STRONGBOW exploration inc.

Suite 800 - 625 Howe Street
Vancouver, BC, Canada V6C 2T6
tel: 604.668.8355 fax: 604.668.8366
www.strongbowexploration.com

February 8, 2005

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU
X0B 1J0

**Re: Annual Report for Licence NWB2ANI0406**

Dear Ms. Beaulieu,

As required under Part B, Item 1 of the above referenced Nunavut Water Board Type "B" water licence, attached please find a duly completed Annual Report with accompanying attachments.

Also enclosed please find a cheque in the amount of $30.00 representing payment for the annual water usage fee.

If you have any questions in regards to this submission, or to NWB2ANI0406 please contact the undersigned at your convenience.

Yours truly,
**STRONGBOW EXPLORATION INC.**
Per:

Nicole Westcott
Land Administrator

# Nunavut Water Board

**Standard Form for Annual Reporting Requirements of NWB2 Mineral Exploration Water Licences**

## Introduction

Under the terms of water licences issued by the Nunavut Water Board ("NWB") for the use of water and the disposal of waste into water associated with mineral exploration (NWB2 licences), licensees are required to submit to the NWB an Annual Report no later than March 31st of the year following the calendar year reported.

In order to aid the licensee with the preparation of the Annual Report and facilitate its review and approval by the NWB, licensees are required to use the following form. Metric units should be used to report any relevant data. If additional space is required, please append one or more sheets to the Annual Report.

Annual Reports shall be submitted by either fax, mail or email (in Microsoft Word or Adobe Acrobat format) to:

Nunavut Water Board
c/o Manager of Licensing
P.O. Box 119
Gjoa Haven, NU X0B 1J0
TEL: (867) 360-6338
FAX: (867) 360-6369
Email: licensing@nwb.nunavut.ca

# ANNUAL REPORT

| | |
|---|---|
| Date | January 21, 2005 |
| Year being reported | 2004 |
| Licence number | NWB2ANI0406 |
| Licensee | Strongbow Exploration Inc. |
| Mailing address | 800-625 Howe Street<br>Vancouver, BC<br>V6C 2T6 |
| Location of undertaking | 76M/01-M/12; inclusive |
| Name of Undertaking (if applicable): | Anialik |

The Licensee ***must*** provide the following information:

| | |
|---|---|
| i | A summary report of water use and waste disposal activities, including, but not limited to: methods of obtaining water; sewage and greywater management; solid and hazardous waste management. |
| | During the summer of 2004, Strongbow Exploration Inc. conducted a prospecting, mapping and geochemical sampling program on CO-25, CO-28, CO-29, CO-30 and CO-81. All properties are situated near the Coronation Gulf, approximately 180km southeast of Kugluktuk in Nunavut.<br>The program was conducted from July 20th to September 1st, 2004 from the Strongbow's Rusk Lake Camp located at 67° 23.45' N and 111° 04.83' W on the Rush claims north of IOL parcel CO-81. Project personnel included four geologists, camp cook, helicopter pilot and engineer. Water for domestic purposes was acquired from Rush Lake, which is located 40m south of the camp, and approximately 150L to 200L of water was consumed a day. |

| | |
|---|---|
| ii | A list of unauthorized discharges and a summary of follow-up actions taken |
| | There were no fuel spills during the program. |
| iii | Revisions to the Spill Contingency Plan and Abandonment and Restoration Plan |
| | The Spill Contingency Plan and the Abandonment and Restoration Plan have not been changed, however since the original application was submitted, two of the Material Safety Data Sheets that accompanied the plans have expired.<br><br>Attached is a Material Safety Data Sheet for each of Diesel Fuel and Jet B Fuel dated June 2, 2004 and December 3, 2003 respectively. |

| | | |
|---|---|---|
| iv | Progressive reclamation work undertaken | |
| | All sewage and grey-water are buried in pits or sumps located more than 30 metres from the high tide mark and combustible waste incinerated daily in burn barrels. Scrap metal and other non-combustible garbage were collected and removed from the site by back-hauls to Yellowknife during the program and as part of the demobilisation from site at the end of the program. Empty fuel drums and other remaining equipment from the present program will be removed from site at the end of the land use operation. Currently, there are 7 full and 3 partial driums of diesel stored at or on tent floors and one diesel drum at the generator. One full and two partially full 100-pound propane tanks are stored at the dry and kitchen tents. One partially full drum of Jet B is stored at the helicopter landing area, 50m north of the camp. In addition, five 5-gallon jerry cans of gasoline are stored in the dry.<br><br>1) Four abandoned full drums (205 L) of aviation gas were found at Rush Lake (not Strongbow's). On August 8, all four drums were flown to Yellowknife and disposed of at Strongbow's expense.<br>2) Approximately twenty-three abandoned (not Strongbow's) full to part full and 4 empty 205 litre drums of aviation gas were found near the north east shore of Mistake Lake (at approximately 67° 39.28'N, 111° 2.30'W). A few of the drums were scattered along the beach at the water's edge. At Strongbow's expense all but one of the drums was consolidated into another nearby cache of abandoned fuel drums discussed as item 3) below. One drum remains partly buried and stuck in the beach sand on the shore of Mistake Lake (~67° 39.38'N, 111° 2.40'W). It can probably be removed with the aid of a shovel.<br>3) Twenty-six empty diesel drums (205 litre) and two empty to part full 100 lb propane canisters were found abandoned (not Strongbow's) beside an old tundra air strip further inland from the cache on Mistake Lake described above in item 2). These drums are located at approximately 67° 39.44'N, 111° 1.80'W. Most of the drums of aviation gas near the shore of Mistake Lake (item 2) were moved (at Strongbow's expense) to this location, where a fixed wing aircraft (twin otter) equipped with tundra tires is able to land | |
| v | Results of the Monitoring Program including: | |
| | 1 | A summary, in cubic metres, of the daily quantities of water utilized for domestic and industrial operations. |
| | | Water for domestic purposes was acquired from Rush Lake approximately 40m south of the Rush Lake camp. Domestic consumption varied from 200L per day for a maximum of 10-person occupancy at the camp. |
| | 2 | The GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where sources of water are utilized. |
| | | Rush Lake camp water source (on north shore or Rush Lake): |

| | | |
|---|---|---|
| | 3 | The GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where wastes associated with industrial operations are deposited. |
| | | N/A |
| | 4 | Any additional sampling and/or analysis that was requested by an Inspector. |
| | | N/A |
| vi | Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported | |
| | N/A | |

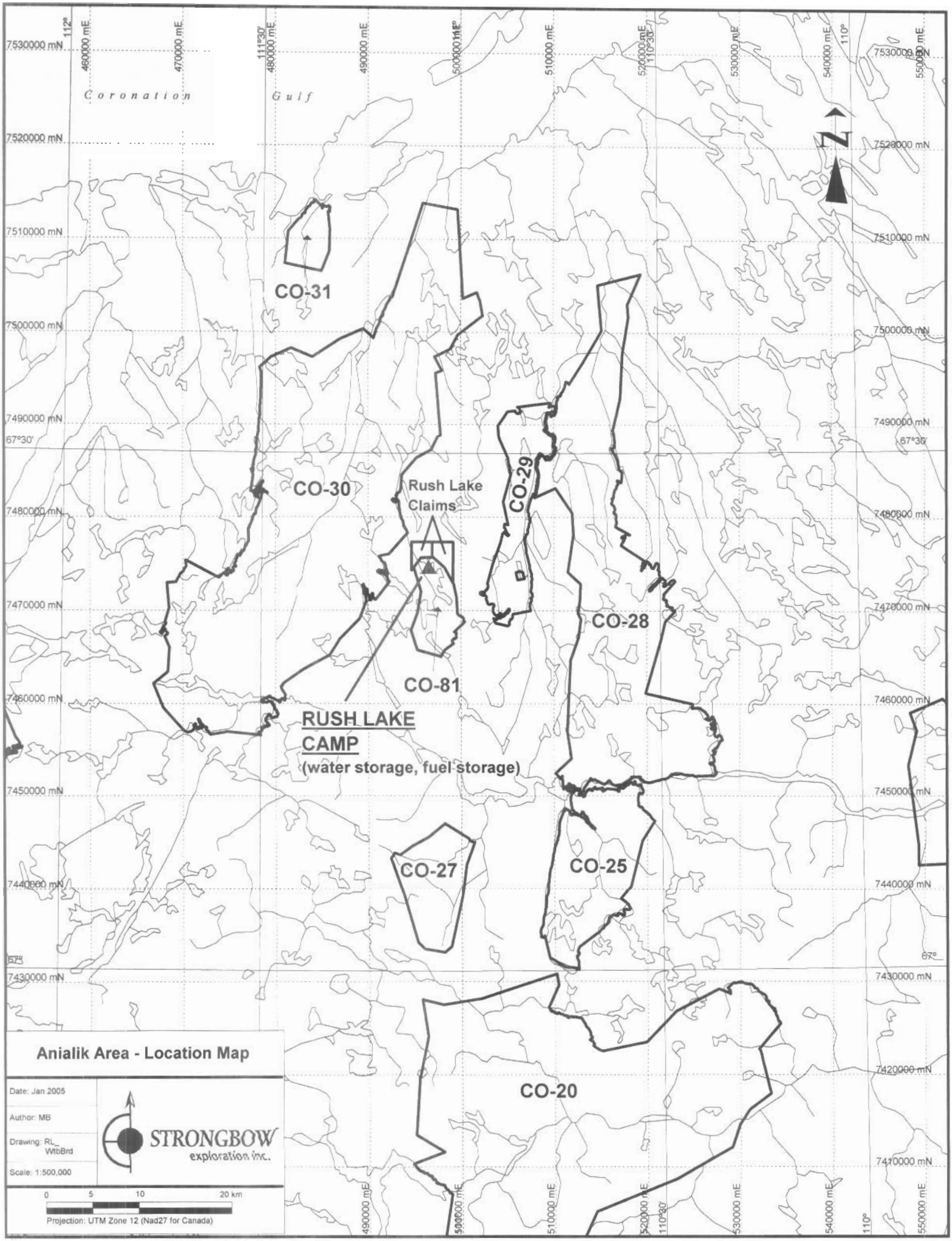
| | |
|---|---|
| Vii | Any responses or follow-up actions on inspection/compliance reports |
| | N/A |
| viii | Any additional information as appropriate |
| | ATTACHMENTS:<br><br>1 Page Size Map<br>1 MSDS Sheet "Diesel Fuel"<br>1 MSDS Sheet "Jet B Fuel" |


Nicole Westcott — By:

January 21, 2005 — Date:

nwestcott@strongbowexploration.com — Email:

604-668-8355 — Telephone:


Coronation Gulf
CO-31
CO-30
Rush Lake Claims
CO-29
CO-28
CO-81
RUSH LAKE CAMP
(water storage, fuel storage)
CO-27
CO-25
CO-20
N
Anialik Area - Location Map
Date: Jan 2005
Author: MB
Drawing: RL_ WtbBrd
Scale: 1:500,000
STRONGBOW exploration inc.
0 5 10 20 km
Projection: UTM Zone 12 (Nad27 for Canada)

PETRO-CANADA

# Material Safety Data Sheet

| WHMIS (Pictograms) | WHMIS (Classification) | Protective Clothing | TDG (pictograms) |
|---|---|---|---|
|  | B-3, D-2B |  |  |

## Section 1. Chemical Product and Company Identification

| | | | |
|---|---|---|---|
| **Product Name** | **DIESEL FUEL** | **Code** | W104, W293<br>SAP: 120, 121, 122, 287 |
| **Synonym** | Diesel 50, Diesel 50 LS, #1 Diesel , #1 Diesel LS, Diesel LC, Seasonal Diesel, Seasonal Diesel LS, Diesel AA, Domestic Marine Diesel, International marine Diesel, Seasonal Diesel Locomotive, Domestic Marine diesel LS, diesel -20°C (LS), LSD, Low Sulphur Diesel, dyed diesel, marked diesel, coloured diesel, Naval Distillate, Ultra Low Sulphur Diesel, ULS Diesel, Mining Diesel, Mining Diesel Special, Mining Diesel Special LS, High Flash Mining Diesel, Furnace Oil, Stove Oil. | **Validated on** | **2/6/2004.** |
| **Manufacturer** | PETRO-CANADA<br>P.O. Box 2844<br>Calgary, Alberta<br>T2P 3E3 | **In case of Emergency** | Petro-Canada: 403-296-3000<br>Canutec Transportation: 613-996-6666<br>Poison Control Centre: Consult local telephone directory for emergency number(s). |
| **Material Uses** | Diesel fuels are distillate fuels suitable for use in high and medium speed internal combustion engines of the compression ignition type. Mining Diesel has a higher flash point requirement, for safe use in underground mines. | | |

## Section 2. Composition and Information on Ingredients

| | | | Exposure Limits (ACGIH) | | |
|---|---|---|---|---|---|
| **Name** | **CAS #** | **% (V/V)** | **TLV-TWA(8 h)** | **STEL** | **CEILING** |
| 1) Diesel oil. | 68334-30-5 | >99.9 | 100 mg/m³ (as total hydrocarbons) * | Not established | Not established |
| 2) Proprietary additives. | Not available | <0.1 | Not established | Not established | Not established |
| Aromatic content is 50% maximum (benzene: nil).<br>Sulphur content is 0-0.50%. | | | | | |

| | |
|---|---|
| **Manufacturer Recommendation** | * Avoid prolonged or repeated skin contact to diesel fuels which can lead to dermal irritation and may be associated with an increased risk of skin cancer. |
| **Other Exposure Limits** | Consult local, state, provincial or territory authorities for acceptable exposure limits. |

## Section 3. Hazards Identification.

| | |
|---|---|
| **Potential Health Effects** | Combustible liquid. Exercise caution when handling this material. Contact with this product may cause skin and eye irritation. Prolonged or repeated contact may cause skin irritation, defatting, drying and dermatitis. Inhalation of this product may cause respiratory tract irritation and Central Nervous System (CNS) Depression, symptoms of which may include; weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe overexposure; coma and death. Ingestion of this product may cause gastro-intestinal irritation. Aspiration of this product may result in severe irritation or burns to the respiratory tract. For more information refer to Section 11 of this MSDS. |

## Section 4. First Aid Measures

| | |
|---|---|
| **Eye Contact** | IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention. |
| **Skin Contact** | Remove contaminated clothing - launder before reuse. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Seek medical attention. |
| **Inhalation** | Evacuate the victim to a safe area as soon as possible. If the victim is not breathing, perform artificial respiration. Allow the victim to rest in a well ventilated area. Seek medical attention. |
| **Ingestion** | DO NOT induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention. |
| **Note to Physician** | Not available |

## Section 5. Fire-fighting Measures

| | | | |
|---|---|---|---|
| **Flammability** | Class II - combustible liquid (NFPA). | **Flammable Limits** | LOWER: 0.7%, UPPER: 6% (NFPA) |
| **Flash Points** | Diesel Fuel: Closed Cup: >40°C (>104°F)<br>Marine Diesel Fuel: Closed Cup: >60°C (>140°F)<br>Mining Diesel: Closed Cup: 52°C (126°F) | **Auto-Ignition Temperature** | 225°C (437°F) |
| **Fire Hazards in Presence of Various Substances** | Flammable in presence of open flames, sparks, or heat. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. This product can accumulate static charge and ignite. May accumulate in confined spaces. | **Explosion Hazards in Presence of Various Substances** | Containers may explode in heat of fire. Do not cut, weld, heat, drill or pressurize empty container. Vapour explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. |
| **Products of Combustion** | Carbon oxides (CO, CO2), nitrogen oxides (NOx), sulphur oxides (SOx), sulphur compounds (H2S), water vapour (H2O), smoke and irritating vapours as products of incomplete combustion.<br>See Section 11 (Other Considerations) for information regarding the toxicity of the combustion products. | | |
| **Fire Fighting Media and Instructions** | NAERG96, GUIDE 128, Flammable liquids (Non-polar/Water-immiscible).<br>CAUTION: This product has a moderate flash point above 40°C: Use of water spray when fighting fire may be inefficient.<br><br>If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions.<br><br>SMALL FIRES: Dry chemical, CO2, water spray or regular foam.<br>LARGE FIRES: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk.<br>Fires Involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.<br><br>Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting devices or any discolouration of tank. ALWAYS stay away from the ends of tanks. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. | | |

## Section 6. Accidental Release Measures

| | |
|---|---|
| **Material Release or Spill** | Consult current National Emergency Response Guide Book (NAERG) for appropriate spill measures if necessary. IN THE EVENT OF A LARGE SPILL CONSIDER THE FOLLOWING CONTROL MEASURES: Extinguish all ignition sources. Stop leak if safe to do so. Ventilate area. Dike spilled material. Use appropriate inert absorbent material to absorb spilled product. Collect used absorbent for later disposal. Avoid contact with spilled material. Avoid breathing vapours or mists of material. Avoid contaminating sewers, streams, rivers and other water courses with spilled material. Evacuate non-essential personnel. Ensure clean-up personnel wear appropriate personal protective equipment. Ground and bond all equipment used to clean up the spilled material, as it may be a static accumulator. Notify appropriate authorities immediately. |

## Section 7. Handling and Storage

| | |
|---|---|
| **Handling** | COMBUSTIBLE MATERIAL. Handle with care. Avoid contact with any sources of ignition, flames, heat, and sparks. Avoid skin contact. Avoid eye contact. Avoid inhalation of product vapours or mists. Empty containers may contain product residue. Do not pressurize, cut, heat, or weld empty containers. Do not reuse containers without commercial cleaning and/or reconditioning. Personnel who handle this material should practice good personal hygiene during and after handling to help prevent accidental ingestion of this product. Properly dispose of contaminated leather articles including shoes that cannot be decontaminated. Avoid confined spaces and areas with poor ventilation. Ensure all equipment is grounded/bonded. Wear proper personal protective equipment (See Section 8). |
| **Storage** | Store away from heat and sources of ignition. Store in dry, cool, well-ventilated area. Store away from incompatible and reactive materials (See section 5 and 10). Ensure the storage containers are grounded/bonded. |

## Section 8. Exposure Controls/Personal Protection

| | |
|---|---|
| **Engineering Controls** | For normal application, special ventilation is not necessary. If user's operations generate vapours or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Make-up air should always be supplied to balance air removed by exhaust ventilation. Ensure that eyewash station and safety shower are close to work-station. |
| **Personal Protection** - ***The selection of personal protective equipment varies, depending upon conditions of use.*** | |
| **Eyes** | Eye protection (i.e., safety glasses, safety goggles and/or face shield) should be determined based on conditions of use. If product is used in an application where splashing may occur, the use of safety goggles and/or a face shield should be considered. |
| **Body** | Wear appropriate clothing to prevent skin contact. As a minimum long sleeves and trousers should be worn. |
| **Respiratory** | Where concentrations in air may exceed the occupational exposure limits given in Section 2 (and those applicable to your area) and where engineering, work practices or other means of exposure reduction are not adequate, NIOSH approved respirators may be necessary to prevent overexposure by inhalation. |
| **Hands** | Wear appropriate chemically protective gloves. When handling hot product ensure gloves are heat resistant and insulated. |
| **Feet** | Wear appropriate footwear to prevent product from coming in contact with feet and skin. |

## Section 9. Physical and Chemical Properties

| | | | |
|---|---|---|---|
| **Physical State and Appearance** | Bright oily liquid. | **Viscosity** | 1.3 - 4.1 cSt @ 40°C (104°F) |
| **Colour** | Clear to yellow / brown (may be dyed for taxation purposes). | **Pour Point** | Variable, -50°C to 0°C (-58°F to -32°F) |
| **Odour** | Petroleum oil like. | **Softening Point** | Not applicable. |
| **Odour Threshold** | Not available | **Dropping Point** | Not applicable. |
| **Boiling Point** | 150 - 371°C (302-700°F) | **Penetration** | Not applicable. |
| **Density** | 0.80 - 0.85 kg/L @ 15°C (59°F) | **Oil / Water Dist. Coefficient** | Not available |
| **Vapour Density** | 4.5 (Air = 1) | **Ionicity (in water)** | Not applicable. |
| **Vapour Pressure** | Not available | **Dispersion Properties** | Not available |
| **Volatility** | Semivolatile to volatile. | **Solubility** | Insoluble in cold water, soluble in non-polar hydrocarbon solvents. |

## Section 10. Stability and Reactivity

| | | | |
|---|---|---|---|
| **Corrosivity** | Not available | | |
| **Stability** | The product is stable under normal handling and storage conditions. | **Hazardous Polymerization** | *Will not occur under normal working conditions.* |
| **Incompatible Substances / Conditions to Avoid** | Reactive with oxidizing agents and acids. | **Decomposition Products** | May release COx, NOx, SOx, H2S, H2O, smoke and irritating vapours when heated to decomposition. |

## Section 11. Toxicological Information

| | |
|---|---|
| **Routes of Entry** | Skin contact, eye contact, inhalation, and ingestion. |
| **Acute Lethality** | Acute oral toxicity (LD50): 7500 mg/kg (rat). |
| **Chronic or Other Toxic Effects** | |
| Dermal Route: | This product contains a component (at >= 1%) that can cause skin irritation. Therefore, this product is considered to be a skin irritant. Prolonged or repeated contact may defat and dry skin, and cause dermatitis. (See Other Considerations) |
| Inhalation Route: | Inhalation of this product may cause respiratory tract irritation. Inhalation of this product may cause Central Nervous System (CNS) Depression, symptoms of which may include; weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe overexposure; coma and death. |
| Oral Route: | Ingestion of this product may cause gastro-intestinal irritation. Aspiration of this product may result in severe irritation or burns to the respiratory tract. Ingestion of this product may cause Central Nervous System (CNS) Depression, symptoms of which may include; weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe overexposure; coma and death. |
| Eye Irritation/Inflammation: | This product contains a component (at >= 1%) that can cause eye irritation. Therefore, this product is considered to be an eye irritant. |
| Immunotoxicity: | Not available |
| Skin Sensitization: | Contact with this product is not expected to cause skin sensitization, based upon the available data and the known hazards of the components. |
| Respiratory Tract Sensitization: | Contact with this product is not expected to cause respiratory tract sensitization, based upon the available data and the known hazards of the components. |
| Mutagenic: | This product is not known to contain any components at >= 0.1% that have been shown to cause mutagenicity. Therefore, based upon the available data and the known hazards of the components, this product is not expected to be a mutagen. |
| Reproductive Toxicity: | This product is not known to contain any components at >= 0.1% that have been shown to cause reproductive toxicity. Therefore, based upon the available data and the known hazards of the components, this product is not expected to be a reproductive toxin. |
| Teratogenicity/Embryotoxicity | This product is not known to contain any components at >= 0.1% that have been shown to cause teratogenicity and/or embryotoxicity. Therefore, based upon the available data and the known hazards of the components, this product is not expected to be a teratogen/embryotoxin. |
| Carcinogenicity (ACGIH): | ACGIH A3: animal carcinogen. [Diesel oil] (See Other Considerations) |
| Carcinogenicity (IARC): | This product is not known to contain any chemicals at reportable quantities that are listed as Group 1, 2A, or 2B carcinogens by IARC. |
| Carcinogenicity (NTP): | This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by NTP. |
| Carcinogenicity (IRIS): | This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by IRIS. |

| | |
|---|---|
| Carcinogenicity (OSHA): | This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by OSHA. |
| **Other Considerations** | Avoid prolonged or repeated skin contact to diesel fuels which can lead to dermal irritation and may be associated with an increased risk of skin cancer.<br><br>Diesel engine exhaust particulate is probably carcinogenic to humans (IARC Group 2A). |

## *Section 12. Ecological Information*

| | | | |
|---|---|---|---|
| **Environmental Fate** | Not available | **Persistance/ Bioaccumulation Potential** | Not available |
| **BOD5 and COD** | Not available | **Products of Biodegradation** | Not available |
| **Additional Remarks** | No additional remark. | | |

## *Section 13. Disposal Considerations*

| | |
|---|---|
| **Waste Disposal** | Spent/ used/ waste product may meet the requirements of a hazardous waste. Consult your local or regional authorities. Ensure that waste management processes are in compliance with government requirements and local disposal regulations. |

## *Section 14. Transport Information*

| | | | |
|---|---|---|---|
| **TDG Classification** | DIESEL FUEL, 3, UN1202, PGIII (CL-TDG) | **Special Provisions for Transport** | See Transportation of Dangerous Goods Regulations. |

## *Section 15. Regulatory Information*

| | |
|---|---|
| **Other Regulations** | This product is acceptable for use under the provisions of WHMIS-CPR. All components of this formulation are listed on the CEPA-DSL (Domestic Substances List).<br><br>All components of this formulation are listed on the US EPA-TSCA Inventory.<br><br>All components of this product are on the European Inventory of Existing Commercial Chemical Substances (EINECS).<br><br>This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.<br><br>Please contact Product Safety for more information. |

| | | | |
|---|---|---|---|
| **DSD/DPD (Europe)** | Not evaluated. | **HCS (U.S.A.)** | CLASS: Irritating substance.<br>CLASS: Target organ effects.<br>CLASS: Combustible liquid having a flash point between 37.8°C (100°F) and 93.3°C (200°F). |
| **ADR (Europe) (Pictograms)** | NOT EVALUATED FOR EUROPEAN TRANSPORT<br><br>NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN. | **DOT (U.S.A) (Pictograms)** |  |

**HMIS (U.S.A.)**

| | |
|---|---|
| Health Hazard | 2* |
| Fire Hazard | 2 |
| Reactivity | 0 |
| Personal Protection | H |

**NFPA (U.S.A.)**


| Rating | |
|---|---|
| 0 | Insignificant |
| 1 | Slight |
| 2 | Moderate |
| 3 | High |
| 4 | Extreme |

## *Section 16. Other Information*

**References** Available upon request.
* Marque de commerce de Petro-Canada - Trademark

**Glossary**

ACGIH - American Conference of Governmental Industrial Hygienists
ADR - Agreement on Dangerous goods by Road (Europe)
ASTM - American Society for Testing and Materials (
BOD5 - Biological Oxygen Demand in 5 days
CAN/CGA B149.2 Propane Installation Code
CAS - Chemical Abstract Services
CEPA - Canadian Environmental Protection Act
CERCLA - Comprehensive Environmental Response, Compensation and Liability Act
CFR - Code of Federal Regulations
CHIP - Chemicals Hazard Information and Packaging Approved Supply List
COD5 - Chemical Oxygen Demand in 5 days
CPR - Controlled Products Regulations
DOT - Department of Transport
DSCL - Dangerous Substances Classification and Labeling (Europe)
IRIS - Integrated Risk Information System
LD50/LC50 - Lethal Dose/Concentration kill 50%
LDLo/LCLo - Lowest Published Lethal Dose/Concentration
NAERG'96 - North American Emergency Response Guide Book (1996)
NFPA - National Fire Prevention Association
NIOSH - National Institute for Occupational Safety & Health
NPRI - National Pollutant Release Inventory
NSNR - New Substances Notification Regulations (Canada)
NTP - National Toxicology Program
OSHA - Occupational Safety & Health Administration
PEL - Permissible Exposure Limit
RCRA - Resource Conservation and Recovery Act
SARA - Superfund Amendments and Reorganization Act
SD - Single Dose
STEL - Short Term Exposure Limit (15 minutes)

DSD/DPD - Dangerous Substances or Dangerous Preparations Directives (Europe)
DSL - Domestic Substance List
EEC/EU - European Economic Community/European Union
EINECS - European Inventory of Existing Commercial Chemical Substances
EPCRA - Emergency Planning and Community Right to Know Act
FDA - Food and Drug Administration
FIFRA - Federal Insecticide, Fungicide and Rodenticide Act
HCS - Hazardous Communication System
HMIS - Hazardous Material Information System
IARC - International Agency for Research on Cancer
TDG - Transportation Dangerous Goods (Canada)
TDLo/TCLo - Lowest Published Toxic Dose/Concentration
TLm - Median Tolerance Limit
TLV-TWA - Threshold Limit Value-Time Weighted Average
TSCA - Toxic Substances Control Act
USEPA - United States Environmental Protection Agency
USP - United States Pharmacopoeia
WHMIS - Workplace Hazardous Material Information System

**For Copy of MSDS**
**Internet: www.petro-canada.ca/msds**

**Western Canada, Ontario & Central Canada, telephone: 1-800-668-0220; fax: 1-800-837-1228**
**Quebec & Eastern Canada, telephone: 514-640-8308; fax: 514-640-8385**

**For Product Safety Information: (905) 804-4752**

**Prepared by Product Safety - JDW on 2/6/2004.**

**Data entry by Product Safety - JDW.**

ExxonMobil

# Material Safety Data Sheets

New Search Get This Document I

Date Prepared: December 03, 2003
Supersedes: May 31, 2003
MSDS Number: 08524

## 1. PRODUCT INFORMATION

Product Identifier: TURBINE FUEL AVIATION, WIDE CUT TYPE
ESSO TURBO FUEL B
ESSO JET B
JET B
TURBO FUEL B
TURBO FUEL B F40
TURBO FUEL B JP4
ESSO TURBO FUEL B (FSII)
JET B (FSII)
AVIATION TURBINE FUEL (JP4)
CAN/CGSB-3.22 GRADE F40
ESSO JET B (FSII)

Application and Use:
Aviation turbine fuel

Product Description:

A mixture of aliphatic and aromatic hydrocarbons and additives.

REGULATORY CLASSIFICATION

WHMIS:
Class B, Division 2: Flammable Liquids.
Class D, Division 2, Subdivision A: Very Toxic Material.
Class D, Division 2, Subdivision B: Toxic Material

CEPA: CANADIAN ENVIRONMENTAL PROTECTION ACT
All components of this product are either on the Domestic Substances List (DSL) or are exempt

TDG INFORMATION (RAIL/ROAD):

Shipping Name: FUEL, AVIATION, TURBINE ENGINES
Class: 3
Packing Group: II
PIN Number: UN1863
Marine Pollutant: Not applicable

Please be aware that other regulations may apply.

| TELEPHONE NUMBERS | | MANUFACTURER/SUPPLIER: |
|---|---|---|
| Emergency 24 hr. | (519) 339-2145 | IMPERIAL OIL |
| Technical Info. | (800) 268-3183 | Products Division |
| | | 111 St Clair Avenue West |
| | | Toronto, Ontario |
| | | M5W 1K3 |
| | | (416) 968-4441 |

## 2. REGULATED COMPONENTS

The following components are defined in accordance with sub-paragraph 13(a)(i) to (iv) or paragraph 14(a) of the Hazardous Products Act:

| NAME | % | CAS # | |
|---|---|---|---|
| Kerosene, straight run | 40-70 V/V | 8008-20-6 | LD50:>5g/kg,oral,rat |
| Naphtha, full range | 30-60 V/V | 64741-42-0 | |
| Diethylene glycol monomethyl ether | 0-0.15 V/V | 111-77-3 | LD50:7g/kg,orl,rat<br>LD50:>2.0/kg,skn.rbt |

## 3. TYPICAL PHYSICAL & CHEMICAL PROPERTIES

Physical State: Liquid
Specific gravity: not available
Viscosity: 0.60 cSt at 40 deg C
Vapour Density: 4
Boiling Point: 40 to 270 deg C
Evaporation rate: <1 (1= n-butylacetate)
Solubility in water: negligible
Freezing/Pour Point: -58 deg C ASTM D 2386
Odour Threshold: not available
Vapour Pressure: 21 kPa at 38 deg C
Density: 0.78 g/cc at 15 deg C
Appearance/odour: White or pale yellow liquid, petroleum odour

## 4. HEALTH HAZARD INFORMATION

**NATURE OF HAZARD**

**INHALATION:**

Negligible hazard at normal temperatures (up to 38 deg C).
High vapour concentrations are irritating to the eyes, nose, throat and lungs; may cause headaches and dizziness; may be anesthetic and may cause other central nervous system effects.
Avoid breathing vapours or mists.

**EYE CONTACT:**

Slightly irritating, but will not injure eye tissue.

**SKIN CONTACT:**

Irritating.
Frequent or prolonged contact may irritate the skin and cause a skin rash (dermatitis).
Low toxicity.

**INGESTION:**

Low toxicity.

Small amounts of this liquid drawn into the lungs from swallowing or vomiting may cause severe health effects (e.g. bronchopneumonia or pulmonary edema).

**CHRONIC:**

Contains benzene. Human health studies (epidemiology) indicate that prolonged and/or repeated overexposures to benzene may cause damage to the blood producing system and serious blood disorders, including leukemia.
Animal tests suggest that prolonged and/or repeated overexposures to benzene may damage the embryo/fetus. The relationship of these animal studies to humans has not been fully established.
Contains n-hexane. Prolonged and/or repeated exposures may cause damage to the peripheral nervous system (e.g. fingers, feet, arms etc.).
Contains diethylene glycol monomethyl ether (DIEGME). Prolonged and repeated exposure through inhalation or extensive skin contact with DIEGME may result in toxic effects on the kidneys, the reproductive system and/or the embryo/fetus.

**ACUTE TOXICITY DATA:**

Based on animal testing data from similar materials and products, the acute toxicity of this product is expected to be:

| | | | |
|---|---|---|---|
| Oral | : | LD50 > 5000 mg/kg | (Rat) |
| Dermal | : | LD50 > 2000 mg/kg | (Rabbit) |
| Inhalation | : | LC50 > 2500 mg/m3 | (Rat) |

**OCCUPATIONAL EXPOSURE LIMIT:**

Manufacturer Recommends:
100 ppm based on composition.

**ACGIH recommends:**
For n-Hexane (skin), 50 ppm (176 mg/m3).
For Benzene, ACGIH recommends a TWA of 0.5 ppm (1.6 mg/m3), (skin), and categorizes it as a confirmed human carcinogen.

Local regulated limits may vary.

---

## 5. FIRST AID MEASURES

**INHALATION:**

In emergency situations use proper respiratory protection to immediately remove the affected victim from exposure. Administer artificial respiration if breathing has stopped. Keep at rest. Call for prompt medical attention.

**EYE CONTACT:**

Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

**SKIN CONTACT:**

Immediately flush with large amounts of water. Use soap if available. Remove contaminated clothing, including shoes, after flushing has begun. If irritation persists, seek medical attention.

**INGESTION:**

DO NOT induce vomiting since it is important that no amount of the material should enter the lungs (aspiration). Keep at rest. Get prompt medical attention.

---

## 6. PREVENTIVE AND CORRECTIVE MEASURES

**PERSONAL PROTECTION:**

The selection of personal protective equipment varies, depending upon conditions of use.
In open systems where contact is likely, wear safety goggles, chemical-resistant overalls, and chemically impervious gloves.
Where only incidental contact is likely, wear safety goggles, long sleeves, and chemical-resistant gloves.
Where concentrations in air may exceed the occupational exposure limits given in Section 4 and where engineering, work practices or other means of exposure reduction are not adequate, approved respirators may be necessary to prevent overexposure by inhalation.

**ENGINEERING CONTROLS:**

The use of local exhaust ventilation is recommended to control emissions near the source. Laboratory samples should be handled in a fumehood. Provide mechanical ventilation of confined spaces.
Use explosion-proof ventilation equipment.

**HANDLING, STORAGE AND SHIPPING:**

Keep containers closed. Handle and open containers with care.
Store in a cool, well ventilated place away from incompatible materials.
In keeping with good personal hygiene practices, wash hands thoroughly after handling the material.
Store and load at normal (up to 38 deg C) temperature and at atmospheric pressure.
Material will accumulate static charges which may cause a spark. Static charge build-up could become an ignition source. Use proper relaxation and grounding procedures.

Empty containers may contain product residue. Do not pressurize cut, heat, or weld empty containers. Do not reuse empty containers without commercial cleaning or reconditioning.

**LAND SPILL:**

Eliminate source of ignition. Keep public away. Prevent additional discharge of material, if possible to do so without hazard. Vapours or dust may be harmful or fatal. Warn occupants of downwind areas.

Prevent spills from entering sewers, watercourses or low areas. Contain spilled liquid with sand or earth. Do not use combustible materials such as sawdust.
Recover by pumping (use an explosion proof motor or hand pump), or by using a suitable absorbent.
Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill.

**WATER SPILL:**

Eliminate all sources of ignition. Vapours or dust may be harmful or fatal. Warn occupants and shipping in downwind areas.
Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill.

---

## 7. FIRE AND EXPLOSION HAZARD

Flashpoint and method: -18 deg C COC ASTM D92

Autoignition: NA Flammable Limits: LEL: 0.6% UEL: 8.0%

**GENERAL HAZARDS:**

Extremely flammable; material will readily ignite at normal temperatures.
Flammable Liquid; may release vapours that form flammable mixtures at or above the flash point.
Decomposes; flammable/toxic gases will form at elevated temperatures (thermal decomposition).
Toxic gases will form upon combustion.
Static Discharge; material may accumulate static charges which may cause a fire.

**FIRE FIGHTING:**

Use water spray to cool fire exposed surfaces and to protect personnel.
Shut off fuel to fire if possible to do so without hazard. If a leak or spill has not ignited use water spray to disperse the vapours.
Either allow fire to burn out under controlled conditions or extinguish with foam or dry chemical. Try to cover liquid spills with foam.
Respiratory and eye protection required for fire fighting personnel.

Avoid spraying water directly into storage containers due to danger of boilover.
A self-contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires. For small outdoor fires, which may easily be extinguished with a portable fire extinguisher, use of an SCBA may not be required.

**HAZARDOUS COMBUSTION PRODUCTS:**

Smoke, carbon monoxide, carbon dioxide and traces of oxides of sulphur

In addition, small amounts of nitrogen oxides will be formed.

---

## 8. REACTIVITY DATA

**STABILITY:**

This product is stable. Hazardous polymerization will not occur.

**INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:**

Strong oxidizing agents. Use product with caution around heat, sparks, pilo lights, static electricity and open flames.

**HAZARDOUS DECOMPOSITION:**

See: Hazardous Combustion Products

---

## 9. NOTES

All components of this product are listed on the U.S. TSCA inventory.

.

REVISION SUMMARY:
Since 31 May 2003, this MSDS has been revised in Section(s):
2

---

## 10. PREPARATION

Date Prepared: December 03, 2003
Prepared by: Lubricants & Specialties
IMPERIAL OIL
Products Division
111 St Clair Avenue West
Toronto, Ontario
M5W 1K3
(800) 268-3183

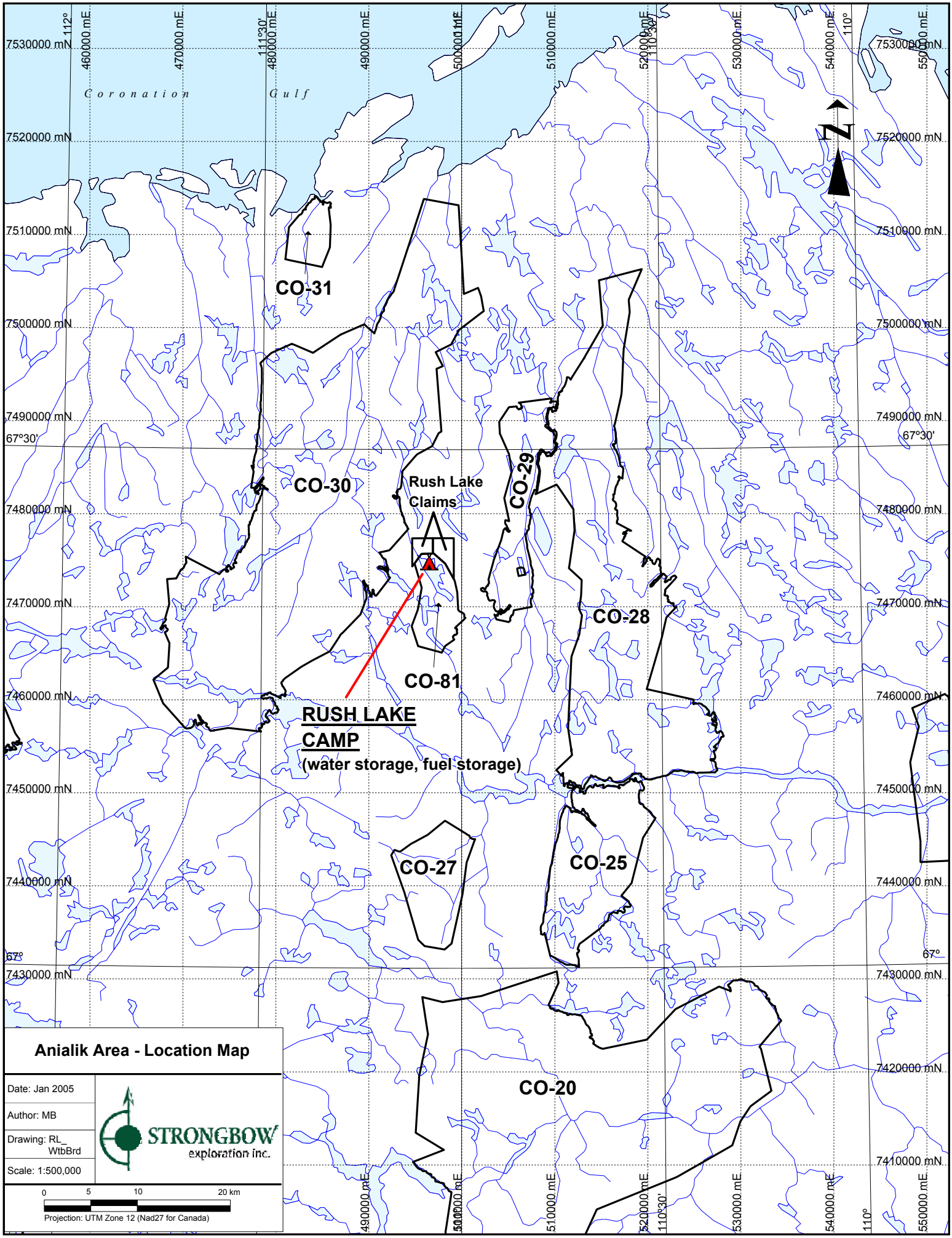
---

or under conditions which are normal or reasonably foreseeable, this information cannot be relied upon as complete or applicable. For greater certainty, uses other than those described in Section 1 must be reviewed with the supplier. The information contained herein is based on the information available at the indicated date of preparation. This MSDS is for the use of Imperial Oil customers and their employees and agents only. Any further distribution of this MSDS by Imperial Oil customers is prohibited without the written consent of Imperial Oil."

**Emergency Numbers**



P


Coronation Gulf
112°
111°30'
110°30'
110°
460000 mE
470000 mE
480000 mE
490000 mE
500000 mE
510000 mE
520000 mE
530000 mE
540000 mE
550000 mE
7530000 mN
7520000 mN
7510000 mN
7500000 mN
7490000 mN
7480000 mN
7470000 mN
7460000 mN
7450000 mN
7440000 mN
7430000 mN
7420000 mN
7410000 mN
67°30'
67°
N
CO-31
CO-30
CO-29
CO-28
CO-81
CO-27
CO-25
CO-20
Rush Lake Claims
RUSH LAKE CAMP
(water storage, fuel storage)
Anialik Area - Location Map
Date: Jan 2005
Author: MB
Drawing: RL_ WtbBrd
Scale: 1:500,000
STRONGBOW exploration inc.
0 5 10 20 km
Projection: UTM Zone 12 (Nad27 for Canada)