



Office of the Regulator of Oil and Gas Operations
P.O. Box 1320, Yellowknife, NT
X1A 2L9
via email: orogo@gov.nt.ca

August 31, 2023

Attention: Pauline de Jong, Executive Director

Request for Extension to ACW-2019-011-CNRL-P-16-WID1976

On August 29, 2023 CNRL performed the third remedial operation (all three of which were performed in the summer of 2023) on P-16 in an attempt to eliminate the intermediate casing flow. The first operation to fix the intermediate casing flow was performed with the casing expansion tool over 9 intervals throughout the wellbore and the other two operations were cement squeezes. This intermediate casing flow was detected on July 14th and a vent-nanny was installed on July 18th, 2023.

Early signs are indicating that the remediation was successful, but additional time to monitor is required since the flow has not completely died out. CNRL is requesting an extension to September 30, 2024 to monitor this intermediate casing flow, to perform an additional remedial operation if required, and to cut and cap the wellbore.

Currently, river levels on the Liard River are dropping and will soon limit service rig access to the P-16 site. Access to the site with a service rig will not be possible this fall and would only be possible in the winter with an extensive ice bridge being built. If the intermediate casing flow remains on this wellbore into 2024, CNRL would propose to access the site again in the summer of 2024 via barge to perform an additional remedial operation if required. CNRL believes this is the safest and most efficient option and will give sufficient time to determine if the three remediations were successful.

As with A-77 and K-77, months of monitoring was required to ultimately prove that the remedial attempts were successful. CNRL currently has a vent-nanny on the P-16 well and will provide OROGO with weekly vent-nanny reports via email to orogo@gov.nt.ca.

Canadian Natural Resources

Suite 2500, 855 – 2 Street SW Calgary, Alberta, Canada T2P 4J8 T 403.517.6700 F 403.517.7350 www.cnrl.com

Please see the attached supporting documentation of the vent-nanny trend since the remedial operations took place. Based on the current trend data the intermediate casing flow is trending toward zero. CNRL will continue to model the flow rate as additional data is available from the vent-nanny. Additionally, if the data is showing that the flow has died out in the fall of 2023, CNRL will arrange to perform the cut and cap prior to the ground freezing.

If you require any additional follow up documentation please let me know.

Kind Regards,

Terran Bernhard, P.Eng.
Abandonment Engineer
Canadian Natural Resources Limited
O: (587) 955-0203
C: (403) 703-0237

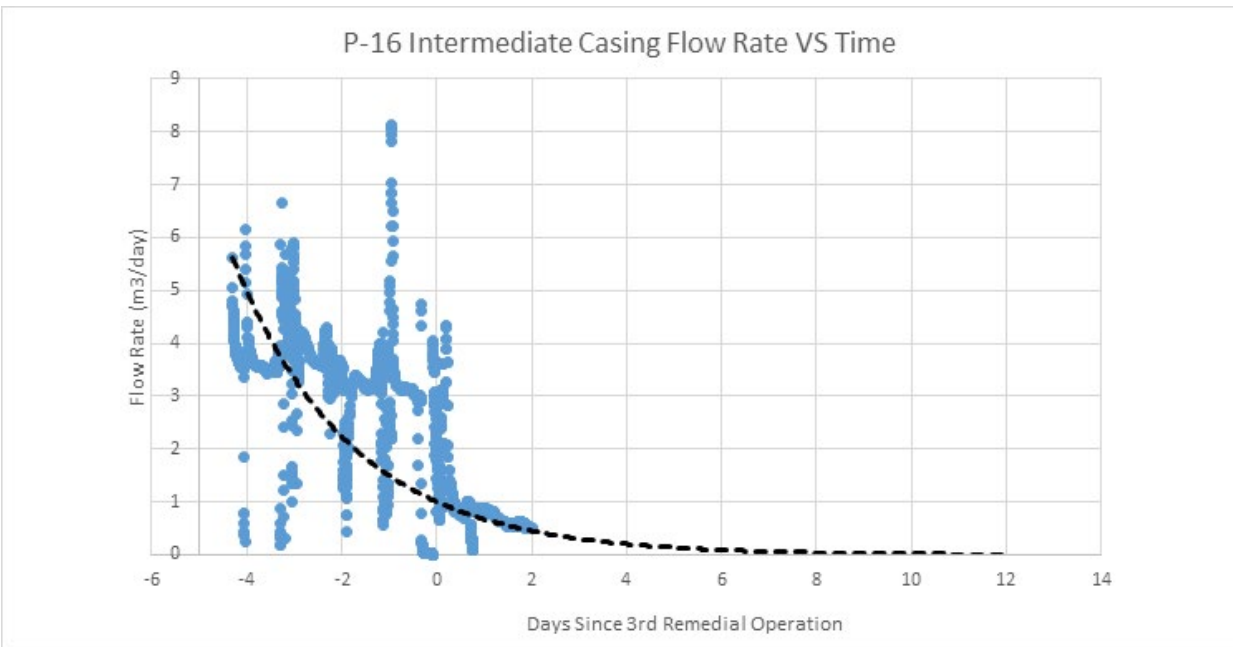
From: [Terran Bernhard](#)
To: [DST_JUS_OROGO](#); [Pauline DeJong](#); [Mike Martin](#); [Brandon Bradbury](#)
Cc: [James Ireland](#); [Dale Duffy](#); [Jason Tymo](#); [Wade Hartzell](#)
Subject: Request for Extension to ACW-2019-011-CNRL-P-16-WID1976
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Hello Pauline,

CNRL is requesting an extension on P-16 (WID 1976) to monitor the potential success of the remedial operations that took place this summer to September 30, 2024. Please see the attached letter outlining the request and the timelines proposed.

Also please see the below graph of the vent-nanny data where I have modelled the projected decline of the intermediate casing flow. The X axis might be a little confusing so I want to add some clarity to that. Zero on the x axis is August 29, 2023 (which was the date of the most recent remedial cement squeeze). Any negative values are just the number of days before the remedial operation (which shows where the flow rate was before the cement squeeze 3-4m³/day). I would have put dates on the graph but excel doesn't like to show exponential decline curves with dates so I hope that added some clarity for you.



If you have any questions please let me know.

Have a great long weekend,



Terran Bernhard, P.Eng.

Abandonment Engineer
Canadian Natural Resources Limited
O: (587) 955-0203
C: (403) 703-0237

