

OIL AND GAS COMMISSION

March 21, 2007

9000-8285-59240-15

Bruce Hancock Team Lead, Unconventional Encana Corporation Encana on 9<sup>th</sup> 150, 9<sup>th</sup> Avenue SW Calgary AB T2P 2S5

Dear Mr. Hancock:

## RE: EXPERIMENTAL SCHEME APPROVAL OOTLA AREA – HORN RIVER FORMATION

The Commission has reviewed your application received February 9, 2007 requesting experimental scheme approval to explore, develop, evaluate and test the shale gas potential of the Devonian shale sequence, specifically the Muskwa, Otter Park and Evie formations, in the Ootla area in northeast British Columbia.

For ease and consistency of terminology, the three shale formations under application (Muskwa, Otter Park and Evie), as a group, will be referred to as the Horn River formation. Attached are Approvals 07-15-002 (Encana Shale Project #1), 07-15-003 (Encana Shale Project #2), and 07-15-004 (Encana Shale Project #3) for the application granted under section 100 of the <u>Petroleum and Natural Gas Act</u>. At this time there is limited information available for the shale gas potential in the Horn River formation in the subject area. Accordingly, the scheme is considered experimental, as it requires ongoing research as to drilling, completion and production methodology. No objections were received following the publication of a notice of your application in the B.C. Gazette.

In accordance with section 57 of the *Drilling & Production Regulation* all well reports and well data will be held confidential for a period of 3 years after the date of release of the drilling rig for a well forming part of this experimental scheme.

Please note that progress reports, as specified in item 4 of the approvals, must be submitted on an annual basis with the first one due on the first anniversary of the commencement date.

Sincerely,

Doug McKenzie Director Resource Conservation Branch

Attachments

## APPROVAL 07-15-002

# THE PROVINCE OF BRITISH COLUMBIA <u>PETROLEUM AND NATURAL GAS ACT</u> OIL AND GAS COMMISSION

IN THE MATTER of the experimental scheme of Encana Corporation (Encana) to test the commercial viability of Horn River shale gas in the Ootla area of NE British Columbia.

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

- 1. The experimental scheme for the exploration and development of Horn River shale gas in the Ootla area, as such proposal is described in the application to the Commission received February 9, 2007 is hereby approved, subject to terms and conditions herein contained.
- 2. The area of the experimental scheme consists of:

94-O-8 Block J – units 38-40, 48-50, 58-60, 68-70, 78-80, 88-90 Block K – units 31, 41, 51, 61, 71, and 81.

- 3. The gas wells within the scheme area may be produced without individual well allowable restrictions.
- 4. 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.
- 5. 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 Branch or the Director, Operations Engineering Branch, may issue guidelines regarding the operations of the scheme.
- 7. The approval or any condition of it may be modified or rescinded, if deemed appropriate.

D. McKzi

Doug McKenzie Director Resource Conservation Branch

DATED AT the City of Victoria, in the Province of British Columbia, this 21st day of March 2007.

## APPROVAL 07-15-003

# THE PROVINCE OF BRITISH COLUMBIA <u>PETROLEUM AND NATURAL GAS ACT</u> OIL AND GAS COMMISSION

IN THE MATTER of the experimental scheme of Encana Corporation (Encana) to test the commercial viability of Horn River shale gas in the Ootla area of NE British Columbia.

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

- 1. The experimental scheme for the exploration and development of Horn River shale gas in the Ootla area, as such proposal is described in the application to the Commission received February 9, 2007 is hereby approved, subject to terms and conditions herein contained.
- 2. The area of the experimental scheme consists of:

94-O-9 Block G – units 72-75, 82-85, 91-95 Block H – units 94-100 Block I – units 4-10, 14-20, 24-30 Block J – units 1-5, 11-15, and 21-25.

- 3. The gas wells within the scheme area may be produced without individual well allowable restrictions.
- 4. 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.
- 5. 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 Branch or the Director, Operations Engineering Branch, may issue guidelines regarding the operations of the scheme.
- 7. The approval or any condition of it may be modified or rescinded, if deemed appropriate.

). McKzi

Doug McKenzie Director Resource Conservation Branch

DATED AT the City of Victoria, in the Province of British Columbia, this 21st day of March 2007.

## APPROVAL 07-15-004

# THE PROVINCE OF BRITISH COLUMBIA <u>PETROLEUM AND NATURAL GAS ACT</u> OIL AND GAS COMMISSION

IN THE MATTER of the experimental scheme of Encana Corporation (Encana) to test the commercial viability of Horn River shale gas in the Ootla area of NE British Columbia.

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

- 1. The experimental scheme for the exploration and development of Horn River shale gas in the Ootla area, as such proposal is described in the application to the Commission received February 9, 2007 is hereby approved, subject to terms and conditions herein contained.
- 2. The area of the experimental scheme consists of:

94-O-9 Block I – units 60, 70 Block J – units 51 and 61.

- 3. The gas wells within the scheme area may be produced without individual well allowable restrictions.
- 4. 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.
- 5. 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 Branch or the Director, Operations Engineering Branch, may issue guidelines regarding the operations of the scheme.
- 7. The approval or any condition of it may be modified or rescinded, if deemed appropriate.

). McKzi

Doug McKenzie Director Resource Conservation Branch

DATED AT the City of Victoria, in the Province of British Columbia, this 21st day of March 2007.