



June 30, 2017

7400-4900-59240-09

Russell Gonie, C.E.T.
Production and Operations Manager
Pavilion Energy Corporation
1100, 800 – 6th Ave S.W.
Calgary, AB T2P 3G3

Dear Mr. Gonie:

**RE: PRESSURE MAINTENANCE WATERFLOOD SPECIAL PROJECT – AMENDMENT #3
OTHER THAN NORMAL SPACING ORDER – AMENDMENT #3
RED CREEK FIELD – DOIG “C” POOL**

The Commission has reviewed your application dated April 28th, 2017, requesting an amendment to the pressure maintenance waterflood order re-instating well Pavilion HZ Red A13-03-085-21 WA 11563 as a water injector.

In January of 2011 Terra Energy Corp. (Terra) applied for an amendment to the current Order requesting the conversion of the above injector to producer and two producers to injectors in order to optimize the sweep efficiency. However, amendment #2 was never implemented. Terra continued to inject through the above injector until November 2014 and stopped oil production in November 2015. Pavilion Energy as the new operator has applied for the re-activation of the pool by injecting through the above injection well and producing from wells Pavilion Red 13-10-085-21 WA11597 and Pavilion et al HZ Red B04-10-085-21 WA11388.

The following Orders are attached;

- 1) Order 00-09-003 Amendment #3 designating Pressure Maintenance Waterflood within the Red Creek field – Doig “C” pool, as a Special Project under section 75 of the *Oil and Gas Activities Act*, and
- 2) Order 00-09-003 OTN - Amendment #3 approving Other Than Normal Spacing under section 65.1 of the *Petroleum and Natural Gas Act* for the subject area and formation.

Prior to reactivation of well Pavilion HZ Red A13-03-085-21 as an injector, the Commission requests that a packer isolation test (PIT) has to be completed and the report send to the Commission. The above Order includes a maximum wellhead injection pressure (MWHIP), an ultimate pool pressure limit, and restriction of injection to the purpose of oil recovery,

Please note that, as per section 75 of the *Drilling and Production Regulation*, a record of the volume of water injected must be included on a Monthly Injection or Disposal Statement (BC-S18), which must be submitted to the Commission no later than the 25th day of the following month.

Should you have any questions, please contact Petra Kriescher-Trudgeon at (250) 419-4415 or the undersigned at (250) 419-4430.

Sincerely,

Ron Stefik, Eng.L.
Supervisor, Reservoir Engineering
BC Oil and Gas Commission
Attachments

ORDER 00-09-003 Amendment #3

- 1 Under section 75(1)(a) of the *Oil and Gas Activities Act*, the Red Creek field – Doig “C” pool is designated as a Special Project for the recovery of oil utilizing pressure maintenance waterflood within the following area;

DLS Twp. 85 Rge 21 W6M W/2 Section 3, E/2 Section 4, NW/4 and E/2 Section 9,
W/2 Section 10

- 2 Under section 75(2) of the *Oil and Gas Activities Act*, I specify the following:

- a) The project daily oil allowable is 418.4 m³
- b) All associated produced gas must be conserved.
- c) Water may be injected into the well Pavilion HZ Red A13-03-085-21 (WA # 11563),
- d) Inject only through tubing with a packer set as near as is practical above the injection interval.
- e) Not exceed an injection pressure, measured at the wellhead, of
 - i. 18,000 kPa for well A13-03-085-21, or
 - ii. the pressure required to fracture the formation, whichever is lesser.
- f) Not to exceed an average pool pressure of 17,995 kPaa measured at 877 mSS.
- g) Cease injection and notify the Commission immediately if hydraulic isolation is lost in the wellbore or formation
- h) Prior to re-activation, and annually thereafter, a packer isolation test report must be submitted to the Commission within 30 days of the completion of the test.
- i) Include the injection hours and the maximum injection pressure value on the monthly BC-S18 form.
- j) Injection must cease upon termination of production from the pool.
- k) The permit holder must submit a Progress Report to the Commission for each 12 month period the project is in operation, filed by March 31st the following year, and must contain the information specified in Pressure Maintenance Progress Report Requirements.



Ron Stefik, Eng. L.
Supervisor, Reservoir Engineering
BC Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 30th day June 2017.

Advisory Guidance for Order 00-09-003 Amendment #3

- 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 submitted, 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 not later than the 25th day of the month following the reported month, as per section 75 of the Drilling and Production Regulation.

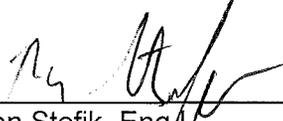
ORDER 00-09-003 - OTN - Amendment #3

1 Under Section 65.1(2) of the *Petroleum and Natural Gas Act*, Other Than Normal Spacing within the Red Creek – Doig “C” pool is hereby approved within the following area;

DLS Twp. 85 Rge 21 W6M W/2 Section 3, E/2 Section 4, NW/4 and E/2 Section 9,
W/2 Section 10

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, Eng/L.
Supervisor, Reservoir Engineering
BC Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 30th day of June 2017.