

May 15, 2018

8120-2010-32640-02

Deb Gogol, P.Tech (Eng.)  
Sr. Engineering Technologist  
Encana Corporation  
500 Centre Street SE, PO Box 2850  
Calgary, Alberta T2P 2S5

Dear Ms. Gogol,

**RE: EXTENDED INJECTIVITY TEST  
ECA HZ SUNRISE D13-1-79-17 W6M; WA# 34056  
SUNRISE FIELD – PADDY-CADOTTE FORMATION**

Commission staff have reviewed the application from Encana Services Company Ltd, on behalf of Encana Corporation, dated May 2<sup>nd</sup>, 2018, requesting an extended injectivity test of 5,000 m<sup>3</sup> into the Cadotte formation of the subject well.

The subject well was horizontally completed in the Cadotte formation in March 2018 as a prospective disposal well, to provide additional disposal capacity to the Sunrise water hub. An extended injectivity test is requested in order to assess the disposal capability of the horizontal well, and to allow wellsite commissioning activities to begin.

Attached please find **Order 18-02-007**, designating an area in the Sunrise field, Paddy-Cadotte formation, as a Special Project under section 75 of the Oil and Gas Activities Act, for the temporary operation and use of a storage reservoir for the injection of produced water. Note that although this well was completed in the Cadotte formation, the Commission has defined a combined Paddy-Cadotte zone for the purposes of source and disposal due to the areal connectivity of the zones. This authorization does not warrant that a future disposal approval will be issued. The maximum wellhead injection pressure (MWHIP) designated in condition 2b) was calculated using a fluid hydrostatic gradient of 11.4 kPa/m, the density of the fluid to be disposed as indicated in Encana's application, and using a formation fracture gradient of 28 kPa/m, as the maximum the Commission deems suitable for the Paddy-Cadotte formation.

Additional general information regarding disposal wells is available on the Commission's website at <http://www.bcogc.ca/industry-zone/documentation/Subsurface-Disposal>.

Should you have any questions, please contact Michelle Harding at (250) 419-4493 or Ron Stefik at (250) 419-4430.

Sincerely,



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

Attachment



IN THE MATTER of the application from Encana Services Company Ltd. on behalf of Encana Corporation, to the Oil and Gas Commission (Commission), dated May 2<sup>nd</sup>, 2018 for an extended injectivity test:

**ORDER 18-02-007**

1 Under Section 75(1)(d) of the *Oil and Gas Activities Act*, the Commission designates the temporary operation and use of a storage reservoir for the injection of fresh water or produced water, including flowback from fracturing operations, in the Sunrise field – Paddy-Cadotte formation as a special project in the following area:

DLS Twp 79 Rge 17 W6M Section 1 – Lsds 1, 2, 7, 8, 9, 10, 11, 12, 13, 14, 15 and 16

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. The Permit Holder shall:

- a) Inject water into the well ECA HZ Sunrise D13-1-79-17; WA# 34056 Paddy-Cadotte formation (open hole from 1151.0 – 2141.0 mKB MD)
- b) Not exceed an injection pressure, measured at the wellhead on the subject well, of 13,090 kPag or the pressure required to fracture the formation, whichever is lesser.
- c) If the fluid injected is not fresh water, inject only through tubing with a packer set as near as is practical above the injection interval.
- d) The total volume of injected water must not exceed 5,000 m<sup>3</sup>.

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

DATED AT the City of Victoria, in the Province of British Columbia, this 15<sup>th</sup> day of May, 2018.