



PRODUCTION TOUR REPORT

Well Name: **Chevron etal Liard K-29**

WBSE# **RWWNC - R9023 - 500 (tubing changeout and retest)**

LSD : **K-29 (within grid area 60° 30' 123° 30')**

Date : **September 18, 1999**

Day Number : **15**

|               | CREW         |  | FROM | TO | TIME SUMMARY                                  |             |                                  |  |
|---------------|--------------|--|------|----|-----------------------------------------------|-------------|----------------------------------|--|
|               |              |  |      |    |                                               |             |                                  |  |
| DAY<br>CREW   | Driller      |  |      |    |                                               |             |                                  |  |
|               | Derrick      |  |      |    |                                               |             |                                  |  |
|               | Derrick      |  |      |    |                                               |             |                                  |  |
|               | Motorman     |  |      |    |                                               |             |                                  |  |
|               | Floor        |  |      |    |                                               |             |                                  |  |
|               | Floor        |  |      |    |                                               |             |                                  |  |
|               | Lease        |  |      |    |                                               |             |                                  |  |
|               | Accum Press. |  |      |    |                                               |             |                                  |  |
|               | Air Shut Off |  |      |    |                                               |             |                                  |  |
|               | Stab Valve   |  |      |    |                                               |             |                                  |  |
|               | Fire Ext.    |  |      |    |                                               |             |                                  |  |
|               | H2S          |  |      |    |                                               |             |                                  |  |
| NIGHT<br>CREW | Driller      |  |      |    |                                               |             |                                  |  |
|               | Derrick      |  |      |    |                                               |             |                                  |  |
|               | Derrick      |  |      |    |                                               |             |                                  |  |
|               | Motorman     |  |      |    |                                               |             |                                  |  |
|               | Floor        |  |      |    |                                               |             |                                  |  |
|               | Floor        |  |      |    |                                               |             |                                  |  |
|               | BOP          |  |      |    |                                               |             |                                  |  |
|               | Accum Press. |  |      |    |                                               |             |                                  |  |
|               | Air Shut Off |  |      |    |                                               |             |                                  |  |
|               | Stab Valve   |  |      |    |                                               |             |                                  |  |
|               | Fire Ext.    |  |      |    |                                               |             |                                  |  |
|               |              |  |      |    |                                               |             |                                  |  |
| PP&E Summary: |              |  |      |    | Near miss incidents - none to report          |             |                                  |  |
|               |              |  |      |    | Spills or emissions - none to report          |             |                                  |  |
|               |              |  |      |    | Today                                         | Cumulative  | Retest Operation Only            |  |
| Tangible      |              |  |      |    |                                               | \$474,100   |                                  |  |
| Intangible    |              |  |      |    | \$56,913                                      | \$757,706   | \$458,623                        |  |
| Total         |              |  |      |    |                                               | \$1,231,806 | \$458,623                        |  |
|               |              |  |      |    | Norward Energy Service (Baker Atlas Division) |             | Ross Rutherford / Martin Mueller |  |
|               |              |  |      |    | Dowell - Schlumberger Oilfield Services       |             | Carey Funk                       |  |
|               |              |  |      |    | RIG OR CONTRACTOR                             |             | CONTRACTOR REP.                  |  |

**JOB OBJECTIVE:** Install permanent wellhead. Conduct tubing inspection base logs. Pull Otis plug from tailpipe.  
Flow well for short term evaluation.

**DETAILS:** Move test eqt off location. Displace tubing to nitrogen. Install Barber back pressure valve.

Finish rig out of Norward well test equipment.

Move to location Dowell nitrogen pumper unit and Dowell N2 transport. Make up Dowell treating iron to wing valve. Pressure test surface piping to 30,000 kPa - OK. Open wellhead master valves - 23400 kPa SITP. Pump nitrogen to wellbore at max rate 140 SCM / minute. **Pump total 9500 SCM nitrogen to displace wellbore and tailpipe to nitrogen.** Stop pump. Shut master valves. Rig out Dowell.

Move to location Barber Wellhead service unit. Remove top 103.2 mm 35000 kPa swab valve and top 103.2 mm x 179.4 mm studded adaptor. Make up Barber lubricator and one way back pressure valve assembly on top of flow cross (note: swab valve diameter smaller than BPV OD).

Open wellhead master valves. Push in back pressure valve and lubricator rod through master valve bores. Rotate lubricator rod to **engage Barber back pressure valve into 177.8 mm Barber tubing hanger.** Continue rod rotation to unscrew rod from top of BPV. Bleed off wellhead pressure to zero kPa - OK.

Lay down lubricator and make up swab valve and studded adaptor onto top of wellhead. Chain and lock wellhead valve handles.

Well secure for long term suspension until production facilities constructed.

Day Number : 14

Company Representative : Curtis Triomphe

Chevron Canada Resources

PRODUCTION TOUR REPORT



Well Name: **Chevron etal Liard K-29**

WBSE# **RWWNC - R9023 - 500 (tubing changeout and retest)**

LSD : **K-29 (within grid area 60° 30' 123° 30')**

Date : **September 16, 1999**

Day Number : **13**

| DAY           | CREW         | FROM | TO | TIME SUMMARY                                                                                  |             |                                  |  |
|---------------|--------------|------|----|-----------------------------------------------------------------------------------------------|-------------|----------------------------------|--|
|               |              |      |    |                                                                                               |             |                                  |  |
| DAY<br>CREW   | Driller      |      |    |                                                                                               |             |                                  |  |
|               | Derrick      |      |    |                                                                                               |             |                                  |  |
|               | Derrick      |      |    |                                                                                               |             |                                  |  |
|               | Motorman     |      |    |                                                                                               |             |                                  |  |
|               | Floor        |      |    |                                                                                               |             |                                  |  |
|               | Floor        |      |    |                                                                                               |             |                                  |  |
|               | Lease        |      |    |                                                                                               |             |                                  |  |
|               | Accum Press. |      |    |                                                                                               |             |                                  |  |
|               | Air Shut Off |      |    |                                                                                               |             |                                  |  |
|               | Stab Valve   |      |    |                                                                                               |             |                                  |  |
|               | Fire Ext.    |      |    |                                                                                               |             |                                  |  |
|               | H2S          |      |    |                                                                                               |             |                                  |  |
| NIGHT<br>CREW | Driller      |      |    |                                                                                               |             |                                  |  |
|               | Derrick      |      |    |                                                                                               |             |                                  |  |
|               | Derrick      |      |    |                                                                                               |             |                                  |  |
|               | Motorman     |      |    |                                                                                               |             |                                  |  |
|               | Floor        |      |    |                                                                                               |             |                                  |  |
|               | Floor        |      |    |                                                                                               |             |                                  |  |
|               | BOP          |      |    |                                                                                               |             |                                  |  |
|               | Accum Press. |      |    |                                                                                               |             |                                  |  |
|               | Air Shut Off |      |    |                                                                                               |             |                                  |  |
|               | Stab Valve   |      |    |                                                                                               |             |                                  |  |
|               | Fire Ext.    |      |    |                                                                                               |             |                                  |  |
|               |              |      |    |                                                                                               |             |                                  |  |
|               |              |      |    | PP&E Summary:<br>Near miss incidents - none to report<br>Spills or emissions - none to report |             |                                  |  |
|               |              |      |    | Today                                                                                         | Cumulative  | Retest Operation Only            |  |
|               |              |      |    | Tangible                                                                                      | \$474,100   |                                  |  |
|               |              |      |    | Intangible                                                                                    | \$686,043   | \$386,960                        |  |
|               |              |      |    | Total                                                                                         | \$1,160,143 | \$386,960                        |  |
|               |              |      |    | Norward Energy Service (Baker Atlas Division)                                                 |             | Ross Rutherford / Martin Mueller |  |
|               |              |      |    |                                                                                               |             |                                  |  |
|               |              |      |    | RIG OR CONTRACTOR                                                                             |             | CONTRACTOR REP.                  |  |

JOB OBJECTIVE:

Install permanent wellhead. Conduct tubing inspection base logs. Pull Otis plug from tailpipe.  
Flow well for short term evaluation.

DETAILS:

Await final interpretation of Lee Tool LMR results. Start to rig out test equipment.

Wait for final interpretation of Lee Tool LMR gauge data - none of the data provides bottom hole pressure for the entire flow interval.

Begin rig out of Norward well test equipment for transport to (1) Chevron side of Liard River barge landing or (2) Norward Grande Prairie shop.



PRODUCTION TOUR REPORT

Well Name: **Chevron etal Liard K-29**  
WBSE# **RWWNC - R9023 - 500 (tubing changeout and retest)**

LSD : **K-29 (within grid area 60° 30' 123° 30')**  
Date : **September 15, 1999**  
Day Number : **12**

| DAY   | CREW         | FROM  | TO    | TIME SUMMARY                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |  |
|-------|--------------|-------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
|       |              |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
| DAY   | Driller      |       |       | Rig up slickline.<br>RIH. Tag gauges high. Could not latch. Hoist.<br>RIH impression block. Set down weight. Hoist.<br>RIH JDC tool. Stab down. Could not latch. Hoist.<br>RIH JDC with larger skirt. Latch gauge set #2. Hoist.<br>Lay down lubricator. Modern data to Calgary. Stand by for interpretation.<br>Pick up lubricator.<br>RIH. Jar gauges loose from setting depth. Hoist.<br>RIH. Latch and retrieve finned dart.<br>Rig out slickline. |  |  |  |
|       | Derrick      | 7:00  | 8:20  |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       | Derrick      | 8:20  | 9:00  |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       | Motorman     | 9:00  | 10:00 |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       | Floor        | 10:00 | 10:40 |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       | Floor        | 10:40 | 11:30 |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       | Lease        | 11:30 | 15:45 |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       | Accum Press. | 15:45 | 16:10 |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       | Air Shut Off | 16:10 | 16:45 |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       | Stab Valve   | 16:45 | 17:30 |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
| NIGHT | Fire Ext.    | 17:30 | 18:15 |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       | H2S          |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       | Driller      |       |       | PP&E Summary:<br>Near miss incidents - none to report<br>Spills or emissions - none to report                                                                                                                                                                                                                                                                                                                                                          |  |  |  |
|       | Derrick      |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       | Derrick      |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       | Motorman     |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       | Floor        |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       | Floor        |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       | BOP          |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       | Accum Press. |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       | Air Shut Off |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       | Stab Valve   |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
| CREW  | Fire Ext.    |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       |              |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       |              |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       |              |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       |              |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       |              |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       |              |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       |              |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       |              |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|       |              |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |

JOB OBJECTIVE: Install permanent wellhead. Conduct tubing inspection base logs. Pull Otis plug from tailpipe.  
Flow well for short term evaluation.

DETAILS: Pull Lee Tool LMR gauge set #2 and gauge set #1.

Move Lee Tool slickline unit to location. Rig up onto wellhead.

Run in hole Camco JDC tool to recover Lee Tool LMR gauge set #2. Tag wellbore obstruction at 2452 mKB - xover from 177.8 mm to 114.3 mm. Work tool string to get past obstruction (?) down to 2470 meters. No spang jar action at run depth - suspect that wellbore obstruction may be beside slickline tool string. Hoist tools.

Make up 56.64 mm OD lead impression block. RIH - did not tag any obstruction at 177.8 mm x 114.3 mm xover. RIH to 2470 meters - jar down to create impression. Hoist tools - found impression of LMR pressure gauge fishing neck - apparently tools were found higher on slickline run #1, but worked lower to original setting depth.

Make up Camco JDC tool. RIH - tagged top of LMR gauges at correct depth 2470 meters. Set weight down to engage tool onto fishing neck. Hoist tools - no LMR recorders; failed to engage onto top of tools.

Make up Camco JDC tool with larger 55.88 mm OD skirt. RIH - set weight down to engage onto neck of LMR gauges. Pull gauges off bottom 11:12 AM September 15 1999. Hoist tools - found tandem holddown at top of LMR gauges damaged. One of two arms broken from each of the two holddown assemblies (ie - 2 small arms left in wellbore). Sliding holddown mandrel bent at 20 degrees between two holddown assemblies. Suspect that holddown assembly ineffective at high gas velocity inside 88.9 mm tailpipe during well flow period - holddown likely effective at first, but then slid upwards in 88.9 mm tubing joint into larger ID Baker packer release extension; where arms were sheared off allowing LMR recorders to float upwards into 177.8 mm production tubing string.

Download stored information from LMR gauges - bottom gauge quit 55 minutes into flow period (likely when holddown failed). Unable to download any data from top gauge - may be able to retrieve data from gauge memory at Lee Tool Red Deer shop.

RIH - latch onto Lee Tool LMR gauge set #1. Pull up on tool string - stuck in hole. Jar LMR gauges with spang jars 4 times to free from setting depth 2474 mKB (on top of finned dart set on Otis R nipple profile). Pull gauges off bottom 16:30 hours September 15 1999. Hoist tools.

Download gauge data - bottom gauge memory contained only sporadic accurate data, top gauge memory contained accurate pressure / time data until hour 29 (approx start of last flow test rate) when a ten hour period of flow / buildup data is missing - none of four LMR gauges successful in recording flow data I.

RIH. Latch onto Lee Tool finned dart (modified with flow holes through center stem and through side fins) sitting on top of Otis R nipple at 2477.43 mKB. Hoist tool string - lay down dart.

Rig slickline equipment off wellhead. Make up wellhead cap onto top of 103.2 mm swab valve. Send LMR data to Calgary for initial interpretation. Suspend operations overnight before further operations.



PRODUCTION TOUR REPORT

Well Name: Chevron etal Liard K-29 LSD : K-29 (within grid area 60° 30' 123° 30')  
WBSE# RWWNC - R9023 - 500 (tubing changeout and retest) Date : September 14, 1999  
Day Number : 11

| DAY                                           | CREW         | CREW                             |             | FROM                  | TO    | TIME SUMMARY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|-----------------------------------------------|--------------|----------------------------------|-------------|-----------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-------|--|------------|-----------------------|--|----------|--|-----------|--|--|----------|-----------|-----------|-------|--|-------------|-----------|--|-----------------------------------------------|--|----------------------------------|--|--|-------------------|--|-----------------|--|--|
|                                               |              |                                  |             |                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Driller      |                                  |             |                       |       | <p>Rig in Dowell skid to Weatherford manifold header.</p> <p>Pressure test Norward surface piping to 1400 kPa / 30000 kPa for 20 minutes each test.</p> <p>Prepare Norward equipment for flow test - final equipment adjustments etc.</p> <p>Conduct safety meeting.</p> <p>Flow well desired rate #1.</p> <p>Decrease choke #1 to flow well desired rate #2 - 1550 e3m3/day target.</p> <p>Decrease choke #1 to flow well desired rate #3 - 960 e3m3/day target.</p> <p>Shut well in. Flow complete.</p> <p>Note: Casing valve tied into 64 m3 tank to vent annular thermal expansion.</p> |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Derrick      |                                  |             | 8:00                  | 9:00  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Derrick      |                                  |             | 9:00                  | 10:00 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Motorman     |                                  |             | 10:00                 | 14:00 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Floor        |                                  |             | 14:00                 | 14:15 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Floor        |                                  |             | 14:15                 | 20:30 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Lease        |                                  |             | 20:30                 | 22:00 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Accum Press. |                                  |             | 22:00                 | 23:59 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Air Shut Off |                                  |             | 23:59                 |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Stab Valve   |                                  |             |                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Fire Ext.    |                                  |             |                       |       | <p>PP&amp;E Summary: Safety meeting - well test parameters, safety eqt, hazards present.</p> <p>Near miss incidents - none to report</p> <p>Spills or emissions - none to report</p>                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | H2S          |                                  |             |                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Driller      |                                  |             |                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Derrick      |                                  |             |                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Derrick      |                                  |             |                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Motorman     |                                  |             |                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Floor        |                                  |             |                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Floor        |                                  |             |                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | BOP          |                                  |             |                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Accum Press. |                                  |             |                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Air Shut Off |                                  |             |                       |       | <table><tr><th colspan="2">Today</th><th>Cumulative</th><th>Retest Operation Only</th><th></th></tr><tr><td rowspan="2">Tangible</td><td></td><td>\$474,100</td><td></td><td rowspan="2"></td></tr><tr><td>\$17,870</td><td>\$608,263</td><td>\$309,180</td></tr><tr><td>Total</td><td></td><td>\$1,082,363</td><td>\$309,180</td><td></td></tr><tr><td colspan="2">Norward Energy Service (Baker Atlas Division)</td><td colspan="3">Ross Rutherford / Martin Mueller</td></tr><tr><td colspan="2">RIG OR CONTRACTOR</td><td colspan="3">CONTRACTOR REP.</td></tr></table>                 |  |  |  | Today |  | Cumulative | Retest Operation Only |  | Tangible |  | \$474,100 |  |  | \$17,870 | \$608,263 | \$309,180 | Total |  | \$1,082,363 | \$309,180 |  | Norward Energy Service (Baker Atlas Division) |  | Ross Rutherford / Martin Mueller |  |  | RIG OR CONTRACTOR |  | CONTRACTOR REP. |  |  |
|                                               | Today        |                                  | Cumulative  | Retest Operation Only |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Tangible     |                                  | \$474,100   |                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               |              | \$17,870                         | \$608,263   | \$309,180             |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
|                                               | Total        |                                  | \$1,082,363 | \$309,180             |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
| Norward Energy Service (Baker Atlas Division) |              | Ross Rutherford / Martin Mueller |             |                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
| RIG OR CONTRACTOR                             |              | CONTRACTOR REP.                  |             |                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
| Stab Valve                                    |              |                                  |             |                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |
| Fire Ext.                                     |              |                                  |             |                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |       |  |            |                       |  |          |  |           |  |  |          |           |           |       |  |             |           |  |                                               |  |                                  |  |  |                   |  |                 |  |  |

JOB OBJECTIVE: Install permanent wellhead. Conduct tubing inspection base logs. Pull Otis plug from tailpipe.  
Flow well for short term evaluation.

DETAILS: Flow well to evaluate.

Complete final rig in of Norward Energy Services well test quipment. Equipment consists of two separate flow test trains - each train connected to one side of 179.4 mm Barber wellhead flow cross. Test train #1 consists of ESD valve, 76 mm 69000 kPa flanged flowline, choke manifold / line heater LH25 skid, high pressure TU29 separator, low pressure separator TK25 flowback vessel and 203 mm x 27 meter flare stack. Test train #2 consists of ESD valve, 76.2 mm 69000 kPa Graylok flowline, Weatherford 35000 kPa drilling rig choke manifold, low pressure flowback vessel TK37 36 m3 capacity 203 mm meter run, 203 mm x 29 meter flare stack. Norward DARTS pressure and temperature electronic monitoring package rigged in to monitor directly on top of wellhead, and downstream on each test train flowline.

Pressure test Norward piping to 1400 kPa low, 30000 kPa high with Dowell pump skid. Conduct safety meeting with Norward test crew.

Open well to flow as follows:

|       | Tubing<br>kPa                                                                                 | Gas Rate<br>e3m3/day                                                                                                   | Cum Gas<br>e3m3       | Cond Rate<br>m3 / day | Water Rate<br>m3 / day | WGR<br>m3/e3m3 | Comments |
|-------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|------------------------|----------------|----------|
| 14:15 | 17800                                                                                         | Open well to test train #2 to initiate flow from well until semi stable. Increase choke in increments until wide open. |                       |                       |                        |                |          |
| 14:30 | 15435                                                                                         | Open well to test train #1 to bring flowrate up to desired test rate. Increase choke in increments until wide open.    |                       |                       |                        |                |          |
| 14:45 |                                                                                               |                                                                                                                        |                       |                       |                        |                |          |
| 15:00 | 15255                                                                                         | 1590                                                                                                                   | Gas meters in service |                       | 912                    | 5.159          |          |
| 15:30 | 13906                                                                                         | 1941                                                                                                                   | 42.4                  | 0.0                   | 204                    | 0.105          |          |
| 16:00 | 11138                                                                                         | 2059                                                                                                                   | 85.8                  | 0.0                   | 418                    | 0.203          |          |
| 16:30 | 10867                                                                                         | 2059                                                                                                                   | 128.9                 | 0.0                   | 154                    | 0.075          |          |
| 17:00 | 10986                                                                                         | 2072                                                                                                                   | 172.1                 | 0.0                   | 62                     | 0.030          |          |
| 17:30 | 11093                                                                                         | 2154                                                                                                                   | 215.9                 | 0.0                   | 115                    | 0.053          |          |
| 18:00 | 11047                                                                                         | 2158                                                                                                                   | 261.0                 | 0.0                   | 86                     | 0.040          |          |
| 18:30 | 11205                                                                                         | 2198                                                                                                                   | 306.5                 | 0.0                   | 86                     | 0.039          |          |
| 19:00 | 11328                                                                                         | 2233                                                                                                                   | 352.4                 | 0.0                   | 51                     | 0.023          |          |
| 19:30 | 11459                                                                                         | 2261                                                                                                                   | 399.2                 | 0.0                   | 62                     | 0.028          |          |
| 20:00 | 11419                                                                                         | 2271                                                                                                                   | 446.3                 | 0.0                   | 55                     | 0.024          |          |
| 20:30 | 11312                                                                                         | 2249                                                                                                                   | 493.3                 | 0.0                   | 57                     | 0.025          |          |
| 20:30 | Decrease choke size test train #1 to lower flowrate to desired rate #2                        |                                                                                                                        |                       |                       |                        |                |          |
| 21:00 | 17812                                                                                         | 1709                                                                                                                   | 531.8                 | 0.0                   | 24                     | 0.014          |          |
| 21:30 | 17843                                                                                         | 1676                                                                                                                   | 566.8                 | 0.0                   | 20                     | 0.012          |          |
| 22:00 | 20382                                                                                         | 1676                                                                                                                   | 601.7                 | 0.0                   | 19                     | 0.011          |          |
| 22:00 | Decrease choke size test train #1; shut in test train #2 to lower flowrate to desired rate #3 |                                                                                                                        |                       |                       |                        |                |          |
| 22:30 | 22005                                                                                         | 961                                                                                                                    | 621.7                 | 0.0                   | 5                      | 0.005          |          |
| 23:00 | 22072                                                                                         | 952                                                                                                                    | 641.6                 | 0.0                   | 10                     | 0.010          |          |
| 23:30 | 22084                                                                                         | 950                                                                                                                    | 661.4                 | 0.0                   | 10                     | 0.010          |          |
| 23:59 | 22091                                                                                         | 952                                                                                                                    | 681.2                 | 0.0                   | 10                     | 0.010          |          |
| 23:59 | Shut well in. Flow evaluation complete.                                                       |                                                                                                                        |                       |                       |                        |                |          |



PRODUCTION TOUR REPORT

Well Name: **Chevron etal Liard K-29**  
WBSE# **RWWNC - R9023 - 500 (tubing changeout and retest)**

LSD : **K-29 (within grid area 60° 30' 123° 30')**  
Date : **September 13, 1999**  
Day Number : **10**

| 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PRODUCTION TOUR REPORT

Well Name: **Chevron etal Liard K-29**  
WBSE# **RWWNC - R9023 - 500 (tubing changeout and retest)**

LSD : **K-29 (within grid area 60° 30' 123° 30')**  
Date : **September 12, 1999**  
Day Number : **9**

| CREW       |              | FROM  | TO    | TIME SUMMARY                                                                                                      |  |                           |                       |  |
|------------|--------------|-------|-------|-------------------------------------------------------------------------------------------------------------------|--|---------------------------|-----------------------|--|
| DAY        | Driller      | 8:00  | 12:30 | RIH 101 mm wireline grab. Latch on to fish. Jar for 15 minutes. Pulled wire loose. Hoist. Recovered 1 meter wire. |  |                           |                       |  |
|            | Derrick      | 12:30 | 13:20 | Make up 88.9 mm wireline grab. RIH. Jar for 30 minutes. Hoist - no wireline grab recovered; left on bottom.       |  |                           |                       |  |
|            | Derrick      | 13:20 | 14:00 | Repin JDC pulling tool. RIH. Latch onto wire grab fishing neck. Jar for 20 minutes. Hoist - no wire grab.         |  |                           |                       |  |
|            | Motorman     | 14:00 | 15:45 | Make up heavier 88.9 mm JDC wireline assembly. RIH. Could not latch onto fishing neck of wireline grab. Hoist.    |  |                           |                       |  |
|            | Floor        | 15:45 | 17:45 | RIH with longer extension in 88.9 mm JDC assembly. Latch fish. Jar for 30 minutes. Tool sheared. Hoist.           |  |                           |                       |  |
|            | Floor        | 17:45 | 19:45 | Make up 88.9 mm JDC with hard steel pin; and 101 mm JDC with soft steel pin. RIH. Could not latch. Hoist.         |  |                           |                       |  |
|            | Lease        | 19:45 | 20:30 | Make up 88.9 mm JDC with soft steel pin. RIH. Jar for 10 minutes - pull wire from fish. Hoist.                    |  |                           |                       |  |
|            | Accum Press. | 20:30 | 21:00 | Attempt to close wellhead. Secure well. Night watch on location overnight.                                        |  |                           |                       |  |
|            | Air Shut Off | 21:00 |       |                                                                                                                   |  |                           |                       |  |
|            | Stab Valve   | 0:00  |       |                                                                                                                   |  |                           |                       |  |
| NIGHT      | Fire Ext.    | 0:00  |       |                                                                                                                   |  |                           |                       |  |
|            | H2S          | 0:00  |       |                                                                                                                   |  |                           |                       |  |
|            |              | 0:00  |       |                                                                                                                   |  |                           |                       |  |
|            | Driller      |       |       |                                                                                                                   |  |                           |                       |  |
|            | Derrick      |       |       |                                                                                                                   |  |                           |                       |  |
|            | Derrick      |       |       |                                                                                                                   |  |                           |                       |  |
|            | Motorman     |       |       |                                                                                                                   |  |                           |                       |  |
|            | Floor        |       |       |                                                                                                                   |  |                           |                       |  |
|            | Floor        |       |       |                                                                                                                   |  |                           |                       |  |
|            | BOP          |       |       |                                                                                                                   |  |                           |                       |  |
| CREW       | Accum Press. |       |       |                                                                                                                   |  |                           |                       |  |
|            | Air Shut Off |       |       |                                                                                                                   |  |                           |                       |  |
|            | Stab Valve   |       |       |                                                                                                                   |  |                           |                       |  |
|            | Fire Ext.    |       |       |                                                                                                                   |  |                           |                       |  |
|            |              |       |       |                                                                                                                   |  |                           |                       |  |
|            |              |       |       |                                                                                                                   |  |                           |                       |  |
|            |              |       |       |                                                                                                                   |  |                           |                       |  |
|            |              |       |       |                                                                                                                   |  |                           |                       |  |
|            |              |       |       |                                                                                                                   |  |                           |                       |  |
|            |              |       |       |                                                                                                                   |  |                           |                       |  |
|            |              |       |       | Today                                                                                                             |  | Cumulative                | Retest Operation Only |  |
| Tangible   |              |       |       |                                                                                                                   |  | \$474,100                 |                       |  |
| Intangible |              |       |       | \$38,660                                                                                                          |  | \$566,733                 | \$267,650             |  |
| Total      |              |       |       |                                                                                                                   |  | \$1,040,833               | \$267,650             |  |
|            |              |       |       | Lee Tool (Schlumberger Division)                                                                                  |  | Don Hunt / Dale Sallstrom |                       |  |
|            |              |       |       |                                                                                                                   |  |                           |                       |  |
|            |              |       |       | RIG OR CONTRACTOR                                                                                                 |  | CONTRACTOR REP.           |                       |  |



PRODUCTION TOUR REPORT

Well Name: **Chevron etal Liard K-29**  
WBSE# **RWWNC - R9023 - 500 (tubing changeout and retest)**

LSD : **K-29 (within grid area 60° 30' 123° 30')**  
Date : **September 11, 1999 (and Sept 10 99)**  
Day Number : **7 and 8**

| DAY   | CREW         | FROM       | TO    | TIME SUMMARY                                                                                              |             |                           |  |
|-------|--------------|------------|-------|-----------------------------------------------------------------------------------------------------------|-------------|---------------------------|--|
|       |              |            |       |                                                                                                           |             |                           |  |
| DAY   | Driller      |            |       | September 10 1999                                                                                         |             |                           |  |
|       | Derrick      |            |       | Operations suspended - awaiting delivery of specialized wireline equipment from Lee Tool Red Deer.        |             |                           |  |
|       | Derrick      |            |       |                                                                                                           |             |                           |  |
|       | Motorman     |            |       | September 11 1999                                                                                         |             |                           |  |
|       | Floor        | 8:00       | 12:30 | Wait for truck to arrive on barge. Rig up 177.8 mm wireline BOPE and lubricator.                          |             |                           |  |
|       | Floor        | 12:30      | 13:20 | Make up wireline fishing tool string and wire grab.                                                       |             |                           |  |
|       | Lease        | 13:20      | 14:00 | RIH. Set weight on bottom - latch onto fish first try.                                                    |             |                           |  |
|       | Accum Press. | 14:00      | 14:50 | Work tools to jar on fish - pull loose with fish still in wireline grab.                                  |             |                           |  |
|       | Air Shut Off | 14:50      | 16:15 | Hoist wireline. Lay down lubricator - recovered 30 meters electric wireline.                              |             |                           |  |
|       | Stab Valve   | 16:15      | 17:30 | RIH 88.9 mm OD impression block. Hoist. Found wire markings on side edge of block.                        |             |                           |  |
|       | Fire Ext.    | 17:30      | 19:00 | Make up wireline grab. RIH. Jar for 20 minutes. Hoist - recovered 1 meter wire.                           |             |                           |  |
|       | H2S          | 19:00      | 21:40 | RIH wireline grab. Latch on to fish. Jar for 1.5 hours. Pulled wire loose. Hoist. Recovered 1 meter wire. |             |                           |  |
| NIGHT |              | 21:40      | 22:30 | Secure well for night. Tie new wireline rope socket. Repin pulling tool.                                  |             |                           |  |
|       | Driller      |            |       |                                                                                                           |             |                           |  |
|       | Derrick      |            |       |                                                                                                           |             |                           |  |
|       | Derrick      |            |       |                                                                                                           |             |                           |  |
|       | Motorman     |            |       |                                                                                                           |             |                           |  |
|       | Floor        |            |       | PP&E Summary:                                                                                             |             |                           |  |
|       | Floor        |            |       | Near miss incidents - Sept 10 99 C&W Trucking swamper slipped from truck deck; sore ribs and wrist.       |             |                           |  |
|       | Floor        |            |       | Spills or emissions - none to report                                                                      |             |                           |  |
|       | BOP          |            |       | Today                                                                                                     | Cumulative  | Retest Operation Only     |  |
|       | Accum Press. | Tangible   |       |                                                                                                           | \$474,100   |                           |  |
|       | Air Shut Off | Intangible |       | \$38,250                                                                                                  | \$528,073   | \$228,990                 |  |
|       | Stab Valve   | Total      |       |                                                                                                           | \$1,002,173 | \$228,990                 |  |
|       | Fire Ext.    |            |       | Lee Tool (Schlumberger Division)                                                                          |             | Don Hunt / Dale Sallstrom |  |
|       |              |            |       | RIG OR CONTRACTOR                                                                                         |             | CONTRACTOR REP.           |  |

JOB OBJECTIVE: Install permanent wellhead. Conduct tubing inspection base logs. Pull Otis plug from tailpipe.  
Flow well for short term evaluation.

DETAILS: Wait for wireline fishing tools.  
Fish out cut off electric wireline.

0800 hours - check tubing pressure @ 15200 kPa (inhibited fresh water from tubing string inverting into open hole interval - pressure increasing at a rate of 200 kPa per hour).

Unload and make up Alberta Subsurface Tools rental 177.8 mm wireline BOP assembly onto wellhead. Make up 2 joints 177.8 mm lubricator and 2 joints 88.9 mm lubricator c/w Lee Tool grease injection eqt. Make up wireline fishing tool string consisting of CCL, 54 mm OD weight bars, 54 mm hydraulic and spang jars, 101 mm JDC pulling tool and 101 mm three arm slotted wireline grab (with internal finger grabs). Run assembly in hole. Set down onto suspected accumulation of cut off electric wireline at 2453 mKB. Pull up on tools - latched onto wire first attempt. Work tools for 1 hour to jar on stuck wireline to pull wireline fish free. Hoist wireline tools - weight indicator showing tool string 50 dN heavier. Lay down lubricator - **found 30 meters wireline wrapped into wireline grab** - with a 1 meter stub hanging from the bottom. Top end of wire showed markings of Kinley cable cut, bottom end of wire had one loop (ie as in a half hitch knot) 50 mm in diameter - perhaps indicating that the loop at one time was wrapped around the stuck perforating gun tool string top (?).

Make up 88.9 mm OD impression block onto wireline tool string. Run assembly into hole. Tag top of wellbore fish at 2454 meters - slightly lower than previous tag; still inside 114.3 mm Incoloy joint immediately above 244.5 mm Guiberson HT permanent packer. Jar down to create impression on lead face of block. Hoist - found wire markings on side edge of impression block; but no markings of the fish neck of the Kinley cable cutter, or of the perforating assembly.

Make up 101 mm three arm internal wire grab as previous. RIH. Latch onto wire on first attempt. Jar up for 20 minutes - pulled some wire free from fish. Hoist tool string - found 1 meter of wire tangled inside wire grab.

RIH with 101 mm wire grab. Set down weight onto wire at 2455 meters - latched onto wire on first attempt. Jar for 1.5 hours - working tools 6 meters deeper to 2462 meters (near bottom of 114.3 mm Incoloy permanent packer tailpipe joint). Pulled some wire free from fish. Hoist tool string - found 2 sections (one 1 meter piece, one 0.5 meter piece) of wire inside / wrapped around wire grab.

Secure well for night. Ready to continue fishing operations tomorrow.





PRODUCTION TOUR REPORT

Well Name: Chevron etal Liard K-29  
WBSE# RWWNC - R9023 - 500 (tubing changeout and retest)

LSD : K-29 (within grid area 60° 30' 123° 30')  
Date : September 9, 1999  
Day Number : 6

| CREW         |              | FROM  | TO                                                                                            | TIME SUMMARY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                  |                       |  |
|--------------|--------------|-------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------|-----------------------|--|
| DAY          | Driller      |       |                                                                                               | Work stuck tools - perforating gun stuck same as yesterday.<br>Close BOP's to make up Kinley cutter onto Lee Tool wireline - BOP's leaking.<br>Open BOP's / close BOP's - bleed off lubricator; OK.<br>Install Kinley cutter onto wireline.<br>Open BOP's to drop cutter. Wait for cutter to drop to bottom.<br>Hoist wireline. Lay down lubricator - no cutter on cut off end of wireline.<br>Make up new wireline rope socket and braided line fishing tool string.<br>RIH - stab down with overshot on bottom. Hoist tools - examine markings on overshot shoe.<br>RIH - stab down with impression block on bottom. Hoist tools - examine markings on impression block. |  |                                  |                       |  |
|              | Derrick      | 8:00  | 8:15                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
|              | Derrick      | 8:15  | 9:50                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
|              | Motorman     | 9:50  | 10:50                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
|              | Floor        | 10:50 | 12:20                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
|              | Floor        | 12:20 | 13:25                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
|              | Lease        | 13:25 | 14:45                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
|              | Accum Press. | 14:45 | 16:15                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
|              | Air Shut Off | 16:15 | 17:50                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
|              | Stab Valve   | 17:50 | 19:00                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
| Fire Ext.    |              |       | PP&E Summary:<br>Near miss incidents - none to report<br>Spills or emissions - none to report |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
| H2S          |              |       |                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
| Driller      |              |       |                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
| Derrick      |              |       |                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
| Derrick      |              |       |                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
| Motorman     |              |       |                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
| Floor        |              |       |                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
| Floor        |              |       |                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
| BOP          |              |       |                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
| Accum Press. |              |       |                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
| NIGHT        | Air Shut Off |       |                                                                                               | Tangible Intangible Total                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                  |                       |  |
|              | Stab Valve   |       |                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
|              | Fire Ext.    |       |                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                  |                       |  |
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|              |              |       |                                                                                               | Today                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | Cumulative                       | Retest Operation Only |  |
|              |              |       |                                                                                               | \$48,538                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | \$474,100                        | \$190,740             |  |
|              |              |       |                                                                                               | \$963,923                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | \$190,740                        |                       |  |
|              |              |       |                                                                                               | Lee Tool (Schlumberger Division)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | Don Hunt / Dale Sallstrom        |                       |  |
|              |              |       |                                                                                               | Norward Energy Services                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Ross Rutherford / Martin Mueller |                       |  |
|              |              |       |                                                                                               | RIG OR CONTRACTOR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | CONTRACTOR REP.                  |                       |  |

# PRODUCTION TOUR REPORT



**Day Number :** 5

| DAY          | CREW         | FROM    | TO    | TIME SUMMARY                                                    |  |  |  |
|--------------|--------------|---------|-------|-----------------------------------------------------------------|--|--|--|
|              |              |         |       |                                                                 |  |  |  |
| CREW         | Driller      |         |       |                                                                 |  |  |  |
|              | Derrick      | 8:00    | 8:15  | Prepare wireline equipment.                                     |  |  |  |
|              | Derrick      | 8:15    | 9:50  | Work tool string - pull free from wellbore debris. Hoist tools. |  |  |  |
|              | Motorman     | 9:50    | 10:50 | Run gauge ring.                                                 |  |  |  |
|              | Floor        | 10:50   | 12:30 | Run bailer.                                                     |  |  |  |
|              | Floor        | 12:30   | 13:30 | Run bailer.                                                     |  |  |  |
|              | Lease        | 13:30   | 16:00 | Change over to electric wireline equipment. Make up perf gun.   |  |  |  |
|              | Accum Press. | 16:00   | 18:00 | RIH. Log onto depth. Perforate tailpipe interval.               |  |  |  |
|              | Air Shut Off | 18:00   | 20:30 | Work stuck tools. Shut down for night.                          |  |  |  |
|              | Stab Valve   |         |       |                                                                 |  |  |  |
|              | Fire Ext.    |         |       |                                                                 |  |  |  |
|              | H2S          |         |       |                                                                 |  |  |  |
|              | NIGHT        | Driller |       |                                                                 |  |  |  |
| Derrick      |              |         |       |                                                                 |  |  |  |
| Derrick      |              |         |       |                                                                 |  |  |  |
| Motorman     |              |         |       |                                                                 |  |  |  |
| Floor        |              |         |       |                                                                 |  |  |  |
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| BOP          |              |         |       |                                                                 |  |  |  |
| Accum Press. |              |         |       |                                                                 |  |  |  |
| Air Shut Off |              |         |       |                                                                 |  |  |  |
| Stab Valve   |              |         |       |                                                                 |  |  |  |
| Fire Ext.    |              |         |       |                                                                 |  |  |  |
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**DETAILS:** Free stuck slickline tools. Bail well debris with little progress. Perforate 88.9 mm tailpipe above debris.

Close wireline BOP's for night. Secure well with Norward test crew night watch. Order out additional wireline cutter equipment for morning.

Company Representative : Curtis Triomphe



PRODUCTION TOUR REPORT

Well Name: Chevron etal Liard K-29  
WBSE# RWWNC - R9023 - 500 (tubing changeout and retest)

LSD : K-29 (within grid area 60° 30' 123° 30')  
Date : September 7, 1999  
Day Number : 4

| DAY                   | CREW         | FROM       | TO    | TIME SUMMARY                                                                                                                                                                                                                                                                                                        |  |                                  |  |
|-----------------------|--------------|------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------|--|
|                       |              |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
| D<br>A<br>Y           | Driller      | 8:00       | 8:30  | Rig up Lee Tool slickline unit.<br>Make 6 bailer runs.<br>RIH bailer run #7. Work through debris to 2614 m. Pull up to 2583 m - stuck in hole.<br>Work tool string - could not free.<br>Secure well for night.<br><br>PP&E Summary:<br>Near miss incidents - none to report<br>Spills or emissions - none to report |  |                                  |  |
|                       | Derrick      | 8:30       | 14:30 |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       | Motorman     | 14:30      | 15:30 |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       | Floor        | 15:30      | 18:30 |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       | Floor        | 18:30      | 19:00 |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       | Lease        |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       | Accum Press. |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       | Air Shut Off |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       | Stab Valve   |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       | Fire Ext.    |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
| N<br>I<br>G<br>H<br>T | H2S          |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       | Driller      |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       | Derrick      |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       | Derrick      |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       | Motorman     |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       | Floor        |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       | Floor        |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       | BOP          |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       | Accum Press. |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       | Air Shut Off |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
| C<br>R<br>E<br>W      | Stab Valve   |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       | Fire Ext.    |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |
|                       |              |            |       | Today                                                                                                                                                                                                                                                                                                               |  | Cumulative                       |  |
|                       |              | Tangible   |       |                                                                                                                                                                                                                                                                                                                     |  | \$474,100                        |  |
|                       |              | Intangible |       | \$18,010                                                                                                                                                                                                                                                                                                            |  | \$416,930                        |  |
|                       |              | Total      |       |                                                                                                                                                                                                                                                                                                                     |  | \$891,030                        |  |
|                       |              |            |       | Lee Tool (Schlumberger Division)                                                                                                                                                                                                                                                                                    |  | Don Hunt                         |  |
|                       |              |            |       | Norward Energy Services                                                                                                                                                                                                                                                                                             |  | Ross Rutherford / Martin Mueller |  |
|                       |              |            |       | RIG OR CONTRACTOR                                                                                                                                                                                                                                                                                                   |  | CONTRACTOR REP.                  |  |
|                       |              |            |       |                                                                                                                                                                                                                                                                                                                     |  |                                  |  |

JOB OBJECTIVE: Install permanent wellhead. Conduct tubing inspection base logs. Pull Otis plug from tailpipe.  
Flow well for short term evaluation.

DETAILS: Bail wellbore debris from 88.9 mm tailpipe at 2583 meters slickline measure.

Continue to rig up Norward test equipment.

Pick up Lee Tool slickline equipment. Make up stroke bailer as previous day. Run in hole and tag soft wellbore debris at 2583 meters. Stroke bailer to fill. Hoist bailer - recovered baler full of black / brownish moist sticky clay based (?) wellbore fill.

Made 6 bailer runs - recovering same amount each time.

On 7th bailer run - worked bailer past 2583 meters slickline measure. Work tools up and down through 2583 interval - OK. Continue RIH to 2614 meters - tagged again on wellbore debris. Stroke tools to fill bailer. Hoist bailer - pulled tight at 2583 meters - tools stuck in hole. Work slickline tool string - could not go down, could not go up. Continue to work slickline tool string - no evidence of spang jar action; tools apparently stuck above spang jars.

Suspect that sticky wellbore debris fell in around top of tools when pulling up through interval at 2583 meters.

Continue to work tools - could not work free. Pull 400 dN tension into wireline (to safe working limit of 2.3 mm slickline). No tool string movement in 1 hour.

Secure well for night. Order out Kinley timed wireline cutter (to cut slickline from stuck tools) and perforating equipment (to perforate 88.9 mm tailpipe) above wellbore fish.



PRODUCTION TOUR REPORT

Well Name: Chevron etal Liard K-29  
WBSE# RWWNC - R9023 - 500 (tubing changeout and retest)

LSD : K-29 (within grid area 60° 30' 123° 30')  
Date : September 6, 1999  
Day Number : 3

| DAY                   | CREW         | FROM  | TO    | TIME SUMMARY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  |
|-----------------------|--------------|-------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
|                       |              |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
| D<br>A<br>Y           | Driller      |       |       | Rig Norward test equipment.<br>Rig up Lee Tool slickline unit.<br>Conduct safety meeting. Pressure test wireline lubricator and wellhead flow cross.<br>RIH Otis GX pulling tool to latch Lee Tool junk catcher - tagged out at 2583 meters. Hoist tools.<br>RIH Lee Tool stroke bailer. Tag debris at 2583 meters; stroke bailer to fill. Hoist.<br>RIH Lee Tool stroke bailer. Tag debris at 2583 meters; stroke bailer to fill. Hoist.<br><br>PP&E Summary:<br>Near miss incidents - none to report<br>Spills or emissions - none to report |  |  |  |
|                       | Derrick      | 8:00  | 14:00 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       | Derrick      | 14:00 | 8:45  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       | Motorman     | 8:45  | 13:30 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       | Floor        | 13:30 | 14:00 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       | Floor        | 14:00 | 19:00 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       | Lease        | 19:00 | 20:30 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       | Accum Press. | 20:30 | 21:00 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       | Air Shut Off |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       | Stab Valve   |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
| N<br>I<br>G<br>H<br>T | Driller      |       |       | PP&E Summary:<br>Near miss incidents - none to report<br>Spills or emissions - none to report                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |  |  |
|                       | Derrick      |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       | Derrick      |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       | Motorman     |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       | Floor        |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       | Floor        |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       | BOP          |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       | Accum Press. |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       | Air Shut Off |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       | Stab Valve   |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
| C<br>R<br>E<br>W      | Fire Ext.    |       |       | TodayCummulative<br>Tangible\$474,100<br>Intangible\$19,010\$398,920<br>Total\$873,020<br>Lee Tool (Schlumberger Division)Don Hunt<br>Norward Energy ServicesRoss Rutherford / Martin Mueller<br>RIG OR CONTRACTORCONTRACTOR REP.                                                                                                                                                                                                                                                                                                              |  |  |  |
|                       |              |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       |              |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
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|                       |              |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       |              |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       |              |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       |              |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |
|                       |              |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  |

JOB OBJECTIVE: Install permanent wellhead. Conduct tubing inspection base logs. Pull Otis plug from tailpipe.  
Flow well for short term evaluation.

DETAILS: Continue to rig up test equipment. Rig up Lee Tool slickline. Attempt to pull Otis plug - tagged wellbore debris.

Continue to rig up Norward test equipment.

Move Lee Tool slickline equipment to location. Make up slickline tool string and lubricator. Conduct safety meeting. Pressure test lubricator and flange with methanol water to 1400 kPa low / 28,000 kPa high for 10 minutes each test.

Make up and RIH Otis GS pulling tool to latch onto top of Lee Tool junk catcher landed on top of Otis 65.02 mm PRN plug at tailpipe bottom 2650.34 meters KB. Ran in tools to 2583 meters slickline measure - tagged wellbore debris (67 meters above tailpipe bottom); could not get deeper. Hoist tool string.

Make up 42 mm OD slickline stroke bailer. RIH - tag at same spot 2583 meters slickline measure. Stroke bailer to fill. Hoist bailer - barrell filled with 2 cups soft, moist, dark brown / black clay material (not entrained with pipe dope or other contaminants).

Make up bailer (with 2 barrell sections). Run in hole - wireline depth counter quit at 900 meters. Repair depth counter cable; continue RIH. Hoist bailer - recovered same wellbore debris as previous.

Secure well for night. Will continue to bail wellbore debris - suspect that debris is a short bridge in wellbore deviated build section.



PRODUCTION TOUR REPORT

Well Name: **Chevron etal Liard K-29**  
WBSE# **RWWNC - R9023 - 500 (tubing changeout and retest)**

LSD : **K-29 (within grid area 60° 30' 123° 30')**  
Date : **September 5, 1999**  
Day Number : **2**

|       | CREW         |  | FROM  | TO    | TIME SUMMARY                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |             |                                  |  |
|-------|--------------|--|-------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------------------------|--|
|       |              |  |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
| DAY   | Driller      |  | 8:00  | 8:30  | Rig Baker Atlas equipment onto wellhead.<br>Make up microVertilog.<br>Conduct 177.8 mm tubing inspection (logging in, and out until tool failure).<br>Rig out Baker Atlas equipment.<br>Rig Norward test equipment onto wellhead.<br><br>Note: Norward Energy Services crew on location spotting test equipment with CW Trucking picker, Mullen Commander and Beaver track hoe.<br><br>PP&E Summary:<br>Near miss incidents - none to report<br>Spills or emissions - none to report |             |                                  |  |
|       | Derrick      |  | 8:30  | 8:45  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
|       | Derrick      |  | 8:45  | 13:30 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
|       | Motorman     |  | 13:30 | 14:00 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
|       | Floor        |  | 14:00 | 19:00 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
|       | Floor        |  |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
|       | Lease        |  |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
|       | Accum Press. |  |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
|       | Air Shut Off |  |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
|       | Slab Valve   |  |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
| NIGHT | Fire Ext.    |  |       |       | Today                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Cummulative |                                  |  |
|       | H2S          |  |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
|       | Driller      |  |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
|       | Derrick      |  |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
|       | Derrick      |  |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
|       | Motorman     |  |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
|       | Floor        |  |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
|       | Floor        |  |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
|       | BOP          |  |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
|       | Accum Press. |  |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
| CREW  | Air Shut Off |  |       |       | Tangible                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | \$474,100   |                                  |  |
|       | Slab Valve   |  |       |       | Intangible                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | \$34,210    |                                  |  |
|       | Fire Ext.    |  |       |       | Total                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | \$854,010   |                                  |  |
|       |              |  |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                  |  |
|       |              |  |       |       | Baker Atlas Wireline Division                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             | Lloyd Franchuk                   |  |
|       |              |  |       |       | Norward Energy Services                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             | Ross Rutherford / Martin Mueller |  |
|       |              |  |       |       | RIG OR CONTRACTOR                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             | CONTRACTOR REP.                  |  |

JOB OBJECTIVE: Install permanent wellhead. Conduct tubing inspection base logs. Pull Otis plug from tailpipe.  
Flow well for short term evaluation.

DETAILS: Run Baker Atlas microVertilog tubing inspection log. Continue rigup of Norward test equipment.

Pick up Baker Atlas wireline equipment. Make up Baker Atlas MVRT micro Vertilog magnetic flux tubing inspection tool.

Make up stub lubricator onto top of wellhead 179.4 mm 35000 kPa R46 flow cross.

Run Vertilog tool into wellbore - logging 177.8 mm 43.16 kg/m L80 tubing base corrosion log while running in hole. One tool magnetic coil failure at 710 meters (13 of total 14 coils still OK). Second and third coil failures at 2040 meters (11 of total 14 coils remaining operable). Fourth coil failure at 2300 meters, fifth coil failure at 2310 meters; coil failures continuing with depth until only 2 or 3 remaining operational at bottom logged depth bottom of 177.8 mm tubing at 2452.99 mKB (coil failures were not a tool electronic problem, but rather a problem of failure of a wire coil wrapped around the permanent magnet of one of the 14 separate coil apparatus). Tool problems caused by high wellbore temperature - mercury maximum recording thermometer inside tool registered 165 degrees Celcius (at run depth 2452 meters).

Log to bottom of 177.8 mm 56.55 kg/m CRA tubing joint - tag 114.3 mm xover with tools. Continue to log while POOH - but with little log data due to inoperable magnet coils.

Lay down and rig out Baker Atlas equipment. Vertilog prints not available on site due to computer problem merging surface data with tool memory data.

Continue to rig up Norward test equipment to flow well - to evaluate well performance through 177.8 mm production tubing (in comparison to modeled computer simulations).



PRODUCTION TOUR REPORT

Well Name: **Chevron etal Liard K-29**  
WBSE# RWWNC - R9023 - 500 (tubing changeout and retest)

LSD : **K-29 (within grid area 60° 30' 123° 30')**  
Date : **September 4, 1999**  
Day Number : **1**

|                   |              | CREW |  | FROM  | TO                      | TIME SUMMARY                                                                                                      |                                  |                |  |
|-------------------|--------------|------|--|-------|-------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------|--|
| DAY<br><br>CREW   | Driller      |      |  |       |                         |                                                                                                                   |                                  |                |  |
|                   | Derrick      |      |  | 8:00  | 8:30                    | Remove 88.9 mm temporary capping wellhead.                                                                        |                                  |                |  |
|                   | Derrick      |      |  | 8:30  | 8:45                    | Install Barber back pressure valve in tubing hanger.                                                              |                                  |                |  |
|                   | Motorman     |      |  | 8:45  | 11:00                   | Make up permanent Barber 161 mm wellhead.                                                                         |                                  |                |  |
|                   | Floor        |      |  | 11:00 | 13:15                   | Pressure test wellhead with Falcon pressure tester unit.                                                          |                                  |                |  |
|                   | Floor        |      |  | 13:15 | 13:30                   | Remove top 114.3 mm swab valve.                                                                                   |                                  |                |  |
|                   | Lease        |      |  | 13:30 | 13:45                   | Remove Barber back pressure valve with long rod.                                                                  |                                  |                |  |
|                   | Accum Press. |      |  | 13:45 | 14:20                   | Rig up Baker Atlas wireline equipment and multiarm caliper tool.                                                  |                                  |                |  |
|                   | Air Shut Off |      |  | 14:20 | 14:55                   | RIH. Extend caliper arms. Pull short depth correlation strip.                                                     |                                  |                |  |
|                   | Stab Valve   |      |  | 14:55 | 18:30                   | Correlate on depth. POOH at 15 meters / minute logging multiarm caliper.                                          |                                  |                |  |
|                   | Fire Ext.    |      |  | 18:30 | 19:00                   | Rig Baker Atlas equipment off wellhead. Secure well for night.                                                    |                                  |                |  |
|                   | H2S          |      |  |       |                         |                                                                                                                   |                                  |                |  |
| NIGHT<br><br>CREW | Driller      |      |  |       |                         | Note: Norward Energy Services crew on location spotting test equipment with CW Trucking bed truck and Beaver cat. |                                  |                |  |
|                   | Derrick      |      |  |       |                         |                                                                                                                   |                                  |                |  |
|                   | Derrick      |      |  |       |                         |                                                                                                                   |                                  |                |  |
|                   | Motorman     |      |  |       |                         | PP&E Summary: Safety meeting - H2S gas, emergency response, fluid spillage.                                       |                                  |                |  |
|                   | Floor        |      |  |       |                         | Near miss incidents - none to report                                                                              |                                  |                |  |
|                   | Floor        |      |  |       |                         | Spills or emissions - none to report                                                                              |                                  |                |  |
|                   | BOP          |      |  |       |                         | Today                                                                                                             |                                  | Cummulative    |  |
|                   | Accum Press. |      |  |       |                         | Tangible                                                                                                          |                                  | \$474,100      |  |
|                   | Air Shut Off |      |  |       |                         | Intangible                                                                                                        | \$46,617                         | \$345,700      |  |
|                   | Stab Valve   |      |  |       |                         | Total                                                                                                             |                                  | \$819,800      |  |
|                   | Fire Ext.    |      |  |       |                         |                                                                                                                   |                                  |                |  |
|                   |              |      |  |       |                         | Baker Atlas Wireline Division                                                                                     |                                  | Lloyd Franchuk |  |
|                   |              |      |  |       | Norward Energy Services |                                                                                                                   | Ross Rutherford / Martin Mueller |                |  |
|                   |              |      |  |       | RIG OR CONTRACTOR       |                                                                                                                   | CONTRACTOR REP.                  |                |  |

DETAILS: Change wellhead. Conduct Baker Atlas 60 arm mechanical caliper log.

Move to location CW Trucking picker truck and Barber Wellhead crew. Check SITP - 1200 kPa. Bleed off pressure (fresh water) in 20 seconds. Remove temporary capping wellhead top section from tubing head flange. Install 177.8 mm Barber two way back pressure valve in Barber tubing hanger. Make up replacement permanent 35000 kPa Barber wellhead top section(double 161.9 mm master valves, 179.4 mm flow cross, 103.2 mm wing valve and swab valve). Pressure test wellhead tubing hanger top seal and R54X tubing head ring gasket to 35000 kPa for 30 minutes - OK.

Pressure test wellhead against two way BPV to 1400 kPa low / 35000 kPa high for 10 minutes each test with fresh water - OK.

Remove top 103.2 mm swab valve. Pull Barber 2 way back pressure valve.

Rig in Baker Atlas electric wireline unit and stub lubricator onto wellhead fow cross top R46 flange. Make up Baker Atlas Sondex 101.6 mm OD 60 arm multifinger mechanical tubing caliper tool. Calibrate tool with jig. Run tools in hole to tag 114.3 mm xover at 2452.99 mKB (at bottom of 177.8 mm 55.55 kg/m CRA SM2550-125 tubing joint immediately above Halliburton latch assembly). Expand caliper arms, correlate on depth to 177.8 mm Hydril 563 pup joint collar immediately above Incoloy joint. **Log out of hole with 60 arm caliper tool recording base profile of 177.8 mm production tubing.**

Secure well for night. Will run Baker Atlas microVertilog tomorrow.