



April 27, 2020

Janpeter Lennie-Misgeld
Senior Advisor, Legislation and Policy
Office of the Regulator of Oil and Gas Operations
4th Floor, 5201-50 Avenue
Yellowknife, NT
X1A 3S9

**RE: Information Request No.1:
Application to Alter the Condition of a Well for the Abandonment of the
Arrowhead River K-35 well (ACW-2019-016-CNRL-K-35-WID1991)**

Dear Sir:

Canadian Natural Resources Limited (Canadian Natural) is responding to the Information Request letter dated March 27, 2020 from the Office of the Regulator of Oil and Gas Operations (OROGO) with the following information:

1.1 Detailed Operations Program

Request: Please submit an updated abandonment program that provides sufficient detail to determine how CNRL proposes to:

- 1) Safely conduct pressure testing of pumping surface lines as stated in Step 17;
- 2) Kill the well as stated in Step 25;
- 3) Ensure that the internal surface of the casing is free of debris and/or scaling if a scraper run is NOT completed before installing the bridge plug as stated in Step 26; and
- 4) Prepare, introduce and circulate the cement when placing the required 30 metres of circulated cement as stated in Step 30.

Response: CNRL has updated the abandonment program with more concise; or additional verbiage to enhance or clarify the procedures / intentions of the program steps in question above.

Canadian Natural Resources Limited

Suite 2100, 855 - 2nd Street SW, Calgary, Alberta, T2P 4J8 T 403.517.6700 F 403.514.7677 www.cnrl.com



1.2 Isolation of Porous Zones

Request: Please submit an updated abandonment program that provides sufficient operational and geological detail to determine how CNRL will ensure isolation all porous zones in the open hole section of the well.

Response: There are no perforated intervals in the open hole section of the wellbore. CNRL's geology team notes that interpretation of porosity from strip logs is subjective and also notes that there has been no signs of hydrocarbons or hydrocarbon recovery from the open hole section. CNRL contends that there are no discrete zones which require isolation in the open hole section.

If you have any questions, please contact the undersigned at Ryan.N.Munro@cnrl.com; or at (403) 386-6538.

Yours truly,

CANADIAN NATURAL RESOURCES LIMITED

A handwritten signature in blue ink, appearing to read "Ryan Munro", with a stylized flourish at the end.

Ryan Munro, P.Eng.
Manager, Abandonment Engineering