Baffinland
Iron Mines Corporation

Spill Response Plan
Mary River Project
Revised May 2007

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PLAN UPDATES

This Spill Contingency Plan is an update of earlier versions dated 2004 and March 2007. This updated plan will be effective from May through August 2007, covering all aspects of the drilling program at Mary River.

This plan will be superseded by an Emergency and Spill Response Plan designed for the bulk sampling program at Mary River, expected to commence in August 2007.

PURPOSE/SUMMARY

The purpose of any Spill Contingency Plan is to provide a plan of action for potential spill events that might occur at sites of mineral exploration activity. The Plan addresses any unintentional releases of petroleum products and other hazardous chemicals. It defines the responsibilities of key response personnel and outlines procedures to be taken to minimise the impact of a spill. The Plan has been prepared to provide to management and field staff the necessary information to deal with a spill.

Although exploration activity is designed to mitigate the possibility of a Spill, the general response to be followed in the event of the spill is:

Identify the product and source of the spill – check container design, warning labels, markings, etc.

SAFETY FIRST/PROTECT PEOPLE – prevent personnel from approaching the site and keep them at a distance sufficiently removed that they will not be injured by, or cause, a fire or explosion.

Do not Panic, contact help from camp and/or nearest source of personnel. Work as a team, plan the response and then REACT:

Remove - stop the flow-source at the source – reduce or terminate the flow of product without endangering anyone, if the fuel source is a drum transfer the fuel to an empty drum. Where ever possible use the empty drums located within the berms specifically designed for that purpose. (Use diesel for diesel, gasoline for gasoline Jet B for Jet B, etc) If using a drum, designed for a different product, ensure that the drum is relabelled in a conspicuous manner.

Envelop the spill, assess the seriousness of the spill – evaluate potential dangers of the spill to human health and safety, the aquatic environment, wildlife, ground water, vegetation and other land resources. Ensure that the Spill is localised and prevent the spread of the spill.

Absorb/accumulate - Utilise the correct spill kit to absorb and clean up spilled material. There are two choices, the small kit that is designed for spills of less than 90 litres (20 gallons) and the larger kits designed for spills up to 300 litres (65-75 gallons) Remember that the spill kit is designed to be used from top to bottom. Remember, safety first, take your time and ensure that the spill cannot do more damage and the initial clean up deals with the spill.

Containerise/clean up the spill – follow procedures appropriate for the location, environment, and material and time of year. Again utilise material in the spill kit. There are leak-proof bags in the kits for much of the material and the containers themselves are designed to contain and isolate contaminated material. Remember your training and the first response is to stop, accumulate and clean up the spill.

Transmit a report detailing the Spill – provide basic information such as location of spill, name of polluter, type and amount of material spilled, date and time of the spill and any perceived threat to human health or environment (complete Nunavut Spill Report form, a copy of which is attached to this document).

24- Hour Spill Report Line
(867) 920-8130
or
fax (867) 920-8127
Water Resources Inspector (867) 975-4298

(Nunavut Spill Report Form is appended to this document)

All fuel spills will be reported internally to Baffinland. Fuel spills with a volume greater than 100 L will be reported to the Spill Report Line in accordance with Schedule B of the Spill Contingency Planning and Reporting Regulations.

INTRODUCTION

A spill is classified as the discharge of petroleum products or other dangerous substances into the environment. Potential hazards created by the spill for humans, vegetation, water resources, fish and wildlife vary in severity, depending on several factors, including nature of the material, quantity spilled, location and season. This spill contingency plan is intended to cover all exploration and advanced exploration activities to be completed by Baffinland Iron Mines Corporation.

There are currently 3 work areas:

- Mary River exploration camp
- Milne Inlet temporary drill camp
- Steensby Inlet temporary drill camp

Each work area is described below.

Mary River Camp

The facility, the Mary River Exploration camp is located at:

Latitude 71° 18' 30"
Longitude 79° 23' 30"

Contact telephone number
(416) 619-0538
or
(011) 88 163 146 6078

The camp consists of a Weatherhaven camp, sufficient for 100 persons, located on tundra polygons, located to the immediate southwest of the old Mary River airstrip. Figure 1 and Photo 1 show the Mary River camp layout, including fuel storage and spill response kit locations.

Acute Toxicity
  Dermal LD50 >5.0 g/kg(Rabbit)   OSHA: Non-Toxic Based on components(s)
  Oral LD50 >5.0 g/kg(Rat)   OSHA: Non-Toxic Based on components(s)
Carcinogenicity Classification
Hydraulic Oil
   NTP: No IARC: Not Reviewed ACGIH: No OSHA: No

SECTION 12 ECOLOGICAL INFORMATION

Environmental Impact Summary:
There is no ecological data available for this product. However, this product
is an oil. It is persistent and does not readily biodegrade. However, it does not bioaccumulate.

SECTION 13 DISPOSAL CONSIDERATIONS

RCRA Information:

Under RCRA, it is the responsibility of the user of the material to determine,
at the time of the disposal, whether the material meets RCRA criteria for hazardous waste. This is because material uses, transformations, mixtures, processes, etc. may affect the classification. Refer to the latest EPA, state
and local regulations regarding proper disposal.

SECTION 14 TRANSPORT INFORMATION

US Department of Transportation Classification
This material is not subject to DOT regulations under 49 CFR Parts 171-180.

Oil: This product is an oil under 49CFR (DOT) Part 130. If shipped by rail or
highway in a tank with a capacity of 3500 gallons or more, it is subject to these requirements. Mixtures or solutions containing 10% or more of this product may also be subject to this rule.

International Air Transport Association

Not regulated under IATA rules.

International Maritime Organization Classification
Not regulated under International Maritime Organization rules.

SECTION 15 REGULATORY INFORMATION

FEDERAL REGULATORY STATUS

OSHA Classification:
Product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200, because it carries the occupational exposure limit for mineral
oil mist.

Ozone Depleting Substances (40 CFR 82 Clean Air Act):
This material does not contain nor was it directly manufactured with any Class
I or Class II ozone depleting substances.

Superfund Amendment & Reauthorization Act (SARA) Title III:

There are no components in this product on the SARA 302 list.

SARA Hazard Categories (311/312):
Immediate Health:NO Delayed Health:NO Fire:NO Pressure:NO
Reactivity:NO

SARA Toxic Release Inventory (TRI) (313):
There are no components in this product on the SARA 313 list.

Toxic Substances Control Act (TSCA) Status:
All component(s) of this material is(are) listed on the EPA/TSCA Inventory of
Chemical Substances.

Other Chemical Inventories:
Component(s) of this material is (are) listed on the Australian AICS, Canadian DSL, European EINECS,

State Regulation
This material is not regulated by California Prop 65, New Jersey Right-to-Know
Chemical List or Pennsylvania Right-To-Know Chemical List. However for details on your regulation requirements you should contact the appropriate agency in your state.

SECTION 16 OTHER INFORMATION

Revision#: 9
Revision Date: 06/04/2003
Revisions since last change (discussion): This Material Safety Data Sheet (MSDS) has been newly reviewed to fully comply with the guidance contained in
the ANSI MSDS standard (ANSI Z400.1-1998). We encourage you to take the opportunity to read the MSDS and review the information contained therein.

SECTION 17 LABEL INFORMATION

READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF
PRODUCT. THIS LABEL COMPLIES WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200) FOR USE IN THE WORKPLACE. THIS LABEL
IS NOT INTENDED TO BE USED WITH PACKAGING INTENDED FOR SALE TO CONSUMERS AND MAY NOT CONFORM WITH THE REQUIREMENTS OF THE CONSUMER PRODUCT SAFETY ACT OR OTHER RELATED REGULATORY REQUIREMENTS.

PRODUCT CODE(S): 65401

Tellus® Oil T 32

ATTENTION!

PROLONGED OR REPEATED SKIN CONTACT MAY CAUSE OIL ACNE OR DERMATITIS.
HIGH-PRESSURE INJECTION UNDER SKIN MAY CAUSE SERIOUS DAMAGE.

Precautionary Measures:
Avoid prolonged or repeated contact with eyes, skin and clothing. Avoid breathing of vapors, fumes, or mist. Use only with adequate ventilation. Wash thoroughly after handling.

FIRST AID

Inhalation: If the victim has difficulty breathing or tightness of the chest,
is dizzy, vomiting or unresponsive, give 100% oxygen with rescue breathing or
CPR as required and transport to the nearest medical facility.
Skin Contact: Remove contaminated clothing and shoes and wipe excess from

skin. Flush skin with water, then wash with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned. If material is injected under the skin, transport to the nearest medical facility
for additional treatment. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.
Eye Contact: Flush with water. If irritation occurs, get medical attention.
Ingestion: Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical attention. If vomiting occurs spontaneously, keep head below hips to prevent
aspiration. Have victim rinse mouth out with water, then drink sips of water
to remove taste from mouth.

FIRE

In case of fire, Use water fog, 'alcohol foam', dry chemical or carbon dioxide (CO2) to extinguish flames. Do not use a direct stream of water. Material will float and can be re-ignited on surface of water.

SPILL OR LEAK
Dike and contain spill.
FOR LARGE SPILLS: Remove with vacuum truck or pump to storage/salvage vessels.

FOR SMALL SPILLS: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and seal tightly for
proper disposal.

CONTAINS: Highly refined petroleum oils, Mixture; Proprietary additives (contains <1% zinc), Proprietary

NFPA Rating (Health, Fire, Reactivity): 0, 1, 0

TRANSPORTATION
US Department of Transportation Classification
This material is not subject to DOT regulations under 49 CFR Parts 171-180.

Oil: This product is an oil under 49CFR (DOT) Part 130. If shipped by rail or
highway in a tank with a capacity of 3500 gallons or more, it is subject to these requirements. Mixtures or solutions containing 10% or more of this product may also be subject to this rule.

CAUTION: Misuse of empty containers can be hazardous. Empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion or toxic fumes from residues. Do not pressurize or expose to open flames or heat. Keep container closed and drum bungs in place.

Name and Address
SOPUS Products
P.O. Box 4453
Houston, TX 77210-4453

ADMINISTRATIVE INFORMATION
MANUFACTURER ADDRESS: SOPUS Products, P.O. Box 4453, Houston, TX. 77210-4453
Company Product Stewardship & Regulatory Compliance Contact: Timothy W Childs
Phone Number: (281) 874-7708

THE INFORMATION CONTAINED IN THIS DATA SHEET IS BASED ON THE DATA AVAILABLE TO
US AT THIS TIME, AND IS BELIEVED TO BE ACCURATE BASED UPON THAT : IT IS PROVIDED INDEPENDENTLY OF ANY SALE OF THE PRODUCT, FOR PURPOSE OF HAZARD COMMUNICATION. IT IS NOT INTENDED TO CONSTITUTE PRODUCT PERFORMANCE INFORMATION, AND NO EXPRESS OR IMPLIED WARRANTY OF ANY KIND IS MADE WITH RESPECT TO THE PRODUCT, UNDERLYING DATA OR THE INFORMATION CONTAINED HEREIN. YOU ARE URGED TO OBTAIN DATA SHEETS FOR ALL PRODUCTS YOU BUY, PROCESS, USE OR
DISTRIBUTE, AND ARE ENCOURAGED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED HEREIN.

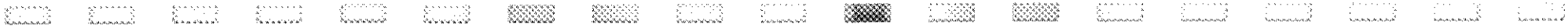
TO DETERMINE THE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT
TO THE PRODUCT, YOU SHOULD CONSULT WITH YOUR LEGAL ADVISOR OR THE APPROPRIATE
GOVERNMENT AGENCY. WE WILL NOT PROVIDE ADVICE ON SUCH MATTERS, OR BE RESPONSIBLE FOR ANY INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN. THE UNDERLYING DATA, AND THE INFORMATION PROVIDED HEREIN AS A RESULT OF THAT DATA,
IS THE PROPERTY OF SOPUS PRODUCTS AND IS NOT TO BE THE SUBJECT OF SALE OR EXCHANGE WITHOUT THE EXPRESS WRITTEN CONSENT OF SOPUS PRODUCTS.

38420-11460-100R-06/03/2003

Baffinland

ATTACHMENT 2

SPILL REPORTING GUIDE AND FORM



Instructions for Completing the NT-NU Spill Report Form

This form can be filled out electronically, printed and faxed to the spill line at 867-873-6924. Spills can still be phoned in by calling collect at 867-920-8130.

A. Report Date/Time	The actual date and time that the spill was reported to the spill line. If the spill is phoned in, the Spill Line will fill this out. **Please do not fill in the Report Number**: the spill line will assign a number after the spill is reported.
B. Occurrence Date/Time	Indicate, to the best of your knowledge, the exact date and time that the spill occurred. Not to be confused with the report date and time (see above).
C. Land Use Permit Number /Water Licence Number	This only needs to be filled in if the activity has been licenced by the Nunavut Water Board and/or if a Land Use Permit has been issued. Applies primarily to mines and mineral exploration sites.
D. Geographic Place Name	In most cases, this will be the name of the city or town in which the spill occurred. For remote locations – outside of human habitations – identify the most prominent geographic feature, such as a lake or mountain and/or the distance and direction from the nearest population center. **You must include the geographic coordinates** (Refer to Section E).
E. Geographic Coordinates	This only needs to be filled out if the spill occurred outside of an established community such as a mine site. Please note that the location should be stated in degrees, minutes and seconds of Latitude and Longitude.
F. Responsible Party Or Vessel Name	This is the person who was in management/control/ownership of the substance at the time that it was spilled. In the case of a spill from a ship/vessel, include the name of the ship/vessel. Please include full address, telephone number and e-mail. Use box K if there is insufficient space. **Please note that, the owner of the spilled substance is ultimately responsible for any spills of that substance, regardless of who may have actually caused the spill.**
G. Contractor involved?	Were there any other parties/contractors involved? An example would be a construction company who is undertaking work on behalf of the owner of the spilled substance and who may have contributed to, or directly caused the spill and/or is responding to the spill.
H. Product Spilled	Identify the product spilled; most commonly, it is gasoline, diesel fuel or sewage. For other substances, avoid trade names. Wherever possible, use the chemical name of the substance and further, identify the product using the four digit UN number (eg: UN1203 for gasoline; UN1202 for diesel fuel; UN1863 for Jet A & B)
I. Spill Source	Identify the source of the spill: truck, ship, home heating fuel tank and, if known, the cause (eg: fuel tank overfill, leaking tank; ship ran aground; traffic accident, vandalism, storm, etc.). Provide an estimate of the extent of the contaminated/impacted area (eg: 10 m^2)
J. Factors Affecting Spill	Any factors which might make it difficult to clean up the spill: rough terrain, bad weather, remote location, lack of equipment. Do you require advice and/or assistance with the cleanup operation? Identify any hazards to persons, property or equipment: for example, a gasoline spill beside a daycare centre would pose a safety hazard to children. Use box K if there is insufficient space.
K. Additional Information	Provide any additional, pertinent details about the spill, such as any peculiar/unique hazards associated with the spilled material. State what action is being taken towards cleaning up the spill; disposal of spilled material; notification of affected parties. If necessary, append additional sheets to the spill report. Number the pages in the same format found in the lower right hand corner of the spill form: eg. "Page 1 of 2", "Page 2 of 2" etc. **Please number the pages to ensure that recipients can be certain that they received all pertinent documents.** If only the spill report form was filled out, number the form as "Page 1 of 1".
L. Reported to Spill Line by	Include your full name, employer, contact number and the location from which you are reporting the spill. Use box K if there is insufficient space.
M. Alternate Contact	Identify any alternate contacts. This information assists regulatory agencies to obtain additional information if they cannot reach the individual who reported the spill.
N. Report Line Use Only	**Leave Blank**. This box is for the **Spill Line's use only**.

Northwest Territories Nunavut Canada

NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE
TEL: (867) 920-8130
FAX: (867) 873-6924
EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

A	REPORT DATE: MONTH – DAY – YEAR	REPORT TIME	☐ ORIGINAL SPILL REPORT, OR	REPORT NUMBER
B	OCCURRENCE DATE: MONTH – DAY – YEAR	OCCURRENCE TIME	☐ UPDATE # _____ TO THE ORIGINAL SPILL REPORT	_____
C	LAND USE PERMIT NUMBER (IF APPLICABLE)	WATER LICENCE NUMBER (IF APPLICABLE)		
D	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION	REGION ☐ NWT ☐ NUNAVUT ☐ ADJACENT JURISDICTION OR OCEAN		
E	LATITUDE DEGREES MINUTES SECONDS	LONGITUDE DEGREES MINUTES SECONDS		
F	RESPONSIBLE PARTY OR VESSEL NAME	RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION		
G	ANY CONTRACTOR INVOLVED	CONTRACTOR ADDRESS OR OFFICE LOCATION		
H	PRODUCT SPILLED	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
	SECOND PRODUCT SPILLED (IF APPLICABLE)	QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES	U.N. NUMBER	
I	SPILL SOURCE	SPILL CAUSE	AREA OF CONTAMINATION IN SQUARE METRES	
J	FACTORS AFFECTING SPILL OR RECOVERY	DESCRIBE ANY ASSISTANCE REQUIRED	HAZARDS TO PERSONS, PROPERTY OR EQUIPMENT	
K	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS			

L	REPORTED TO SPILL LINE BY	POSITION	EMPLOYER	LOCATION CALLING FROM	TELEPHONE
M	ANY ALTERNATE CONTACT	POSITION	EMPLOYER	ALTERNATE CONTACT LOCATION	ALTERNATE TELEPHONE

REPORT LINE USE ONLY

N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130

LEAD AGENCY ☐ EC ☐ CCG ☐ GNWT ☐ GN ☐ ILA ☐ INAC ☐ NEB ☐ TC | SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN | FILE STATUS ☐ OPEN ☐ CLOSED

AGENCY	CONTACT NAME	CONTACT TIME	REMARKS
LEAD AGENCY			
FIRST SUPPORT AGENCY			
SECOND SUPPORT AGENCY			
THIRD SUPPORT AGENCY			

Mechanical Ventilation:	Use explosion-proof ventilation as required to control vapour concentrations. Concentrations in air should be maintained below lower explosive limit at all times or below the recommended threshold limit value if unprotected personnel are involved. Make up air should always be supplied to balance air exhausted (either generally or locally). For personnel entry into confined spaces (i.e. bulk storage tanks) a proper confined space entry procedure must be followed including ventilation and testing of tank atmosphere.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection:	Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes. Provide an eyewash station in the area.
Skin Protection:	Impervious gloves should be worn at all times when handling this product. PVC or nitrile rubber gloves are recommended. In confined spaces or where the risk of skin exposure is much higher, impervious clothing should be worn. Safety showers should be available for emergency use.
Respiratory Protection:	If exposure exceeds occupational exposure limits, use an appropriate NIOSH-approved respirator. Use a NIOSH-approved chemical cartridge respirator with organic vapour cartridges. For high airborne concentrations, use a NIOSH-approved supplied-air respirator, either self-contained or airline breathing apparatus, operated in positive pressure mode.

9. PHYSICAL DATA

Physical State:	Liquid
Appearance:	Dyed for tax purposes
Odour:	Typical Gasoline Odour
Odour Threshold:	>0.25 ppm
Freezing/Pour Point:	Not available
Boiling Point:	35 - 220 degrees C
Density:	750 - 850 kg/m3 @ 15 degrees C
Vapour Density (Air = 1):	3.5
Vapour Pressure (absolute):	Not available
pH:	Not applicable
Flash Point:	Method Tag Closed Cup = -30 degrees C
Lower Explosion Limit:	1.4 % (vol.)
Upper Explosion Limit:	7.6 % (vol.)
Autoignition Temperature:	280 degrees C
Viscosity:	<1 cSt @ 38 degrees C
Evaporation Rate (n-BuAc = 1):	Not available
Partition Coefficient (K_{ow}):	200
Water Solubility:	Insoluble

10. STABILITY AND REACTIVITY

Chemically Stable:	Yes
Hazardous Polymerization:	No
Sensitive to Mechanical Impact:	No
Sensitive to Static Discharge:	Yes
Incompatible Materials:	Avoid strong oxidizing agents.
Conditions of Reactivity:	Avoid excessive heat, open flames and all ignition sources.

11. TOXICOLOGICAL INFORMATION

Ingredient (or Product if not specified)	Toxicological Data
Gasoline, Natural	LD50 Oral Rat = 18800 mg/kg LD50 Dermal Rabbit >8000 mg/kg
Benzene	LD50 Oral Rat = 930 - 5600 mg/kg LC50 Inhalation Rat = 13700 ppm for 4 hours

Routes of Exposure: Exposure may occur via inhalation, ingestion, skin absorption and skin or eye contact.

Irritancy: Based on testing with similar materials, this product is not expected to be a primary skin irritant after exposure of short duration, would not be a skin sensitizer and would not be irritating to the eye.

Chronic Effects: Prolonged and repeated contact with skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis. Prolonged exposure to high vapour concentration can cause headache, dizziness, nausea, blurred vision and central nervous system depression. Prolonged and repeated exposure may cause serious injury to blood forming organs, resulting in anemia and similar conditions.

Carcinogenicity and Mutagenicity: This product contains benzene. Epidemiological studies indicate that long term inhalation of benzene vapour can cause leukaemia in man. Benzene has also produced chromosomal aberrations in peripheral blood lymphocytes.

12. ECOLOGICAL INFORMATION

Environmental Effects: Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams, or public waterways. Block off drains and ditches. Provincial regulations require and federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities. May be harmful to aquatic life. Fish Toxicity: 5 to 40 ppm | 96 hr TLm | Rainbow Trout | Freshwater

Biodegradability: Not readily biodegradable. Potential for bioaccumulation. Rapid volatilization.

13. DISPOSAL CONSIDERATIONS

Waste management priorities (depending on volumes and concentration of waste) are: 1. recycle (reprocess), 2. energy recovery (cement kilns, thermal power generation), 3. incineration, 4. disposal at a licenced waste disposal facility. Do not attempt to combust waste on-site. Incinerate at a licenced waste disposal site with approval of environmental authority.

14. TRANSPORTATION INFORMATION

Canadian Road and Rail Shipping Classification:

UN Number	UN1203
Proper Shipping Name	GASOLINE
Hazard Class	Class 3 Flammable Liquids
Packing Group	PG II

Additional Information	Marine Pollutant
Shipping Description	GASOLINE Class 3 UN1203 PG II Marine Pollutant

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Class:	Class B2 Flammable Liquid Class D2A Other Toxic Effects - Carcinogen
DSL/NDSL Status:	This product, or all components, are listed on the Domestic Substances List, as required under the Canadian Environmental Protection Act.
Other Regulatory Status:	No Canadian federal standards.

16. ADDITIONAL INFORMATION

LABEL STATEMENTS

Hazard Statement :	Flammable Liquid. May cause cancer.
Handling Statement:	Eliminate all ignition sources. Wear suitable gloves and eye protection. Bond and ground transfer containers and equipment to avoid static accumulation. Avoid prolonged exposure to vapours. Empty containers are hazardous, may contain flammable / explosive dusts, liquid residue or vapours. Keep away from sparks and open flames.
First Aid Statement :	Wash contaminated skin with soap and water. Flush eyes with water. If overcome by vapours remove to fresh air. Do not induce vomiting. Obtain medical attention.
Revisions:	This MSDS has been reviewed and updated. Changes have been made to: Section 1 Section 2 Section 14

Shell Canada Limited

Material Safety Data Sheet

Effective Date: 2005-08-15
Supersedes: 2002-08-14

Class B3 Combustible Liquid

Class D2B Other Toxic Effects - Skin Irritant

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT:	**SHELL* JET A-1**
SYNONYMS:	Aviation Turbine Fuel (Kerosene Type) May contain anti-icing additive (Diethylene Glycol Monomethyl Ether)
PRODUCT USE:	Fuel Solvent
MSDS Number:	142-011

MANUFACTURER
Shell Canada Limited
P.O. Box 100, Station M
400-4th Ave. S.W.
Calgary, AB Canada
T2P 2H5

TELEPHONE NUMBERS	
Shell Emergency Number	1-800-661-7378
CANUTEC 24 HOUR EMERGENCY NUMBER	613-996-6666
For general information:	1-800-661-1600
For MSDS information:	403-691-3982
(From 7:30 to 4:30 Mountain Time)	403-691-2220

This MSDS was prepared by the Toxicology and Product Stewardship Section of Shell Canada Limited.

*An asterisk in the product name designates a trade-mark(s) of Shell Canada Limited, used under license by Shell Canada Products.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS Number	% Range	WHMIS Controlled
Kerosene (Petroleum), Hydrodesulfurized	64742-81-0	60 - 100	Yes

See Section 8 for Occupational Exposure Guidelines.

3. HAZARDS IDENTIFICATION

Physical Description: Liquid Bright Clear Hydrocarbon Odour

Routes of Exposure: Exposure will most likely occur through skin contact or inhalation.
Hazards:

Combustible Liquid.
Irritating to skin.
Vapours are moderately irritating to the eyes.
Ingestion may result in vomiting. Avoid aspiration of vomitus into lungs as small quantities may result in aspiration pneumonitis.
Vapours are moderately irritating to the respiratory passages.

Handling: Eliminate all ignition sources.
Avoid prolonged exposure to vapours.
Wear suitable gloves and eye protection.
Bond and ground transfer containers and equipment to avoid static accumulation.
Empty containers are hazardous, may contain flammable / explosive dusts, liquid residue or vapours. Keep away from sparks and open flames.

For further information on health effects, see Section 11.

4. FIRST AID

Eyes: Flush eyes with water for at least 15 minutes while holding eyelids open. If irritation occurs and persists, obtain medical attention.

Skin: Wash contaminated skin with mild soap and water for 15 minutes. If irritation occurs and persists, obtain medical attention.

Ingestion: DO NOT INDUCE VOMITING! OBTAIN MEDICAL ATTENTION IMMEDIATELY. Guard against aspiration into lungs by having the individual turn on to their left side. If vomiting occurs spontaneously keep head below hips to prevent aspiration of liquid into the lungs.

Inhalation: Remove victim from further exposure and restore breathing, if required. Obtain medical attention.

Notes to Physician: The main hazard following accidental ingestion is aspiration of the liquid into the lungs producing chemical pneumonitis. If more than 2.0 mL/kg has been ingested, vomiting should be induced with supervision. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before vomiting, gastric lavage with a cuffed endotracheal tube should be considered.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Carbon Dioxide
Foam
Dry Chemical
Water Fog

Firefighting Instructions: Caution - Combustible. Vapour forms a flammable/explosive mixture with air between upper and lower flammable limits. Vapours may travel along ground and flashback along vapour trail may occur. Product will float and can be reignited on surface of water. Do not use a direct stream of water as it may spread fire. Containers exposed to intense heat from fires should be cooled with water to prevent vapour pressure buildup which could result in container rupture. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure. Do not enter confined fire space without adequate protective clothing and an approved positive pressure self-contained breathing apparatus.

Hazardous Combustion Products: A complex mixture of airborne solid, liquid, particulates and gases will evolve when this material undergoes pyrolysis or combustion. Carbon dioxide, carbon monoxide and unidentified organic compounds may be formed upon combustion.

6. ACCIDENTAL RELEASE MEASURES

Issue warning "Combustible". Eliminate all ignition sources. Isolate hazard area and restrict access. Handling equipment must be grounded. Try to work upwind of spill. Avoid direct contact with material. Wear appropriate breathing apparatus (if applicable) and protective clothing. Stop leak only if safe to do so. Dike and contain land spills; contain water spills by booming. Use water fog to knock down vapours; contain runoff. Absorb residue or small spills with absorbent material and remove to non-leaking containers for disposal. Recommended materials: Clay or Sand Flush area with water to remove trace residue. Dispose of recovered material as noted under Disposal Considerations. Notify appropriate environmental agency(ies).

7. HANDLING AND STORAGE

Handling: Avoid excessive heat, sparks, open flames and all other sources of ignition. Fixed equipment as well as transfer containers and equipment should be grounded to prevent accumulation of static charge. Vapours are heavier than air and will settle and collect in low areas and pits, displacing breathing air. Extinguish pilot lights, cigarettes and turn off other sources of ignition prior to use and until all vapours are gone. Vapours may accumulate and travel to distant ignition sources and flashback. Do not cut, drill, grind, weld or perform similar operations on or near containers. Empty containers are hazardous, may contain flammable/explosive dusts, residues or vapours. Do not pressurize drum containers to empty them. Wash with soap and water prior to eating, drinking, smoking, applying cosmetics or using toilet facilities. Launder contaminated clothing prior to reuse. Use good personal hygiene. Combustible.

Storage: Store in a cool, dry, well ventilated area, away from heat and ignition sources. Keep container tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

THE FOLLOWING INFORMATION, WHILE APPROPRIATE FOR THIS PRODUCT, IS GENERAL IN NATURE. THE SELECTION OF PERSONAL PROTECTIVE EQUIPMENT WILL VARY DEPENDING ON THE CONDITIONS OF USE.

OCCUPATIONAL EXPOSURE LIMITS (Current ACGIH TLV/TWA unless otherwise noted):

Kerosene/Jet fuels, as total hydrocarbon vapour (skin) : 200 mg/m3 (Application restricted to conditions in which there are negligible aerosol exposures.)
Skin Notation: Absorption through skin, eyes and mucous membranes may contribute significantly to the total exposure.

Mechanical Ventilation: Use explosion-proof ventilation as required to control vapour concentrations. Concentrations in air should be maintained below the recommended threshold limit value if unprotected personnel are involved. Local ventilation recommended where mechanical ventilation is ineffective in controlling airborne concentrations below the recommended occupational exposure limit. Make up air should always be supplied to balance air exhausted (either generally or locally). For personnel entry into confined spaces (i.e. bulk storage tanks) a proper confined space entry procedure must be followed including ventilation and testing of tank atmosphere.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes. Provide an eyewash station in the area.

Skin Protection: Avoid contact with skin. Use protective clothing and gloves manufactured from nitrile. Safety showers should be available for emergency use.

Respiratory Protection: Avoid breathing vapour or mists. If exposure has the potential to exceed occupational exposure limits, use an appropriate NIOSH-approved respirator. Use a NIOSH-approved chemical cartridge respirator with organic vapour cartridges or use a NIOSH-approved supplied-air respirator.

9. PHYSICAL DATA

Physical State:	Liquid
Appearance:	Bright Clear
Odour:	Hydrocarbon Odour
Odour Threshold:	Not available
Freezing/Pour Point:	Freeze Point < -47 °C
Boiling Point:	145 - 300 °C
Density:	775 - 840 kg/m3 @ 15 °C
Vapour Density (Air = 1):	Not available
Vapour Pressure (absolute):	1 - 1.4 kPa @ 37.8 °C
pH:	Not available
Flash Point:	Tag Closed Cup > 43 °C
Lower Explosion Limit:	0.7 % (vol.)
Upper Explosion Limit:	5 % (vol.)
Autoignition Temperature:	210 °C
Viscosity:	< 8 cSt @ -20 °C
Evaporation Rate (n-BuAc = 1):	Not available
Partition Coefficient (log K_{OW}):	3.3 - 6
Water Solubility:	Insoluble
Other Solvents:	Hydrocarbon Solvents

10. STABILITY AND REACTIVITY

Chemically Stable:	Yes
Hazardous Polymerization:	No
Sensitive to Mechanical Impact:	No
Sensitive to Static Discharge:	Yes
Hazardous Decomposition Products:	Thermal decomposition products are highly dependent on combustion conditions.
Incompatible Materials:	Avoid strong oxidizing agents.

Conditions of Reactivity: Avoid excessive heat, open flames and all ignition sources.

11. TOXICOLOGICAL INFORMATION

Ingredient (or Product if not specified)	Toxicological Data
Kerosene (Petroleum), Hydrodesulfurized	LD50 Dermal Rabbit > 2000 mg/kg LD50 Oral Rat > 5000 mg/kg

Routes of Exposure: Exposure will most likely occur through skin contact or inhalation.

Irritancy: This product is expected to be irritating to skin but is not predicted to be a skin sensitizer.

Chronic Effects: Prolonged and repeated contact with skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis. Prolonged exposure to high vapour concentration can cause headache, dizziness, nausea, blurred vision and central nervous system depression.

Pre-existing Conditions: Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product.

Carcinogenicity and Mutagenicity: The International Agency for Research on Cancer (IARC) considers that this product is not classifiable as to its carcinogenicity to humans. Middle distillates have caused skin cancers in laboratory animals when applied repeatedly and left in place between applications. This effect is believed to be caused by the continuous irritation of the skin. Good personal hygiene should be maintained to avoid this risk.

12. ECOLOGICAL INFORMATION

Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams, or public waterways. Block off drains and ditches. Provincial regulations require and federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities. May cause physical fouling of aquatic organisms.

Biodegradability: Not readily biodegradable.
Rapid volatilization.

Bioaccumulation: Potential for bioaccumulation.

Partition Coefficient (log K_{ow}): 3.3 - 6

Aquatic Toxicity

Product is expected to be toxic to aquatic organisms.

Ingredient:	Toxicological Data
Kerosene (Petroleum), Hydrodesulfurized	EL50 - growth rate (WAF method) Algae (72hr) 1 - 10 mg/L. EL50 (WAF method) Daphnia Magna (48hr) 1 - 10 mg/L. LL50 (WAF method) Rainbow Trout (96hr) 1 - 10 mg/L.

Definition(s): LL and EL are the lethal loading concentration and effective loading concentration respectively. The concentration represents the amount of substance added to the system to obtain a toxic concentration. They replace the traditional LC and EC for low solubility substances.
WAF is the water accommodated fraction. A slightly soluble hydrocarbon is stirred into water and the insoluble portions are removed. The remaining solution is the water accommodated fraction.

13. DISPOSAL CONSIDERATIONS

Waste management priorities (depending on volumes and concentration of waste) are: 1. recycle (reprocess), 2. energy recovery (cement kilns, thermal power generation), 3. incineration, 4. disposal at a licenced waste disposal facility. Do not attempt to combust waste on-site. Incinerate at a licenced waste disposal site with approval of environmental authority.

14. TRANSPORTATION INFORMATION

Canadian Road and Rail Shipping Classification:

UN Number	UN1863
Proper Shipping Name	FUEL, AVIATION, TURBINE ENGINE
Hazard Class	Class 3 Flammable Liquids
Packing Group	PG III
Additional Information	Not Regulated in Containers Less Than or Equal to 450 Litres.
Shipping Description	FUEL, AVIATION, TURBINE ENGINE Class 3 UN1863 PG III Not Regulated in Containers Less Than or Equal to 450 Litres.

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Class:	Class B3 Combustible Liquid Class D2B Other Toxic Effects - Skin Irritant
DSL/NDSL Status:	This product, or all components, are listed on the Domestic Substances List, as required under the Canadian Environmental Protection Act.
Other Regulatory Status:	No Canadian federal standards.

16. ADDITIONAL INFORMATION

LABEL STATEMENTS

Hazard Statement : Combustible Liquid.
Irritating to skin.

Handling Statement:

Eliminate all ignition sources.
Avoid prolonged exposure to vapours.
Wear suitable gloves and eye protection.
Bond and ground transfer containers and equipment to avoid static accumulation.
Empty containers are hazardous, may contain flammable / explosive dusts, liquid residue or vapours. Keep away from sparks and open flames.

First Aid Statement :

Wash contaminated skin with soap and water.
Flush eyes with water.
If overcome by vapours remove to fresh air.
Do not induce vomiting.
Obtain medical attention.

Revisions:

This MSDS has been reviewed and updated.
Changes have been made to:
Section 3
Section 4
Section 5
Section 7
Section 8
Section 9
Section 12
Section 14

PERTH
Tel (08) 9249 7599
Fax (08) 9249 7699
BRISBANE
Tel (07) 3271 5900
Fax (07) 3271 5907

Southern Exploration & Drilling Supplies

MELBOURNE
Tel (03) 9545 1277
Fax (03) 9545 1299
INTERNATIONAL
Tel +61 (8) 9249 7599
Fax +61 (8) 9249 7699

PO Box 148,
Kingsway WA 6065

Material Safety Data Sheet

Lubtac Rod Grease

HDD
MINING & WATERWELL

Down hole hammers & bits
Top hole hammer equipment

Diamond drilling
Three cone rotary drill bits
(TCI or Mill Tooth)
Geological supplies
Radio communications
Drag & blade bits
Drilling fluids
Drilling rigs - all types
Elgi air compressors
Augers, teeth,
ground engaging tools
Drill pipe & subs
Geotechnical drilling supplies
International procurement
Machinery parts & equipment

A Smith/Schlumberger Company

M-I Australia Pty Ltd, 11/251 Adelaide Tce, Perth, WA, 6000
Tel: 08 9325 4822 Fax: 08 9325 1897

ENVIRONMENTAL AND SAFETY DATA SHEET

1. PRODUCT IDENTIFICATION

TRADE NAME: **LUBTAC ROD GREASE**

GENERIC DESCRIPTION: **A MIXTURE OF INORGANIC INERT VISCOSIFIERS, TACKIFIERS, HYDROCARBON OILS AND VEGETABLE OILS.**

2. HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	%	DATA
NONE		

3. PHYSICAL DATA

BOILING POINT : **120 °C**

MELTING POINT : **NA**

FREEZING POINT : **< 0 °C**

pH : **7-8**

SPECIFIC GRAVITY : **0.99**

APPEARANCE AND : **DARK BROWN STRINGY GREASE**

4. FIRE AND EXPLOSION DATA

FLASH POINT °C: (AUTO IGNITION TEMPERATURE) **> 200 °C**

EXTINGUISING MEDIA : **USE EXTINGUISHER USED FOR EXTINGUISHING HYDROPHOBIC MATERIALS**

5. HEALTH HAZARD INFORMATION

ROUTES OF EXPOSURE AND EFFECTS

EYES : **MODERATE TO SEVERE IRRITATION**

INHALATION : **NO IRRITATING FUMES ARE PRODUCED AT NORMAL TEMPERTURES**

INGESTION : **MAY CAUSE NAUSEA**

SKIN : **MAY BE IRRITATING TO SENSITIVE SKINS ON PROLONGED EXPOSURE**

6. EMERGENCY AND FIRST AID PROCEDURES

EYES : **WIPE OUT WITH DRY CLOTH. USE EYE DROPS IF NECESSARY. OBTAIN MEDICAL ATTENTION IF NECESSARY**

INHALATION : **NO IRRITATING FUMES ARE PRODUCED AT NORMAL TEMPERATURES**

INGESTION : **WASH MOUTH WITH WATER. INDUCE VOMITING. OBTAIN MEDICAL ADVICE AS SOON AS POSSIBLE**

SKIN : **WASH WITH SOAPY WATER. IF DEGREASING OF SKIN HAS OCCURED, APPLY MOISTURISING CREAM**

7. REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY: **EXTREME HEAT**

INCOMPATABILITY: **NONE**

HAZARDOUS DECOMPOSITION PRODUCTS: **CAN PRODUCE HYDROCARBON DECOMPOSITION PRODUCT ON BURNING.**

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERISATION: **WILL NOT OCCUR**

8. SPILL OR LEAK PROCEDURES

CONTAIN SPILL. SCRAPE UP EXCESS PRODUCTS WITH A SPADE. THROW SAND OR WOOD SHAVINGS OVER CONTAMINATED AREA AND SCRAPE UP WITH ASPADE. CONTAMINATED WOOD SHAVINGS OR SAND CAN BE DISCARDED IN ANY RUBBISH STORAGE AREA.

9. INDUSTRIAL HYGEINE CONTROL MEASURES

VENTILATION: **NORMAL**

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY:		**NONE**
EYES	:	**NONE**
GLOVES	:	**YES**
OTHER	:	**CLOTHING PROTECTOR AS REQUIRED TO PROTECT CLOTHES FROM GREASE WHICH IS DIFFICULT TO REMOVE.**

10. SPECIAL PRECAUTIONS

NONE

11. OTHER HANDLING AND STORAGE REQUIREMENTS

NONE

MATERIAL SAFETY DATA SHEET
Revision Date: 06/04/2003

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: Tellus® Oil T 32
MSDS NUMBER: 60532E - 9
PRODUCT CODE(S): 65401

MANUFACTURER ADDRESS:SOPUS Products, P.O. Box 4453, Houston, TX. 77210-4453

TELEPHONE NUMBERS
Spill Information: (877) 242-7400
Health Information: (877) 504-9351
MSDS Assistance Number: (877) 276-7285

SECTION 2 PRODUCT/INGREDIENTS

CAS#	CONCENTRATION	INGREDIENTS
		Hydraulic Oil
Mixture	85 - 94.99 %weight	Highly refined petroleum oils
Proprietary	3 - 8.99 %weight	Proprietary additives (contains <1% zinc)

SECTION 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Appearance & Odor: Pale liquid. Mild odor.
Health Hazards: No known immediate health hazards. High-pressure injection under the skin may cause serious damage.
Physical Hazards: No known physical hazards.
NFPA Rating (Health, Fire, Reactivity): 0, 1, 0
Hazard Rating:Least - 0 Slight - 1 Moderate - 2 High - 3 Extreme - 4

Inhalation:
Inhalation of vapors (generated at high temperatures only) or oil mist may

cause mild irritation of the nose, throat, and respiratory tract.

Eye Irritation:
Lubricating oils are generally considered no more than minimally irritating to
the eyes.

Skin Contact:
May cause slight irritation of the skin. If irritation occurs, a temporary burning sensation and minor redness and/or swelling may result. Release of the material during high-pressure applications may result in injection under the skin causing possible extensive tissue damage which is difficult to heal.
Other adverse effects not expected from brief skin contact.

Ingestion:
Lubricating oils are generally no more than slightly toxic if swallowed.
Other Health Effects:
Material may release hydrogen sulfide (H2S), a highly toxic and extremely flammable gas, when heated to 180 Degrees F or higher. H2S can cause irritation of the eyes and respiratory tract, headache, dizziness, nausea, vomitting, diarrhea, and pulmonary edema. The odor ("rotten egg") threshold is 0.02 ppm. Do not depend on sense of smell for warning; H2S rapidly deadens the sense of smell.

Signs and Symptoms:
Irritation as noted above. Local necrosis is evidenced by delayed onset of pain and tissue damage a few hours following injection.

Aggravated Medical Conditions:
Pre-existing eye, skin and respiratory disorders may be aggravated by exposure
to this product.

For additional health information, refer to section 11.

SECTION 4 FIRST AID MEASURES

Inhalation:
If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting or unresponsive, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.

Skin:
Remove contaminated clothing and shoes and wipe excess from skin. Flush skin
with water, then wash with soap and water. If irritation occurs, get medical
attention. Do not reuse clothing until cleaned. If material is injected under the skin, transport to the nearest medical facility for additional

treatment. If redness, swelling, pain and/or blisters occur, transport to the
nearest medical facility for additional treatment.

Eye:
Flush with water. If irritation occurs, get medical attention.

Ingestion:
Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical attention. Have victim rinse mouth out with water, then drink sips of water to remove taste from mouth. If vomiting occurs spontaneously, keep head below hips to prevent
aspiration.

Note to Physician:
In general, emesis induction is unnecessary in high viscosity, low volatility
products such as oils and greases.

SECTION 5 FIRE FIGHTING MEASURES

Flash Point [Method]: >350 °F/>176.67 °C [Cleveland Open Cup]

Extinguishing Media:
Material will float and can be re-ignited on surface of water. Use water fog,
'alcohol foam', dry chemical or carbon dioxide (CO2) to extinguish flames. Do
not use a direct stream of water.

Fire Fighting Instructions:
Material will not burn unless preheated. Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots), including a positive pressure, NIOSH approved, self-contained breathing apparatus.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures:
May burn although not readily ignitable.

Wear appropriate personal protective equipment when cleaning up spills. Refer

to Section 8.

Spill Management:
FOR LARGE SPILLS: Remove with vacuum truck or pump to storage/salvage vessels.

FOR SMALL SPILLS: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and seal tightly for
proper disposal.

Place in container for proper disposal.

Reporting:
CERCLA: Product is covered by EPA's Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) petroleum exclusion. Releases to air,
land, or water are not reportable under CERCLA (Superfund).

CWA: This product is an oil as defined under Section 311 of EPA's Clean Water
Act (CWA). Spills into or leading to surface waters that cause a sheen must be
reported to the National Response Center, 1-800-424-8802.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures:
Wash with soap and water before eating, drinking, smoking, applying cosmetics,
or using toilet. Launder contaminated clothing before reuse. Properly dispose of contaminated leather articles such as shoes or belts that cannot be
decontaminated. Avoid heat, open flames, including pilot lights, and strong oxidizing agents. Use explosion-proof ventilation to prevent vapor accumulation. Ground all handling equipment to prevent sparking.

Material may release hydrogen sulfide (H2S), a highly toxic and extremely flammable gas, when heated to 180 Degrees F or higher. H2S may collect in the
headspace of the container.

Storage:
Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures.

Container Warnings:
Keep containers closed when not in use. Containers, even those that have been
emptied, can contain explosive vapors. Do not cut, drill, grind, weld or

perform similar operations on or near containers.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Oil mist, mineral	ACGIH TLV	TWA: 5 mg/m3	STEL: 10 mg/m3
Oil mist, mineral	OSHA PEL	TWA: 5 mg/m3	
Hydrogen sulfide	ACGIH - TLV	TWA: 10 ppmm	STEL: 15 ppmm
Hydrogen sulfide	OSHA - PEL_IS	TWA: 10 ppmm	STEL: 15 ppmm
Hydrogen sulfide	Elevated Temperatures	> 180 F.	

EXPOSURE CONTROLS
Adequate ventilation to control airborne concentrations below the exposure guidelines/limits.

PERSONAL PROTECTION
Personal protective equipment (PPE) selections vary based on potential exposure conditions such as handling practices, concentration and ventilation.
Information on the selection of eye, skin and respiratory protection for use
with this material is provided below.

Eye Protection:
Chemical Goggles, or Safety glasses with side shields

Skin Protection:
Use protective clothing which is chemically resistant to this material. Selection of protective clothing depends on potential exposure conditions and
may include gloves, boots, suits and other items. The selection(s) should take into account such factors as job task, type of exposure and durability requirements.

Published literature, test data and/or glove and clothing manufacturers indicate the best protection is provided by:
Neoprene, or Nitrile Rubber

Respiratory Protection:
If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, an approved respirator must be worn. Respirator selection, use and maintenance should be in accordance with
the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

Types of respirator(s) to be considered in the selection process include:
For Mist: Air Purifying, R or P style NIOSH approved respirator.
For Vapors: Air Purifying, R or P style prefilter & organic cartridge, NIOSH approved respirator. Self-contained breathing apparatus for use in

environments with unknown concentrations or emergency situations.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance & Odor: Pale liquid. Mild odor.
Substance Chemical Family: Lubricants
Appearance: Pale liquid.

Flash Point: > 350 °F [Cleveland Open Cup]

Odor: Mild odor.

Pour Point: -20 °F - -40 °F

Specific Gravity: 0.86 - 0.87

Viscosity: > 20 cSt @ 40 °C

SECTION 10 REACTIVITY AND STABILITY

Stability:
Material is stable under normal conditions.

Conditions to Avoid:
Avoid heat and open flames.

Materials to Avoid:
Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products:
Thermal decomposition products are highly dependent on combustion conditions.
A complex mixture of airborne solids, liquids and gases will evolve when this
material undergoes pyrolysis or combustion. Aldehydes, Carbon Monoxide, Carbon Dioxide, Hydrogen Sulfide, Ketones
and other unidentified organic compounds may be formed upon combustion.

SECTION 11 TOXICOLOGICAL INFORMATION

REPRODUCTIVE TOXICITY: Based on data to date it does not pose a reproductive risk.

CARCINOGENICITY:

Based on studies to date EK®35 is not known to be carcinogenic to humans

ACGIH (mists) - Based on available human studies, exposure to product mist alone has not demonstrated to cause human effects at levels below 5 mg/m^3.
IARC - IARC group 3; cannot be classified as to carcinogenicity to humans.
NTP - No studies were found.
IRIS - No studies were found.
OSHA - OSHA PEL (8 hour TWA) = 5 mg/m^3 for synthetic product mists.

SECTION XII -- ECOLOGICAL INFORMATION

The synthetic iso-alkane portion has the potential for degradation by hydroxyl radicals in the troposphere under the influence of sunlight, and by bacteria in soil water. Potential for food chain concentration is low. The acute oral toxicity toward acquatic organisms is none to low: LC50 (rainbow trout) >500,000 ppm in 96 hours; LC50 (Mysidopsis bahai) >500,000 ppm in 96 hours. Passed the EPS 1/RM/24 Microtox test luminescent bacteria.

When used and applied properly EK®35 is not known to pose any ecological problems.

SECTION XIII -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:

Consult your local authorities for regulations. Preferred waste management: recycle or reuse, incinerate with energy recovery, disposal in a licensed facility. Disposal facility should be compliant with state, local and federal government regulations.

SECTION XIV -- TRANSPORTATION INFORMATION

D.O.T. PROPER SHIPPING NAME (49CFR172.101):	None
HAZARDOUS SUBSTANCE (40CFR116):	N/A
REPORTABLE QUANTITY (RQ):	N/A
D.O.T. HAZARD CLASSIFICATION (49CFR172.101):	Non-regulated
D.O.T. PLACARDS REQUIRED:	None

MIDWEST INDUSTRIAL SUPPLY, INC.
P. O. BOX 8431
CANTON, OHIO 44711 U.S.A.

Emergency Phone Numbers: 330-456-3121

EK®35

Intense Use Continuous Life
Dust Control Agent

MATERIAL SAFETY DATA SHEET

POISON CONSTITUENT (49CFR173.343): N/A

BILL OF LADING DESCRIPTION: Dust suppressant

C NO.: N/A

UN/NA CODE: N/A

SECTION XV-- REGULATORY INFORMATION

EPA SARA Title III hazard class: None

OSHA HCS hazard class: Non-OSHA hazardous (29CFR1910.1200)

EPA SARA Title III Section 313 (40CFR372) Toxic Chemicals present in quantities greater than the "de minimus" level are: None

Canadian WHMIS: This product is not a "controlled product" under the Canadian Workplace Hazardous Material Information System (WHMIS)

Canadian DSL: All components of this product are listed on DSL (Domestic Substance List).

SECTION XVI -- OTHER INFORMATION

ABBREVIATIONS AND SYMBOLS:

N.D. - Not Determined
N.A. - Not Applicable
N.T. - Not Tested
< - LESS THAN
> - MORE THAN

MIDWEST INDUSTRIAL SUPPLY, INC.
P. O. BOX 8431
CANTON, OHIO 44711 U.S.A.

Emergency Phone Numbers: 330-456-3121

EK®35

Intense Use Continuous Life
Dust Control Agent

MATERIAL SAFETY DATA SHEET

Shell Canada Limited

Material Safety Data Sheet

Effective Date: 2002-11-06
Supersedes: 2002-08-14

Class B3 Combustible Liquid

Class D2B Other Toxic Effects - Skin Irritant

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT:	**LOW SUL. DIESEL FUEL MARKED CP -43 - GEN. ELECTRICITY**
SYNONYMS:	Diesel
	Automotive Gas Oil
PRODUCT USE:	Fuel Solvent
MSDS Number:	329-143

MANUFACTURER
Shell Canada Limited
P.O. Box 100, Station M
400-4th Ave. S.W.
Calgary, AB Canada
T2P 2H5

TELEPHONE NUMBERS

Shell Emergency Number	1-800-661-7378
CANUTEC 24 HOUR EMERGENCY NUMBER	613-996-6666
For general information:	1-800-661-1600
For MSDS information:	403-691-3982
(From 7:30 to 4:30 Mountain Time)	403-691-2220

This MSDS was prepared by the Toxicology and Product Stewardship Section of Shell Canada Limited.

*An asterisk in the product name designates a trade-mark(s) of Shell Canada Limited, used under license by Shell Canada Products.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS Number	% Range	WHMIS Controlled
Fuels, Diesel, No. 2	68476-34-6	>99	Yes

See Section 8 for Occupational Exposure Guidelines.

3. HAZARDS IDENTIFICATION

Physical Description: Liquid Red Colour Hydrocarbon Odour

Routes of Exposure: Exposure may occur via inhalation, ingestion, skin absorption and skin or eye contact.

Hazards:

Combustible Liquid.
Irritating to skin.
Vapours are moderately irritating to the eyes.
Vapours are moderately irritating to the respiratory passages. The liquid when accidently aspirated into the lungs can cause a severe inflammation of the lung.

Handling: Eliminate all ignition sources.
Avoid prolonged exposure to vapours.
Wear suitable gloves and eye protection.
Bond and ground transfer containers and equipment to avoid static accumulation.
Empty containers are hazardous, may contain flammable / explosive dusts, liquid residue or vapours. Keep away from sparks and open flames.

For further information on health effects, see Section 11.

4. FIRST AID

Eyes: Flush eyes with water for at least 15 minutes while holding eyelids open. If irritation occurs and persists, obtain medical attention.

Skin: Wash contaminated skin with mild soap and water for 15 minutes. If irritation occurs and persists, obtain medical attention.

Ingestion: DO NOT INDUCE VOMITING! OBTAIN MEDICAL ATTENTION IMMEDIATELY
Guard against aspiration into lungs by having the individual turn on to their left side. If vomiting occurs spontaneously keep head below hips to prevent aspiration of liquid into the lungs. Do not give anything by mouth to an unconscious person.

Inhalation: Remove victim from further exposure and restore breathing, if required. Obtain medical attention.

Notes to Physician: The main hazard following accidental ingestion is aspiration of the liquid into the lungs producing chemical pneumonitis. If more than 2.0 mL/kg has been ingested, vomiting should be induced with supervision. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before vomiting, gastric lavage with a cuffed endotracheal tube should be considered.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Dry Chemical
Carbon Dioxide
Foam
Water Fog

Firefighting Instructions: Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure. Caution - Combustible. Vapour forms a flammable/explosive mixture with air between upper and lower flammable limits. Vapours may travel along ground and flashback along vapour trail may occur. Do not use water except as a fog. Product will float and can be reignited on surface of water. Containers exposed to intense heat from fires should be cooled with water to prevent vapour pressure buildup which could result in container rupture. Do not enter confined fire space without adequate protective clothing and an approved positive pressure self-contained breathing apparatus.

Hazardous Combustion Products: A complex mixture of airborne solid, liquid, particulates and gases will evolve when this material undergoes pyrolysis or combustion. Carbon dioxide, carbon monoxide and unidentified organic compounds may be formed upon combustion.

6. ACCIDENTAL RELEASE MEASURES

Issue warning "Combustible". Eliminate all ignition sources. Isolate hazard area and restrict access. Handling equipment must be grounded. Try to work upwind of spill. Avoid direct contact with material. Wear appropriate breathing apparatus (if applicable) and protective clothing. Stop leak only if safe to do so. Dike and contain land spills; contain water spills by booming. Use water fog to knock down vapours; contain runoff. Absorb residue or small spills with absorbent material and remove to non-leaking containers for disposal. Recommended materials: Clay or Sand Flush area with water to remove trace residue. Dispose of recovered material as noted under Disposal Considerations. Notify appropriate environmental agency(ies).

7. HANDLING AND STORAGE

Handling: Combustible. Avoid excessive heat, sparks, open flames and all other sources of ignition. Fixed equipment as well as transfer containers and equipment should be grounded to prevent accumulation of static charge. Vapours are heavier than air and will settle and collect in low areas and pits, displacing breathing air. Extinguish pilot lights, cigarettes and turn off other sources of ignition prior to use and until all vapours are gone. Vapours may accumulate and travel to distant ignition sources and flashback. Do not cut, drill, grind, weld or perform similar operations on or near containers. Empty containers are hazardous, may contain flammable/explosive dusts, residues or vapours. Do not pressurize drum containers to empty them. Wash with soap and water prior to eating, drinking, smoking, applying cosmetics or using toilet facilities. Launder contaminated clothing prior to reuse. Use good personal hygiene.

Storage: Store in a cool, dry, well ventilated area, away from heat and ignition sources. Keep container tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

THE FOLLOWING INFORMATION, WHILE APPROPRIATE FOR THIS PRODUCT, IS GENERAL IN NATURE. THE SELECTION OF PERSONAL PROTECTIVE EQUIPMENT WILL VARY DEPENDING ON THE CONDITIONS OF USE.

OCCUPATIONAL EXPOSURE LIMITS (Current ACGIH TLV/TWA unless otherwise noted):

North American exposure limits have not been established for the product. Consult local authorities for acceptable provincial values.
Diesel fuel, as total hydrocarbons: 100 mg/m3

Mechanical Ventilation: Concentrations in air should be maintained below lower explosive limit at all times or below the recommended threshold limit value if unprotected personnel are involved. Make up air should always be supplied to balance air exhausted (either generally or locally). For personnel entry into confined spaces (i.e. bulk storage tanks) a proper confined space entry procedure must be followed including ventilation and testing of tank atmosphere.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection:	Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes. Provide an eyewash station in the area.
Skin Protection:	Impervious gloves (viton, nitrile) should be worn at all times when handling this material. In confined spaces or where the risk of skin exposure is much higher, impervious clothing should be worn. Safety showers should be available for emergency use.
Respiratory Protection:	If exposure exceeds occupational exposure limits, use an appropriate NIOSH-approved respirator. Use a NIOSH-approved chemical cartridge respirator with organic vapour cartridges or use a NIOSH-approved supplied-air respirator. For high airborne concentrations, use a NIOSH-approved supplied-air respirator, either self-contained or airline breathing apparatus, operated in positive pressure mode.

9. PHYSICAL DATA

Physical State:	Liquid
Appearance:	Red Colour
Odour:	Hydrocarbon Odour
Odour Threshold:	Not available
Freezing/Pour Point:	Varies with region and season
Boiling Point:	150 - 380 degrees C
Density:	<876 kg/m3 @15 degrees C
Vapour Density (Air = 1):	Not available
Vapour Pressure (absolute):	Not available
pH:	Not available
Flash Point:	Method Pensky-Martens CC >40 degrees C
Lower Explosion Limit:	1 % (vol.)
Upper Explosion Limit:	6 % (vol.)
Autoignition Temperature:	250 degrees C
Viscosity:	1.4 - 4.1 cSt @40 degrees C
Evaporation Rate (n-BuAc = 1):	Not available
Partition Coefficient (K_{ow}):	Not available
Water Solubility:	Insoluble

10. STABILITY AND REACTIVITY

Chemically Stable:	Yes
Hazardous Polymerization:	No
Sensitive to Mechanical Impact:	No
Sensitive to Static Discharge:	Yes
Hazardous Decomposition Products:	Thermal decomposition products are highly dependent on combustion conditions.
Incompatible Materials:	Avoid strong oxidizing agents.
Conditions of Reactivity:	Avoid excessive heat, open flames and all ignition sources.

11. TOXICOLOGICAL INFORMATION

Ingredient (or Product if not specified) **Toxicological Data**

Fuels, Diesel, No. 2	LD50 Oral Rat >5000 mg/kg LD50 Dermal Rabbit >2000 mg/kg

Routes of Exposure: Exposure may occur via inhalation, ingestion, skin absorption and skin or eye contact.

Irritancy: This product is expected to be irritating to skin but is not predicted to be a skin sensitizer.

Chronic Effects: Prolonged and repeated contact with skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis. Prolonged exposure to high vapour concentration can cause headache, dizziness, nausea, blurred vision and central nervous system depression.

Pre-existing Conditions: Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product.

Carcinogenicity and Mutagenicity: The International Agency for Research on Cancer (IARC) considers that this product is not classifiable as to its carcinogenicity to humans. Middle distillates have caused skin cancers in laboratory animals when applied repeatedly and left in place between applications. This effect is believed to be caused by the continuous irritation of the skin. Good personal hygiene should be maintained to avoid this risk. The American Conference of Governmental Industrial Hygienists (ACGIH) has classified this product as A3 - confirmed animal carcinogen with unknown relevance to humans.

12. ECOLOGICAL INFORMATION

Environmental Effects: Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams, or public waterways. Block off drains and ditches. Provincial regulations require and federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities. May cause physical fouling of aquatic organisms.

Biodegradability: Not readily biodegradable. Potential for bioaccumulation.

13. DISPOSAL CONSIDERATIONS

Waste management priorities (depending on volumes and concentration of waste) are: 1. recycle (reprocess), 2. energy recovery (cement kilns, thermal power generation), 3. incineration, 4. disposal at a licenced waste disposal facility. Do not attempt to combust waste on-site. Incinerate at a licenced waste disposal site with approval of environmental authority.

14. TRANSPORTATION INFORMATION

Canadian Road and Rail Shipping Classification:

UN Number	UN1202
Proper Shipping Name	DIESEL FUEL
Hazard Class	Class 3 Flammable Liquids
Packing Group	PG III
Shipping Description	DIESEL FUEL Class 3 UN1202 PG III

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Class:	Class B3 Combustible Liquid Class D2B Other Toxic Effects - Skin Irritant
DSL/NDSL Status:	This product, or all components, are listed on the Domestic Substances List, as required under the Canadian Environmental Protection Act. This product and/or all components are listed on the U.S. EPA TSCA Inventory.
Other Regulatory Status:	No Canadian federal standards.

16. ADDITIONAL INFORMATION

LABEL STATEMENTS

Hazard Statement :	Combustible Liquid. Irritating to skin.
Handling Statement:	Eliminate all ignition sources. Avoid prolonged exposure to vapours. Wear suitable gloves and eye protection. Bond and ground transfer containers and equipment to avoid static accumulation. Empty containers are hazardous, may contain flammable / explosive dusts, liquid residue or vapours. Keep away from sparks and open flames.
First Aid Statement :	Wash contaminated skin with soap and water. Flush eyes with water. If overcome by vapours remove to fresh air. Do not induce vomiting. Obtain medical attention.
Revisions:	This MSDS has been reviewed and updated. Changes have been made to: Section 8 Section 14 Section 11

HALLIBURTON

MATERIAL SAFETY DATA SHEET

Product Trade Name: **EZ-MUD®**

Revision Date: 16-Feb-2004

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name: EZ-MUD®
Synonyms: None
Chemical Family: Blend
Application: Shale Inhibitor

Manufacturer/Supplier

Baroid Drilling Fluids
a Product Service Line of Halliburton Energy Services, Inc.
P.O. Box 1675
Houston, TX 77251
Telephone: (281) 871-4000
Emergency Telephone: (800) 666-9260 or (713) 753-3000

Prepared By

Chemical Compliance
Telephone: 1-580-251-4335

2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE	CAS Number	PERCENT	ACGIH TLV-TWA	OSHA PEL-TWA
Hydrotreated light petroleum distillate	64742-47-8	10 - 30%	200 mg/m^3	Not applicable

3. HAZARDS IDENTIFICATION

Hazard Overview

May cause eye, skin, and respiratory irritation. May cause headache, dizziness, and other central nervous system effects. May be harmful if swallowed.

4. FIRST AID MEASURES

Inhalation

If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.

Skin

Wash with soap and water. Get medical attention if irritation persists. Remove contaminated shoes and discard.

Eyes

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

Ingestion

Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration.

Notes to Physician

Not Applicable

5. FIRE FIGHTING MEASURES

Flash Point/Range (F):	> 200**Min:** > 200
Flash Point/Range (C):	Not Determined**Min:** > 93
Flash Point Method:	PMCC
Autoignition Temperature (F):	> 392
Autoignition Temperature (C):	> 200
Flammability Limits in Air - Lower (%):	Not Determined
Flammability Limits in Air - Upper (%):	Not Determined

Fire Extinguishing Media Water fog, carbon dioxide, foam, dry chemical.

Special Exposure Hazards Decomposition in fire may produce toxic gases. Use water spray to cool fire exposed surfaces.

Special Protective Equipment for Fire-Fighters Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

NFPA Ratings: Health 2, Flammability 1, Reactivity 0
HMIS Ratings: Flammability 1, Reactivity 0, Health 2

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures Use appropriate protective equipment.

Environmental Precautionary Measures Prevent from entering sewers, waterways, or low areas.

Procedure for Cleaning / Absorption Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

7. HANDLING AND STORAGE

Handling Precautions Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Launder contaminated clothing before reuse.

Storage Information Store away from oxidizers. Keep container closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls A well ventilated area to control dust levels. Local exhaust ventilation should be used in areas without good cross ventilation.

Respiratory Protection Organic vapor respirator with a dust/mist filter. In high concentrations, supplied air respirator or a self-contained breathing apparatus.

Hand Protection Impervious rubber gloves.

Skin Protection Rubber apron.

Eye Protection Chemical goggles; also wear a face shield if splashing hazard exists.

Other Precautions Eyewash fountains and safety showers must be easily accessible.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	White to gray
Odor:	Mild hydrocarbon
pH:	6-8

Specific Gravity @ 20 C (Water=1):	1.0
Density @ 20 C (lbs./gallon):	8.3
Bulk Density @ 20 C (lbs/ft3):	Not Determined
Boiling Point/Range (F):	347
Boiling Point/Range (C):	175
Freezing Point/Range (F):	Not Determined
Freezing Point/Range (C):	Not Determined
Vapor Pressure @ 20 C (mmHg):	0.002
Vapor Density (Air=1):	Not Determined
Percent Volatiles:	70
Evaporation Rate (Butyl Acetate=1):	< 1
Solubility in Water (g/100ml):	Partially soluble
Solubility in Solvents (g/100ml):	Not Determined
VOCs (lbs./gallon):	Not Determined
Viscosity, Dynamic @ 20 C (centipoise):	Not Determined
Viscosity, Kinematic @ 20 C (centistrokes):	Not Determined
Partition Coefficient/n-Octanol/Water:	Not Determined
Molecular Weight (g/mole):	Not Determined

10. STABILITY AND REACTIVITY

Stability Data:	Stable
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid	Keep away from heat, sparks and flame.
Incompatibility (Materials to Avoid)	Strong oxidizers.
Hazardous Decomposition Products	Ammonia. Oxides of nitrogen. Carbon monoxide and carbon dioxide.
Additional Guidelines	Not Applicable

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye or skin contact, inhalation.
Inhalation	May cause respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.
Skin Contact	May cause skin irritation.
Eye Contact	May cause severe eye irritation.
Ingestion	Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal. May cause central nervous system depression including headache, dizziness, drowsiness, muscular weakness, incoordination, slowed reaction time, fatigue blurred vision, slurred speech, giddiness, tremors and convulsions.
Aggravated Medical Conditions	Lung disorders.
Chronic Effects/Carcinogenicity	No data available to indicate product or components present at greater than 1% are chronic health hazards.
Other Information	None known.
Toxicity Tests	

Oral Toxicity:	Not determined
Dermal Toxicity:	Not determined
Inhalation Toxicity:	Not determined
Primary Irritation Effect:	Not determined
Carcinogenicity	Not determined
Genotoxicity:	Not determined
Reproductive / Developmental Toxicity:	Not determined

12. ECOLOGICAL INFORMATION

Mobility (Water/Soil/Air)	Not determined
Persistence/Degradability	BOD(28 Day): 40% of COD
Bio-accumulation	Not Determined

Ecotoxicological Information

Acute Fish Toxicity:	TLM96: >1000 mg/l (Pimephales promelas)
Acute Crustaceans Toxicity:	TLM48: 98 mg/l (Acartia tonsa)
Acute Algae Toxicity:	EC50: 16.70 mg/l (Skeletonema costatum)
Chemical Fate Information	Not determined
Other Information	Not applicable

13. DISPOSAL CONSIDERATIONS

Disposal Method	Disposal should be made in accordance with federal, state, and local regulations.
Contaminated Packaging	If empty container retains product residues, all label precautions must be observed. Store away from ignition sources. Transport with all closures in place. Return for reuse or disposal according to national or local regulations.

14. TRANSPORT INFORMATION

Land Transportation

DOT
Not restricted

Canadian TDG
Not restricted

ADR Not restricted

Air Transportation

ICAO/IATA
Not restricted

Sea Transportation

IMDG
Not restricted

Other Shipping Information

Labels: None

15. REGULATORY INFORMATION

US Regulations

US TSCA Inventory	All components listed on inventory.
EPA SARA Title III Extremely Hazardous Substances	Not applicable
EPA SARA (311,312) Hazard Class	Acute Health Hazard
EPA SARA (313) Chemicals	This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).
EPA CERCLA/Superfund Reportable Spill Quantity For This Product	Not applicable.
EPA RCRA Hazardous Waste Classification	If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.
California Proposition 65	All components listed do not apply to the California Proposition 65 Regulation.
MA Right-to-Know Law	Does not apply.
NJ Right-to-Know Law	Does not apply.
PA Right-to-Know Law	Does not apply.

Canadian Regulations

Canadian DSL Inventory	All components listed on inventory.
WHMIS Hazard Class	D2B Toxic Materials

16. OTHER INFORMATION

The following sections have been revised since the last issue of this MSDS
Not applicable

Additional Information	For additional information on the use of this product, contact your local Halliburton representative. For questions about the Material Safety Data Sheet for this or other Halliburton products, contact Chemical Compliance at 1-580-251-4335.

Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

*****END OF MSDS*****

PRODUCT INFORMATION

DR – 133 POLYMER

THE DRILLING DEPOT

Description: DR-133 POLYMER is an advanced formula liquid polymer designed for a wide range of drilling applications.

Principal Use:

- Provides lifting capabilities in all hole depths.
- Maintains hole conditions in friable zones such as overburden, silts, sands and clay.
- Non-shearing formula provides excellent hole cleaning and stability.
- Superior lubricating qualities eliminate vibration while increasing core recovery.
- Encapsulating structure reduces swelling of clays and caving shales.

Mixing:

- Add 2 litres of DR-133 POLYMER per 250 gallons of water. Mix well.
- Then add 2 litres of W-OB POLYMER to the above volume while mixer is on.
- For troublesome hole conditions increase the above recommended quantities of both products.
- Always mix DR-133 POLYMER first before adding W-OB POLYMER.

Environment:

- Non-dangerous goods.

Packaging: 20 litre pails or 2 x 10 litre plastic jugs in a carton.

NOTE: See disclaimer for supplier responsibility

WESTCOAST DRILLING SUPPLIES
A Division of Diversity Technologies Corporation
8069 River Way, Delta British Columbia V4G 1L3 Canada
Telephone (604) 940-6050 · Fax (604) 940-6080 · Toll Free 1-800-665-6645
info@westcoastdrilling.com · www.westcoastdrilling.com

PRODUCT INFORMATION

W-OB POLYMER

THE DRILLING DEPOT

Description: W-OB POLYMER is a liquid ionic formulation, which forms a molecular bond with DR-133 POLYMER to develop superior drilling quantities of both products.

Principal Use:

- Fast boost viscosifier for DR-133 POLYMER.
- Develops tougher bond with DR-133 POLYMER, which results in greater core recovery and hole stability in sensitive formations.
- Increases lubricating quantities of DR-133 POLYMER.
- Molecular structure protects core in soft formations.

Mixing:

- Add 2 litres of W-OB POLYMER per 250 gallons of pre-mixed DR-133 POLYMER fluid.
- For sticky clays or unstable hole increase the above recommended quantity of W-OB POLYMER.
- Ensure DR-133 POLYMER is mixed well before adding W-OB POLYMER to the fluid.

Environment: Non-dangerous goods

Packaging: 20 litre pails or 2 x 10 litre, plastic jugs in a carton.

NOTE: See disclaimer for supplier responsibility

WESTCOAST DRILLING SUPPLIES
A Division of Diversity Technologies Corporation
8069 River Way, Delta British Columbia V4G 1L3 Canada
Telephone (604) 940-6050 · Fax (604) 940-6080 · Toll Free 1-800-665-6645
info@westcoastdrilling.com · www.westcoastdrilling.com

Shell Canada Limited

Material Safety Data Sheet

Effective Date: 2002-08-14
Supersedes: 2001-01-08

Class B2 Flammable Liquid

Class D2A Other Toxic Effects - Carcinogen

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT:	**REGULAR UNLEADED GASOLINE MARKED**
SYNONYMS:	Automotive Fuel Petrol
PRODUCT USE:	Fuel
MSDS Number:	215-002

MANUFACTURER
Shell Canada Limited
P.O. Box 100, Station M
400-4th Ave. S.W.
Calgary, AB Canada
T2P 2H5

TELEPHONE NUMBERS	
Shell Emergency Number	1-800-661-7378
CANUTEC 24 HOUR EMERGENCY NUMBER	613-996-6666
For general information:	1-800-661-1600
For MSDS information:	403-691-3982
(From 7:30 to 4:30 Mountain Time)	403-691-2220

This MSDS was prepared by the Toxicology and Product Stewardship Section of Shell Canada Limited.

*An asterisk in the product name designates a trade-mark(s) of Shell Canada Limited, used under license by Shell Canada Products.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS Number	% Range	WHMIS Controlled
Gasoline, Natural	8006-61-9	80 - 100	Yes
Benzene	71-43-2	<1.5	Yes

See Section 8 for Occupational Exposure Guidelines.

3. HAZARDS IDENTIFICATION

Physical Description: Liquid Dyed for tax purposes Typical Gasoline Odour

Routes of Exposure: Exposure may occur via inhalation, ingestion, skin absorption and skin or eye contact.

Hazards:

Flammable Liquid.
May cause cancer.
Vapours are moderately irritating to the eyes.
Ingestion may result in vomiting. Avoid aspiration of vomitus into lungs as small quantities may result in aspiration pneumonitis.
May be absorbed by skin contact. Prolonged immersion in liquid may lead to chemical burns.
Vapours are moderately irritating to the respiratory passages. The liquid when accidently aspirated into the lungs can cause a severe inflammation of the lung.
Excessive exposure to benzene may cause leukemia in man.

Handling:

Eliminate all ignition sources.
Wear suitable gloves and eye protection.
Bond and ground transfer containers and equipment to avoid static accumulation.
Avoid prolonged exposure to vapours.
Empty containers are hazardous, may contain flammable / explosive dusts, liquid residue or vapours. Keep away from sparks and open flames.

For further information on health effects, see Section 11.

4. FIRST AID

Eyes: Flush eyes with water for at least 15 minutes while holding eyelids open. If irritation occurs and persists, obtain medical attention.

Skin: Wash contaminated skin with mild soap and water for 15 minutes. If irritation occurs and persists, obtain medical attention.

Ingestion: DO NOT INDUCE VOMITING! OBTAIN MEDICAL ATTENTION IMMEDIATELY. Guard against aspiration into lungs by having the individual turn on to their left side. If vomiting occurs spontaneously keep head below hips to prevent aspiration of liquid into the lungs.

Inhalation: Remove victim from further exposure and restore breathing, if required. Obtain medical attention.

Notes to Physician: The main hazard following accidental ingestion is aspiration of the liquid into the lungs producing chemical pneumonitis. If more than 2.0 mL/kg has been ingested, vomiting should be induced with supervision. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before vomiting, gastric lavage with a cuffed endotracheal tube should be considered.

5. FIRE FIGHTING MEASURES

Extinguishing Media:

Dry Chemical
Carbon Dioxide
Foam
Water Fog

Firefighting Instructions:	Extremely flammable. Vapour forms a flammable/explosive mixture with air between upper and lower flammable limits. Vapours may travel along ground and flashback along vapour trail may occur. Do not use water except as a fog. Product will float and can be reignited on surface of water. Containers exposed to intense heat from fires should be cooled with water to prevent vapour pressure buildup which could result in container rupture. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure. Do not enter confined fire space without adequate protective clothing and an approved positive pressure self-contained breathing apparatus.
Hazardous Combustion Products:	Carbon dioxide, carbon monoxide and unidentified organic compounds may be formed upon combustion.

6. ACCIDENTAL RELEASE MEASURES

Issue warning "Flammable". Eliminate all ignition sources. Isolate hazard area and restrict access. Handling equipment must be grounded. Try to work upwind of spill. Avoid direct contact with material. Wear appropriate breathing apparatus (if applicable) and protective clothing. Stop leak only if safe to do so. Dike and contain land spills; contain water spills by booming. Use water fog to knock down vapours; contain runoff. Absorb residue or small spills with absorbent material and remove to non-leaking containers for disposal. Recommended materials: Clay or Sand Flush area with water to remove trace residue. Dispose of recovered material as noted under Disposal Considerations.

7. HANDLING AND STORAGE

Handling:	Extremely flammable. Fixed equipment as well as transfer containers and equipment should be grounded to prevent accumulation of static charge. Avoid all direct contact with this material. Avoid prolonged or repeated inhalation of vapours. Vapours may accumulate and travel to distant ignition sources and flashback. Do not cut, drill, grind, weld or perform similar operations on or near containers. Never siphon by mouth. Empty containers are hazardous, may contain flammable/explosive dusts, residues or vapours. Launder contaminated clothing prior to reuse. Wash with soap and water prior to eating, drinking, smoking, applying cosmetics or using toilet facilities.
Storage:	Store in a cool, dry, well ventilated area, away from heat and ignition sources. Protect against physical damage to containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

THE FOLLOWING INFORMATION, WHILE APPROPRIATE FOR THIS PRODUCT, IS GENERAL IN NATURE. THE SELECTION OF PERSONAL PROTECTIVE EQUIPMENT WILL VARY DEPENDING ON THE CONDITIONS OF USE.

OCCUPATIONAL EXPOSURE LIMITS (Current ACGIH TLV/TWA unless otherwise noted):

Gasoline: 300 ppm (STEL: 500 ppm)
Benzene (skin) : 0.5 ppm (STEL: 2.5 ppm)
Skin Notation: The occupational exposure limit is based on the fact that skin and/or eye is a major route of exposure through absorption.

Baffinland

ATTACHMENT 1

MATERIAL SAFETY DATA SHEETS

Shell Canada Limited

Material Safety Data Sheet

Effective Date: 2002-08-14
Supersedes: 2001-03-09

Class B2 Flammable Liquid

Class D2B Other Toxic Effects - Skin Irritant

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT:	**SHELL AVGAS 100 LL**
SYNONYMS:	AVIATION GASOLINE
PRODUCT USE:	Fuel
MSDS Number:	101-200

MANUFACTURER
Shell Canada Limited
P.O. Box 100, Station M
400-4th Ave. S.W.
Calgary, AB Canada
T2P 2H5

TELEPHONE NUMBERS

Shell Emergency Number	1-800-661-7378
CANUTEC 24 HOUR EMERGENCY NUMBER	613-996-6666
For general information:	1-800-661-1600
For MSDS information:	403-691-3982
(From 7:30 to 4:30 Mountain Time)	403-691-2220

This MSDS was prepared by the Toxicology and Product Stewardship Section of Shell Canada Limited.

*An asterisk in the product name designates a trade-mark(s) of Shell Canada Limited, used under license by Shell Canada Products.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component Name	CAS Number	% Range	WHMIS Controlled
Naphtha (Petroleum), Light Alkylate	64741-66-8	70 - 90	Yes
Toluene	108-88-3	10 - 30	Yes

See Section 8 for Occupational Exposure Guidelines.

3. HAZARDS IDENTIFICATION

Physical Description: Liquid Blue Colour Clear Typical Gasoline Odour

Routes of Exposure: Exposure may occur via inhalation, ingestion, skin absorption and skin or eye contact.

Hazards:

	Flammable Liquid. Irritating to skin. Vapours are moderately irritating to the eyes. Vapours are moderately irritating to the respiratory passages. The liquid when accidently aspirated into the lungs can cause a severe inflammation of the lung.
Handling:	Eliminate all ignition sources. Wear suitable gloves and eye protection. Bond and ground transfer containers and equipment to avoid static accumulation. Avoid prolonged exposure to vapours. Empty containers are hazardous, may contain flammable / explosive dusts, liquid residue or vapours. Keep away from sparks and open flames.

For further information on health effects, see Section 11.

4. FIRST AID

Eyes:	Flush eyes with water for at least 15 minutes while holding eyelids open. If irritation occurs and persists, obtain medical attention.
Skin:	Wash contaminated skin with mild soap and water for 15 minutes. If irritation occurs and persists, obtain medical attention.
Ingestion:	Do not induce vomiting. Guard against aspiration into lungs by having the individual turn on to their left side. If vomiting occurs spontaneously keep head below hips to prevent aspiration of liquid into the lungs. Do not give anything by mouth to an unconscious person. Obtain medical attention immediately.
Inhalation:	Remove victim from further exposure and restore breathing, if required. Obtain medical attention.
Notes to Physician:	The main hazard following accidental ingestion is aspiration of the liquid into the lungs producing chemical pneumonitis. If more than 2.0 mL/kg has been ingested, vomiting should be induced with supervision. If symptoms such as loss of gag reflex, convulsions or unconsciousness occur before vomiting, gastric lavage with a cuffed endotracheal tube should be considered.

5. FIRE FIGHTING MEASURES

Extinguishing Media:	Dry Chemical Carbon Dioxide Foam Water Fog
Firefighting Instructions:	Extremely flammable. Vapour forms a flammable/explosive mixture with air between upper and lower flammable limits. Vapours may travel along ground and flashback along vapour trail may occur. Product will float and can be reignited on surface of water. Do not use water except as a fog. Use water to cool fire exposed containers. Containers exposed to intense heat from fires should be cooled with water to prevent vapour pressure buildup which could result in container rupture. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure. Always stay away from ends of containers due to explosive potential. Fight fire from maximum distance. Do not enter confined fire space without adequate protective clothing and an approved positive pressure self-contained breathing apparatus. Flashback may occur along vapour trail.

Hazardous Combustion Products: Carbon dioxide, carbon monoxide and unidentified organic compounds may be formed upon combustion.

6. ACCIDENTAL RELEASE MEASURES

Issue warning "Flammable". Eliminate all ignition sources. Isolate hazard area and restrict access. Handling equipment must be grounded. Try to work upwind of spill. Avoid direct contact with material. Saturated clothing should be immediately removed to avoid flammability hazard. Wear appropriate breathing apparatus (if applicable) and protective clothing. Stop leak only if safe to do so. Dike and contain land spills; contain water spills by booming. Use water fog to knock down vapours; contain runoff. Absorb residue or small spills with absorbent material and remove to non-leaking containers for disposal. Recommended materials: Clay or Sand Spill area must be cleaned and restored to original condition or to the satisfaction of authorities. Dispose of recovered material as noted under Disposal Considerations. Explosion and fire is the most immediate problem. Notify appropriate environmental agency(ies).

7. HANDLING AND STORAGE

Handling: Extremely flammable. Avoid excessive heat, sparks, open flames and all other sources of ignition. Fixed equipment as well as transfer containers and equipment should be grounded to prevent accumulation of static charge. Vapours are heavier than air and will settle and collect in low areas and pits, displacing breathing air. Extinguish pilot lights, cigarettes and turn off other sources of ignition prior to use and until all vapours are gone. Vapours may accumulate and travel to distant ignition sources and flashback. Do not cut, drill, grind, weld or perform similar operations on or near containers. Empty containers are hazardous, may contain flammable/explosive dusts, residues or vapours. Never siphon by mouth. Do not use as a cleaning solvent. Wash with soap and water prior to eating, drinking, smoking, applying cosmetics or using toilet facilities. Launder contaminated clothing prior to reuse. Use good personal hygiene.

Storage: Use explosion-proof ventilation to prevent vapour accumulation. Keep container tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

THE FOLLOWING INFORMATION, WHILE APPROPRIATE FOR THIS PRODUCT, IS GENERAL IN NATURE. THE SELECTION OF PERSONAL PROTECTIVE EQUIPMENT WILL VARY DEPENDING ON THE CONDITIONS OF USE.

OCCUPATIONAL EXPOSURE LIMITS (Current ACGIH TLV/TWA unless otherwise noted):

Gasoline: 300 ppm (STEL: 500 ppm)
Toluene (skin): 50 ppm
Skin Notation: The occupational exposure limit is based on the fact that skin and/or eye is a major route of exposure through absorption.

Mechanical Ventilation:	Use explosion-proof ventilation as required to control vapour concentrations. Concentrations in air should be maintained below lower explosive limit at all times or below the recommended threshold limit value if unprotected personnel are involved. Make up air should always be supplied to balance air exhausted (either generally or locally). For personnel entry into confined spaces (i.e. bulk storage tanks) a proper confined space entry procedure must be followed including ventilation and testing of tank atmosphere.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection:	Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes. Provide an eyewash station in the area.
Skin Protection:	Impervious gloves (viton, polyvinyl alcohol) should be worn at all times when handling this product. In confined spaces or where the risk of skin exposure is much higher, impervious clothing should be worn. Safety showers should be available for emergency use.
Respiratory Protection:	If exposure exceeds occupational exposure limits, use an appropriate NIOSH-approved respirator. Use a NIOSH-approved chemical cartridge respirator with organic vapour cartridges or use a NIOSH-approved supplied-air respirator. For high airborne concentrations, use a NIOSH-approved supplied-air respirator, either self-contained or airline breathing apparatus, operated in positive pressure mode.

9. PHYSICAL DATA

Physical State:	Liquid
Appearance:	Blue Colour Clear
Odour:	Typical Gasoline Odour
Odour Threshold:	Not available
Freezing/Pour Point:	Freeze Point = -58 degrees C
Boiling Point:	75 - 170 degrees C
Density:	Not available
Vapour Density (Air = 1):	Not available
Vapour Pressure (absolute):	>285 mm Hg @ 38 degrees C
pH:	Not applicable
Flash Point:	Method Tag Closed Cup <1 degrees C
Lower Explosion Limit:	1.4 % (vol.)
Upper Explosion Limit:	7.6 % (vol.)
Autoignition Temperature:	Not available
Viscosity:	Not available
Evaporation Rate (n-BuAc = 1):	Not available
Partition Coefficient (K_{ow}):	Not available
Water Solubility:	Insoluble
Other Solvents:	Hydrocarbon Solvents

10. STABILITY AND REACTIVITY

Chemically Stable:	Yes
Hazardous Polymerization:	No
Sensitive to Mechanical Impact:	No
Sensitive to Static Discharge:	Yes
Incompatible Materials:	Avoid strong oxidizing agents.

Conditions of Reactivity: Avoid excessive heat, open flames and all ignition sources.

11. TOXICOLOGICAL INFORMATION

Ingredient (or Product if not specified)	Toxicological Data
Naphtha (Petroleum), Light Alkylate	LC50 Inhalation Rat >11000 mg/m3 for 4hours LD50 Dermal Rat >4000 mg/kg LD50 Oral Rat >8000 mg/kg
Toluene	LD50 Oral Rat = 5000 mg/kg LC50 Inhalation Rat = 8000 ppm for 4 hours LD50 Dermal Rabbit = 14000 mg/kg

Routes of Exposure: Exposure may occur via inhalation, ingestion, skin absorption and skin or eye contact.

Formulation: This product contains n-hexane.

Irritancy: This product is expected to be irritating to skin but is not predicted to be a skin sensitizer.

Chronic Effects: Prolonged and repeated contact with skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis. Prolonged or repeated exposure to high vapour concentration or ingestion can cause headache, nausea, dizziness, and central nervous system depression, and in rare cases may sensitize heart muscles causing heart arrythmia. Peripheral neurotoxicity has been reported in connection with over exposure to n-hexane. This product contains low levels of lead. Chronic, low grade exposure to lead compounds could lead to insomnia, anorexia, nausea and vomiting, diarrhea, anemia, sensory loss and muscular weakness.

Pre-existing Conditions: Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product.

12. ECOLOGICAL INFORMATION

Environmental Effects: Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams, or public waterways. Block off drains and ditches. Provincial regulations require and federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities. May be harmful to aquatic life. Fish Toxicity: 5 to 40 ppm | 96 hr TLm | Rainbow Trout | Freshwater

Biodegradability: Not available. Rapid volatilization.

13. DISPOSAL CONSIDERATIONS

Waste management priorities (depending on volumes and concentration of waste) are: 1. recycle (reprocess), 2. energy recovery (cement kilns, thermal power generation), 3. incineration, 4. disposal at a licenced waste disposal facility. Do not attempt to combust waste on-site. Incinerate at a licenced waste disposal site with approval of environmental authority.

14. TRANSPORTATION INFORMATION

Canadian Road and Rail Shipping Classification:

UN Number	UN1203
Proper Shipping Name	GASOLINE
Hazard Class	Class 3 Flammable Liquids
Packing Group	PG II
Additional Information	Marine Pollutant
Shipping Description	GASOLINE Class 3 UN1203 PG II Marine Pollutant

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Class:	Class B2 Flammable Liquid Class D2B Other Toxic Effects - Skin Irritant
DSL/NDSL Status:	This product, or all components, are listed on the Domestic Substances List, as required under the Canadian Environmental Protection Act.
Other Regulatory Status:	No Canadian federal standards.

16. ADDITIONAL INFORMATION

LABEL STATEMENTS

Hazard Statement :	Flammable Liquid. Irritating to skin.
Handling Statement:	Eliminate all ignition sources. Wear suitable gloves and eye protection. Bond and ground transfer containers and equipment to avoid static accumulation. Avoid prolonged exposure to vapours. Empty containers are hazardous, may contain flammable / explosive dusts, liquid residue or vapours. Keep away from sparks and open flames.
First Aid Statement :	Wash contaminated skin with soap and water. Flush eyes with water. If overcome by vapours remove to fresh air. Do not induce vomiting. Obtain medical attention.
Revisions:	This MSDS has been reviewed and updated. Changes have been made to: Section 14

General Chemical

Material Safety Data Sheet

CALCIUM CHLORIDE, FLAKE

A. GENERAL INFORMATION

TRADE NAME (COMMON NAME): FLAKE CALCIUM CHLORIDE		**CAS NUMBER:** 10043-52-4 (anhydrous)	
CHEMICAL NAME AND/OR SYNONYM: Calcium Chloride, Dihydrate			
FORMULA: $CaCl_2 \cdot 2H_2O$		**MOLECULAR WEIGHT:** 147.02	
MANUFACTURER/ADDRESS: GENERAL CHEMICAL INDUSTRAL PRODUCTS 90 East Halsey Road Parsippany, NJ 07054			
CONTACT: Manager, Product Safety	**PHONE NUMBER:** (973) 515-1840	**LAST ISSUE DATE:** September, 1994	**CURRENT ISSUE DATE:** March, 2004

B. FIRST AID MEASURES

EMERGENCY PHONE NUMBER: (800) 631-8050

EYES:	Flush promptly with plenty of water, continuing for at least 15 minutes. Get medical attention.
SKIN:	Wash with plenty of water.
INHALATION:	Remove to fresh air.
INGESTION:	If conscious, immediately give 2 to 4 glasses of water, and induce vomiting by touching finger to back of throat.
	Get medical attention for irritation, ingestion, or discomfort from inhalation.

C. HAZARDS INFORMATION

INHALATION:
Dust or mist inhalation may irritate nose, throat, and lungs.

INGESTION:
Low in toxicity. LD_{50} (rat): 1.4 g/kg.* - Reference (e)
May irritate gastrointestinal tract. *anhydrous basis.

SKIN:
May cause skin irritation. Under conditions of prolonged contact or when moisture is present, superficial burns may result. Contact with abraded skin or cuts can cause severe necrosis.

EYES:
May irritate or burn eyes.

PERMISSIBLE CONCENTRATION: AIR (SEE SECTION J) Also, no TLV established by ACGIH.	**BIOLOGICAL** None

UNUSUAL CHRONIC TOXICITY:
None.

C. HAZARDS (Cont.)

FLASH POINT: Not flammable OPEN CUP ☐ CLOSED CUP ☐	AUTO IGNITION TEMPERATURE NA	FLAMMABLE LIMITS IN AIR (% BY VOL.) LOWER - NA UPPER - NA

UNUSUAL FIRE AND EXPLOSION HAZARDS

See hazard of contact with zinc as in galvanized iron: Section G.

D. PRECAUTIONS/PROCEDURES

FIRE EXTINGUISHING AGENTS RECOMMENDED:
NA

FIRE EXTINGUISHING AGENTS TO AVOID:
NA

SPECIAL FIREFIGHTING PRECAUTIONS:
None.

VENTILATION:
Local exhaust: In packaging and uploading areas, over open processing equipment, and any other places where dusty or misty condition prevails.
Natural ventilation: Adequate for other areas.

NORMAL HANDLING:
Avoid contact with eyes, skin or clothing. Avoid breathing mist. Use good personal hygiene and housekeeping.

STORAGE:
Store in a cool, dry area. Prolonged storage may cause product to cake and become wet from atmospheric moisture.

SPILL OR LEAK (ALWAYS WEAR PERSONAL PROTECTIVE QUIPMENT – SECTION E)
Shovel up dry chemical and place in metal drum with a cover. Cautiously spray residue with plenty of water.

SPECIAL: PRECAUTIONS/PROCEDURES/LABEL INSTRUCTIONS:

SIGNAL WORD
WARNING!

E. PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION:
For dusty or misty condition, wear NIOSH-approved mist respirator.

EYES AND FACE:
For dusty or misty condition, or when handling solution where there is reasonable probability of eye contact, wear chemical safety goggles and hat. Under these conditions, do not wear contact lenses.

HANDS, ARMS, AND BODY:
As a minimum, wear long-sleeve shirt and trousers, boots, and gloves for routine product use.
Cotton gloves permitted for dry product, impervious gloves when using solutions.

OTHER CLOTHING AND EQUIPMENT:
Eye-wash facility.

F. PHYSICAL DATA

MATERIAL IS AT NORMAL CONDITIONS:	APPEARANCE AND COLOR:
LIQUID ☐ SOLID ☒ GAS ☐ ☐ _____	Small white flakes; odorless.

BOILING POINT: Unknown °C MELTING POINT: 176 °C	SPECIFIC GRAVITY: (H_2O = 1) 0.835 - Reference (b)	VAPOR DENSITY: (AIR =1) NA: water vapor only.
SOLUBILITY IN WATER: (% BY WEIGHT) 42 (anhydrous) @ 20°C	pH: Neutral or slightly alkaline - Reference (c).	VAPOR PRESSURE: (mm Hg @ 20°C) ☐ (PSIG) ☐ NA
EVAPORATION RATE: (Butyl acetate=1) ☐ (Ether = 1.0) ☐ NA	% VOLATILES BY VOLUME: (AT 20°C) NA	

G. REACTIVITY DATA

STABILITY:	CONDITIONS TO AVOID:
UNSTABLE ☐ STABLE ☒	NA

INCOMPATIBILITY (MATERIALS TO AVOID):
Sulfuric acid: yields hydrogen chloride gas, which is corrosive, irritating, and reactive. Water-reactive materials, such as sodium: cause an exothermic reaction. Methyl vinyl ether: starts runaway polymerization reaction – Reference (d). Zinc as in galvanized iron: yields hydrogen gas with solutions, which may explode under these conditions. – Reference (d).

HAZARDOUS DECOMPOSITION PRODUCTS:

None.

HAZARDOUS POLYMERIZATION:	CONDITIONS TO AVOID:
MAY OCCUR ☐ WILL NOT OCCUR ☒	NA

H. HAZARDOUS INGREDIENTS (MIXTURES ONLY)

MATERIAL OR COMPONENT/C.A.S. #	WT.%	HAZARD DATA (See Sect. J)
NA		

I. ENVIRONMENTAL

DEGRADABILITY/AQUATIC TOXICITY:	OCTANOL/WATER PARTITION COEFFICIENT NA
Aquatic Toxicity: TLm96: over 1000 ppm (anhydrous) – Reference (a).	

EPA HAZARDOUS SUBSTANCE? (CLEAN WATER ACT SECT. 311) YES ☐ NO ☒ IF SO, REPORTABLE QUANTITY:	40 CFR 116-117

WASTE DISPOSAL METHODS (DISPOSER MUST COMPLY WITH FEDERAL, STATE AND LOCAL DISPOSAL OR DISCHARGE LAWS):

Treatment or disposal of waste generated by use of this product should be reviewed in terms of applicable federal, state and local laws and regulations. Users are advised to consult with appropriate regulatory agencies before discharge, treatment or disposal.

RCRA STATUS OF UNUSED MATERIAL IF DISCARDERD: Not a "hazardous waste".	HAZARDOUS WASTE NUMBER: (IF APPLICABLE) --	40 CFR 261

J. REFERENCES

PERMISSIBLE CONCENTRATIONS REFERENCES:

None.

REGULATORY STANDARDS	DOT CLASSIFICATION: Not regulated	49 CFR 173

None.

GENERAL:

(a) NIOSH, Registry of Toxic Effects of Chemical Substances, 1979, Accession No. EV 98 00 000.
(b) Weast, R.C. editor, CRC Handbook of Chemistry and Physics, 60th Edition, 1979-80, CRC Press, Inc., Boca Raton 33431.
(c) Hawley, G.N., editor, Condensed Chemical Dictionary, 9th Edition, 1977, Van Nostrand Reinhold, NYC.
(d) Brethwick, L., Handbook of Reactive Chemical Hazards, 2nd Edition, 1979, Butterworths, Boston.
(e) General Chemical Industrial Products tests, unpublished. (A solution of 25 g/100 ml water was used).

K. ADDITIONAL INFORMATION

None.

GC-1002

MATERIAL SAFETY DATA SHEET

SECTION I: IDENTIFICATION OF PRODUCT

COMPANY: **Diversity Technologies Corp.**
8750 – 53rd Ave.
Edmonton, AB T6E 5G2

DATE: Apr. 27, 2004
PHONE: 780-468-4064
FAX: 780-469-1899

PRODUCT NAME: **POTASSIUM CHLORIDE (POTASH)**

PRODUCT USE: Oil well fluid additive
CHEMICAL FAMILY: Inorganic salt
CAS#: 7447-40-7

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

WHMIS CLASSIFICATION: Not WHMIS controlled.
WORKPLACE HAZARD: Treat as nuisance dust.

TRANSPORTATION OF DANGEROUS GOODS (TDG)

PROPER SHIPPING NAME: Not regulated under TDG
TDG CLASSIFICATION: Not applicable
UN NUMBER (PIN): Not applicable
PACKING GROUP: Not applicable

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	CAS NUMBER	LD_{50} Oral-Rat	LC_{50} Inhal-Rat	ACGIH-TLV

Contains no WHMIS controlled ingredients.

SECTION III: HEALTH HAZARDS

ROUTE OF ENTRY: [ ]EYE CONTACT [ ]SKIN [ ]INHALATION [ ]INGESTION
EYE CONTACT: May cause mechanical irritation.
SKIN CONTACT: Prolonged or repeated contact may cause dry skin.
INGESTION: Negligible risk. LD_{50} (oral-rat) = 2340 mg/kg.
INHALATION: High dust levels may cause upper respiratory tract irritation.
CARCINOGENICITY: No information available.
TERATOGENICITY: No information available.
REPRODUCTIVE TOXICITY: No information available.
MUTAGENICITY: No information available.

SYNERGISTIC PRODUCTS:	No information available.

SECTION IV: FIRST AID MEASURES

SKIN CONTACT:	Flush with water. Dry area thoroughly and apply skin cream or moisturizing cream. If irritation persists, obtain medical attention.
EYE CONTACT:	Flush with gently flowing warm water for 15 minutes while holding eyelids open. If irritation persists, obtain medical attention.
INGESTION:	Do not induce vomiting. If conscious, rinse out mouth and give 1 to 2 glasses of water to drink. If vomiting occurs keep head below hips to prevent aspiration of vomitus and readminister water. Obtain medical attention. Never give anything by mouth to an unconscious or convulsing victim.
INHALATION:	Move to fresh air. Apply oxygen or artificial respiration if required. If breathing difficulties, or distress, continue obtain medical attention.

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOUR:	White crystals; odourless	
SPECIFIC GRAVITY:	2.0	
BOILING POINT (°C):	1500 (sublimes)	
MELTING POINT (°C):	773	
SOLUBILITY IN WATER:	342 g/L @ 20°C	pH: 8-9 (5% sol'n)
PERCENT VOLATILE BY VOLUME:	0	
EVAPORATION RATE:	Not applicable	
VAPOUR PRESSURE (mmHg):	~0	
VAPOUR DENSITY (air = 1):	2.57	
BULK DENSITY:	Not available	

SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	Not flammable
FLAMMABLE LIMITS:	Not applicable
EXTINGUISHING MEDIA:	Use media suitable for surrounding materials and packaging.
SPECIAL FIRE FIGHTING PROCEDURES:	Self-contained breathing apparatus required for fire fighting personnel.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None known.

SECTION VII: REACTIVITY DATA

STABILITY:	STABLE [XX] UNSTABLE [ ]
INCOMPATIBILITY (CONDITIONS TO AVOID):	Incompatible with lithium and bromine trifluorides, strong acids and strong oxidizers.
CONDITIONS OF REACTIVITY:	Contact with incompatible materials.
HAZARDOUS DECOMPOSITION PRODUCTS:	Hydrogen chloride and fumes of Na_2O.
HAZARDOUS POLYMERIZATION:	WILL NOT OCCUR [XX] MAY OCCUR [ ]

SECTION VIII: PREVENTATIVE MEASURES

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:	Use NIOSH approved dust mask if TLV is exceeded. 8 hour OEL Nuisance Dust Total Mass = $10mg/m^3$.
VENTILATION:	Suggest local exhaust ventilation, if TLV's are exceeded.
PROTECTIVE GLOVES:	Suggest plastic or rubber.
EYE PROTECTION:	Safety glasses.
OTHER PROTECTIVE EQUIPMENT (Specify):	Ensure eyewash station and emergency shower are available.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Store in a cool, dry well-ventilated place away from incompatibles. Keep bags or fibre drums dry at all times. Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing.

STEPS TO BE TAKEN IN CASE THE MATERIAL IS SPILLED OR RELEASED

Collect by sweeping and scoop up or shovel. Collect uncontaminated material for repackaging. Collect contaminated material in an approved container for disposal. Keep out of sewers, storm drains, surface waters and soils.

WASTE DISPOSAL METHOD

Dispose in accordance with federal, provincial and local regulations. This product may be suitable for disposal in landfills; check with local operator. It is the responsibility of the end-user to determine if material meets the criteria of hazardous waste at the time of disposal. Dispose of all packaging in accordance with local regulations.

SECTION IX: PREPARATION

THE INFORMATION CONTAINED HEREIN IS GIVEN IN GOOD FAITH,
BUT NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE.

DATE ISSUED:	April 27, 2004	BY:	Product safety committee
SUPERSEDES:	June 6, 2002	PHONE:	780-440-4923

Diversity Technologies Corp. is the parent company of Canamara-United Supply, Hollimex Products, The Drilling Depot and Westcoast Drilling Supplies.

MIDWEST INDUSTRIAL SUPPLY, INC.
P. O. BOX 8431
CANTON, OHIO 44711 U.S.A.

Emergency Phone Numbers: 330-456-3121

EK®35

Intense Use Continuous Life
Dust Control Agent

MATERIAL SAFETY DATA SHEET

SECTION I -- IDENTIFICATION OF SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

TRADE NAME:	EK®35
CHEMICAL NAME:	INTENSE USE, CONTINUOUS LIFE DUST CONTROL AGENT
SYNONYMS:	DUST RETARDANT
CHEMICAL FAMILY:	N/A
MOLECULAR WEIGHT:	N/A
FORMULA:	N/A
CAS REGISTRY NO.:	PRODUCT A BLEND - NO NUMBER ASSIGNED

SECTION II -- COMPOSITION/INFORMATION ON INGREDIENTS

NAME	%	CAS REG. NO.
Severely hydrotreated, high viscosity synthetic iso-alkane	Trade secret	Non-hazardous
Proprietary ingredients	Trade secret	Non-hazardous

SECTION III -- HAZARDS IDENTIFICATION

Synthetic Product

May be irritating to breathing passages upon excessive heating, otherwise this product is essentially non-hazardous.
Mist 8 hour TLV-TWA = 5mg/m^3 (ACGIH)

SECTION IV -- FIRST AID MEASURES

EYES: Flush eyes with flowing water at least 15 minutes, get medical attention. Do not use any eye ointment. Remove contact lenses.

INHALATION: Move subject to fresh air. If victim is not breathing perform artificial respiration. Administer oxygen if available. Keep victim warn and at rest. Seek medical attention as soon as possible.

SKIN: Flush with large amount of water or wash with soap and water. Seek medical attention if irritation persists.

INGESTION: DO NOT induce vomiting because of aspiration into the lungs. EK®35 has a laxative effect and will be eliminated quickly. Seek medical attention.

NEVER GIVE FLUIDS OR INDUCE VOMITING IF PATIENT IS UNCONSCIOUS OR HAVING CONVULSIONS.

NOTE TO PHYSICIAN: Monitor respiratory distress. If cough or difficulty breathing develops,

evaluate for respiratory tract irritation, bronchitis or pneumonitis.

SECTION V -- FIRE FIGHTING MEASURES

FLAMMABILITY: Nonflammable, but will burn on prolonged exposure to flame or high temperature.

FLASH POINT (TEST METHOD): >284^{0}F (>140^{0}C), open cup, ASTM D92, Cleveland

AUTOIGNITION TEMPERATURE: >455^{0}F (235^{0}C)

UNUSUAL FIRE AND EXPLOSION HAZARDS: Do not cut, weld, heat of drill or pressurize empty container.

MATERIALS TO AVOID: Low fire hazard. Must be moderately heated before ignition will occur. Avoid contact with strong oxidizing agents, including peroxides, chlorine and strong acids.

PRODUCTS OF COMBUSTION: Carbon dioxide, carbon monoxide, smoke and irritating fumes as products of incomplete combustion.

EXTINGUISHING MEDIA AND INSTRUCTIONS:

If a tank, railcar of tank truck is involved in a fire isolate for 0.5 miles in all directions. Shut off fuel to fire if it is possible to do so without hazard. If this is impossible, withdraw from the area and let the fire burn itself out under controlled conditions. Withdraw immediately in case of rising sound from venting safety device or any discoloration of the tank due to fire. Cool containing vessels with water spray in order to prevent pressure build-up, autoignition or explosion.

SMALL FIRE: use dry chemicals, foam, CO_2.
LARGE FIRE: use water spray, fog of foam. For small outdoor fires portable extinguishers may be used and SCBA (self contained breathing apparatus) may not be required. For all indoor fires and any significant outdoor fires SCBA if required. Respiratory and eye protection are required for fire fighting personnel.

SECTION VI - ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES:

ELIMINATE ALL IGNITION SOURCES. Stop leak without risk and contain spill. Absorb with inert absorbent materials such as clay or sand. Place absorbent in closed metal containers for later disposal or burn in appropriate facility. Keep spills out of sewers and open bodies of water.

MIDWEST INDUSTRIAL SUPPLY, INC.
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EK®35

Intense Use Continuous Life
Dust Control Agent

MATERIAL SAFETY DATA SHEET

SECTION VII -- HANDLING AND STORAGE

STORAGE: Keep in a cool, dry, ventilated storage area and in closed containers. Keep away from sources of ignition and oxidizing materials.

HANDLING: KEEP AWAY FROM SOURCES OF IGNITION. Do not reuse empty containers. Practice good hygiene. Wash hands before eating. Launder clothes before reuse. Discard saturated leather goods.

SECTION VIII -- EXPOSURE CONTROL/PERSONAL PROTECTION

RESPIRATORY PROTECTION: None required if good ventilation is maintained. If mist is generated by heating or spraying use a NIOSH approved organic respirator with a mist filter.

VENTILATION: Under normal handling conditions special ventilation is not necessary. If operation generates mist or fumes use ventilation of keep exposure to airborne contaminants below exposure limits.

EYE PROTECTION: Chemical splash, goggles recommended.

PROTECTIVE CLOTHING: Clothing to minimize skin contact, long sleeves, boots or shoes. For casual

contact PVC gloves are suitable, for prolonged contact use neoprene

or

nitrile gloves.

SECTION IX -- PHYSICAL AND CHEMICAL PROPERTIES

BOILING/MELTING POINT @ 760 mm Hg: >493°F (>256^{0}C)

VAPOR PRESSURE mm Hg @ 20°C: negligible at ambient temperature

SPECIFIC GRAVITY OR BULK DENSITY: 0.85 -- 0.95

SOLUBILITY IN WATER: insoluble in water

APPEARANCE: viscous, brown colored liquid

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MATERIAL SAFETY DATA SHEET

ODOR:	none
POUR POINT:	<15^{0}F (<9^{0}C)
pH:	N/A, not an aqueous solution or emulsion
ACIDITY:	none
ALKILINITY:	none

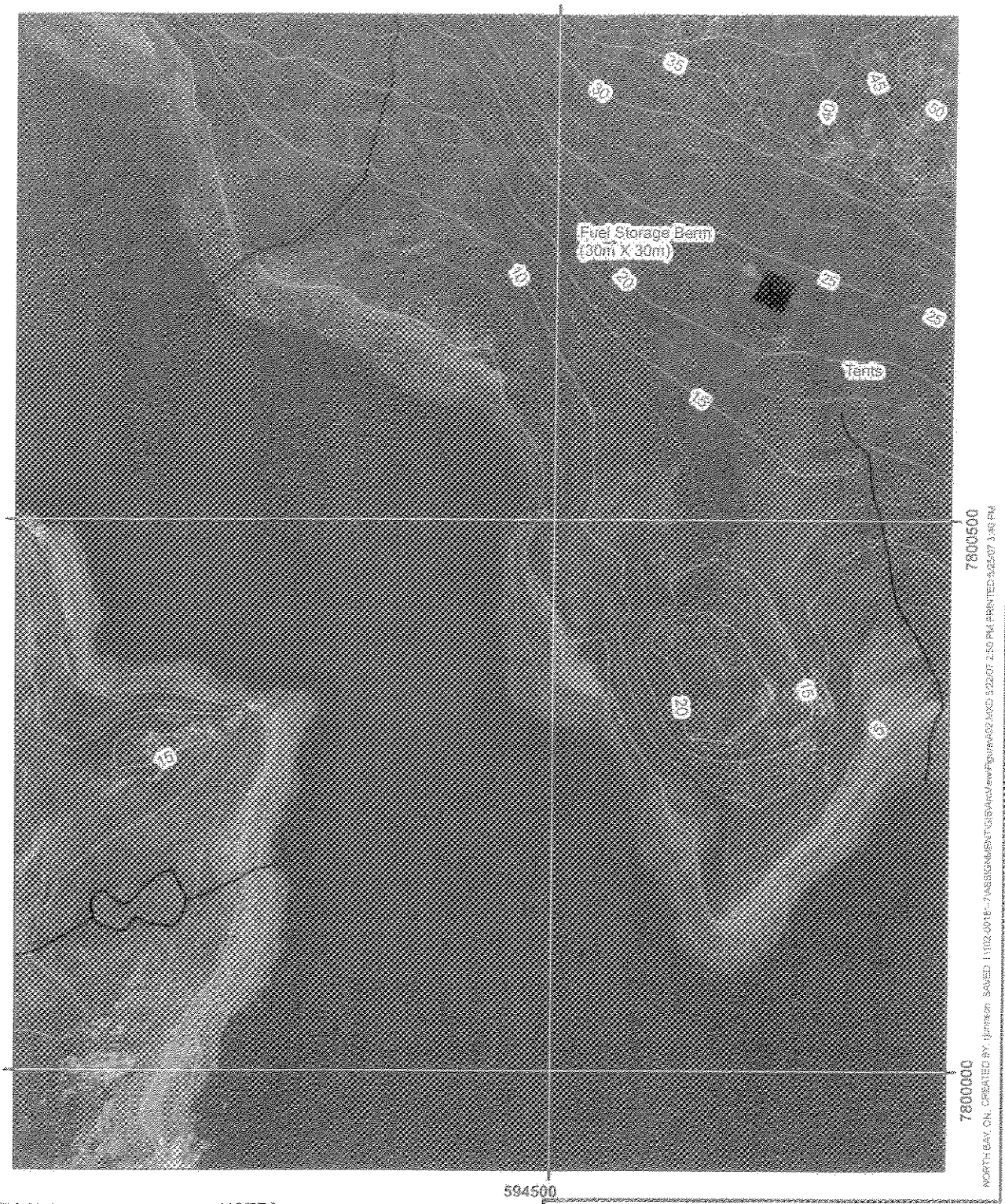
SECTION X – STABILITY AND REACTIVITY

STABILITY:	Stable under normal handling conditions. Stable stored at temperatures between – 40^0 F and + 180^0 F
CHEMICAL INCOMPATIBILITY:	Can react with strong organic oxidizing materials..
HAZARDOUS DECOMPOSITION PRODUCTS:	Thermal decomposition in the presence of air may yield carbon monoxide and/or carbon dioxide, smoke, hydrocarbons and irritating fumes.
HAZARDOUS POLYMERIZATION:	Does not occur under normal industrial conditions.
CONDITIONS TO AVOID:	Excessive heat and flame.
CORROSIVE TO METAL:	No

SECTION XI -- TOX ICOLOGICAL INFORMATION

EFFECTS OF OVEREXPOSURE

INHALATION:	Inhalation is highly unlikely. However prolonged or repeated inhalation of fumes or mists may cause irritation to the respiratory tract. Product deposits in lungs may lead to fibrosis and reduced pulmonary function.
SKIN:	It is not a skin irritant However prolonged or repeated contact may cause skin irritation, dermatitis or oil acne.
EYES:	Prolonged or repeated contact may be irritating to eyes. Will not cause permanent damage.
INGESTION:	Relatively non toxic to digestive tract.
MUTAGENIC:	Mutagenic activity test are negative toward: Salmonella Typhimurium, Salmonella-Eschrichia coli and Chinese Hamster ovary.



LEGEND:

- River
- Contour
- Fuel Storage Berm
- Tent

50 25 0 50 100 150 200
Meters

NOTES:

1. Mapping provided by Eagle Mapping.
2. Coordinate grid is shown in UTM (NAD83) Zone 17 West and is in metres.
3. Locations are approximate and have not been surveyed.

Baffinland

MARY RIVER PROJECT

STEENSBY CAMP

Knight Piésold CONSULTING

FILE NO.	REF.	REV.
NB102-00181/7	NB07-00472	0

FIGURE 3

PETROLEUM PRODUCTS, TRANSPORT AND STORAGE

The petroleum products required for project work on site will be transported by conventional sealift from Montreal to Pond Inlet for storage in the Government of Nunavut Petroleum Products Division facility.

Fixed wing aircraft transport the fuel drums to airstrips at either Mary River or Milne Inlet. Helicopters transport the drums from lined containments at Mary River or Milne Inlet to the drill sites.

The main fuel berms are lined with a 40 mil hypolon liner and sufficient fuel-spill kits are on site to deal with any anticipated spill.

Total petroleum product requirements onsite for a season should not exceed

- 10 drums gasoline
- 900 drums aviation fuel
- 900 drums diesel
- 150 Jet A
- 30 cylinders (100lb) propane

Petroleum storage areas at the camp and drill sites are visually inspected on a regular basis to check for leakage or damage to any of the containers. Spill kits (20 gal, 65 gal, 75 gal and 170 gal) are available on site, and used dependent upon the severity of the spill. See attached list for spill kit types and contents

All fuel is stored a minimum of 33 metres from any high water mark, and transfer of fuel from supply vehicles to tanks and from tanks to vehicular equipment is performed with the aid of fuel pumps. Material Safety Data Sheets (MSDS) for all fuels and chemicals are kept on site for reference, should they be required.

If any fuel products are required in other areas within the permit area appropriate amendments to the Land Use License will be applied for and fuel products will be stored and handled at the specific site in accordance with applicable Land Use Permit conditions.

SPILL RISK ASSESSMENT

Potential sources of petroleum product spills could involve the following:

1. Leaking or ruptured fuel drums.
2. Fuel transfer operations between storage drums, and mobile equipment including aircraft. This could include broken supply pipes, hoses, and associated valves during fuel transfer operations.
3. Aircraft, 4x4 vehicles or equipment involved in accidents.
4. Leaks and drips from machinery, pumps, motors, and other equipment

The potential for spills to occur directly on a watercourse is low at project sites because fuel storage and transfer points are located away from watercourses.

BAFFINLAND RESPONSE ORGANISATION AND REPORTING

RESPONSE CONTACT	NAME & COMPANY
On-site Co-Coordinator	**Roland Landry** Site Tel: 88 163 146 6078 or 416-619-0538 Office Tel 416-814-3160
On-site Co-Coordinator (alternates)	**Jeff Bush or Kevin Mealey** Site Tel: 88 163 146 6078 or 416-619-0538
Operations Manager	**Al Gorman** Office Tel: 416-814-3164 or Cell: 416-818-9913 **Dave McCann (alternate)** Cell: 416-616-8860
Corporate Contact – Vice President, Sustainable Development	**Derek Chubb** Office Tel: 416-814-3171 or Cell: 416-844-0903
Project Personnel	There are at least 20 people on-site to aid in any spill response activities

The responsibilities of the <u>On-Site Co-ordinator</u> include the following:

- ⇒ Assume authority over the spill scene and personnel involved.
- ⇒ Activate the REACT Response Plan.
- ⇒ Evaluate the initial situation and assesses the magnitude of the spill.
- ⇒ Develop an overall plan of action.
- ⇒ Report to the Project Manager and provide recommendations on resource requirements (additional manpower, equipment, material, etc.) to complete the cleanup effort. The responsibility of the co-ordinator is to mobilise personnel and equipment to implement the cleanup.

The Responsibilities of the <u>Operations Manager</u> include the following:

- ⇒ Report the spill to NWT 24-hour Spill Report Line at (867) 920-8130 and DIAND Water Resources Inspector at (867) 975-4289 and Baffinland's Vice President Operations at (416) 364-8820, ext 34 or cell (416) 722-5660.
- ⇒ Provide liaison with Management to keep them informed of cleanup activities.
- ⇒ Obtain additional required resources not available on-site for spill response and cleanup.
- ⇒ Act as the spokesperson with government agencies as well as the public and the media as appropriate.
- ⇒ Document the cause of the spill and effectiveness of the cleanup effort, and implement the appropriate measures to prevent a recurrence of the spill.
- ⇒ Prepare and submit follow-up documentation required by appropriate regulators.
- ⇒ Ensure that the spill is cleaned up and all follow-up communication and reports are filed with the DIAND Water Resources and Environment Canada offices.

The Responsibilities of the <u>Corporation Contact</u> include the following:

- ⇒ Work with the Operations Manager on regulatory follow-up as necessary.
- ⇒ Act as the spokesperson with government agencies as well as the public and the media on any significant spill events.

ACTION PLAN

The following actions have been incorporated to minimise the potential for spills to occur during fuel handling, transfer, or storage operations:

- ⇒ Immediately cleanup minor spills.
- ⇒ Conduct regular inspections of fuel barrel storage areas and hoses for evidence of leaks.
- ⇒ Use impermeable liners at all petroleum transfer sites and under stationary machinery.
- ⇒ Train/retrain personnel (including yourself) in proper fuel handling and spill response procedures. There is no problem with accepting that you are unsure of what to do. Call for help to deal with any incident.

As stated in the Summary the first person on-site of the spill is responsible for initiating the following actions:

Identify the product, location and source of the spill – check container design, warning labels, markings, etc.

SAFETY FIRST/PROTECT PEOPLE – prevent personnel from approaching the site and keep them at a distance sufficiently removed that they will not be injured by, or cause, a fire or explosion.

Do not Panic, contact help from camp and/or nearest source of personnel. Work as a team, plan the response and then REACT:

Remove_stop the flow-source at the source – reduce or terminate the flow of product without endangering anyone, if the fuel source is a drum transfer the fuel to an empty drum. Where ever possible use the empty drums located within the berms specifically designed for that purpose. (Use diesel for diesel, gasoline for gasoline Jet B for Jet B, etc) If using a drum, designed for a different product, ensure that the drum is relabelled in a conspicuous manner.

Envelop the spill, assess the seriousness of the spill – evaluate potential dangers of the spill to human health and safety, the aquatic environment, wildlife, ground water, vegetation and other land resources. Ensure that the Spill is localised and prevent the spread of the spill.

Absorb/accumulate - Utilise the correct spill kit to absorb and clean up spilled material. There are two choices, the small kit that is designed for spills of less than 90 litres (20 gallons) and the larger kits designed for spills up to 300 litres (65-75 gallons) Remember that the spill kit is designed to be used from top to bottom. Remember, safety first, take your time and ensure that the spill cannot do more damage and the initial clean up deals with the spill.

Containerise/clean up the spill – follow procedures appropriate for the location, environment, and material and time of year. Again utilise material in the spill kit. There are leak-proof bags in the kits for much of the material and the containers themselves are designed to contain and isolate contaminated material. Remember your training and the first response is to stop, accumulate and clean up the spill.

Transmit a report detailing the Spill – provide basic information such as location of spill, name of polluter, type and amount of material spilled, date and time of the spill and any perceived threat to human health or environment (complete Nunavut_NWT Spill Report form, a copy of which is attached to this document).

TRAINING

All field personnel have received preliminary and additional training on what to do in case of a spill and in taking preventative measures to mitigate potential spills. All materials, including this plan are posted at the camp and all individuals are familiar with its contents and what to do in case of a spill, including reporting requirements. To ensure that all individuals remain aware and cognisant of this document, refresher training will occur at regular and random intervals.

See below for further discussion about specific environments.

SPILLS ON LAND

Response to spills on land will include the Action Plan detailed above and possibly the following specific steps:

⇒ Identify the source of the leak or spill.
⇒ Contain the spill at the source if possible.
⇒ Stop a leak from a barrel by:
⇒ Ceasing filling operations if leaking vessel is receiving fuel
⇒ Checking valves and seals, and ceasing use of these valves if leaking
⇒ Transfer all fuels from leaking barrels
⇒ Placing plastic sheeting at the foot of the leak to minimise seepage of the spilled material to the environment.
⇒ Spills on land (gravel, rock, vegetation) can be contained and cleaned up by the following methods:
⇒ Place a soil berm down slope of the running or seeping fuel. Plastic tarps can be placed at the foot of and over the berm to permit the fuel to pool on the plastic for easy capture. Berms can be made of snow and lined with plastic in the winter. Absorbent sheeting can be used to soak up the fuel. The fuel can be squeezed from the pads into drums or plastic pails, and the pads can then be re-used. Larger pools of fuel can be pumped into empty drums. It will be especially important to prevent fuel from entering a body of water where it will have a greater environmental impact.
⇒ Absorbent sheeting can be used to soak up petroleum products from rocks. The sheeting should be placed in the empty drums for eventual disposal by incineration.
⇒ A light covering of alternate absorbent material can be used to absorb films of petroleum products from arctic vegetation.
⇒ Contaminated soil and vegetation may have to be removed for disposal. Baffinland will contact the appropriate DIAND regional office for approval before undertaking this action.
⇒ Snow can work well as natural absorbent, and it can be compacted and used as a berm. Plastic sheeting then can be placed over the snow berm.

SPILLS ON WATER

The likelihood of a spill on or over water is very remote however in the event it does occur the following steps will be implemented to control spills of petroleum products on water:

- ⇒ Floating 'boom(s)' can be deployed to contain the floating product.
- ⇒ Absorbent pads and similar materials can be used to capture small spills on water. Absorbent booms can be drawn in slowly to encircle spilled fuel and then absorb it. These materials are hydrophobic, and therefore, absorb hydrocarbons but repel water. Absorbent booms are often relied on to recover any hydrocarbons that escape containment booms.
- ⇒ A skimmer may be deployed once a boom has been secured to capture the spilled product, and then pump it through hoses to empty fuel drums.
- ⇒ In the event of a larger spill on water, it will be necessary to limit the extent of the spill by using booms. The 24-Hour Spill Report Line should be used to keep government agencies informed of the situation and if required seek assistance.

SPILLS ON SNOW AND ICE

- ⇒ Where a spill occurs on ice, snow should be compacted around the edge of the spill and lined with plastic sheeting to serve as a berm. The ice will prevent seepage of fuel into the water, but contaminated snow and ice must be scraped up immediately. The contaminated snow can then be placed in drums or on plastic and within plastic lined berms on land.

DISPOSAL OF SPILL MATERIAL

Contaminated waste materials will be placed in pails, drums or ore sacks and will be stored on-site in lined containment until transport off-site at a licensed disposal facility in the south. The contaminated materials may be transported by air, sealift, or a combination thereof.

Wastes will be manifested in accordance with the Department of Environment's *Environmental Guideline for the General Management of Hazardous* Waste, and the Transportation of Dangerous Goods Regulations, as applicable.

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ADDITIONAL CONTACT LIST

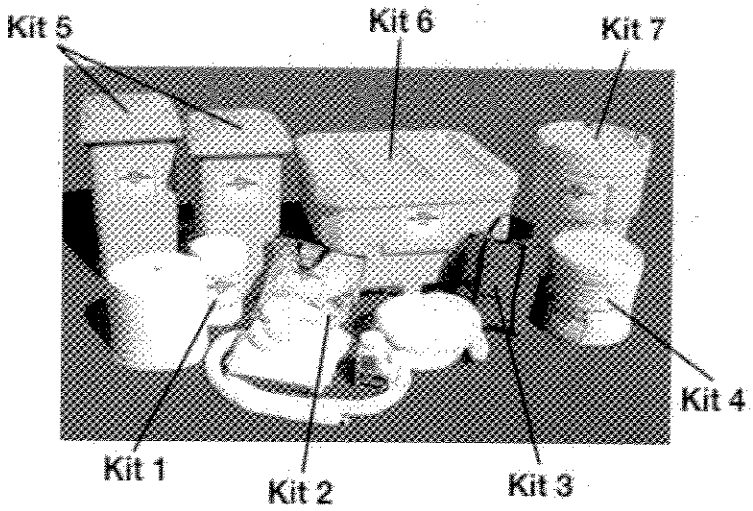
DEPARTMENT	PERSON	EMAIL	TELEPHONE
DIAND-Waters (Iqaluit)	Jim Rogers	rogersji@inac.gc.ca	(867) 975-4550
DIAND-Inspector	Andrew Keim	keima@inac-ainc.gc.ca	(867) 975-4289
DIAND-Qikiqtani	David Abernethy	abernethyd@inac-ainc.gc.ca	(867) 975-4555
DIAND-Field Operations	Peter Kusugak	kusugakp@inac-ainc.gc.ca	(867) 975-4289
DFO-Iqaluit	Tania Gordanier	gordaniert@dfo-mpo.gc.ca	(867) 979-8007
EC-Iqaluit	Jim Noble	jim.noble@ec.gc.ca	(867) 975-4644
Emergency and Enfocement 24-hour pager			(867) 920-5131
GN-DOE	Robert Eno	reno@gov.nu.ca	(867) 975-7748

HEALTH CLINIC – POND INLET (867) 899 7500/8431

RCMP – POND INLET (867) 899 1111/6055

VERSATECH SPILL KITS AT BAFFINLAND'S MARY RIVER PROJECT SITE:

Kit # 4	six (6) kits
Kit # 5	four (4) kits
Kit #6	four (4) kit
Kit # 7	eighteen (18) kits



VERSATECH SPILL KITS AT PORT DRILL SITES:

Kit # 7	One (1) kits at each of Milne Inlet and Steensby Inlet

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CONTENTS ARE LISTED ON THE LIST BELOW:

KIT No. / DETAILS	CONTENTS	QTY
1,2 or 3 **QUICK RESPONSE KITS** Absorbs up to 12 Gallons 5 Gallon plastic pail/Clear plastic or nylon bag	Sorbent Pads (19" x 17" x 3/8") Sorbent Socks (3" x 4ft.) Nitrile Gloves (pair) Disposal Bag	15 3 1 2
4 **20 GALLON LAB PACK** Absorbs up to 18 Gallons Lab Pack Container	Sorbent Pads (19" x 17" x 3/8") Sorbent Socks (3" x 4ft.) Sorbent Pillows Nitrile Gloves (pair) Disposal Bag Expoxy Putty	20 5 4 2 3 1
5 **PORTABLE RESPONSE KIT** Absorbs up to 65 Gallons Durable Yellow Rollout Container 2 convenient sizes - 64 Gallon 96 Gallon	Sorbent Pads (19" x 17" x 3/8") Sorbent Socks (3" x 4ft.) Xsorb (6 quart) Hand broom/dust pan Nitrile Gloves (pair) Disposal Bag Disposable Coveralls Drain cover Splash resistant goggles	150 6 1 1 2 4 2 2 2
6 **SPILL CHEST** Absorbs up to 170 Gallons Heavy duty plastic Yellow Container Can be moved with a Forklift	Sorbent Pads (19" x 17" x 3/8") Sorbent Socks (3" x 4ft.) Sorbent Booms (5" x 10ft) Sorbent Pillows (15" x 9ft) Sorbent Roll (38" x 144ft) Nitrile Gloves (pair) Disposal Bag Expoxy Putty Barricade tape (Roll)	100 8 4 16 1 2 4 1 1
7 **HEAVY DUTY DRUM KIT** Absorbs up to 75 Gallons Heavy duty plastic Yellow Container Drum sizes include 65 & 95 US gallons or an economy 45 gallon steel drum	Sorbent Pads (19" x 17" x 3/8") Sorbent Booms (5" x 10ft) Xsorb (6 quart) Nitrile Gloves (pair) Disposal Bag Disposable Coveralls Drain cover Splash resistant goggles	100 4 1 2 4 2 1 2

Photo 1
Mary River camp, with fuel storage areas in foreground and tents in background.

The camp water supply accesses Camp Lake from a distance of 400 m away. The pump draws some 3,000 to 5,000 litres per day and the pump intake is covered by a mesh screen. Greywater from the kitchen and ablution tent is deposited in a sump beside the camp. The sump was constructed of local materials consisting of a bed of gravel, rock base and plastic cover before being covered in sand, conforming to the landscape.

In June 2007, a sewage treatment plant will be constructed at the Mary River camp. Associated with the sewage plant is a proposed polishing pond, to be constructed near to Sheardown Lake and provide additional treatment before release to the environment.

The strip has been rehabilitated and has a useable length of 762 m (2,500 feet) in the summer and some 1,280 m (4,200 feet) when the strip is frozen.

Milne Inlet Drill Camp

The temporary drill camp at Milne Inlet consists of several trailers to accommodate geotechnical drilling personnel. The camp is located has two contained storage areas for diesel fuel drums required by the camp and drill rigs. The first drum storage area, located near to the camp, measures approximately 100m by 100m and can hold up to 90 drums. The second drum storage area is lined and measures about 10m by 10m, containing about 20 drums. Figure 2 and Photo 2 show the Milne Inlet camp layout.

The coordinates and contact telephone number of the drill camp at Milne Inlet is:

Latitude 71° 53' 09"
Longitude 80° 54' 35"

Milne Camp telephone number
416-619-0524

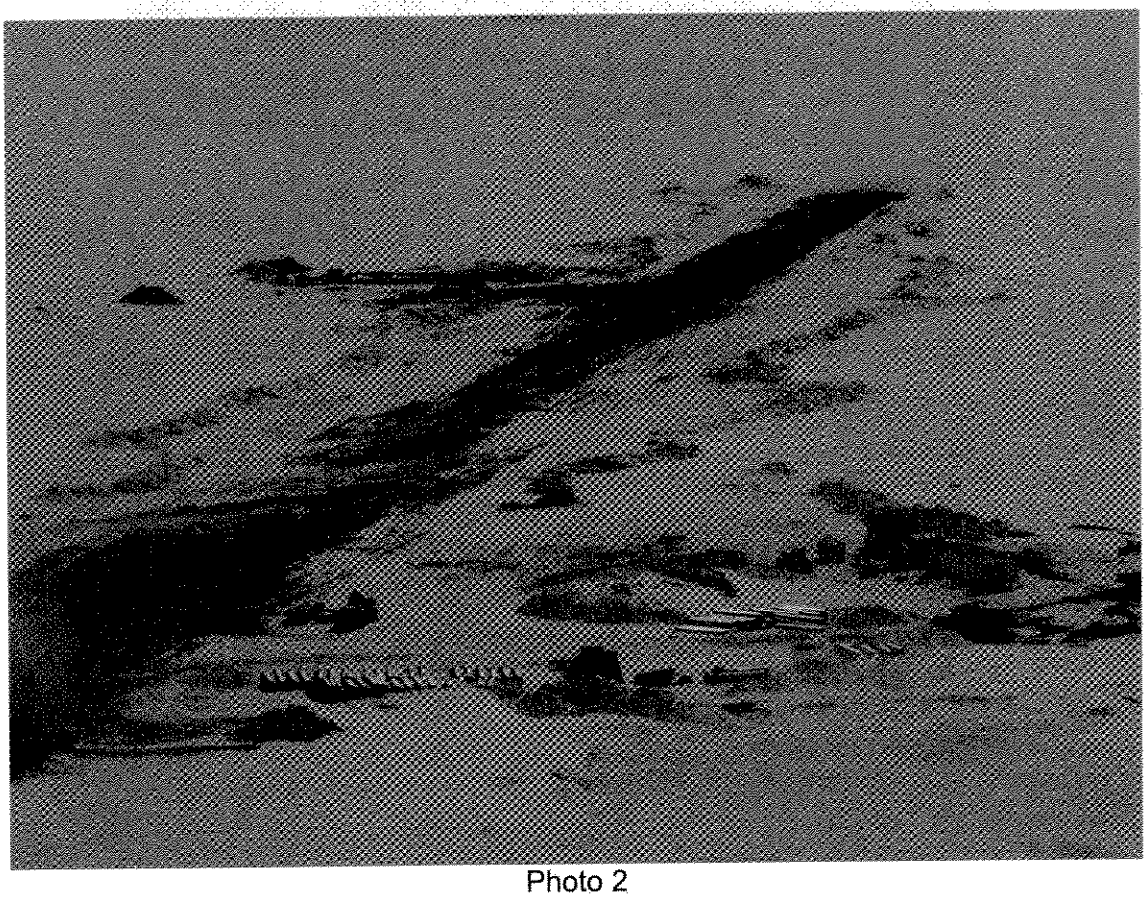


Photo 2
Milne Inlet Drill Camp

Steensby Inlet Drill Camp

The temporary drill camp at Milne Inlet consists of several tents to accommodate geotechnical drilling personnel and emergency shelters. The camp is located has one bermed and lined storage area for diesel fuel drums, measuring approximately 100m by 100m and can hold up to 90 drums. Figure 3 shows the Steensby Inlet camp layout.

The coordinates and contact telephone number of the drill camp at Steensby Inlet is:

Latitude 70° 17' 40"
Longitude 78° 28' 59"

Steensby Camp telephone number
416-619-0887

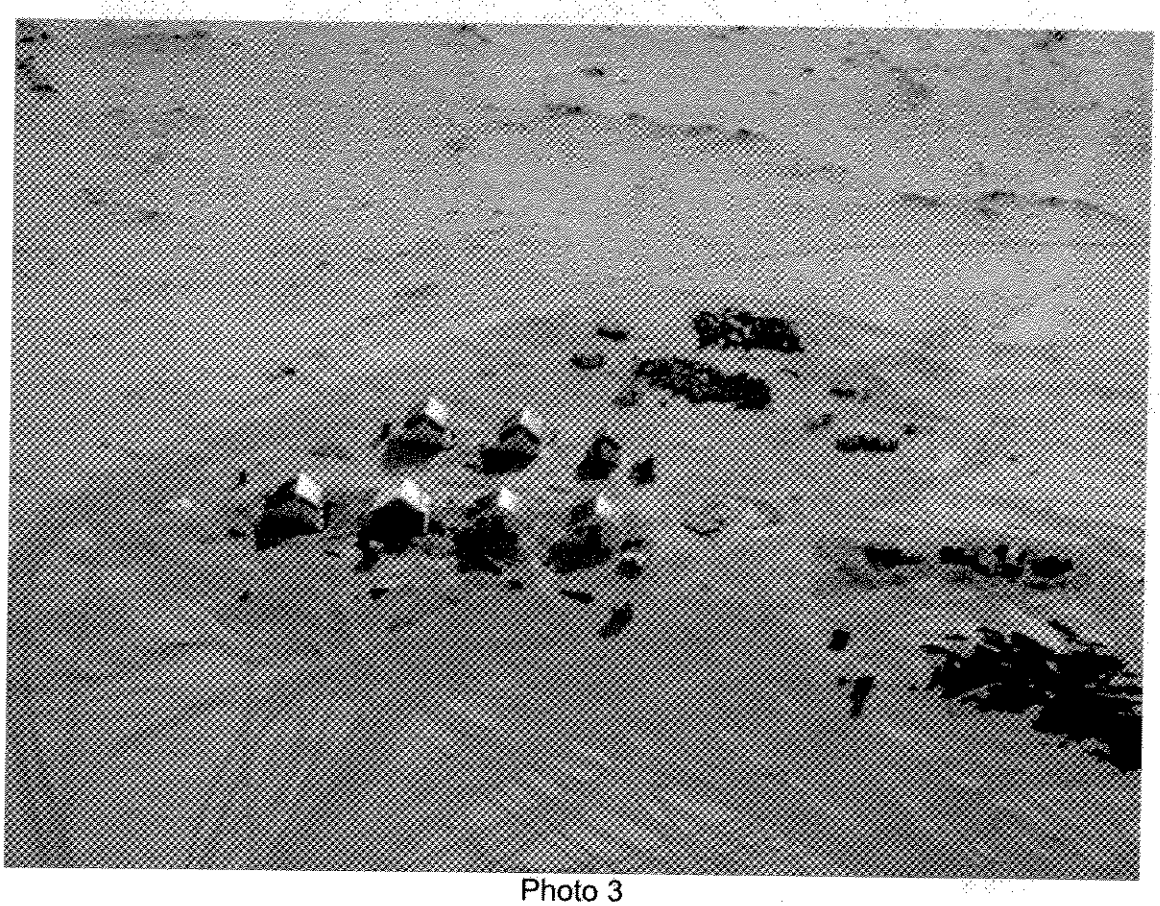
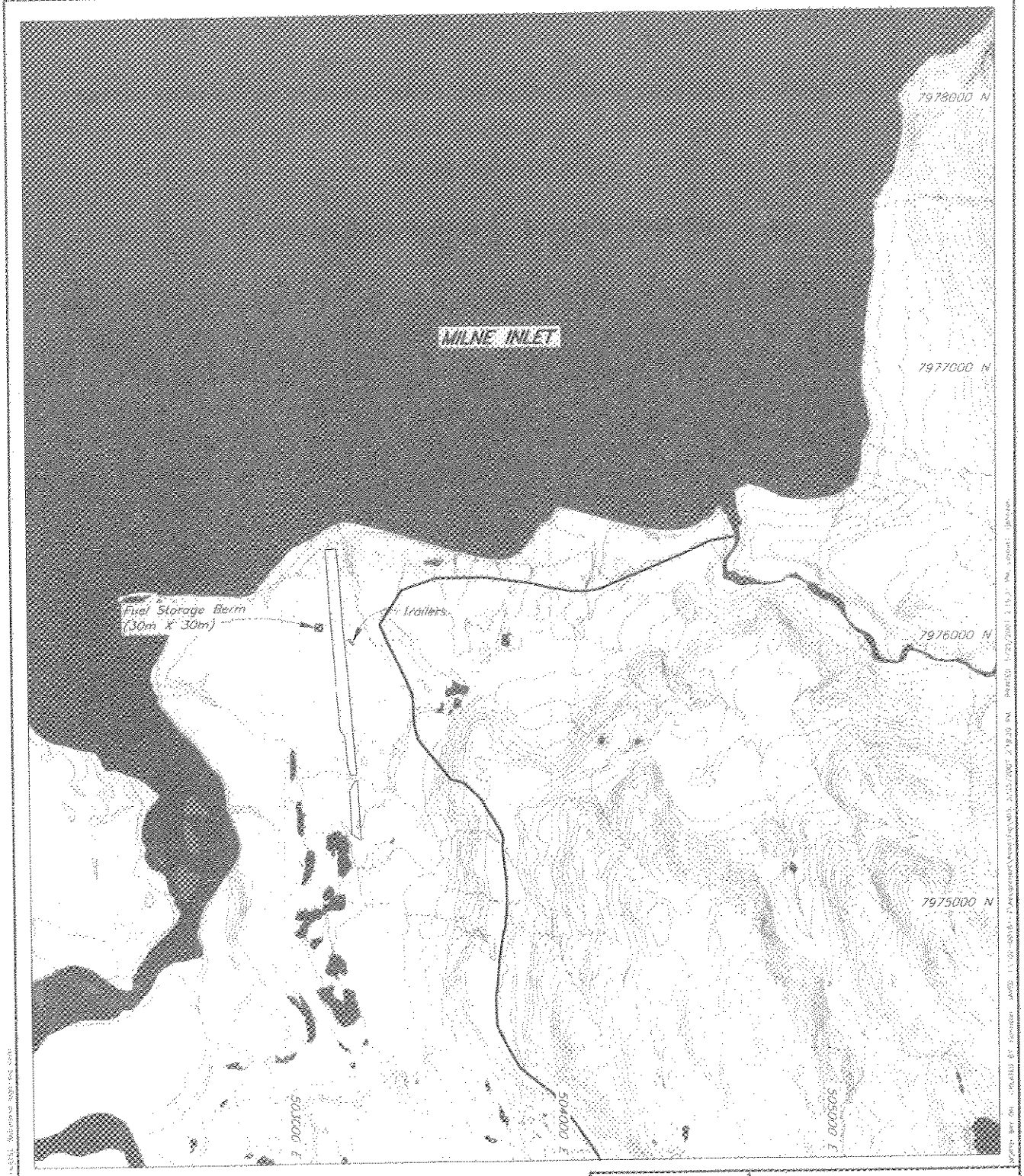


Photo 3
Steensby Inlet Drill Camp



LEGEND:

- Water
- River
- Existing Tote Road

NOTES:

1. Mapping provided by Eagle Mapping.
2. Coordinate grid is shown in UTM (NAD83) Zone 17 West and is in metres.
3. Locations are approximate and have not been surveyed.

Scale: 200 100 0 200 400 600 800 1000 Metres

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MARY RIVER PROJECT

MILNE INLET DRILL CAMP LOCATION

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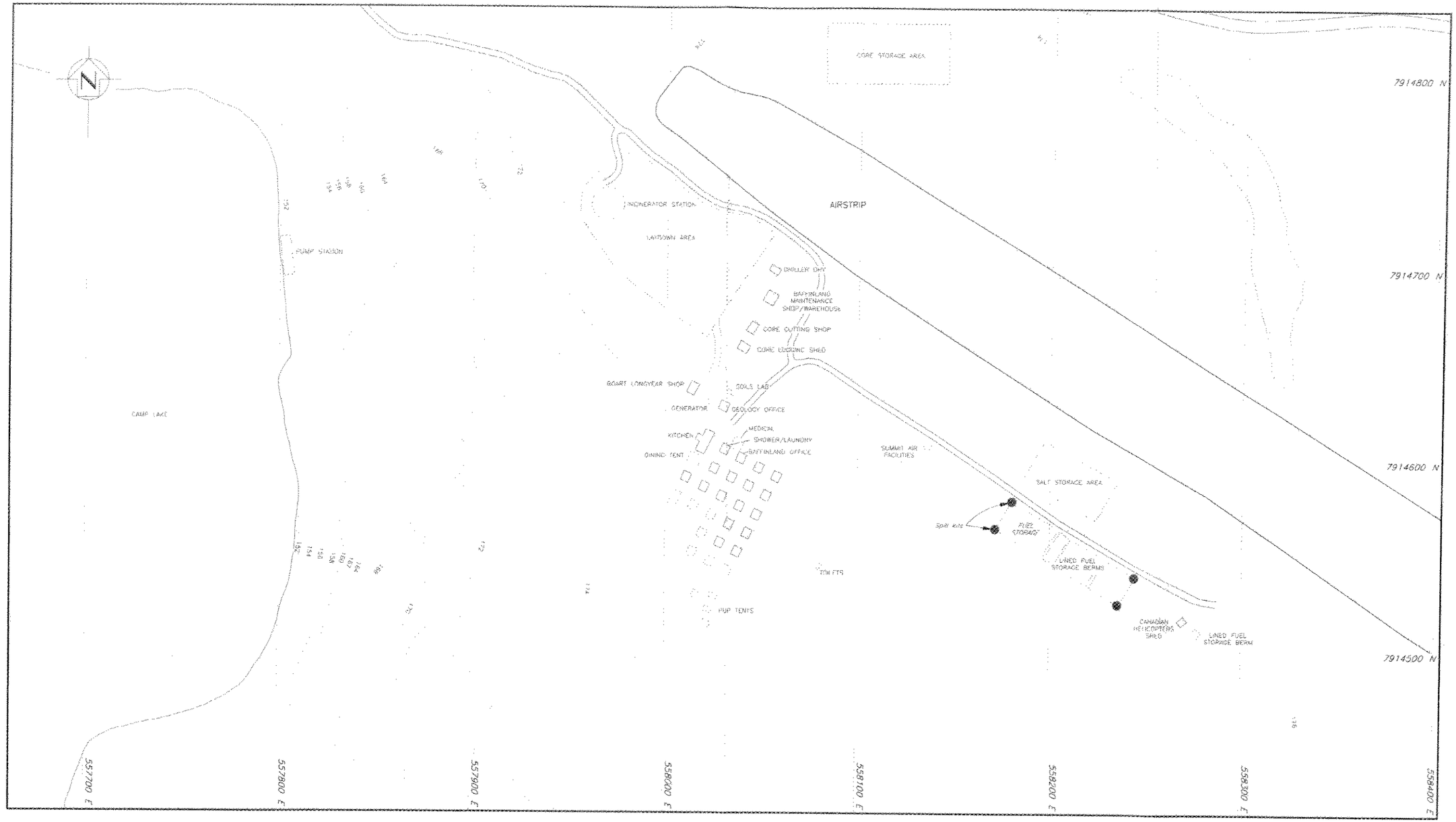
FIGURE 2



NOTES:

1. Coordinate grid is shown in UTM (NAD83) Zone 17 W and is in metres.
2. Configuration based on 2005 mapping provided by Eagle Mapping and air photo interpretation. All layouts are approximate.
3. Red lines represent approximate location and configuration of new features not present on air photos.

Scale 20 10 0 20 40 60 80 100 Metres

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MARY RIVER PROJECT

MARY RIVER
EXISTING CAMP LAYOUT

Knight Piésold CONSULTING

P/A NO. NB102-00181/10 | REV. - | REV. --

FIGURE 1