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Nunalingni Kavamatkunnilu Pivikhaqautikkut  
Department of Community and Government Services  
Ministère des Services communautaires et gouvernementaux

March 13, 2015

Phyllis Beaulieu  
Manager of Licensing  
Nunavut Water Board  
P.O. Box 119, Gjoa Haven, NU, X0B 1J0  
Phone: (867) 360-6338 ext. 27  
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Re: Request for Hamlet of Arviat Water Licence No. 3AM-ARV1015 Extension

I am writing the Nunavut Water Board and the Minister of Aboriginal Affairs and Northern Development Canada to request a two year extension through an amendment for the current Type 'A' Water Licence No. 3AM-ARV1015 for the Hamlet of Arviat.

This request is made to the Nunavut Water Board and the Minister of Aboriginal Affairs and Northern Development Canada to ensure that the municipality maintains and keeps the current Type 'A' Water Licence in good standing. This request is based on the ability to grant an amendment, for a specified term as described in the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, sections 43(1)(b)(i).

I also make this request under Section 43(1)(b)(iii) of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, where the amendment is in the public interest. It is in the public interest to operate with a valid Water Licence, which would allow all functions and conditions to be valid and allow all options provided under the current Licence to be valid, and permit the community to meet any need in the interest of public. These options could include the ability to request an amendment to conduct infrastructure upgrades, or options to invoke a request for an emergency amendment should such a risk occur.

GN-CGS, authorized as representative by the Hamlet of Arviat, also believes such an amendment to extend this Type 'A' Water Licence would be in the public interest by helping to meet the obligations of the Nunavut Land Claims Agreement under section 13.7.1, "no person may use water or dispose of waste into water without approval of the NWB."

This request is also made as we look to the Northwest Territories where a similar request was made and approved for Imperial Oil Limited's Norman Wells Operations' Type 'A' Water Licence. In that request for amendment to extend the Water Licence term, the Sahtu Land and Water Board asked the Minister of Aboriginal Affairs and Northern Development Canada to approve a short term extension with an



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amendment to the existing Water Licence term in order to allow the Board more time consider the renewal while still allowing the project to operate. Please refer to the attached letters *Renewal Application for Water Licence S03L1-001/S13L1-007* and *Board Recommendation for Approval on the Amendment of Type A Water Licence – S03L1-001 for Imperial Oil Norman Wells Operations*.

Though not entirely similar, both situations require additional time to address the Type 'A' Water Licence amendment/renewal process that would prevent the Type 'A' Water Licence from expiring. Water Licence No. 3AM-ARV1015 expires on August 31, 2015. The Minister of Aboriginal Affairs and Northern Development Canada's approval letter for Amendment No. 1 to Water Licence No. 3AM-GRA1015, attached, states that the Nunavut Water Board and the GN-CGS should "work together to examine ways to keep the water licence in good standing". Though directed at a different Type 'A' Water Licence, we believe this is applicable to Water Licence No. 3AM-ARV1015 and the extension request is in the spirit of that comment. The renewal application was submitted to the Nunavut Water Board February 27, 2015.

GN-CGS has faced numerous challenges trying to get this application for amendment/renewal into the Nunavut Water Board within the time required to prevent the Licence from expiring. These challenges include the continual renewal of short term Water Licence and the change in role that CGS has taken with municipal Water Licences. GN-CGS has taken an active role in administering and renewing all the municipal Water Licences (with the exception of Iqaluit) on behalf of the municipalities and this has been difficult within the time frame allowed and the limited staff resources within GN-CGS. The Kivalliq Regional Municipal Engineer position, now responsible for municipal Water Licences, was vacant for 3 years and only filled in April 2014.

Please contact the undersigned if there are any questions or concerns.

Sincerely,

Ralph Ruediger  
Director Community Development  
Government of Nunavut, Community and Government Services  
Phone: (867) 645-8153  
Email: [rruediger@gov.nu.ca](mailto:rruediger@gov.nu.ca)

CC: Honourable Bernard Valcourt, Minister of Aboriginal Affairs and Northern Development  
Catherine Conrad, Senior Director, Environment and Renewable Resources Directorate, AANDC  
Erik Allain, Manager of Field Operations, AANDC  
Robert Savard, Water Resource Officer, AANDC



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Darren Flynn, Assistant Deputy Minister, GN-CGS  
Megan Lusty, Municipal Planning Engineer-In-Training, GN-CGS  
Steve England, Senior Administrative Officer, Hamlet of Arviat  
David Hohnstein, Director Technical Services, NWB

Attached:

- Letter from Jennifer Watson, Imperial Oil, to Paul Dixon, Sahtu Land and Water Board, May 22, 2014, RE: Renewal Application for Water Licence S03L1-001/S13L1-007.
- Letter from Larry Wallace, Sahtu Land and Water Board, to Bernard Valcourt, Minister of Aboriginal Affairs and Northern Development, July 22, 2014, Re: Board Recommendation for Approval on the Amendment of Type A Water Licence – S03L1-001 for Imperial Oil Norman Wells Operations.
- Letter from Bernard Valcourt, Minister of Aboriginal Affairs and Northern Development, to Thomas Kabloona, Nunavut Water Board, January 29, 2015.



Jennifer L. Watson  
Operations Superintendent  
Tel (867) 587-3105 Tel  
jennifer.l.watson@esso.ca

May 22, 2014

Paul Dixon  
Executive Director  
Sahtu Land and Water Board  
P.O. Box 1, Fort Good Hope  
Northwest Territories  
X0E 0H0

Dear Mr. Dixon,

**RE: Renewal Application for Water Licence S03L1-001 / S13L1-007**

We are in receipt of the Board's updated work plan for the water licence application dated May 15, and note that the draft water licence and reasons for decision are now scheduled to be sent to Minister on August 21, 2014. The current licence expires on August 29, 2014. We are concerned that this allows the Minister only one week to undertake review and issue final decision.

In order to allow adequate time for the Minister's review, and to ensure an orderly transition between the existing licence terms and any new or modified terms and conditions that may be included in the new licence, we respectfully ask the Board to consider granting an extension to the existing licence term of 60 days. Imperial will not operate unless the proper approvals are in place at all times through the transition period.

Thank you for your consideration.

Jennifer L. Watson



**Sahtu Land and Water Board**

P.O Box 1  
Fort Good Hope, NT  
X0E 0H0  
Phone: 867-598-2413  
Fax: 867-598-2325  
[www.slwb.com](http://www.slwb.com)

**July 22, 2014**

**File: S03L1-001**

Bernard Valcourt  
Minister  
Aboriginal Affairs and Northern Development Canada  
10 Wellington Street  
Gatineau, Quebec  
K1A 0H4

Dear: Minister Valcourt

**Re: Board Recommendation for Approval on the Amendment of Type A Water Licence – S03L1-001 for Imperial Oil Norman Wells Operations**

The Sahtu Land and Water Board (SLWB) has completed its regulatory process for the amendment to the term of the Type A Water Licence S03L1-001, for Imperial Oil Norman Wells Operation. A motion was passed at the July 22, 2014 Board meeting to forward for your approval the attached Licence with Reasons for Decision.

It is a Type A Water Licence on Federal lands (Norman Wells Proven Area) and requires your signature as stated in section 72.18 of the *Mackenzie Valley Resource Management Act*. The SLWB recommends your approval and signature. Please note that the current term of the Water Licence expires on August 29, 2014. The only change to this Licence is the date of the expiry.

Yours Sincerely,

Larry Wallace  
Chair

Copied to: Distribution List

Attachment: Water Licence S03L1-001  
Reasons for Decision



# SAHTU Land and Water Board Water Licence

Amendment – July 22, 2014

Pursuant to the *Mackenzie Valley Resource Management Act*, the *Northwest Territories Waters Regulations*, the SAHTU Land and Water Board, hereinafter referred to as the Board, hereby grants to

## IMPERIAL OIL RESOURCES N.W.T. LIMITED NORMAN WELLS OPERATIONS

(Licensee)

Of **BAG SERVICE 5000  
NORMAN WELLS, NORTHWEST TERRITORIES  
X0E 0V0**

(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use water subject to the restrictions and conditions contained in the *Mackenzie Valley Resource Management Act*, the *Northwest Territories Waters Regulations* made thereunder and subject to and in accordance with the conditions specified in this Licence.

Licence Number	<u>S03L1-001 (Renewal and Consolidation of Licence S99L1-003)</u>
Licence Type	<u>"A"</u>
Location	<u>Norman Wells Proven Area, Northwest Territories</u>
Purpose	<u>Water Use And Waste Disposal.</u>
Description	<u>For Industrial Undertakings In Oil And Gas Production, And Associated Uses</u>
Effective Date of Licence	<u>August 30, 2004</u>
Expiry Date of Licence	<u>March 25, 2015</u>

This Licence issued and recorded at Fort Good Hope includes and is subject to the annexed conditions.

Witness

SAHTU Land and Water Board

Larry Wallace (Chairman)

Approved by

\_\_\_\_\_  
Minister of Aboriginal Affairs  
and Northern Development Canada

**This Licence and conditions shall be kept on site.  
If you have any questions please call the SAHTU Land & Water Board at  
(867) 598-2413**



**SAHTU Land & Water Board**  
**REASONS FOR DECISION**  
**AMENDED**  
**Issued Pursuant to Section 72.12 of**  
**The Mackenzie Valley Resource Management Act**

**Water Licence Number: S03L1-001 (Type "A")**

This is the decision of the SAHTU Land & Water Board with respect to an amendment to the captioned Water Licence which came in to effect August 30, 2004 and was issued to:

IMPERIAL OIL RESOURCES N.W.T LIMITED  
NORMAN WELLS OPERATIONS  
BAG SERVICE 5000  
NORMAN WELLS, NWT  
X0E 0V0

The approved amendment extends the Term of the Water Licence to March 25, 2015.

**THE APPLICATION**

A request was received from Imperial Oil Resources NWT Limited on June 20, 2014, proposing an extension to the term of Licence S03L1-001 to March 25, 2015. A Public Hearing was not held in association with this amendment. The extension of the term was required in order to enable a thorough analysis of closure and reclamation requirements associated with the ongoing proceeding to renew the licence.

**DECISION**

After having been satisfied that the amendment application is exempt from preliminary screening pursuant to the *Exemption List Regulations* under the *Mackenzie Valley Resource Management Act*, the Board decided that the application could proceed through the regulatory process. After reviewing the amendment and after reviewing the written comments received by the Board; the Board, having due regard to the facts and circumstances, the merits of the submissions made to it, and to the purpose, scope and intent of the *Mackenzie Valley Resource Management Act* and the *Northwest Territories Waters Regulations* made thereunder has determined that:

An amendment to Term of the Water Licence S03L1-001 be issued.

The Board's reasons for this decision are as follows:

1. No changes to operations and no changes to the use of water or deposit of waste are associated with this amendment.
2. No changes to any conditions of the Licence are associated with this amendment.
3. No new potential environmental impacts are associated with this amendment, and it is the opinion of the Board that the conditions of Water Licence S03L1-001, set pursuant to the MVRMA, will continue to reduce the potential environmental impacts resulting from water use and deposition of waste.
4. No public concern was identified regarding this amendment.

The amendment to Water Licence S03L1-001 extends the term of the licence to March 25, 2015 the terms of the licence provide appropriate safeguards in respect of the Applicant's use of the waters affected by the Licence.

SIGNED this 22nd day of July, 2014 on behalf of the SAHTU Land & Water Board.

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Larry Wallace (Chairman)  
SAHTU Land & Water Board



## SAHTU LAND AND WATER BOARD

**LICENSEE:** IMPERIAL OIL RESOURCES N.W.T. LIMITED

**LICENCE NUMBER:** S03L1-001

**EFFECTIVE DATE OF  
LICENCE ISSUANCE:** August 30, 2004

### TERMS AND CONDITIONS – AMENDED June 12, 2006

#### **PART A: SCOPE AND DEFINITIONS**

##### **1. Scope**

- a) This Licence entitles Imperial Oil Resources N.W.T. Limited to use water and dispose of Waste for industrial undertakings in oil and gas production, and associated uses at the Norman Wells Proven Area located at Latitude 65° 17' N., Longitude 126° 51' W., in the Northwest Territories.
- b) This Licence is issued subject to the conditions contained herein with respect to the taking of water and the depositing of Waste of any type in any Waters or in any place under any conditions where such Waste or any other Waste that results from the deposits of such Waste may enter any Waters. Whenever new Regulations are made or existing Regulations are amended by the Governor in Council under the Act, or other statutes imposing more stringent conditions relating to the quantity or type of Waste that may be so deposited or under which any such Waste may be so deposited this Licence shall be deemed, upon promulgation of such regulations, to be automatically amended to conform with such Regulations.
- c) Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

##### **2. Definitions**

In this Licence: S03L1-001

**“Act”** means the *Northwest Territories Waters Act*,

**“Acute Lethality”** means an effluent is deemed acutely lethal if the undiluted (100%) effluent kills 50% or more of the fish or daphnia in the test. (Biological test method: Acute Lethality Test Using Rainbow Trout Report EPS 1/RM/9 July 1990), and (Biological test method: Acute Lethality of Effluents to Daphnia magna EPS 1/RM/14 Second Edition December 2000), as may be amended from time to time;



**“Analyst”** means an Analyst designated by the Minister under Section 35(1) of the *Northwest Territories Waters Act*;

**“Artificial Islands”** means the physical structure of the constructed islands, including sand core, slope and scour protection, drilling equipment and supplies, storage facilities, well head equipment, and temporary or permanent buildings;

**“Average Concentration”** means the concentration as determined in Part B Item 5 of the “Surveillance Network Program” general requirements;

**“Board”** means the SAHTU Land & Water Board established under Section 60 (1) of the Mackenzie Valley Resource Management Act;

**“Central Processing Facility”** means the plant where oil, gas, and Produced Water are collected from the oilfield and separated, with plant cooling being accomplished using Mackenzie River water;

**“Decant”** means the pump-off of usually clear, non-turbid supernatant fluids from a sump without disturbing the sediment or the liquid lower layers containing suspended solids;

**“EC50(15)”** means in a Microtox bioassay test, the effluent is deemed excessively toxic if the light emission of a marine bioluminescent bacterium colony is reduced by more than 50% over 15 minutes when challenged by a sample containing a toxic substance. A test result of greater than (90) is considered a pass.

**“Flowline”** means a line that is used to transport fluids from a well to a production facility or vice versa, and includes intrafield export and all gathering lines;

**“Grab Sample”** means an instantaneous sample of water;

**“Impermeable Lined Diked Areas”** means an area enclosed by a dike incorporating a synthetic liner that is considered to be impermeable to leakage for the purposes of completely containing all drilling fluids and drilling wastes within the diked and lined area.

**“Inspector”** means an Inspector designated by the Minister under Section 35(1) of the *Northwest Territories Waters Act*;

**“Licensee”** means the holder of this Licence;

**“Microtox Test”** means a bioassay test that monitors changes in the level of light emission from a marine luminescent bacteria when challenged with a toxic substance or sample containing toxic materials, and is used to provide a more rapid, real-time measurement of acute toxicity. Microtox Test is measured as EC50(15) or IC50(15).

**“Minister”** means the Minister of Indian Affairs and Northern Development;

**“Modification”** means an alteration to a physical work that introduces a new structure or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion.

**“Natural Islands”** means Bear, Goose, and Frenchy's Islands, including drilling equipment and supplies, wastes and storage facilities, well-head equipment, and temporary or permanent buildings;

**“Norman Wells Proven Area”** means the area described in Schedule “A” to the Proven Area Agreement dated July 21, 1944 between Imperial Oil Limited and His Majesty in Right of Canada, as amended and renewed from time to time;

**“Produced Water”** means water extracted from the reservoir as a mixture with oil and gas;

**“Regulations”** means Regulations proclaimed pursuant to Section 33 of the *Northwest Territories Waters Act*;

**“Representative Grab Sample”** means a grab sample consisting of equal portions of water collected from a minimum of two locations within one site;

**“River Ice Breakup”** means the period from the time the ice first starts to move in the Mackenzie River at Norman Wells in the spring, to the time when the River is free of pack ice at Norman Wells;

**“Single Composite Sample”** means a sample composed of proportional sub-samples taken over a time period acceptable to an Inspector, as approved by the Analyst, and submitted to the Board in accordance with the sampling and analysis requirements specified in the “Surveillance Network Program”;

**“Supernatant Fluids”** means the liquid or fluid overlying materials present in the liquid lower layers or bottom sediments of a sump that are deposited by the settling or precipitation of solids;

**“Surface Water Run-Off Facilities”** means the Refinery Impounding Basin, Battery 3 Impounding Basin, Refinery Water Flood Basin, CPF Impounding Area, Miscellaneous Mainland Impounding Areas, Miscellaneous Bear Island Impounding Areas, Miscellaneous Goose Island Impounding Areas and associated ditches provided for the collection, storage and discharge of surface run-off waters from the Imperial Oil Resources N.W.T. Limited lease;

**“Surveillance Network Program”** means a series or network of devices or sampling points designed to test environmental conditions for comparison against baseline data obtained from a point or area designated as a control. This is a method of tracking and identifying the spread of deleterious substances in the environment.

**“Waste”** means waste as defined by Section 2 of the *Northwest Territories Waters Act*;

**“Watercourse”** means a natural watercourse, body of water or water supply, whether usually containing water or not, and includes groundwater, springs, swamps, and gulches, as defined in the *Northwest Territories Waters Regulations*;

**“Waterflood”** means the injections of water into the Norman Wells oilfield reservoir for pressure maintenance and enhanced oil production;

**“Waters”** means any inland water, whether in a liquid or frozen state, on or below the surface of the land in the Northwest Territories;

**“Water Intake”** means the wetwell pump and associated facilities installed in the Mackenzie River and the water line to the Central Processing Facility;

## **PART B: GENERAL CONDITIONS**

1. The water use fee shall be paid annually in advance.
2. Licensee shall have posted and shall maintain a security deposit in the amount of Two Million (\$2,000,000.00) dollars pursuant to Section 17(1) of the Act and Section 12 of the Regulations. The security deposit shall be maintained until such time as it is fully or in part refunded by the Minister pursuant to Section 17 of the Act. This clause shall survive the expiry of this Licence or renewals thereof.
3. The Licensee shall file an Annual Report with the Board not later than March 31<sup>st</sup> of the year following the calendar year reported which shall contain the following information:
  - a) the monthly and annual quantities in cubic meters of fresh water obtained from all sources;
  - b) the monthly and annual quantities in cubic meters of each and all Waste discharged;
  - c) the monthly and annual quantity in cubic meters of Waste discharged to the Mackenzie River at SNP station S03L1-02;
  - d) the monthly and annual quantities in cubic meters of fresh water and Produced Water injected to the Waterflood;
  - e) the monthly and annual quantities in cubic meters of Waters contained and discharged from the Surface Water Run-Off Facilities;
  - f) the monthly and annual quantity in cubic meters of Produced Water recovered from the oilfield reservoir;
  - g) tabular summaries of all data generated under the Surveillance Network Program (SNP);
  - h) a list of unauthorized discharges, identification of waterbodies affected and the current status of mitigation measures;

- i) the physical condition of each Artificial Island and Natural Island, including inspections of each Island and vicinity for channel erosion, island scour and erosion, at the Flowline landfalls and condition of rip rap;
  - j) an annual drilling schedule for the upcoming year to the Board;
  - k) the drilling activities on the mainland and on each Artificial Island and on each Natural Island;
  - l) the annual amounts in cubic meters of water and Waste generated from all drilling activities;
  - m) a summary of the measures taken to minimize net water withdrawals from the hydrological cycle as required in Part C, Item (3).
  - n) the dates and results of Flowline and storage tanks integrity tests;
  - o) details on the handling, storage, treatment and disposal of Waste from the Norman Wells Proven Area;
  - p) a review of spill training and communication exercises of the previous year, including the successes and failures, as well as recommendations for improvement;
  - q) a general schedule for any planned oil spill exercises for the following year;
  - r) a summary of any Modification(s) and / or major maintenance work carried out on the Water Intake and Waste disposal facilities, including all associated structures completed during the year and an outline of any work anticipated for the next year;
  - s) a summary of any Abandonment and Restoration Program work completed during the year and an outline of any work anticipated for the next year;
  - t) approved revisions to the Contingency Plan;
  - u) approved revisions to the Abandonment and Restoration Program; and
  - v) any other details on water use or Waste disposal requested by the Board no later than November 1<sup>st</sup> of the year being reported;
4. The Licensee shall comply with the SNP annexed to this Licence, and any amendment to the SNP as may be made from time to time, pursuant to the conditions of this Licence.
  5. The SNP and compliance dates specified in the Licence may be modified at the discretion of the Board.

6. Meters, devices or other such methods used for measuring the volumes of water used and Waste discharged shall be installed, operated and maintained by the Licensee to the satisfaction of an Inspector.
7. The Licensee shall provide for the maintenance of all active and inactive SNP station signage. All active and inactive SNP station signage shall be located and maintained to the satisfaction of the Inspector.
8. The Licensee shall ensure a copy of this Licence is maintained at the site of operation at all times.

#### **PART C: CONDITIONS APPLYING TO WATER USE**

1. The Licensee shall obtain all fresh water from the Mackenzie River, or as otherwise approved by the Board, for Central Processing Facility cooling, Waterflood, and drilling, utilizing the approved Water Intake described in the drawing plan of the mainland showing the Surveillance Network Stations and dated 1999.
2. The total annual quantity of water used for all purposes is not to exceed 3,500,000 cubic metres per year and shall be limited to a maximum rate of 16,000 cubic metres per day.
3. The Licensee shall minimize net water withdrawals from the hydrological cycle by using appropriate water conservation methods, such as, but not limited to, the injection of Produced Water into the Norman Wells Proven Area oilfield reservoir.

#### **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 Licensee may discharge sump Supernatant Fluids to the land surface adjacent to the mainland sumps. The Licensee 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 Licensee shall implement the Sump Decant proposal as approved by an Inspector.
4. The Licensee shall discharge water in a controlled manner designed to avoid flooding or erosion.
5. All Waste(s) discharged at SNP Station S03L1-02 to the Mackenzie River by the Licensee shall not be acutely lethal to fish and shall not exceed the following effluent quality requirements:

Parameter	Maximum Average Concentration	Maximum Concentration of Any Grab Sample
Oil and Grease	5.00 mg/L	10.00 mg/L
Phenols	0.07 mg/L	0.14 mg/L

The Waste shall have a pH between 6.0 and 9.0.

- All other Waste(s) discharged to any other Waters by the Licensee shall be considered to be non-toxic and shall not exceed the quality requirements as set out in Part D Item 5, and shall pass a Microtox Test as set out below:

Microtox EC50(15) Toxicity Testing*	Pass=EC50(15) > 90%
Microtox EC50(15) With Charcoal Filtration	Pass with Charcoal Filtration=EC50(15) > 90%

\* If original microtox tests fail the applicant may perform the microtox test with charcoal filtration.

- The Licensee shall not use any biocides where they may enter any Watercourse unless approved by the Board.
- All sewage Waste(s) shall be disposed of at a licensed sewage disposal facility.
- No drilling fluids or drilling Waste, or any other Waste, shall be discharged to the Mackenzie River, other than in the manner described elsewhere in Part D.
- The Licensee 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.

#### **PART E: CONDITIONS APPLYING TO OPERATION AND MAINTENANCE**

- The Licensee shall drill all wells from within Impermeable-Lined Diked Areas.
- The Licensee shall undertake any necessary annual maintenance required to preserve the structural integrity of the Artificial Islands, and where required on the Natural Islands.
- The Licensee shall inspect the riverbeds, channels and banks of the Mackenzie River in the vicinity of the Flowline(s) as required by the National Energy Board (NEB); and shall immediately notify the Inspector of any significant erosion and take appropriate remedial action as required.
- The Licensee shall submit to the Board any NEB approved Modification(s) or changes to the Flowline Integrity Management Plan for information purposes only.

5. The discharge of any hydrostatic test fluids to the land surface or Waters must meet the limits specified in Part D: Item 5 and 6, and the Board and the Inspector shall be notified prior to the release of such fluids.
6. The Licensee may, upon notifying the Inspector, clean the backwash pond at the Central Processing Facility as required according to the procedure outlined in the plan (CPF Backwash Pond Standard Procedure, approved by the Board June 26, 2002). All discharges must meet the limits as specified in Part D, Item 5.
7. Results of sampling conducted in Part E, Item 5 and 6 shall be submitted to an Inspector three (3) days prior to the planned date of discharge.

#### **PART F: CONDITIONS APPLYING TO MODIFICATIONS**

1. The Licensee may, without written consent from the Board, carry out the Modification(s) to the water supply and Waste disposal facilities provided that the Modification(s) are consistent with the terms of this Licence and the following requirements are met:
  - a) the Licensee has provided the details of the proposed Modification(s) to the Board, in writing, at least sixty (60) days prior to the commencement of the Modification(s);
  - b) the Modification(s) does not place the Licensee in contravention of either the Licence, the Act or Federal, Territorial or Municipal Legislation;
  - c) the Board has not, during the sixty (60) days following notification of the proposed Modification(s), informed the Licensee that review of the proposal will require more than sixty (60) days; and
  - d) the Board has not rejected the proposed Modification(s).
2. Modification(s) for which all of the conditions referred to in Part F, Item 1, have not been met, can be carried out only with written approval from the Board.
3. The Licensee shall provide as-built plans and drawing of the Modification(s) referred to in this Licence within ninety (90) days of completion of the Modification(s).

#### **PART G: CONDITIONS APPLYING TO CONTINGENCY PLANNING**

1. The Licensee shall annually review the Contingency Plan and modify the plan as necessary to reflect changes in operations, technology and response personnel listed in the plan. Any proposed Modification(s) to operations or technology shall be submitted to the Board for approval.
2. The Licensee shall carry out field and communication exercises to demonstrate the capability to contain, recover and report spills under a variety of environmental conditions, such as early and late winter ice conditions, and moderate and high flow conditions.



3. The Licensee shall undertake further field and communication exercises at the request of the Board.
4. If an unlicensed discharge of Waste occurs, or if such a discharge is foreseeable, the Licensee shall:
  - a) employ the appropriate Contingency Plan and the "Spill Reporting Protocol for Upstream Oil and Gas Operations in the Northwest Territories and Nunavut Regulated by the National Energy Board";
  - b) immediately reportable spills shall be reported via the 24 Hour Spill Reporting Line. Currently the number is (867) 920 - 8130; and
  - c) submit to the Board and the Inspector, a detailed report on each occurrence not later than thirty (30) days after the month in which the event occurred.

**PART H: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION**

1. The Licensee shall address items "a" to "w", as appropriate, when implementing or modifying the Abandonment and Restoration Program:
  - a) the Water Intake facilities and distribution system;
  - b) Waste disposal sites and facilities;
  - c) the petroleum, chemical and hazardous waste storage areas;
  - d) the restoration of natural drainage and the restoration of stream banks at the operation site(s);
  - e) the extent of soil and groundwater contamination and proposed remediation;
  - f) a phased approach and implementation schedule;
  - g) maps delineating all disturbed areas, borrow material locations and site facilities;
  - h) a proposal identifying measures by which restoration costs will be financed by the Licensee upon abandonment;
  - i) the oil collection system, especially above ground or near-surface Flowline(s);
  - j) the Waterflood sediment settling lagoons;
  - k) the drilling fluids and camp sewage and domestic garbage disposal areas;
  - l) any site affected by waste spills, especially diked storage areas;
  - m) the mainland and underwater Flowline(s);
  - n) the Waterflood facilities;

- o) the Central Processing Facility;
  - p) the Artificial Islands and Natural Islands;
  - q) the former refinery area and associated facilities;
  - r) any other facility which could potentially create a pollution problem;
  - s) cataloguing of all the abandoned well heads and sumps and identifying the status of each, including any planned mitigation;
  - t) shall address the future land use of the abandoned facilities and associated remediation standard;
  - u) buildings and other infrastructure such as roads;
  - v) proposed revegetation; and
  - w) post monitoring program identified for each proposed Abandonment and Restoration Plan.
2. The Licensee shall revise the Program referred to in Part H, Item 1, if not acceptable to the Board. The revised Program shall be submitted to the Board for approval within six (6) months after notification.
  3. The Licensee shall provide to the Board, site-specific Abandonment and Restoration Plans for any portions of the oilfield and former refinery sites which are to be abandoned and restored, according to the implementation schedule as outlined in part H, Item 1 of the approved Abandonment and Restoration Program. The plans shall be submitted six (6) months in advance to the Board for approval prior to implementation.
  4. Notwithstanding the time schedule referred to in Part H, Item 1 and 3, the Licensee shall carry out progressive restoration of areas that are abandoned prior to closure of operations.
  5. The Licensee shall annually review the Abandonment and Restoration Program and shall modify and/or develop any A&R Plan within that Program as necessary to reflect changes in operation, technology, and results of restoration and / or other studies. The proposed Modification(s) shall be submitted to the Board for approval.
  6. Upon implementation of any Abandonment and Restoration Plan the Licensee shall provide, using a reporting template to be developed by the Board, an Annual Report of all abandonment and restoration activities to be submitted by October 31<sup>st</sup> of each reporting year.

**PART I: AQUATIC EFFECTS MONITORING PROGRAM**

1. The Licensee shall continue to implement the Aquatic Effects Monitoring Program as submitted and approved by the Board and as may be amended from time to time.

  
\_\_\_\_\_  
Witness

**SAHTU LAND AND WATER BOARD**

  
\_\_\_\_\_  
Chairman

## SAHTU LAND AND WATER BOARD

**LICENSEE:** IMPERIAL OIL RESOURCES N.W.T. LIMITED

**LICENCE NUMBER:** S03L1-001

**EFFECTIVE DATE OF  
LICENCE ISSUANCE:** August 30, 2004

### **SURVEILLANCE NETWORK PROGRAM – AMMENDED May 23, 2007**

#### **A. Location of Surveillance Stations**

<u>Station</u>	<u>Status</u>	<u>Description</u>
S03L1-01	Active	Central Processing Facility Intake water from the Mackenzie River.
S03L1-01A	Physically Removed	Mainland Waterflood intake from the Mackenzie River.
S03L1-02	Active	Central Processing Facility discharge return line to the Mackenzie River.
S03L1-1A	Physically Removed	Meter location at the Refinery process water inlet facility.
S03L1-2	Inactive	Immediately downstream of the API Separator outlet weir.
S03L1-3	Inactive	Outlet of the drainage pipe from the diked oil storage area west of Bosworth Creek.

The map showing all the SNP stations is included in appendix B.

**B. Quality Assurance and Quality Control**

1. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of "Standard Methods for the Examination of Water and Wastewater", or by such other methods approved by the Analyst.
2. All analyses shall be performed in a laboratory approved by the Analyst.
3. The Licensee shall annually review the Quality Assurance and Quality Control Manual and shall revise the manual as necessary to reflect changes in field and laboratory quality control and quality assurance testing, procedures and technology. The proposed revision(s) shall be submitted to the Board for approval. All details of the manual shall be implemented as approved by the Analyst.

**C. Sampling and Analysis Requirements for SNP Stations**

1. A Single Composite Sample of water at SNP Station S03L1-01 shall be sampled weekly. The frequency and duration of the weekly sampling regime shall be implemented as approved by the Analyst. The following parameters shall be analyzed:

Phenols	Total Suspended Solids
Oil and Grease	

2. A Representative Grab Sample of the Mackenzie River shall be collected at SNP station S03L1-01 at least once every six (6) months and analyzed for the following parameters:

pH	Total Alkalinity
Sodium	Specific Conductivity
Potassium	Suspended Solids
Sulphate	Total Dissolved Solids
Chloride	Oil and Grease
Calcium	Total Phosphorus
Magnesium	Total Hardness
Phenols	

3. A Single Composite Sample of water at SNP Station S03L1-02 shall be sampled weekly. The frequency and duration of the weekly sampling regime shall be implemented as approved by the Analyst. The following parameters shall be analyzed:

Phenols	Total Suspended Solids
Oil and Grease	pH
Total Residual Chlorine	Specific Conductivity

4. The Licensee shall determine the Acute Lethality of the Waste Waters at SNP station S03L1-02 using the biological test method prescribed in "Acute Lethality Using Rainbow Trout Report EPS 1/RM/9 July 1990", or as may be revised, and performed in a quarterly (four samples throughout the year) time frequency.

5. The Licensee shall determine the Acute Lethality of the Waste Waters at Station Number S03L1-02 using the biological test method prescribed in "Acute Lethality of Effluents to Daphnia magna EPS 1/RM/14 Second Edition December 2000", or as may be revised, and performed in a quarterly (four samples throughout the year) time frequency.
6. The following example is provided to illustrate the procedures for calculating the Average Concentration. If the effluent stream is sampled weekly, then the calculation of average concentration for a particular parameter is as follows:

Week 1	sample #1	.15	
Week 2	sample #2	.12	
Week 3	sample #3	.10	
Week 4	sample #4	.18	
			$(.15 + .12 + .10 + .18)/4 = .137$ average concentration)
Week 5	sample #5	.20	
			$(.12 + .10 + .18 + .20)/4 = .150$ average concentration)
Week 6	sample #6	.16	
			$(.10 + .18 + .20 + .16)/4 = .160$ average concentration)

**D. Sampling and Analysis Requirements for SWROF and Other Waste**

1. A Representative Grab Sample and Analysis of all water collected in the Surface Water Run-Off Facilities discharged to lands adjacent to the Mackenzie River or into the Mackenzie River shall be obtained prior to release.

- a) Water to be released from Surface Water Run-Off Facilities where no contaminants are suspected will be analyzed for the following prior to discharge:

Visual inspection for any oil sheen on the water  
 Chlorides (using field test equipment) to be less than 500 mg/l)  
 PH (using field test equipment) to be from 6.0 to 9.0

- b) Water to be released from Surface Water Run-Off Facilities where contaminants are suspected will be analyzed for the following, and shall not exceed the criteria for Oil and Grease, Phenols and pH as set out in Part D, Item (5).

Oil and Grease	pH
Phenols	Specific Conductivity
Total Suspended Solids	Total Dissolved Solids

- c) Water will not be released from Surface Water Run-off Facilities if there is exceedance(s) in the above criteria without consulting the Board and Water Licence Inspector. The licensee shall make every effort to investigate exceedance(s) and treat the water before discharge.
- d) Water to be released from Surface Water Run-Off Facilities into other waters besides the Mackenzie River shall be analyzed according to above

contamination scenario and shall pass a Microtox Test as per Part D, Item 6 of Licence.

- e) While discharging water volumes greater than (10) m<sup>3</sup>, the discharge shall be monitored by obtaining Representative Grab Samples and conducting subsequent analyses (as defined) above from before, middle and end of discharge. For water volumes less than (10) m<sup>3</sup>, a single Representative Grab Sample will be collected and analyzed, no additional samples are required.
  - f) An estimate of the total volume discharged shall be recorded for each discharge.
2. A Representative Grab Sample and Analysis of all water collected in areas other than Surface Water Run-Off Facilities, SNP stations and Sumps discharged to other waters besides the Mackenzie River shall be obtained prior to release.
- a) Water to be released from areas not associated with the Surface Water Run-Off Facilities, SNP stations and Sumps, where no contaminants are suspected, will be analyzed as set out in SNP, Part D, Item 1(a) and Microtox (Part D, Item 6 of Licence).
  - b) Water to be released from areas not associated with the Surface Water Run-Off Facilities, SNP stations and Sumps, where contaminants are suspected, will be analyzed and shall not exceed the criteria in SNP, Part D, Item 1(b) and Microtox (Part D, Item 6 of Licence).
3. A Representative Grab Sample and Analysis of all water collected in areas other than Surface Water Run-Off Facilities, SNP stations and Sumps discharged to lands shall be obtained prior to release.
- a) Water to be released from areas not associated with the Surface Water Run-Off Facilities, SNP stations and Sumps, where no contaminants are suspected, will be analyzed as set out in SNP, Part D, Item 1(a)
  - b) Water to be released from areas not associated with the Surface Water Run-Off Facilities, SNP stations and Sumps, where contaminants are suspected, will be analyzed and shall not exceed the criteria in SNP, Part D, Item 1(b) and Microtox (Part D, Item 6 of Licence).

**E. Flow, Volume and Temperature Measurement Requirements**

1. The following qualities shall be measured and recorded daily in cubic metres;
- a) the quantity of fresh water pumped from the Mackenzie River;
  - b) the quantity of Waste water returned to the Mackenzie River; and
  - c) the quantity of Produced Water and fresh water injected into the oilfield reservoir;



2. The water temperatures shall be measured daily at SNP station S03L1-01 and S03L1-02 in degrees Celsius.

**F. Other Requirements**

1. The Licensee shall conduct annual inspections of the Artificial Islands and Natural Islands to determine:
  - a) location, depth, and volume of channel scour in the vicinity of the oil and water distribution Flowline(s);
  - b) location and magnitude of Artificial Island slope erosion;
  - c) location and severity of Artificial Island rip rap disturbance;
  - d) structural integrity of the Artificial Islands, and other related structures; and
  - e) structural integrity of Natural Islands where it is applicable to oil field operations.

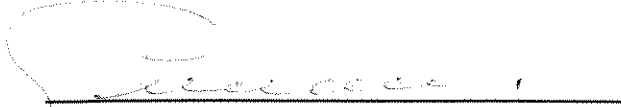
**G. Reports**

1. The Licensee shall within thirty (30) days following the month being reported, submit to the Board, all data and information required by the SNP including the results of the approved quality assurance plan.
2. The Licensee shall submit to the Board, results of the Artificial Islands and Natural Islands inspections as required in Part D of the SNP no later than October 31<sup>st</sup> of each year, together with evaluations of repair and maintenance work required, and a schedule for completing such work prior to the following spring River Ice Breakup period.



**Witness**

**SAHTU Land and Water BOARD**



**Chairman**

## APPENDIX A

### SAMPLING AND ANALYTICAL REQUIREMENTS

#### FOR CHARACTERIZATION OF SUMP SUPERNATANT FLUIDS

In the event that decanting of a sump is required, as per Part D: Item (2) and (6) of the Terms and Conditions of the Water Licence, the Licensee shall sample the sump using the following method:

Divide the sump into a grid of six equal areas, take three samples in the vertical profile (surface, mid-depth, just above the mud/supernatant interface) at the centre of each area. Mix these eighteen samples together to form a Single Composite Sample, from which as many sub-samples may be obtained as necessary for analysis. An additional sample must be taken from the surface of the sump.

The Licensee shall have the composite sample analyzed for the following parameters:

- Sulphate
- Conductivity
- pH
- Total Suspended Solids
- Chloride
- Sodium
- Potassium
- Calcium
- Magnesium
- Oil and Grease
- Microtox Test (As set out in Part D: Conditions Applying to Waste Disposal, Item 6)

#### Total and Dissolved Metals

- Copper
- Cadmium
- Iron
- Nickel
- Lead
- Zinc
- Chromium

The surface sample should be analyzed for oil and grease.



**SAHTU Land & Water Board  
REASONS FOR DECISION  
AMENDED**

**Issued Pursuant to Section 121 of  
The Mackenzie Valley Resource Management Act  
and Section 26 of  
The Northwest Territories Waters Act**

**Water Licence Number: S03L1-001 (Type "A")**

This is the decision of the SAHTU Land & Water Board with respect to an amendment to a Water Licence effectively dated August 30, 2004 and issued to:

IMPERIAL OIL RESOURCES N.W.T LIMITED  
NORMAN WELLS OPERATIONS  
BAG SERVICE 5000  
NORMAN WELLS, NWT  
X0E 0V0

for: an amendment to the Terms and Conditions and Surveillance Network Program in regards to the monitoring of phenol, and the standard testing limits for phenol.

With respect to the amendment by the Board, notice was given to Imperial Oil Resources on August 29, 2005 indicating that the Board may set new limits for phenols. A Public Hearing was not held in association with this amendment.

**DECISION**

After having been satisfied that the project had been screened pursuant to the Mackenzie Valley Resource Management Act, and that any potential adverse environmental effects were insignificant or mitigable with known technology, and as such the application could proceed through the regulatory process and after reviewing the amendment and after reviewing the written comments received by the Board; the Board, having due regard to the facts and circumstances, the merits of the submissions made to it, and to the purpose, scope and intent of the Mackenzie Valley Resource Management Act and the Northwest Territories Waters Act and Regulations made thereunder has determined that:

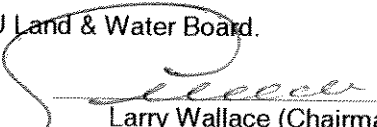
An amendment to Water Licence S03L1-001 be issued subject to the amended Terms and Conditions and amended and annexed Surveillance Network Program contained therein.

The Board's reasons for this decision are as follows:

1. Information contained in Staff Report (8) relative to environmental impacts and/or public concerns.
2. All identified public concerns have been made known to the Board.
3. The significant contribution of Licensee's project to the socio-economic well-being and economic development of the region.
4. Conducting the undertaking in compliance with the terms and conditions imposed by the Licence will minimize any disturbance to the natural conditions of surrounding water bodies.
5. The use of water proposed by the Licensee is of a nature contemplated by the Mackenzie Valley Resource Management Act, and the Northwest Territories Waters Act.

The amendment to Water Licence S03L1-001 contains provisions that the Board feels necessary to ensure and monitor compliance with the Mackenzie Valley Resource Management Act and the Northwest Territories Waters Act and the Regulations made thereunder and to provide appropriate safeguards in respect of the Applicant's use of the waters affected by the Licence. The Board will provide any referenced material or documents and/or reasons for decision for any specific clause or clauses contained within the application if requested to do so in writing.

SIGNED this 12th day of June, 2006 on behalf of the SAHTU Land & Water Board.

  
Larry Wallace (Chairman)  
SAHTU Land & Water Board

Ministre des Affaires autochtones  
et du développement du Nord



Minister of Aboriginal Affairs and  
Northern Development

Ottawa, Canada K1A 0H4

**JAN 29 2015**

Mr. Thomas Kabloona  
Chair  
Nunavut Water Board  
PO Box 119  
GJOA HAVEN NU X0B 1J0

Dear Mr. Kabloona:

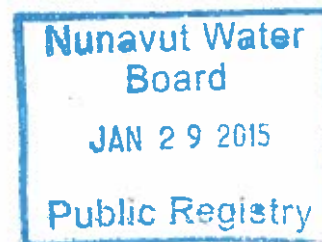
Thank you for your letter of December 23, 2014, conveying the Nunavut Water Board's issuance of amended Type A Water Licence 3AM-GRA1015 for the Government of Nunavut, Community and Government Services' water use and waste disposal activities in the Hamlet of Rankin Inlet. I am pleased to inform you that I have approved the water licence as recommended by the Board, and the signed original is enclosed.

I am deeply concerned by the increasing frequency of projects that are operating under an expired water licence. While reviewing the material provided by the Board related to this water licence, I noted that the existing water licence is set to expire on May 31, 2015. In light of the short time frame, and the fact that the Board has not yet received an application for renewal, I would urge officials from the Board and the Department to work together to examine ways to keep the water licence in good standing.

Sincerely,

Bernard Valcourt, PC, QC, MP

Encl.



Canada