



November 30, 2000

Mr. John Kerkhoven
Supervisor, Surface Land
Petro-Canada
150-6th Avenue SW
CALGARY, Alberta
T2P 3E3

Dear Mr. Kerkhoven

ISSUANCE OF A "B" TYPE LICENCE

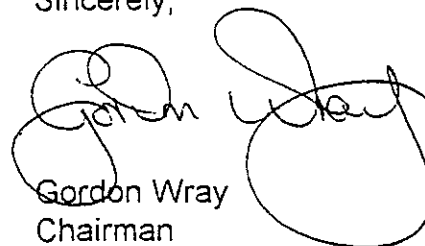
Attached is a duplicate of Licence No. N7L1-1759 granted to Petro-Canada by the Northwest Territories Water Board in accordance with the *Northwest Territories Waters Act*. The other original of this Licence has been filed with the Department of Indian Affairs and Northern Development in Yellowknife, Northwest Territories.

Also attached are general procedures for the administration of licences in the Northwest Territories. I request that you review these and address any questions to the Board's office.

In conclusion, please be advised that this letter with attached procedures, all inspection reports, and correspondence related thereto are part of the public Water Register, and are intended to keep all interested parties informed of the manner in which the Licence requirements are being met. All Water Register material will be considered when the Licence comes up for renewal or amendment.

The full cooperation of Petro-Canada is anticipated.

Sincerely,



Gordon Wray
Chairman
N.W.T. Water Board

Attachments (2)

**GENERAL PROCEDURES FOR THE ADMINISTRATION OF LICENCES
ISSUED UNDER THE NORTHWEST TERRITORIES WATERS ACT
IN THE NORTHWEST TERRITORIES**

1. At the time of issuance, a copy of the Licence is placed on the Water Register in the Office of the Northwest Territories Water Board in Yellowknife, and is then available to the public.
2. To enforce the terms and conditions of the Licence, the Minister of Indian Affairs and Northern Development has appointed Inspectors in accordance with Section 35(1) of the *Northwest Territories Waters Act*. The Inspectors coordinate their activities with officials of the Water Resources Division of the Department of Indian Affairs and Northern Development. The Inspector responsible for Licence No. N7L1-1759 is located in the North Mackenzie- Inuvik District.
3. To keep the Water Board and members of the public informed of the Licensee's conformity to Licence conditions, the Inspectors prepare reports which detail observations on how each item in the Licence has been met. These reports are forwarded to the Licensee with a covering letter indicating what action, if any, should be taken. The inspection reports and covering letters are placed on the public Water Register, as are any responses received from the Licensee pertaining to the inspection reports. It is therefore of prime importance that you react in all areas of concern regarding all inspection reports so that these concerns may be clarified.
4. If the renewal of Licence No. N7L1-1759 is contemplated it is the responsibility of the Licensee to apply to the Water Board for renewal of the Licence. The past performance of the Licensee, new documentation and information, and points raised during a public hearing, if required, will be used to determine the terms and conditions of any Licence renewal. Please note that if the Licence expires and another has not been issued, then water and waste disposal must cease, or you, the Licensee, would be in contravention of the *Northwest Territories Waters Act*. It is suggested that an application for renewal of Licence No. N7L1-1759 be made at least eight months in advance of the Licence expiry date.
5. If, for some reason, Licence No. N7L1-1759 requires amendment, then a public hearing may be required. You are reminded that applications for amendments should be submitted as soon as possible to provide the Water Board with ample time to go through the amendment process. The process may take up to six (6) months or more depending on the scope of the amendment requested.

The Surveillance Network Program annexed to the Licence can be modified at the discretion of the Board and does not require a public hearing. A request for any proposed change to the Surveillance Network Program should be forwarded to the Board in writing, including a rationale for the change.2

6. Specific clauses of your Licence make reference to the Board, Analyst or Inspector. The contact person, address, phone and fax number of each is:

BOARD: Executive Assistant
Northwest Territories Water Board
P.O. Box 1500
YELLOWKNIFE, NT X1A 2R3

Phone No: (867) 669-2772
Fax No: (867) 669-2719

ANALYST: Analyst
Water Laboratory
Northern Affairs Program
Department of Indian Affairs
and Northern Development
Box 1500
4601 - 52nd Avenue
YELLOWKNIFE, NT X1A 2R3

Phone No: (867) 669-2780
Fax No: (867) 669-2718

INSPECTOR: Inspector
Inuvik District Office
Northern Affairs Program
Department of Indian Affairs
and Northern Development
P.O. Box 2100
INUVIK, NT X0E 0T0

Phone No: (867) 777-3361
Fax No: (867) 777-2090

7. Your Licence requires a security deposit be submitted. The contact person, address, phone and fax number of the individual administering security deposits is:

Special Projects Officer
Water Resources Division
Northern Affairs Program
Indian and Northern Affairs Program
P.O. Box 1500
YELLOWKNIFE, NT X1A 2R3

Phone No: (867) 669-2656

Fax No: (867) 669-2716

NORTHWEST TERRITORIES WATER BOARD

Pursuant to the Northwest Territories Waters Act and Regulations the Northwest Territories Water Board, hereinafter referred to as the Board, hereby grants to

PETRO-CANADA
(Licensee)
150-6th Avenue S.W.
of CALGARY, ALBERTA T2P 3E3
(Mailing Address)

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

Licence Number	<u>N7L1-1759</u>
Licence Type	<u>"B"</u>
Water Management Area	<u>NORTHWEST TERRITORIES 07</u>
Location	<u>LATITUDE 69°04'36" N. AND</u> <u>LONGITUDE 135°19'58" W.</u> <u>NORTHWEST TERRITORIES</u>
Purpose	<u>WATER USE AND WASTE DISPOSAL</u> <u>IN OIL AND GAS UNDERTAKINGS</u>
Quantity of Water Not To Be Exceeded	<u>150 CUBIC METRES DAILY</u>
Effective Date of Licence	<u>DECEMBER 1, 2000</u>
Expiry Date of Licence	<u>NOVEMBER 30, 2002</u>

This Licence issued and recorded at Yellowknife includes and is subject to the annexed conditions.

NORTHWEST TERRITORIES WATER BOARD

Witness



Chairman

PART A: SCOPE AND DEFINITIONS

1. Scope

- a) This Licence entitles Petro Canada to use water and dispose of waste for industrial undertakings in oil and gas exploration and associated uses in the Mackenzie Delta area located at Latitude 69°04'36" N. and Longitude 135°19'58" W., 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 *Northwest Territories Waters 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; and
- 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: **N7L1-1759**

"Act" means the *Northwest Territories Waters Act*;

"Regulations" mean Regulations proclaimed pursuant to Section 33 of the *Northwest Territories Waters Act*;

"Minister" means the Minister of Indian Affairs and Northern Development;

"Board" means the Northwest Territories Water Board established under Section 10 of the *Northwest Territories Waters Act*;

"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;

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

"Waters" mean waters as defined by Section 2 of the *Northwest Territories Waters Act*;

"Sump" means an excavation for the purpose of catching or storing water and/or waste;

"Artesian Aquifer" means a water-bearing rock stratum, which when encountered during drilling operations, produces a pressurised flow of groundwater that reaches an elevation above the water table or above the ground surface;

"Maximum Average Concentration" means the moving average of any four (4) consecutive analytical results submitted to the Board in accordance with the sampling and analysis requirements specified in the "Surveillance Network Program";

"Permeability" means the capacity to transmit water through a medium; and

"Drilling Fluids" means any liquid mixture of clay, water or chemical additives pumped downhole.

PART B: GENERAL CONDITIONS

1. The Licensee shall file an Annual Report with the Board not later than March 31 of the year following the calendar year reported which shall contain the following:
 - a) The total quantities in cubic metres of fresh water obtained from all sources;
 - b) the total quantities in cubic metres of each and all waste discharged;
 - c) a summary of any modifications carried out on the Water Supply and Waste Disposal Facilities, including all associated structures;

- d) a list of any spills and unauthorised discharges;
 - e) any other details on water use or waste disposal requested by the Board within forty-five (45) days before the annual report is due.
2. The Licensee shall comply with the "Surveillance Network Program" annexed to this Licence, and any amendment to the said "Surveillance Network Program" as may be made from time to time, pursuant to the conditions of this Licence.
 3. The "Surveillance Network Program" and compliance dates specified in the Licence may be modified at the discretion of the Board.
 4. The Licensee shall, within thirty (30) days of the issuance of this Licence, post the necessary signs, to identify the stations of the "Surveillance Network Program". All postings shall be located and maintained to the satisfaction of an Inspector.
 5. Metres, 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.
 6. Prior to the use of water for industrial undertakings or the disposal of waste and pursuant to Section 17(1) of the *Act* and Section 12 of the Regulations, the Licensee shall have posted and shall maintain a security deposit of Two Hundred Fifty Thousand (\$250,000.00) dollars in a form suitable to the Minister.
 7. 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 water from the Mackenzie River or as otherwise approved by an Inspector.

2. The daily quantity of water used for all purposes shall not exceed 150 cubic metres.
3. The water intake hose used on the water pumps shall be equipped with a screen with a mesh size sufficient to ensure no entrainment of fish.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall direct all piped and pumpout sewage to the Sewage Treatment Facilities or as otherwise approved by the Board.
2. The Licensee shall provide at least five (5) days notice to an Inspector prior to commencement of any discharges from the Sewage Treatment Facilities.
3. The Licensee shall ensure that erosion control structures are maintained to the satisfaction of the Inspector.
4. All Sewage effluent discharged by the Licensee from the Sewage Treatment Facilities at "Surveillance Network Program" Station Number 1759-1 shall meet the following effluent quality requirements:

<u>Sample Parameter</u>	<u>Maximum Average Concentration</u>
BOD ₅	30.0 mg/L
Total Suspended Solids	35.0 mg/L
Faecal Coliforms	250 CFU/dL
Oil and Grease	5.0 mg/L

The Waste discharged shall have a pH between 6 and 9.

5. The Licensee shall maintain the Sewage Treatment Facilities to the satisfaction of and Inspector.

6. The Licensee shall dispose of all solid wastes in a manner acceptable to the Inspector.
7. If during operations, an uncontrolled flow of liquids at surface is encountered, including that produced from an Artesian Aquifer, the Licensee shall notify an Inspector immediately. A sample of not less than ten (10) litres shall be collected from the flowing source at the point of discharge from the well. Five (5) litres shall be made available to an Inspector for analysis, and the Licensee shall have the remaining five (5) litres analysed as required by an Inspector.
8. Any fluids generated to surface, including those produced from an Artesian Aquifer, shall be contained and shall not be disposed of without approval of an Inspector.
9. The Licensee shall construct and maintain the Sump(s) to the satisfaction of an Inspector.
10. All wastes to be disposed of from the drilling operation shall be completely contained in a drilling sump near the drill site, or at an alternate sump location as approved by an Inspector.
11. The Licensee shall ensure that Chloride Concentrations in the Drill Waste Sump(s) do not exceed 100,000 mg/L.
12. In the event where decanting waste or water from the Sump(s) is required by an unanticipated event, the Licensee shall:
 - a) advise an Inspector;
 - b) obtain a representative sample from the Sump using the best methods available and describe in detail the prevailing conditions and how the sample was obtained. This sample shall contain a minimum of five (5) litres;
 - c) submit the results of the sampling and analyses to the Inspector at least seven (7) days prior to the requested date of commencing decant, or in the case of an unanticipated event, as soon as possible; and

d) indicate in writing to an Inspector;

the method of decant;
the direction of flow;
the location of fresh water bodies where the decanted effluent is expected to go; and
any treatment that will be applied to the Sump.

13. The Licensee may commence decanting upon receipt of an Inspector's approval.
14. All 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 as may be approved by an Analyst.
15. No oil-based waste products are to be disposed of on site. Oil-based additives and drill cuttings associated with these additives are to be disposed of at an offsite location to the satisfaction of an Inspector.
16. Any on-site treatment of oil-based waste products must be done with the approval of an Inspector.
17. Lost circulation that may contaminate ground water must be immediately reported to an Inspector.

PART E: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may, without written approval from the Board, carry out modifications to the Water Intake and Waste Treatment Facilities provided that such modifications are consistent with the terms of this Licence and the following requirements are met:
 - a) the Licensee has notified the Board in writing of such proposed modifications at least forty-five (45) days prior to beginning the modifications;

- b) such modifications do not place the Licensee in contravention of either the Licence or the *Act*;
 - c) the Board has not, during the forty-five (45) days following notification of the proposed modifications, informed the Licensee that review of the proposal will require more than forty-five (45) days; and
 - d) the Board has not rejected the proposed modifications.
2. Modifications for which all of the conditions referred to in Part E, Item 1 have not been met may be carried out only with written approval from the Board.
 3. The Licensee shall provide to the Board as-built plans and drawings of the modifications referred to in this Licence within ninety (90) days of completion of the modifications.

PART F: CONDITIONS APPLYING TO STREAM AND WATER BODY CROSSINGS

1. The Licensee shall ensure that only clean snow is used on all stream or water body crossings and that no debris is left on the surfaces of the crossings.
2. Stream or water body crossings shall be notched or removed before spring break-up to facilitate natural flow.
3. The removal of naturally occurring material from the bed or banks of any stream or water body below the ordinary high water mark is not permitted.

PART G: CONDITIONS APPLYING TO CONTINGENCY PLANNING

1. The Licensee shall submit to the Board for approval within thirty (30) days of issuance of this Licence, a Contingency Plan in accordance with the Board's "Guidelines for Contingency Planning, January 1987," or subsequent edition

2. If, during the period of this Licence, an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - a) employ the appropriate contingency plan;
 - b) report the incident immediately via the 24 Hour Spill Report Line. The current telephone number is (867) 920-8130; and
 - c) submit to an Inspector a detailed report on each occurrence not later than thirty (30) days after initially reporting the event.

PART H: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION

1. The Licensee shall submit to the Board for approval within one year of issuance of this Licence, an Interim Abandonment and Restoration Plan in accordance with the Board's "Guidelines for Mines in the Northwest Territories," September 1980, or subsequent edition.
2. The Licensee shall implement the Plan specified in Part G, Item 1 as and when approved by the Board.

NORTHWEST TERRITORIES WATER BOARD

Witness



Chairman

NORTHWEST TERRITORIES WATER BOARD

LICENSEE: PETRO CANADA

LICENCE NUMBER: N7L1-1759

EFFECTIVE DATE OF LICENCE: DECEMBER 1, 2000

EFFECTIVE DATE OF SURVEILLANCE NETWORK PROGRAM: DECEMBER 1, 2000

SURVEILLANCE NETWORK PROGRAM

A. Location of Sampling Stations

<u>Station Number</u>	<u>Description</u>
1759-1	Treated Effluent Discharge prior to entering the receiving environment
1759-2	Waste Drilling Fluids located within the Sump

B. Sampling and Analysis Requirements

1. Water at Station Number 1759-1, shall be sampled every two weeks, and analysed for the following parameters:

BOD ₅	Total Suspended Solids
Oil and Grease	Faecal Coliforms
Ammonia	

2. Water at Station Number 1759-2, shall be sampled monthly, and analysed for the following parameters:

Potassium Chloride

Total Petroleum Hydrocarbons

3. Samples shall be collected immediately after spring thaw in the vicinity of the treated sewage outfall to the satisfaction of an Inspector and analysed for the following parameters:

BOD₅

Total Suspended Solids

Oil and Grease

Faecal Coliforms

Ammonia

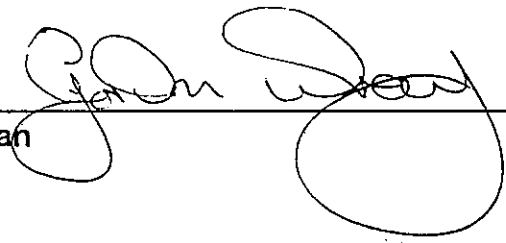
4. More frequent sample collection maybe required at the request of an Inspector.
5. All sampling, sample preservation, and analyses shall be conducted in accordance with methods prescribed in the current edition of "Standard Methods for the Examination of Water and Wastewater", or by such other methods approved by an Analyst.
6. All analysis shall be performed in a laboratory approved by an Analyst.
7. The Licensee shall, by January 31, 2001, submit to an Analyst for approval a Quality Assurance/Quality Control Plan.
8. The plan referred to in Part B, Item 5 shall be implemented as approved by an Analyst.

C. 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 "Surveillance Network Program" including the results of the approved Quality Assurance Plan.

NORTHWEST TERRITORIES WATER BOARD

Witness



Chairman