

March 24, 2009

9045-7400-32640-02

David Scarpino, P.Eng. Exploiatation Engineer Nexen Inc. 801 – 7th Ave SW Calgary, AB T2P 3P7

Dear Mr. Scarpino:

RE: SALT WATER DISPOSAL APPROVAL
NEXEN INC. TSEA b-16-I/94-O-08 (WA# 25113); DEBOLT FORMATION

Commission staff have reviewed the information submitted March 24, 2009, in support of your application dated January 19, 2009, requesting permission to dispose of produced water into the Debolt formation of the subject well.

A water injectivity test was approved February 2, 2009. The required production test found the zone to be water bearing with no commercial hydrocarbon potential. A successful step-rate injection test and reservoir pressure test were performed.

We concur that the subject well appears to be a good candidate for salt water disposal in the Debolt formation. Notice of your application was posted on the OGC website with no objections received.

Attached is Approval 09-02-004 for the application, granted under Part 8, Division 3, Section 94 of the *Drilling and Production Regulation*. This well will support Experimental Scheme #07-15-007 (Nexen Shale Project #3) for shale gas production. The well may also be used as a source well to supplement frac fluid requirements.

Section 7(1) of the *Oil and Gas Waste Regulation* under the Environmental Management Act states, in part: "... the operators of equipment or facilities are authorized to discharge **produced water or recovered fluids from a well completion or workover** to an underground formation in accordance with section 94 of the *Drilling and Production Regulation* ..." Therefore no additional permits are required for subsurface disposal of the proposed fluids.

Should you have any questions, please contact Ron Stefik at (250) 952-0310.

Sincerely,

Richard Slocomb, P. Eng.

Supervisor, Reservoir Engineering

Resource Conservation

Victoria BC V8T 4J1

APPROVAL 09-02-004

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

IN THE MATTER of a scheme of Nexen Inc. (Nexen) for Salt Water and Recovered Fluids Disposal in the Horn River Basin Debolt formation in the well Nexen Inc. Tsea b-16-I/94-O-08 (WA# 25113).

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

an application from Nexen to the Commission dated January 19 and March 24, 2009 and related submissions.

- 1. The disposal interval must be in the Debolt formation.
- 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. The Commission must be notified in writing of the date of commencement of disposal.
- 5. This approval may be modified or rescinded if deemed appropriate through a change in circumstances.

for Richard Slocomb

Supervisor, Reservoir Engineering

Resource Conservation

Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 24th day of March 2009.