

**DIAMOND TESTING**  
P.O. Box 157  
**HOISINGTON, KANSAS 67544**  
(620) 653-7550 • (800) 542-7313  
STC 30046.D001

KGS

Company L. D. Drilling, Inc. Lease & Well No. Barbour/Hemphill No. 1-14  
Elevation 2042 KB Formation Marmaton/Mississippi Effective Pay -- Ft. Ticket No. T001  
Date 2-14-09 Sec. 14 Twp. 26S Range 15W County Pratt State Kansas  
Test Approved By Kim B. Shoemaker Diamond Representative Tim Venters  
Formation Test No. 1 Interval Tested from 4,246 ft. to 4,361 ft. Total Depth 4,361 ft.  
Packer Depth 4,241 ft. Size 6 3/4 in. Packer Depth -- ft. Size -- in.  
Packer Depth 4,246 ft. Size 6 3/4 in. Packer Depth -- ft. Size -- in.  
Depth of Selective Zone Set          ft.  
Top Recorder Depth (Inside)         4,247 ft. Recorder Number 30046 Cap. 5,000 psi  
Bottom Recorder Depth (Outside)         4,358 ft. Recorder Number 3815 Cap. 5,700 psi  
Below Straddle Recorder Depth          ft. Recorder Number          Cap.         psi  
Drilling Contractor Duke Drilling Company, Inc. - Rig 8 Drill Collar Length -- ft. I.D. -- in.  
Mud Type Chemical Viscosity 51 Weight Pipe Length -- ft. I.D. -- in.  
Weight 9.3 Water Loss 8.8 cc. Drill Pipe Length 4,219 ft. I.D. 3 1/2 in.  
Chlorides 6,000 P.P.M. Test Tool Length 27 ft. Tool Size 3 1/2 - IF in.  
Jars: Make Sterling Serial Number 3 Anchor Length 22' perf. w/93' drill pipe Size 4 1/2 - FH in.  
Did Well Flow? No Reversed Out No Surface Choke Size 1 in. Bottom Choke Size 5/8 in.  
Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 - XH in.

14-26S-15W

Blow: 1st Open: Strong, 3 in., blow. Off bottom of bucket in 6 mins. No blow back during shut-in.  
2nd Open: Strong, 4 in., blow. Off bottom of bucket in 17 mins. No blow back during shut-in.

Recovered 465 ft. of gas in pipe  
Recovered 30 ft. of very slightly oil cut mud = .426900 bbls. (Grind out: 1%-oil; 99%-mud)  
Recovered 30 ft. of TOTAL FLUID = .426900 bbls.  
Recovered          ft. of           
Recovered          ft. of           
Remarks Tool Sample Grind Out: 1%-oil; 99%-mud

|                              |              |                                |                         |             |                                |                     |             |
|------------------------------|--------------|--------------------------------|-------------------------|-------------|--------------------------------|---------------------|-------------|
| Time Set Packer(s)           | <u>10:35</u> | <del>P.M.</del><br><u>A.M.</u> | Time Started Off Bottom | <u>1:40</u> | <del>P.M.</del><br><u>A.M.</u> | Maximum Temperature | <u>116°</u> |
| Initial Hydrostatic Pressure |              |                                | (A)                     | <u>2070</u> | P.S.I.                         |                     |             |
| Initial Flow Period          | Minutes      | <u>30</u>                      | (B)                     | <u>22</u>   | P.S.I. to (C) <u>24</u> P.S.I. |                     |             |
| Initial Closed In Period     | Minutes      | <u>45</u>                      | (D)                     | <u>199</u>  | P.S.I.                         |                     |             |
| Final Flow Period            | Minutes      | <u>50</u>                      | (E)                     | <u>27</u>   | P.S.I. to (F) <u>24</u> P.S.I. |                     |             |
| Final Closed In Period       | Minutes      | <u>60</u>                      | (G)                     | <u>303</u>  | P.S.I.                         |                     |             |
| Final Hydrostatic Pressure   |              |                                | (H)                     | <u>2070</u> | P.S.I.                         |                     |             |

## GENERAL INFORMATION

### Client Information:

Company: L.D. DRILLING, INC.

Contact: L.D. DAVIS

Phone: Fax: e-mail:

### Site Information:

Contact: KIM SHOEMAKER

Phone: Fax: e-mail:

### Well Information:

Name: BARBOUR/HEMPHILL #1- 14

Operator: L.D. DRILLING, INC.

Location-Downhole: DST #14246-4361 MAR./MISS.

Location-Surface: SEC:14-26S-15W

### Test Information:

Company: DIAMOND TESTING

Representative: TIM VENTERS

Supervisor: KIM SHOEMAKER

Test Type: Drill Stem Test Job Number: P001

Test Unit: NO. 3

Start Date: 2009/02/14 Start Time: 20:20:00

End Date: 2009/02/15 End Time: 03:40:00

Report Date: 2009/02/15 Prepared By: TIM VENTERS

Qualified By: KIM SHOEMAKER

**Remarks:**  
RECOVERY: 465' GAS IN PIPE\par\tab 30' VERY SLIGHT OIL CUT MUD 1% OIL 99%MUD\par  
TOOL SAMPLE: 1% OIL 99% MUD



**DIAMOND TESTING**  
P.O. Box 157  
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STC 30046.D002

Company L. D. Drilling, Inc. Lease & Well No. Barbour/Hemphill No. 1-14  
Elevation 2042 KB Formation Lansing/Kansas City Effective Pay -- Ft. Ticket No. T002  
Date 2-15-09 Sec. 14 Twp. 26S Range 15W County Pratt State Kansas  
Test Approved By Kim B. Shoemaker Diamond Representative Tim Venters  
Formation Test No. 2 Interval Tested from 4,140 ft. to 4,164 ft. Total Depth 4,361 ft.  
Packer Depth 4,135 ft. Size 6 3/4 in. Packer Depth 4,164 ft. Size 6 3/4 in.  
Packer Depth 4,140 ft. Size 6 3/4 in. Packer Depth -- ft. Size -- in.  
Depth of Selective Zone Set      ft.  
Top Recorder Depth (Inside) 4,139 ft. Recorder Number 30046 Cap. 5,000 psi  
Bottom Recorder Depth (Outside) 4,157 ft. Recorder Number 3815 Cap. 5,700 psi  
Below Straddle Recorder Depth 4,358 ft. Recorder Number 13386 Cap. 5,750 psi  
Drilling Contractor Duke Drilling Company, Inc. - Rig 8 Drill Collar Length -- ft. I.D. -- in.  
Mud Type Chemical Viscosity 50 Weight Pipe Length -- ft. I.D. -- in.  
Weight 9.2 Water Loss 8.8 cc. Drill Pipe Length 4,113 ft. I.D. 3 1/2 in.  
Chlorides 3,800 P.P.M. Test Tool Length 27 ft. Tool Size 3 1/2 - IF in.  
Jars: Make Sterling Serial Number 3 Anchor Length 24' perf. w/197' tail pipe Size 4 1/2 - FH in.  
Did Well Flow? No Reversed Out No Surface Choke Size 1 in. Bottom Choke Size 5/8 in.  
Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 - XH in.

Blow: 1st Open: Strong, 2 in., blow. Off bottom of bucket in 1 min. No blow back during shut-in.  
2nd Open: Strong blow. Off bottom of bucket instantaneously. Gas to surface in 3 mins. Weak, surface blow back increasing to 4 ins. during shut-in. (SEE GAS VOLUME REPORT)

Recovered 3,920 ft. of gas in pipe  
Recovered 10 ft. of slightly gassy oil cut mud = .142300 bbls. (Grind out: 6%-gas; 19%-oil; 75%-mud)  
Recovered 60 ft. of slightly gassy, very heavy oil cut mud = .853800 bbls. (Grind out: 2%-gas; 48%-oil; 50%-mud)  
Recovered 60 ft. of slightly muddy, heavy oil cut gas = .853800 bbls. (Grind out: 12%-mud; 38%-oil; 50%-gas)  
Recovered 65 ft. of slightly watery, slightly mud cut oil = .924950 bbls. (Grind out: 14%-water; 8%-mud; 78%-oil)  
Recovered 195 ft. of TOTAL FLUID = 2.774850 bbls.  
Remarks Tool Sample Grind Out: 8%-mud; 14%-water; 78%-oil

Time Set Packer(s) 7:41 <sup>A.M.</sup> ~~P.M.~~ Time Started Off Bottom 10:41 <sup>A.M.</sup> ~~P.M.~~ Maximum Temperature 118°  
Initial Hydrostatic Pressure ..... (A) 2013 P.S.I.  
Initial Flow Period ..... Minutes 30 (B) 31 P.S.I. to (C) 57 P.S.I.  
Initial Closed In Period ..... Minutes 45 (D) 1186 P.S.I.  
Final Flow Period ..... Minutes 45 (E) 69 P.S.I. to (F) 100 P.S.I.  
Final Closed In Period ..... Minutes 60 (G) 1144 P.S.I.  
Final Hydrostatic Pressure ..... (H) 1995 P.S.I.

# Diamond Testing

## General information Report

### General Information

Company Name LD DRILLING, INC.

|                     |                          |                |                   |
|---------------------|--------------------------|----------------|-------------------|
| Contact             | L.D. DAVIS               | Job Number     | P002              |
| Well Name           | BARBOUR/HEMPHILL #1-14   | Representative | TIM VENTERS       |
| Unique Well ID      | DST#2 LKC 4140-4164-4361 | Well Operator  | LD DRILLING, INC. |
| Surface Location    | 14-26S-15W PRATT COUNTY  | Report Date    | 2009/02/15        |
| Well License Number |                          | Prepared By    | TIM VENTERS       |
| Field               | WILDCAT                  |                |                   |
| Well Type           | Vertical                 |                |                   |

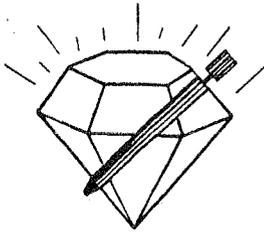
|                     |                     |                 |          |
|---------------------|---------------------|-----------------|----------|
| Test Type           | STADDLE TEST        |                 |          |
| Formation           | LANSING/KANSAS CITY |                 |          |
| Well Fluid Type     | 01 Oil              | Start Test Time | 05:52:00 |
|                     |                     | Final Test Time | 13:07:00 |
| Start Test Date     | 2009/02/15          |                 |          |
| Final Test Date     | 2009/02/15          |                 |          |
| Gauge Name          | 30046               |                 |          |
| Gauge Serial Number |                     |                 |          |

### Test Results

RECOVERED: 3920' GAS IN PIPE

10' SLIGHT GAS, OIL CUT MUD 6% GAS 19% OIL 75% MUD  
60' SLIGHT GAS, VERY HEAVY OIL CUT MUD 2% GAS 48% OIL 50% MUD  
60' SLIGHT MUD, HEAVY OIL CUT GAS 50% GAS 38% OIL 12% MUD  
65' SLIGHT WATER, SLIGHT MUD CUT OIL 78% OIL 14% WATER 8% MUD

TOOL SAMPLE: SLIGHT WATER, SLIGHT MUD CUT OIL 78% OIL 14% WATER 8% MUD



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**GAS VOLUME REPORT**

Company L. D. Drilling, Inc. Lease & Well No. Barbour/Hemphill No. 1-14  
Date 2-15-09 Sec. 14 Twp. 26S Rge. 15W Location & <sup>1800' FNL</sup> 1000' FEL, SEC County Pratt State KS  
Drilling Contractor Duke Drilling Company, Inc. - Rig 8 Formation Lansing/Kansas City DST No. 2  
Remarks: 2nd Open: Gas to surface in 3 mins. Gas burned nicely.

The sample was under 5 psi; therefore it might be contaminated with oxygen.

**INITIAL FLOW**

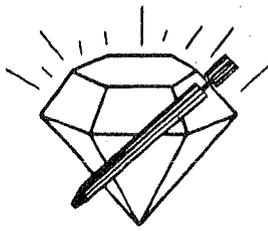
| Time O'Clock | Orifice Size | Gauge | CF/D |
|--------------|--------------|-------|------|
|              | in.          | in.   |      |

**FINAL FLOW**

Open Tool: 8:56 a.m.

| Time O'Clock | Orifice Size | Gauge  | CF/D  |
|--------------|--------------|--------|-------|
| 9:06 a.m.    | 1/4 in.      | 8 in.  | 4,760 |
| 9:16 a.m.    | 1/4 in.      | 23 in. | 8,050 |
| 9:26 a.m.    | 1/4 in.      | 24 in. | 8,220 |
| * 9:36 a.m.  | 1/4 in.      | 27 in. | 8,730 |
| 9:41 a.m.    | 1/4 in.      | 26 in. | 8,560 |
|              |              |        |       |
|              |              |        |       |
|              |              |        |       |
|              |              |        |       |
|              |              |        |       |
|              |              |        |       |

\* Sample taken.



# DIAMOND TESTING

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STC 30046.D003

Company L. D. Drilling, Inc. Lease & Well No. Barbour/Hemphill No. 1-14

Elevation 2042 KB Formation Viola Effective Pay      -- Ft. Ticket No. T003

Date 2-16-09 Sec. 14 Twp. 26S Range 15W County Pratt State Kansas

Test Approved By Kim B. Shoemaker Diamond Representative Tim Venters

Formation Test No. 3 Interval Tested from 4,387 ft. to 4,434 ft. Total Depth 4,434 ft.

Packer Depth 4,382 ft. Size 6 3/4 in. Packer Depth      -- ft. Size      -- in.

Packer Depth 4,387 ft. Size 6 3/4 in. Packer Depth      -- ft. Size      -- in.

Depth of Selective Zone Set      ft.

Top Recorder Depth (Inside) 4,388 ft. Recorder Number 30046 Cap. 5,000 psi

Bottom Recorder Depth (Outside) 4,431 ft. Recorder Number 13386 Cap. 5,750 psi

Below Straddle Recorder Depth      ft. Recorder Number      Cap.      psi

Drilling Contractor Duke Drilling Company, Inc. - Rig 8 Drill Collar Length      -- ft. I.D.      -- in.

Mud Type Chemical Viscosity 45 Weight Pipe Length      -- ft. I.D.      -- in.

Weight 9.3 Water Loss 9.6 cc. Drill Pipe Length 4,360 ft. I.D. 3 1/2 in.

Chlorides 6,500 P.P.M. Test Tool Length 27 ft. Tool Size 3 1/2 - IF in.

Jars: Make Sterling Serial Number 3 Anchor Length 15' perf. w/32' drill pipe Size 4 1/2 - FH in.

Did Well Flow? No Reversed Out No Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 - XH in.

Blow: 1st Open: Weak, surface blow building to 8 1/2 ins. Weak, surface blow back during shut-in.

2nd Open: 1/2 in. blow building to 6 ins. No blow back during shut-in.

Recovered 65 ft. of slightly gassy, slightly oily, slightly water cut mud = .924950 bbls. (Grind out: 10%-gas; 3%-oil;

5%-water; 82%-mud)

Recovered      ft. of     

Recovered      ft. of     

Recovered      ft. of     

Recovered      ft. of     

Remarks Tool Sample Grind Out: 12%-oil; 88%-mud

Time Set Packer(s) 12:51 <sup>A.M.</sup>/<sub>P.M.</sub> Time Started Off Bottom 3:51 <sup>A.M.</sup>/<sub>P.M.</sub> Maximum Temperature 118°

Initial Hydrostatic Pressure ..... (A) 2127 P.S.I.

Initial Flow Period ..... Minutes 30 (B) 33 P.S.I. to (C) 37 P.S.I.

Initial Closed In Period ..... Minutes 45 (D) 1287 P.S.I.

Final Flow Period ..... Minutes 45 (E) 39 P.S.I. to (F) 45 P.S.I.

Final Closed In Period ..... Minutes 60 (G) 1438 P.S.I.

Final Hydrostatic Pressure ..... (H) 2124 P.S.I.

# Diamond Testing

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## General information Report

### General Information

Company Name L.D. DRILLING, INC.

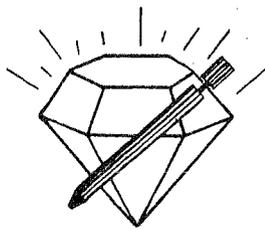
|                     |                        |                |                     |
|---------------------|------------------------|----------------|---------------------|
| Contact             | L.D. DAVIS             | Job Number     | P003                |
| Well Name           | BARBOUR/HEMPHILL #1-14 | Representative | TIM VENTERS         |
| Unique Well ID      | DST #3 VIOLA 4387-4434 | Well Operator  | L.D. DRILLING, INC. |
| Surface Location    | 14-26S-15W             | Report Date    | 2009/02/16          |
| Well License Number |                        | Prepared By    | TIM VENTERS         |
| Field               | WILDCAT                |                |                     |
| Well Type           | Vertical               |                |                     |

|                     |                        |                 |          |
|---------------------|------------------------|-----------------|----------|
| Test Type           | Drill Stem Test        |                 |          |
| Formation           | DST #3 VIOLA 4387-4434 |                 |          |
| Well Fluid Type     | 01 Oil                 | Start Test Time | 22:48:00 |
|                     |                        | Final Test Time | 06:14:00 |
| Start Test Date     | 2009/02/15             |                 |          |
| Final Test Date     | 2009/02/16             |                 |          |
| Gauge Name          | 30046                  |                 |          |
| Gauge Serial Number |                        |                 |          |

### Test Results

RECOVERED: 65' SLIGHT GAS, SLIGHT OIL, SLIGHT WATER CUT MUD 10% GAS 3% OIL 5% WATER 82% MUD

TOOL SAMPLE: SLIGHT OIL CUT MUD 12% OIL 88% MUD



# DIAMOND TESTING

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STC 30046.D004

Company L. D. Drilling, Inc. Lease & Well No. Barbour/Hemphill No. 1-14  
 Elevation 2042 KB Formation Viola Effective Pay      -- Ft. Ticket No. T004  
 Date 2-16-09 Sec. 14 Twp. 26S Range 15W County Pratt State Kansas

Test Approved By Kim B. Shoemaker Diamond Representative Tim Venters

Formation Test No. 4 Interval Tested from 4,430 ft. to 4,450 ft. Total Depth 4,450 ft.

Packer Depth 4,425 ft. Size 6 3/4 in. Packer Depth      -- ft. Size      -- in.

Packer Depth 4,430 ft. Size 6 3/4 in. Packer Depth      -- ft. Size      -- in.

Depth of Selective Zone Set      ft.

Top Recorder Depth (Inside) 4,431 ft. Recorder Number 30046 Cap. 5,000 psi

Bottom Recorder Depth (Outside) 4,447 ft. Recorder Number 13386 Cap. 5,750 psi

Below Straddle Recorder Depth      ft. Recorder Number      Cap.      psi

Drilling Contractor Duke Drilling Company, Inc. - Rig 8 Drill Collar Length      -- ft. I.D.      -- in.

Mud Type Chemical Viscosity 54 Weight Pipe Length      -- ft. I.D.      -- in.

Weight 8.2 Water Loss 10.4 cc. Drill Pipe Length 4,403 ft. I.D. 3 1/2 in.

Chlorides 6,500 P.P.M. Test Tool Length 27 ft. Tool Size 3 1/2 - IF in.

Jars: Make Sterling Serial Number 3 Anchor Length 20 ft. Size 4 1/2 - FH in.

Did Well Flow? No Reversed Out No Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 - XH in.

Blow: 1st Open: Weak, surface blow building to 2 ins. Weak, surface blow back during shut-in.  
2nd Open: Weak, surface blow building to 1/2 in. No blow back during shut-in.

Recovered 10 ft. of mud = .142300 bbls. (Grind out: 100%-mud)

Recovered      ft. of     

Recovered      ft. of     

Recovered      ft. of     

Recovered      ft. of     

Remarks Tool Sample Grind Out: 100%-mud

Time Set Packer(s) 2:45 <sup>XXM.</sup> P.M. Time Started Off Bottom 4:45 <sup>XXM.</sup> P.M. Maximum Temperature 110°

Initial Hydrostatic Pressure ..... (A) 2167 P.S.I.

Initial Flow Period ..... Minutes 30 (B) 22 P.S.I. to (C) 18 P.S.I.

Initial Closed In Period ..... Minutes 30 (D) 35 P.S.I.

Final Flow Period ..... Minutes 30 (E) 17 P.S.I. to (F) 20 P.S.I.

Final Closed In Period ..... Minutes 30 (G) 36 P.S.I.

Final Hydrostatic Pressure ..... (H) 2153 P.S.I.

# Diamond Testing

Page 2 of 2 Pages  
General information Report

## General Information

Company Name L.D. DRILLING, INC.

|                     |                        |                |                     |
|---------------------|------------------------|----------------|---------------------|
| Contact             | L.D. DAVIS             | Job Number     | P004                |
| Well Name           | BARBOUR/HEMPHILL #1-14 | Representative | TIM VENTERS         |
| Unique Well ID      | DST #4 VIOLA 4430-4450 | Well Operator  | L.D. DRILLING, INC. |
| Surface Location    | 14-26S-15W PRATT       | Report Date    | 2009/02/16          |
| Well License Number |                        | Prepared By    | TIM VENTERS         |
| Field               | WILDCAT                |                |                     |
| Well Type           | Vertical               |                |                     |

|                     |                        |                 |          |
|---------------------|------------------------|-----------------|----------|
| Test Type           | Drill Stem Test        | Start Test Time | 13:21:00 |
| Formation           | DST #4 VIOLA 4430-4450 | Final Test Time | 16:45:00 |
| Well Fluid Type     | 01 Oil                 |                 |          |
| Start Test Date     | 2009/02/16             |                 |          |
| Final Test Date     | 2009/02/16             |                 |          |
| Gauge Name          | 30046                  |                 |          |
| Gauge Serial Number |                        |                 |          |

## Test Results

RECOVERED: 10' MUD 100%

TOOL SAMPLE: MUD 100%