



March 17, 2015

7750-4800-59240-16

Brad Makowecki  
Crew Energy Inc.  
800, 250 – 5<sup>th</sup> Street S.W.  
Calgary AB T2P 0R4

Dear Mr. Makowecki,

**RE: PRODUCED WATER EXTENDED INJECTION TEST  
CREW SEPTIMUS 06-31-081-18 W6M; WELL PERMIT #4810  
CREW SEPTIMUS 09-36-081-19 W6M; WELL PERMIT #6812  
HALFWAY FORMATION**

Commission staff have reviewed your submission dated March 11, 2015 seeking approval for an extended injection test on potential deep disposal well locations in the Septimus field – Halfway “A” pool. Pre-application review has occurred for these wells, with Crew now seeking approval to conduct extended injection testing to confirm reservoir performance and to determined appropriate facility design.

As indicated in the pre-application letter, there are producing wells in this pool, though neither the current production nor the reservoir pressure are expected to be affected by the proposed 2 week test of up to 15,000 m<sup>3</sup>.

Attached please find Orders 15-02-005 and 15-02-006, designating areas in the Septimus field, Halfway formation 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 disposal of salt water. The Commission understands that wellbore integrity and injectivity will be tested at the 9-36 well and if successful, will negate the need for testing at the 6-31 well, with a notice of such submitted of the Commission.

Please note these are temporary approvals. Wellbore integrity confirmation, available evidence of area faulting and pressure data submission are required with the full application. The Commission cannot guarantee that a future application will be approved. 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 Gaucher at (250) 419-4482 or the undersigned (250) 419-4430.

Sincerely,

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

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

Attachments


IN THE MATTER of the application from Crew Energy Inc., to the Oil and Gas Commission (Commission) dated March 11, 2015 for the temporary operation and use of a storage reservoir.

**ORDER 15-02-005**

- 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 disposal of produced salt water or recovered fluids from well completions in the Septimus field – Halfway “A” pool as a special project in the following area:

DLS Twp 81 Rge 18 W6M Section 31 - Lsds 3, 4, 5 and 6.

- 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, including well flowback completion fluids, only into the well Crew Septimus 6-31-81-18 W6M; WA# 4810 Halfway formation, 1690.0 – 1700.0 mKB.
  - b) Not exceed an injection pressure, measured at the wellhead on the subject well, of 17,000 kPag or the pressure required to fracture the formation, whichever is lesser.
  - c) The total volume of injected water must not exceed 15,000 m<sup>3</sup>.
  - d) Inject only through tubing with a packer set as near as is practical above the injection interval.
  - e) Continually measure and record the wellhead casing and tubing pressures.
  - f) Cease injection and notify the Commission immediately if hydraulic isolation is lost in the wellbore or formation.
  - g) Perform a casing inspection log to plug back depth on the subject well and submit results to the Commission within 30 days of the completion of logging.
  - h) Perform a hydraulic isolation log on the subject well to plug back depth and submit results to the Commission within 30 days of the completion of logging.
  - i) Not conduct hydraulic fracture stimulation on any formation in the subject well without prior Commission approval.

  
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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 17<sup>th</sup> day of March 2015.


IN THE MATTER of the application from Crew Energy Inc., to the Oil and Gas Commission (Commission) dated March 11, 2015 for the temporary operation and use of a storage reservoir.

**ORDER 15-02-006**

- 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 disposal of produced salt water or recovered fluids from well completions in the Septimus field – Halfway “A” pool as a special project in the following area:

DLS Twp 81 Rge 19 W6M Section 36 - Lsds 9, 10, 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 produced water, including well flowback completion fluids, only into the well Crew Septimus 9-36-81-19 W6M; WA# 6812 Halfway formation, 1648.0 – 1661.0 mKB.
  - b) Not exceed an injection pressure, measured at the wellhead on the subject well, of 17,000 kPag or the pressure required to fracture the formation, whichever is lesser.
  - c) The total volume of injected water must not exceed 15,000 m<sup>3</sup>.
  - d) Inject only through tubing with a packer set as near as is practical above the injection interval.
  - e) Continually measure and record the wellhead casing and tubing pressures.
  - f) Cease injection and notify the Commission immediately if hydraulic isolation is lost in the wellbore or formation.
  - g) Perform a casing inspection log to plug back depth on the subject well and submit results to the Commission within 30 days of the completion of logging.
  - h) Perform a hydraulic isolation log on the subject well to plug back depth and submit results to the Commission within 30 days of the completion of logging.
  - i) Not conduct hydraulic fracture stimulation on any formation in the subject well without prior Commission approval.

  
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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 17<sup>th</sup> day of March 2015.