Confidentiality Requested:
☐ Yes ☑ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1203739

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 # 34904
Name: Palmer Oil, Inc.
Address 1: 3118 N. CUMMINGS RD.
Address 2: PO BOX 399
City: GARDEN CITY State: KS Zip: 67846 + ____
Contact Person: Joe Smith
Phone: ( 620 ) 275-9231
CONTRACTOR: License # 5929
Name: Duke Drilling Co., Inc.
Wellsite Geologist: Kevin Timson
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 #: ____

| 04/23/2014 | 05/01/2014 | 05/01/2014 |
|---|---|---|
| Spud Date or Recompletion Date | Date Reached TD | Completion Date or Recompletion Date |

API No. 15 - 15-055-22294-00-00
Spot Description: ____
SW NW SE SE Sec. 4 Twp. 25 S. R. 32 ☐ East ☑ West
780 Feet from ☐ North / ☑ South Line of Section
1070 Feet from ☑ East / ☐ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☑ SE ☐ SW
GPS Location: Lat: ____ *(e.g. xx.xxxxx)* , Long: ____ *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Finney
Lease Name: Brookover Well #: 4-6
Field Name: ____
Producing Formation: None
Elevation: Ground: 2854 Kelly Bushing: 2858
Total Vertical Depth: 5000 Plug Back Total Depth: 0
Amount of Surface Pipe Set and Cemented at: 1701 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: 15000 ppm Fluid volume: 65 bbls
Dewatering method used: Evaporated
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:** Deanna Garrison **Date:** 05/19/2014

1203739

Operator Name: Palmer Oil, Inc. Lease Name: Brookover Well #: 4-6

Sec. 4 Twp. 25 S. R. 32 ☐ East ☑ West County: Finney

**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 ☑ Yes ☐ No
*(Attach Additional Sheets)*

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

List All E. Logs Run:

Induction
Porosity
Micro

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name: Attached Top: Attached Datum: Attached

CASING RECORD ☑ New ☐ Used
Report all strings set-conductor, surface, intermediate, production, etc.

| Purpose of String | Size Hole Drilled | Size Casing Set (In O.D.) | Weight Lbs. / Ft. | Setting Depth | Type of Cement | # Sacks Used | Type and Percent Additives |
|---|---|---|---|---|---|---|---|
| Surface | 12.250 | 8.625 | 24 | 1701 | Class A | 900 | 6%gel,3%CC. |
| | | | | | | | |
| | | | | | | | |

ADDITIONAL CEMENTING / SQUEEZE RECORD

| Purpose: | Depth Top Bottom | Type of Cement | # Sacks Used | Type and Percent Additives |
|---|---|---|---|---|
| ___ Perforate<br>___ Protect Casing<br>___ Plug Back TD<br>___ 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 *(Amount and Kind of Material Used)* | 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:
☐ Vented ☐ Sold ☐ Used on Lease
*(If vented, Submit ACO-18.)*

METHOD OF COMPLETION:
☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)* _____

PRODUCTION INTERVAL:
_____
_____

**Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202**

| | |
|---|---|
| Form | ACO1 - Well Completion |
| Operator | Palmer Oil, Inc. |
| Well Name | Brookover 4-6 |
| Doc ID | 1203739 |

Tops

| Name | Top | Datum |
|---|---|---|
| Anhy | 1861' | +997 |
| B/Anhy | 1929' | +929 |
| Heebner | 3898' | -1040 |
| Lansing | 3962' | -1104 |
| B/KC | 4447' | -1589 |
| Marmaton | 4473' | -1615 |
| Ft.Scott | 4586' | -1728 |
| Morrow | 4783' | -1925 |
| Mississippian | 4861' | -2003 |

TRILOBITE TESTING, INC.

# DRILL STEM TEST REPORT

Prepared For: **Palmer Oil Inc.**

PO Box 399
Garden City, KS 67846

ATTN: Kevin Timson

## Brookover #4-6

## 4-25s-32w Finney,KS

Start Date: 2014.04.30 @ 01:41:00

End Date: 2014.04.30 @ 08:23:39

Job Ticket #: 56523 DST #: 1

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

Printed: 2014.05.01 @ 15:00:16

# DRILL STEM TEST REPORT

Palmer Oil Inc.

PO Box 399
Garden City, KS 67846

ATTN: Kevin Timson

**4-25s-32w Finney,KS**

**Brookover #4-6**

Job Ticket: 56523 **DST#: 1**

Test Start: 2014.04.30 @ 01:41:00

## GENERAL INFORMATION:

Formation: **Morrow**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:11:10
Time Test Ended: 08:23:39

Test Type: Conventional Bottom Hole (Initial)
Tester: Cornelio Landa III
Unit No: 62

**Interval: 4774.00 ft (KB) To 4861.00 ft (KB) (TVD)**
Total Depth: 4861.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

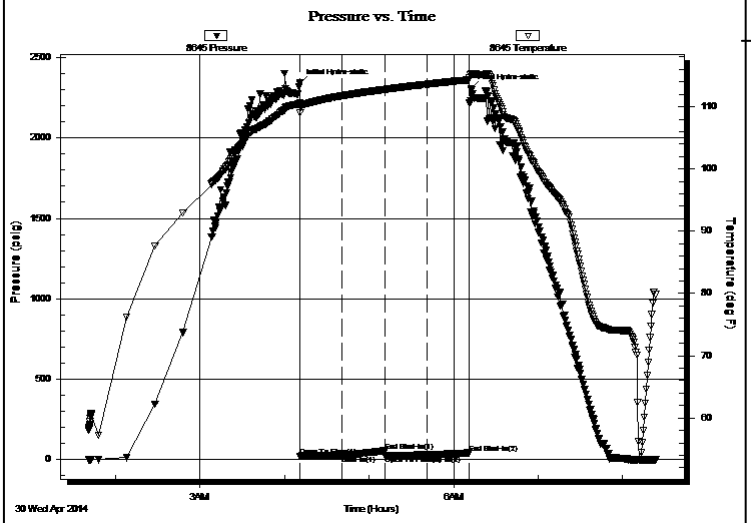
Reference Elevations: 2958.00 ft (KB)
2945.00 ft (CF)
KB to GR/CF: 13.00 ft

**Serial #: 8645** **Outside**

Press@RunDepth: 28.30 psig @ 4777.00 ft (KB)
Start Date: 2014.04.30 End Date: 2014.04.30
Start Time: 01:41:02 End Time: 08:23:40

Capacity: 8000.00 psig
Last Calib.: 2014.04.30
Time On Btm: 2014.04.30 @ 04:11:00
Time Off Btm: 2014.04.30 @ 06:12:20

TEST COMMENT: IF: 1/2" Blow
ISI: No return
FF: No Blow
FSI: No Return




## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 2341.16 | 110.66 | Initial Hydro-static |
| 1 | 20.46 | 109.01 | Open To Flow (1) |
| 30 | 24.75 | 111.77 | Shut-In(1) |
| 61 | 54.04 | 112.78 | End Shut-In(1) |
| 61 | 26.82 | 112.76 | Open To Flow (2) |
| 90 | 28.30 | 113.61 | Shut-In(2) |
| 120 | 40.36 | 114.32 | End Shut-In(2) |
| 122 | 2309.03 | 115.27 | Final Hydro-static |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 5.00 | Mud 100m | 0.02 |
| | | |
| | | |
| | | |
| | | |
| | | |

## Gas Rates

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

# DRILL STEM TEST REPORT

Palmer Oil Inc.

PO Box 399
Garden City, KS 67846

ATTN: Kevin Timson

**4-25s-32w Finney,KS**

**Brookover #4-6**

Job Ticket: 56523 **DST#: 1**

Test Start: 2014.04.30 @ 01:41:00

## GENERAL INFORMATION:

Formation: **Morrow**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:11:10
Time Test Ended: 08:23:39

Test Type: Conventional Bottom Hole (Initial)
Tester: Cornelio Landa III
Unit No: 62

**Interval: 4774.00 ft (KB) To 4861.00 ft (KB) (TVD)**
Total Depth: 4861.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

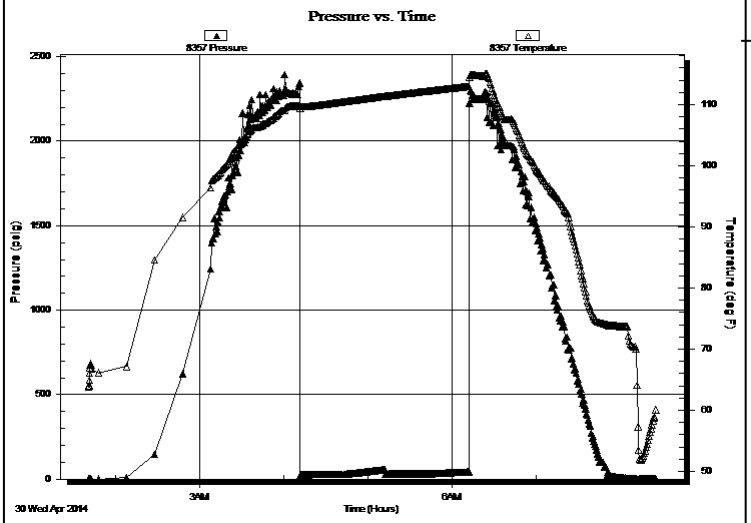
Reference Elevations: 2958.00 ft (KB)
2945.00 ft (CF)
KB to GR/CF: 13.00 ft

**Serial #: 8357** **Inside**

Press@RunDepth: psig @ 4777.00 ft (KB)
Start Date: 2014.04.30 End Date: 2014.04.30
Start Time: 01:41:02 End Time: 08:25:19

Capacity: 8000.00 psig
Last Calib.: 2014.04.30
Time On Btm:
Time Off Btm:

TEST COMMENT: IF: 1/2" Blow
ISI: No return
FF: No Blow
FSI: No Return




## PRESSURE SUMMARY

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

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 5.00 | Mud 100m | 0.02 |
| | | |
| | | |
| | | |
| | | |
| | | |

## Gas Rates

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

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Palmer Oil Inc.

PO Box 399
Garden City, KS 67846

ATTN: Kevin Timson

**4-25s-32w Finney,KS**

**Brookover #4-6**

Job Ticket: 56523 **DST#: 1**

Test Start: 2014.04.30 @ 01:41:00

## Tool Information

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Drill Pipe: | Length: | 4582.00 ft | Diameter: | 3.80 inches | Volume: | 64.27 bbl | Tool Weight: | | 2500.00 lb |
| Heavy Wt. Pipe: | Length: | 0.00 ft | Diameter: | 0.00 inches | Volume: | 0.00 bbl | Weight set on Packer: | | 22000.00 lb |
| Drill Collar: | Length: | 180.00 ft | Diameter: | 2.25 inches | Volume: | 0.89 bbl | Weight to Pull Loose: | | 10000.00 lb |
| | | | | | Total Volume: | 65.16 bbl | Tool Chased | | 0.00 ft |
| Drill Pipe Above KB: | | 15.00 ft | | | | | String Weight: | Initial | 70000.00 lb |
| Depth to Top Packer: | | 4774.00 ft | | | | | | Final | 70000.00 lb |
| Depth to Bottom Packer: | | ft | | | | | | | |
| Interval betw een Packers: | | 87.00 ft | | | | | | | |
| Tool Length: | | 114.00 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 | | | 4748.00 | | |
| Shut In Tool | 5.00 | | | 4753.00 | | |
| Hydraulic tool | 5.00 | | | 4758.00 | | |
| Jars | 5.00 | | | 4763.00 | | |
| Safety Joint | 2.00 | | | 4765.00 | | |
| Packer | 5.00 | | | 4770.00 | 27.00 | Bottom Of Top Packer |
| Packer | 4.00 | | | 4774.00 | | |
| Stubb | 1.00 | | | 4775.00 | | |
| Perforations | 1.00 | | | 4776.00 | | |
| Change Over Sub | 1.00 | | | 4777.00 | | |
| Recorder | 0.00 | 8357 | Inside | 4777.00 | | |
| Recorder | 0.00 | 8645 | Outside | 4777.00 | | |
| Drill Pipe | 63.00 | | | 4840.00 | | |
| Change Over Sub | 1.00 | | | 4841.00 | | |
| Perforations | 17.00 | | | 4858.00 | | |
| Bullnose | 3.00 | | | 4861.00 | 87.00 | Bottom Packers & Anchor |
| **Total Tool Length:** | **114.00** | | | | | |

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Palmer Oil Inc.

PO Box 399
Garden City, KS 67846

ATTN: Kevin Timson

**4-25s-32w Finney,KS**

**Brookover #4-6**

Job Ticket: 56523 **DST#: 1**

Test Start: 2014.04.30 @ 01:41:00

## Mud and Cushion Information

| | | | | | |
|---|---|---|---|---|---|
| Mud Type: | Gel Chem | Cushion Type: | | Oil API: | deg API |
| Mud Weight: | 9.00 lb/gal | Cushion Length: | ft | Water Salinity: | ppm |
| Viscosity: | 50.00 sec/qt | Cushion Volume: | bbl | | |
| Water Loss: | 8.37 in³ | Gas Cushion Type: | | | |
| Resistivity: | 0.00 ohm.m | Gas Cushion Pressure: | psig | | |
| Salinity: | 3300.00 ppm | | | | |
| Filter Cake: | 1.00 inches | | | | |

## Recovery Information

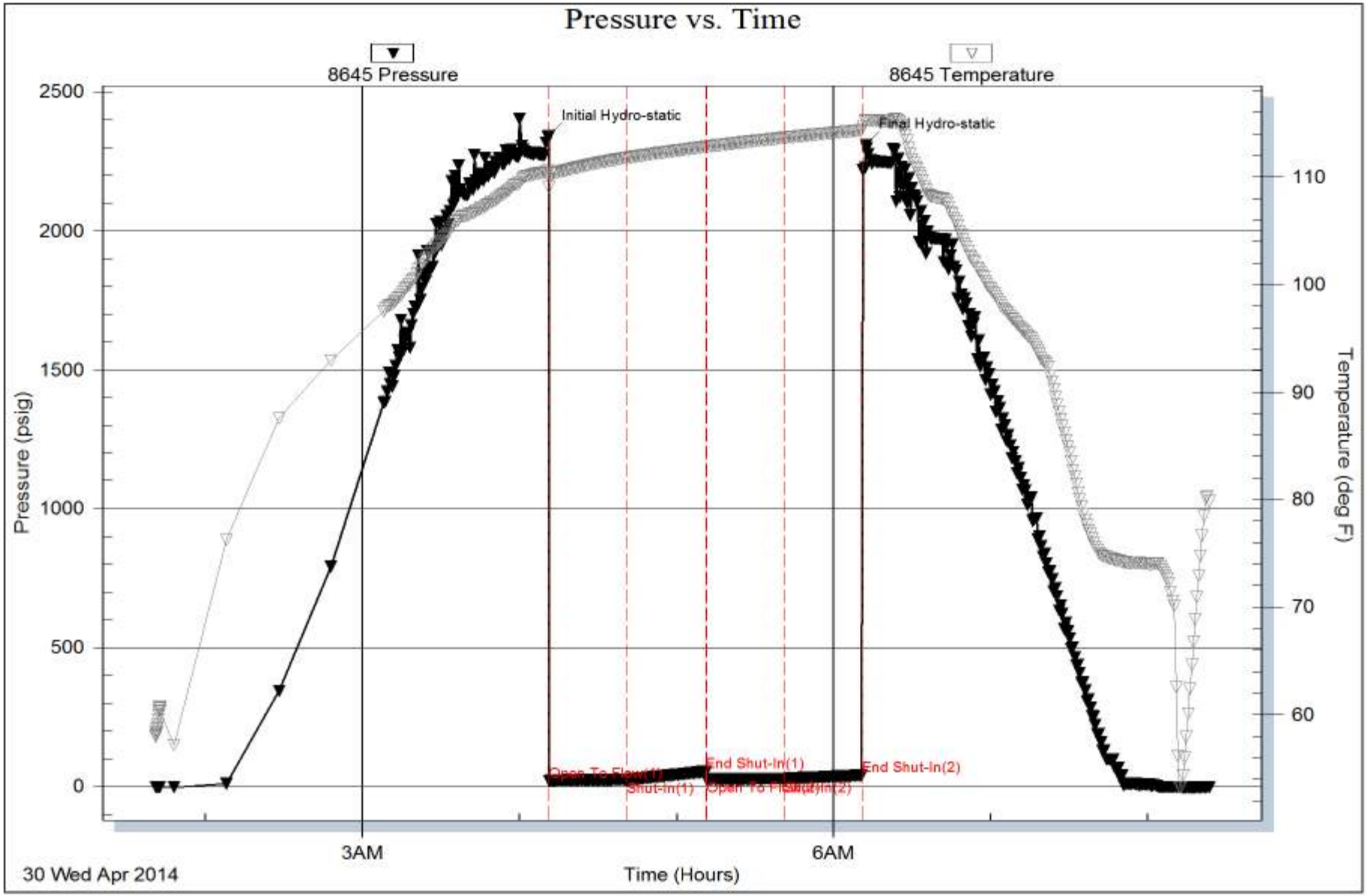
Recovery Table

| Length ft | Description | Volume bbl |
|---|---|---|
| 5.00 | Mud 100m | 0.025 |

Total Length: 5.00 ft Total Volume: 0.025 bbl

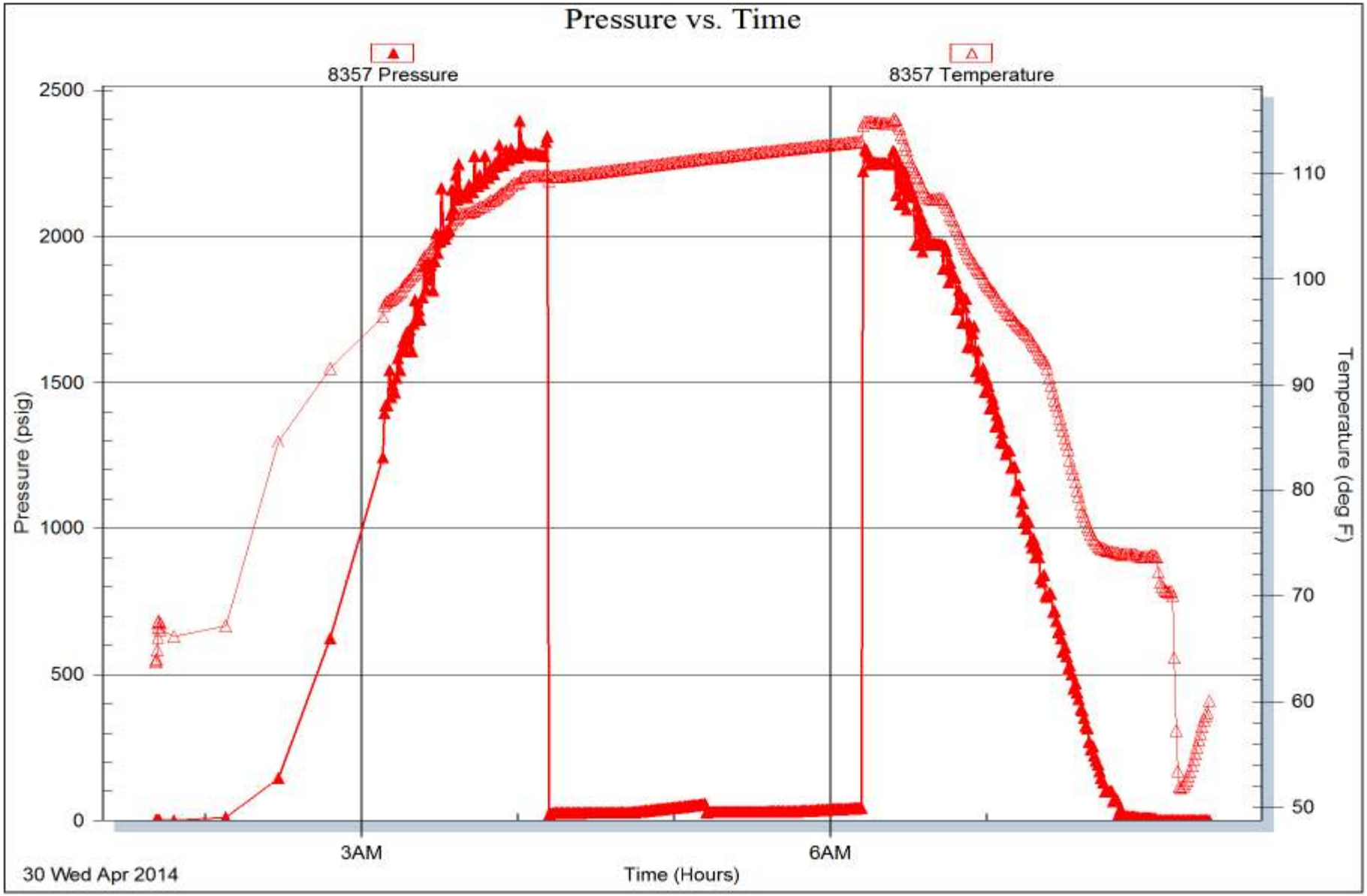
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8645 **Outside** Palmer Oil Inc. Brookover #4-6 DST Test Number: 1




Trilobite Testing, Inc Ref. No: 56523 Printed: 2014.05.01 @ 15:00:17

Serial #: 8357 **Inside** Palmer Oil Inc. Brookover #4-6 DST Test Number: 1




Trilobite Testing, Inc Ref. No: 56523 Printed: 2014.05.01 @ 15:00:17

# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

## Test Ticket

NO. 56523

Well Name & No. Brookover [redacted] #4-6 Test No. 1 Date 4-30-14

Company Palmer Oil Co. Inc. Elevation 2958 KB 2945 GL

Address 3118 N. Cummings Rd. - Garden City, KS 67846

Co. Rep / Geo. Kevin Timson Rig Duke #9

Location: Sec. 4 Twp. 25-S Rge. 32-W Co. Finney State KS

Interval Tested 4774-4861 Zone Tested Morrow

Anchor Length 87' Drill Pipe Run 4582' Mud Wt. 9.3

Top Packer Depth 4770 Drill Collars Run 180' Vis 50

Bottom Packer Depth 4774 Wt. Pipe Run ∅ WL 8.4

Total Depth 4861 Chlorides 3300 ppm System LCM #2

Blow Description IF: ½ in Blow

ISI: No Return

FF: No Blow

FSI: No Return

| | | | | | |
|---|---|---|---|---|---|
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec 5 | Feet of Mud | %gas | %oil | %water 100 | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |

Rec Total 5 BHT 115 Gravity — API RW — @ — °F Chlorides — ppm

| | | | |
|---|---|---|---|
| (A) Initial Hydrostatic 2341 | ☒ Test 1250 | T-On Location 01:00 | |
| (B) First Initial Flow 20 | ☒ Jars 250 | T-Started 01:41 | |
| (C) First Final Flow 25 | ☒ Safety Joint 75 | T-Open 04:11 | |
| (D) Initial Shut-In 54 | ☒ Circ Sub N/C | T-Pulled 06:11 | |
| (E) Second Initial Flow 27 | ☐ Hourly Standby | T-Out 08:23 | |
| (F) Second Final Flow 28 | ☒ Mileage 114 R-TX2 | Comments loaded 5-1-14 | |
| (G) Final Shut-In 40 | 353.40 ☐ Sampler | on loc @ 7:45- | |
| (H) Final Hydrostatic 2309 | ☐ Straddle | ☐ Ruined Shale Packer | |
| | ☐ Shale Packer | ☐ Ruined Packer | |
| Initial Open 30 | ☐ Extra Packer | ☐ Extra Copies | |
| Initial Shut-In 30 | ☐ Extra Recorder | Sub Total 0 | |
| Final Flow 30 | ☐ Day Standby | Total 1928.40 | |
| Final Shut-In 30 | ☐ Accessibility | MP/DST Disc't | |
| | Sub Total 1928.40 | | |

Approved By Our Representative Cliff Adams CLTA

ALLIED OIL & GAS SERVICES, LLC

# CEMENTING LOG

Date 4/24/2014 District Liberal # 21 Ticket No. 52752
Company Palmer Oil Rig Duke #9
Lease Brookover Well No 4-6
County Finney State KS
Location
Field
Casing Data ☐ Conductor ☐ PTA ☐ Squeeze ☐ Misc.
☑ Surface ☐ Intermediate ☐ Production ☐ Liner
Size 8 5/8 Type Weight 24# Collar

Casing Depths Top 0 Bottom 1689

CEMENT DATA
Spacer Type H2O
Amt. Sks Yield ft³/sk Density PPG

LEAD: Time hrs. Type 65/35 6% gel 3% CC
.5# flo seal Excess
Amt. 700 Sks Yield 1.97 ft³/sk Density 12.4 PPG
TAIL: Time hrs. Type Class A 3%CC .25# flo Seal
Excess
Amt. 200 Sks Yield 1.18 ft³/sk Density 15.6 PPG
WATER Lead 10.9 Gal/sk Tail 5.3 Gal/sk Total BBLS

Pump Trucks Used: 549-550
Bulk Equipment 495-554
705-642

| | | | | |
|---|---|---|---|---|
| Drill Pipe: | BBLS/LIN. FT | | LIN. FT/BBL | |
| Open Hole: | BBLS/LIN. FT | | LIN. FT/BBL | |
| Capacity Factors: | BBLS/LIN. FT | 0.0637 | LIN. FT/BBL | 15.7 |
| Casing | BBLS/LIN. FT | 0.0637 | LIN. FT/BBL | 15.7 |
| Open Holes | BBLS/LIN. FT | 0.1458 | LIN. FT/BBL | 6.85 |
| Drill Pipe | BBLS/LIN. FT | | LIN. FT/BBL | |
| Annulus | BBLS/LIN. FT | 0.0735 | LIN. FT/BBL | 13.6 |
| | BBLS/LIN. FT | | LIN. FT/BBL | |

Perforations From ft to ft Amt

Float Equipment: Manufacturer Weather Ford
Shoe: Type Guide Shoe Depth 1742
Float: Type AFU Insert Float Depth 1700
Centralizers: Quantity 3 Plugs Top Bottom
Stage Collars
Special Equipment Cement Basket
Disp: Fluid Type H2O Amt 108.3 bbls Weight 8.33 PPG
Mud Type Weight

COMPANY REPRESENTATIVE

CEMENTER Lenny Baeza

| TIME | PRESSURES PSI | | FLUID PUMPED DATA | | | REMARKS |
|---|---|---|---|---|---|---|
| AM/PM | DRILL PIPE CASING | ANNULUS | TOTAL FLUID | PUMPED PER TIME PERIOD | RATE BBLS/MIN | |
| 2:30pm | | | | | | On location @ 2:30pm |
| | | | | | | |
| 5:30pm | | | | | | Rigging up to well head |
| | | | | | | |
| 6:25pm | | | | | | Safety meeting with rigg crew |
| 6:27pm | 2000 | | | | | Pressure testing pumping lines to 2000 psi |
| | | | | | | |
| 6:30pm | 200 | | 10 | | 5 | 10 bbls of H2O head of cement |
| 6:34pm | 220 | | 259 | | 5 | Mixing lead cement @ 12.4# |
| 7:14pm | 180 | | 301 | | 4 | Mixing Tail cement @ 15.6# |
| 7:28pm | 0 | | 0 | | 0 | End of cememt shutting down to release plug |
| 7:30pm | 120 | | 301 | | 5 | Plug left the head and started displacement of 104 bbls |
| 7:39pm | 140 | | 351 | | 6 | 50 bbls gone |
| 7:48pm | 600 | | 401 | | 5 | 100 bbls gone 5bpm @ 600 psi |
| 7:55pm | 1100 | | 405 | | 3 | 102 bbls gone and landed the plug bumped to 1100 psi and holding |
| | | | | | | released the psi and float holding .5 BBLS BACK TO TRUCK |
| | | | | | | 60bbls of cement to surface |
| | | | | | | rigging down iron |
| | | | | | | |
| | | | | | | |
| | | | | | | leaving location @ 8:30pm |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | THANK YOU !!!!!!!!!!!!!!!!!!!!!!!!!!!!1 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

FINAL DISP. PRESS. 600 PSI BUMP PLUG TO 1100 PSI BLEEDBACK ################ BBLS THANK YOU

Date 5/1/2014 District Liberal # 21 Ticket No. 52447

Company American Warrior Rig Duke #9

Lease Brookover Well No 4-6

County Stevens State KS

Location

Field

Casing Data ☐ Conductor ☑ PTA ☐ Squeeze ☐ Misc.
☐ Surface ☐ Intermediate ☐ Production ☐ Liner

Size 4 1/2 drillpipe Type Weight 24# Collar

Casing Depth Top Bottom

Drill Pipe BBLS/LIN. FT LIN. FT/BBL

Open Hole: BBLS/LIN. FT LIN. FT/BBL

Capacity Factors: BBLS/LIN. FT LIN. FT/BBL

Casing BBLS/LIN. FT LIN. FT/BBL

Open Hole: BBLS/LIN. FT LIN. FT/BBL

Drill Pipe BBLS/LIN. FT 0.01422 LIN. FT/BBL

Annulus BBLS/LIN. FT LIN. FT/BBL

BBLS/LIN. FT LIN. FT/BBL

Perforations From ft tc ft Amt

Spacer Type

Amt. Sks Yield ft³/sk Density PPG

LEAD: Time hrs. Type 60/40/4% gel

Excess

Amt. 210 Sks Yield 1.5 ft³/sk Density 13.5 PPG

TAIL: Time hrs. Type

Excess

Amt. Sks Yield ft³/sk Density PPG

WATER Lead 7.5 Gal/sk Tail Gal/sk Total 28 BBLS

Pump Trucks Used: 530-484

Bulk Equipment 774-744

Float Equipment: Manufacturer

Shoe: Type Depth

Float: Type Depth

Centralizers: Quantity Plugs Top Bottom

Stage Collars

Special Equipment

Disp: Fluid Type H2O & Mud Amt bbls Weight PPG

Mud Type Weight 9.5

COMPANY REPRESENTATIVE

CEMENTER Edgar A. Rodriguez

| TIME | PRESSURES PSI | | FLUID PUMPED DATA | | | REMARKS |
|---|---|---|---|---|---|---|
| AM/PM | DRILL PIPE CASING | ANNULUS | TOTAL FLUID | PUMPED PER TIME PERIOD | RATE BBLS/MIN | |
| 12:30 pm | | | | | | Arrive on location |
| 12:45 | | | | | | Spot equipment and rig up |
| 1:30 | | | | | | Safety meeting |
| 1:43 | | | | | | Start job |
| 1:47 | | | | | | 1st plug @1730' |
| 1:47 | 70 | | 13 | | 4 | Pump 50 sks of cmt (13 bbls @13.5) |
| 1:51 | 30 | | 21 | | 4 | Pump 21 bbls of mud displacement |
| 1:58 | | | | | | Come out of hole with drillpipe |
| 2:27 | | | | | | 2nd plug @930' |
| 2:27 | 60 | | 13 | | 3 | Pump 50 sks of cmt (13 bbls @13.5) |
| 2:36 | 30 | | 10 | | 3 | Pump 10 bbls of displacement |
| 2:39 | | | | | | Come out of hole with drillpipe |
| 2:54 | | | | | | 3rd plug @450' |
| 2:54 | 70 | | 11 | | 3 | Pump 40 sks of cmt (11 bbls @13.5) |
| 2:58 | 30 | | 4 | | 3 | Pump 4 bbls of displacement |
| 3:00 | | | | | | Come out of hole with drillpipe |
| 3:33 | | | | | | 4th plug @60' |
| 3:33 | 40 | | 5 | | 3 | Pump 20 sks of cmt (5 bbls @13.5) |
| 3:36 | | | | | | Come of hole with joint |
| 3:46 | 40 | | 8 | | 2 | Pump 30 sks of cmt in rat hole |
| 3:48 | | | | | | Come of hole with joint |
| 3:50 | 40 | | 5 | | 2 | Pump 20 sks of cmt in mouse hole |
| 4:00 | | | | | | End job |
| 4:20 | | | | | | Rig down |
| 5:00 pm | | | | | | Crew leave location |
| | | | | | | |
| | | | | | | |
| | | | | | | |

FINAL DISP. PRES 70 PSI BUMP PLUG TO PSI BLEEDBACK BBLS THANK YOU

# Geological Report

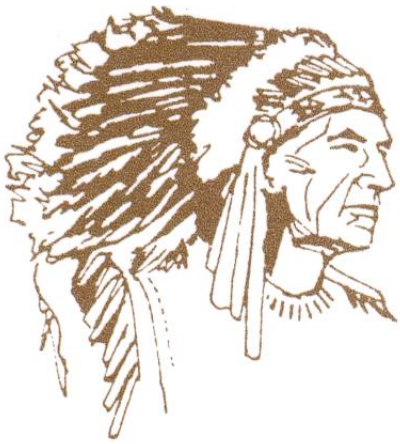
Palmer Oil, Inc.

**Brookover #4-6**

780’ FSL & 1070’ FEL

Sec. 4, T25s, R32w

Finney County, Kansas



**Palmer Oil, Inc.**

## General Data

| | |
|---|---|
| Well Data: | Palmer Oil, Inc.<br>Brookover #4-6<br>780’ FSL & 1070’ FEL<br>Sec. 4, T25s, R32w<br>Finney County, Kansas<br>API # 15-055-22269-00-00 |
| Drilling Contractor: | Duke Drilling Co. Rig #9 |
| Geologist: | Kevin Timson |
| Spud Date: | April 23, 2014 |
| Completion Date: | May 1, 2014 |
| Elevation | 2845’ G.L.<br>2858’ K.B. |
| Directions: | From Garden City, KS. Go South on Hwy 83 1 mile South of Southwind. Turn East on lease road and continue East 2 miles, North into. |
| Casing: | 1701’ 8 5/8” #24 Surface Casing |
| Samples: | 3800’ to RTD 10’ Wet & Dry |
| Drilling Time: | 3800’ to RTD |
| Electric Logs: | Pioneer Energy Services “J. Henrickson”<br>Stacked-Micro |
| Drillstem Tests: | One-Trilobite Testing “Corndog” |
| Problems: | None |

# Formation Tops

**Brookover #4-6**

**Sec. 4, T25s, R32w**

**780’ FSL & 1070’ FEL**

| | |
|---|---|
| **Anhydrite** | **1861’ +997** |
| **Base** | **1929’ +929** |
| **Heebner** | **3898’ -1040** |
| **Lansing** | **3962’ -1104** |
| **Stark** | **4310’ -1452** |
| **Bkc** | **4447’ -1589** |
| **Marmaton** | **4473’ -1615** |
| **Pawnee** | **4553’ -1695** |
| **Fort Scott** | **4586’ -1728** |
| **Cherokee** | **4600’ -1742** |
| **Morrow** | **4783’ -1925** |
| **Miss** | **4861’ -2003** |
| **RTD** | **5000’ -2142** |
| **LTD** | **5001’ -2143** |

## Sample Zone Descriptions

**Morrow** **(4783’, -1925):** **Covered in DST #1**

**No sand!**

**Drill Stem Tests**

Trilobite Testing

"Corndog"

**DST #1** **Morrow**

Interval (4774'- 4861') Anchor Length 87'

| | | |
|---|---|---|
| IHP | -2341 # | |
| IFP | - 30" – ½" blow | 20-25 # |
| ISI | - 30" – No return | 54 # |
| FFP | - 30" – No blow | 27-28 # |
| FSIP | - 30" – No return | 40 # |
| FHP | - 2309 # | |
| BHT | - 115° F | |
| Recovery: | 5' Mud | |

## Structural Comparison

| Formation | Palmer Oil, Inc. Brookover #4-6 Sec. 4, T25s, R32w 780' FSL & 1070' FEL | | EOG Resources Brookover #4-2 Sec. 4, T25s, R32w 1400' FSL & 330' FEL | | EOG Resources Brookover #4-4 Sec 4, T25s, R32w 612' FSL & 2350' FEL |
|---|---|---|---|---|---|
| Heebner | **3898' -1040** | **+1** | 3897' -1041 | **+2** | 3901' -1042 |
| Lansing | **3962' -1104** | **-1** | 3959' -1103 | **NA** | NA |
| Stark | **4310' -1452** | **FL** | 4308' -1452 | **NA** | NA |
| BKC | **4447' -1589** | **-2** | 4443' -1587 | **NA** | NA |
| Marmaton | **4473' -1615** | **-3** | 4468' -1612 | **NA** | NA |
| Pawnee | **4553' -1695** | **-2** | 4549' -1693 | **NA** | NA |
| Fort Scott | **4586' -1728** | **-4** | 4580' -1724 | **NA** | NA |
| Cherokee | **4600' -1742** | **-5** | 4593' -1737 | **-2** | 4599' -1740 |
| Morrow | **4783' -1925** | **+1** | 4782' -1926 | **-4** | 4780' -1921 |
| Miss | **4861' -2003** | **FL** | 4859' -2003 | **+20** | 4882' -2023 |

## Summary

The location for the Brookover #4-6 well was found via 3-D seismic survey. The new well ran structurally as expected. One drill stem test was conducted, which was negative. After all the gathered data had been examined, the decision was made to plug and abandon the Brookover #4-6 well.

Respectfully Submitted,

Kevin Timson
Palmer Oil, Inc.