



April 26, 2018

8157-2800-32640-02

Trevor Befus
Environment and Regulatory Planner
Catapult Environmental Inc.
Suite 1620, 700 – 9th Ave S.W.
Calgary, AB T2P 3V4

Dear Mr. Befus,

**RE: EXTENDED INJECTIVITY TEST
CATAPULT TOWER 13-26-81-17; WA# 20155
TOWER LAKE FIELD – CADOMIN AND NIKANASSIN FORMATIONS**

Commission staff have reviewed the application from Catapult Environmental Inc., dated April 18th, 2018, requesting an extended injectivity test of 3,000 m³ into the Cadomin and Nikanassin formations of the subject well.

The subject well was approved for disposal into the Bluesky formation on March 22, 2018. However injectivity into the Bluesky zone declined quickly after disposal activity started and soon reached uneconomic rates. Catapult has requested an extended injectivity test into the Cadomin and Nikanassin zones to determine the injection potential of these zones. The Cadomin and Nikanassin will be operated as a combined disposal zone.

Attached please find **Order 18-02-006**, designating an area in the Tower Lake field, Cadomin and Nikanassin formations, 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. This authorization does not warrant that a future disposal approval will be issued.

Additional general information regarding disposal wells is available on the Commission's website at <http://www.bcogc.ca/industry-zone/documentation/Subsurface-Disposal>. Note that the maximum wellhead injection pressure (MWHIP) designated in condition 2b) was calculated using a fracture gradient of 26 kPa/m as a conservative value prior to receiving results of the zonal DFIT test.

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

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Stefik', is written over a horizontal line.

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

Attachment



IN THE MATTER of the application from Catapult Environmental Inc. to the Oil and Gas Commission (Commission), dated April 18th, 2018 for an extended injectivity test:


ORDER 18-02-006

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 produced water, including flowback from fracturing operations, in the Tower Lake field – Cadomin and Nikanassin formations as a special project in the following area:

DLS Twp 81 Rge 17 W6M Section 26 - Lsds 11, 12, 13 and 14

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 produced water only into the well Catapult Tower 13-26-81-17; WA# 20155 – Cadomin (perforations 1235.0 to 1263.0 mKB) and Nikanassin (perforations 1287.0 to 1301.0 mKB) formations.
- b) Not exceed an injection pressure, measured at the wellhead on the subject well, of 15,460 kPag or the pressure required to fracture the formation, whichever is lesser.
- c) Inject only through tubing with a packer set as near as is practical above the injection interval.
- d) Report the injection volumes 50% to the Cadomin formation and 50% to the Nikanassin formation.
- e) The total volume of injected water must not exceed 3,000 m³.



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

DATED AT the City of Victoria, in the Province of British Columbia, this 26th day of April, 2018.