



WHITEHALL EXPLORATION

WELLSITE GEOLOGICAL CONSULTING

**GEOLOGICAL ANALYSIS & WELL REPORT**

**H & C OIL OPERATING, INC.**

**Roberts No. 8-1**

330' FEL & 2,100' FSL

NE-NE-SE

Section 8-Township 7 South-Range 23 West

Graham County, Kansas

15-065-23366

November 19, 2007

**RECEIVED**  
**DEC 05 2007**  
**KCC WICHITA**

## **GENERAL INFORMATION**

Elevation: G.L. 2,417' K.B. 2,424'  
All measurements are from K.B.

Field: Wildcat

Drilling Contractor/Rig No.: American Eagle Drilling/Rig 2

Total Depth: RTD: 3,935' LTD: 3,937'

Surface Casing: 8 5/8" @ 304'

Production Casing: None

Drill Time Kept: 3,400'-3,935' RTD

Samples Examined: 3,500'-3,935' RTD

Geological Supervision: 3,400'-3,935' RTD

Wellsite Geologist: Richard J. Hall - CPG No. 5820  
Consulting Wellsite Geologist-  
Whitehall Exploration

Drill Stem Tests: 4 Open Hole Tests: -Lansing "C" Zone  
-Lansing "D-F" Zone's  
-Kansas City "J" Zone  
-Kansas City "K-L" Zone's

Mud Company/Mud Type: Andy's Mud/Chemical

Electric Logging Company: Log-Tech

Log Suite: -Dual Induction  
-Compensated Neutron/Density Porosity  
-Microlog  
-Sonic

Samples: Examined and Discarded

Total Depth Formation: Base/Kansas City

Well Status: Plugged & Abandoned

## DAILY DRILLING CHRONOLOGY

| <u>2007<br/>Date</u> | <u>7:00 A.M.<br/>Depth</u> | <u>24 Hour<br/>Footage</u> | <u>7:00 A.M. Operation; 24 Hour Activity</u>                                                                                                                                                                                                                             |
|----------------------|----------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11/8/07              | 0                          | 0                          | Rig up; spud 12 1/4" hole @ 10:30 A.M., drilling to 309', circ., drop dev. survey, TOOH, run 7 jts 8 5/8" surf. csg. set @ 304', cement w/ 185 sx cement-cement circulated-plug down @ 4:30 P.M., WOC 1:00 A.M.. drill out cement & drilling, jet, drilling.             |
| 11/9/07              | 821'                       | 821'                       | Drilling ahead; jet, drilling, jet, drilling, jet, drilling, blew nail @ 2,040', drilling, blew nail @ 2,061', drilling, blew nail @ 2,249',drilling, dev. survey @ 2,262', bit trip & change kelly bushings, TIH- ream to bottom, jet, drilling.                        |
| 11/10/07             | 2,452'                     | 1,631'                     | Drilling ahead; jet, drilling, jet, drilling, jet, drilling, blew nail @ 2,907', drilling, blew nail @ 2,938', drilling, jet, drilling, blew nail @ 3,094', jet, drilling, rig repair-hydromatic, drilling, jet and build volume @ 3,187', drilling, jet, drilling, jet. |
| 11/11/07             | 3,250'                     | 798'                       | Drilling ahead; 30" rig repair, drilling, blew nail @ 3,406', drilling, CFS @ 3,730', short trip, circ. 1', drop dev. survey, TOOH, pick up test tool, TIH.                                                                                                              |
| 11/12/07             | 3,730'                     | 480'                       | Run DST #1, TOOH, lay down test tool, rig repair 2'15"- hydromatic chain, TIH, 1.5' rig repair-hydromatic, drilling, CFS @ 3,757', TOOH, pick up test tool, TIH, run DST No. 2, TOOH, lay down test tool, TIH, drilling.                                                 |
| 11/13/07             | 3,765'                     | 35'                        | Drilling ahead, CFS @ 3,821', drilling, jet, CFS @ 3,835', drilling, CFS @ 3,854', TOOH, pick up DST tool, TIH, run DST No. 3, TOOH, lay down test tool, TIH, drilling, CFS @ 3,868', drilling, CFS @ 3,882', WOO 1/2', TOOH, pick up test tool.                         |
| 11/14/07             | 3,882'                     | 117'                       | Trip in hole w/ DST No. 4; run DST No. 4, TOOH, lay down test tool, TIH, drilling, reach 3,935' RTD @ 4:30 P.M., circ. 1', drop dev. survey, TOOH, rig up and run Log- Tech logs, rig down loggers, TIH w/                                                               |

drill collars, WOO, TIH, TOOH laying down drill  
pipe and set plugs w/ 190 sx cement.

11/15/07

3,935'

53'

P & A; rig released.

## **DEVIATION SURVEYS**

| <b><u>Depth</u></b> | <b><u>Deviation (Degrees)</u></b> | <b><u>Depth</u></b> | <b><u>Deviation (Degrees)</u></b> |
|---------------------|-----------------------------------|---------------------|-----------------------------------|
| 310'                | 0.50                              | 3,730               | 1.0                               |
| 2,262'              | 0.75                              | 3,935'              | 0.75                              |

## **REFERENCE WELLS**

Reference Well "A": H & C Oil Operating, Inc.  
Morris Trust No. 9-1  
NE-SE-NW  
1,650' FNL & 2,310' FWL  
Section 9-T7S-R23W  
Graham County, Kansas  
Elevation: 2,444' KB  
LTD: 3,944'  
Drilled: September 2007  
TD Formation: Base/Kansas City  
Status: Kansas City 'J' Zone Oil Producer

Reference Well "B": Herndon Drilling Co.  
Barrow No. 1  
NE-NE-SW  
Section 8-T7S-R23W  
Graham County, Kansas  
Elevation: 2,420' KB  
LTD: 3,930'  
Drilled: July 1960  
TD Formation: Base/Kansas City  
Status: Dry & Abandoned

Reference Well "C": Glickman-Houston  
Brant No. 1  
C-NW-NE  
Section 17-T7S-R23W  
Graham County, Kansas  
Elevation: 2,398' KB  
LTD: 3,890'  
Drilled: April 1962  
TD Formation: Base/Kansas City  
Status: Plugged & Abandoned LKC "C, D, K & L" Zn's Oil Well

# FORMATION TOPS

|                  | Roberts No. 8-1 |      |       | Morris Trust<br>No. 9-1 | Barrow No. 1 | Brant No. 1   |               |          |          |
|------------------|-----------------|------|-------|-------------------------|--------------|---------------|---------------|----------|----------|
| FORMATION        | SAMPLE          | LOG  |       | REFERENCE               | REFERENCE    | REFERENCE     | DIFFERENCE TO |          |          |
|                  | TOPS            | TOPS | DATUM | WELL "A"                | WELL "B"     | WELL "C"      | WELL "A"      | WELL "B" | WELL "C" |
|                  |                 |      |       |                         |              |               |               |          |          |
|                  |                 |      |       |                         |              |               |               |          |          |
| PERMIAN          |                 |      |       |                         |              |               |               |          |          |
| Anhydrite        | 2109            | 2108 | +316  | +320                    | +310         | +319          | -4            | +6       | -3       |
|                  |                 |      |       |                         |              |               |               |          |          |
| PENNSYLVANIAN    |                 |      |       |                         |              |               |               |          |          |
| Topeka           | 3447            | 3445 | -1021 | -1023                   | -1034        | Not Available | -2            | +13      | NA       |
| Heebner Shale    | 3650            | 3650 | -1226 | -1226                   | -1238        | -1220         | FLAT          | +12      | -6       |
| Lansing "A"      | 3688            | 3688 | -1264 | -1261                   | -1276        | -1261         | -3            | +12      | -3       |
| Lansing "C"      | 3718            | 3718 | -1294 | -1290                   | -1308        | -1292         | -4            | +14      | -2       |
| Muncie Creek Sh. | 3796            | 3796 | -1372 | -1307                   | -1386        | -1370         | -2            | +14      | -2       |
| Kansas City "J"  | 3842            | 3843 | -1419 | -1414                   | -1429        | -1415         | -5            | +10      | -4       |
| Base/Kansas City | 3883            | 3884 | -1460 | -1459                   | -1475        | -1459         | -1            | +15      | -1       |

## ZONES OF INTEREST

| <u>Formation</u> | <u>Log Depth</u> | <u>Lithologic &amp; Show Descriptions, Remarks</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lansing "C"      | 3,718'-3,727'    | <p>Limestone-dolomitic limestone, off white-buff/light tan, hard, fine-very fine crystalline, slightly-moderately chalky, slightly-very oolitic, some pieces with scattered micro-cubic pyrite inclusions, moderate vuggy development in part, occasional pieces very good oolitic shoal development with very good inter-oolitic matrix porosity, fair-good in part inter-crystalline porosity, VERY GOOD SHOW: slight odor, fair yellowish-greenish fluorescence, uneven-near saturated dark brown-black oil stain, some saturated oil stain in inter-oolitic crystalline matrix, good-very good show free dark brown oil droplets when broken, very good bright yellow flash/streaming cut grading to very good bright yellow milky cut, very good bright yellow dried residual halo cut.</p> <p>This interval recorded a drilling break of 1.5-2.5 minutes per foot from a background penetration rate of 2-3 minutes per foot.</p> <p>This limestone was isolated on Drill Stem Test No. 1 and recovered 90 feet of mud cut oil (70% oil, 30% mud) with Shut-In Pressures of 1,172-1,154 p.s.i.</p> <p>Log-Tech logs show this limestone has a mostly clean gamma ray, slight-fair SP development, none-trace microlog, very slight mud cake, and is poorly developed with 5.5-10% neutron porosity, 3.5-10% density porosity, and 5-10% sonic porosity (10% porosity at top/shoulder of zone), and has a maximum 23 ohms deep resistivity.</p> |
| Lansing "D"      | 3,738'-3,743'    | <p>Limestone, off white-buff/slightly tan, predominately fine grainstone development with very fine crystalline pieces, firm-hard, slightly-very oolitic, good inter-crystalline porosity, (some very minor chalky to very chalky limestone-very oolitic with uneven-near saturated brown oil stain, fair-good show free oil), EXCELLENT SHOW: dull spotty yellow fluorescence, very good mostly even to saturated dark brown oil stain, excellent show</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

dark brown bleeding oil and free oil droplets when broken.

This interval recorded a drilling break of 2-2.5 minutes per foot from a background penetration rate of 2.5-4 minutes per foot.

This zone was included on Drill Stem Test No. 2 with the Lansing "F" Zone and recovered 25 feet of heavy oil cut mud (40% oil, 60% mud) with Shut-In Pressures of 1,113-969 p.s.i.

Log-Tech logs show this limestone has a clean gamma ray, no SP or microlog development, minor micro-caliper mud cake development at 3,850 feet, is tight with 2-6% density porosity, 4-6 % neutron porosity, 3-8% sonic porosity, and has maximum 20 ohms deep resistivity.

Kansas City "J"      3,843'-3,853'

Limestone, off white-buff, fine-very fine-micro crystalline, hard, clean, moderate fine grainstone development in part-some slightly fossiliferous, some packstone/micritic in part, moderately-very chalky, scattered glauconite, fair-intermediate inter-crystalline porosity-no visual porosity in part, VERY GOOD SHOW: no odor, intermediate-good bright yellowish fluorescence, uneven very light brown oil stain, very good show free light brown oil when broken.

This limestone was isolated on Drill Stem Test No. 3 and tested tight recovering 40 feet of mud with a scum of oil with Shut-In Pressures of 47-48 p.s.i.

Log-Tech logs show this limestone has a very clean gamma ray, no SP development, microlog and micro-caliper mud cake from 3,850-3,853 feet, 1-6% density porosity, 3-6% neutron porosity, 2-8% sonic porosity and has a maximum 50 ohms deep resistivity.

Kansas City "K"      3,863'-3,869'

Limestone, off white-buff, fine-very fine crystalline, some oolitic with good dark brown oil stain in fine crystalline to vuggy inter-oolitic matrix, hard, none-moderately chalky, fair-medium inter-crystalline porosity, fair vuggy porosity, SLIGHT SHOW: no odor, very good bright yellow spotty fluorescence, uneven dark brown oil stain, very good show free brown oil droplets when broken.

Drill Stem Test No. 4 covered the Kansas City "K" and "L" Zones and recovered 25 feet of oil cut mud with Shut-In Pressures of 894-896 p.s.i.

Log-Tech logs show this limestone has a clean gamma ray, fair-medium SP development, 2 feet of micro-caliper mud cake and microlog development from 3,864-3,466 feet, 6-10.5% neutron porosity, 2.5-8% density porosity, 5.5-8% sonic porosity, and has a maximum 20 ohms deep resistivity.



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

H&C

PO Box 86  
Plainville, Ks, 67663

ATTN: Rick Hall

**Roberts#8-1**

**8-7s-23w/Graham**

Job Ticket: 30484

**DST#: 1**

Test Start: 2007.11.12 @ 04:18:10

### GENERAL INFORMATION:

Formation: **LKC "C"**

Deviated: No Whipstock ft (KB)

Time Tool Opened: 07:09:10

Time Test Ended: 11:50:40

Test Type: Conventional Bottom Hole

Tester: Tyson Flax

Unit No: 21

Interval: **3706.00 ft (KB) To 3730.00 ft (KB) (TVD)**

Total Depth: 3730.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2424.00 ft (KB)

2417.00 ft (CF)

KB to GR/CF: 7.00 ft

**Serial #: 8320**

**Inside**

Press@RunDepth: 53.53 psig @ 3707.00 ft (KB)

Start Date: 2007.11.12

End Date:

2007.11.12

Start Time: 04:18:10

End Time:

11:50:40

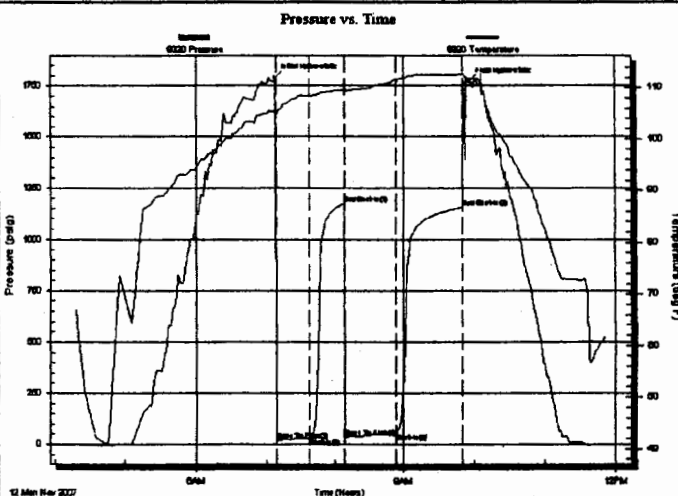
Capacity: 7000.00 psig

Last Calib.: 2007.11.12

Time On Btm: 2007.11.12 @ 07:08:10

Time Off Btm: 2007.11.12 @ 09:56:10

**TEST COMMENT:** IFP - Weak sur face blow built to 5"  
ISI - no blow back  
FFP - Weak surface blow built to 8.5"  
FSI - no blow back



### PRESSURE SUMMARY

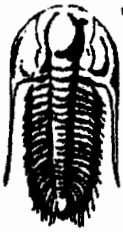
| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1789.62         | 105.54       | Initial Hydro-static |
| 30"         | 19.73           | 105.22       | Open To Flow (1)     |
| 30"         | 30.43           | 108.38       | Shut-In (1)          |
| 30"         | 60              | 1172.27      | End Shut-In (1)      |
| 45"         | 61              | 34.62        | Open To Flow (2)     |
| 106         | 53.53           | 111.55       | Shut-In (2)          |
| 60"         | 163             | 1155.71      | End Shut-In (2)      |
| 168         | 1769.57         | 111.66       | Final Hydro-static   |

### Recovery

| Length (ft) | Description    | Volume (bbl) |
|-------------|----------------|--------------|
| 90.00       | MCO 70%O, 30%M | 1.28         |
|             |                |              |
|             |                |              |
|             |                |              |
|             |                |              |
|             |                |              |

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

H&C

PO Box 86  
Plainville, Ks, 67663

ATTN: Rick Hall

**Roberts#8-1**

**8-7s-23w/Graham**

Job Ticket: 30485

**DST#: 2**

Test Start: 2007.11.12 @ 23:00:22

### GENERAL INFORMATION:

Formation: **LKC "D-F"**

Deviated: **No Whipstock** ft (KB)

Time Tool Opened: 00:52:22

Time Test Ended: 04:49:52

Test Type: **Conventional Bottom Hole**

Tester: **Tyson Flax**

Unit No: **21**

Interval: **3729.00 ft (KB) To 3757.00 ft (KB) (TVD)**

Total Depth: **3757.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **2424.00 ft (KB)**

**2417.00 ft (CF)**

KB to GR/CF: **7.00 ft**

**Serial #: 8320**

**Inside**

Press@RunDepth: **24.25 psig @ 3730.00 ft (KB)**

Start Date: **2007.11.12**

End Date:

**2007.11.13**

Start Time: **23:00:22**

End Time:

**04:49:52**

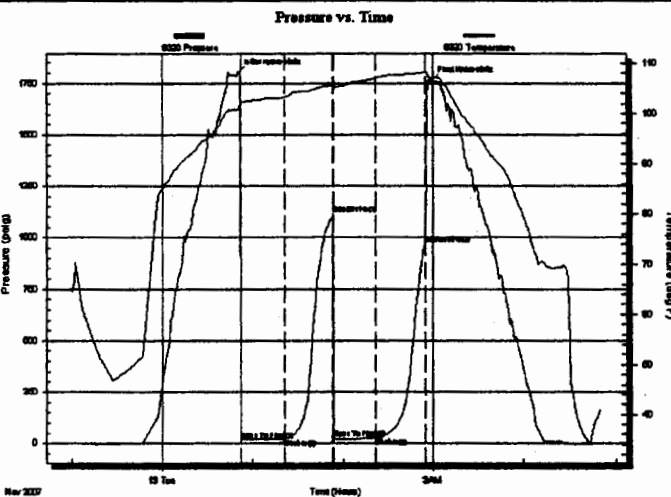
Capacity: **7000.00 psig**

Last Calib.: **2007.11.13**

Time On Btm: **2007.11.13 @ 00:50:52**

Time Off Btm: **2007.11.13 @ 02:59:22**

**TEST COMMENT:** FP - Weak surface blow built to 2"  
ISI - Weak surface blow back throughout  
FFP - Weak surface blow built to 2"  
FSI - no blow back



### PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1800.18         | 100.73       | Initial Hydro-static |
| 2           | 17.11           | 102.16       | Open To Flow (1)     |
| 31          | 20.89           | 103.27       | Shut-in(1)           |
| 63          | 1112.60         | 105.66       | End Shut-in(1)       |
| 63          | 23.31           | 105.34       | Open To Flow (2)     |
| 91          | 24.25           | 107.07       | Shut-in(2)           |
| 124         | 968.60          | 108.22       | End Shut-in(2)       |
| 129         | 1760.00         | 107.06       | Final Hydro-static   |

### Recovery

| Length (ft) | Description   | Volume (bbl) |
|-------------|---------------|--------------|
| 25.00       | OCM 40%O,60%M | 0.35         |
|             |               |              |
|             |               |              |
|             |               |              |
|             |               |              |
|             |               |              |

### Gas Rates

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



**TRILOBITE**  
**TESTING, INC.**

## DRILL STEM TEST REPORT

H&C

PO Box 86  
Plainville, Ks, 67663

ATTN: Rick Hall

**Roberts#8-1**

**8-7s-23w/Graham**

Job Ticket: 30486

**DST#: 3**

Test Start: 2007.11.13 @ 16:00:22

### GENERAL INFORMATION:

Formation: **LKC "J"**  
Deviated: **No Whipstock** ft (KB)  
Time Tool Opened: 18:02:15  
Time Test Ended: 22:25:45

Test Type: **Conventional Bottom Hole**  
Tester: **Tyson Flax**  
Unit No: **21**

Interval: **3831.00 ft (KB) To 3854.00 ft (KB) (TVD)**  
Total Depth: **3854.00 ft (KB) (TVD)**  
Hole Diameter: **7.88 inches** Hole Condition: **Good**

Reference Elevations: **2424.00 ft (KB)**  
**2417.00 ft (CF)**  
KB to GR/CF: **7.00 ft**

**Serial #: 8320**

**Inside**

Press@RunDepth: **38.17 psig @ 3832.00 ft (KB)**

Capacity: **7000.00 psig**

Start Date: **2007.11.13**

End Date:

**2007.11.14**

Last Calib.: **2007.11.13**

Start Time: **16:00:22**

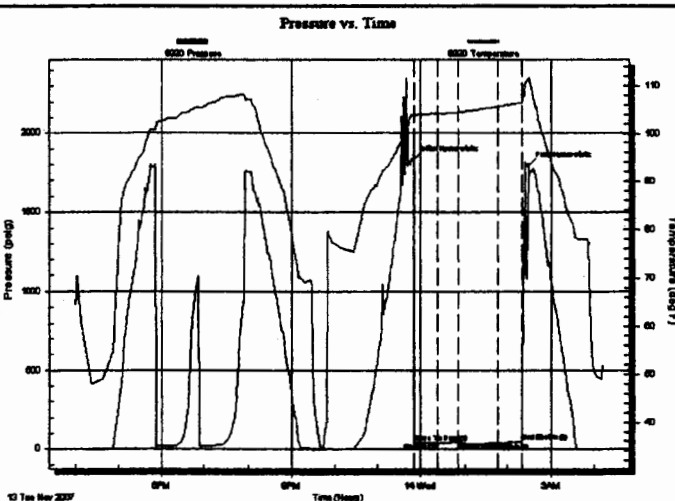
End Time:

**04:11:45**

Time On Btm: **2007.11.13 @ 23:50:45**

Time Off Btm: **2007.11.14 @ 02:29:15**

TEST COMMENT: **FP - Weak surface blow built to 1/4" blew throughout**  
**ISI - no blow back**  
**FFP - Weak surface blow died in 3 min**  
**FSI - no blow back**



### PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1830.09         | 103.83       | Initial Hydro-static |
| 30" 2       | 37.96           | 103.25       | Open To Flow (1)     |
| 32          | 36.15           | 104.08       | Shut-in(1)           |
| 30" 61      | 46.95           | 104.44       | End Shut-in(1)       |
| 62          | 36.78           | 104.45       | Open To Flow (2)     |
| 116         | 38.17           | 105.62       | Shut-in(2)           |
| 151         | 47.55           | 106.44       | End Shut-in(2)       |
| 159         | 1794.82         | 111.57       | Final Hydro-static   |

### Recovery

| Length (ft) | Description       | Volume (bbl) |
|-------------|-------------------|--------------|
| 40.00       | Mud w/scum of oil | 0.57         |
|             |                   |              |
|             |                   |              |
|             |                   |              |
|             |                   |              |
|             |                   |              |

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

H&C

PO Box 86  
Rainville, Ks, 67663

ATTN: Rick Hall

**Roberts#8-1**

**8-7s-23w/Graham**

Job Ticket: 30487

**DST#: 4**

Test Start: 2007.11.14 @ 06:20:08

### GENERAL INFORMATION:

Formation: **LKC "K-L"**

Deviated: No Whipstock ft (KB)

Time Tool Opened: 08:14:38

Time Test Ended: 12:32:38

Interval: **3860.00 ft (KB) To 3882.00 ft (KB) (TVD)**

Total Depth: **3882.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: Good

Test Type: Conventional Bottom Hole

Tester: Tyson Flax

Unit No: 21

Reference Elevations: **2424.00 ft (KB)**

**2417.00 ft (CF)**

KB to GR/CF: **7.00 ft**

**Serial #: 8320**

**Inside**

Press@RunDepth: **24.28 psig @ 3854.00 ft (KB)**

Start Date: **2007.11.14**

End Date:

**2007.11.14**

Start Time: **06:20:08**

End Time:

**12:32:38**

Capacity: **7000.00 psig**

Last Calib.: **2007.11.14**

Time On Btm: **2007.11.14 @ 08:13:08**

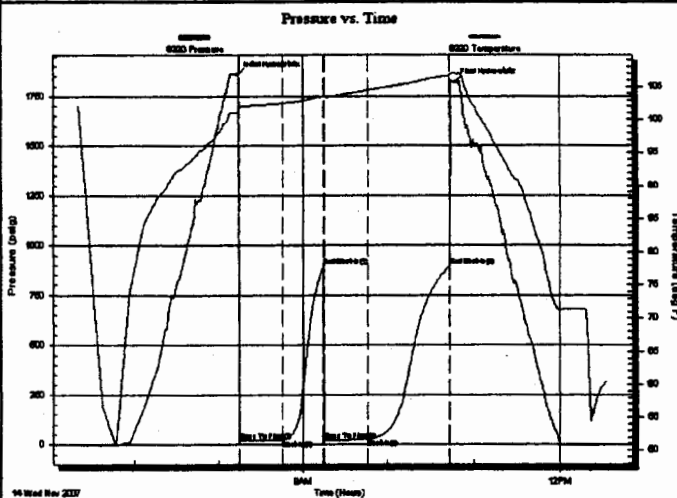
Time Off Btm: **2007.11.14 @ 10:46:38**

**TEST COMMENT:** FFP - Weak surface blow built to 1.5"

ISI - no blow back

FFP - Weak surface blow built to .5"

FSI - no blow back



### PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 1857.44         | 100.97       | Initial Hydro-static |
| 2           | 18.64           | 101.67       | Open To Flow (1)     |
| 30"         | 32              | 102.47       | Shut-In (1)          |
| 34"         | 62              | 103.50       | End Shut-In (1)      |
| 62          | 894.20          | 103.45       | Open To Flow (2)     |
| 30"         | 62              | 104.41       | Shut-In (2)          |
| 93          | 24.28           | 106.67       | End Shut-In (2)      |
| 60"         | 150             | 106.97       | Final Hydro-static   |
| 154         | 1818.98         |              |                      |

### Recovery

| Length (ft) | Description   | Volume (bbl) |
|-------------|---------------|--------------|
| 25.00       | OCM 10%, 90%M | 0.35         |
|             |               |              |
|             |               |              |
|             |               |              |
|             |               |              |
|             |               |              |

### Gas Rates

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

## **SUMMARY**

The Roberts No. 8-1 location was a wildcat location determined through the White Anticline Prospect 3-D seismic survey which defined a separate structural feature located in the E/2-Section 8-T7S-R23W. The Roberts No. 8-1 is the second well drilled to date on the White Anticline Prospect and is located approximately 5/8th's of a mile southwest of the H & C Oil Operating Morris Trust No. 9-1 discovery well (NE-SE-NW-Sec. 9-T7S-R23W), a Kansas City "J" Zone oil producer drilled and completed in September 2007.

The 3-D seismic was correct in accurately predicting a high Lansing/Kansas City structural position at the Roberts No. 8-1 location as the Top/Lansing was encountered significantly higher (+6 feet to +25 feet high), than the surrounding well's (dry holes), and -3 feet low to the nearby Lansing/Kansas City oil producers in Section 9 (Morris Trust No. 9-1-N/W/4-Sec. 9-T7S-R23W) and Section 17 (Brant No. 1-NW-NE-Sec. 17-T7S-R23W, P & A). Although a favorably high structural position was encountered in the Roberts No. 8-1 test well, most Lansing/Kansas City Zone's have poorly developed porosity and/or permeability resulting in poor to no reservoir development, although numerous free oil shows were observed in the drilling samples and oil was recovered on some of the drill stem test's.

The Roberts No. 8-1 is located 3 miles west and 6.5 miles north of Hill City, Kansas in north central Graham County, KS.

The primary objectives in the Roberts No. 8-1 included the Lansing "C", "D" and "F" Zones and the Kansas City "J", "K", and "L" Zones. Secondary objectives included the Topeka Formation, Toronto Formation, Lansing "A" and "E" Zones and the Kansas City "H" and "I" Zones.

Reference Well's used for correlation in this report are: Reference Well "A"/H & C Oil Operating Morris Trust No. 9-1 (NE-SE-NW-Sec. 9-T7S-R23W), a Kansas City "J" Zone oil producer located approximately 5/8th's of a mile northeast of the Roberts No. 8-1; Reference Well "B"/Herndon Drilling Barrow No. 1 (NE-NE-SW-Sec. 8-T7S-R23W), a dry hole located 1/2 mile to the west; and Reference Well "C"/Glickman-Houston Brant No. 1 (C-NW-NE-Sec. 17-T7S-R23W), a plugged and abandoned Lansing/Kansas City "C", "D", "K" and "L" Zone's oil producer located approximately 5/8th's of a mile to the southwest of the Roberts No. 8-1.

Four (4) open hole drill stem test's were run in the Roberts No. 8-1 on the way down during drilling. DST No. 1 isolated the Lansing "C" Zone, DST No. 2 included the Lansing "D"- "F" Zone's, DST No. 3 isolated the Kansas City "J" Zone, and DST No. 4 included the Kansas City "K"- "L" Zone's.

The Roberts No. 8-1 well was spudded on November 8, 2007 and was plugged and abandoned on November 15, 2007. No drilling problems were encountered during the drilling of this well.

The well was under 24-hour geological supervision from 3,500 feet to 3,935 feet Rotary Total Depth. Wet and dry drilling samples were caught by the drilling crews from 3,400 feet to 3,935 feet at 10-foot intervals. All lithologic descriptions were lagged to true depth by the consulting wellsite geologist.

### **Hydrocarbon Shows**

Numerous free oil sample shows were observed and recorded during the drilling of the Roberts 8-1 wildcat well in the Lansing "C", "D", and "F" Zone's, and the Kansas City "H", "J", and "K" Zones.

Significant free oil sample shows were observed and recorded in the following primary and secondary objective Formation's:

|                       |                   |                                                                                                                                     |
|-----------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| -Lansing "C" Zone     | Very Good Show:   | slight odor, fair fluorescence, uneven-near saturated staining, very good show free oil, very good live cut and very good dried cut |
| -Lansing "D" Zone     | Excellent Show:   | dull spotty fluorescence, mostly even-saturated oil staining, excellent show bleeding oil and free oil droplets                     |
| -Lansing "F" Zone     | Fair show:        | fair fluorescence, spotty/pin point oil staining, slight show free oil, faint live cut and fair dried cut                           |
| -Kansas City "H" Zone | Fair Show:        | fair fluorescence, spotty oil staining, fair show free oil, fair milky live cut and intermediate dried cut                          |
| -Kansas City "J" Zone | Very Good show:   | intermediate-good fluorescence, uneven oil staining, very good show free oil                                                        |
| -Kansas City "K" Zone | Very Good Show:   | very good spotty fluorescence, uneven oil staining, very good show free oil droplets                                                |
| -Kansas City "L" Zone | Very Slight Show: | spotty oil staining, (no show free oil)                                                                                             |

All of the above zone's and associated sample oil shows were covered on the four drill stem test's with the exception of the Kansas City "H" Zone which was not drill stem tested.

There were no observed sample hydrocarbon shows recorded in the Topeka or Toronto Formation's, Lansing "A" and "G" Zone's or the Kansas City "I" Zone.

Complete lithologic descriptions and hydrocarbon sample shows can be found in the detailed "Zones of Interest" portion of this geologic report. Complete Drill Stem Test fluid recovery results and pressures can be found in this report under Drill Stem Tests.

## **Structural Position**

The Roberts No. 8-1 runs structurally flat to low throughout the well to relation to Reference Well "A"/Morris Trust No. 9-1 and structurally low throughout the well in relation to Reference Well "C"/Brant No. 1. The Roberts No. 8-1 runs structurally high throughout the well to relation to Reference Well "B"/Barrow No.1.

Compared to Reference Well "A"/H & C Oil Operating Morris Trust No. 9-1 (NE-SE-NW-Section 9-T7S-R23W) a Kansas City "J" Zone oil producer located approximately 5/8th's of a mile to the northeast, the Roberts 8-1 runs: -4 feet low at the Stone Corral Anhydrite, -2 feet low at the Topeka, flat at the Heebner Shale, -3 feet low at the Top/Lansing "A", -5 feet low at the Kansas City "J" Zone, and -1 foot low at the Base/Kansas City.

Compared to Reference Well "B"/Herndon Drilling Barrow No. 1 (NE-NE-SW-Sec. 8-T7S-R23W), a dry hole located ½ mile to the west, the Roberts No. 8-1 runs: +6 feet high at the Stone Corral Anhydrite, +13 feet high at the Topeka, +12 feet high at the Heebner Shale, +12 feet high at the Top/Lansing "A", +10 feet high at the Kansas City "J" Zone, and +15 feet high at the Base/Kansas City.

Compared to Reference Well "C"/Glickman-Houston Brant No. 1 (C-NW-NE-Sec. 17-T7S-R23W), a plugged and abandoned Lansing/Kansas City "C", "D", "K" and "L" Zone's oil producer located approximately 5/8th's of a mile to the southwest, the Roberts No. 8-1 runs: -3 feet low at the Stone Corral Anhydrite, -6 feet low at the Heebner Shale, -3 feet low at the Top/Lansing "A", -4 feet low at the Kansas City "J" Zone, and -1 foot low at the Base/Kansas City.

A structural comparison of the Formation Tops in this well, in relation to the Reference Wells, can be found in the detailed "Formation Tops" table in this geologic report.

## **Conclusion**

The Roberts No. 8-1 wildcat test well location was determined by a 3-D seismic survey over the White Anticline Prospect indicating a structural feature in the E/2 of Section 8-T7S-R23W.

The favorable structural position indicated from the 3-D seismic interpretation at the Top/Lansing is present at the Roberts No. 8-1 location with the Top/Lansing running 3 feet low compared to the closest oil wells in the area, Reference Well's "A" and "C". Although a high structural position was encountered at the primary and secondary objective Lansing/Kansas City Group Zone's and numerous sample free oil shows were observed in the Lansing "C", "D" and "F" Zone's and the Kansas City "H", "J" and "K" Zone's, and 90 feet of mud cut oil (DST No. 1) and 25 feet of heavy oil cut mud were recovered on DST No. 2, poorly developed reservoir was encountered in these respective zone's and confirmed by the four drill stem test's fluid and pressure recoveries and/or Log-Tech logs.

Therefore, based on the poor reservoir development confirmed through the drill stem test's and wireline logs the Roberts No 8-1 was plugged and abandoned as a dry hole.

Respectfully Submitted,

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