



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

www.inac.gc.ca

www.ainc.gc.ca

Land Administration
P.O. Box 100
Iqaluit, NU X0A 0H0
Phone: 867-975-4275
Fax: 867-975-4286

Your file - Votre référence

Our file - Notre référence

May 5, 2010

Commander Resources Ltd.
510 – 510 Burrard St.
Vancouver, BC
V6C 3A8

Dear Mr. Davidson :

Re: Land Use Permit #N2010C0012
Type of Operation: Campsite & Mining (Exploration)
Location: Dewar Lakes Area

Enclosed is your copy of Land Use permit number N2010C0012 authorizing your project as described in your application dated February 26, 2010, received by this office March 25, 2010.

Your application has received a wide distribution to other Federal departments, Government of the Nunavut departments, communities in the area of your operation and concerned Inuit groups. In distributing your application the Nunavut Impact Review Board (NIRB) sought comments from these various agencies based on their area of expertise that will help ensure minimum negative impact on the environment. The issuance of this permit indicates that as a result of the NIRB environmental screening process it was decided that the potentially adverse environmental effects that may be caused by your proposal are mitigable with known technology and are not significant. The terms and conditions in the permit will, in our opinion, provide the necessary protection to the environment.

The Nunavut Impact Review Board has also recommended the following:

1. The Proponent shall ensure that all water intake hoses are equipped with a screen with an appropriate mesh size to ensure that there is no entrapment of fish.
2. The Proponent, prior to the discharge of fluids from any sump, shall carry out an analysis of the fluid in a manner prescribed by the Nunavut Water Board.

Canada

3. The Proponent shall prepare the site in such a manner as to prevent rutting of the ground surface.
4. The Proponent shall be required to undertake any corrective measures in the event of any damage to the land or water as a result of the Proponent's operation.
5. The Proponent 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.
6. The Proponent shall suspend overland travel of equipment or vehicles if rutting occurs.
7. The NIRB would like to encourage the proponent to hire local people and services, to the extent possible.
8. The NIRB strongly advises proponents to consult with local residents regarding their activities in the region, and do community consultation on the project to keep the communities informed.
9. Any amendment requests deemed by the NIRB to be outside the original scope of the project will be considered a new project.
10. The Environmental Protection Branch (DOE), Department of Fisheries and Oceans (DFO), and Nunavut Impact Review Board (NIRB) should be advised of any material changes to plans or operating conditions associated with the project.
11. If drilling is conducted on lake ice, the Proponent shall ensure that any return water is nontoxic, and will not result in an increase in total suspended solids in the immediate receiving waters above the Canadian Council of Ministers for the Environment (CCME) Guidelines for the Protection of Freshwater Aquatic Life (i.e. 10 mg/L for lakes with background levels under 100 mg/L, or 10% for those above 100 mg/L).
12. The Proponent shall ensure that drill muds and additives are not used in connection with holes drilled through lake ice unless they are re-circulated or contained such that they do not enter the water, or demonstrated to be non-toxic.
13. The Proponent shall ensure that all drill cuttings are removed from ice surfaces daily.
14. The Proponent shall submit an annual report with copies provided to the NIRB, Indian and Northern Affairs Canada (INAC), the Government of Nunavut, Department of Environment (GN-DoE), and the Qikiqtani Inuit Association (QIA) by March 31 each year that the project is in operation. The report must contain, at a minimum, the following information:
 - a. A summary of activities undertaken for the year, including the amount of drilling;
 - b. A work plan for the following year;

- c. A summary of wildlife mitigation and monitoring (see Item 2 for details);
 - d. The number of take-offs & landings from an airstrip with approved flight path with date and location;
 - e. The number of helicopter touch-downs on the land with date and location (provide unless confidential);
 - f. Site photos;
 - g. Progressive reclamation work undertaken; and
 - h. A summary of how the proponent has complied with all project terms and conditions and how the terms and conditions are achieving their purpose.
15. In the required annual report, the Proponent should also include the following wildlife information:
- a. Record of wildlife observations while operating within the project area. The record should include locations (i.e., latitude and longitude), species, number of animals, a description of the animal activity, and a description of the gender and age of animals if possible.
 - b. Map the location of any sensitive wildlife sites such as denning sites, calving areas, caribou crossing sites, and raptor nests in the project area, prior to conducting the project activities.
 - c. The timing of critical life history events (i.e., calving, mating, denning and nesting) within the project area.
 - d. Potential impacts from the project undertakings identified by the previous operations.
 - e. Mitigation measures implemented (including but not limited to the provisions listed as Terms and Condition in the *Previous Approved and New Recommended Project-Specific Terms and Conditions*) in the reporting year.
 - f. Effectiveness analysis of the mitigation measures, and supplemental measures planned for the following year.
16. The Proponent review the bear/carnivore detection and deterrent techniques outlined in "Safety in Grizzly and Black Bear Country" which can be down-loaded from this link: <http://www.nwtwildlife.com/Publications/safetyinbearcountry/safety.htm>. Note that some recommendations in this manual are also relevant to polar bears. There is a DVD about polar bears and safety available from Nunavut Parks at the following link <http://www.nunavutparks.com/english/visitor-information/suggested-resources.html> and a "Safety in Polar Bear Country" pamphlet from Parks Canada at the following link <http://www.pc.gc.ca/pn-np/nu/auyuittuq/pdf/PolarBearEnglish2007final.pdf>.

The NIRB would like to advise the Proponent that the following legislation may apply to the project:

1. The Proponent is advised that the *Canadian Environmental Protection Act* (<http://laws.justice.gc.ca/en/C-15.31/>) lists calcium chloride (CaCl) as a toxic substance. The Proponent should assess alternatives (including biodegradable and non-toxic) to drill additives prior to the use of CaCl and try to avoid the use of CaCl.

2. The *Fisheries Act* (<http://laws.justice.gc.ca/en/showtdm/cs/F-14//en>).
3. The *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (<http://laws.justice.gc.ca/eng/N-28.8/index.html>).
4. The *Migratory Birds Convention Act and Migratory Birds Regulations* (<http://laws.justice.gc.ca/en/showtdm/cs/M-7.01>).
5. The *Species at Risk Act* (<http://laws.justice.gc.ca/en/showtdm/cs/S-15.3>). See attached list of Species at Risk in Nunavut.
6. The *Nunavut Wildlife Act* which contains provisions to protect and conserve wildlife and wildlife habitat, including specific protection measures for wildlife habitat and species at risk.
7. The *Nunavut Act* (<http://laws.justice.gc.ca/en/showtdm/cs/N-28.6>).
8. The *Transportation of Dangerous Goods Regulations, Transportation of Dangerous Goods Act* (<http://www.tc.gc.ca/tdg/menu.htm>), and the *Environmental Protection Act* (<http://laws.justice.gc.ca/en/C-15.31/text.html>). The Proponent must ensure that proper shipping documents accompany all movements of dangerous goods. The Proponent must register with the GN-DOE Manager of Pollution Control and Air Quality at 867-975-7748.
9. The *Aeronautics Act* (<http://laws.justice.gc.ca/en/A-2/>).

As your project has identified the use of collapsible fabric storage tanks (bladders), please be aware that on June 12, 2008, Environment Canada introduced the Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations under the *Canadian Environmental Protection Act*, 1999. Effective June 13, 2010, all applicable petroleum product storage tank systems on federal and Aboriginal land must be:

- Be registered with Environment Canada and display an identification number.
- Have completed a leak detection test (for tank systems that do not have existing leak detection).
- Have a leak detection monitoring program and emergency plan.

For more information about Environment Canada Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations, please contact Environment Canada's Environmental Stewardship Branch at (819) 994-0738 or visit their website at www.ec.gc.ca/st-rs/.

Please ensure that you adhere to the operating conditions, along with the "Technical Requirements for Collapsible Fabric Storage Tanks" and the Archaeological Palaeontological terms and conditions, annexed to your permit. Should you have any questions regarding any conditions of this permit, please contact Jeff G. Mercer at 867-975-4283 or email landsmining@inac.gc.ca.

Sincerely,

A handwritten signature in black ink that reads "Jeff G. Mercer". The signature is written in a cursive, flowing style.

Jeff G. Mercer
Land Administration Specialist

cc: Manager, Field Operations
RMO - Baffin RMO
NIRB

CIDMS #400079



ARCHAEOLOGICAL AND PALAEOONTOLOGICAL RESOURCES TERMS AND CONDITIONS FOR LAND USE PERMIT HOLDERS

BACKGROUND

Archaeology

As stated in Article 33 of the Nunavut Land Claims Agreement:

The archaeological record of the Inuit of Nunavut is a record of Inuit use and occupancy of lands and resources through time. The evidence associated with their use and occupancy represents a cultural, historical and ethnographic heritage of Inuit society and, as such, Government recognizes that Inuit have a special relationship with such evidence, which shall be expressed in terms of special rights and responsibilities. [33.2.1]

The archaeological record of Nunavut is of spiritual, cultural, religious and educational importance to Inuit. Accordingly, the identification, protection and conservation of archaeological sites and specimens and the interpretation of the archaeological record is of primary importance to Inuit and their involvement is both desirable and necessary. [33.2.2]

In recognition of the cultural, spiritual and religious importance of certain areas in Nunavut to Inuit, Inuit have special rights and interests in these areas as defined by Article 33 of the Nunavut Land Claims Agreement. [33.2.5]

Palaeontology

Under the Nunavut Act¹, the federal government can make regulations for the protection, care and preservation of palaeontological sites and specimens in Nunavut. Under the *Nunavut Archaeological and Palaeontological Sites Regulations*², it is illegal to alter or disturb any palaeontological site in Nunavut unless permission is first granted through the permitting process.

Definitions

As defined in the *Nunavut Archaeological and Palaeontological Sites Regulations*, the following definitions apply:

“archaeological site” means a place where an archaeological artifact is found.

¹ s. 51(1)

² P.C. 2001-1111 14 June, 2001

“archaeological artifact” means any tangible evidence of human activity that is more than 50 years old and in respect of which an unbroken chain of possession or regular pattern of usage cannot be demonstrated, and includes a Denesuline archaeological specimen referred to in section 40.4.9 of the Nunavut Land Claims Agreement.

“palaeontological site” means a site where a fossil is found.

“fossil” includes:

- (a) natural casts
- (b) preserved tracks, coprolites and plant remains; and
- (c) the preserved shells and exoskeletons of invertebrates and the eggs, teeth and bones of vertebrates.

Terms and Conditions

- 1) The permittee shall not operate any vehicle over a known or suspected archaeological or palaeontological site.
- 2) The permittee shall not remove, disturb, or displace any archaeological artifact or site, or any fossil or palaeontological site.
- 3) The permittee shall immediately contact the Department of Culture, Language, Elders and Youth (867) 934-2046 or (867) 975-5500 or 1 (866) 934-2035 should an archaeological site or specimen, or a palaeontological site or fossil be encountered or disturbed by any land use activity.
- 4) The permittee shall immediately cease any activity that disturbs an archaeological or palaeontological site encountered during the course of a land use operation, until permitted to proceed with the authorization of the Department of Culture, Language, Elders and Youth, Government of Nunavut.
- 5) The permittee shall follow the direction of the Department of Culture, Language, Elders and Youth and DIAND in restoring disturbed archaeological or palaeontological sites to an acceptable condition.
- 6) The permittee shall provide all information requested by the Department of Culture, Language, Elders and Youth concerning all archaeological sites or artifacts and all palaeontological sites and fossils encountered in the course of any land use activity.
- 7) The permittee shall make best efforts to ensure that all persons working under authority of the permit are aware of these conditions concerning archaeological sites and artifacts, and palaeontological sites and fossils.
- 8) The permittee shall avoid the known archaeological and/or palaeontological sites listed in Attachment 1.

9) The permittee shall have an archaeologist or palaeontologist perform the following functions, as required by the Department of Culture, Language, Elders and Youth:

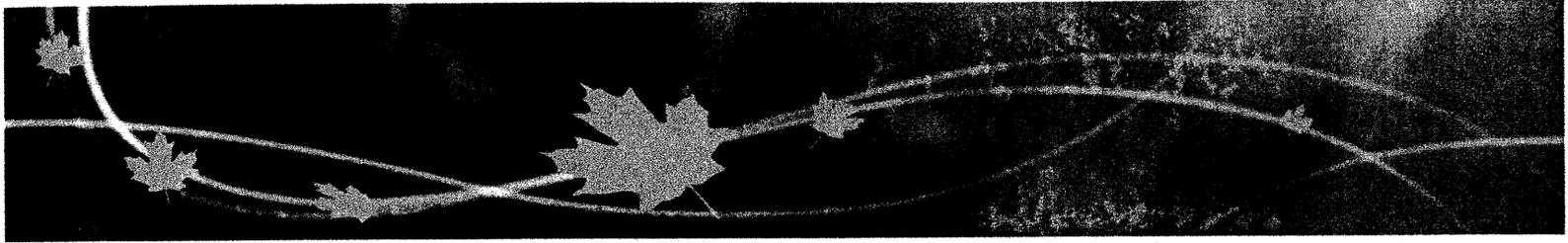
- a) survey
- b) inventory and documentation of the archaeological or palaeontological resources of the land use area
- c) assessment of potential for damage to archaeological or palaeontological sites
- d) mitigation
- e) marking boundaries of archaeological or palaeontological sites
- f) site restoration

The Department of Culture, Language, Elders and Youth shall authorize by way of a Nunavut Archaeologist Permit or a Nunavut Palaeontologist Permit, all procedures subsumed under the above operations.



Environment
Canada

Environnement
Canada



TECHNICAL REQUIREMENTS

FOR

COLLAPSIBLE FABRIC STORAGE TANKS

(BLADDERS)

ENVIRONMENT CANADA

December 17, 2009

Canada

TABLE OF CONTENTS

INTRODUCTION

Part 1 SCOPE

Part 2 DEFINITIONS

Part 3 CONSTRUCTION

- 3.1 Capacity
- 3.2 Materials
- 3.3 Welding
- 3.4 Seams
- 3.5 Corners
- 3.6 Fittings
- 3.7 Fill Opening
- 3.8 Test Strips
- 3.9 Production Testing
- 3.10 Shop-Fabricated Secondary Containment Requirements
- 3.11 Field Repair Kit
- 3.12 Marking

Part 4 PERFORMANCE

- 4.1 General
- 4.2 Permeance
- 4.3 Compatibility
- 4.4 Seam Resistance
- 4.5 Physical Resistance
 - 4.5.1 Puncture Resistance
 - 4.5.2 Bursting Strength
 - 4.5.3 Rough Handling
- 4.6 Proof of Design test
- 4.7 Resistance to Accelerated Weathering and Aging
 - 4.7.1 Resistance to Accelerated Weathering
 - 4.7.2 Resistance to Heat Aging
- 4.8 Tear Strength

TABLE OF CONTENTS

Part 5 LIFE EXPECTANCY

- 5.1 Shelf Life
- 5.2 Service Life

Part 6 INSTALLATION, MINIMUM INSTALLATION DISTANCE, AND MAINTENANCE

Figure 1: Sample – Seam Strength

Figure 2: 1 kg Instrument drop-weight impact apparatus

Appendix A: Permeance and Permeability Calculations

INTRODUCTION

On June 12, 2008, Environment Canada registered the *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations*. The Regulations came into force on the date that they were registered. The purpose of the Regulations is to reduce the risk of soil and groundwater contamination due to spills and leaks of petroleum products and allied petroleum products from storage tank systems.

The Regulations set forth requirements for the design and construction of storage tank systems installed on or after the day the Regulations came into force. One requirement is that storage tanks must be designed and built to one of the recognized standards identified in the Regulations.

The Regulations cover storage tank systems that are designed to be installed in a fixed location. Although there is no recognized standard available for the design and construction of collapsible fabric storage tanks, Environment Canada recognizes these storage tanks as a legitimate option for storing petroleum products and allied petroleum products. As such, Environment Canada is publishing these Technical Requirements until a recognized standard is developed to replace them.

These Technical Requirements cover minimum requirements for design and construction of a collapsible fabric storage tank that is used for the aboveground storage of petroleum products and allied petroleum products up to and including a capacity of 125,000 L. Installations that have storage tank systems built around collapsible fabric storage tanks will be required to meet all applicable sections of the Regulations.

TECHNICAL REQUIREMENTS FOR COLLAPSIBLE FABRIC STORAGE TANKS (BLADDERS)

1. SCOPE

- 1.1 These Technical Requirements provide minimum requirements for collapsible fabric storage tanks ("bladders") intended for the above-ground storage of petroleum products and allied petroleum products with a relative density not greater than 1.
- 1.2 These Technical Requirements cover the fabrication of bladders for use in a fixed location. Bladders fabricated in accordance with these Technical Requirements are not intended for the transportation of product nor are they intended to be transported while containing product.
- 1.3 These Technical Requirements cover bladders which are fabricated, inspected and tested for leakage before shipment from the factory.
- 1.4 These Technical Requirements cover bladders that are shop-fabricated from reinforced coated fabrics or polymer films laminated onto textile substrates.
- 1.5 These Technical Requirements cover the design and performance of bladders having a capacity not greater than 125 000 L.

2. DEFINITIONS

- 2.1 "**Above-ground tank**" means a tank that operates at atmospheric pressure and that has all of its volume either above-grade or encased within an unfilled secondary containment.
- 2.2 "**Permeability**" is the rate of liquid transmission through a unit area and unit thickness of flat material, induced by a pressure difference (static head) between two specific surfaces, under specified temperature and humidity conditions. Expressed as $g/h/m^2/mm$.
- 2.3 "**Permeance**" is the rate of liquid transmission through a unit area of flat material induced by a pressure difference (static head) between two specific surfaces, under specified temperature and humidity conditions. Expressed as $g/h/m^2$.

- 2.4 **“Radio frequency welding”** is the method of welding thermoplastics using electromagnetic energy to generate the necessary heat and bond two parts together under pressure.
- 2.5 **“Secondary containment”** means containment that prevents liquids that leak from a storage tank system from reaching outside the containment area.
- 2.6 **“Substrate (scrim)”** is a woven, open-mesh, reinforced fabric made from continuous filament yarn.
- 2.7 **“Thermoplastics (thermoplastic materials)”** are polymeric materials that can be repeatedly heated to their softening point. These materials harden when cooled. This action of heating and cooling can be repeated several times without any significant change in the properties of the material.

Table 1 – Reference Documents

Document Number	Edition	Title of Document
ASTM D814	95(2005)	Standard Test Method for Rubber Property – Vapour Transmission of Volatile Liquids
ASTM D471	06	Standard Test Method for Rubber Property – Effect of Liquid
ASTM D751	06	Standard Test Methods for Coated Fabrics
ASTM D2136	02(2007)	Standard Test Method for Coated Fabrics – Low-Temperature Bend Test
ASTM D2565	99(2008)	Standard Practice for Xenon-Arc Exposure of Plastics Intended for Outdoor Applications
ASTM G154	06	Standard Practice for Operating Fluorescent Light Apparatus for UV Exposure of Non-metallic Materials
ANSI/ASME B1.20.1	1983 (R2006)	Pipe Treads – General Purpose (Inch)

3. CONSTRUCTION

3.1 CAPACITY

- 3.1.1 A bladder shall have a capacity no greater than 125 000 L.
- 3.1.2 When a nominal capacity of a bladder manufactured in accordance with these requirements is specified, the actual capacity shall be not less than the nominal capacity but not greater than the nominal capacity plus 2.5%.
- 3.1.3 As product is withdrawn, a bladder shall collapse so that there is no vapour space.

3.2 MATERIALS

- 3.2.1 The material property of the bladder shall be designed to provide continued use under the conditions expected to be encountered in the installed environment.
- 3.2.2 Materials that may be immersed in, or exposed to, petroleum products and allied products, or their vapours, shall have properties that will not be affected by such exposure in a manner that may cause a physical failure of the bladder or a hazardous condition during the life of the bladder.
- 3.2.3 A bladder shall be manufactured from a polymer fabric that consists of substrate (scrim) and topcoat:
 - 3.2.3.1 The topcoat and substrate must be made of material that is compatible with the petroleum products and allied products being stored.
 - 3.2.3.2 The topcoat and substrate must be able to provide continuous use under the conditions expected to be encountered at the installation site.
 - 3.2.3.3 The topcoat must consist of a double layer of coating applied in two passes on the interior of the bladder.
- 3.2.4 The polymer fabric shall have a minimum tensile strength of 2000 N (787 N per cm width) when tested in accordance with ASTM D751.

3.3 WELDING

- 3.3.1 All seams shall be radio-frequency welded by high-frequency dielectric equipment.
- 3.3.2 All welding shall be done by trained individuals.

3.4 SEAMS

- 3.4.1 All seams shall provide a permanent bond and shall exhibit characteristics equivalent to the polymer fabric itself.
- 3.4.2 All seams shall be radio-frequency welded, complete with top and bottom cap strips, and body panels shall be segregated.
- 3.4.3 Exposed substrate along top and bottom cap strips shall be sealed inside and outside the bladder.

3.5 CORNERS

- 3.5.1 Corners shall be designed in accordance with good engineering practice to ensure that structural bladder integrity is maintained.
- 3.5.2 Corners shall be protected from abrasion.

3.6 FITTINGS

- 3.6.1 All fittings shall be leak-tight stainless steel flanges. If threaded fittings are used, the minimum thread length shall be in accordance with ANSI/ASME B1.20.1, Table 2.
- 3.6.2 All fittings shall have reinforcement patches, made of the same polymer fabric of the bladder, attached to the tank by high-frequency dielectric welding.
- 3.6.3 Seaming techniques and methods used to join polymer fabric to the fittings shall be such that bladder integrity is maintained.
- 3.6.4 All fittings shall have a design pressure of 1035 kPa (gauge) (150 psi).

3.6.5 A minimum of two fittings shall be provided on the top surface of all bladders having a capacity of 2000 L or less:

- 38 mm vent fitting
- 38 mm or 50 mm fill/drain fitting

3.6.6 A minimum of two fittings shall be provided on the top surface of all bladders having a capacity of more than 2000 L:

- 50 mm vent fitting
- 50 mm or 75 mm fill/drain fitting

3.6.7 Only one fitting may be provided below liquid level.

3.6.7.1 If this fitting is provided, it may only be used for draining the bladder when the bladder is being withdrawn from service and removed.

3.6.7.2 This fitting shall be resistant to the product that the bladder is intended to store.

3.6.7.3 This fitting shall be visible for inspection.

3.6.8 All fittings shall be equipped with weather-tight closures at the point of manufacture.

3.6.9 The closures shall be resistant to degradation in the atmosphere.

3.7 FILL OPENING

3.7.1 A wear patch shall be attached to the interior of the bladder directly below the fill opening.

3.8 TEST STRIPS

3.8.1 A minimum of nine 64-mm test strips shall be attached to the exterior top of the bladder.

3.8.2 Each test strip shall contain a 51 mm weld.

3.9 PRODUCTION TESTING

The bladder shall be evaluated for structural integrity in accordance with the following procedure:

- 3.9.1 Each bladder assembly shall be tested by the manufacturer after all fittings and appurtenances that are appropriate to its use have been fitted.
- 3.9.2 Each bladder shall be proved tight against leakage at all points including seams, threaded joints and fittings, by applying air pressure of 2 kPa (gauge) measured internally.
- 3.9.3 While the pressure is maintained, a liquid-soap seam test solution, or equivalent liquid, shall be brushed or poured over all seams, threaded joints and fittings, etc.
- 3.9.4 A complete inspection of the entire tank surface, including top and bottom, shall be conducted to detect leakage.
- 3.9.5 Bladders showing evidence of leakage shall be rejected. The pressure shall be removed and the bladder shall be made leak-tight and then retested.
- 3.9.6 After testing, the plugs in all openings shall be backed off to a hand-tight position.

3.10 SHOP-FABRICATED SECONDARY CONTAINMENT REQUIREMENTS

- 3.10.1 If a shop-fabricated dyke is provided as a means of secondary containment, the dyke must be capable of supporting the hydrostatic load when full of liquid.
- 3.10.2 The bladder must be placed entirely within a dyked area

3.11 FIELD REPAIR KIT

- 3.11.1 Each bladder shall include a field repair kit that contains items necessary to perform on-site repairs of punctures, tears, leaks, etc., and that is readily available in an emergency situation.

3.12 MARKING

3.12.1 Each bladder shall be marked in a permanent manner with the following information, in letters written in a height equal to or greater than that indicated below (all non-bracketed items are to be written exactly as worded; all square-bracketed items indicate the type of information to be marked):

- DANGER, FLAMMABLE OR COMBUSTIBLE LIQUID STORAGE (50 mm)
- SMOKING PROHIBITED WITHIN 6 METRES (50mm)
- KEEP ALL SOURCES OF IGNITION AT LEAST 6 METRES FROM THIS STORAGE TANK (50mm)
- MAXIMUM CAPACITY (50 mm)
- DO NOT OVERFILL – Overfilling may result in permanent damage or failure of the bladder (50 mm)
- Collapsible Fabric Storage Tank (Bladder) (12 mm)
- [Name of manufacturer] (12 mm)
- [Year/month of manufacture] (12 mm)
- Name of certifying agency (12 mm)
- [Fabrication material] (12 mm)

Information must be clearly visible to the owner or operator of the bladder. The markings must be visible when the bladder is empty and resistant to product stored.”

4. PERFORMANCE

4.1 GENERAL

4.1.1 Bladder fabric shall meet the performance requirements laid out in this section.

4.1.2 The tank manufacturer shall ensure that performance testing is in conformance with a method certified by a third party testing organization in conformance with this document, using:

4.1.2.1 A document and validated test method; and

4.1.2.2 Technicians that are trained in the maintenance and use of the test equipment

Table 2 – Performance Requirements

Test	Paragraph	Test Reference	Performance
Permeance	4.2	ASTM D814	Less than 10 g/m ² /h over 24 h
Compatibility	4.3	ASTM D471 Rubber Property – Effects of Liquids	Degradation visible under 7X lens
Seam resistance	4.4	Applicable standard test method	Separation = tensile strength
Puncture resistance	4.5.1	ASTM D751 Section 18	No perforation
Bursting strength	4.5.2	ASTM D751 test method with ring clamps	Min 4000 N of bursting strength
Rough handling	4.5.3	ASTM D2136	No visible cracking
Accelerated weathering	4.7.1	ASTM D2565 or ASTM G154	No cracks or deterioration; bladder retains 80% of its tensile strength
Heath aging	4.7.2	Applicable standard test method	90% of tensile strength
Tear strength	4.8	ASTM D751 (tongue tear)	Min. tear strength: as received – 195 N conditioned – 175 N

4.2 PERMEANCE

4.2.1 Bladder fabric shall have a permeance to the liquids listed in Table 3 equal to or less than 10 g/h/m² over a 24-hour period.

4.2.1.1 At least three representative samples of bladder fabric shall be exposed to the liquids shown in Table 3 for 28 days at an ambient temperature of 23±2°C and a relative humidity of 50±2%.

Table 3: Exposure Liquids

<u>A</u>	Premium unleaded gasoline
<u>B</u>	ASTM reference fuel F
<u>C</u>	Fuel JP-8
<u>D</u>	Distilled water
<u>E</u>	Sodium chloride (saturated)

4.2.1.2 The tests shall be conducted in accordance with ASTM Test Method D814.

4.2.1.3 Calculations shall be made as per Appendix A.

4.2.2 All samples shall pass.

4.3 COMPATIBILITY

4.3.1 Mass and volume change and loss of tensile strength shall be within the limits designated in clauses 4.3.3, 4.3.4 and 4.3.5 when exposed to the liquids specified in Table 3.

4.3.1.1 At least three representative samples of bladder fabric shall be exposed to the appropriate test liquid in Table 3 for 30 days at an ambient temperature of 23±2°C.

4.3.1.2 Following exposure, the samples shall be wiped clean and dried for 2 hours at a temperature of 21±2°C.

4.3.1.3 Any presence of delamination or other degradation visible with 7X lens shall be noted.

- 4.3.2 Samples shall be tested in accordance with sections 10, 11 and 15 of ASTM D471.
- 4.3.3 The samples shall not exhibit a change in mass in excess of 10%.
- 4.3.4 The samples shall not exhibit a volume change in excess of 15%.
- 4.3.5 The samples shall retain not less than 50% of their tensile strength.

4.4 SEAM RESISTANCE

- 4.4.1 Seam strength shall exceed or be equal to the specified tensile strength of the polymer fabric (clause 3.2.4).
 - 4.4.1.1 At least five specimens that are representative of the bladders shall be bonded in accordance with the manufacturer's instructions. A similar set of specimens shall be prepared from the parent fabric.
 - 4.4.1.2 Each specimen for testing shall be cut to the size of 150 by 100 mm; for the seamed samples, the long dimension shall be perpendicular to the seam and the seam shall be equidistant from the ends of the specimen (Figure 1).
 - 4.4.1.3 The specimens shall be conditioned for a minimum of 24 hours at $23^{\circ}\text{C} \pm 2^{\circ}\text{C}$.
 - 4.4.1.4 Each specimen shall be secured centrally in the clamps of the testing machine, in such a way that the long dimension is parallel to the direction of application of the load. Care must be taken to ensure that the tension in the specimen is uniform across the clamped width.
 - 4.4.1.5 The load shall be applied by the machine at a velocity of 5 ± 0.1 mm/s until separation occurs.
- 4.4.2 Maximum load at separation of the seamed samples shall be equal to or exceed the specified tensile strength.

4.5 PHYSICAL RESISTANCE

Bladders shall exhibit puncture resistance, bursting strength and rough handling that meet the requirements of clauses 4.5.1 and 4.5.4.

4.5.1 Puncture Resistance

- 4.5.1.1 Bladders shall resist the impact of a blunt object without perforation.
- 4.5.1.2 Polymer fabric shall be subjected to the impact of a 1 kg instrument drop-weight impact apparatus, as illustrated by Figure 2, dropped from a height of 1 m at a temperature of 20°C.
- 4.5.1.3 Not less than three samples of reinforced polymer fabric, each consisting of 1 m² of fabric, shall be spread individually on a bed of drained wet brick-layers' sand 150 mm deep, with the impact made at the centre of the fabric sample. After the impact, the samples shall be examined for perforation.
- 4.5.1.4 None of the fabric samples shall be perforated.

4.5.2 Bursting Strength

- 4.5.2.1 Bladders shall exhibit bursting strength that meets the requirements of clause 4.5.2.4.
- 4.5.2.2 Representative samples shall be subjected to slowly increasing pressure until rupture or failure occurs as described in ASTM D751 Section 18.
- 4.5.2.3 A minimum of 10 specimens shall be prepared, each measuring at least 12.5 mm greater in diameter than the outside diameter of the testing machine.
- 4.5.2.4 Samples shall exhibit a bursting strength of not less than 4000 N when tested in accordance with ASTM D751 Test Method with ring clamps.

4.5.3 Rough Handling

4.5.3.1 Bladders shall exhibit their ability to withstand rough handling by meeting the requirements of clause 4.5.3.1.1.

4.5.3.1.1 Not less than three samples shall withstand, without failure, rough handling at temperatures of 40°C and -46°C when tested in accordance with modified ASTM D2136 as follows:

4.5.3.1.2 Test samples of fabric, each 10 mm wide occurring along 300 mm length, shall be folded over through 180 degrees.

4.5.3.1.3 A 10 kg roller, 150 mm in diameter, shall be passed over the folded sample ten times.

4.5.3.1.4 The test shall be conducted on all samples at ambient temperatures of 40°C and -46°C.

4.5.3.2 The samples shall not show visible cracking under 5X magnification.

4.6 PROOF OF DESIGN TEST

4.6.1 The representative bladder sample shall be tested to demonstrate the strength of design.

4.6.2 The test sample shall represent the bladder having the largest designed capacity in a series.

4.6.3 The tank shall be filled with water to its design capacity $\pm 5\%$ and allowed to stand for a minimum of 4 hours.

4.6.4 A complete inspection of the entire tank surface shall be conducted to detect leakage.

4.6.5 Bladders showing evidence of leakage shall not have demonstrated proof of design.

4.6.6 After testing, the plugs in all openings shall be backed off to a hand-tight position.

4.6 RESISTANCE TO ACCELERATED WEATHERING AND AGING

Samples (minimum 3) of the polymer fabric, following a 480-hour exposure to ultraviolet light and water, shall not crack or deteriorate, and when tested for tensile strength, shall retain at least 80% of the values obtained in the "as received" condition.

4.7.1 Resistance to Accelerated Weathering

4.7.1.1 Representative samples (minimum 3) of bladders shall be subjected to accelerated weathering for 480 hours, using either of the following two options:

Option 1

Perform xenon arc exposure in accordance with ASTM D2565, using apparatus Type B, BH or E. Appropriate filters shall be used to simulate the spectral power distribution of natural daylight. For Type B or BH apparatus, use borosilicate glass, inner and outer. For Type E apparatus, use three Suprax filters. The exposure cycle shall be 102 minutes of light and 18 minutes of light and water spray (using deionized water) at a black panel temperature of $63\pm 3^{\circ}\text{C}$ and a relative humidity of $30\pm 5\%$. The spectral irradiance shall be 0.35 W/m^2 at 340 mm.

Option 2

Perform fluorescent UV/condensation exposure in accordance with ASTM G154, using UV340 bulbs. The exposure cycle shall be 8 hours of light and 4 hours of condensation, at a black panel temperature of $63\pm 3^{\circ}\text{C}$ and a condensation temperature of $50\pm 3^{\circ}\text{C}$.

4.7.1.2 Subsequent to the weathering, the following test shall be conducted:

4.7.2.2.1 Tensile strength as described in section 4.3

4.7.2 Resistance to Heat Aging

Representative samples (minimum 3) of polymer fabric shall be placed in an air-circulating oven for 60 days at $80\pm 1^{\circ}\text{C}$. After a 24-hour recovery period at 21°C , the test for tensile strength shall demonstrate 90% retention of its tear strength properties as described in clause 4.8.

4.8 TEAR STRENGTH

- 4.8.1 Samples (10) of the polymer fabric, when tested in accordance with ASTM D751 (tongue tear), shall have a tear strength of not less than 195 newtons in the "as received" condition (i.e. without exposure to test liquids) and 175 N after exposure to the test liquids as specified in clause 4.3.
- 4.8.1.1 The tear strengths shall be determined on "as received" samples and on samples immersed in the test liquids.
- 4.8.1.2 The tear strength shall be determined on 10 samples: 127 mm (5 samples) in the longitudinal direction and 127 mm (5 samples) in the cross-roll direction. Each specimen for testing shall measure 75 mm by 200 mm and shall be cut in the centre of the shorter edge for 75 mm to form two "tongues," each of which shall be gripped in the clamps of a recording tensile testing machine and pulled to simulate a tear.
- 4.8.1.3 After the tearing action is initiated, the pulling action will continue until the moving jaw has travelled for a minimum of 75 mm. The rate of travel shall be approximately 50 mm/min and shall be uniform at all times.
- 4.8.1.4 The tearing strength of the sample shall be calculated as the average of the tearing strengths obtained for the tested samples. If multiple-ply samples are used, the average obtained shall be divided by the number of plies per specimen.

5. LIFE EXPECTANCY

5.1 SHELF LIFE

5.1.1 Shelf life applies to all bladders. The optimal conditions to store bladders are between 10°C and 43°C with humidity between 50% and 75%. The maximum shelf life of a bladder is 10 years from the date of manufacture.

5.1 SERVICE LIFE

5.2.1 The service life begins when a petroleum product or allied petroleum product is transferred into the bladder.

5.2.2 Service life shall be tested by the manufacturer following section 4.8, using test strips as listed in section 3.8. These tests should be performed as per Table 4, beginning in year 2 and then annually.

5.2.3 The service life cannot be stopped or reversed. Service life is dependent upon climatic conditions and maintenance but shall never exceed 10 years.

Table 4: Frequency of Re-Testing

Frequency	Number of samples per test	Test
Year 2	1 sample	Tensile strength to retain 80%
Year 3 to 7, tested annually	1 sample	Tensile strength to retain 70%
Year 8 to 10, tested annually	1 sample	Tensile to strength retain 50%

6 INSTALLATION, MINIMUM INSTALLATION DISTANCES, AND MAINTENANCE

6.1 Each bladder shall be accompanied by detailed installation and maintenance requirements from the manufacturer.

6.2 Each bladder shall be accompanied by detailed repair instructions.

6.3 MINIMUM REQUIRED DISTANCES FOR INSTALLATION

6.3.1 Bladders shall be installed and maintained to have a minimum distance between the secondary containment and buildings based on the size of the secondary containment and construction or use of the building.

6.3.1.1 The distance between the secondary containment and buildings of ordinary or combustible construction having extensive window areas or associated combustible yard storage shall be two times the secondary containment diameter (if round) or diagonal (if not).

6.3.1.2 The distance between the secondary containment and buildings containing hazardous materials shall be two times the secondary containment diameter or diagonal.

6.3.1.3 The distance between the secondary containment and buildings of unknown construction or varying or unknown storage and yard storage shall be two times the secondary containment diameter or diagonal.

6.3.1.4 The distance between the secondary containment and buildings of ordinary or combustible construction not having extensive window areas, hazardous materials storage or associated combustible yard storage shall be one times the secondary containment diameter or diagonal.

6.3.1.5 The distance between the secondary containment and buildings of fire-resistive or non-combustible construction not having extensive window areas, hazardous materials storage or associated combustible yard storage shall be 0.5 times the secondary containment diameter or diagonal.

Figure 1

SAMPLE - SEAM STRENGTH
MODIFIED ASTM D 751 GRAB METHOD

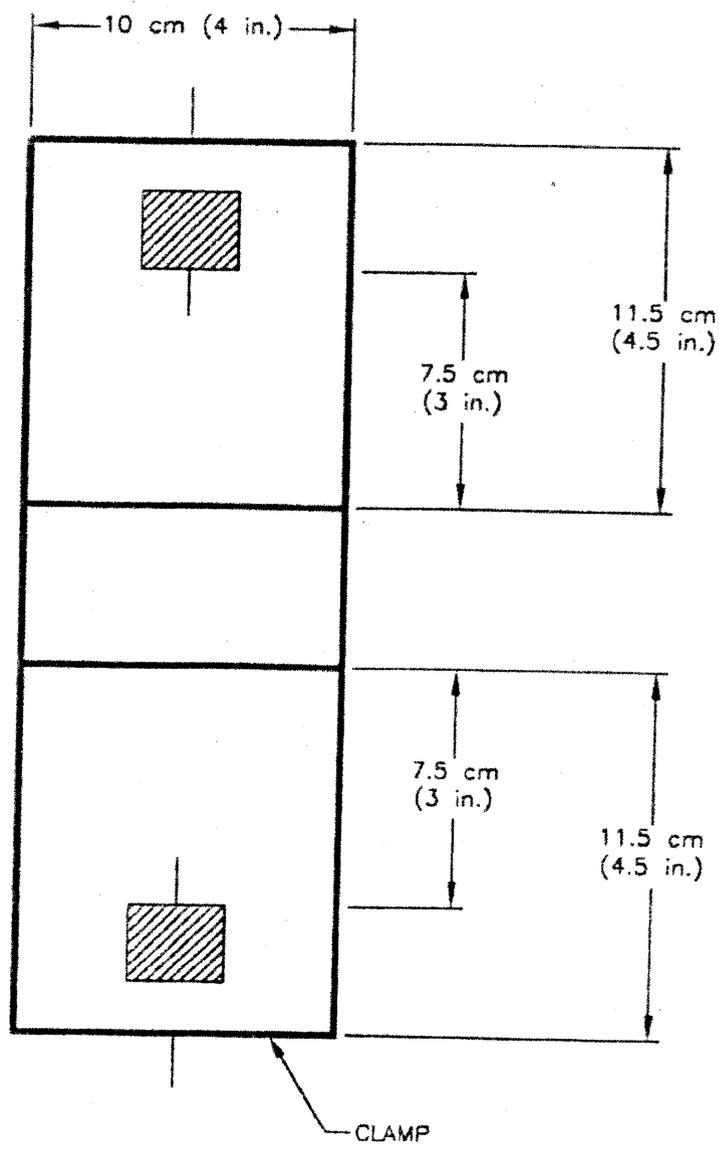
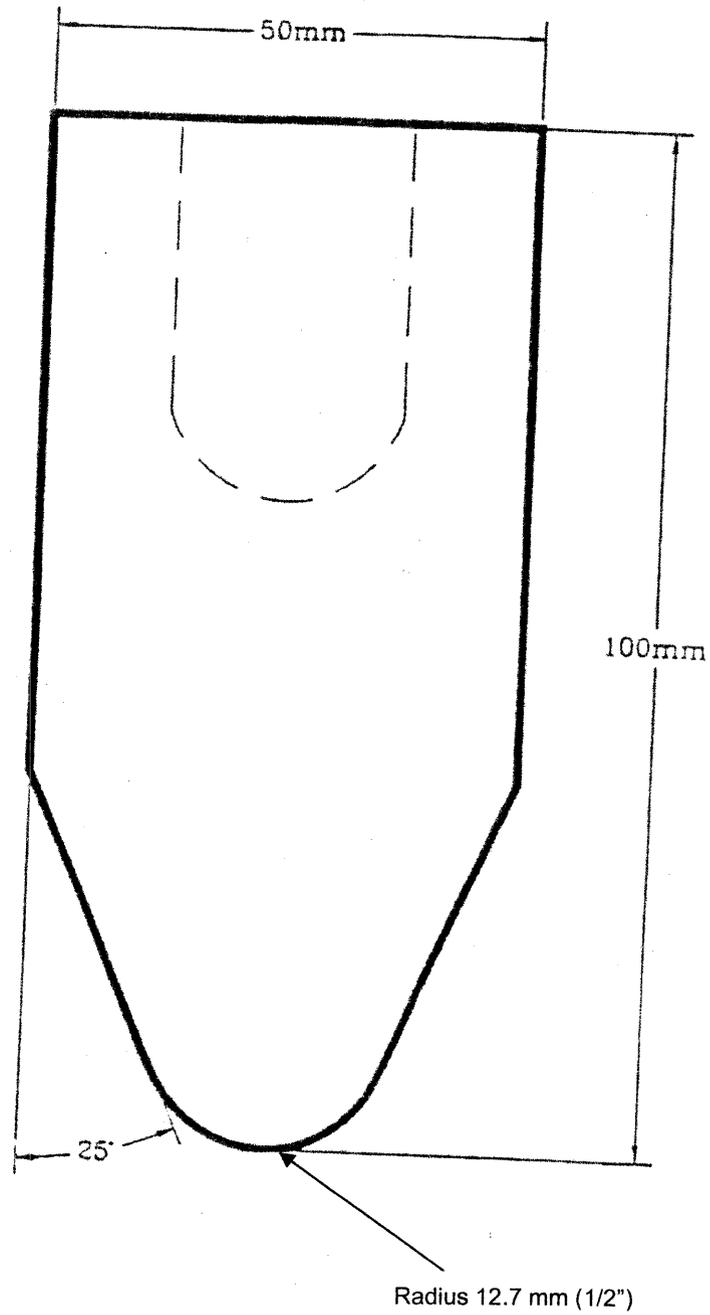


Figure 2

1 kg INSTRUMENT DROP-WEIGHT IMPACT APPARTUS



APPENDIX A

PERMEANCE AND PERMEABILITY CALCULATIONS

Using the method described in subsection 4.2, determine the mass of liquid lost over a 28-day period. From this value, together with the known exposed area of the test specimen, the following calculation can be made:

Mass of liquid lost per hour

$$\frac{\text{Mass of liquid lost over 28 days}}{28 \times 24}$$

$$= \frac{(W1 - W28)}{672}$$

Permeance (Pc) = $\frac{\text{Mass of liquid lost per h} \times 10\,000}{\text{area of test specimen, cm}}$

$$= \frac{(W1 - W28) \times 10\,000}{672 \times a}$$

or

$$= \frac{(W1 - W28) \times 14.881}{a}$$

$$= \text{_____ g/h/m}^2$$

Where: W1 = original mass of liquid before test (g)

W28 = mass of liquid after 28 days (g)

a = exposed area of test specimen (cm²)

Permeability (Pb) = permeance x liner thickness in g/h/m²/mm

Species At Risk in Nunavut

This list includes species listed on one of the Schedules of SARA (*Species at Risk Act*) and under consideration for listing on Schedule 1 of SARA. These species have been designated as at risk by COSEWIC (Committee on the Status of Endangered Wildlife in Canada). This list may not include all species identified as at risk by the Territorial Government.

- Schedule 1 is the official legal list of Species at Risk for SARA. SARA applies to all species on Schedule 1. The term “listed” species refers to species on Schedule 1.
- Schedule 2 and 3 of SARA identify species that were designated at risk by the COSEWIC prior to October 1999 and must be reassessed using revised criteria before they can be considered for addition to Schedule 1.
- Some species identified at risk by COSEWIC are “pending” addition to Schedule 1 of SARA. These species are under consideration for addition to Schedule 1, subject to further consultation or assessment.

Schedules of SARA are amended on a regular basis so it is important to periodically check the SARA registry (www.sararegistry.gc.ca) to get the current status of a species.

Updated: August 4, 2009

Species at Risk	COSEWIC Designation	Schedule of SARA	Government Organization with Lead Management Responsibility ¹
Eskimo Curlew	Endangered	Schedule 1	EC
Ivory Gull	Endangered	Schedule 1	EC
Ross's Gull	Threatened	Schedule 1	EC
Harlequin Duck (Eastern population)	Special Concern	Schedule 1	EC
Rusty Blackbird	Special Concern	Schedule 1	Government of Nunavut
Felt-leaf Willow	Special Concern	Schedule 1	Government of Nunavut
Peregrine Falcon (<i>anatum-tundrius</i> complex)	Special Concern	Schedule 1 (<i>anatum</i>) Schedule 3 (<i>tundrius</i>)	Government of Nunavut
Short-eared Owl	Special Concern	Schedule 3	Government of Nunavut
Peary Caribou	Endangered	Pending	Government of Nunavut
Beluga Whale (Eastern Hudson Bay population)	Endangered	Pending	DFO
Red Knot (<i>rufa</i> subspecies)	Endangered	Pending	EC

Beluga Whale (Cumberland Sound population)	Threatened	Pending	DFO
Atlantic Cod (Arctic population)	Special Concern	Pending	DFO
Beluga Whale (Western Hudson Bay population)	Special Concern	Pending	DFO
Beluga Whale (Eastern High Arctic – Baffin Bay population)	Special Concern	Pending	DFO
Bowhead Whale (Eastern Canada – West Greenland population)	Special Concern	Pending	DFO
Killer Whale (Northwest Atlantic / Eastern Arctic populations)	Special Concern	Pending	DFO
Porsild's Bryum	Threatened	Pending	Government of Nunavut
Atlantic Walrus	Special Concern	Pending	DFO
Narwhal	Special Concern	Pending	DFO
Red Knot (<i>islandica</i> subspecies)	Special Concern	Pending	EC
Horned Grebe (Western population)	Special Concern	Pending	EC
Barren-ground Caribou (Dolphin and Union population)	Special Concern	Pending	Government of Nunavut
Grizzly Bear	Special Concern	Pending	Government of Nunavut
Polar Bear	Special Concern	Pending	Government of Nunavut
Wolverine (Western Population)	Special Concern	Pending	Government of Nunavut

¹ Environment Canada (EC) has a national role to play in the conservation and recovery of Species at Risk in Canada, as well as responsibility for management of birds described in the Migratory Birds Convention Act (MBCA). Day-to-day management of terrestrial species not covered in the MBCA is the responsibility of the Territorial Government. Populations that exist in National Parks are also managed under the authority of the Parks Canada Agency. The Department of Fisheries and Oceans (DFO) has responsibility for management of aquatic species.



**LAND USE PERMIT
NORTHERN AFFAIRS PROGRAM**

**PERMIS D'UTILISATION DES TERRES
PROGRAMME DES AFFAIRES DU NORD**

Permit Class - Permis Catégorie A	Permit No - NE de permis N2010C0012
---	---

Subject to the Territorial Land Use Regulations and the terms and conditions in this permit, authority is hereby granted to:

Sous réserve du Règlement sur l'utilisation des terres territoriales et des conditions de ce permis:

COMMANDER RESOURCES LTD.

Permittee - Détenteur de permis

To proceed with the land use operation described in the application of:

Est autorisé à entreprendre les travaux d'exploitation des terres décrits dans la demande de permis du:

Signature Gordon Davidson	Date May 5, 2010
Type of Land Use Operation - Genre de travaux d'exploitation des terres Campsite and Mining Exploration	
Location - Emplacement Dewar Lakes Area, Baffin, Nunavut NTS 27B, 37A	

This permit may be assigned, extended, discontinued, suspended or cancelled pursuant to the Territorial Land Use Regulations.

Ce permis peut faire l'objet d'une cession, d'une prolongation d'une cessation d'une suspension ou d'une annulation, en vertu du Règlement sur l'utilisation des terres territoriales.

Dated at
Date a Iqaluit

Engineer
Ingénieur *Jim B. Mervin*

This 5th Day of
Ce May jour de 2010

Commencement Date
Date du début des travaux May 5, 2010

Expiry Date
Date d'achèvement May 4, 2012

NOTE

IT IS A CONDITION OF THIS PERMIT THAT THE PERMITTEE COMPLY WITH ANY OTHER APPLICABLE ACT, REGULATION, ORDINANCE BY - LAW OR ORDER DEFAULT HEREOF MAY RESULT IN SUSPENSION OR CANCELLATION OF THIS PERMIT.

REMARQUE

LE DÉTENTEUR DU PRÉSENT PERMIS DOIT SE CONFORMER À TOUT AUTRE RÈGLEMENT, LOI, DÉCRET RÈGLEMENT MUNICIPAL OU ARRÊTÉ APPLICABLE. LE MANQUEMENT À CETTE OBLIGATION POURRAIT DONNER LIEU À LA SUSPENSION OU À L'ANNULATION DU PERMIS.

**CONDITIONS ANNEXED TO AND FORMING PART
OF LAND USE PERMIT NUMBER N2010C0012**

31 (1) (a) - Location and Area

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 Engineer.	PLANS
2.	The Permittee shall remove from Territorial Lands, all scrap metal, discarded machinery and parts, barrels and kegs, buildings and building material.	REMOVE WASTE MATERIAL
3.	The Permittee shall not construct an adit or drillsite within 31 metres of the normal high water mark of a stream unless approval in writing is obtained from the Engineer.	LOCATION OF ADITS & DRILLSITES
4.	The Permittee shall locate all camps on gravel, sand or other durable land.	CAMP LOCATION
5.	The Permittee shall not erect camps nor store material on the surface ice of lakes or streams	CAMP AND STORAGE LOCATION

31 (1) (b) – Time

6.	The Permittee's Field Supervisor shall contact or meet with a Land Use Inspector at the Iqaluit office of the Department of Indian Affairs and Northern Development, phone number (867) 974-4295, at least 48 hours prior to the commencement of this land use operation.	CONTACT INSPECTOR
7.	The Permittee shall advise a Land Use Inspector at least 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
8.	The Permittee shall complete all clean-up and restoration of the lands used prior to the expiry date of this permit.	CLEAN-UP
9.	The Engineer reserves the right to impose closure to any area to the Permittee in periods when dangers to natural resources are severe.	CLOSURE

31 (1) (c) - Equipment

10.	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
11.	The Permittee shall use a forced-air fuel-fired incinerator to incinerate all combustible garbage and debris.	INCINERATORS
12.	The Permittee shall burn all combustible garbage and debris in a container acceptable to a Land Use Inspector.	INCINERATION
13.	The Permittee shall keep all garbage and debris in a covered metal container until disposed of.	GARBAGE CONTAINERS

31 (1) (d) - Methods and Techniques

14.	The Permittee shall plug all bore holes as the land use operation progresses.	PLUG HOLES
15.	The Permittee shall refill and restore bore hole craters as the land use operation progresses.	REFILL CRATERS
16.	The Permittee shall remove all wire from the land as the land use operation progresses.	REMOVE WIRE
17.	The Permittee shall replace all excavated material from the test pits prior to the expiry of this permit.	TEST PITS
18.	The Permittee shall not erect camps or store material on the surface ice of streams.	STORAGE ON ICE

31 (1) (e) - Type, Location, Capacity and Operation of Facilities

19.	The Permittee shall not locate any sump within 31 metres of the normal high water mark of any stream.	SUMPS FROM WATER
20.	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
21.	The Permittee shall backfill and restore all sumps prior to the expiry date of this permit.	BACKFILL SUMPS
22.	The Permittee shall ensure that the land use area is kept clean and tidy at all times.	CLEAN WORK AREA

31 (1) (f) - Control or Prevention of Flooding, Erosion and Subsidence of Land

23.	(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 Engineer within forty-eight (48) hours.	PLUG ARTESIAN WELLS
24.	The Permittee shall remove any obstruction to natural drainage caused by any part of this land use operation.	NATURAL DRAINAGE
25.	The Permittee shall install erosion control structures as the land use operation progresses unless otherwise authorized by a Land Use Inspector.	EROSION CONTROL
26.	The Proponent shall employ proper erosion prevention measures (i.e., berms, silt fence) in the trenching area during the project operation.	EROSION CONTROL
27.	The Proponent shall not conduct any trenching activities within thirty-one (31) metres from the high water mark of any water body.	TRENCHING FROM WATER
28.	The Permittee shall save the organic soil stripped from the excavation area.	SAVE ORGANIC SOIL
29.	The Permittee shall place the organic soil over the disturbed area prior to the expiry date of this permit.	PLACE ORGANIC SOIL

31 (1) (g) - Use, Storage, Handling and Disposal of Chemical or Toxic Material

30.	The Permittee shall not use chemicals in connection with the land use operation without the prior approval of the Engineer.	APPROVAL OF CHEMICALS
31.	The Permittee shall not use the following materials during the drilling operation without the prior written approval of the Engineer. Chlorinated phenols (Dowicide B, etc.) Compounds composed primarily of heavy metals Asbestos	PROHIBITED CHEMICALS
32.	The Permittee shall deposit all sewage into a sump.	SEWAGE DISPOSAL
33.	The Permittee shall deposit all drill waste containing poisonous or persistent chemical additives into a sump.	DRILL WASTE DISPOSAL
34.	The Permittee shall deposit all drill waste into a sump.	DRILL WASTE
35.	The Permittee shall not allow any drilling waste to spread to the surrounding lands.	DRILL WASTE CONTAINMENT

36.	The Permittee shall burn all garbage and debris at least daily.	GARBAGE DISPOSAL
37.	The Permittee shall remove all non-combustible garbage and debris from the land use area to a disposal site approved in writing by a Land Use Inspector.	REMOVE GARBAGE
38.	The Permittee shall remove all garbage and debris from the area of the land use operation to a disposal site approved in writing by a Land Use Inspector.	REMOVE GARBAGE
39.	The Permittee shall dispose of all combustible waste petroleum products by removal of all such material off site.	WASTE PETROLEUM DISPOSAL
40.	The Permittee shall dispose of all toxic or persistent substances in a manner as approved in writing by the Engineer.	WASTE CHEMICAL DISPOSAL
41.	The Permittee shall dispose of all fluids used to wash machinery and equipment in a sump unless otherwise authorized in writing by a Land Use Inspector.	RIG WASH DISPOSAL
42.	The Permittee shall report all spills immediately in accordance with instructions contained in "Spill Report" form NWT 1752(05/93). Twenty four (24) hour spill report line (867)920-8130.	REPORT CHEMICAL AND PETROLEUM SPILLS

31 (1) (h) - Wildlife and Fisheries Habitat

43.	The Permittee shall not unnecessarily damage wildlife habitat in conducting this land use operation.	HABITAT DAMAGE
44.	The Permittee shall construct and maintain all structures placed in streams frequented by fish, in such a manner that will not obstruct passage of fish.	FREE FISH MOVEMENT
45.	The Permittee shall not obstruct the movement of fish while conducting this land use operation.	FREE FISH MOVEMENT
46.	Your operation is in an area where bears may be encountered. Proper food handling and garbage disposal procedures will lessen the likelihood of bears being attracted to your operation. Information about the latest bear detection and deterrent techniques can be obtained from the Department of Renewable Resources at Iqaluit (867)979-7800.	BEAR/MAN CONFLICT
47.	The Permittee shall ensure that the drill sites avoid known environmentally sensitive areas (denning, nesting etc.) by a minimum of 250 metres.	WILDLIFE SENSITIVITIES
48.	The Permittee shall not conduct any activity associated with the land use operation during critical periods of wildlife cycles (eg. caribou migration, calving, fish spawning or raptor nesting).	WILDLIFE SENSITIVITIES

49.	The Permittee shall ensure that there is no hunting by employees of the company or any contractors hired.	HUNTING RESTRICTION
50.	During the period of May 15 to July 15 when caribou are observed within 1 km of project operations, the Proponent shall suspend all operations, including low-level over flights, blasting, and use of snow mobiles and all terrain vehicles outside the immediate vicinity of the camps. Following July 15, if caribou cows or calves are observed within 1 km of project operations, the Proponent shall also suspend all operations in the vicinity, including low-level over flights, blasting, and use of snow mobiles and all terrain vehicles, until caribou are no longer in the immediate area.	WILDLIFE SENSITIVITIES
51.	The Permittee shall ensure that aircraft pilots adhere to recommended flight altitudes of greater than 610 m above ground level as to not disturb wildlife. Raptor nesting sites and concentrations of nesting or molting waterfowl should be avoided by aircraft at all times.	LOW LEVEL FLIGHT RESTRICTIONS
52.	The harmful alteration, disruption or destruction of fish habitat is prohibited under Section 35 of the Fisheries Act. No construction or disturbance of any stream/lake bed or on the banks of any definable watercourse is permitted unless authorized by DFO.	DISTURBANCE OF FISH HABITAT
53.	The Permittee shall not feed wildlife.	NO FEEDING WILDLIFE

31 (1) (k) - Petroleum Fuel Storage

54.	The Permittee shall report in writing to a Land Use Inspector the location and quantity of all petroleum fuel caches within ten (10) days after the establishment.	REPORT FUEL LOCATION
55.	Tank system installations on Crown land or Commissioner's lands are subject to the Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations under the Canadian Environmental Protection Act, 1999. These regulations were brought into force by Environment Canada on June 12, 2008. Visit Environment Canada's website at www.ec.gc.ca/st-rs for additional information and contacts.	TANK SYSTEM INSTALLATIONS
56.	The Permittee shall not place any petroleum fuel storage containers within thirty-one (31) metres of the normal high water mark of any water body.	FUEL BY WATER BODY
57.	The Permittee shall not allow petroleum products to spread to surrounding lands or into water bodies.	FUEL CONTAINMENT
58.	The Permittee shall have one extra fuel storage container on site equal to, or greater than, the size of the largest fuel container.	FUEL EXTRA CONTAINER
59.	The Permittee shall use secondary containment when storing fuel.	SECONDARY CONTAINMENT

60.	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
61.	The Permittee shall line the dyke and area enclosed by the dyke with a type of plastic film liner approved by the Engineer.	LINE DYKE
62.	The volume of the dyked area shall be 10% greater than the capacity of the largest fuel container placed therein.	CAPACITY
63.	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
64.	The Permittee shall: a) examine all fuel storage containers for leaks a minimum of once daily. b) repair and all leaks immediately.	CHECK FOR LEAKS
65.	The Permittee shall mark all stationary petroleum products storage facilities with flags, posts or similar devices so that they are at all times plainly visible to local vehicle travel.	MARK FUEL LOCATION
66.	The Permittee shall seal all container outlets except the outlet currently in use.	SEAL OUTLET
67.	The Permittee shall mark all fuel containers with the Permittee's name.	MARK CONTAINERS

31 (1) (m) - Matters Not Inconsistent with the Regulations

68.	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
69.	The Permittee shall keep on hand, at all times during this land use operation, a copy of the Land Use Permit.	COPY OF PERMIT
70.	The Permittee shall provide in writing to the Engineer, at least forty-eight (48) hours prior to commencement of this land use operation, the following information: 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).	IDENTIFY AGENT

71.	The Permittee shall conspicuously display the land use permit number on all vehicles and equipment.	DISPLAY PERMIT NUMBER
72.	The Permittee shall submit to the Engineer a contingency plan, for chemical and petroleum spills, for use during the construction and operation of the winter road.	CONTINGENCY PLAN
73.	<p>a) During migration of caribou, the Permittee shall not locate any operation so as to block or cause substantial diversion of migration.</p> <p>b) The Permittee shall cease activities that may interfere with migration, such as airborne geophysics surveys or movement of equipment, until the migrating caribou have passed</p>	CARIBOU PROTECTION MIGRATION
74.	The Permittee shall abide by and comply with all applicable lawful rules, acts, regulations, and by-laws of Canada, Nunavut, any Municipal or regulatory body or authority having jurisdiction, the Nunavut Land Claim Agreement, and all other agreements, permits, licenses, and other instruments whatsoever related to the project.	ADHERENCE TO LAWFUL RULES, ACTS, REGS & BYLAWS
75.	The Permittee shall not remove any material from below the ordinary high water mark of any stream without first obtaining written permission from a Land Use Inspector.	APPROVAL NEEDED

CIDM #398581