

October 27, 2014

0200-2700-55140-07

Les Elliot Storage Specialist Aitken Creek Gas Storage ULC 11304 – 100th Avenue Fort St. John, BC V1J 1Z9

Dear Mr. Elliot:

RE:

APPROVAL FOR TEMPORARY INJECTION/STORAGE OF CONDENSATE SECTION 75, OIL AND GAS ACTIVITIES ACT

AITKEN CREEK FIELD; GETHING "A" POOL

Oil and Gas Commission (Commission) staff have reviewed the application, dated June 16, 2014 requesting approval for temporary injection of produced condensate back into the Aitken Creek Gas Storage reservoir through the well Aitken Gas Aitken d-35-L/94-A-13 (WA 1227).

The subject pool has been utilized for seasonal storage of natural gas since 1987. Initial pool condensate production had ceased in early 1990s. In 1998, an amended approval order increased the maximum storage pressure to 19,300 kPa. During the 2008/2009 withdrawal cycle, previously hydrocarbon-dry wells began to produce condensate once more. A reservoir study concluded the increased reservoir pressures had caused the residual condensate remaining in the reservoir pore throats to swell, allowing for improved condensate recovery. This unexpected production has been an operational challenge due to a lack of hydrocarbon liquids pipeline and tank inventory capacity. As a result, injection of crude oil and condensate into the Aitken Creek wells at d-35-L/94-A-13 and d-44-L/94-A-13 occurred during the months of January, November and December 2013.

Current approval for Aitken Creek Gas Storage includes provision for injection of natural gas only. Reservoir modelling indicates that hydrocarbon liquids injected and stored in this pool, on a temporary basis, will be fully recovered. These hydrocarbon liquids originate from the same Aitken Creek Gas Storage reservoir.

Approval for liquid injection is predicated on minimal and temporary condensate injection to accommodate high gas demand (with by-product condensate) when limited condensate pipeline and surface storage capacity is available. Oil shall not be re-injected as oil production wells can be shut-in.

The injection well d-35-L is located stratigraphically and with respect to the gathering systems to ensure recovery of liquid injected at the same location, once pipeline capacity is available. Restricting injection to one site will limit dispersion of the condensate and enable immediate reproduction at a reservoir pressure above 14,000 kPa.

Appropriate measurement and reporting of the injected volumes is required. Condensate produced and sold, without injecting, follows standard BC production reporting obligations. When condensate injection is necessary, the reporting should proceed as follows:

- 1. For the reporting month(s) during which condensate injection is necessary, report:
 - Monthly Production Statement BC-S1 show produced volume.
 - Monthly Disposition Statement BC-S2 show the condensate as injected (code 80).
 - Monthly Injection/Disposal Statement BC-S18 show the condensate injection.
 - Marketable Gas and By-Product Allocations Report BC-08 not required.
- 2. When condensate is produced from the injection well (second time produced), report:
 - BC-S1 not required.
 - BC-S2 showing the condensate as recovered (code 80) and going to sales (code 82).
 - BC-08 show the condensate sales.

Attached please fine Order 14-07-002, granted under Section 75 of the Oil and Gas Activities Act.

Should you have any reporting questions, please contact Kathy Brulotte, Manager of Petroleum Operations with the Ministry of Finance at (250) 387-6128. For any other questions, please contact Michelle Gaucher at (250) 419-4482 or Ron Stefik at (250) 419-4430.

Sincerely,

Richard Slocomb, P.Eng.

Deputy Commissioner, Engineering

Oil and Gas Commission

IN THE MATTER of an application from Aitken Creek Gas Storage ULC to the Commission dated June 16, 2014 for the use of a natural gas storage pool for the injection and storage of condensate on a temporary basis.

ORDER 14-07-002

- 1 Under Section 75(1)(a) of the *Oil and Gas Activities Act*, the Aitken Creek Gething 'A' pool is designated as a special project for storage of condensate within the following area;
 - 94-A-13 Block L Units 34, 35, 44 and 45.
- 2 Under section 75(2) of the Oil and Gas Activities Act, I specify the following:
 - a) Condensate may be injected and re-produced through the well Aitken Gas Aitken d-35-L/94-A-13 (WA 1227).
 - b) Condensate injected must be metered.
 - c) The injection pressure at the bottom-hole must not exceed 19,300 kPaa.
 - d) This project approval may be subject to review and modification, if deemed appropriate.
 - e) This operation is subject to any other related approvals that may be issued by the Oil and Gas Commission or the Ministry of Finance.

Richard Slocomb, P.Eng.

Deputy Commissioner, Engineering

Oil and Gas Commission

DATED AT the City of Victoria, in the Province of British Columbia, this 27^{μ} day of October, 2014.