



Suite 800 - 625 Howe Street
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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 NWB2REG0406

Dear Ms. Beaulieu,

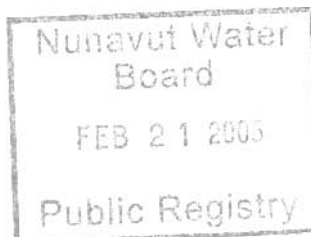
As required under Part B, Item 2 of the above referenced Nunavut Water Board Type "B" water licence, attached please find a duly completed Annual Report with accompanying attachments.

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 NWB2REG0406 please contact the undersigned at your convenience.

Yours truly,
STRONGBOW EXPLORATION INC.
Per:

Nicole Westcott
Land Administrator



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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	NWB2REG0406
Licensee	Strongbow Exploration Inc.
Mailing address	800-625 Howe Street Vancouver, BC V6C 2T6
Location of undertaking	76G/4, 76G/5, 76G/6
Name of Undertaking (if applicable):	Musk-Regan

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

i	<p>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.</p> <p>During the summer of 2004, Strongbow Exploration Inc. conducted a 10-hole drilling program and ground geophysical survey on the Musk deposit (Mining Lease 3017), and prospecting and airborne geophysical survey on ML 3017 and IOL parcels BB-07 and BB-09. All properties are situated in the Back River area, approximately 120km southwest of Bathurst Inlet in Nunavut.</p> <p>The program was conducted from August 10th to October 2nd, 2004 (including mobilization and demobilization) from the Strongbow's Musk Camp located at 65° 19' N and 107° 38' W, approximately 1 km south of the Musk deposit. Project personnel included two to three geologists, two geotechnicians, four drillers and one drilling foreman. Logistics personnel included a camp manager, cook, core splitter, helicopter pilot and engineer. Water for domestic purposes was acquired from a lake 400m south of the camp and approximately 250L to 300L of water was consumed a day. Drilling activities used approximately 1,000L of water a day and recycled 90% of the water that passed through a "Poly-Drill" filtration system.</p>
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ii	<p data-bbox="357 205 1292 239">A list of unauthorized discharges and a summary of follow-up actions taken</p> <p data-bbox="357 268 927 302">There were no fuel spills during the program.</p>
iii	<p data-bbox="357 1066 1349 1100">Revisions to the Spill Contingency Plan and Abandonment and Restoration Plan</p> <p data-bbox="357 1129 1317 1234">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.</p> <p data-bbox="357 1276 1325 1339">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.</p>

iv	<p>Progressive reclamation work undertaken</p> <p>All drill cuttings were deposited into the closest natural depression adjacent to each drill site. All garbage was backhauled to Yellowknife for appropriate disposal. The campsite was cleaned as appropriate for winter storage. Thirty-three drums of diesel fuel remains at the Musk camp site, where 1 full (sealed) and 1 partial drum has been stored in each tent and the remaining drums stored beside the generator. There are 4 sealed drums of Jet B stored 40m north of the tents. Five 100-pound propane tanks are stored beside the dry. Two and a half pallets of fifty-pound bags of calcium chlorite (approximately 125 bags) are stored at the Musk esker strip, located at 65° 15' 47"N and -107° 34' 10"W.</p>				
v	<p>Results of the Monitoring Program including:</p> <table border="1"> <tr> <td data-bbox="360 877 435 1304">1</td><td data-bbox="435 877 1365 1304"> <p>A summary, in cubic metres, of the daily quantities of water utilized for domestic and industrial operations.</p> <p>Water for domestic purposes was acquired from a lake approximately 400m south of the Musk camp. Domestic consumption varied from 250L to 300L per day for a 15-person camp.</p> <p>Drilling activities used approximately 1,000L of water a day and recycled an additional 90% that passed through a "Poly-Drill" filtration system. During drilling, return was frequently lost through the first 100m of bedrock and overburden.</p> </td></tr> <tr> <td data-bbox="360 1304 435 1835">2</td><td data-bbox="435 1304 1365 1835"> <p>The GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where sources of water are utilized.</p> <p>"Camp Lake": 65° 18' 55" N and -107° 37' 55" W "Drilling Lake": 65° 19' 38" N and -107° 37' 26" W</p> </td></tr> </table>	1	<p>A summary, in cubic metres, of the daily quantities of water utilized for domestic and industrial operations.</p> <p>Water for domestic purposes was acquired from a lake approximately 400m south of the Musk camp. Domestic consumption varied from 250L to 300L per day for a 15-person camp.</p> <p>Drilling activities used approximately 1,000L of water a day and recycled an additional 90% that passed through a "Poly-Drill" filtration system. During drilling, return was frequently lost through the first 100m of bedrock and overburden.</p>	2	<p>The GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where sources of water are utilized.</p> <p>"Camp Lake": 65° 18' 55" N and -107° 37' 55" W "Drilling Lake": 65° 19' 38" N and -107° 37' 26" W</p>
1	<p>A summary, in cubic metres, of the daily quantities of water utilized for domestic and industrial operations.</p> <p>Water for domestic purposes was acquired from a lake approximately 400m south of the Musk camp. Domestic consumption varied from 250L to 300L per day for a 15-person camp.</p> <p>Drilling activities used approximately 1,000L of water a day and recycled an additional 90% that passed through a "Poly-Drill" filtration system. During drilling, return was frequently lost through the first 100m of bedrock and overburden.</p>				
2	<p>The GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where sources of water are utilized.</p> <p>"Camp Lake": 65° 18' 55" N and -107° 37' 55" W "Drilling Lake": 65° 19' 38" N and -107° 37' 26" W</p>				

	3	<p>The GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where wastes associated with industrial operations are deposited.</p> <p>The drill holes are located north of the Musk camp and their coordinates are as follows:</p> <p>M-39: 65° 19' 24" N and -107° 37' 06" W M-40: 65° 19' 27" N and -107° 37' 12" W M-41: 65° 19' 29" N and -107° 37' 16" W M-42: 65° 19' 28" N and -107° 37' 35" W M-43: 65° 19' 28" N and -107° 37' 35" W M-44: 65° 19' 29" N and -107° 37' 38" W M-45: 65° 19' 28" N and -107° 37' 35" W M-46: 65° 19' 29" N and -107° 37' 36" W M-47: 65° 19' 26" N and -107° 37' 22" W M-48: 65° 19' 27" N and -107° 37' 00" W</p>
	4	<p>Any additional sampling and/or analysis that was requested by an Inspector.</p> <p>N/A</p>
vi		<p>Any other details on water use or waste disposal requested by the Board by November 1 of the year being reported</p>
		<p>N/A</p>

Vii	Any responses or follow-up actions on inspection/compliance reports N/A
viii	Any additional information as appropriate ATTACHMENTS: I page size location map I MSDS sheet for diesel fuel I MSDS sheet for Jet B fuel

Nicole Westcott

By:

nwestcott@strongbowexploration.com

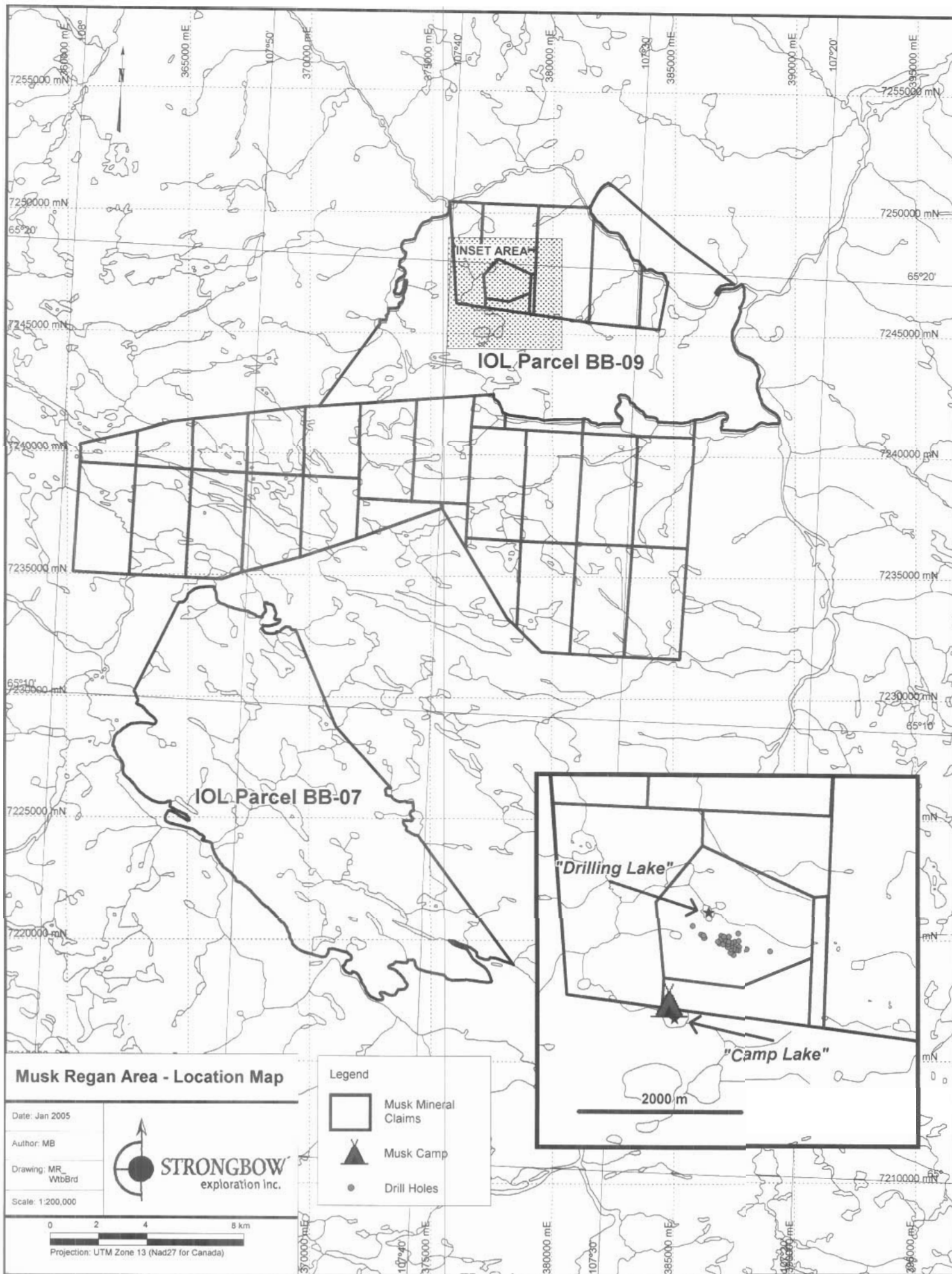
Email:

January 21, 2005

Date:








604-668-8355

Telephone:





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 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 P.O. Box 2844 Calgary, Alberta T2P 3E3	In case of Emergency	Petro-Canada: 403-296-3000 Canutec Transportation: 613-996-6666 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/m ³ (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). 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.
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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) Marine Diesel Fuel: Closed Cup: >60°C (>140°F) 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, CO ₂), nitrogen oxides (NO _x), sulphur oxides (SO _x), sulphur compounds (H ₂ S), water vapour (H ₂ O), smoke and irritating vapours as products of incomplete combustion. See Section 11 (Other Considerations) for information regarding the toxicity of the combustion products.		
Fire Fighting Media and Instructions	<p>NAERG96, GUIDE 128, Flammable liquids (Non-polar/Water-immiscible). CAUTION: This product has a moderate flash point above 40°C: Use of water spray when fighting fire may be inefficient.</p> <p>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.</p> <p>SMALL FIRES: Dry chemical, CO₂, water spray or regular foam. 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. Fires Involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.</p> <p>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.</p>		

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.
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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 - <i>The selection of personal protective equipment varies, depending upon conditions of use.</i>	
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. Diesel engine exhaust particulate is probably carcinogenic to humans (IARC Group 2A).

Section 12. Ecological Information

Environmental Fate	Not available	Persistence/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.
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Section 14. Transport Information

TDG Classification	DIESEL FUEL, 3, UN1202, PGIII (CL-TDG)	Special Provisions for Transport	See Transportation of Dangerous Goods Regulations.
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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).				
	All components of this formulation are listed on the US EPA-TSCA Inventory.				
	All components of this product are on the European Inventory of Existing Commercial Chemical Substances (EINECS).				
	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.				
	Please contact Product Safety for more information.				
DSD/DPD (Europe)	Not evaluated.	HCS (U.S.A.)	CLASS: Irritating substance. CLASS: Target organ effects. 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 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.)	Health  Fire Hazard Reactivity Specific hazard	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	<p>ACGIH - American Conference of Governmental Industrial Hygienists</p> <p>ADR - Agreement on Dangerous goods by Road (Europe)</p> <p>ASTM - American Society for Testing and Materials</p> <p>BOD5 - Biological Oxygen Demand in 5 days</p> <p>CAN/CGA B149.2 Propane Installation Code</p> <p>CAS - Chemical Abstract Services</p> <p>CEPA - Canadian Environmental Protection Act</p> <p>CERCLA - Comprehensive Environmental Response, Compensation and Liability Act</p> <p>CFR - Code of Federal Regulations</p> <p>CHIP - Chemicals Hazard Information and Packaging Approved Supply List</p> <p>COD5 - Chemical Oxygen Demand in 5 days</p> <p>CPR - Controlled Products Regulations</p> <p>DOT - Department of Transport</p> <p>DSCL - Dangerous Substances Classification and Labeling (Europe)</p> <p>IRIS - Integrated Risk Information System</p> <p>LD50/LC50 - Lethal Dose/Concentration kill 50%</p> <p>LDLo/LCLo - Lowest Published Lethal Dose/Concentration</p> <p>NAERG'96 - North American Emergency Response Guide Book (1996)</p> <p>NFPA - National Fire Prevention Association</p> <p>NIOSH - National Institute for Occupational Safety & Health</p> <p>NPRI - National Pollutant Release Inventory</p> <p>NSNR - New Substances Notification Regulations (Canada)</p> <p>NTP - National Toxicology Program</p> <p>OSHA - Occupational Safety & Health Administration</p> <p>PEL - Permissible Exposure Limit</p> <p>RCRA - Resource Conservation and Recovery Act</p> <p>SARA - Superfund Amendments and Reorganization Act</p> <p>SD - Single Dose</p> <p>STEL - Short Term Exposure Limit (15 minutes)</p>

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

For Copy of MSDSInternet: 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.

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



Material Safety Data Sheets

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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

Emergency 24 hr. (519) 339-2145
Technical Info. (800) 268-3183

MANUFACTURER/SUPPLIER:

IMPERIAL OIL
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 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, pilot 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):

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10. PREPARATION

Date Prepared: December 03, 2003
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Emergency Numbers

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