

April 2, 2020

7750-2885-32640-02

Brad Makowecki
Crew Energy Inc.
Suite 800, 250 – 5th Street S.W.
Calgary, Alberta
T2P 0R4

Dear Mr. Makowecki:

**RE: PRODUCED WATER DISPOSAL SPECIAL PROJECT
CREW HZ MONIAS B8-22-82-20 (WA #30266)
SEPTIMUS FIELD – CADOMIN-NIKANASSIN FORMATION**

The Commission has reviewed the application submitted by Crew Energy Inc. (Crew), dated March 6th, 2020 requesting approval to dispose of produced water into the Cadomin formation of the subject well. The subject well was purpose drilled horizontally into the Cadomin-Nikanassin formation for disposal with a rig release date of Feb 29th, 2020. The well was completed with an open-hole 13-stage ball drop system. Crew has a surplus of produced water due to decreased completions activities and the close proximity to Crew's 10-14-82-20 facility allows water to be pipelined, reducing trucking.

Attached please find **Order 20-02-002**, designating an area in the Septimus field – Cadomin-Nikanassin formation as a Special Project under section 75 of the *Oil and Gas Activities Act*, for the operation and use of a storage reservoir for the disposal of produced water. The Commission recognizes the Cadomin and Nikanassin formations as a compound, unsegregated zone in this area for disposal use. This Order includes a number of detailed operational conditions including: continuous tubing and casing pressure measurements, a maximum wellhead injection pressure, an ultimate reservoir pressure limit, as well as wellbore integrity monitoring and reporting requirements. Disposal wells are subject to regular field inspection and audit. Contravention of a condition of this Order may be subject to enforcement under section 62 of OGAA, or suspension or cancellation of the Order under section 75(2)(b).

Disposal of fluid with high total dissolved solids content requires adjustment of the wellhead injection pressure to remain below formation fracture pressure. It is the responsibility of the permit holder make adjustments to wellhead injection pressure.

In certain circumstances, disposal well operation may induce seismicity of values that require modification of operations to mitigate.

For the inspection requirement of Order condition 2 I), please arrange via email to OGCPipelines.Facilities@bcogc.ca.

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

Sincerely,



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

Attachment

Advisory Guidance for Order 20-02-002

- 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 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 disposal 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 disposal operations suspended as per section 21.1 of the Drilling and Production Regulation.