

January 12th, 2023

2000-4800-59240-09

Claude Rezk, P.Eng. Reservoir Engineering Manager Enercapita Energy Limited 600, 435 – 4th Ave S.W. Calgary, AB T2P 3A8

Dear Mr. Rezk:

RE: PRESSURE MAINTENANCE WATERFLOOD SPECIAL PROJECT APPROVAL

OTHER THAN NORMAL SPACING ORDER BOUNDARY LAKE FIELD - HALFWAY 'M' POOL

The Commission has reviewed the application from Enercapita Energy Limited (Enercapita) dated October 19th, 2021, requesting pressure maintenance waterflood approval (PMWF) for the Boundary Lake field – Halfway 'M' pool.

The discovery well, Enercapita Boundary 4-16-86-13 (WA 14854), was drilled and completed into the Boundary Lake Halfway 'K' pool in February 2002. An additional eight wells were drilled in the 'K' pool, with four in BC and five in Alberta. Following Enercapita's 2020 preapplication for this project, the Commission combined the 'K' pool with the 'M' pool, as evidence shows they are in communication. The combined 'M' pool contains 11 wells on the BC side, where the well Enercapita Boundary 4-21-86-13 (WA 23861) is the first proposed injection well.

The Commission has reviewed the integrity logs of the proposed injection well 4-21-86-13 and finds it appropriate for injection operations.

The following Orders are attached;

- Order 23-09-001 designating Pressure Maintenance Waterflood within the Boundary Lake field – Halfway 'M' pool, as a Special Project under section 75 of the Oil and Gas Activities Act. and
- 2) Order 23-09-001 OTN approving Other Than Normal Spacing under section 65.1 of the Petroleum and Natural Gas Act for the subject area and formation.

This approval includes a maximum wellhead injection pressure (MWHIP) of 11,050 kPa for the proposed injection well. The ultimate reservoir pressure is limited to the initial pool pressure. Injection is restricted to the purpose of oil recovery and biennial reservoir pressure testing is required. The existing Concurrent Production approvals, Order 11-07-001 Amendment #2 for the former Boundary Lake Halfway 'K' pool and Order 11-07-002 Amendment #2 for the Boundary Lake Halfway 'M' pool will be cancelled upon the start date of water injection.

Should you have any questions, please contact Logan Gray at (250) 419-4465 or the undersigned at (250) 419-4430.

Sincerely,

Ron Stefik, P.L.Eng.

Supervisor, Reservoir Engineering

Oil and Gas Commission

Attachments



IN THE MATTER of the application from Enercapita Energy Limited to the Oil and Gas Commission dated October 19th, 2021, requesting Pressure Maintenance Waterflood approval:

ORDER 23-09-001

1. Under Section 75 (1) (a) of the *Oil and Gas Activities Act*, the Commission designates by Order the development and production of petroleum and natural gas from a pool using pressure maintenance waterflood enhanced recovery project within the Boundary Lake field – Halfway 'M' pool following area;

DLS Twp 86 Rge 13 W6M Fractional Section 4

Section 5 - LSDs 9, 10, 15, and 16

Section 8

Fractional Section 9 Fractional Section 16

Section 17 - LSDs 1, 2, 7-10, 15, and 16

Section 20

Fractional Section 21

- 2. Under section 75(2) of the Oil and Gas Activities Act, the special project designation in this Order is subject to the following conditions:
 - a) The project unadjusted daily oil allowable (UDOA) is 324.6 m³.
 - b) All associated produced gas must be conserved.
 - c) Water may be injected into the well Enercapita Boundary 4-21-86-13 (WA 23861), interval 1,382.5 1,388.0 mKB.
 - i) Inject only through tubing with a packer set as near as is practical above the injection interval.
 - ii) Not exceed an injection pressure, measured at the wellhead of 11,050 kPag or the pressure required to fracture the formation, whichever is lesser.
 - d) A reservoir pressure measurement must be obtained from at least one project well at an interval of every 2 years. Results must be submitted to the Commission within 60 days of completion of the tests via e-submission.
 - e) Continually measure and record the wellhead tubing pressures electronically for well Enercapita Boundary 4-21-86-13 (WA 23861).
 - f) Wellhead casing pressure for the well Enercapita Boundary 4-21-86-13 (WA 23861) must be measured and recorded a minimum of once daily.
 - g) Not exceed an average pool pressure of 11,000 kPaa measured at 590.0 meters subsea.
 - h) Cease injection and notify the Commission at Reservoir@bcogc.ca immediately if there are any indications that hydraulic isolation is lost in the injection wellbore or formation.
 - i) Include the monthly injected volume, injection hours, and the maximum injection pressure value for the injection well via Petrinex.
 - i) Injection must cease upon termination of production from the pool.





ORDER 23-09-001

Advisory Guidance for 23-09-001

- I. A production packer must be set above the injection interval and the space between the tubing and casing filled with corrosion and frost inhibiting fluids, as per section 16(2) of the Drilling and Production Regulation.
- II. Annual packer isolation tests are required to be conducted and the associated report must be submitted to the Commission within 30 days of the test completion, as per section 16(3) of the Drilling and Production Regulation.
- III. Injected fluids must be metered and the injection pressure measured at the wellhead, as per section 74 of the Drilling and Production Regulation.
- IV. A monthly injection statement must be submitted to the Commission via Petrinex not later than the 20th day of the month following the reported month, as per section 75 of the Drilling and Production Regulation.
- V. Seismic events must be reported and injection operations suspended as per section 21.1 of the Drilling and Production Regulation.

Ron Stefik, P.L.Eng.

Supervisor, Reservoir Engineering

Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 12th day of January 2023.



IN THE MATTER of the application from Enercapita Energy Limited to the Oil and Gas Commission dated October 19th, 2021, requesting pressure maintenance waterflood approval:

ORDER 23-09-001 - OTN

1 Under Section 65.1(2) of the *Petroleum and Natural Gas Act*, Other Than Normal Spacing within the Boundary Lake field – Halfway 'M' pool is hereby approved within the following area;

DLS Twp 86 Rge 13 W6M Fractional Section 4

Section 5 – LSDs 9, 10, 15, and 16

Section 8

Fractional Section 9 Fractional Section 16

Section 17 - LSDs 1, 2, 7-10, 15, and 16

Section 20

Fractional Section 21

- 2 Under section 65.1(3) of the Petroleum and Natural Gas Act, I specify the following:
 - a) the target area for an oil well completed within the project area is not nearer than 100 m to the sides of the Other Than Normal Spacing area,
 - b) an oil well completed outside the specified target area may be subject to an off-target production penalty,
 - c) oil wells drilled within the specified project area are not subject to spacing requirements.

Ron Stefik, P.L.Eng

Supervisor, Reservoir Engineering

BC Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 12th day of January 2023.