

Mr. Lloyd Doyle  
Corporate Operating Officer  
Paramount Resources Ltd.  
4700 Bankers Hall West  
888 3 STREET SW  
CALGARY AB 42P 5C5

January 9, 2017

Dear Mr. Doyle:

**Approval to Alter the Condition of a Well: Fort Liard N-01 (ACW-2016-006)**

The Office of the Regulator of Oil and Gas Operations (OROGO) has received the Paramount Resources Ltd (Paramount) application dated December 19, 2017 for an Approval to Alter the Condition of a Well (ACW) for the abandonment of the Fort Liard N-01 well.

I have issued the requested ACW under Paramount's existing Production Operations Authorization (POA), pursuant to subsection 10(4) of the *Oil and Gas Operations Act*. The ACW remains subject to the terms and conditions of that POA.

Please find attached the signed ACW form with terms and conditions. It has an expiry date of March 31, 2017.

If you have any questions, please do not hesitate to contact me at 867-767-9097 or by email at [James\\_Fulford@gov.nt.ca](mailto:James_Fulford@gov.nt.ca).

Sincerely,



James Fulford  
Chief Conservation Officer

Encl.

**ATTACHMENT FOR ACW-2016-006**

**TERMS AND CONDITIONS**

**For the Approval to Alter the Condition of a Well for the Abandonment of the Fort Liard N-01 Well**

1. This approval expires on March 31, 2017.
2. Paramount shall cause the approved work and activities to be conducted in accordance with all applicable legislation including *the Oil and Gas Drilling and Production Regulations* and the *Oil and Gas Occupation Safety and Health Regulations*.
3. Paramount shall cause the approved work and activities to be conducted in accordance with the specifications, standards and other information referred to in its application and subsequent submissions.
4. Paramount shall request approval from the Chief Conservation Officer prior to undertaking any change to or deviation from the authorized work or activities, including but not limited to key personnel, the safety plan, the environmental protection plan and contingency plans.
5. Unless otherwise directed by the Chief Conservation Officer, Paramount shall implement or cause to be implemented all of the policies, practices, mitigative measures, recommendations and procedures for the protection of the environment included in or referred to in the company's application and subsequent submissions and committed to by the company in the land and water board report for land use permit MV2016A0010.
6. Paramount shall provide OROGO with an updated, detailed schedule for this program at least 30 days prior to any work or activity by email at [orogo@gov.nt.ca](mailto:orogo@gov.nt.ca).
7. Paramount shall notify OROGO at least 10 days prior to the start of well abandonment operations by email at [orogo@gov.nt.ca](mailto:orogo@gov.nt.ca).
8. Paramount shall provide all staff and contractors for this program with the OROGO 24 hour Incident Reporting phone number (867-445-8551) prior to commencing any work or activity.
9. Paramount shall submit to OROGO an updated operator contact list for this program prior to any work or activity by email at [orogo@gov.nt.ca](mailto:orogo@gov.nt.ca).

10. Paramount shall submit to OROGO certificates and inspection documents for any service rig, well control and associated equipment (including boilers) at least 10 days prior to the rig commencing work by email at [orogo@gov.nt.ca](mailto:orogo@gov.nt.ca).
  11. Paramount shall submit all reports required under the *Oil and Gas Drilling and Production Regulations* in a timely manner to OROGO by email at [orogo@gov.nt.ca](mailto:orogo@gov.nt.ca).
  12. Paramount shall submit to OROGO a completed Change of Well Status form 30 days after the service rig release date or when the abandonment operation has finished.
  13. Paramount shall ensure that a continuous balanced cement plug (not staged) is in place during step 4(c) of the proposed N-01 abandonment program where Paramount proposes to "spot a minimum of 3.2 m<sup>3</sup> as a balanced plug".
  14. Prior to removing the well head and capping the well bore, Paramount shall fill the wellbore with non-saline water.
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## APPROVAL TO ALTER CONDITION OF A WELL

### APPLICATION

This application is submitted under Section 10 of the *Oil and Gas Drilling and Production Regulations*. When granted under Section 13 of the Regulations, this form is the requisite approval for the commencement of well operations. An approved copy of this notice is to be posted at each drill site.

Well Name	Para et al Fort Liard N-01		
Well Identifier	1902	Operations Authorization No.	No number
Operator	Paramount Resources	Current Depth	1940m KB
Operating Licence No.	NWT-OL-2014-014	Licence No.	Production Licence 007
Contractor	TBD	Drilling Rig or Unit	To be determined
Station Keeping	Not Applicable	Land Structure	Conventional Land
Current Well Status	Suspended March 2007	Anticipated Well Status Change	Abandoned Feb 2017
Land Use Permit No.	MV2016A0010	Issued by:	Mackenzie Valley Land and Water Board
Water Licence No.	MV2016L1-0002	Issued by:	Mackenzie Valley Land and Water Board
Location Unit	N	Section	01
		Grid	60-10-123-15
Coordinates (NAD 27)	Surface	Lat	60° 00' 52"
	Bottom Hole	Lat	60° 00' 52"
Ground Level / Seafloor	487.0 m	Elevation KB/RT	492.1m
Approximate Date of Commencement	January 2017	Est. Days on Location	5 days

#### WELL OPERATION PROGRAM

Activity Type	Top to Bottom Interval (m KB)	Comments
Abandonment	1451-1469	Pull tubing - Spot cement plug & squeeze
Select	-	Cut & cap at surface
Select	-	
Select	-	
Select	-	

#### Additional Information


Pull tubing, packer and spent TCP guns. Spot cement plug on top of sand and bridge plug @ 1557m to 1400m. Squeeze cement. Pressure test to 7000kPa. (This is AER D-20 compliant for both Mattson & Fantasque zones).

Cut casing 1m below ground & cap with non-sealing steel plate & well sign. Back fill hole.

All zones outside casing are isolated by the primary cement job - see attached diagram

The is no surface casing vent flow or gas migration as per 2015 and 2016 inspections

"I certify that the information provided on this form is true and correct"

Name	Lloyd Doyle	Telephone	(403) 290-3673 Ext
Job Designation	Corporate Operating Officer	E-Mail	lloyd.doyle@paramountres.com
Operator	Paramount Resources		
Signature		Date	Dec 19/16
	<small>Responsible Officer of Company</small>		

#### OROGO USE ONLY

This well approval is granted under section 13 of the *Oil and Gas Drilling and Production Regulations* and is subject to the terms and conditions attached to this approval and Operations Authorization No. Paramount Liard POA

Job Designation	<b>Chief Conservation Officer</b>	Well Identifier	1902	Unique-Well Identifier	ACW-2016-006
Signature		Date	Jan 9/17		
	<small>OROGO Authority</small>				

#### Instructions:

Send three copies of the completed form with original signatures, along with