



SAHTU Land & Water Board
P.O. Box 1
Fort Good Hope, NT
X0E 0H0

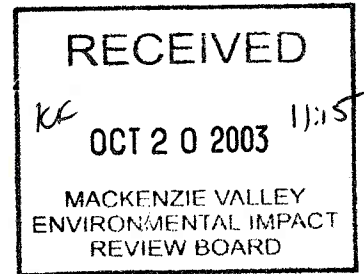
EA03-001

October 10, 2003

Mr. Vern Christensen
Executive Director
Mackenzie Valley Environmental Impact Review Board
Box 938, 200 Scotia Centre
5102 50th Ave.
Yellowknife, NT
X1A 2N7

Our File: S02A-004/S02L1-003

Your File:



Dear Mr. Christensen:

Re: **Land Use Permit / Water Licence for Northrock Resources Ltd.
Summit Creek B-44 Drilling Project**

During its Board meeting on October 9, 2003, the Sahtu Land and Water Board granted approval for the Northrock Resources Ltd. Summit Creek B-44 Exploratory Drilling Project. Presented to the Board in our Staff Report were Terms and Conditions for the Land Use Permit and Terms and Conditions for the Water Licence. Some of the Terms and Conditions pertained to, and fulfilled, the recommendations made in the "*Report of Environmental Assessment and Reasons for Decision for the Northrock Summit Creek B-44 Exploratory Well*", as submitted by the MVEIRB and approved by the Minister of DIAND.

In order to comply with Recommendation # 5 of the report which states that "The Review Board recommends that SLWB review the conditions of the Land Use Permit and Water Licence with the Community of Tulita", the staff members of the SLWB held a Public Open House and Summary Presentation in the Community of Tulita October 6th and 7th, 2003, in compliance with Recommendation # 5.

I have included the Terms and Conditions for the Land Use Permit and Water Licence with the Terms and Conditions specifically related to the recommendations of the EA Report highlighted.

Please do not hesitate to contact me if you have any questions.

Yours truly,

SAHTU Land & Water Board

Murray Peacock
Land/Resource Geographer

Encl: 2

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**CONDITIONS ANNEXED TO AND FORMING PART OF
LAND USE PERMIT NUMBER S02A-004**

26 (1) (A) - LOCATION AND AREA

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| 1.1 | The Permittee shall not conduct this land use operation on any lands not designated in the accepted application, unless otherwise authorized in writing by the S.L.W.B. | PLANS |
| 1.2 | The Permittee shall not conduct any part of the land use operation within three hundred (300) metres of any privately owned land or structure, unless otherwise authorized in writing by the S.L.W.B. | PRIVATE
PROPERTY |
| 1.3 | The Permittee shall not construct an adit or drill site within 100 metres of the normal high water mark of a stream unless approval in writing is obtained from the S.L.W.B. | LOCATION
OF ADITS
AND
DRILLSITE |

26 (1) (B) - TIME

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| 2.1 | The Permittee's Field Supervisor shall contact or meet with the Land Use Inspector at the Norman Wells office of the Departmental Indian Affairs and Northern Development, telephone number (867) 587-2911, at least 48 hours prior to the commencement of this land use operation. | CONTACT
INSPECTOR |
| 2.2 | The Permittee shall advise the Land Use Inspector at least ten (10) days prior to the completion of the land use operation of
(a) his plan for removal or storage of equipment and materials, and
(b) when final clean-up and restoration of the lands used will be completed. | REPORTS
BEFORE
REMOVAL |
| 2.3 | The Permittee shall submit a progress report to the Land Use Inspector every 7 days during this land use operation. | PROGRESS
REPORT |
| 2.4 | The Permittee shall notify the Land Use Inspector at least ten (10) days prior to backfilling any sump. | BACKFILLING
NOTIFICATION |
| 2.7 | The Permittee shall not conduct any over land movement of equipment and vehicles between Nov 30 and March 31, unless otherwise authorized by the Land Use Inspector in writing | SHUT-DOWN
PERIOD |
| 2.9 | The S.L.W.B., for the purpose of this operation, designates March 31 as spring break-up | SPRING
BREAK-UP |

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| 2.10 | The Permittee shall remove all ice bridges prior to spring break-up or completion of the land use operation, unless otherwise approved in writing by the Land Use Inspector. | REMOVE ICE BRIDGE |
| 2.11 | The Permittee shall remove all snow fills from stream crossings prior to spring break-up or completion of the land use operation, unless otherwise approved in writing by the Land Use Inspector | REMOVE SNOW FILLS |
| 2.12 | The Permittee shall restore all sumps prior to spring break-up, unless otherwise authorized in writing by the Land Use Inspector. | SUMPS/SPRING BREAK-UP |
| 2.13 | The S.L.W.B. reserves the right to impose closure of any area to the Permittee in periods when dangers to natural resources are severe. | CLOSURE |
| 2.14 | The Permittee shall complete all clean-up and restoration of the lands used prior to the expiry date of this Permit. | CLEAN-UP |

26 (1) (C) - EQUIPMENT

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| 3.1 | The Permittee shall not use any equipment except of the type, size, and number that is listed in the accepted application, unless otherwise authorized in writing by the Land Use Inspector. | ONLY APPROVED EQUIPMENT |
| 3.2 | The Permittee shall equip bulldozer blades used in this operation with "mushroom" type shoes or a similar type of device which shall be extended 15 centimetres below the cutting edge of the blade | BULLDOZER BLADES AND SHOES |
| 3.3 | The Permittee shall use a forced-air, fuel-fired incinerator to incinerate all combustible garbage and debris. | INCINERATORS |

26 (1) (D) - METHODS AND TECHNIQUES

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| 4.1 | The Permittee shall scout proposed lines and routes to select the best location for crossing streams and avoiding terrain obstacles prior to the movement of any vehicle that exerts pressure on the ground in excess of 35 K pa. | DETOURS & CROSSINGS |
| 4.2 | The Permittee shall construct and maintain winter roads with a minimum of ten (10) centimetres packed snow at all times during this land use operation. If this cannot be done, then the Permittee shall construct <u>Ice Roads</u> in a manner approved by the Land Use Inspector. | SNOW ROADS / ICE ROADS |
| 4.13 | The Permittee shall not erect camps or store material on the surface ice of streams. | STORAGE ON ICE |

26 (1) (E) - TYPE, LOCATION, CAPACITY AND OPERATION OF FACILITIES

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| 5.1 | The Permittee shall not locate any sump within one hundred (100) metres of the normal high water mark of any stream. | SUMPS FROM WATER |
| 5.2 | The Permittee shall maintain all drill wastes at least 1.2 metres below the lowest elevation of contiguous surrounding ground surface at all times. | SUMPS FREEBOARD |
| New | Sumps must be located in impermeable material or must be lined with impermeable material. | IMPERMEABLE SUMPS |
| 5.4 | The Permittee shall backfill all sumps in such a manner that drill waste is maintained below the 1.2 metre freeboard. | BACKFILL SUMPS-HOW |
| 5.5 | The Permittee shall:

(a) Place all excavated material over the sump area to ensure ponding does not occur.

(b) Overlap the material a minimum of two (2) metres beyond the edges of the existing sump wall. | BACKFILL SUMP OVERLAP |
| 5.7 | The Permittee shall ensure that the land use area is kept clean and tidy at all times. | CLEAN WORK AREA |

26 (1) (F) - CONTROL OR PREVENTION OF FLOODING, EROSION AND SUBSIDENCE OF LAND

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| 6.1 | (a) The Permittee shall, where flowing water from bore holes is encountered, plug the bore hole in such a manner as to permanently prevent any further outflow of water.

(b) The artesian occurrence shall be reported to the S.L.W.B. within twenty-four (24) hours. | PLUG ARTESIAN WELLS |
| 6.2 | The Permittee shall remove any obstruction to natural drainage caused by any part of this land use operation. | NATURAL DRAINAGE |
| 6.3 | The Permittee shall not cut any stream bank unless authorized in writing by the Land Use Inspector. | STREAM BANKS |
| 6.6 | The Permittee shall install culverts or bridges as construction of the road progresses, unless otherwise authorized in writing by the Land Use Inspector. | INSTALLATION CULVERTS BRIDGES |

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| 6.6a | The Permittee shall mark all culvert location in such a way that their location is visible for demobilization, unless otherwise authorized by the Land Use Inspector. | MARK
CULVERT
LOCATIONS |
| 6.7 | The Permittee shall not use the bed of streams for access routes except for the purpose of crossing the streams, unless otherwise authorized by the Land Use Inspector. | STREAM BEDS -
ACCESS |
| 6.14 | The Permittee shall not construct interceptor or off-shoot drainage ditches, unless approved in writing by the Land Use Inspector. | DITCHES |
| 6.15 | The Permittee shall install erosion control structures as the land use operation progresses, unless otherwise authorized by the Land Use Inspector. | EROSION
CONTROL
WHEN |
| 6.17 | The Permittee shall prepare the site in such a manner as to prevent rutting of the ground surface. | PREVENTION
OF RUTTING |
| 6.20 | The Permittee shall not move any equipment or vehicles unless the ground surface is in a state capable of fully supporting the equipment or vehicles without rutting or gouging. | VEHICLE
MOVEMENT
FREEZE-UP |
| 6.21 | The Permittee shall suspend overland travel of equipment or vehicles if rutting occurs. | SUSPEND
OVERLAND
TRAVEL |

26 (1) (G) - USE, STORAGE, HANDLING AND DISPOSAL OF CHEMICAL OR TOXIC MATERIAL

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| 7.2 | The Permittee shall not use the following materials during the drilling operation without the prior written approval of the S.L.W.B.: | PROHIBITED
CHEMICALS |
| | Chlorinated phenols (Dowicide B, etc.) | |
| | Compounds composed primarily of heavy metals | |
| | Asbestos | |
| 7.3 | The Permittee shall submit to the S.L.W.B. a contingency plan, for chemical spills, for use during the construction and operation of the winter road and associated facilities. | CONTINGENCY
PLAN |
| 7.5 | The Permittee shall deposit all drill waste into a sump. | DRILL WASTE |

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| 7.6 | The Permittee shall not allow any drilling waste to spread to the surrounding lands. | DRILL WASTE
CONTAINMENT |
| 7.7 | The Permittee shall dispose of all toxic or persistent substance in a manner as approved, in writing, by the S.L.W.B. | WASTE
CHEMICAL
DISPOSAL |
| 7.8 | The Permittee shall dispose of all fluids used to wash machinery and equipment in a sump, unless otherwise authorized in writing by the Land Use Inspector. | RIG WASH
DISPOSAL |
| 7.9 | The Permittee shall report all spills immediately in accordance with instructions contained in "Spill Report" form N.W.T. 1086(10/79). 24 hour spill report line (867)920-8130. | REPORT
CHEMICAL AND
PETROLEUM
SPILLS |

26 (1) (H) - WILDLIFE AND FISHERIES HABITAT

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| 8.1 | The Permittee shall not unnecessarily damage wildlife habitat in conducting this land use operation. | HABITAT
DAMAGE |
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26 (1) (I) THE STORAGE, HANDLING, AND DISPOSAL OF REFUSE OR SEWAGE

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| 9.1 | The Permittee shall deposit all sewage into a sump or as directed by the Land Use Inspector. | SEWAGE
DISPOSAL |
| 9.4 | The Permittee shall keep all garbage and debris in a covered metal container until disposed of. This container shall be marked with the Permittee's name. | GARBAGE
CONTAINERS |
| 9.5 | The Permittee shall burn all garbage and debris at least daily. | GARBAGE
DISPOSAL |
| 9.7 | The Permittee shall remove all non-combustible garbage and debris from the land use area to a disposal site approved in writing by the Land Use Inspector. | REMOVE
GARBAGE |
| 9.11 | The Permittee shall remove from the "Mackenzie Valley", all scrap metal, discarded machinery and parts, barrels and kegs, buildings and building material. | REMOVE
WASTE
MATERIAL |
| 9.12 | The Permittee shall dispose of all combustible waste petroleum products by incineration or removal. | WASTE
PETROLEUM
DISPOSAL |

26 (I) (J) - HISTORICAL AND ARCHAEOLOGICAL SITES AND BURIAL GROUNDS

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| 10.1 | The permittee shall not operate any machinery or equipment within (150) metres of any known Historical or Archaeological Site and Burial Ground. | NO ACTIVITY |
| 10.2 | The permittee shall make every effort to ensure that no Historical or Archaeological Site or Burial Ground will be affected by this operation. | SITES PROTECTION |
| New | The permittee shall have a qualified archaeologist and a knowledgeable community member jointly survey the access route while it is free of snow before the land based activities proceed. | ARCHAEOLOGICAL SURVEY |
| New | The permittee shall submit a plan satisfactory to the Prince of Wales Northern Heritage Centre for avoiding damage to any sites identified along the route before land based activities can proceed. | ARCHAEOLOGICAL PLAN |

26 (I) (L) - SECURITY DEPOSIT

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| 12.1 | The operator shall deposit with the S.L.W.B. a security deposit in the amount of <u>nil</u> pursuant to Section 26 (1) (L) of the Mackenzie Valley Land Use Regulations. | SECURITY DEPOSIT |
| 12.2 | The Permittee shall be liable for any cost of damages over and above the amount of the security deposit. | LIABILITY FOR DAMAGES |

26 (I) (M) - PETROLEUM FUEL STORAGE

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| 13.2 | The Permittee shall not place any petroleum fuel storage containers within one hundred (100) metres of the normal high water mark of any stream. | FUEL BY STREAM |
| 13.4 | The Permittee shall not allow petroleum products to spread to surrounding lands or into water bodies. | FUEL CONTAINMENT |
| 13.6 | The Permittee shall construct a dyke around each stationary fuel container or group of stationary fuel containers where any one container has a capacity exceeding 4 000 litres. | DYKE/FUEL CONTAINERS |
| 13.7 | The Permittee shall line the dyke and area enclosed by the dyke with a type of plastic film liner approved by the S.L.W.B. | LINE DYKE |

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| 13.8 | The volume of the dyked area shall be 10% greater than the capacity of the largest fuel container placed therein. | CAPACITY |
| 13.9 | The Permittee shall ensure that the dyke and the area enclosed by the dyke shall be impermeable to petroleum products at all times. | IMPERMEABLE
DYKE |
| 13.10 | The Permittee shall:

(a) examine all fuel storage containers for leaks a minimum of once every day.

(b) repair all leaks immediately. | CHECK FOR
LEAKS |
| 13.11 | The Permittee shall maintain a watchman at the site at all times when fuel is stored on site. | WATCHMAN |
| 13.12 | The Permittee shall submit to the S.L.W.B. a contingency plan, for petroleum spills, for use during the construction and operation of the winter road and associated facilities. | CONTINGENCY
PLAN |
| 13.16 | The Permittee shall seal all container outlets except the outlet currently in use. | SEAL OUTLET |

26 (1) (N) - DEBRIS AND BRUSH DISPOSAL

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| 14.1 | The Permittee shall dispose of all debris and brush by:

a) windrowing the debris and brush to the side of the line, and

b) making breaks in the windrow of at least seven (7) metres wide at intervals of not more than three hundred and thirty (330) metres. | BRUSH
DISPOSAL |
| 14.2 | The Permittee shall make the windrow of brush and debris lie flat and compact by:

(a) bucking the material into suitable lengths and lopping the branches from the stem, and/or

(b) crushing with heavy machinery in order to compact the material. | BRUSH
DISPOSAL |
| 14.3 | The Permittee shall ensure that windrows are separated from standing timber | WINDROWS
LOCATION |
| 14.13 | The Permittee shall spread all cut debris and brush over the areas cleared, prior to completion of the operation or expiry of the Land Use Permit. | SPREAD
BRUSH |

- 14.14 The Permittee shall salvage all portions of trees cleared that are larger than thirteen (13) centimeters in diameter. **SALVAGE
TIMBER**
- 14.15 The Permittee shall neatly pile all salvaged wood at locations specified in writing by the Land Use Inspector. **PILE WOOD**
- 14.22 The permittee shall clear by hand steep slopes as directed by the Land Use Inspector **HAND CUT
STEEP
SLOPES**

26 (1) (O) - RESTORATION OF THE LANDS

- 15.1 The Permittee shall establish vegetation on all areas stripped of vegetation during this land use operation to a minimum of seventy (70%) per cent ground cover, unless otherwise authorized in writing by the S.L.W.B. **REVEGETATE
STRIPPED
AREA**
- 15.2 The Permittee shall apply grass seed and fertilizer to areas designated in writing by the Land Use Inspector. **REPLANT
DESIGNATED
AREAS**
- 15.3 The Permittee shall commence and foster Revegetation on all parts of the land used, as may be directed by the Land Use Inspector, within one year of the completion of the land use operation. **RE-ESTABLISH
VEGETATION**
- 15.5 The Permittee shall save the organic soil stripped from the excavation area. **SAVE
ORGANIC
SOIL**
- 15.6 The Permittee shall place the organic soil over the disturbed area prior to the expiry date of this Permit. **PLACE
ORGANIC
SOIL**

26 (1) (P) - DISPLAY OF PERMITS AND PERMIT NUMBERS

- 16.1 The Permittee shall display a copy of this Permit in a conspicuous place in each campsite established to carry out this land use operation. **DISPLAY
PERMIT**

26 (1) (Q) - MATTERS NOT INCONSISTENT WITH THE REGULATIONS

- 17.5 The Permittee shall provide in writing to the Land Use Inspector at least forty-eight (48) hours prior to commencement of this land use operation, the following information: **IDENTIFY AGENT**
- (a) person, or persons, in charge of the field operation to whom notices, orders, and reports may be served;
 - (b) alternates;
 - (c) all the indirect methods for contacting the above person(s).
- 17.6 The Permittee shall, while conducting the operation, make every effort to avoid covering or destroying traps or snares that may be found in the area. **TRAPS PROTECTION**
- 17.7 The Permittee shall restore any trails used by trappers or hunters by slashing any and all trees that may fall across these paths or trails and by removing any other obstructions such as snow piles or debris that may be pushed across the trails. **TRAILS RESTORATION**
- 17.8 The Permittee shall not feed wildlife **NO FEEDING WILDLIFE**
- 17.9 The Permittee shall submit a Final Plan in Digital Format compatible with ARCGIS software for the land use operation completed and a map at a scale of 1:250,000 for the operation as it was conducted on the surface. **FINAL PLANS**
- 17.10 In this Permit:
- "sump" means a man-made pit, trench hollow or cavity in the earth's surface used for the purpose of depositing waste material therein.
- "drill waste" means all materials or chemicals, solid or liquid, associated with the drilling of bore holes and includes bore hole cuttings

SAHTU Land and Water Board

Witness

Larry Wallace (Chairman)



SAHTU Land and Water Board Water Licence

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

Northrock Resources Ltd.

(licencee)

of **Suite 3500, 700-2nd Street SW, Calgary, AB T2P 2W2**
(Mailing Address)

hereinafter called the Licencee, 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 Act and Regulations made thereunder and subject to and in accordance with the conditions specified in this licence.

Licence Number	<u>S02L1-003</u>
Licence Type	<u>"B"</u>
Location	<u>Summit Creek B-44 location, 60 km SSW of Tulita</u>
Purpose	<u>Water use and waste disposal for industrial undertakings in oil & gas exploration and associated uses.</u>
Effective Date of Licence	<u>October 13, 2003</u>
Expiry Date of Licence	<u>October 12, 2008</u>

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

SAHTU Land and Water Board

Witness

Chairman

**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 AND WATER BOARD

LICENSEE: Northrock Resources Ltd.
LICENCE NUMBER: S02L1-003
EFFECTIVE DATE OF LICENCE ISSUANCE: October 13, 2003

TERMS AND CONDITIONS

PART A: SCOPE AND DEFINITIONS

1. Scope

- a) This Licence entitles Northrock Resources Ltd. to use water and dispose of waste for industrial undertakings in oil and gas exploration and associated uses at well site: B-44 at Latitude 64° 23' 2" N and Longitude 125° 53' 22" W in the Northwest Territories.
- b) This Licence entitles Northrock Resources Ltd. to use water for industrial undertakings, in oil and gas exploration and associated uses, for construction and maintenance of a Winter Road from the Enbridge KP 160 Remote Valve to the drilling program area at Summit Creek B-44 well site. These water sources are as follows:

Water Source (WS)	Volume (m ³)
WS-1 Mackenzie River	800
WS-2 Stewart Lake Outflow	2050
WS-3 Lake 1	1060
WS-4 Lake 2	930
WS-5 Lake 3	1850
WS-6 Lake 5	1400

- c) 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
- d) 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.

“Mix-Bury-Cover Method” means a method of disposal for drilling wastes whereby drilling waste solids, fluids, or the total waste are stabilized by mixing with subsoil below the major rooting zone and above the water table, in a manner that preserves soil chemical properties and protects groundwater quality.

“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.

“Permeability” means the capacity to transmit water through a medium.

“Produced Water” means any waters produced during gas and oil extraction that cannot normally be disposed of at the surface of the earth because such waters can contain high levels of salts and trace levels of hydrocarbons and other pollutants.

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

“Remote Sump” means any sump that is not on the lease of a well being drilled.

“Sump” means a surface excavation, constructed of material that exhibits low permeability (hydraulic conductivity of less than $10^{-6} \text{m}^3/\text{s}$), for the purpose of holding or storing drilling muds, waste drill cuttings, sludge, and fluids.

“Total Waste Sample” means a waste sample from the entire depth of the drilling waste sump, where the fluid and solid phases are collected at the same time using a column sampling tube, and the required sample is a composite of sub-samples from several locations in the sump.

“Toxicity Bioassays” means tests used to determine if components that might be harmful to vegetation, microorganisms, aquatic species, as well as animals or humans are present, but are not normally detected in routine chemical analysis.

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

“Waste Management Plan” a document providing comprehensive details of the manner in which drilling waste is handled, treated and disposed of during drilling operations.

PART B: GENERAL CONDITIONS

1. The water use fee shall be paid annually in advance.
2. The Licensee shall file a report with the Board not later than September 1st, 2004 and each year thereafter for the life of the Water Licence which shall contain the following information:
 - a) the monthly and annual quantities in cubic metres of fresh water obtained from all sources;
 - b) the monthly and annual quantities in cubic metres of each and all wastes discharged;

3. Total quantities of water involved are approximately as follows:

ACTIVITY	WATER USAGE (m ³)
Drilling Operations	835
Camp Use	225
Winter Road Construction and Maintenance	7030

4. Under no circumstances shall the Licensee draw water from Stewart Lake. Water may only be drawn from the identified outflow stemming from Stewart Lake.
5. The water intake hose used on the water pumps shall be equipped with a screen of a mesh size of (2.54 mm) sufficient to ensure no entrainment of fish.
6. Water source lakes shall be evaluated on site. Lakes that have a water depth of (50) cm. or greater under ice can be used as a water source. Any lake that has a water depth of less than (50) cm. under ice shall not be used.
7. A dissolved oxygen/temperature profile shall be taken just prior to initial water withdrawal and again as close to the project termination date as possible. Timing would be approximately March or April for each water source lake.
8. No more than (5)% of available water volume shall be removed per lake per winter season.
9. The Licensee shall comply with the most recent version of the "Department of Fisheries and Oceans Protocol for Water Withdrawal for Oil and Gas Activities in the Northwest Territories".

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall submit a Waste Management Plan (3) days prior to the spudding of a well. The plan shall be submitted to the Board and the Water Licence Inspector and shall address the following: baseline drill pad soil sampling results, drilling additives, fluids, storage, processing, handling, treatment, disposal, and waste minimization technologies utilized during operations. Hydrocarbon based drilling materials are not permitted.
2. 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 remote sump location, as approved by the Water Licence Inspector.
3. The Licensee shall, to the satisfaction of the Board and the Water Licence Inspector, contain all drilling waste in a sump(s) composed or constructed of material that exhibits the quality of low permeability (hydraulic conductivity of less than 10⁻⁶m³/s) and is constructed to prevent the intrusion of runoff water. Alternate methods of containment require the approval of the Board.
4. In the event the primary sump(s) does not meet the requirement of low permeability the Licensee shall construct a secondary off-site or remote sump exhibiting such requirements to the satisfaction of the Board and the Water Licence Inspector.

Examination of Water and Wastewater”, or by such other methods as approved by an Analyst.

13. All test results must be reported in the units of measurement as indicated in the Terms and Conditions applying to water usage and waste disposal. The Board shall not accept test results in the improper unit of measurement.
14. In the Mix-Bury-Cover of the drilling sump, the ratio of subsoil to waste must be at least three (3) parts subsoil to one (1) part waste by volume. The base of the final subsoil and waste mixture must be at least one (1) metre above the water table, and covered with at least one (1) metre of clean subsoil before replacing the topsoil.
15. Prior to Mix-Bury-Cover of the drilling Sump, the total chlorides must be less than (2000) mg/kg in subsoil and waste mix.
16. The Licensee shall notify the Board and the Water Licence Inspector (10) days prior to the Mix-Bury-Cover of a sump(s).
17. No sump(s) shall be Mixed-Buried-Covered before the laboratory results of the total waste sample and microtox test are reviewed by the Board and the results of the tests prove that the lifetime loading limits set out in Part D, Sub-part (11) of the Terms and Conditions of the Water Licence, have not been exceeded. Lab results shall be to the satisfaction of the Board.
18. The Licensee shall ensure that qualified personnel are retained to ensure the success of the sampling regime and sampling results. in keeping with Part D, Sub-part (12) of the Water Licence Terms and Conditions.
19. If, during drilling, an Artesian Aquifer is encountered producing water flowing at the surface, the Licensee shall notify the Board and the Water Licence Inspector within (24) hours of the occurrence.
20. If, during drilling, an Artesian Aquifer is encountered producing water flowing at the surface, the Licensee shall employ appropriate drilling technology , as necessary, to prevent Artesian waters from flowing off-lease and to minimize the quantity of such waters that will be stored in the snow bermed area.
21. The Licensee shall notify the Board of the flow rate of the Artesian aquifer within (24) hours of the occurrence. The flow rate shall be reported in cubic metres per minute.
22. Within (24) hours after the cessation of the flow of Artesian waters the Licensee shall report to the Board the total amount of such waters that has been generated by the Artesian aquifer and the amount of Artesian waters that shall be stored in the snow bermed area or otherwise approved storage area. The amounts reported shall be in cubic metres.
23. If, during drilling an Artesian Aquifer is encountered, 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 a Water Licence Inspector for analysis, and the Licensee shall have the remaining five (5) litres analysed for the following parameters and provided for the approval of an Inspector:

30. As built drawings of camp sumps and drill waste sumps shall be submitted to the Board within (90) days of being Mixed-Buried-Covered. The drawings shall contain, but not limited to containing, the following information: sump depth, water table depth, permafrost classification, permafrost depth, soil classification, parent material type, sump design and dimensions, GPS location(s), and on-site or remote sump(s).
31. The Licensee shall provide to the Board, within (90) days of completion of drilling an exploratory well, a Lease Well Pad Schematic.

PART E: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION

1. The Licensee shall monitor drilling waste and camp sump(s) for a minimum of (5) consecutive years to inspect the sump(s) for leakage, slumping or failure of any kind.
2. The Licensee shall monitor the project area affected by activities relating to the issued Water Licence for a minimum of (5) years to ensure that mitigation, reseeding, erosion control and restoration efforts have been successful. These efforts shall be performed to the satisfaction of the Board and the Water Licence Inspector.
3. The Licensee shall inspect the sump(s) and project location for the parameters set out in Part E: Conditions (1) and (2) of this document once in the Summer months to ensure that efforts to fulfill the conditions are successful. The inspection results shall be to the satisfaction of the Board and the Water Licence Inspector.
4. During the (5) year monitoring period, any failure of the measures as set out in Conditions (1), (2) and (3) of Part E: shall be reported to the Board and the Water Licence Inspector within (7) days of the discovery of said failure or failures.
5. The Licensee shall submit a written report documenting the annual Summer site inspection as set out in Part B, General Conditions, sub-part (8).
6. All disturbed areas relating to Water Licence activities shall be restored, fertilized and reseeded with either Forestry Canada # (1) natural seed mixture or other acceptable natural seed mixtures.
7. Natural seed mixtures shall be applied at the rate of (50) kg per hectare.
8. Reseeded areas shall be fertilized with (10-10-10) fertilizer at the rate of (100) kg per hectare.
9. The Licensee shall perform baseline soil sampling of the drill pad prior to the mobilization of persons and equipment to the drilling site. The samples shall be tested for the following parameters:

- b) such Modifications do not place the Licensee in contravention of either the Licence or the Acts;
 - c) the Board has not, during the thirty (30) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than thirty (30) days; and
 - d) the Board has not rejected the proposed Modifications.
2. Modifications for which all of the conditions referred to in Part G, 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 H: CONDITIONS APPLYING TO CONTINGENCY PLANNING

1. The Licensee shall maintain a copy of the Emergency Response Plan on-site in a readily available location to the satisfaction of the Water Licence Inspector.
2. The Licensee shall ensure that petroleum products, hazardous material and other wastes associated with the project do not enter any waters.
3. The Licensee shall review the Fuel Spill Contingency Plan annually and modify the Plan as necessary to reflect changes in regulations, operations and technology. Any proposed modifications shall be submitted to the Board for approval.
4. 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 Fuel Spill Contingency Plan;
 - b.) report the incident immediately via the (24) Hour NWT Spill Report Line. Currently the number is (867) 920-8130;
 - c.) report the unauthorized discharge of waste to the Board within (24) hour; and
 - d.) submit to a Water Licence Inspector, a detailed report on each occurrence not later than thirty (30) days after initially reporting the event.
5. The Licensee shall comply with the National Energy Board's revised "*Spill Reporting Protocol for Upstream Oil and Gas Operations in the Northwest Territories and Nunavut Regulated by the National Energy Board*" which is effective as of July 15, 2003.

SAHTU LAND AND WATER BOARD

Witness

Chairman