

May 24, 2012

6140-5000-59240-06

Byron Woo
Shell Canada Limited
1500, 202 – 6th Avenue S.W.
Calgary AB T2P 2R9

Dear Mr. Woo:

**RE: GOOD ENGINEERING PRACTICE SPECIAL PROJECT
OTHER THAN NORMAL SPACING ORDER
MONIAS FIELD – MONTNEY FORMATION**

The Commission has reviewed your application dated February 10, 2012, requesting a Good Engineering Practice approval for the Monias field - Montney formation.

The Commission maps this area within the Monias field, 2km west from the regional Heritage field - Montney "A" pool. For regulatory purposes, the Commission designates the entire Montney sequence as a single formation, removing commingling as an issue.

The following Orders are attached;

- 1) Order 12-06-015 designating Good Engineering Practice within the Monias field - Montney formation as a Special Project under section 75 of the *Oil and Gas Activities Act*, and
- 2) Order 12-06-015-OTN approving Other Than Normal Spacing under section 65.1 of the *Petroleum and Natural Gas Act* for the subject formation and area.

As a Good Engineering Practice special project, the applicant intends to locate, complete and operate wells in a manner to optimize resource recovery while minimizing surface impacts. The project includes one gas spacing area.

Should you have any questions, please contact Ron Stefik at (250) 419-4430 or Kelly Okuszko at (250) 419-4433.

Sincerely,



Ken Paulson, P.Eng.
Chief Operating Officer
Oil and Gas Commission


Attachments

IN THE MATTER of an application from Shell Canada Limited to the Oil and Gas Commission dated February 10, 2012 for a Good Engineering Practice project.

ORDER 12-06-015

- 1 Under Section 75(1)(a) of the *Oil and Gas Activities Act*, the Monias field – Montney formation is designated as a special project for the enhanced recovery of natural gas utilizing Good Engineering Practice within the following area;

DLS Twp 81 Rge 22 W6M Section 14.



Ken Paulson, P.Eng.
Chief Operating Officer
Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 24 day of May 2012.

IN THE MATTER of an application from Shell Canada Limited to the Oil and Gas Commission dated February 10, 2012 for Other Than Normal Spacing.

ORDER 12-06-015-OTN

- 1 Under Section 65.1(2) of the *Petroleum and Natural Gas Act*, Other Than Normal Spacing is approved within the Monias field - Montney formation within the following area;
DLS Twp 81 Rge 22 W6M Section 14.

- 2 Under section 65.1(3) of the *Petroleum and Natural Gas Act*, I specify the following:
 - a) the target area for a gas well completed within the project area is not nearer than 150 m to the sides of the Other Than Normal Spacing area,
 - b) a gas well completed outside the specified target area may be subject to an off-target production penalty,
 - c) gas wells drilled within the specified project area are not subject to spacing requirements.



Ron Stefik, EngL.
Sr Technical Advisor,
Reservoir Engineering
Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 24th day of May 2012.


RATIONALE FOR ORDER

Order 12-06-015 has been made considering:

- **Reservoir characteristics** - The gas charged Triassic Montney formation is prospective for exploitation over thousands of square miles. For regulatory purposes, all sequences within this thick but low reservoir quality siltstone are identified as a single zone. Within the project area, the original-gas-in-place is ~80 Bcf per normal gas spacing area. A typical horizontal well is expected to recover 5 Bcf of reserves. The primary target is the Upper Montney.
- **Conservation of the resource** – Development of this unconventional resource is dependent on operator ability to locate wells without regard to normal well spacing and target area restrictions. Drilled from multi-well pads, each horizontal well (~1800 m) will receive 9 slickwater fracs based on the current completions strategy.
- **Current status** – Numerous GEP approvals have been granted to a variety of operators in Heritage field. This GEP is 2km outside the western edge of the regional Heritage field in the Monias field.
- **Drilling Plans** - Shell plans to drill a HZ well in the application area in Q4 2012. The well is currently being licensed, no well permit issued yet. Although the surface location is outside the GEP in Section 11-81-22W6 (Open Crown), Shell is aware that the completed portion in the Montney formation must be within the GEP project area (150 m from boundaries of 14-81-22W6) to avoid off target penalties. In the future, Shell plans to drill multiple wells from this pad, so GEP approval is required in addition to Other Than Normal Spacing.
- **P&NG rights** – Based on tenure information the Commission is satisfied that Shell has the appropriate rights in the subject formation and project area. The application area is subject to P&NG Lease 64101, which is paid until May 24, 2012. A continuation application has been filed with MEMPR's Title group.
- **Objections** –There were no objections filed with the Commission regarding this project.

This Order includes **one gas spacing area**.

Prepared by Kelly Okuszko, P.Eng.



Ken Paulson, P.Eng.
Chief Operating Officer
Oil and Gas Commission

May 24, 2012