

March 26, 2009

7300-7400-59240-15

Scott Montgomery, P.Eng. Production/Exploitation Engineer Foothills Deep Gas West Husky Oil Operations Limited 707 – 8th Avenue SW Box 6525, Station D Calgary AB T2P 3G7

Dear Mr. Montgomery:

RE: EXPERIMENTAL SCHEME APPROVAL POCKETKNIFE – DEBOLT "A" and "C" GAS POOLS

The Commission has reviewed your application dated September 11, 2008 requesting experimental scheme approval to test enhanced gas recovery technologies in order to optimize gas recovery from the subject pool.

Husky proposes to dispose of produced water from the scheme into the well Husky Pocketknife d-64-I/94-G-6 (WA# 3904). It is anticipated that water will be disposed of at pressures in excess of initial reservoir pressure (14,188 kPaa). Husky has not quantified hydraulic fracture pressure for the subject disposal formation but has estimated a fracture gradient between 14 and 17 kPa/m. The Commission agrees that 14 kPa/m is a conservative estimate of fracture gradient which should allow Husky several years of disposal capacity and will provide an opportunity to collect additional data to support a request to increase the maximum disposal pressure.

Attached is Approval 09-15-001 for the application granted under section 100 of the <u>Petroleum and Natural Gas Act</u>. No objections were received following the publication of a notice of your application on the OGC website.

The Commission must be notified in writing of the effective commencement date of activity for the scheme approval. In accordance with section 57 of the *Drilling & Production Regulation* all new well reports and new well data within the scheme area will be held confidential for a period of 3 years.

Please note that a progress report, as specified in item 8 of the approval, must be submitted on an annual basis with the first one due on the first anniversary of the commencement date.

Sincerely,

Richard Slocomb, P. Eng.

Supervisor, Reservoir Engineering Resource Conservation

Attachments

APPROVAL 09-15-001

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

IN THE MATTER of the experimental scheme of Husky Oil Operations Limited (Operator) to test the commercial viability of enhanced gas recovery in the Pocketknife – Debolt "C" pool.

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

- 1. The experimental scheme for testing enhanced gas recovery techniques in the Pocketknife Debolt "C" pool, as such proposal is described in the application to the Commission dated September 11, 2008 is hereby approved, subject to terms and conditions herein contained.
- 2. The area of the experimental scheme consists of;
 - 94-G-6 Block H units 31, 41, 51, 61, 71, 81, 91 Block I – units 1, 11-13, 21-23, 31-35, 41-45, 52-55, 62-65, 74, 75, 84, 85
 - 94-G-7 Block E units 40, 50, 60, 70, 80, 90, 100 Block L – units 10, 20, 30, 40, and 50.
- 3. Produced water from wells within the experimental scheme area may be disposed into the Pocketknife Debolt "A" pool through the well d-64-I/94-G-6 (WA# 3904).
- 4. A record of volume of salt water disposed of through the 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.
- 5. The disposal/injection pressure at the sandface must not exceed 24,108 kPag or the formation fracture pressure, whichever is less.
- 6. The gas wells within the scheme area may be produced without individual well allowable restrictions.
- 7. The requirements of Section 10 of the Drilling and Production Regulation are hereby waived, provided that gas wells within the scheme area are not completed nearer than 250 m to the sides of the approved scheme area.
- 8. 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) the daily average rate of gas and water produced during each month for each producing well, and for the scheme as a whole,
 - b) the monthly cumulative gas and water production from each producing well, and for the scheme as a whole,
 - c) details of any workover or fracture treatment program done on any of the wells with results of the workovers or fracture treatment,
 - d) an evaluation of bottom hole pressures and any other data collected,
 - e) representative sample analysis of produced gas and water,
 - f) a discussion of the overall performance of the scheme.
 - g) any other information that is considered necessary, in the opinion of the Commission, to evaluate the progress, performance and efficiency of the scheme.

- 6. The operations of the experimental scheme will be subject to review by the Commission. The Director, Resource Conservation or the Director, Drilling and Production, may issue guidelines regarding the operations of the scheme.
- 7. The approval or any condition of it may be modified, if deemed appropriate.

Richard Slocomb

Supervisor, Reservoir Engineering

Resource Conservation

DATED AT the City of Victoria, in the Province of British Columbia, this 26th day of March 2009.