

June 16, 2024

5852-2805-59240-13

Ted Bowen
Bench Creek Resources Ltd.
57017 Range Road 141
Yellowhead County, AB T7E 3Z7

Dear Mr. Bowen:

**RE: TEMPORARY GAS RECYCLING SPECIAL PROJECT APPROVAL
MAXHAMISH FIELD – CHINKEH ‘A’ POOL**

The BC Energy Regulator (Regulator) has reviewed the application submitted by Bench Creek Resources Ltd. (BCR), dated June 4th, 2024, requesting approval for a temporary gas recycling project in the Maxhamish field Chinkeh ‘A’ formation.

The pool discovery well, *Mobil BP PCI Max c-51-B/94-O-14 (WA 7573)*, was drilled and completed into the subject pool in 1991. In 1999, Good Engineering Practice (GEP) approval Order 99-06-012 was granted to allow for optimized well spacing. In 2003, an oil leg was discovered in the central west of the pool and in 2008, Concurrent Production and GEP approval Order 08-07-003 was granted, allowing optimized production of oil and natural gas. Recent pressure data suggests that the oil leg is not in communication with the rest of the pool, however this data is not definitive and pool changes are not required. In early January 2023, four wells in the subject pool were approved for commingled production with the Scatter formation. Through 129 production wells, the pool has cumulatively produced 6,812 e⁶m³ of gas, 127.2 e³m³ of condensate and pentanes+, 67.8e3m³ of LPGs, and 89.1e3m³ of oil.

In late May 2024, the Fort Nelson Gas Plant was suspended indefinitely, stranding gas production in the subject pool. BCR proposes to strip hydrocarbon liquids from the produced gas stream and reinject the lean gas back into subject pool via 11 injection wells in the center of the pool, through repurposed gas production wells.

The following Orders are attached;

- 1) Order 24-13-001 designating a Gas Recycling project within the Maxhamish field – Chinkeh ‘A’ pool, as a Special Project under section 75 of the *Energy Resource Activities Act*, and
- 2) Order 24-13-001 - OTN approving Other Than Normal Spacing under section 65.1 of the *Petroleum and Natural Gas Act* for the subject area and formation.

The Orders carry forward several of the items from Concurrent Production with Good Engineering Practice Approval Order 08-07-003, allow for gas recycling, and impose several new conditions. The Regulator notes that recent reservoir pressure testing of the pool has been insufficient to meet requirements of the BCER’s well testing guideline, as well, the conditions of the observation well designations for WA 10745 and WA 10876 have not been met. Non-compliance with a condition of this Order may be subject to enforcement under section 62 of ERAA, or suspension or cancellation of the Order under section 75(2)(b).

The monthly volumes, maximum wellhead injection pressure, and operating hours must be reported to the Regulator, as per section 75(1) the Drilling and Production Regulation. The Regulator recommends confirmation of Petrinex reporting requirements with the Ministry of Finance prior to the first reporting period.

This approval is temporary, and expires on June 30th, 2025, unless amended by the Regulator. Please contact the Regulator at Reservoir@bc-er.ca by April 30th, 2025, to discuss the future plans with the project. An application to amend the approval for extended use should consider further engineering assessment and inspection to ensure ongoing integrity of the injection wells.

Concurrent Production with Good Engineering Practice Approval Order 08-07-003 is hereby suspended and may be reactivated, amended, or cancelled at a later date.

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

Sincerely,



Richard Slocomb, M.A.Sc., P.Eng., C.Dir.
Vice President, Well & Energy Resource Stewardship
BC Energy Regulator

Attachments



IN THE MATTER of the application from Bench Creek Resources Ltd., dated June 4th, 2024, requesting approval for a temporary gas recycling project approval:

ORDER 24-13-001

- 1 Under section 75(1)(a) of the *Energy Resource Activities Act*, the Maxhamish field – Chinkeh ‘A’ pool is designated as a Special Project for the recovery of hydrocarbon liquids utilizing gas recycling within the following area;

- NTS 94-O-6 Block J - units 20, 30, 38-40, 48-50, 56-60, 66-70, 76-80, 86-90, 96-100
Block K - units 11-19, 21-29, 31-39, 41-49, 51-59, 61-69, 71-100
Block L - units 71, 81, 91
- 94-O-11 Block B - units 6-10, 14-20, 24-30, 34-40, 44-50, 54-60, 64-70, 72-80, 82-90, 92-100
Block C - units 1-75, 81-85, 91-93
Block D - units 1, 11, 21, 31, 41, 51, 61
Block F - units 1-3, 11-15, 21-25, 31-35, 41-45, 51-55, 61-65, 71-77, 81-87, 91-97
Block G - units 2-100
Block H - units 20, 30, 40, 50, 60, 70, 80, 90, 100
Block I - units 10, 20, 30, 40, 50, 58-60, 68-70, 78-80, 88-90, 98-100
Block J - units 1-100
Block K - units 1-7, 11-17, 21-27, 31, 41, 51-53, 61-63, 71-75, 81-85, 91, 94-97
- 94-O-14 Block A - units 8-10, 18-20, 26-30, 36-40, 46-50, 56-60, 66-70, 76-80, 86-90, 96-100
Block B - units 1-39, 41-49, 51-59, 61-69, 71-79, 81-89, 91-98
Block C – units 1, 4-7, 11, 21
Block G - units 1-8, 11-18, 21-28, 31-37, 41-47, 51-57, 61-67, 71-75, 81-85, 91-95
Block H - units 6-10, 18-20, 28-30, 38-40, 48-50, 58-60, 68-70, 78-80, 88-90, 98-100
Block I - units 8-10 and
Block J - units 1-5.

- 2 Under section 75(2) of the *Energy Resources Activities Act*, the special project designation in this Order is subject to the following conditions:

- a) The project unadjusted daily oil allowable (UDOAA) is waived.
- b) All associated produced gas must be conserved or reinjected.
- c) Gas produced from the Maxhamish field Chinkeh ‘A’ pool may be reinjected into this pool via the following wells and intervals

Bench Creek Res Maxhamish a-53-J/94-O-11 (WA 10246), 1480-1485.6 mKB
Bench Creek Res Maxhamish b-22-J/94-O-11 (WA 10869), 1465.5-1469.5 mKB
Bench Creek Res Maxhamish c-55-J/94-O-11 (WA 11208), 1548.5-1549.5 mKB
Bench Creek Res Maxhamish c-51-J/94-O-11 (WA 11224), 1404.5-1406.5 mKB
Bench Creek Res Maxhamish c-32-J/94-O-11 (WA 11261), 1456.5-1458 mKB
Bench Creek Res Maxhamish d-36-J/94-O-11 (WA 11618), 1580.5-1582.5 mKB
Bench Creek Res Maxhamish d-34-J/94-O-11 (WA 11619), 1522-1524 mKB
Bench Creek Res Maxhamish d-25-J/94-O-11 (WA 13298), 1537.5-1540.5 mKB
Bench Creek Res Maxhamish d-45-J/94-O-11 (WA 13492), 1542-1544 mKB
Bench Creek Res HZ Maxhamish c-56-J/94-O-11 (WA 15321), 1708-2724 mKB
Bench Creek Res HZ Maxhamish c-A56-J/94-O-11 (WA 15324),
Drilling Event 1 - 1705-2605 mKB
Drilling Event 2 - 2166.5-2210 mKB

- d) Not exceed an injection pressure, measured at the wellhead of 5,000 kPag for the wells listed in c), or the pressure required to fracture the formation, whichever is lesser.
- e) Continually measure and record the wellhead tubing and casing pressures electronically for wells listed in (c).
- f) Cease injection for the well listed in (c) and notify the Regulator at Reservoir@bc-er.ca immediately if there is any indication that hydraulic isolation is lost in the wellbore or formation.
- g) Conduct annual Surface Casing Vent Flow tests on the wells listed in (c) and submit to the Regulator within 30 days of the completion of the test.
- h) Not exceed an average pool pressure of 8,575 kPaa measured at 913 meters subsea.
- i) Prior to March 31st, 2025, stabilized reservoir pressure must be obtained using downhole recorders from a well in the oil leg.
- j) Prior to March 31st, 2025, stabilized reservoir pressure must be obtained using downhole recorders from at least two wells in the gas pool, that are at least 2km apart from each other, and within 5km of the injection wells.
- k) Injection must cease upon termination of production from the pool.
- l) This order expires on June 30th, 2025, unless amended by the Regulator.



Richard Slocomb, M.A.Sc., P.Eng., C.Dir.
Vice President, Well & Energy Resource Stewardship
BC Energy Regulator

DATED AT the City of Victoria, in the Province of British Columbia, this 16th day of June 2024.



IN THE MATTER of the application from Bench Creek Resources Ltd., dated June 4th, 2024, requesting approval for a temporary gas cycling project approval:

ORDER 24-13-001 - OTN

- 1 Under Section 65.1(2) of the Petroleum and Natural Gas Act, Other Than Normal Spacing is approved in the Maxhamish field – Chinkeh 'A' pool within the following area;

NTS 94-O-6 Block J - units 20, 30, 38-40, 48-50, 56-60, 66-70, 76-80, 86-90, 96-100
Block K - units 11-19, 21-29, 31-39, 41-49, 51-59, 61-69, 71-100
Block L - units 71, 81, 91

94-O-11 Block B - units 6-10, 14-20, 24-30, 34-40, 44-50, 54-60, 64-70, 72-80, 82-90, 92-100
Block C - units 1-75, 81-85, 91-93
Block D - units 1, 11, 21, 31, 41, 51, 61
Block F - units 1-3, 11-15, 21-25, 31-35, 41-45, 51-55, 61-65, 71-77, 81-87, 91-97
Block G - units 2-100
Block H - units 20, 30, 40, 50, 60, 70, 80, 90, 100
Block I - units 10, 20, 30, 40, 50, 58-60, 68-70, 78-80, 88-90, 98-100
Block J - units 1-100
Block K - units 1-7, 11-17, 21-27, 31, 41, 51-53, 61-63, 71-75, 81-85, 91, 94-97

94-O-14 Block A - units 8-10, 18-20, 26-30, 36-40, 46-50, 56-60, 66-70, 76-80, 86-90, 96-100
Block B - units 1-39, 41-49, 51-59, 61-69, 71-79, 81-89, 91-98
Block C – units 1, 4-7, 11, 21
Block G - units 1-8, 11-18, 21-28, 31-37, 41-47, 51-57, 61-67, 71-75, 81-85, 91-95
Block H - units 6-10, 18-20, 28-30, 38-40, 48-50, 58-60, 68-70, 78-80, 88-90, 98-100
Block I - units 8-10 and
Block J - units 1-5.

- 2 Under section 65.1(3) of the Petroleum and Natural Gas Act, I specify the following:

- a) the target area for an oil well completed within the project area is not nearer than 100 m to the sides of the Other Than Normal Spacing area,
- b) the target area for a gas well completed within the project area is not nearer than 250 m to the sides of the Other Than Normal Spacing area,
- c) an oil or gas well completed outside the target area specified in paragraphs (a) and (b) respectively, may be subject to an off-target production penalty,
- d) oil and gas wells drilled within the specified project area are not subject to spacing requirements.
- e) This order expires on June 30th, 2025, unless amended by the Regulator.

Richard Slocomb, M.A.Sc., P.Eng., C.Dir.
Vice President, Well & Energy Resource Stewardship
BC Energy Regulator

DATED AT the City of Victoria, in the Province of British Columbia, this 16th day of June 2024.