



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
- Conv. to GSW
- Plug Back: _____ Plug Back Total Depth _____
- 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

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total 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

- Letter of Confidentiality Received
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____



Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

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

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

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

| ADDITIONAL CEMENTING / SQUEEZE RECORD | | | | |
|--|------------------|----------------|--------------|----------------------------|
| Purpose: | Depth Top Bottom | Type of Cement | # Sacks Used | Type and Percent Additives |
| _____ Perforate _____ Protect Casing _____ Plug Back TD _____ Plug Off Zone | | | | |
| | | | | |

| 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 Bbbs. | Gas Mcf | Water Bbbs. | 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> _____ <i>(Submit ACO-4)</i> | PRODUCTION INTERVAL: _____ _____ |
|---|--|--|

| | |
|-----------|---------------------------|
| Form | ACO1 - Well Completion |
| Operator | Downing-Nelson Oil Co Inc |
| Well Name | Herman 1-11 |
| Doc ID | 1116336 |

All Electric Logs Run

| |
|-----------------------------|
| |
| Micro |
| Sonic |
| Dual Indcution |
| Compensated Density/Neutron |

| | |
|-----------|---------------------------|
| Form | ACO1 - Well Completion |
| Operator | Downing-Nelson Oil Co Inc |
| Well Name | Herman 1-11 |
| Doc ID | 1116336 |

Tops

| Name | Top | Datum |
|-------------------|-------|-------|
| Top Anhydrite | 1594' | +638 |
| Base Anhydrite | 1639' | +593 |
| Topeka | 3300' | -1068 |
| Heebner | 3509' | -1307 |
| Toronto | 3558' | -1326 |
| LKC | 3578' | -1346 |
| BKC | 3826' | -1594 |
| Marmaton | 3910' | -1678 |
| Cherokee Shale | 3954' | -1722 |
| Comglomerate Sand | 3974' | -1742 |
| Arbuckle | 4025' | -1793 |

| | |
|-----------|---------------------------|
| Form | ACO1 - Well Completion |
| Operator | Downing-Nelson Oil Co Inc |
| Well Name | Herman 1-11 |
| Doc ID | 1116336 |

Perforations

| Shots Per Foot | Perforation Record | Material Record | Depth |
|----------------|--------------------|---------------------------------|----------------|
| 4 | 3974' to 3982' | 250 gallons 7.5% NE Acid | 3974' to 3982' |
| 4 | 3611' to 3614' | 500 gallons 15% NE Acid | 3974' to 3982' |
| 4 | 3646' to 3650' | 20sks Common Cement | 3611' to 3614 |
| | | 250 gallons 15% Mud Acid | 3646' to 3650' |
| | | 750 gallons 15% NE Acid | 3646' to 3650' |
| | | Frac 5000 gal. Gel & 1500# Sand | 3974' - 3982' |

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

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

No. 6505

| Date | Sec. | Twp. | Range | County | State | On Location | Finish |
|---|------|----------------------|-------|--|-------|-------------|--------|
| 1-31-63 | 11 | 14 | 21 | Trego | KS | | 8:30am |
| Lease <u>Herman</u> | | | | Well No. <u>1-11</u> | | Owner | |
| Contractor <u>Discovery #3</u> | | | | To Quality Oilwell Cementing, Inc. | | | |
| Type Job <u>Surface</u> | | | | You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed. | | | |
| Hole Size <u>12 1/4</u> | | T.D. <u>221</u> | | Charge To <u>Downing / Nelson</u> | | | |
| Csg. <u>8 5/8</u> | | Depth <u>220</u> | | Street | | | |
| Tbg. Size | | Depth | | City | | State | |
| Tool | | Depth | | The above was done to satisfaction and supervision of owner agent or contractor. | | | |
| Cement Left in Csg. <u>15'</u> | | Shoe Joint | | Cement Amount Ordered <u>15000m 30644 20661</u> | | | |
| Meas Line | | Displace <u>1384</u> | | Common <u>150</u> | | | |
| EQUIPMENT Pumptrk <u>15</u> No. Cementer <u>Graig</u> Bulktrk No. Driver <u>Nick</u> Bulktrk <u>14</u> No. Driver <u>Doug</u> | | | | Poz. Mix Gel. <u>3</u> Calcium <u>5</u> | | | |
| JOB SERVICES & REMARKS | | | | Hulls | | | |
| Remarks: | | | | Salt | | | |
| Rat Hole | | | | Flowseal | | | |
| Mouse Hole | | | | Kol-Seal | | | |
| Centralizers | | | | Mud CLR 48 | | | |
| Baskets | | | | CFL-117 or CD110 CAF 38 | | | |
| D/V or Port Collar | | | | Sand | | | |
| <u>8 5/8 on bottom. Est. Circulation.</u> | | | | Handling <u>158</u> | | | |
| <u>Mix 1525K + Displace</u> | | | | Mileage | | | |
| <u>Cement Circulator</u> | | | | FLOAT EQUIPMENT | | | |
| | | | | Guide Shoe | | | |
| | | | | Centralizer | | | |
| | | | | Baskets | | | |
| | | | | AFU Inserts | | | |
| | | | | Float Shoe | | | |
| | | | | Latch Down | | | |
| | | | | Pumptrk Charge <u>Surface</u> | | | |
| | | | | Mileage <u>24</u> | | | |
| | | | | Tax | | | |
| | | | | Discount | | | |
| X Signature <u>John Gocher</u> | | | | Total Charge | | | |

JOB LOG

SWIFT Services, Inc.

DATE 2-7-13 PAGE NO. 1

CUSTOMER Downing Nelson WELL NO. 1-11 LEASE Herman JOB TYPE 5 1/2 long string TICKET NO. 23896

| CHART NO. | TIME | RATE (BPM) | VOLUME (BBL/GAL) | PUMPS | | PRESSURE (PSI) | | DESCRIPTION OF OPERATION AND MATERIALS |
|-----------|------|------------|------------------|-------|---|----------------|--------|--|
| | | | | T | C | TUBING | CASING | |
| | 0430 | | | | | | | on location TD 411 SS 20 TP 4108 Insert 4088 PC Top #61 1569' 5 1/2 x 14# |
| | 0530 | | | | | | | Start casing |
| | 0720 | | | | | | | Break circulation Rotate |
| | 0755 | | 7/4 | | | | | Plug BH 30skt MH, 15 skt |
| | 0805 | 5 | 12 | | ✓ | | 300 | Start mid flush |
| | | 5 | 20 | | ✓ | | 300 | Start KCL flush |
| | | 5 | 32 | | ✓ | | 200 | Start CMT |
| | 0826 | | | | | | | Drop Plug |
| | 0826 | | | | | | | Wash out Pump + Lines |
| | 0827 | | | | | | | Displace |
| | 0845 | | 99.7 | | ✓ | | 1500 | Land Plug |
| | 0847 | | | | | | | Release PSE Dry |
| | | | | | | | | Wash up + back up |
| | 0945 | | | | | | | Job complete Thank You Josh, Brian, Isaac |

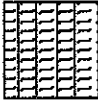
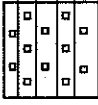
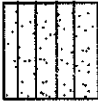

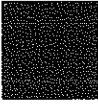
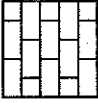
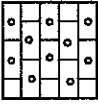
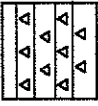

DRILL STEM TESTS

| No. | Interval | IFP/Time | ISIP/Time | FFP/Time | FSIP/Time | BH-FHH | RECOVERY |
|-----|----------|----------|-----------|----------|-----------|--------|----------|
| | | | | | | | |
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REMARKS AND RECOMMENDATIONS RAN 5 1/2" PRODUCTION PIPE BASED ON SHOWS & DST # 2.

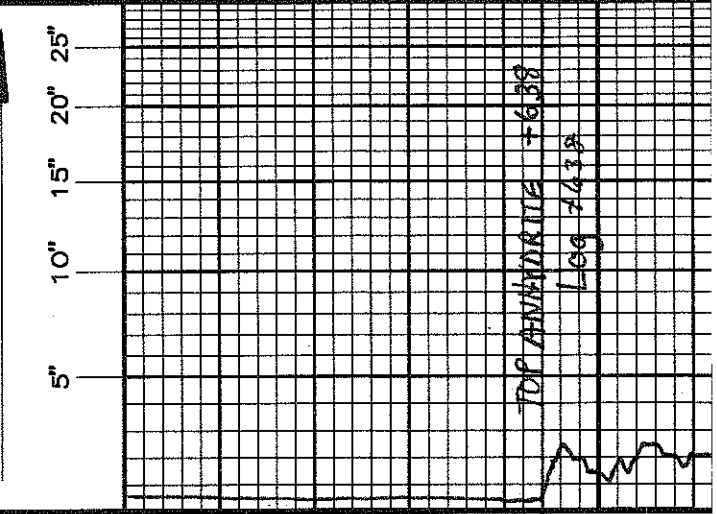
Ron Nelson

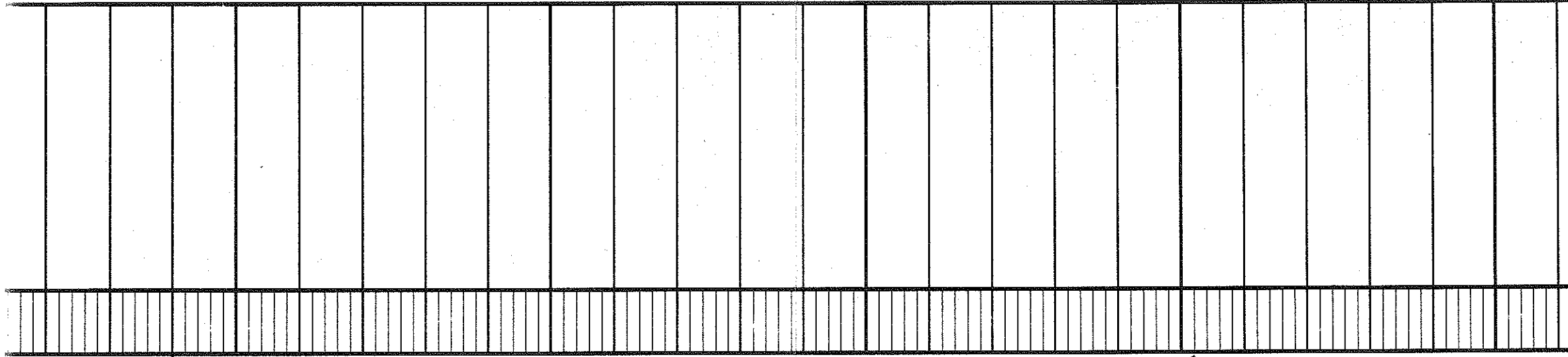
LEGEND

-  Anhydrite
-  Salt
-  Sandstone
-  Shale
-  Carb sh
-  Limestone
-  Ool. Lime
-  Chert
-  Dolomite

| REMARKS | | | | | | |
|---------------------|------|--|--|------|--|--|
| OIL SHOWS | | | | | | |
| SAMPLE DESCRIPTIONS | | | | | | |
| LITHOLOGY | | | | | | |
| DEPTH | 1572 | | | 1600 | | |

DRILLING TIME IN MINUTES PER FOOT
Rate of Penetration Decreases





1650

3200

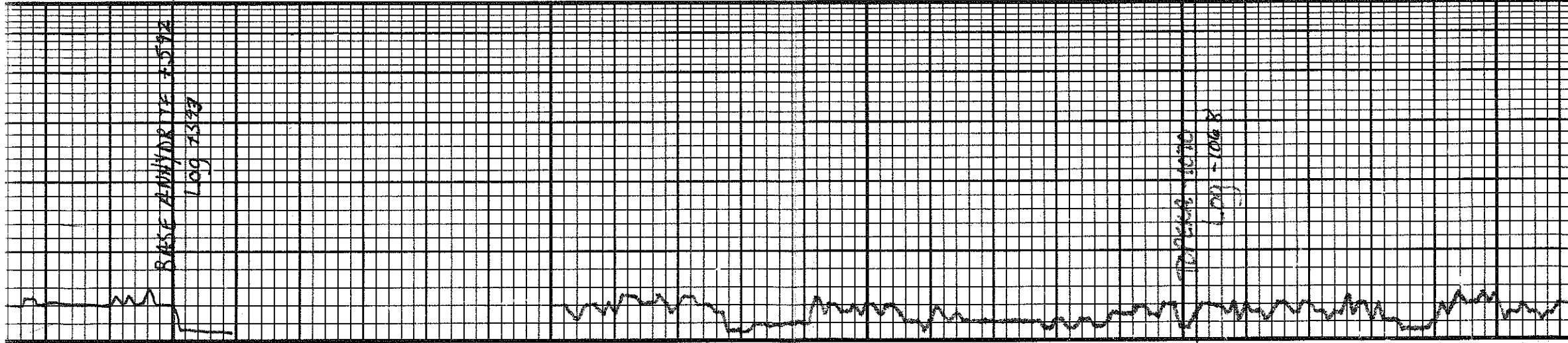
50

3300

50

BASE ANHYDRITE F-592
LOG 7599

BASE ANHYDRITE F-592
LOG 7599



3400

50

3500

50

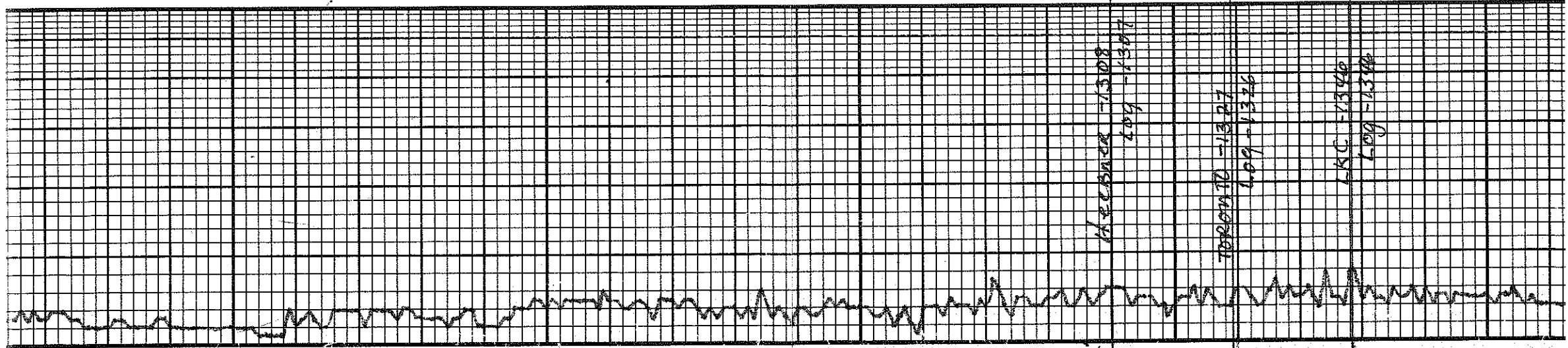
3600

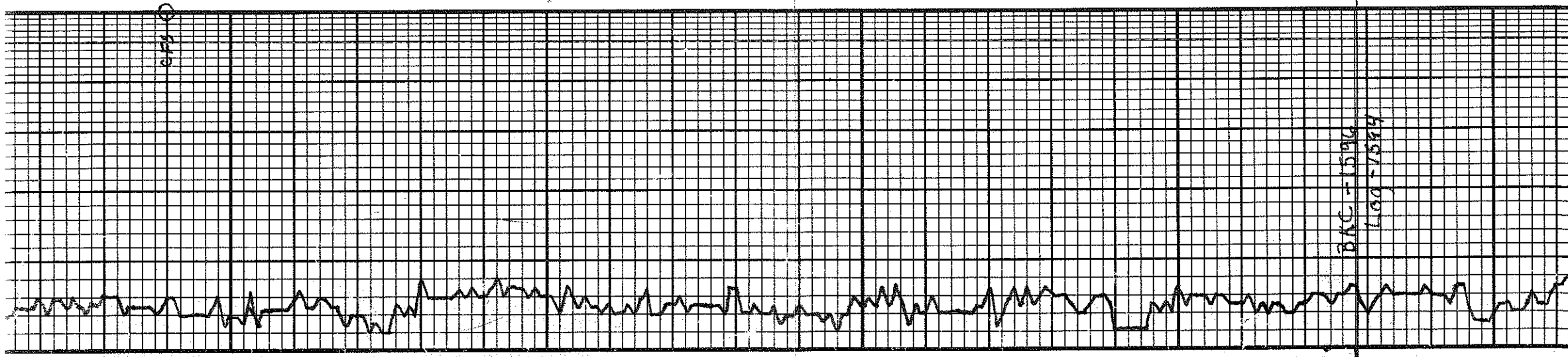
KR 5000 - 1308
L09 - 1307

TORONTO - 1327
L09 - 1326

KC - 1340
L09 - 1339

| | |
|--|-----------------------|
| 979 sh | foss wh - s. qd. n.s. |
| 979 sh | |
| trachy - 3 | |
| LS aa sm f. xyl w. a.c. n.s. | |
| aa | |
| SH BLK CARB | |
| SH ALK CARB | |
| sh v. xgr y | |
| LS wh - gray tr. suc xyl w. tight pr. myl. n.s. | |
| SAUOH gray | |
| LS B. sm v. a. d. - foss in v. d. a.s. mat n.s. pr. B | |
| sm trachy n.s. | |
| then mic xyl w. v. d. a.s. NO SHOW pr. B | |
| Sh gray. decr y. B. n. | |
| LS. some masuc. xyl. in base. B. aa & xyl n.s. | |





BAC - 1596
 100-7594

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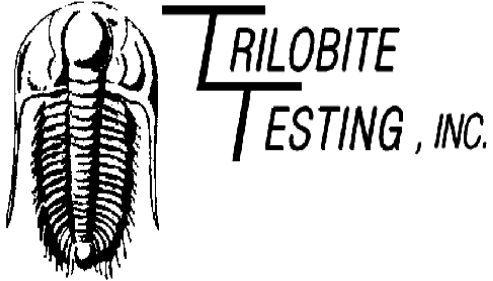
3700

50

3800

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| | |
|----|---|
| 1 | longous p... MS. |
| 2 | sh grey |
| 3 | ls tan tups faxy w p... all MS. |
| 4 | sh grey n by BK |
| 5 | ls... xy w p... 1-2 pcs 1-2 pcs the brn sm US to no |
| 6 | longous mic... upr @ MS. trc lnt wh tm |
| 7 | ls w. tot... trible brn MS. |
| 8 | longous mic... MS w/... sh p... all MS. |
| 9 | ls w. tan. mic xy w upr 1 xy @ MS. dms. |
| 10 | sh grey. brn dms wh in xy lms sh grey. brn |
| 11 | ls w. swp... the coc... no app @ MS. w/ |
| 12 | sh - mic... no app @ MS. |
| 13 | sh. ud... brn, 1-2 gn |
| 14 | ls w. ... re xy, ... no app, ... no app @ MS. w/ |
| 15 | sh p... wh tan ch |
| 16 | sh ch... brn, 9 m |
| 17 | ls w. ... coc @... brn sm, ... |
| 18 | longous mic... sh 04 974 |
| 19 | ls tan. H brn sm... mut. 1-2 pcs coc w/MS to, brn |
| 20 | long mic... brn |
| 21 | sh brn - 974 |
| 22 | ms... xy 2-3 p... w/ tan ch |
| 23 | sh... all MS |
| 24 | ls tan wh... all MS |
| 25 | sh... dms 974 974 dms 974 w/ wh ch |
| 26 | 974 dms 974 |



DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co inc.**

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Herman #1-11

11-14s-21w Trego,KS

Start Date: 2013.02.05 @ 01:01:05

End Date: 2013.02.05 @ 08:03:09

Job Ticket #: 51469 DST #: 1

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

Printed: 2013.02.07 @ 15:26:22



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

Job Ticket: 51469

DST#: 1

ATTN: Ron Nelson

Test Start: 2013.02.05 @ 01:01:05

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:57:40

Time Test Ended: 08:03:09

Test Type: Conventional Bottom Hole (Initial)

Tester: Andy Carreira

Unit No: 39

Interval: 3913.00 ft (KB) To 3930.00 ft (KB) (TVD)

Reference Elevations: 2232.00 ft (KB)

Total Depth: 3930.00 ft (KB) (TVD)

2224.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8372 Outside

Press @ Run Depth: 80.76 psig @ 3914.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.05 End Date: 2013.02.05

Last Calib.: 2013.02.05

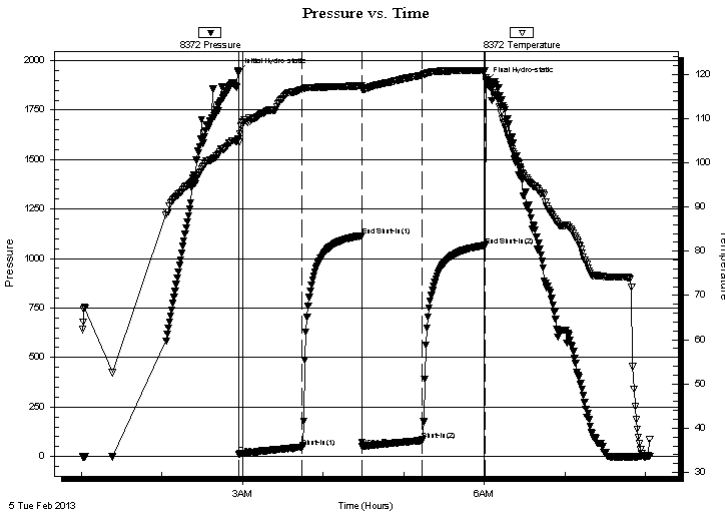
Start Time: 01:01:05 End Time: 08:03:10

Time On Btm: 2013.02.05 @ 02:56:40

Time Off Btm: 2013.02.05 @ 06:01:39

TEST COMMENT: IF:(45min) 1" blow in 1min. 3" in 8 min. 6" in 25 min. Built to 9"
ISl:(45min) No Return
FF:(45min) 1" blow in 5 min. 3" in 19 min. Built to 6"
FSl:(45min) No Return

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1941.20 | 105.30 | Initial Hydro-static |
| 1 | 12.68 | 104.61 | Open To Flow (1) |
| 48 | 47.98 | 116.54 | Shut-In(1) |
| 93 | 1115.28 | 117.35 | End Shut-In(1) |
| 93 | 49.88 | 116.80 | Open To Flow (2) |
| 138 | 80.76 | 119.73 | Shut-In(2) |
| 184 | 1066.31 | 120.84 | End Shut-In(2) |
| 185 | 1893.21 | 118.71 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 150.00 | Water | 2.10 |
| | | |
| | | |
| | | |
| | | |

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

Job Ticket: 51469

DST#: 1

ATTN: Ron Nelson

Test Start: 2013.02.05 @ 01:01:05

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:57:40

Time Test Ended: 08:03:09

Test Type: Conventional Bottom Hole (Initial)

Tester: Andy Carreira

Unit No: 39

Interval: **3913.00 ft (KB) To 3930.00 ft (KB) (TVD)**

Reference Elevations: 2232.00 ft (KB)

Total Depth: 3930.00 ft (KB) (TVD)

2224.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8844 **Inside**

Press @ Run Depth: psig @ 3914.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.05 End Date: 2013.02.05

Last Calib.: 2013.02.05

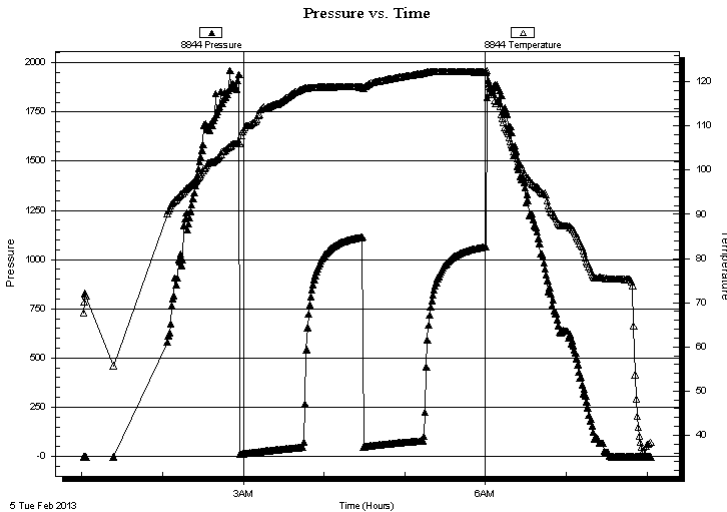
Start Time: 01:01:25 End Time: 08:03:19

Time On Btm:

Time Off Btm:

TEST COMMENT: IF:(45min) 1" blow in 1min. 3" in 8 min. 6" in 25 min. Built to 9"
ISl:(45min) No Return
FF:(45min) 1" blow in 5 min. 3" in 19 min. Built to 6"
FSl:(45min) No Return

PRESSURE SUMMARY



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

Recovery

Gas Rates

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 150.00 | Water | 2.10 |
| | | |
| | | |
| | | |
| | | |

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

Job Ticket: 51469

DST#: 1

ATTN: Ron Nelson

Test Start: 2013.02.05 @ 01:01:05

Tool Information

| | | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe: | Length: 3898.00 ft | Diameter: 3.80 inches | Volume: 54.68 bbl | Tool Weight: | 2000.00 lb |
| Heavy Wt. Pipe: | Length: 0.00 ft | Diameter: 2.70 inches | Volume: 0.00 bbl | Weight set on Packer: | 24000.00 lb |
| Drill Collar: | Length: 0.00 ft | Diameter: 2.25 inches | Volume: 0.00 bbl | Weight to Pull Loose: | 60000.00 lb |
| | | | <u>Total Volume: 54.68 bbl</u> | Tool Chased | 0.00 ft |
| Drill Pipe Above KB: | 5.00 ft | | | String Weight: Initial | 54000.00 lb |
| Depth to Top Packer: | 3913.00 ft | | | Final | 55000.00 lb |
| Depth to Bottom Packer: | ft | | | | |
| Interval between Packers: | 17.00 ft | | | | |
| Tool Length: | 37.00 ft | | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | | |
| Tool Comments: | | | | | |

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

| | | | | | |
|---------------------------|--------------|------|---------|---------|-------------------------------|
| Change Over Sub | 1.00 | | | 3894.00 | |
| Shut In Tool | 5.00 | | | 3899.00 | |
| Hydraulic tool | 5.00 | | | 3904.00 | |
| Packer | 5.00 | | | 3909.00 | 20.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 3913.00 | |
| Stubb | 1.00 | | | 3914.00 | |
| Recorder | 0.00 | 8844 | Inside | 3914.00 | |
| Recorder | 0.00 | 8372 | Outside | 3914.00 | |
| Perforations | 13.00 | | | 3927.00 | |
| Bullnose | 3.00 | | | 3930.00 | 17.00 Bottom Packers & Anchor |
| Total Tool Length: | 37.00 | | | | |



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

Job Ticket: 51469

DST#: 1

ATTN: Ron Nelson

Test Start: 2013.02.05 @ 01:01:05

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:

36000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.74 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-------------|---------------|
| 150.00 | Water | 2.104 |

Total Length: 150.00 ft

Total Volume: 2.104 bbl

Num Fluid Samples: 0

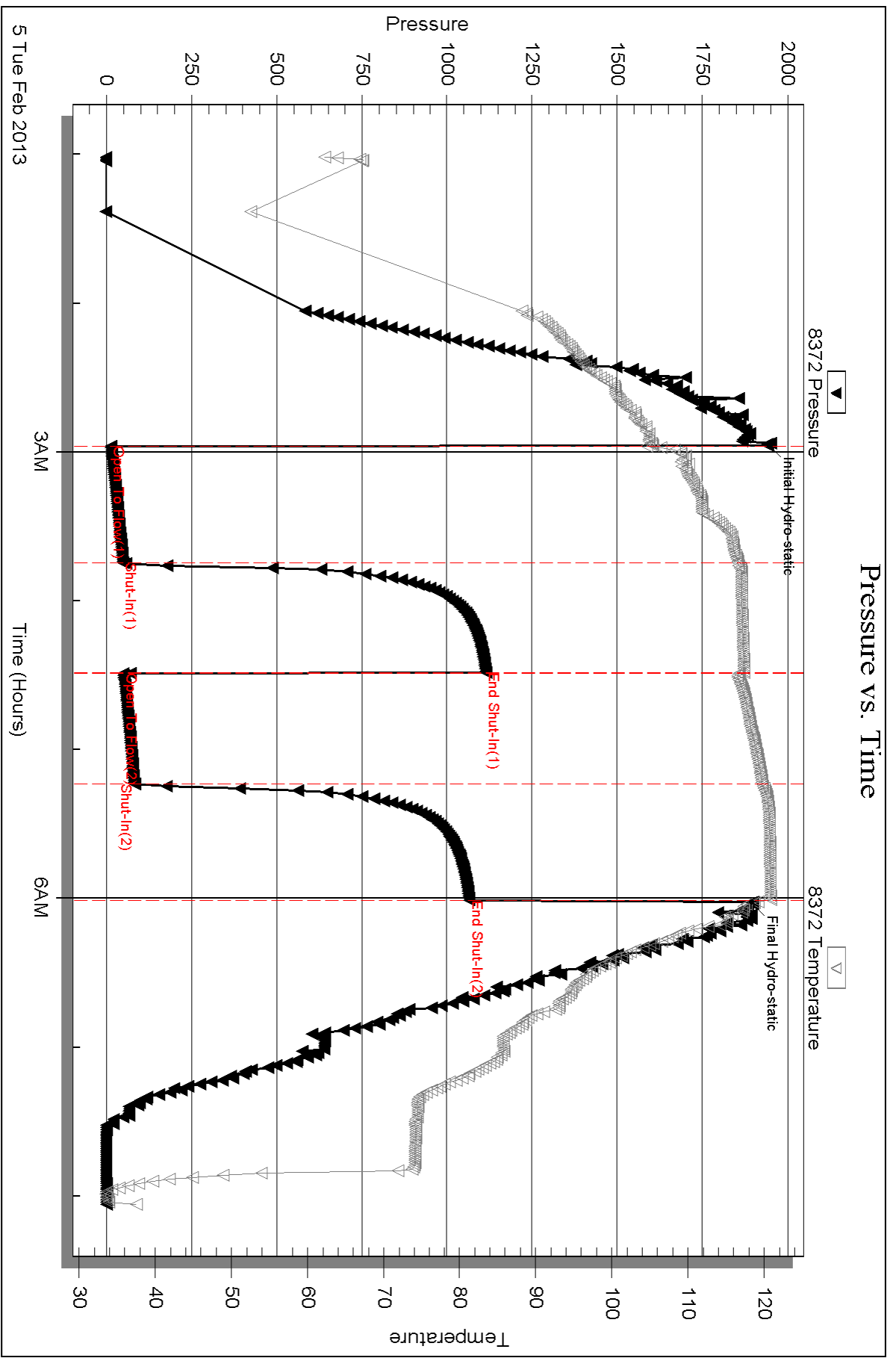
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



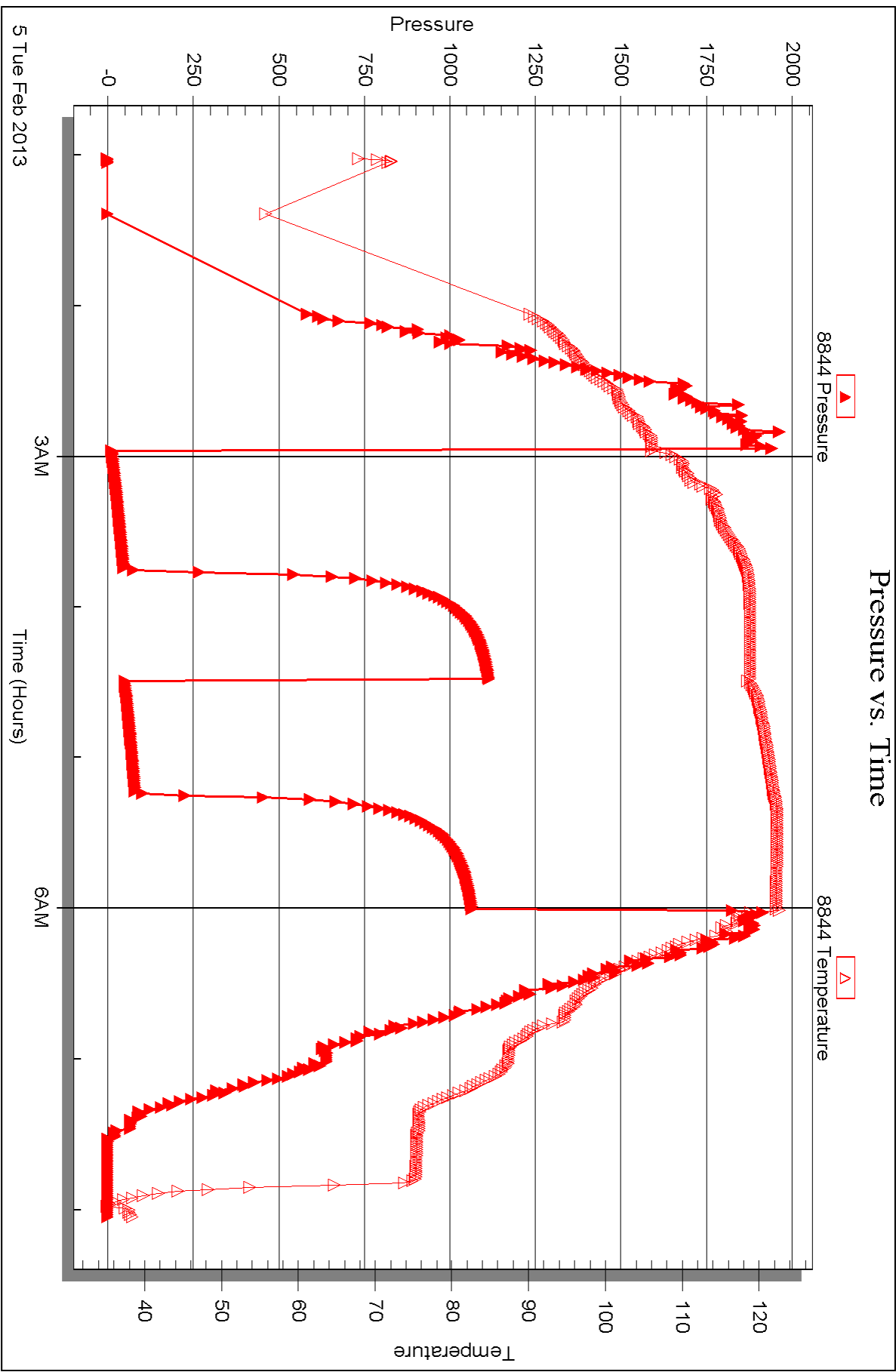
Serial #: 8844

Inside

Dow nging-Nelson Oil Co inc.

Herman #1-11

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co inc.**

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Herman #1-11

11-14s-21w Trego,KS

Start Date: 2013.02.05 @ 16:40:05

End Date: 2013.02.05 @ 23:25:39

Job Ticket #: 51470 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.02.07 @ 15:25:40



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

Job Ticket: 51470

DST#: 2

ATTN: Ron Nelson

Test Start: 2013.02.05 @ 16:40:05

GENERAL INFORMATION:

Formation: **Cong. Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:29:00

Time Test Ended: 23:25:39

Test Type: Conventional Bottom Hole (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3943.00 ft (KB) To 3990.00 ft (KB) (TVD)

Reference Elevations: 2232.00 ft (KB)

Total Depth: 3990.00 ft (KB) (TVD)

2224.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8372 Outside

Press @ Run Depth: 52.74 psig @ 3950.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.05 End Date: 2013.02.05

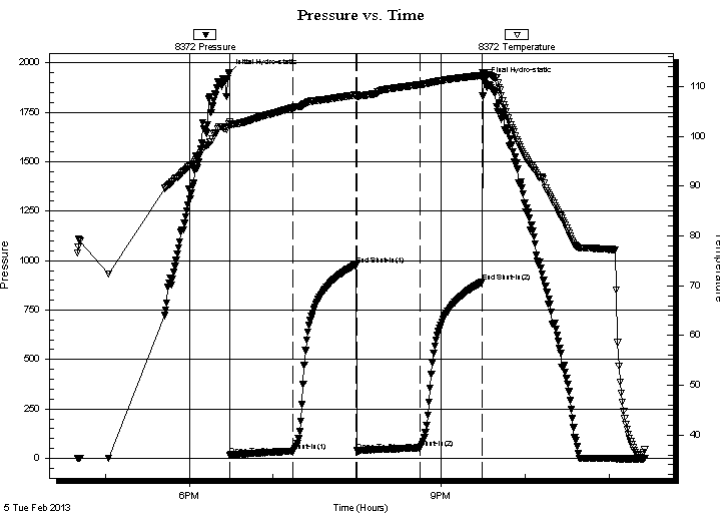
Last Calib.: 2013.02.05

Start Time: 16:40:05 End Time: 23:25:40

Time On Btm: 2013.02.05 @ 18:28:10

Time Off Btm: 2013.02.05 @ 21:30:39

TEST COMMENT: IF:(45min) 1" blow in 3 min. 3" in 15 min. 5" in 29 min. Built to 7"
IS:(45min) No Return
FF:(45min) 1" blow in 4 min. 3" in 21 min. 5" in 40 min. Built to 5.5"
FS:(45min) No Return



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1946.21 | 102.58 | Initial Hydro-static |
| 1 | 16.28 | 101.90 | Open To Flow (1) |
| 46 | 35.81 | 105.76 | Shut-In(1) |
| 92 | 980.47 | 108.30 | End Shut-In(1) |
| 92 | 37.90 | 107.92 | Open To Flow (2) |
| 137 | 52.74 | 110.35 | Shut-In(2) |
| 182 | 892.57 | 112.24 | End Shut-In(2) |
| 183 | 1903.86 | 112.66 | Final Hydro-static |

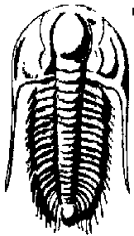
Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-----------------|--------------|
| 60.00 | OCM o=30% m=70% | 0.84 |
| 30.00 | MCO m=40% o=60% | 0.42 |
| 5.00 | CO o=100% | 0.07 |
| | | |
| | | |

* Recovery from multiple tests

Gas Rates

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



TRILLOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co inc.
PO Box 1019
Hays KS 67601
ATTN: Ron Nelson

11-14s-21w Trego,KS
Herman #1-11
Job Ticket: 51470 **DST#: 2**
Test Start: 2013.02.05 @ 16:40:05

GENERAL INFORMATION:

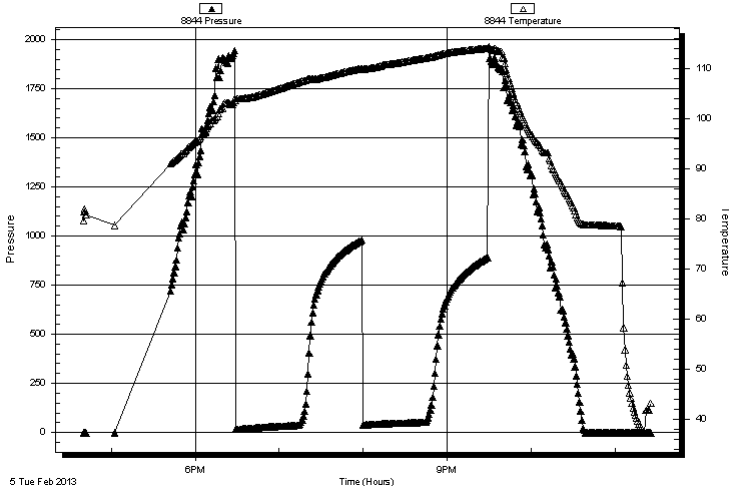
Formation: **Cong. Sand**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:29:00
Time Test Ended: 23:25:39
Interval: 3943.00 ft (KB) To 3990.00 ft (KB) (TVD)
Total Depth: 3990.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches
Hole Condition: Poor
Test Type: Conventional Bottom Hole (Reset)
Tester: Andy Carreira
Unit No: 39
Reference Elevations: 2232.00 ft (KB)
2224.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8844 Inside

Press @ Run Depth: psig @ 3950.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2013.02.05 End Date: 2013.02.05 Last Calib.: 2013.02.05
Start Time: 16:40:05 End Time: 23:25:29 Time On Btm:
Time Off Btm:

TEST COMMENT: IF:(45min) 1" blow in 3 min. 3" in 15 min. 5" in 29 min. Built to 7"
IS:(45min) No Return
FF:(45min) 1" blow in 4 min. 3" in 21 min. 5" in 40 min. Built to 5.5"
FS:(45min) No Return

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-----------------|--------------|
| 60.00 | OCM o=30% m=70% | 0.84 |
| 30.00 | MCO m=40% o=60% | 0.42 |
| 5.00 | CO o=100% | 0.07 |
| | | |
| | | |
| | | |

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

Job Ticket: 51470

DST#: 2

ATTN: Ron Nelson

Test Start: 2013.02.05 @ 16:40:05

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 3928.00 ft | Diameter: 3.80 inches | Volume: 55.10 bbl | Tool Weight: 2000.00 lb |
| Heavy Wt. Pipe: | Length: 0.00 ft | Diameter: 2.70 inches | Volume: 0.00 bbl | Weight set on Packer: 24000.00 lb |
| Drill Collar: | Length: 0.00 ft | Diameter: 2.25 inches | Volume: 0.00 bbl | Weight to Pull Loose: 64000.00 lb |
| | | | <u>Total Volume: 55.10 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 5.00 ft | | | String Weight: Initial 56000.00 lb |
| Depth to Top Packer: | 3943.00 ft | | | Final 57000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 47.00 ft | | | |
| Tool Length: | 67.00 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:

Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Change Over Sub | 1.00 | | | 3924.00 | |
| Shut In Tool | 5.00 | | | 3929.00 | |
| Hydraulic tool | 5.00 | | | 3934.00 | |
| Packer | 5.00 | | | 3939.00 | 20.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 3943.00 | |
| Stubb | 1.00 | | | 3944.00 | |
| Perforations | 5.00 | | | 3949.00 | |
| Change Over Sub | 1.00 | | | 3950.00 | |
| Recorder | 0.00 | 8844 | Inside | 3950.00 | |
| Recorder | 0.00 | 8372 | Outside | 3950.00 | |
| Drill Pipe | 32.00 | | | 3982.00 | |
| Change Over Sub | 1.00 | | | 3983.00 | |
| Perforations | 4.00 | | | 3987.00 | |
| Bullnose | 3.00 | | | 3990.00 | 47.00 Bottom Packers & Anchor |

Total Tool Length: 67.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

Job Ticket: 51470

DST#: 2

ATTN: Ron Nelson

Test Start: 2013.02.05 @ 16:40:05

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.76 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbbl |
|--------------|-----------------|----------------|
| 60.00 | OCM o=30% m=70% | 0.842 |
| 30.00 | MCO m=40% o=60% | 0.421 |
| 5.00 | CO o=100% | 0.070 |

Total Length: 95.00 ft Total Volume: 1.333 bbl

Num Fluid Samples: 0

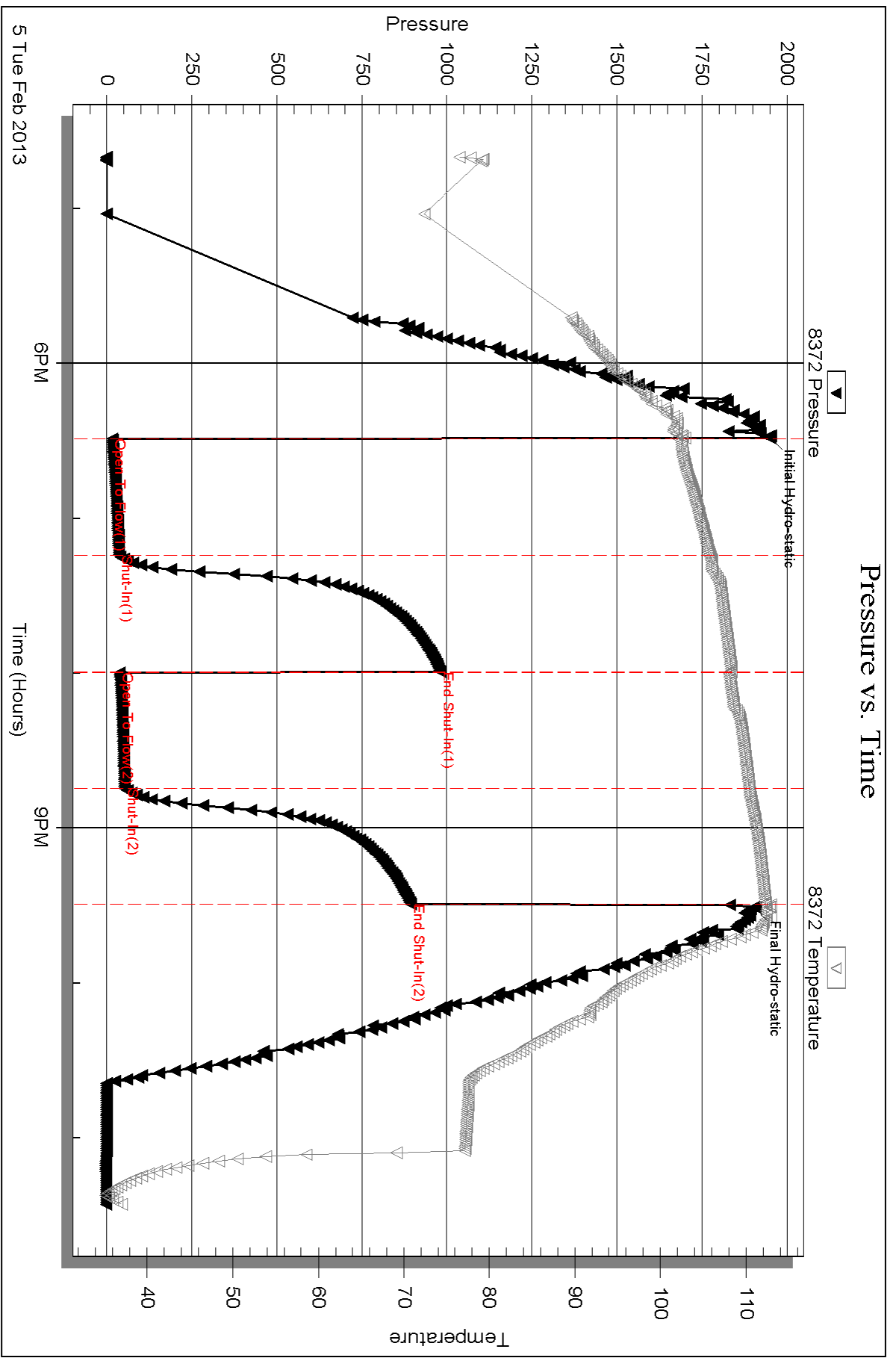
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



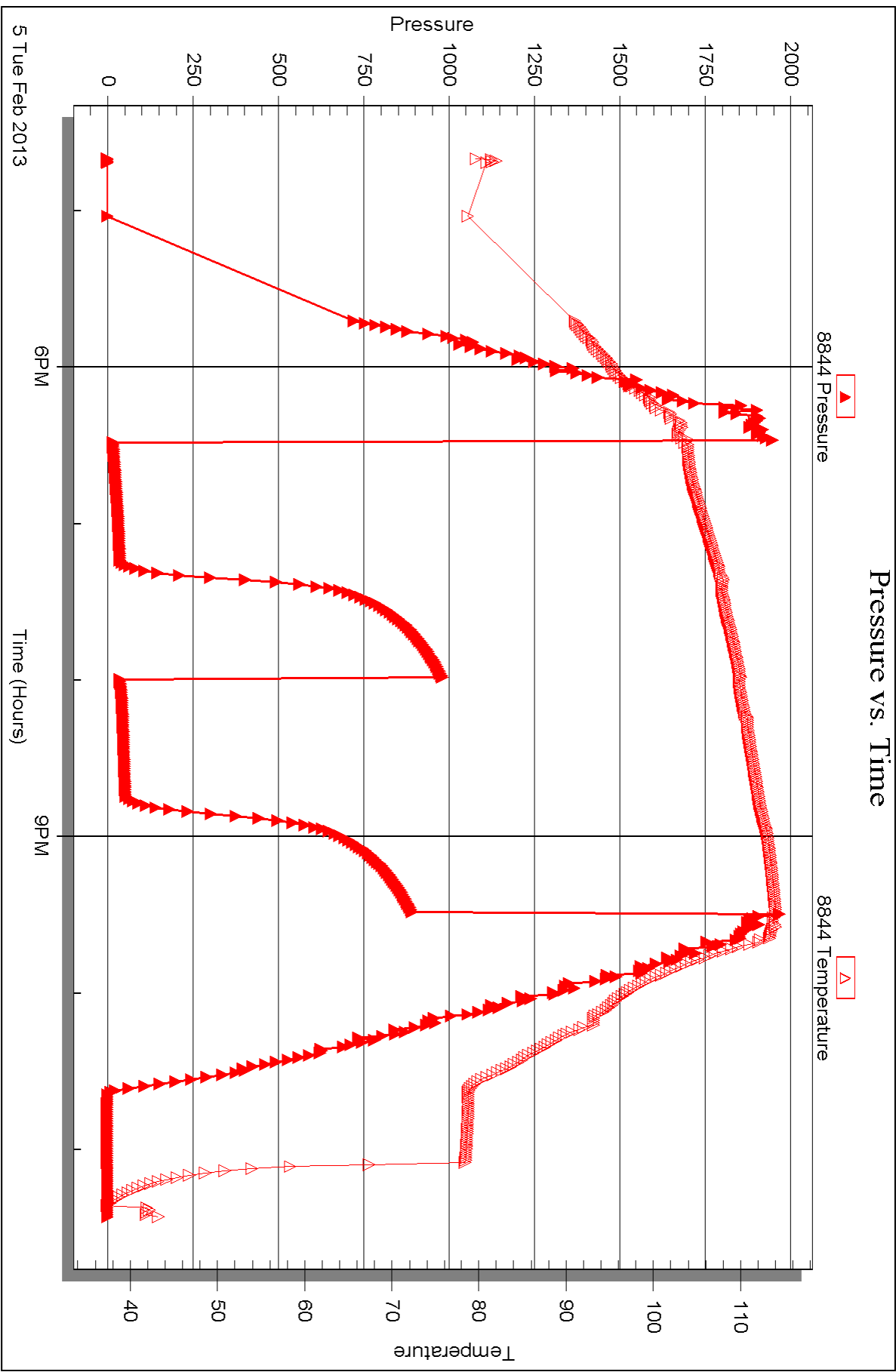
Serial #: 8844

Inside

Dow nting-Nelson Oil Co inc.

Herman #1-11

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co inc.**

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson

Herman #1-11

11-14s-21w Trego,KS

Start Date: 2013.02.06 @ 15:42:05

End Date: 2013.02.06 @ 21:54:39

Job Ticket #: 51471 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.02.07 @ 15:25:00



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

ATTN: Ron Nelson

Job Ticket: 51471

DST#: 3

Test Start: 2013.02.06 @ 15:42:05

GENERAL INFORMATION:

Formation: **Lower Cong. Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:23:10

Time Test Ended: 21:54:39

Test Type: Conventional Straddle (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3994.00 ft (KB) To 4028.00 ft (KB) (TVD)

Reference Elevations: 2232.00 ft (KB)

Total Depth: 4112.00 ft (KB) (TVD)

2224.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8372 Outside

Press @ Run Depth: 37.26 psig @ 3995.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.06

End Date: 2013.02.06

Last Calib.: 2013.02.06

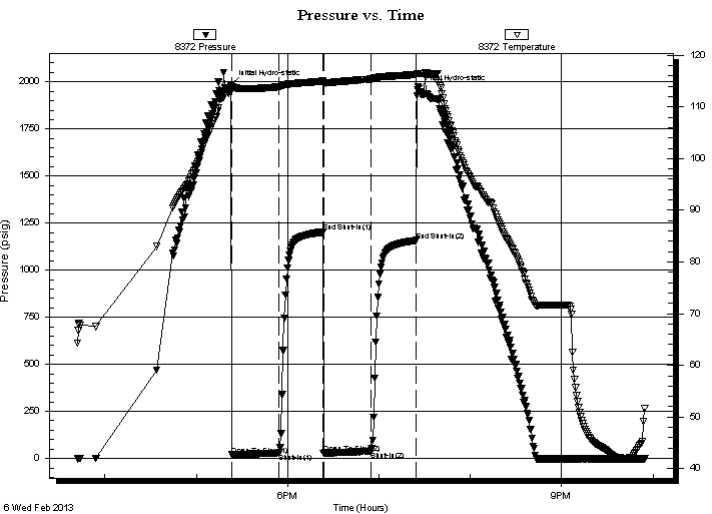
Start Time: 15:42:05

End Time: 21:54:40

Time On Btm: 2013.02.06 @ 17:23:00

Time Off Btm: 2013.02.06 @ 19:25:20

TEST COMMENT: IF:(30min) 1" blow in 9 min. Held at 1"
ISl:(30min) No Return
FF:(30min) Surface blow
FSl:(30min) No Return



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1986.76 | 114.26 | Initial Hydro-static |
| 1 | 19.56 | 113.28 | Open To Flow (1) |
| 32 | 28.44 | 113.89 | Shut-In(1) |
| 61 | 1201.26 | 114.99 | End Shut-In(1) |
| 61 | 28.93 | 114.32 | Open To Flow (2) |
| 92 | 37.26 | 115.37 | Shut-In(2) |
| 122 | 1157.84 | 116.26 | End Shut-In(2) |
| 123 | 1958.93 | 116.47 | Final Hydro-static |

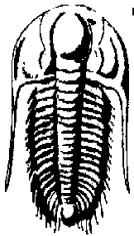
Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-----------------|--------------|
| 40.00 | WM w =35% m=65% | 0.56 |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

Job Ticket: 51471

DST#: 3

ATTN: Ron Nelson

Test Start: 2013.02.06 @ 15:42:05

GENERAL INFORMATION:

Formation: **Lower Cong. Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:23:10

Time Test Ended: 21:54:39

Test Type: Conventional Straddle (Reset)

Tester: Andy Carreira

Unit No: 39

Interval: 3994.00 ft (KB) To 4028.00 ft (KB) (TVD)

Reference Elevations: 2232.00 ft (KB)

Total Depth: 4112.00 ft (KB) (TVD)

2224.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8844

Inside

Press @ Run Depth: psig @ 3995.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.02.06

End Date:

2013.02.06

Last Calib.:

2013.02.06

Start Time: 15:42:05

End Time:

21:54:29

Time On Btm:

Time Off Btm:

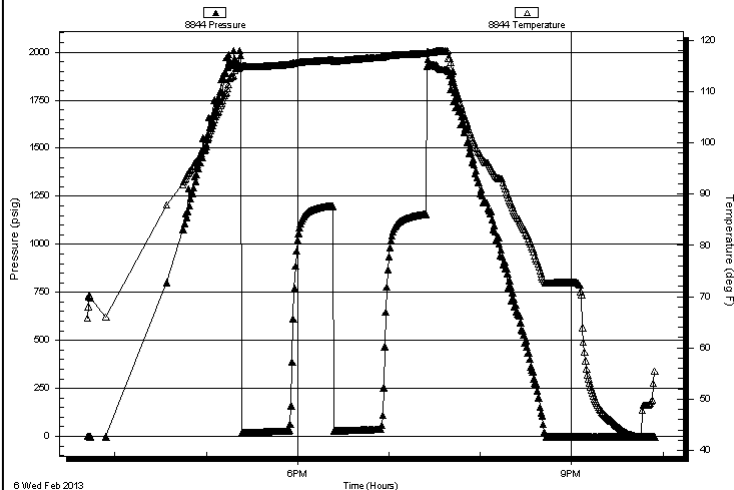
TEST COMMENT: IF:(30min) 1" blow in 9 min. Held at 1"

IS:(30min) No Return

FF:(30min) Surface blow

FS:(30min) No Return

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-----------------|--------------|
| 40.00 | WM w =35% m=65% | 0.56 |
| | | |
| | | |
| | | |
| | | |

Gas Rates

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

* Recovery from multiple tests



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

ATTN: Ron Nelson

Job Ticket: 51471

DST#: 3

Test Start: 2013.02.06 @ 15:42:05

GENERAL INFORMATION:

Formation: **Lower Cong. Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:23:10

Time Test Ended: 21:54:39

Interval: 3994.00 ft (KB) To 4028.00 ft (KB) (TVD)

Total Depth: 4112.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Test Type: Conventional Straddle (Reset)

Tester: Andy Carreira

Unit No: 39

Reference Elevations: 2232.00 ft (KB)

2224.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8647 Below (Straddle)

Press @ Run Depth: psig @ 4049.00 ft (KB)

Start Date: 2013.02.06

End Date: 2013.02.06

Start Time: 15:42:05

End Time: 21:53:20

Capacity: 8000.00 psig

Last Calib.: 2013.02.06

Time On Btm:

Time Off Btm:

TEST COMMENT: IF:(30min) 1" blow in 9 min. Held at 1"

IS:(30min) No Return

FF:(30min) Surface blow

FS:(30min) No Return

PRESSURE SUMMARY



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

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-----------------|--------------|
| 40.00 | WM w =35% m=65% | 0.56 |
| | | |
| | | |
| | | |
| | | |
| | | |

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

Job Ticket: 51471

DST#: 3

ATTN: Ron Nelson

Test Start: 2013.02.06 @ 15:42:05

Tool Information

| | | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe: | Length: 3994.00 ft | Diameter: 3.80 inches | Volume: 56.03 bbl | Tool Weight: | 2000.00 lb |
| Heavy Wt. Pipe: | Length: 0.00 ft | Diameter: 2.70 inches | Volume: 0.00 bbl | Weight set on Packer: | 26000.00 lb |
| Drill Collar: | Length: 0.00 ft | Diameter: 2.25 inches | Volume: 0.00 bbl | Weight to Pull Loose: | 68000.00 lb |
| | | | <u>Total Volume: 56.03 bbl</u> | Tool Chased | 0.00 ft |
| Drill Pipe Above KB: | 20.00 ft | | | String Weight: Initial | 58000.00 lb |
| Depth to Top Packer: | 3994.00 ft | | | Final | 58000.00 lb |
| Depth to Bottom Packer: | 4028.00 ft | | | | |
| Interval between Packers: | 34.00 ft | | | | |
| Tool Length: | 142.00 ft | | | | |
| Number of Packers: | 2 | Diameter: | 6.75 inches | | |
| Tool Comments: | | | | | |

Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Change Over Sub | 1.00 | | | 3975.00 | |
| Shut In Tool | 5.00 | | | 3980.00 | |
| Hydraulic tool | 5.00 | | | 3985.00 | |
| Packer | 5.00 | | | 3990.00 | 20.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 3994.00 | |
| Stubb | 1.00 | | | 3995.00 | |
| Recorder | 0.00 | 8844 | Inside | 3995.00 | |
| Recorder | 0.00 | 8372 | Outside | 3995.00 | |
| Perforations | 28.00 | | | 4023.00 | |
| Blank Spacing | 4.00 | | | 4027.00 | |
| Blank Off Sub | 1.00 | | | 4028.00 | 34.00 Tool Interval |
| Packer | 4.00 | | | 4032.00 | |
| Stubb | 1.00 | | | 4033.00 | |
| Perforations | 15.00 | | | 4048.00 | |
| Change Over Sub | 1.00 | | | 4049.00 | |
| Recorder | 0.00 | 8647 | Below | 4049.00 | |
| Drill Pipe | 63.00 | | | 4112.00 | |
| Change Over Sub | 1.00 | | | 4113.00 | |
| Bullnose | 3.00 | | | 4116.00 | 88.00 Bottom Packers & Anchor |

Total Tool Length: 142.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co inc.

11-14s-21w Trego,KS

PO Box 1019
Hays KS 67601

Herman #1-11

Job Ticket: 51471

DST#: 3

ATTN: Ron Nelson

Test Start: 2013.02.06 @ 15:42:05

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:

19000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-----------------|---------------|
| 40.00 | WM w =35% m=65% | 0.561 |

Total Length: 40.00 ft Total Volume: 0.561 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

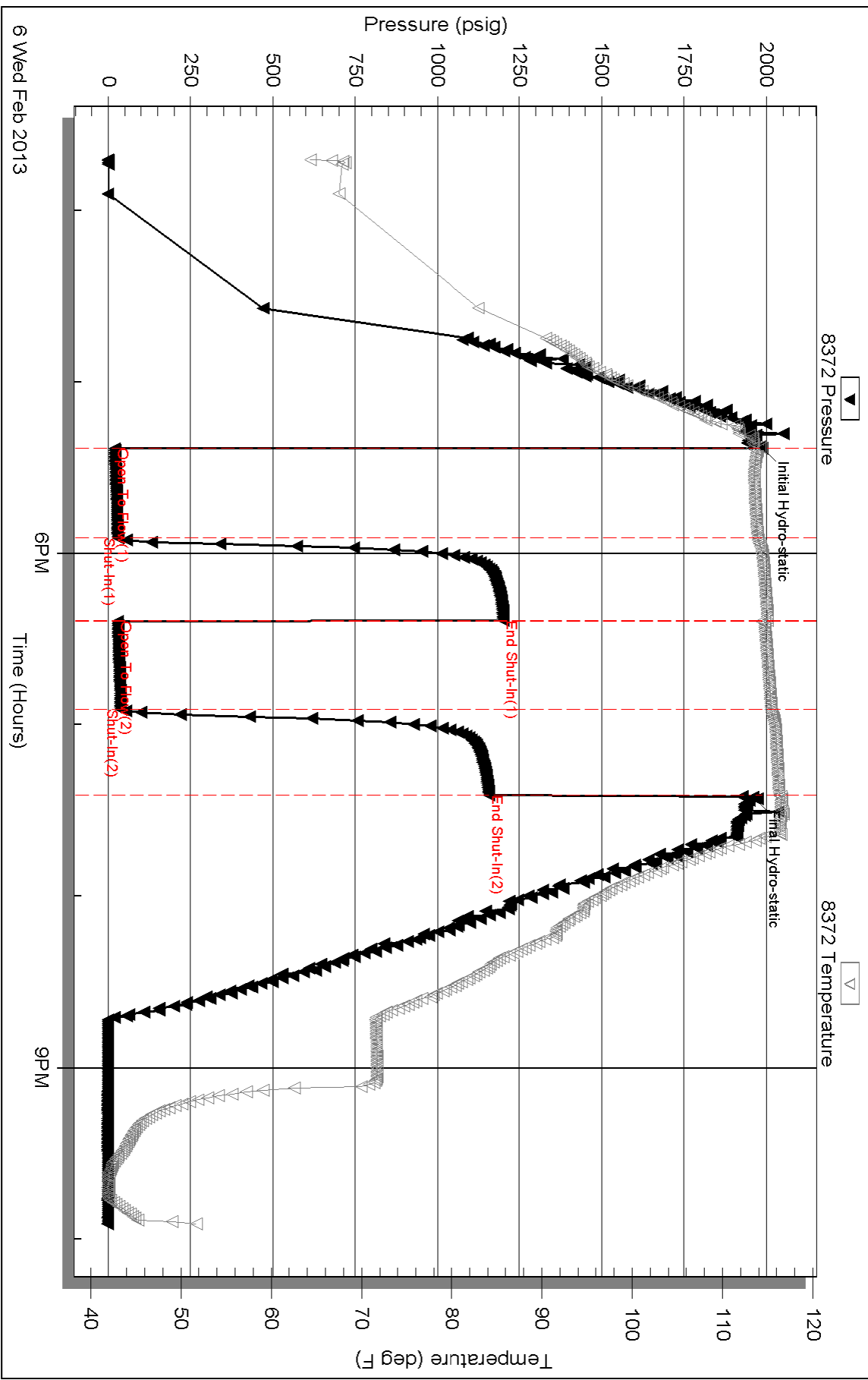
Serial #: 8372

Outside Dow nung-Nelson Oil Co inc.

Herman #1-11

DST Test Number: 3

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 51471

Printed: 2013.02.07 @ 15:25:03

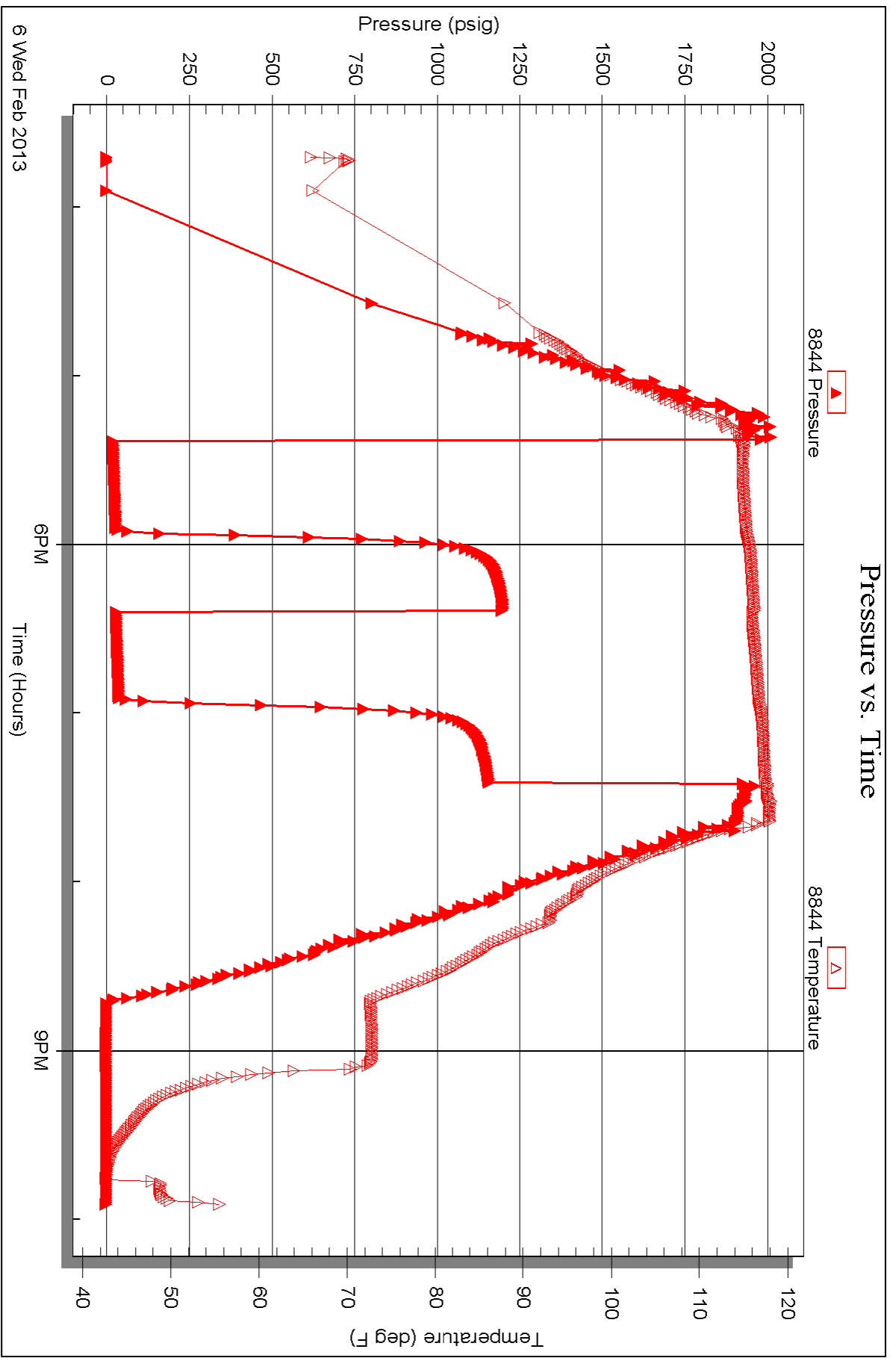
Serial #: 8844

Inside

Dow nging-Nelson Oil Co inc.

Herman #1-11

DST Test Number: 3

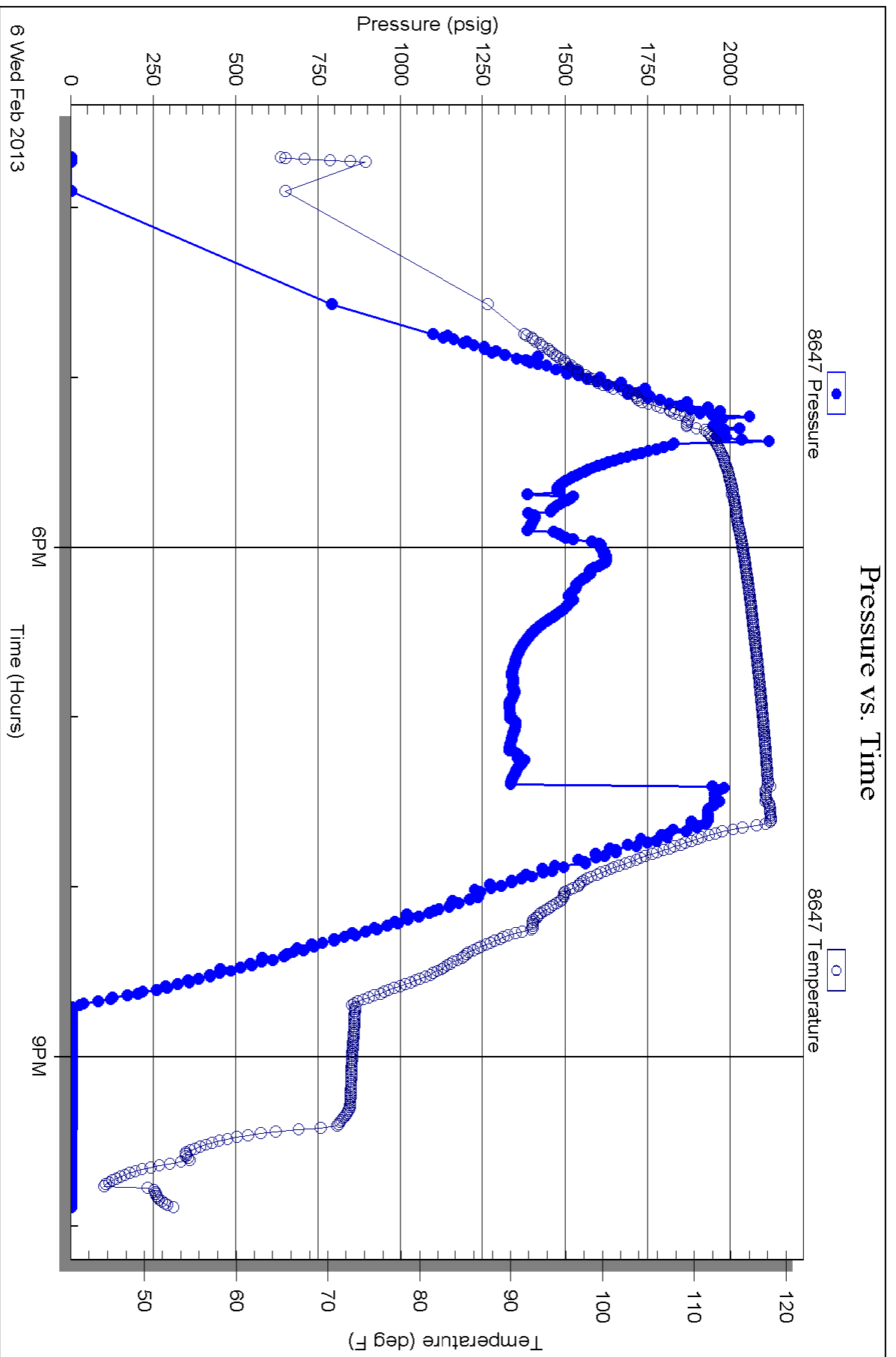


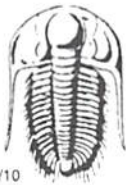
Serial #: 8647

Below (Stratton)ng-Nelson Oil Co inc.

Herman #1-11

DST Test Number: 3





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 51469

4/10

Well Name & No. HERMAN 1-11 Test No. 1 Date 2-4-13
 Company Downing-Nelson oil co. inc. Elevation 2232 KB 2224 GL
 Address PO BOX 1019 HAYS, KS 67601
 Co. Rep / Geo. RON NELSON Rig Discovery #3
 Location: Sec. 11 Twp. 14S Rge. 21W Co. 12E90 State KS

Interval Tested 3913-3930 Zone Tested MARMATON
 Anchor Length 17' Drill Pipe Run 3898 Mud Wt. 8.9
 Top Packer Depth 3908 Drill Collars Run 0 Vis 5.6
 Bottom Packer Depth 3913 Wt. Pipe Run 0 WL 8.8
 Total Depth 3930 Chlorides 1000 ppm System LCM 1#

Blow Description BF: 1" blow in 1 min, 3" in 8 min 6" in 25 min. built to 9"
FSD: NO RETURN
FP: 1" blow in 5 min, 3" in 19 min. built to 6"
FSD: NO RETURN

| Rec | Feet of | %gas | %oil | %water | %mud |
|------------|--------------|------|------|--------|------|
| <u>150</u> | <u>water</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 150 BHT 120 Gravity _____ API RW .625 @ 21 °F Chlorides 36000 ppm

- (A) Initial Hydrostatic 1941
- (B) First Initial Flow 12
- (C) First Final Flow 47
- (D) Initial Shut-In 1115
- (E) Second Initial Flow 49
- (F) Second Final Flow 80
- (G) Final Shut-In 1066
- (H) Final Hydrostatic 1893

- Test 1150
- Jars _____
- Safety Joint _____
- Circ Sub _____
- Hourly Standby _____
- Mileage 56RT @ 86.80
- Sampler _____
- Straddle _____
- Shale Packer _____
- Extra Packer _____
- Extra Recorder _____
- Day Standby _____
- Accessibility _____
- Sub Total 1236.80

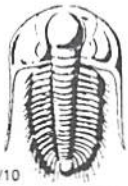
T-On Location 23:10
 T-Started 01:01
 T-Open 02:59
 T-Pulled 05:59
 T-Out 08:03

Comments _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1236.80
 MP/DST Disc't _____

Initial Open 45
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 45

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. 51470

Well Name & No. Heeman 1-11 Test No. 2 Date 2-5-13
 Company DNUC Elevation 2232 KB 2224 GL
 Address PO Box 1019 Hays Ks 67601
 Co. Rep / Geo. RON NELSON Rig DISCOVERY #3
 Location: Sec. 11 Twp. 14S Rge. 21W Co. TRAGO State K5

Interval Tested 3943-3990 Zone Tested CONG. SAND
 Anchor Length 47' Drill Pipe Run 3928 Mud Wt. 9.1
 Top Packer Depth 3938 Drill Collars Run 0 Vis 56
 Bottom Packer Depth 3943 Wt. Pipe Run 0 WL 8.8
 Total Depth 3990 Chlorides 1000 ppm System LCM 1/2#

Blow Description FF: 1" blow in 3 min. 3" in 15 min. 5" in 29 min. Built to 7"
FSI: NO RETURN
FF: 1" blow in 4 min. 3" in 21 min. 5" in 40 min. Built to 5 1/2"
FSI: NO RETURN

| Rec | Feet of | %gas | %oil | %water | %mud |
|-----------|------------|------|------------|--------|-----------|
| <u>5</u> | <u>CO</u> | | <u>100</u> | | |
| <u>30</u> | <u>MCO</u> | | <u>60</u> | | <u>40</u> |
| <u>60</u> | <u>OCM</u> | | <u>30</u> | | <u>70</u> |
| | | | | | |
| | | | | | |

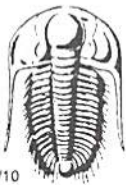
Rec Total 95 BHT 112° Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1946 Test 1150 T-On Location 16:13
 (B) First Initial Flow 16 Jars _____ T-Started 16:40
 (C) First Final Flow 35 Safety Joint _____ T-Open 18:30
 (D) Initial Shut-In 980 Circ Sub _____ T-Pulled 21:30
 (E) Second Initial Flow 37 Hourly Standby _____ T-Out 23:26
 (F) Second Final Flow 52 Mileage 56RT 86.80 Comments _____
 (G) Final Shut-In 892 Sampler _____
 (H) Final Hydrostatic 1903 Straddle _____ Ruined Shale Packer _____

Initial Open 45 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 45 Extra Packer _____ Extra Copies _____
 Final Flow 45 Extra Recorder _____ Sub Total 0
 Final Shut-In 45 Day Standby _____ Total 1236.80
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1236.80

Approved By _____ Our Representative Andy Carr

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. 51471

Well Name & No. HERMAN 1-11 Test No. 3 Date 2-6-13
 Company DNO C Elevation 2232 KB 2224 GL
 Address PO Box 1019 Hays Ks. 67601
 Co. Rep / Geo. RON NELSON Rig DISCOVERY #3
 Location: Sec. 11 Twp. 14S Rge. 21W Co. 1R90 State K5

Interval Tested 3994-4028 Zone Tested LOWER CONG. SAND
 Anchor Length 34 Drill Pipe Run 3994 Mud Wt. 9.1
 Top Packer Depth 3994 Drill Collars Run 0 Vis 56
 Bottom Packer Depth 4028 Wt. Pipe Run 0 WL 8.8
 Total Depth 4112 Chlorides 1000 ppm System LCM 1/2#
 Blow Description IF: 1" blow in 9 min. Held at 1"
ISI: NO RETURN
FF: Surface blow
FSL: NO RETURN

| Rec | Feet of | %gas | %oil | %water | %mud |
|-----------|-----------|------|------|-----------|-----------|
| <u>40</u> | <u>WM</u> | | | <u>35</u> | <u>65</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 40 BHT 116° Gravity _____ API RW .60 @ 39° F Chlorides 19000 ppm
 (A) Initial Hydrostatic 1986 Test 1250 T-On Location 14:22
 (B) First Initial Flow 19 Jars _____ T-Started 15:42
 (C) First Final Flow 28 Safety Joint _____ T-Open 17:24
 (D) Initial Shut-In 1201 Circ Sub _____ T-Pulled 19:24
 (E) Second Initial Flow 28 Hourly Standby _____ T-Out 21:55
 (F) Second Final Flow 37 Mileage SGRTE 86.80 Comments _____
 (G) Final Shut-In 1157 Sampler _____ 4028-4112 TD
 (H) Final Hydrostatic 1958 Straddle 600 Ruined Shale Packer _____
 Initial Open 30 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 30 Extra Packer _____ Extra Copies _____
 Final Flow 30 Extra Recorder _____ Sub Total 0
 Final Shut-In 30 Day Standby _____ Total 1936.80
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1936.80

Approved By _____ Our Representative [Signature]
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