



April 16, 2024

8100-4800-59240-16

Matthew Elms, P.Eng.  
Production Engineer, BC North  
Canadian Natural Resources Limited  
2100, 855 – 2<sup>nd</sup> St. S.W.  
Calgary, AB T2P 4J8

Dear Mr. Elms:

**RE: ACID GAS DISPOSAL APPROVAL 98-16-003 AMENDMENT #6  
CNRL W STODDART 7-34-87-21 W6M; WA# 11398  
STODDART WEST FIELD – HALFWAY FORMATION**

The subject well was approved for acid gas disposal on September 18, 1998. On September 1, 2020, the disposal approval order was amended to change this well to a backup disposal well due to elevated Halfway formation reservoir pressure. The amended order stipulated very limited injection volumes, and annual reservoir pressure tests to monitor the fluid dispersion.

A pressure test in August 2023 indicated a significant reduction in the reservoir pressure. Given the very limited disposal operations and the lower pressure approaching stabilization, less frequent reservoir pressure testing is appropriate.

Attached please find Order 98-16-003 Amendment #6, designating an area in the Stoddart West field, Halfway formation, as a Special Project under section 75 of the Energy Resource Activities Act, for the operation and use of a storage reservoir for the disposal of acid gas. The reservoir pressure testing requirement is changed to every three years, with the next test due in 2026. This is a backup disposal well with conditions unique to the hazards and use of this well. Please review the Order in detail.

Should you have any questions, please contact Michelle Gaucher at (250) 419-4482 or Ron Stefik at (250) 419-4430.

Sincerely,

A handwritten signature in blue ink, appearing to read 'R. Stefik'.

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

## ORDER 98-16-003 AMENDMENT #6

- 1 Under Section 75(1)(d) of the *Energy Resource Activities Act*, the Regulator designates the Halfway formation as a special project for the operation and use of a storage reservoir for the disposal of acid gas within the following area:

DLS      TWP 87    RNG 21    Sec 34.

- 2 Under section 75(2) of the *Energy Resource Activities Act*, the special project designation in this Order is subject to the following conditions. The Permit Holder shall:

### Well Details

- a) Inject acid gas only into the well CNRL W Stoddart 07-34-087-21; WA 11398 – Halfway formation (1587.5 – 1596.0 mKB).

### Operating Limits

- b) Limit the maximum H<sub>2</sub>S concentration of the injection fluid stream to 95%.
- c) Not exceed an injection pressure, measured at the wellhead on the subject well, of 10,500 kPag or the pressure required to fracture the formation, whichever is lesser.
- d)
  - i) In the event of an issue preventing alternative disposal, injection may occur for a single consecutive 48 hour period, to a maximum of 3 disposal sessions per year.
  - ii) If injection occurs, inform the Regulator at [reservoir@bc-er.ca](mailto:reservoir@bc-er.ca) as soon as practicable.
- e) Inject only through tubing with a packer set as near as is practical above the injection interval.
- f) Continually measure and record the wellhead casing and tubing pressures electronically, including when the disposal well is inactive or suspended.

### Monitoring

- g) Conduct and submit an annual Surface Casing Vent Flow test to the Regulator within 30 days of the completion of the test.
- h) Each 3 yrs, conduct a 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.

### Wellbore Integrity

- i) Ensure a Wellhead Emergency Shut-Off Device is installed to operate “fail-safe” and is linked to H<sub>2</sub>S detector heads at the wellhead.
- j) Ensure a Subsurface Safety Valve (SSSV) is installed to operate “fail-safe”.
- k) Annually confirm the Subsurface Safety Valve is capable of activation remote from the wellhead.
- l) Implement appropriate corrosion and freeze protection measures in the casing-tubing annulus.

- m) Cease injection and notify the Regulator immediately if hydraulic isolation is lost in the wellbore or formation.
- n) Perform 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 10 years, commencing from the date of initial disposal. Through tubing logging is acceptable.
- o) 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 5 years, commencing from the date of initial disposal.
- p) Maintain a barricade around the wellhead that is capable of withstanding vehicle collision.
- q) Not conduct a hydraulic fracture stimulation on any formation in the subject well without prior Regulator approval.
- r) Submit a Progress Report to the Regulator for each six-month period the well status is active. The Progress Report must be filed within 60 days after the end of each period and must contain the information specified in the Acid Gas Progress Report Requirements document found on the OGC website here:  
<http://www.bcogc.ca/industry-zone/documentation/Subsurface-Disposal>.
- s) Prior to abandonment of the disposal zone, conduct a reservoir pressure test on the zone 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.



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

DATED AT the City of Victoria, in the Province of British Columbia, this 16<sup>th</sup> day of April 2024.

### **Advisory Guidance for Order 98-16-003 Amendment #6**

- I. A production packer must be set above the injection interval and the space between the tubing and casing filled with corrosion 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 20<sup>th</sup> day of the month following the reported month, as per section 75 of the Drilling and Production Regulation.
- V. All fluid analyses must be submitted with 30 days of tests as per section 34(5)(a) of the Drilling and Production Regulation.
- VI. Seismic events must be reported and disposal operations suspended as per section 21.1 of the Drilling and Production Regulation.