



Imperial Oil

**Renewal Application for Water Licence S03L1-001
Drilling Fluid Management Summary
(Section 15 of 20)**

Submitted to the Sahtu Land and Water Board by Imperial Oil Resources N.W.T. Limited

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15.0 Drilling Fluid Management Summary

15.1 Introduction

The terms and conditions regulating Imperial Oil Resources N.W.T. Limited's (IOR) management of drilling waste are set out in the current Water Licence (S03L1-001 as amended). Over the effective period of the Water Licence (August 30, 2004 to present), IOR has conducted limited drilling. As part of these limited drilling activities, associated supernatant fluids have been transported to the F-31X Treatment and Injection Facility (F-31X Facility), and drilling mud solids have been shipped south for disposal at approved waste management facilities.

At this time, there is no planned drilling activity for Norman Wells Operation (NWO). If any wells are drilled in the future, drilling waste will be managed in a manner consistent with the recent programs: treated fluids will be injected and drilling mud solids will be transported to an off-site approved waste management facility.

From August 30, 2004 to date, a total of five wells have been drilled. A summary of the wells drilled over this period is presented in Table A.

Table A: Summary of Wells Drilled Over the Period of the Current Water Licence

Well Name	Spud (Drilling Start) Date	Rig Release Date	NAD 27 Latitude	NAD 27 Longitude
NORMAN WELLS M-50-1X	4-Jul-2008	28-Aug-2008	+65° 15' 24.1"	-126° 51' 56.4"
NORMAN WELLS N-13X	15-Sep-2008	28-Sep-2008	+65° 16' 33.4"	-126° 56' 26.6"
NORMAN WELLS N-50X	15-Sept-2009	21-Sep-2009	+65° 15' 24.1"	-126° 51' 56.4"
NORMAN WELLS O-42X	26-Aug-2009	4-Sep-2009	+65° 15' 24.4"	-126° 51' 57.4"
NORMAN WELLS M-50-2X	8-Jul-2009	3-Aug-2009	+65° 15' 24.1"	-126° 51' 56.4"

15.2 Historical Sumps

Historically, IOR used sumps for on-site drilling waste management. These sumps have since been decommissioned and are now part of IOR's Abandonment and Reclamation

program. A summary of the abandonment and reclamation activities completed on these historical sumps is presented in Section 16. Additional details can be found in IOR's annual Abandonment and Restoration reports. Copies are available online at the SLWB Registry (www.slwb.com).

15.3 Regulatory Requirements

Conditions regulating the discharge of drilling fluids from NWO are covered in following items of the Water Licence:

- Part A Scope and Definitions Item 2 Definitions;
 - defines Supernatant Fluids.
- Part B General Conditions Item 3. j, k and l;
 - sets out reporting requirements relating to drilling activities.
- Part D Conditions Applying to Waste Disposal Items 1, 2, 3, 4, 9, and 10;
 - sets out conditions relating to the handling and disposal of drilling fluids.
- Part E Conditions Applying to Operation and Maintenance Item 1; and
 - sets out environmental protection measures for drilling operations.
- Appendix A
 - sets out the analytical testing requirements for sump supernatant fluids.

During the term of the current licence, no supernatant sump fluids were decanted to the environment. All fluid was transported to the F-31x Treatment and Injection Facility.

15.4 Proposed Changes and Rationale

Proposed Amendment:

Remove the following Items in Part D: Conditions Applying to Waste Disposal:

- ~~1. All drilling fluids and associated drill Waste generated shall be transported to, and stored in, sumps. All sumps shall totally contain all fluids and provide a minimum, normal operating "freeboard" of (1.2) meters. In no circumstances shall freeboard be less than one (1.0) metre. All plans for the design and location of sumps shall be submitted to the Board for approval.~~

- ~~2. The Licencee may discharge sump Supernatant Fluids to the land surface adjacent to the mainland sumps. The Licencee shall submit to the Board and the Inspector a proposal to Decant sump fluids at least twenty (20) days prior to the planned Decant. The proposal shall contain, but may not be restricted~~

~~to, the information requirements outlined in the "Sampling and Analytical Requirements For Characterization of Sump Supernatant Fluids" attached to this Licence as Appendix A.~~

~~3. The Licencee shall implement the Sump Decant proposal as approved by an Inspector.~~

~~10. The Licencee shall Decant a sump only as set out in Part D: Conditions Applying To Waste Disposal. Any other method requires the approval of the Board and an Inspector.~~

Rationale

IOR has no planned drilling activities. Historical sumps have now been closed and are in the process of being reclaimed. If drilling were to occur, IOR would dispose of supernatant fluids at the F-31X Treatment and Injection Facility, and drilling mud solids would be transported off-site to an approved waste management facility. As such, these Items are no longer required.