



March 17, 2020

0320-4100-32640-02

Hugo Martinez, P.Eng.  
Sr. Staff Reservoir Engineer  
Pacific Canbriam Energy Inc.  
2100, 215 – 2<sup>nd</sup> Street S.W.  
Calgary, Alberta T2P 1M4

Dear Mr. Martinez,

**RE: PRODUCED WATER DISPOSAL SPECIAL PROJECT AMENDMENT #2  
RESERVOIR PRESSURE TESTING DEFERRAL  
PACIFIC CANBRIAM ALTARES d-76-H/94-B-08; WA# 31916  
ALTARES FIELD – BALDONNEL FORMATION**

Commission staff have reviewed the request from Pacific Canbriam Energy (PCE), dated March 10, 2020, to delay the required reservoir pressure test by two months. The well Pacific Canbriam Altares d-76-H/94-B-8 (WA# 31916) is required, by OGAA section 75 Special Project Order 17-02-015, to have a reservoir pressure test conducted every six months. The most recent test conducted in the well is dated September 26, 2019. PCE has requested deferral of the test due March 26, 2020 by two months; to May 26, 2020. PCE requires the well to be active throughout breakup to manage produced water volumes as PCE's c-7-H/94-B-8 disposal well has proven unsuccessful and an alternative well has yet to be identified.

The total volume of injection into the subject well at January 31, 2020 is 178,815 m<sup>3</sup>; 59,582 m<sup>3</sup> injected since the last test. The static gradient conducted on September 26, 2019, reported a reservoir pressure of 18,772 kPaa at the mid-point of perforations (MPP) and condition 2l) of the approval order requires that injection cease at a maximum formation pressure of 18,840 kPaa. While the Commission recognizes that the pressure measurement at the end of the test is a transient value, which will continue to fall, we also note that the Baldonnell formation in the Altares area has demonstrated limited disposal capacity.

Approval Order 17-02-015, Condition 2k) is hereby deferred until May 26, 2020, with the following conditions:

- Disposal operations must cease by May 26, 2020 at 11:59 pm,
- Disposal operations may not recommence until downhole recorders measure a reservoir pressure of 18,840 kPaa or less at MPP,
- The injection volume for April and May 2020 cannot exceed 30,000 m<sup>3</sup>, and
- In the event of an induced seismic event of magnitude 3.0 M<sub>L</sub>, disposal operations will cease immediately and not resume until approved by the Commission.

Please note that disposal of fluid with high total dissolved solids content requires adjustment of the wellhead injection pressure to remain below formation fracture pressure, as per condition 2b).

Should you have any questions, please contact Kathryn Archibald at (250) 419-4406 or Ron Stefik at (250) 419-4430.

Sincerely,

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