

June 16, 2009

9000-6210-32640-02

David Layton Completions Engineer EOG Resources Canada Inc. 1300, 700 – 9th Avenue S.W. Calgary AB T2P 3V4

Dear Mr. Layton:

RE: SALT WATER AND RECOVERED FLUIDS DISPOSAL APPROVAL EOG MAXHAMISH a-50-1/94-O-14 (WA# 13307); FANTASQUE FORMATION

Commission staff have reviewed the information submitted in support of your application, dated April 21, 2009, requesting permission to dispose of produced water and completion/workover fluids resulting from fracture treatments in the Horn River Basin, into the Fantasque formation of the subject well.

An injectivity test, approved March 13, 2009, has been completed. Information from the injectivity test indicates a disposal capability of 216 m3/d at 19000 kPa. The area is structurally complex and the capacity of the Frantasque zone to accept fluid may be limited. However, there are limited options for water disposal in this area and results of the injectivity test indicate sufficient initial potential for water disposal. This well is considered a suitable candidate for produced water disposal.

Information from the initial completion indicates a fracture gradient of 25.4 kPa/m, which translates into a maximum well head injection pressure of 19.8 MPa (not accounting for friction loss). This information is further supported by the data collected by EOG during their step rate injection test. Please note that condition #3 of the attached approval states that "the disposal/injection pressure at the sandface must not exceed the formation fracture pressure". The Commission encourages EOG to implement an appropriate safety factor when making a determination as to the maximum wellhead injection pressure which can be sustained without exceeding the formation fracture pressure.

Attached is Approval 09-02-008 for the application, granted under Part 8, Division 3, section 94 of the *Drilling and Production Regulation*. The form Notice of Commencement or Suspension of Operations (BC-11) must be submitted upon commencing injection operations.

Should you have any questions, please contact the undersigned at (250) 952-0366.

Sincerely,

Richard Slocomb, P.Eng.

Supervisor, Reservoir Engineering

Resource Conservation

Attachment

APPROVAL 09-02-008

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 EOG Resources Canada Inc. (EOG) for Salt Water and Recovered Fluids Disposal in the Other Areas – Fantasque formation in the well EOG Maxhamish a-50-I/94-O-14 (WA# 13307).

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 EOG to the Commission dated April 21, 2009 and related submissions.

- 1. The disposal interval must be in the Fantasque formation.
- A record of volume of salt water and recovered fluid 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. Any sudden, significant wellhead injection pressure change that is sustained must immediately be reported to the Director, Resource Conservation.
- 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.

Richard Slocomb

Supervisor, Reservoir Engineering

Resource Conservation

Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 16th day of June 2009.