

July 5, 2021

3200-8400-32640-02

Darren Jackson, P. Eng.
Sr. Field Operations Engineer
Tallahassee Exploration Inc.
1910, 401 – 9th Ave SW
Calgary, AB T2P 3C5

Dear Mr. Jackson,

**RE: PRODUCED WATER SPECIAL PROJECT APPROVAL; AMENDMENT #1
TEI ET AL CLARKE c-80-F/94-J-10; WA# 7768
CLARKE LAKE FIELD – SLAVE POINT 'B' POOL**

Commission staff had a virtual meeting with Tallahassee Exploration Inc. (Tallahassee) on June 11th, 2021 where Tallahassee indicated an intent to recommence disposal operations in the subject well.

The subject well was drilled and completed into the Clarke Lake Slave Point 'B' pool in 1992 for the production of gas. The well produced for just two months and then was suspended. The well was approved for disposal in 2003 and commenced disposal operations in 2004. In 2012, the well was perforated and cement squeezed at 695-696mKB to remediate a SCVF and a casing patch was inserted to cover the perforations. The well ceased disposal in July of 2016, after disposing 112,000 m³ of water. In November 2020, this well was flagged by the Commission as needing updated conditions and new logging and testing to ensure suitability for future disposal. Tallahassee provided an existing cement bond log and indicated that they would provide outstanding tests and logs prior to recommencing injection operations.

Attached please find **Order 03-02-010 Amendment #1**, designating an area in the Clarke Lake field, Slave Point 'B' pool, 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. This Order includes a number of detailed operational, measurement and reporting conditions. 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).

Condition 2h) requires a reservoir pressure test prior to commencement of disposal operations. As per previous correspondence between the Commission and Tallahassee, a surface pressure measurement may be accepted if the estimated bottom hole pressure is less than 95% of the maximum reservoir storage pressure prescribed in condition 2i). A new cement bond log is required by condition 2j)i) as the previous log was only run to 1,180mKB, and does not provide assurance of cement quality for a significant interval above the disposal formation. Due to the wellsite being winter access only, condition 2j) requires that logs be done prior to January 31st, 2022. Also, as per condition 2k), only 6,000 m³ of injection may occur, prior to submission of the logs required by condition 2j).

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

Sincerely,



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

Attachment

ORDER 03-02-010 Amendment #1

1. Under Section 75(1)(d) of the *Oil and Gas Activities Act*, the Commission designates the operation and use of a storage reservoir for produced water, including flowback from fracturing operations, in the Clarke Lake field – Slave Point ‘B’ pool as a special project in the following area:

NTS 94-J-10 Block F Unit 80

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 TEI et al Clarke c-80-F/94-J-10; WA# 7768 Slave Point ‘B’ pool from 2,034.0 – 2,046.0 mKB.
 - b) Not exceed an injection pressure, measured at the wellhead on the subject well, of 4,450 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) Continually measure and record the wellhead casing and tubing pressures electronically.
 - e) Include the disposal operating hours and the maximum injection pressure value on the monthly Petrinex disposal report.
 - f) Cease injection and notify the Commission at Reservoir@bcogc.ca immediately if there are any indications that hydraulic isolation is lost in the wellbore or if casing pressure measured at surface exceeds 1MPa.
 - g) Conduct and submit an annual Surface Casing Vent Flow test to the Commission within 30 days of the completion of the test.
 - h) Conduct a reservoir pressure test on the formation in the subject well prior to recommencing disposal operations, with a shut-in period of sufficient length to provide data for calculation of the reservoir pressure, and submit a report of the test within 60 days of the end of the test. Thereafter, conduct annual reservoir pressure tests.
 - i) Cease injection upon reaching a maximum formation pressure of 23,900 kPaa, measured at 2,040.0 mKB.
 - j)
 - i) Perform a cement bond log on the subject well prior to January 31st, 2022 and submit results to the Commission within 30 days of the completion of logging.
 - ii) Perform a casing inspection log on the subject well prior to January 31st, 2022 and submit results to the Commission within 30 days of the completion of logging. Thereafter, perform a casing inspection log at an interval of not more than every 10 years.
 - iii) Perform a hydraulic isolation temperature log on the subject well prior to January 31st, 2022 and submit results to the Commission within 30 days of the completion of logging. Thereafter, perform a hydraulic isolation log at an interval of not more than every 5 years.
 - k) Total disposal volume following the date of this amendment shall not exceed 6,000 m³ until a new cement bond log, casing inspection log, and hydraulic isolation log, noted under condition j), are submitted to the Commission.
 - l) Not conduct a hydraulic fracture stimulation on any formation in the subject well without prior Commission approval.



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

DATED AT the City of Victoria, in the Province of British Columbia, this 5th day of July 2021.

Advisory Guidance for Order 03-02-010 Amendment #1

- 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.