



October 12, 2000

2400-4805-32640-02  
OGC – 000240

Mr. Richard VanAppelen, P.Eng.  
Exploitation Engineer  
Canadian Natural Resources Limited  
2500 855 2<sup>nd</sup> St SW  
Calgary AB T2P 4J8

Dear Mr. VanAppelen:

**RE: APPLICATIONS FOR SALT WATER DISPOSAL**  
**CNRL BUICK d-A57-I/94-A-11; WA# 3973**  
**CNRL BUICK d-58-I/94-A-11; WA# 3996**  
**CNRL BUICK c-57-I/94-A-11; WA# 6529**

The Commission has reviewed your application dated September 27, 2000, requesting disposal of produced water into the subject wells completed in the Lower Halfway "B" pool.

A pilot waterflood pressure maintenance scheme was granted on January 21, 1998, in the Buick Creek Lower Halfway "B" pool with c-57-I/94-A-11 as the sole water injector. Subsequently two amendments were approved adding three new water injection wells at d-A57-I, d-58-I and b-76-I/94-A-11 to the scheme. This pilot waterflood was terminated at the request of CNRL on June 15, 2000, due to inadequate water injectivity for voidage replacement. Recently, two new horizontal multi-lateral legs have been drilled in the Lower Halfway "B" pool from the well b-76-I/94-A-11. Based on early production performance, excellent oil producibility has been established, with increasing water production. CNRL proposes to use the subject wells to dispose of produced water.

We concur that the subject wells are good candidates for salt water disposal into the Lower Halfway B" pool. Publishing a notice of this application in *The British Columbia Gazette* was considered unnecessary as a notice of the original pilot waterflood application resulted in no objections.

Attached are Approvals 00-02-008, 00-02-009 and 00-02-010 for the application, granted under Part 8, Division 3, Section 94 of the *Drilling and Production Regulation*.

Sincerely,

Craig Gibson, P.Eng.  
Manager  
Reservoir Engineering and Geology

Attachments

**Approval Letters to Industry**  
**GEP, SWD, CONCURRENT PROD,**  
**PRESSURE MAINTENANCE,**  
**WATERFLOOD, ETC.**

Copy 10

- Wellfile (originals)
- 59240
- Daily
- Resource Revenue
- S. Chicorelli
- R. Stefik
- G. Farr
- P. Attariwala
- D. Krezanoski

**ENGINEERING AND GEOLOGY BRANCH**

PO Box 9329 Stn Prov Gov't, Victoria BC V8W 9N3 Tel: (250) 952-0302  
Location: 6<sup>th</sup> Flr 1810 Blanshard St. Victoria BC

**APPROVAL 00-02-008**

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

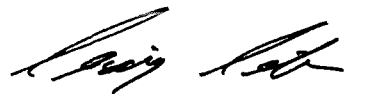
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IN THE MATTER of a scheme of Canadian Natural Resources Limited (CNRL) for Salt Water Disposal (SWD) in the Buick Creek Lower Halfway "B" pool in the well CNRL Buick d-A57-I/94-A-11 (WA# 3973).

NOW, THEREFORE, pursuant to Part 8, Division 3, Section 94 of the *Drilling and Production Regulation*, the SWD scheme is hereby approved, as such scheme is described in

*an application from CNRL to the Commission dated September 27, 2000.*

1. The water disposal interval must be in the Lower Halfway "B" pool.
2. A record of volume of salt water 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 not later than the 25th day of the month following the reported month.
3. The disposal/injection pressure at the sandface must not exceed the formation fracture pressure.
4. This approval may be modified or rescinded if deemed appropriate through a change in circumstances.



Craig Gibson  
Manager  
Reservoir Engineering and Geology  
Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 12<sup>th</sup> day of October, 2000.

**APPROVAL 00-02-009**

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

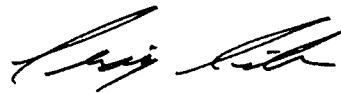
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IN THE MATTER of a scheme of Canadian Natural Resources Limited (CNRL) for Salt Water Disposal (SWD) in the Buick Creek Lower Halfway "B" pool in the well CNRL Buick d-58-I/94-A-11 (WA# 3996).

NOW, THEREFORE, pursuant to Part 8, Division 3, Section 94 of the *Drilling and Production Regulation*, the SWD scheme is hereby approved, as such scheme is described in

*an application from CNRL to the Commission dated September 27, 2000.*

1. The water disposal interval must be in the Lower Halfway "B" pool.
2. A record of volume of salt water 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 not later than the 25th day of the month following the reported month.
3. The disposal/injection pressure at the sandface must not exceed the formation fracture pressure.
4. This approval may be modified or rescinded if deemed appropriate through a change in circumstances.



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Craig Gibson  
Manager  
Reservoir Engineering and Geology  
Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 12<sup>th</sup> day of October, 2000.

**APPROVAL 00-02-010**

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

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IN THE MATTER of a scheme of Canadian Natural Resources Limited (CNRL) for Salt Water Disposal (SWD) in the Buick Creek Lower Halfway "B" pool in the well CNRL Buick c-57-I/94-A-11 (WA# 6529).

NOW, THEREFORE, pursuant to Part 8, Division 3, Section 94 of the *Drilling and Production Regulation*, the SWD scheme is hereby approved, as such scheme is described in

*an application from CNRL to the Commission dated September 27, 2000.*

1. The water disposal interval must be in the Lower Halfway "B" pool.
2. A record of volume of salt water 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 not later than the 25th day of the month following the reported month.
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Craig Gibson  
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DATED AT the City of Victoria, in the Province of British Columbia, this 12<sup>th</sup> day of October, 2000.