



OIL AND GAS COMMISSION

January 20, 2009

7600-7400-59240-16

Neil Rubeniuk  
Engineering Manager  
Sub-Surface Regulatory & Royalty Optimization  
ConocoPhillips Canada  
2100, 205 6<sup>th</sup> Avenue SW  
Calgary AB T2P 3H7

Dear Mr. Rubeniuk:

**Re: Acid Gas and Water Injection Approval, Amendment #2**  
**BRC HTR et al Ring d-49-B/94-H-16; WA 10503**  
**Debolt Formation**

This refers to your letter dated October 28, 2008 wherein you requested an amendment to the progress reporting frequency for the subject scheme; specifically extending the reporting requirement from semi-annually to annually.

The subject acid gas disposal scheme has been consistently operating problem free over the past ten years and therefore the Commission deems it appropriate to progress to annual reporting. Your request for annual progress reporting is hereby approved.

Please find attached Approval 97-16-003 (Amendment #2) for the application, granted under section 100 of the Petroleum and Natural Gas Act.

Sincerely,

Richard Slocomb, P. Eng.  
Supervisor, Reservoir Engineering  
Resource Conservation

Attachment

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**RESOURCE CONSERVATION**

PO Box 9329 Stn Prov Gov't, Victoria BC V8W 9N3 Tel: (250) 952-0302 Fax: (250) 952-0301  
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**APPROVAL 97-16-003 (AMENDMENT #2)**

**THE PROVINCE OF BRITISH COLUMBIA  
PETROLEUM AND NATURAL GAS ACT  
OIL AND GAS COMMISSION**

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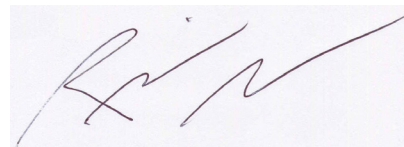
IN THE MATTER of a proposal (the Scheme) by ConocoPhillips Canada (the Operator) to inject acid gas and water into the Debolt Formation in the well BRC HTR et al Ring d-49-B/94-H-16 (the well).

NOW THEREFORE, The Commission, pursuant to section 100 of the Petroleum and Natural Gas Act, R.S.B.C. 1996, c.361 hereby orders as follows:

The Scheme of the Operator for injection of acid gas into the Debolt Formation in the well, as such proposal is described in an application dated April 30, 1997, supplemented with additional applications dated February 8, 2000 and October 28, 2008 to concurrently dispose of acid gas and water is hereby approved, subject to terms and conditions herein contained:

1. Acid gas and water shall be injected only into the Debolt formation through the well.
2. The area of the Scheme shall consist of units 38, 39, 48, 49 of Block B/94-H-16.
3. The wellhead injection pressure must not exceed 8, 000 kilopascals gauge.
4. The sandface injection pressure must not exceed 9, 000 kilopascals gauge.
5. The injection rate must not exceed  $22.5 \times 10^3 \text{ m}^3/\text{d}$  expressed at 101.325 kilopascals absolute and 15 degrees Celsius.
6. The cumulative volume injected must not exceed  $82.0 \times 10^6 \text{ m}^3$  expressed at 101.325 kilopascals absolute and 15 degrees Celsius.
7. Water injection rate must not exceed 250 m<sup>3</sup>/d.
8. The Operator must monitor the casing, conduct annular packer isolation tests and implement appropriate corrosion protection measures to maintain the hydraulic isolation of the injection zone.
9. The Operator must monitor the acid gas concentration in the offsetting wells for increases in the acid gas content.
10. The Wellhead Emergency Shut-Off Device and Subsurface Safety Valve must be installed to operate "fail-safe". The Wellhead Emergency Shut-Off Device must be linked to hydrogen sulphide detectors at the wellhead.
11. A barricade, satisfactory to the Director, Drilling and Production, must be installed around the wellhead to withstand vehicle collision.
12. All injection operations must be immediately suspended if any injection equipment, monitoring equipment or safety devices considered necessary for safe operation should fail.

13. A record of volume of acid gas disposed of through this well must be included on a Monthly Injection/Disposal Statement, in the prescribed form (BC-S18), which must be submitted to the Oil and Gas Commission (Victoria) not later than the 25<sup>th</sup> day of the month following the reported month.
14. The Operator must submit a progress report to the Commission annually. The progress report is due within 60 days after the end of each period and must contain:
  - a) details of any workover or treatment program done on the well with reasons for the workover and results of the workovers,
  - b) a discussion of any changes in injection equipment and operations,
  - c) a general review of the operation of the Project including identification of problems, remedial action taken and results of the remedial action on project performance,
  - d) a discussion of the overall performance of the Project,
  - e) an evaluation of all monitoring done during the reporting period including corrosion protection, fluid analyses, logs and any other data collected,
  - f) a table showing monthly volumes of injected acid gas, corresponding maximum wellhead injection pressures, maximum daily injection rates, average wellhead temperatures and hours on injection,
  - g) the volume-weighted average composition and formation volume factor for the injected acid gas,
  - h) a plot showing monthly injection volume and average pressure versus time on an on-going basis, and
  - i) a table showing tonnes of sulphur and carbon dioxide disposed on a monthly and cumulative basis.
12. The operations of the Scheme will be subject to periodic review by the Commission. The Director, Drilling and Production or the Director, Resource Conservation, may issue general guidelines regarding the operations of the Scheme.
13. This approval or any condition of it may be modified or rescinded for noncompliance of the conditions or unsafe operations.



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Richard Slocomb  
Supervisor, Reservoir Engineering  
Resource Conservation

DATED AT the City of Victoria, in the Province of British Columbia, this 20<sup>th</sup> day of January, 2009.