks,KS
Alvin #1
 Job Ticket: 57562 **DST#: 4**
 Test Start: 2014.04.10 @ 23:16:48

GENERAL INFORMATION:

| | | | |
|---|----------------------|--|--|
| Formation: J-L | | | |
| Deviated: No Whipstock: | ft (KB) | Test Type: Conventional Straddle (Reset) | |
| Time Tool Opened: 00:49:38 | | Tester: Tate Lang | |
| Time Test Ended: 05:22:57 | | Unit No: 49 | |
| Interval: 3460.00 ft (KB) To 3540.00 ft (KB) (TVD) | | Reference Elevations: 2075.00 ft (KB) | |
| Total Depth: 3750.00 ft (KB) (TVD) | | 2065.00 ft (CF) | |
| Hole Diameter: 7.88 inches | Hole Condition: Good | KB to GR/CF: 10.00 ft | |

| | | | |
|--|----------------------|-------------------------|--|
| Serial #: 8897 | Inside | | |
| Press@RunDepth: psig @ 3461.00 ft (KB) | | Capacity: 8000.00 psig | |
| Start Date: 2014.04.10 | End Date: 2014.04.11 | Last Calib.: 2014.04.11 | |
| Start Time: 23:16:31 | End Time: 05:22:40 | Time On Btm: | |
| | | Time Off Btm: | |

TEST COMMENT: B.O.B. in 30 sec
 Dead no blow
 Dead no blow
 Dead no blow



PRESSURE SUMMARY

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

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 125.00 | 100%M | 1.75 |
| | | |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI
1310 Bison Rd
Hays, KS 67601
ATTN: Herb Deines

27-10-17w Rooks,KS
Alvin #1
Job Ticket: 57562 **DST#: 4**
Test Start: 2014.04.10 @ 23:16:48

Tool Information

| | | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe: | Length: 3451.00 ft | Diameter: 3.80 inches | Volume: 48.41 bbl | Tool Weight: | 2200.00 lb |
| Heavy Wt. Pipe: | Length: 0.00 ft | Diameter: 0.00 inches | Volume: 0.00 bbl | Weight set on Packer: | 34000.00 lb |
| Drill Collar: | Length: 0.00 ft | Diameter: 2.25 inches | Volume: 0.00 bbl | Weight to Pull Loose: | 66000.00 lb |
| | | | <u>Total Volume: 48.41 bbl</u> | Tool Chased | 0.00 ft |
| Drill Pipe Above KB: | 18.00 ft | | | String Weight: Initial | 49000.00 lb |
| Depth to Top Packer: | 3460.00 ft | | | Final | 49000.00 lb |
| Depth to Bottom Packer: | 3540.00 ft | | | | |
| Interval between Packers: | 80.00 ft | | | | |
| Tool Length: | 311.00 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 | | | 3438.00 | |
| Hydraulic tool | 5.00 | | | 3443.00 | |
| Jars | 5.00 | | | 3448.00 | |
| Safety Joint | 2.00 | | | 3450.00 | |
| Packer | 5.00 | | | 3455.00 | 27.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 3460.00 | |
| Stubb | 1.00 | | | 3461.00 | |
| Recorder | 0.00 | 8897 | Inside | 3461.00 | |
| Recorder | 0.00 | 8898 | Outside | 3461.00 | |
| Perforations | 10.00 | | | 3471.00 | |
| Change Over Sub | 1.00 | | | 3472.00 | |
| Drill Pipe | 62.00 | | | 3534.00 | |
| Change Over Sub | 1.00 | | | 3535.00 | |
| Blank Off Sub | 1.00 | | | 3536.00 | |
| Blank Spacing | 4.00 | | | 3540.00 | 80.00 Tool Interval |
| Packer | 5.00 | | | 3545.00 | |
| Stubb | 1.00 | | | 3546.00 | |
| Perforations | 4.00 | | | 3550.00 | |
| Recorder | 0.00 | 8354 | Below | 3550.00 | |
| Change Over Sub | 1.00 | | | 3551.00 | |
| Blank Spacing | 189.00 | | | 3740.00 | |
| Change Over Sub | 1.00 | | | 3741.00 | |
| Blank Off Sub | 3.00 | | | 3744.00 | 204.00 Bottom Packers & Anchor |
| Total Tool Length: | 311.00 | | | | |



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

TDI **27-10-17w Rooks,KS**
 1310 Bison Rd **Alvin #1**
 Hays, KS 67601 Job Ticket: 57562 **DST#: 4**
 ATTN: Herb Deines Test Start: 2014.04.10 @ 23:16:48

Mud and Cushion Information

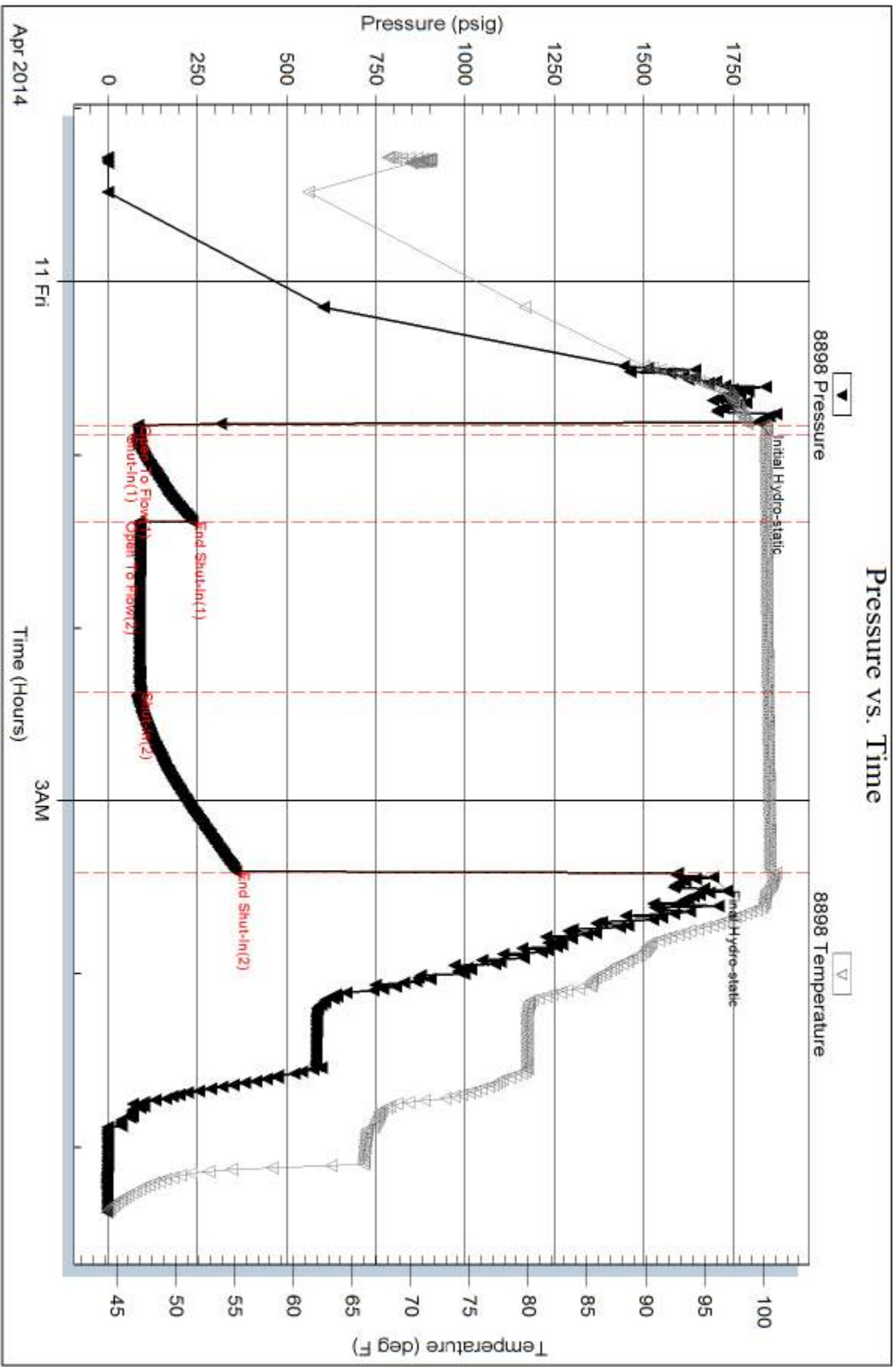
| | | | |
|----------------------------------|----------------------------|-----------------|---------|
| Mud Type: Gel Chem | Cushion Type: | Oil API: | deg API |
| Mud Weight: 9.00 lb/gal | Cushion Length: ft | Water Salinity: | ppm |
| Viscosity: 60.00 sec/qt | Cushion Volume: bbl | | |
| Water Loss: 5.99 in ³ | Gas Cushion Type: | | |
| Resistivity: ohm.m | Gas Cushion Pressure: psig | | |
| Salinity: 2900.00 ppm | | | |
| Filter Cake: 1.00 inches | | | |

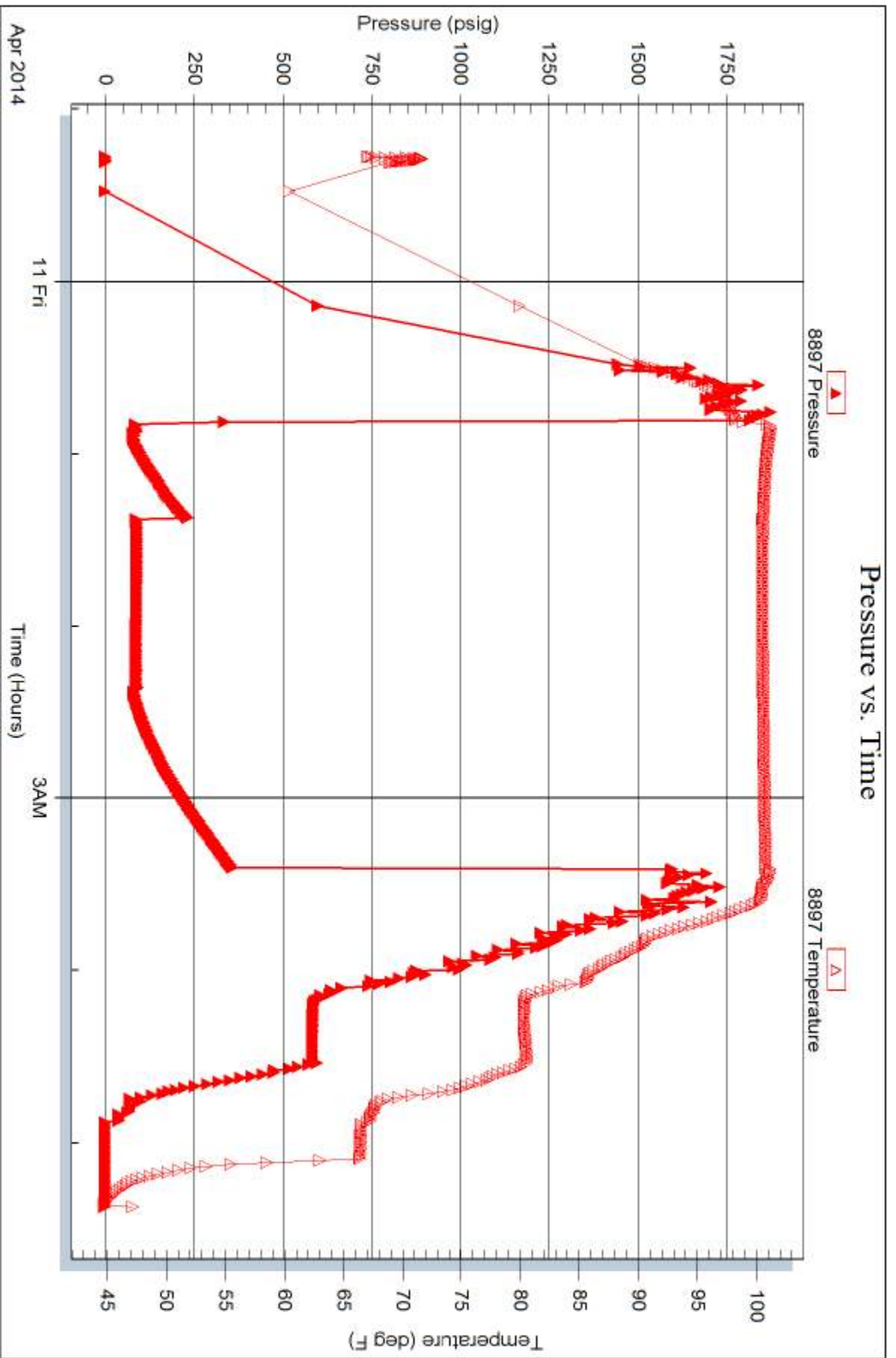
Recovery Information

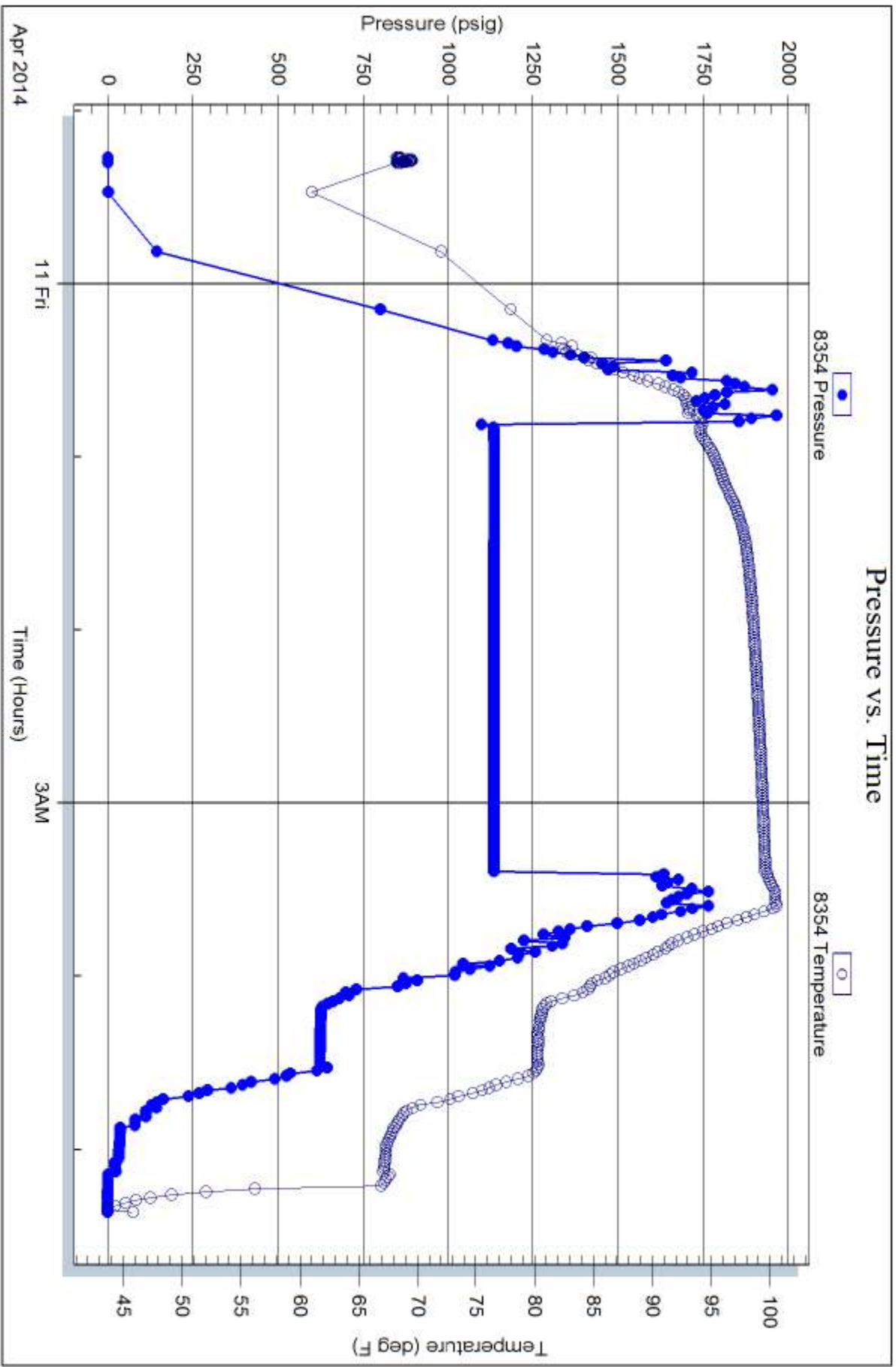
Recovery Table

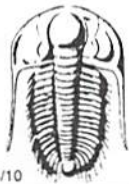
| Length ft | Description | Volume bbl |
|--------------|-------------|---------------|
| 125.00 | 100%M | 1.753 |

Total Length: 125.00 ft Total Volume: 1.753 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:









TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57559

Well Name & No. Alvin #1 Test No. 1 Date 4-8-14
 Company T.D.I. Inc. Elevation 2075 KB 2065 GL
 Address 1310 Bison Rd Hays KS 67601
 Co. Rep / Geo. Herb Deines Rig Southwind #1
 Location: Sec. 27 Twp. 10 Rge. 17w Co. Rooks State KS

Interval Tested 3338 3370 Zone Tested "D"
 Anchor Length 32 Drill Pipe Run 3341 Mud Wt. 8.9
 Top Packer Depth 3335 Drill Collars Run 0 Vis 60+
 Bottom Packer Depth 3338 Wt. Pipe Run 9 WL 58
 Total Depth 3370 Chlorides 200 ppm System LCM 3H

Blow Description Weak surface blow died IN 20 mins
Dead no blow back
Dead no blow flushed tool dead no slow
pulled tool

| Rec | Feet of | %gas | %oil | %water | %mud |
|--------------|--------------------|------|------|--------|------------|
| Rec <u>1</u> | Feet of <u>mud</u> | | | | <u>100</u> |
| Rec | Feet of | | | | |
| Rec | Feet of | | | | |

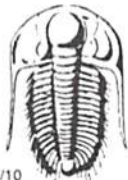
Rec Total 1001 BHT 97 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1672 Test 1150 T-On Location 15:35
 (B) First Initial Flow 14 Jars _____ T-Started 16:35
 (C) First Final Flow 16 Safety Joint _____ T-Open 18:55
 (D) Initial Shut-In 30 Circ Sub _____ T-Pulled 20:50
 (E) Second Initial Flow 14 Hourly Standby _____ T-Out 22:19
 (F) Second Final Flow 16 Mileage 60 R/K 93 Comments _____
 (G) Final Shut-In N/A Sampler _____
 (H) Final Hydrostatic 1659 Straddle _____ Ruined Shale Packer _____

Initial Open 30 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 45 Extra Packer _____ Extra Copies _____
 Final Flow 15 Flush 15 Extra Recorder _____ Sub Total 0
 Final Shut-In pull it Day Standby _____ Total 1243
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1243

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. 57560

Well Name & No. Alvin #1 Test No. 2 Date 4-9-14
 Company TDI INC Elevation 2075 KB 2065 GL
 Address 1310 Bison Rd Hays KS 67601
 Co. Rep / Geo. Herb Deines Rig Southwind #1
 Location: Sec. 27 Twp. 10 Rge. 17W Co. Rooks State KS

Interval Tested 3534 3685 Zone Tested Conglomerate, Simpson Sand
 Anchor Length 151 Drill Pipe Run _____ Mud Wt. 9.1
 Top Packer Depth 3529 Drill Collars Run 0 Vis 6.0
 Bottom Packer Depth 3534 Wt. Pipe Run 0 WL 6.0
 Total Depth 3685 Chlorides 2800 ppm System LCM 3#

Blow Description Weak surface blow built to 3 in
Dead no blow back
Weak surface blow built to 3 in
Dead no blow back

| Rec | Feet of | %gas | %oil | %water | %mud |
|---------------|------------------------|------|------|-------------------|------|
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec <u>90</u> | Feet of <u>100 mud</u> | %gas | %oil | %water <u>100</u> | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |

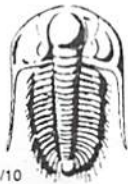
Rec Total 90 BHT 160 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 1802 Test 1150 T-On Location 22:00
 (B) First Initial Flow 22 Jars _____ T-Started 22:37
 (C) First Final Flow 39 Safety Joint _____ T-Open 00:32
 (D) Initial Shut-In 1077 Circ Sub _____ T-Pulled 04:07
 (E) Second Initial Flow 45 Hourly Standby _____ T-Out 05:33
 (F) Second Final Flow 65 Mileage 93 Comments _____
 (G) Final Shut-In 1046 Sampler _____
 (H) Final Hydrostatic 1788 Straddle _____

Initial Open 2.5 Ruined Shale Packer _____
 Initial Shut-In 45 Ruined Packer _____
 Final Flow 6.0 Extra Packer _____
 Final Shut-In 6.0 Extra Recorder _____
 Sub Total 0 Day Standby _____
 Total 1243 Accessibility _____
 Sub Total 1243 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. 57561

Well Name & No. Alvin #1 Test No. 3 Date 4-10-14
 Company TDI INC. Elevation 2075 KB 2065 GL
 Address 1310 Bison Rd Hays MS 67601
 Co. Rep / Geo. Herb Peines Rig Southwind #1
 Location: Sec. 27 Twp. 10 Rge. 17W Co. Rooks State MS

Interval Tested 3464 3552 Zone Tested J-L
 Anchor Length 88 Tail 198 Drill Pipe Run 3460 Mud Wt. 91
 Top Packer Depth 3459 Drill Collars Run 0 Vis 60
 Bottom Packer Depth 3464 Wt. Pipe Run 0 WL 60
 Total Depth 3750 Chlorides 2900 ppm System LCM 3#

Blow Description BOB, Iu 1min
Dead no blow back
Dead no blow
Dead no blow back

| Rec | Feet of | %gas | %oil | %water | %mud |
|------------|---------------|------|------|--------|------------|
| <u>170</u> | <u>100% M</u> | | | | <u>100</u> |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |

Rec Total 170 BHT 100 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

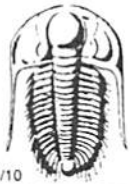
(A) Initial Hydrostatic 1818 Test 1150 T-On Location 17:00
 (B) First Initial Flow 111 Jars _____ T-Started 17:30
 (C) First Final Flow 116 Safety Joint _____ T-Open 19:20
 (D) Initial Shut-In 884 Circ Sub _____ T-Pulled 20:45
 (E) Second Initial Flow 111 Hourly Standby _____ T-Out 22:39
 (F) Second Final Flow 118 Mileage 93 Comments _____
 (G) Final Shut-In 925 Sampler _____
 (H) Final Hydrostatic 1718 Straddle 600 Ruined Shale Packer _____

Initial Open 10 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 15 Extra Packer _____ Extra Copies _____
 Final Flow 30 Extra Recorder _____ Sub Total 0
 Final Shut-In 30 Day Standby _____ Total 1843
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1843

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. 57562

4/10

Well Name & No. Alun #1 Test No. 3 Date 4/10/4-11
 Company TAT INC Elevation 2075 KB 2065 GL
 Address 1310 Bison Rd Hays KS 67601
 Co. Rep / Geo. Herb Deines Rig Southwind #1
 Location: Sec. 27 Twp. 10 Rge. 17W Co. Rooks State KS

Interval Tested 3460 3540 Zone Tested B 5-L
 Anchor Length 80 199 tail Drill Pipe Run 3451 Mud Wt. 9.1
 Top Packer Depth 3455 Drill Collars Run 0 Vis 60
 Bottom Packer Depth 3460 Wt. Pipe Run 0 WL 6.0
 Total Depth 3750 Chlorides 2900 ppm System LCM 3#
 Blow Description B.O.B. In 30 sec.
Dead no blow back
Dead no blow
Dead no blow back

| Rec | Feet of | %gas | %oil | %water | %mud |
|----------------|--------------------|------|------|-------------------|------|
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec <u>125</u> | Feet of <u>mud</u> | %gas | %oil | %water <u>100</u> | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |

Rec Total 125 BHT 101 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1818 Test 1150 T-On Location 23:16
 (B) First Initial Flow 84 Jars _____ T-Started _____
 (C) First Final Flow 90 Safety Joint _____ T-Open 00:48
 (D) Initial Shut-In 236 Circ Sub _____ T-Pulled 03:22
 (E) Second Initial Flow 88 Hourly Standby _____ T-Out 05:22
 (F) Second Final Flow 88 Mileage _____ Comments _____
 (G) Final Shut-In 359 Sampler _____
 (H) Final Hydrostatic 7694 Straddle 600 Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 5 Extra Recorder _____ Sub Total 0
 Initial Shut-In 30 Day Standby _____ Total 1750
 Final Flow 60 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 60 Sub Total 1750

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.