

July 5, 2023

8200-4800-32640-02

Peter Cochrane, P.Eng.
Vice President, Engineering
Coelacanth Energy Inc.
Suite 2110, 530 - 8th Avenue SW
Calgary, AB T2P 3S8

Dear Mr. Cochrane:

**RE: PRODUCED WATER DISPOSAL SPECIAL PROJECT APPROVAL
COELACANTH TWO RIVERS 2-8-83-16 (WA #16297)
TWO RIVERS FIELD – HALFWAY 'A' POOL**

The Regulator has reviewed the application submitted by VZFOX Canada Ltd. on behalf of Coelacanth Energy Inc. (Coelacanth) dated October 12th, 2022, requesting approval for disposal of produced water into the Two Rives field Halfway 'A' pool via the subject well.

The 2-8 well was drilled and completed in the Halfway 'A' pool in September of 2003 but was zonally abandoned and the Siphon 'A' pool was completed for the production of oil from 2003 until 2016. The Siphon zone was cement squeezed in 2022 and the Halfway zone was recompleted and injection tested in preparation for disposal operations. The Halfway 'A' pool contains 3 wells, 2 of which are zonally abandoned, and well Coelacanth Two Rivers 6-9-83-16 (WA 2139), which is commingled with the Baldonnel 'A' pool with the two zones currently not isolated.

Attached please find **Order 23-02-002**, designating an area in the Two Rivers field, Halfway 'A' 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 injection 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). Due to the degraded casing and cement squeezed Siphon interval, conditions 2e), 2f), 2g), and 2n)i) have been included, specifying casing pressure-related equipping and operating requirements, a requirement for PITs every 6 months, and a requirement for casing inspection logs every 5 years, respectively. Condition 2m) limits disposal volume prior to the decommissioning of WA 2139.

For the inspection requirement of Order condition 2p), please arrange via email to pipelines.facilities@bc-er.ca.

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.

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
Energy Regulator

Attachment



IN THE MATTER of the application from VZFOX Canada Ltd. on behalf of Coelacanth Energy Inc. to the Energy Regulator dated October 12th, 2022, requesting disposal approval:

ORDER 23-02-002

1. Under Section 75(1)(d) of the *Oil and Gas Activities Act*, the Regulator designates the operation and use of a storage reservoir for produced water, including flowback from fracturing operations, in the Two Rivers field – Halfway 'A' pool as a special project in the following area:

DLS Twp 83 Rge 16 W6M Section 8 – LDSs 1, 2, 7, and 8

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 into the well Coelacanth Two Rivers 2-8-83-16; WA# 16297 Halfway 'A' pool from 1,525.0 – 1,530.0 mKB MD.
 - b) Not exceed an injection pressure, measured at the wellhead on the subject well, of 17,075 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) Alarm the annulus pressure monitoring system to indicate when casing pressure varies outside the normal operating range.
 - f) Equip and operate the well, such that if the casing pressure exceeds a normal operating range, the well will stop injection and/or relieve the casing pressure.
 - g) Complete a packer isolation test on the subject well every 6 months and submit the report to the Regulator within 30 days of the completion of the test.
 - h) Include the disposal operating hours and the maximum injection pressure value on the monthly Petrinex disposal report.
 - i) Cease injection and notify the Regulator at Reservoir@bc-er.ca immediately if there are any indications that hydraulic isolation is lost in the wellbore or formation.
 - j) Conduct and submit an annual Surface Casing Vent Flow test to the Regulator within 30 days of the completion of the test.
 - k) Conduct an annual reservoir pressure test on the formation in the subject well, 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.
 - l) Cease injection upon reaching a maximum formation pressure of 14,450 kPaa, measured at 1,527.5 mKB TVD.
 - m) Total cumulative disposal volume must not exceed 175,000m³ prior to subsurface abandonment of the well Coelacanth Two Rivers 6-9-83-16 (WA 2139).
 - n)
 - i) Perform a casing inspection log on the subject well and submit results to the Regulator within 30 days of the completion of logging, at an interval of not more than every 5 years, commencing from the date of initial disposal.
 - ii) Perform a hydraulic isolation temperature log on the subject well and submit results to the Regulator within 30 days of the completion of logging, at an interval of not more than every 5 years, commencing from the date of initial disposal.
 - o) Not conduct a hydraulic fracture stimulation on any formation in the subject well without prior Regulator approval.

- p) Complete an inspection, satisfactory to the Regulator, within 4 weeks of initial disposal operations.



Ron Stefik, P.L.Eng.
Supervisor, Reservoir Engineering
Energy Regulator

DATED AT the City of Victoria, in the Province of British Columbia, this 5th day of July, 2023.

Advisory Guidance for Order 23-02-002

- 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 Regulator 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 Regulator 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.