NB2515 0002

FUEL TRANSPORT AND STORAGE MANAGEMENT PLAN

MEADOWBANK GOLD PROJECT
NUNAVUT TERRITORY

Cumberland Resources Ltd.

I. INTRODUCTION

PURPOSE

This Transportation Spill Contingency Plan is designed to promote environmental awareness and safety, as well as facilitate the efficient cleanup of spills as the result of transportation incidents while in transit between Baker Lake and Cumberland Resources Ltd. exploration site at the Meadowbank project, and at Cumberland's fuel storage facilities at the Meadowbank project involving the following substances:

- P-50 Diesel
- Jet A and/or Jet B turbo fuel
- Hydraulic Oil
- Lube Oil
- Waste Oil
- Propane
- Other materials hazardous to the safety of personnel and the environment

Principal objectives of the Spill Contingency Plan are:

1. To provide readily accessible emergency information to cleanup crews, Meadowbank project personnel, KIA, and government agencies in the event of a spill.
2. To comply with Cumberland Resources Ltd. environmental policy.
3. To comply with federal and territorial regulations pertaining to the preparation of contingency plans and notification requirements.
4. To promote the safe and effective recovery of spilled materials.
5. To minimize the environmental impacts of spills to water and/or land.
6. To facilitate the management of wastes according to environmental legislation.

SCOPE

This Plan addresses the organization of Cumberland Resources Ltd. Meadowbank Gold Project spill response and related emergency measures. Alerting and notification procedures and cleanup strategies are outlined along with the duties and responsibilities of key spill response personnel. Emergency contacts are listed for Cumberland Resources Ltd., Cumberland contractors, and local government agencies. Emergency response equipment is listed that is available immediately (should a spill occur) from local freighting contractors, such as Peter's Expediting in Baker Lake.

More information in support of this Transportation Spill Contingency Plan and ensuing spill response actions, is provided in the following appendices:

- Appendix A contains summaries of physical/chemical properties and emergency response measures for hydrocarbon substances to be transported to and stored in the Meadowbank exploration camp.
- Appendix B contains an up-to-date inventory of spill response equipment and kits available at various locations.

- Appendix C contains risk assessment and preventive measures.
- Appendix D contains NWT Spill Report Forms that are to be used to report spills.
- Appendix E contains a fuel storage monitoring plan.
- Appendix F contains fuel handling and fuel spill response training course outlines.
- Appendix G contains Cumberland Resources' Environmental Policy.

SITE DESCRIPTION

The winter transportation route for Cumberland Resources Ltd. Meadowbank Gold Project begins at Baker Lake and ends at the exploration site (see attached figure). The route covers a combination of lake ice and tundra most of which is under federal jurisdiction. The portion of the route closest to the Project Site belongs to the Kivalliq Inuit Association. The Project Site is located at latitude 65° 01' 30" N latitude and 96° 04' 20" West longitude. The haul route distance from Baker Lake to the Meadowbank Project exploration camp is approximately 100 km. This transportation route has been used by Cumberland to transport fuel and other supplies for four years (1995 - 1998) with negligible environmental impacts.

FACILITY DESCRIPTION

Five skid-mounted double-walled cylindrical fuel vaults will be located at the Meadowbank camp site located about 70 km north of Baker Lake, Nunavut Territory. Fuel vaults are mounted on skids, which are supported by timbers resting on a bed of gravel and sand. Each fuel vault has the following dimensions: Length - 7.34 m (secondary tank), 6.48 m (primary tank); Diameter - 3.20 m (outside secondary); Maximum fill capacity - 48,224 l; Skid assembly - 8.48 m X 2.44 m.

TYPE AND AMOUNT OF CONTAMINANT

In 1999 a maximum of four fuel vaults will be used at any one time (totaling a maximum of 192,896 l) with the fifth kept empty for future use or as an emergency back-up should problems develop with any of the other tanks. In addition, more than 250-205 litre empty fuel drums will be available on site as an additional source of emergency storage. Fuel vaults will be filled with P-50 diesel fuel; other fuel supplies such as gasoline and Jet B aviation fuel will be stored in 205 l metal drums as the amount required at present does not justify the use of fuel vaults. It is likely that fuel vaults will be used in the future for these fuels should there be an increase in the level of activity.

II. SPILL RESPONSE ACTION PLAN

SPILL RESPONSE SEQUENCE

1. REPORT ALL SPILLS TO:

Exploration camp manager — Phone: (604) 608-2557
Senior project geologist on site — Phone: (604) 608-2557

The reporting requirement applies to all spills: on land, on water and on ice.

The reporting requirement applies equally to all substances covered by this contingency plan; fuels, hydraulic oil, lubricants, and waste oil.

All reports by telephone must be followed with a fax of the completed report form (see Appendix D for copies) to the number indicated on the reporting form.

Reporting and notification described below must be made by the first observer of the spill of the observer's superior immediately upon the spill being under control, or on failure to gain control of the situation.

2. ALERT Cumberland Personnel:

SPILL OBSERVER
IMMEDIATE SUPERVISOR or Meadowbank Camp manager

- Meadowbank Project Manager
- Contractors (clean up)

3. NOTIFY AGENCIES:

24 HOUR NWT SPILL REPORT LINE	PHONE	(867) 920 8130
	FAX	(867) 873 6924
KIVALLIQ INUIT ASSOCIATION		(867) 645 2810
DIAND – Rankin Inlet		(867) 645 2831
Iqaluit		(867) 979 4405
Environment Canada – Yellowknife		(867) 920 6060
Fisheries and Oceans Canada		(867) 645 2871
GNWT DRWED – Rankin Inlet		(867) 645 5067

4. **RECORD THE FACTS** Use Spill Report Form from Appendix D

NOTE:	If the On-Scene Coordinator is not available when a spill is detected then the spill must be Reported directly to NWT 24-hour spill report line without delay.

III. SPILL RESPONSE - FUEL TYPE

The procedure of dealing with a spill is dependent on the type of material spilled. The following sheets summarize the correct procedures for dealing with spills of the materials transported and stored at the Meadowbank project site - gasoline, Jet A and Jet B aviation fuel, P-50 diesel (stove oil), propane and acetylene. Other petroleum products such as lube oil and waste oil will only be present in small amounts, but product information sheets are included for all these products in Appendix A..

GASOLINE SPILL RESPONSE ACTIONS

CONSIDER ACTION ONLY IF SAFETY PERMITS

GASOLINE FORMS VAPOURS THAT CAN IGNITE AND EXPLODE

NO SMOKING

Refer to Product Guide in Appendix A for:
- Physical/Chemical Properties
- Response to Fires
- First Aid

- ELIMINATE IGNITION SOURCES
- STOP SOURCE OF GASOLINE IF SAFE TO DO SO

ON LAND
- Block entry into waterways by diking with earth, snow or other barrier(s).
- Do not contain spill if there is any chance of igniting vapours.
- On shop floors and in work/depot yards, apply particulate sorbents.
- On tundra use peat moss and leave to degrade if feasible to do so.

ON SNOW & ICE
- Block entry into waterways by diking with snow or other barrier.
- Do not contain spill if there is any chance of igniting vapours..
- In work/depot yards, apply particulate sorbents.

ON MUSKEG
- Remove pooled gasoline with pumps, if safe to do so.
- Do not deploy personnel and equipment on marsh or vegetation.
- Low pressure flushing can be tried to disperse small spills.
- Burn CAREFULLY only in localized areas, e.g., trenches, piles or windrows.
- Do not burn if root systems can be damaged (low water table).
- Minimize damage caused by equipment and digging.

ON WATER
- Contain or remove spills ONLY AFTER VAPOURS DISSIPATE.
- Use booms to protect water intakes.
- Skimming can be tried once light ends evaporate.

STORAGE/TRANSFER

- Store closed, labeled containers in cool, ventilated areas away from incompatible materials.
- Electrically ground containers and vehicles during transfer.

DISPOSAL

- Segregate waste types, if necessary.
- Place contaminated materials into marked containers.
- Consult camp manager on transportation and disposal requirements.

JET B – SPILL RESPONSE ACTIONS

CONSIDER ACTION ONLY IF SAFETY PERMITS!

Refer to Product Guide in Appendix A for:
Physical/Chemical Properties
Response to Fires
First Aid

- ELIMINATE IGNITION SOURCES
- STOP SOURCE OF JET B IF SAFE TO DO SO

ON LAND
- Do not flush into ditches or drainage systems.
- Do not contain spill if there is any chance of igniting vapours.
- Block entry into waterways and contain with earth, snow or other barrier.
- Remove small spills with sorbent pads.
- On tundra use peat moss and leave in place to degrade, if practical.

ON SNOW & ICE
- Block entry into waterways and contain with snow or other barrier.
- Do not contain spill if there is any chance of igniting vapours.
- Remove minor spills with sorbent pads and/or snow.

ON MUSKEG
- Do not deploy personnel and equipment on marsh or vegetation.
- Remove pooled Jet B with pumps and skimmers if it is safe to do so.
- Flush with low pressure water to herd Jet B to collection point.
- Burn only in localized areas, e.g., trenches, piles or windrows.
- Do not burn if root systems can be damaged (low water table).
- Minimize damage caused by equipment and excavation.

ON WATER
- Contain spill ONLY AFTER VAPOURS DISSIPATE.
- Use spill containment boom to concentrate slicks for recovery.
- Do not deploy personnel and equipment onto mudflats or into wetlands.

STORAGE/TRANSFER
- Store closed, labeled containers outside away from flammable items.
- Electrically ground containers and vehicles during transfer.

DISPOSAL

- Segregate waste types.
- Place contaminated materials into marked containers.
- Consult camp manager on disposal procedures.

JET A – SPILL RESPONSE ACTIONS

CONSIDER ACTION ONLY IF SAFETY PERMITS!

Refer to Product Guide in Appendix A for:
- Physical/Chemical Properties
- Response to Fires
- First Aid

- ELIMINATE IGNITION SOURCES
- STOP SOURCE OF JET A IF SAFE TO DO SO

ON LAND
- Do not flush into ditches or drainage systems.
- Do not contain spill if there is any chance of igniting vapours.
- Block entry into waterways and contain with earth, snow or other barrier.
- Remove small spills with sorbent pads.
- On tundra use peat moss and leave in place to degrade, if practical.

ON SNOW & ICE
- Block entry into waterways and contain with snow or other barrier.
- Do not contain spill if there is any chance of igniting vapours.
- Remove minor spills with sorbent pads and/or snow.

ON MUSKEG
- Do not deploy personnel and equipment on marsh or vegetation.
- Remove pooled Jet B with pumps and skimmers if it is safe to do so.
- Flush with low pressure water to herd Jet B to collection point.
- Burn only in localized areas, e.g., trenches, piles or windrows.
- Do not burn if root systems can be damaged (low water table).
- Minimize damage caused by equipment and excavation.

ON WATER
- Contain spill ONLY AFTER VAPOURS DISSIPATE.
- Use spill containment boom to concentrate slicks for recovery.
- Do not deploy personnel and equipment onto mudflats or into wetlands.

STORAGE/TRANSFER
- Store closed, labeled containers outside away from flammable items.
- Electrically ground containers and vehicles during transfer.

DISPOSAL

- Segregate waste types.
- Place contaminated materials into marked containers.
- Consult camp manager on disposal procedures.

DIESEL – P50 – SPILL RESPONSE ACTIONS

CONSIDER ACTION ONLY IF SAFETY PERMITS!

Refer to Product Guide in Appendix A for:
- Physical/Chemical Properties
- Response to Fires
- First Aid

- ELIMINATE IGNITION SOURCES
- STOP SOURCE OF DIESEL IF SAFE TO DO SO

ON LAND
- Do not flush into ditches or drainage systems.
- Block entry into waterways and contain with earth, snow or other barrier.
- Remove small spills with sorbent pads.
- On tundra use peat moss and leave in place to degrade, if practical.

ON SNOW & ICE
- Block entry into waterways and contain with snow or other barrier.
- Remove minor spills with sorbent pads and/or snow.
- Use ice augers and pump to recover diesel under ice.
- Slots in ice can be cut over slow moving water to contain oil.
- Burn accumulated diesel from the surface using Tiger Torches if feasible and safe to do so.

ON MUSKEG
- Do not deploy personnel and equipment on marsh or vegetation.
- Remove pooled diesel with pumps and skimmers.
- Flush with low pressure water to herd diesel to collection point.
- Burn only in localized areas, e.g., trenches, piles or windrows.
- Do not burn if root systems can be damaged (low water table).
- Minimize damage caused by equipment and excavation.

ON WATER
- Contain spill as close to release point as possible.
- Use spill containment boom to concentrate slicks for recovery.
- On small spills, use sorbent pads to pick up contained oil.
- On larger spills, use skimmer on contained slicks.
- Do not deploy personnel and equipment onto mudflats or into wetlands.

RIVERS & STREAMS

- Prevent entry into water, if possible, by building berm or trench.
- Intercept moving slicks in quiet areas using (sorbent) booms.
- Do not use sorbent booms/pads in fast currents and turbulent water.

STORAGE/TRANSFER

- Store closed, labeled containers outside away from flammable items.
- Electrically ground containers and vehicles during transfer.

DISPOSAL

- Segregate waste types.
- Place contaminated materials into marked containers.
- Consult camp manager on disposal procedures.

ACETYLENE RESPONSE ACTIONS

GAS STORED IN CYLINDERS THAT EXPLODE WHEN IGNITED!

CONSIDER ACTION ONLY IF SAFETY PERMITS

KEEP ALL VEHICLES INCLUDING SNOWMOBILES AWAY FROM ACCIDENT AREA

Refer to Product Guide in Appendix A for:
Physical/Chemical Properties
Response to Fires
First Aid

- Vapours cannot be contained when released.
- Water spray can be used to knock down vapours if there is NO chance of ignition.
- Small fires can be extinguished with dry chemical or CO.
- Personnel should withdraw immediately from area unless a small leak is stopped immediately after it has been detected.
- If tanks are damaged, gas should be allowed to disperse and no attempt at recovery should be made.
- Personnel should avoid touching release point on containers since frost quickly forms.
- Stay clear of tank ends.

PROPANE RESPONSE ACTIONS

GAS STORED IN CYLINDERS THAT EXPLODE WHEN IGNITED!

CONSIDER ACTION ONLY IF SAFETY PERMITS

KEEP ALL VEHICLES INCLUDING SNOWMOBILES AWAY FROM ACCIDENT AREA

Refer to Product Guide in Appendix A for:
Physical/Chemical Properties
Response to Fires
First Aid

- Vapours cannot be contained when released.
- Water spray can be used to knock down vapours if there is NO chance of ignition.
- Small fires can be extinguished with dry chemical or CO.
- Personnel should withdraw immediately from area unless a small leak is stopped immediately after it has been detected.
- If tanks are damaged, gas should be allowed to disperse and no attempt at recovery should be made.
- Personnel should avoid touching release point on containers since frost quickly forms.
- Stay clear of tank ends.

IV. SPILL RESPONSE CONTACTS

Cumberland Resources Ltd., Meadowbank Project

TITLE	NAME	OFFICE	FAX
On-Scene Coordinators			
Camp Manager	Ewald Gossner	(604) 608-2557	(604) 608-2559
Project Manager	Brian Alexander	(604) 608-2557	(604) 608-2559
Project Geologist	Roger March	(604) 608-2557	(604) 608-2559
Contractors			
Fuel Transportation Manager	Peter Tapatai	(867) 793-2703	(867) 793-2988

V. LOCAL TRANSPORTATION

Air Lines - Scheduled
- Calm Air (867) 793-2873
- Skyward Aviation (867) 793-2703

Helicopters
- Custom Helicopters (Rankin Inlet)
  - Staff House (867) 645-3885
  - Hanger (867) 645-3939

Overland Transportation - Delta Foremost
- Peter's Expediting (867) 793-2703

VI. EQUIPMENT SUPPLIERS

Frontier Mining - Yellowknife	(867) 920-7617	spill kits & various sorbents
Acklands - Yellowknife	(867) 873-4100	spill kits & various sorbents

VII. INTERNAL RESOURCES - CUMBERLAND RESOURCES LTD.

Senior Management - President, Senior Vice President

- Responsible for all communication with the media
- Ensures that all press releases are accurate and in accordance with company policy
- Coordinates and exercises overall direction to Spill Response Team in the case of a major spill

Project Manager, Project Geologist

- Project Manager, or in his or her absence, the Project Geologist is responsible for the in-field operation of the Spill Response Team.
- Assists senior management in the preparation of news releases
- Updates and distributes Contingency Plan
- Ensures that there are follow up reports prepared on the spill event, clean-up and environmental impacts

Camp Manager

- Develops safe and effective spill management and prevention practices
- Responsible for management and regular inspection of fuel storage facilities at Meadowbank camp

Environmental Consultant

- Provides advisory services to the Spill Response Team as well as management

Legal Counsel

- Advises senior management and the project manager as requested on issues related to:
    - Legislative authority of various government agencies
    - Questions of due diligence
    - Costs/fines and liabilities, regulations including penalties associated with regulations
    - Consults with the corporate insurance coordinator and advises senior management on matters related to insurance

Board of Directors

- Establishes corporate environmental policy based on the recommendations of senior management

VIII. EXTERNAL RESOURCES – GOVERNMENT

Department of Indian and Northern Affairs (DIAND)

The Northern Affairs program of DIAND administers the Territorial Lands Act and Regulations. Through this legislation land use permits are issued. One of the conditions of land use permits is the requirement to report all spills to a 24 hour government run report line (867-920-8130). Land Use Permits may also address matters of environmental conservation and protection including waste disposal, sources of borrow materials, open pit mining, road alignments, land reclamation and closure requirements. Enforcement of the provisions of the land use permits is carried out by the Operations Division of DIAND through Resource Management Officers located at the District Offices.

Inspection of Cumberland project activities located on Crown Land by Resource Management Officers is conducted periodically.

Environment Canada (EC)

The Environmental Protection and Conservation Service of Environment Canada administers the Canadian Environmental Protection Act (CEPA) and Section 36 of the Fisheries Act. For the latter this specifies that unless authorized by regulation, any effluents discharged into fish bearing water must be non-toxic. Environment Canada officials have in the past laid charges in the NWT under the Fisheries Act for spills of oil and other hazardous material.

EC is responsible for providing environmental advice to federal and territorial government agencies and for the preservation and enhancement of environmental quality.

Department of Fisheries and Oceans (DFO)

The Department of Fisheries and Oceans (DFO) administers the habitat protection provisions of the Fisheries Act. This includes provisions for prohibiting the blocking of fish passageways and the destruction of fish habitat. DFO operates under a Habitat Management Policy whereby the objective is to achieve a net gain of fish habitat within the NWT. On occasion DFO Inspectors visit spill sites to investigate possible impacts to fish habitat.

IX. REFERENCES

WMC International Limited Transportation Spill Contingency Plan - Meliadine West Project. August, 1998.

BHP Diamonds Inc. Transportation Spill Contingency Plan. January 1997.

Department of Transportation. Environmental Guidelines for the Construction, Maintenance and Closure of Winter Roads in the Northwest Territories. Prepared by Stanley Associates Engineering Ltd. 1993.

Northwest Territories Water Board. Guidelines for Contingency Planning. 1987.

ACKNOWLEDGMENTS

Cumberland Resources Ltd. gratefully acknowledges the use of the Transportation Spill Contingency Plans developed initially by BHP Diamonds Inc. and subsequently by WMC International which was used as the model and template in developing this plan for the Meadowbank Gold Project. The generosity of WMC International in providing their document is greatly appreciated.

APPENDIX A

PRODUCT GUIDES

The materials included in this Plan can generally be divided into two categories:

- Flammable immiscible liquids
- Flammable compressed gases

A-1. Flammable Immiscible Liquids

These substances are all hydrocarbon-based and will ignite under certain conditions. Gasoline and aviation fuel pose the greatest fire (and safety) hazard and usually cannot be recovered when spilled on water. The remaining materials generally do not pose a hazard at ambient temperatures. They are all insoluble, float unless mixed into the water column and can be recovered when safety allows.

Flammable Immiscible Liquids

Gasoline

Jet A

Turbo B

Diesel Fuel

Waste Oil

Lube Oil

Low Flash Point (burns easily)

High Flash Point

GASOLINE

TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Colourless Liquid (can be dyed)	FLASH POINT:	-50° C
ODOUR:	Gasoline / Petroleum	FREEZING PT:	-60° C
SOLUBILITY:	Insoluble	VISCOSITY:	Not viscous (< 1 cSt)
VAPOUR DENSITY:	Will sink to ground levels	SPECIFIC GRAVITY:	Floats on water (0.7 - 0.8)

SAFETY MEASURES

WARNINGS

- Vapours form instantaneously, and are heavier than air.
- Empty containers can contain explosive vapours.
- Vapours can travel to distant sources of ignition and flash back.
- Eye contact causes irritation.
- Material can accumulate static charges.
- Inhalation of vapours can cause irritation of the respiratory tract, headache, vomiting, and unconsciousness.

PERSONAL PROTECTION

- Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; nitrile and Viton are suitable protective materials (DO NOT USE NATURAL RUBBER, NEOPRENE, OR PVC).
- Wear full-face organic vapour cartridge respirator where oxygen is adequate; otherwise wear positive pressure SCBA.

PRECAUTIONS

- Monitor for explosive atmosphere.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozones, peroxides.
- Eliminate ignition sources.
- Restrict access and work upwind of spill.

RESPONSE TO FIRES
CONSIDER ACTION ONLY IF SAFETY PERMITS!

- Wear SCBA in confined areas.
- Shut off fuel supply.
- Extinguish fire with CO_2, dry chemical, alcohol foam or water fog.
- Use water to cool containers exposed to fire.

JET A

TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	White or Pale Yellow liquid	FLASH POINT:	38° C
ODOUR:	Gasoline / Petroleum	FREEZING PT:	-50° C
SOLUBILITY:	Negligible	VISCOSITY:	Not viscous (<7 cSt)
VAPOUR DENSITY:	Will sink to ground levels	SPECIFIC GRAVITY:	Floats on water (0.81)

SAFETY MEASURES

WARNINGS

- Vapours form instantaneously, and are heavier than air.
- Low-lying areas can trap explosive vapours.
- Vapours can travel to distant sources of ignition and flash back.
- Eye contact causes irritation.
- Material can accumulate static charges.
- inhalation of vapours can cause irritation of the respiratory tract, headache, vomiting, and unconsciousness.

PERSONAL PROTECTION

- Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; nitrile and Viton are suitable protective materials (DO NOT USE NATURAL RUBBER, NEOPRENE, OR PVC).
- Wear full-face organic vapour cartridge respirator where oxygen is adequate; otherwise wear positive pressure SCBA.

PRECAUTIONS

- Monitor for explosive atmosphere.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozones, peroxides.
- Eliminate ignition sources.
- Restrict access and work upwind of spill.

RESPONSE TO FIRES
CONSIDER ACTION ONLY IF SAFETY PERMITS!

- Wear SCBA in confined areas.
- Shut off fuel supply.
- Extinguish fire with CO_2, dry chemical, alcohol foam or water fog.
- Use water to cool containers exposed to fire.

JET B

TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	White or Pale Yellow liquid	FLASH POINT:	-20 to -250° C
ODOUR:	Gasoline / Petroleum	FREEZING PT:	-18° C
SOLUBILITY:	Negligible	VISCOSITY:	Not viscous (0.6 cSt)
VAPOUR DENSITY:	Will sink to ground levels	SPECIFIC GRAVITY:	Floats on water (0.78)

SAFETY MEASURES

WARNINGS

- Vapours form instantaneously, and are heavier than air.
- Low-lying areas can trap explosive vapours.
- Vapours can travel to distant sources of ignition and flash back.
- Eye contact causes irritation.
- Material can accumulate static charges.
- inhalation of vapours can cause irritation of the respiratory tract, headache, vomiting, and unconsciousness.

PERSONAL PROTECTION

- Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; nitrile and Viton are suitable protective materials (DO NOT USE NATURAL RUBBER, NEOPRENE, OR PVC).
- Wear full-face organic vapour cartridge respirator where oxygen is adequate; otherwise wear positive pressure SCBA.

PRECAUTIONS

- Monitor for explosive atmosphere.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozones, peroxides.
- Eliminate ignition sources.
- Restrict access and work upwind of spill.

RESPONSE TO FIRES
CONSIDER ACTION ONLY IF SAFETY PERMITS!

- Wear SCBA in confined areas.
- Shut off fuel supply.
- Extinguish fire with CO_2, dry chemical, alcohol foam or water fog.
- Use water to cool containers exposed to fire.

DIESEL P50

TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	White or Pale Yellow liquid; may be dyed.	FLASH POINT:	40° C
ODOUR:	Petroleum	FREEZING PT:	-50° C
SOLUBILITY:	Negligible	VISCOSITY:	Not viscous (1.8 cSt)
VAPOUR DENSITY:	Will sink to ground levels	SPECIFIC GRAVITY:	Floats on water (0.85)

SAFETY MEASURES

WARNINGS

- In warm temperatures, vapours form instantaneously, and are heavier than air.
- Eye contact causes irritation.
- inhalation of vapours can cause irritation of the respiratory tract, headache, vomiting, and unconsciousness.

PERSONAL PROTECTION

- Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; nitrile and Viton are suitable protective materials (DO NOT USE NATURAL RUBBER, NEOPRENE, OR PVC).
- Wear full-face organic vapour cartridge respirator where oxygen is adequate; otherwise wear positive pressure SCBA.

PRECAUTIONS

- Monitor for explosive atmosphere.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozones, peroxides.
- Eliminate ignition sources.
- Restrict access and work upwind of spill.

RESPONSE TO FIRES
CONSIDER ACTION ONLY IF SAFETY PERMITS!

- Wear SCBA in confined areas.
- Shut off fuel supply.
- Extinguish fire with CO_2, dry chemical, alcohol foam or water fog.
- Use water to cool containers exposed to fire.

A-2. Flammable Gases

These substances are all hydrocarbon-based and will easily ignite under virtually any conditions. This ease of ignition renders these substances extremely dangerous to deal with, and extreme caution is required when dealing with these substances.

ACETYLENE

TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Colourless Gas	FLASH POINT:	-18° C
ODOUR:	Garlic - like	FREEZING PT:	-82° C
SOLUBILITY:	Slightly soluble	VISCOSITY:	n/a
VAPOUR DENSITY:	Will sink to ground levels	SPECIFIC GRAVITY:	(0.6) Liquid floats on water

SAFETY MEASURES

WARNINGS

- Vapours form instantaneously, and are heavier than air.
- Empty containers can contain explosive vapours.
- Vapours can travel to distant sources of ignition and flash back.
- Eye contact causes irritation.
- Material can accumulate static charges.
- inhalation of vapours can cause irritation of the respiratory tract, headache, vomiting, and unconsciousness.

PERSONAL PROTECTION

- Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; nitrile and Viton are suitable protective materials (DO NOT USE NATURAL RUBBER, NEOPRENE, OR PVC).
- Wear full-face organic vapour cartridge respirator where oxygen is adequate; otherwise wear positive pressure SCBA.

PRECAUTIONS

- Monitor for explosive atmosphere.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozones, peroxides.
- Eliminate ignition sources.
- Restrict access and work upwind of spill.

RESPONSE TO FIRES
CONSIDER ACTION ONLY IF SAFETY PERMITS!

- Wear SCBA in confined areas.
- Shut off fuel supply.
- Extinguish fire with CO_2, dry chemical, alcohol foam or water fog.
- Use water to cool containers exposed to fire.

PROPANE
TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Colourless Gas	FLASH POINT:	-104° C
ODOUR:	Natural Gas odour	FREEZING PT:	-190° C

SOLUBILITY:	Insoluble	VISCOSITY:	n/a
VAPOUR DENSITY:	Will sink to ground levels	SPECIFIC GRAVITY:	Liquid floats on water

SAFETY MEASURES

WARNINGS

- Vapours form instantaneously, and are heavier than air.
- Vapours can travel to distant sources of ignition and flash back.
- Eye contact causes irritation.
- Material can accumulate static charges.
- inhalation of vapours can cause irritation of the respiratory tract, headache, vomiting, and unconsciousness.

PERSONAL PROTECTION

- Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; nitrile and Viton are suitable protective materials (DO NOT USE NATURAL RUBBER, NEOPRENE, OR PVC).
- Avoid frostbite burn to skin and eyes from contact with propane.
- Wear full-face organic vapour cartridge respirator where oxygen is adequate; otherwise wear positive pressure SCBA.

PRECAUTIONS

- Monitor for explosive atmosphere.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozones, peroxides.
- Eliminate ignition sources.
- Restrict access and work upwind of spill.

RESPONSE TO FIRES
CONSIDER ACTION ONLY IF SAFETY PERMITS!

- Wear SCBA in confined areas.
- Shut off fuel supply.
- Extinguish fire with CO_2, dry chemical, alcohol foam or water fog.
- Use water to cool containers exposed to fire.

WASTE OIL

TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Black to brown liquid	FLASH POINT:	100 to 200° C
ODOUR:	Petroleum	FREEZING PT:	-30 to -400° C

SOLUBILITY:	Generally insoluble	VISCOSITY:	Medium (200-300cSt)
VAPOUR DENSITY:	Few vapours emitted	SPECIFIC GRAVITY:	Floats on water (0.9)

SAFETY MEASURES

WARNINGS

- Vapours are heavier than air but are unlikely to form.
- Toxic gas can form in fire and at high temperatures.
- CO, CO_2 and dense smoke are produced upon combustion.
- Oil mist or vapour from hot oil can cause irritation of the eyes and respiratory tract.

PERSONAL PROTECTION

- Always wear impervious, chemical-resistant clothing, gloves, footwear, and goggles; nitrile and Viton are suitable protective materials (DO NOT USE NATURAL RUBBER, NEOPRENE, OR PVC).
- Use of organic vapour cartridge respirator is highly unlikely.

PRECAUTIONS

- Avoid excessive heat, which can cause formation of vapours.
- Avoid contact with strong oxidizers, such as nitric acid, sulphuric acid, chlorine, ozones, peroxides.
- Eliminate ignition sources.
- Restrict access and work upwind of spill.

RESPONSE TO FIRES
CONSIDER ACTION ONLY IF SAFETY PERMITS!

- Wear SCBA and eye protection when responding to waste oil fires.
- Shut off fuel supply.
- Extinguish fire with CO_2, dry chemical, alcohol foam or water fog.

NOTE: Water or foam may cause frothing.

- Use water to cool containers exposed to fire.

APPENDIX B - INVENTORY OF SPILL RESPONSE KITS

Cumberland Resources uses "Sphag Sorb" for spill response kits. This product is composed of dried and filtered spaghnum moss which has the ability to absorb oils without absorbing water. Once used, Sphag Sorb can be safely disposed of in conventional land fill facilities since all oils will continue to be held within the capillaries of the peat moss until they naturally decompose. In addition, this product will not leach contaminants in land fill sites. For disposal of material from smaller spills, Sphag Sorb is ideal for incineration.

The Spill Response Kit at the Meadowbank Project consist of:

- 1 Case containing 30 Sphag Sorb pads (SS-PAD). Each pad can absorb approximately 5 - 7 litres of contaminant. These pads are to be used for cleaning up minor spills.
- 1 ECP Emergency Spill Response Kit containing the following:
  - 1 - 72"X36"X33" safety yellow polyethylene containment kit with decals
  - 1 - 40 cu. ft. activated Sphag Sorb
  - 1 - 22 SS 14 Sphag Sorb pillow
  - 1 - 4 litres Plug It emergency seal
  - 2 - pairs rubber gloves
  - 1 - pair chemical goggles
  - 5 - disposal bags
  - 1 - waterproof flashlight
- 2 shovels
- 2 rakes
- 2 waterproof flashlights

This material is located near the fuel storage vaults as indicated on the attached figure.

Appendix C - Risk Assessment, Preventative Measures, and Contingency Plans

Potential Problem	Preventative Measure	Contingency Plan
Fuel Spill from Fuel Vaults in Camp	• Fuel vaults are double-walled. • Risk of leakage from vault outlet reduced by not using gravity feed. Portable electric pumps are required to fill from fuel vaults. • Fuel vaults are to be inspected weekly to ensure there are no leaks in inner tank.	For fuel spills during fueling to or from fuel vaults: 1. Follow instructions as outlined in Section II of this Contingency Plan.0 For fuel leakage from fuel vaults: 1. Attempt to localize and control the leak. 2. Pump the contents of the fuel vault into the spare fuel vault. 3. Follow instructions as outlined in Section II of this Contingency Plan for isolating and disposing of fuel. 4. To ensure safety, depending on the severity of the spill, notification follows the procedure laid out in this contingency plan with the appropriate personnel contacted - External and Internal.
Delta Mishap - General	• Peter's Expediting is expected to enforce a safe operating code for all Delta operators delivering fuel to the Meadowbank camp. • Strict rules of the road are enforced: no drinking is allowed on our around the transportation route. • Drivers should be required to complete checklists and	Driver knows what to do: 1. Major freight carriers (i.e. Peter's Expediting) should have a contingency plan. 2. Cumberland will provide each vehicle that will haul fuel with a copy of this contingency plan. 3. Each driver should have a roll of plastic, shovel, absorbent material, metal buckets and knife in order to contain small spills. Clear lines of communication: 1. To ensure safety, depending on the severity of the spill, notification follows the procedure laid out in this

	document all matters that require servicing & repair; mechanics should carry out the work as appropriate.	contingency plan with the appropriate personnel contacted - External and Internal. Response team knows what to do: 1. Freight carriers have to demonstrate to Cumberland adequate spill response experience and training. 2. Cumberland Emergency Response Team receives training as new members are added. Approvals are obtained to burn spilled and recovered fuels at previously selected disposal sites - usually borrow pits.

Appendix D - NWT Spill Report Forms

Appendix E - Fuel Storage Monitoring Plan

The fuel storage monitoring plan will consist of the following daily and weekly inspections conducted by Cumberland personnel that have been trained in the use of fuel pumping equipment and fuel spill response.

The following inspections will be conducted and recorded on a daily basis:

1. All tanks, lines, pumps, hoses, valves and fittings will be inspected for leaks or damage
2. Ensure proper fuel only is dispensed into the correct tanks and barrels for use in the camp and associated exploration work sites.
3. Ensure that the "No Smoking" signs posted in the area of the fuel tanks are always clearly visible.
4. Ensure that all personnel on site abide by the "No Smoking" rule within the distances outlined in the regulations for fuel tanks.
5. Ensure that all fuel pumping and spill response equipment is clearly visible and easily accessed.

The following inspections will be conducted and recorded on a weekly basis:

1. Fuel levels in all primary tanks checked and compared against the fuel dispensed from each primary tank for each week.
2. Outer tanks checked for fuel leakage from the primary tank.
3. Spill response equipment checked.
4. Pumping equipment checked.

Appendix F - Fuel Handling & Fuel Spill Response Training Course Outlines

Appendix G - Environmental Policy - Cumberland Resources

Cumberland Resources Ltd. is committed to achieving a high standard of environmental care in conducting its mineral exploration activities.

Cumberland's environmental policy includes:

- Compliance with all applicable legislation including laws, regulations and standards. Where laws do not exist, appropriate standards will be applied to minimize environmental impacts resulting from exploration activities.

- Open communication with government, the community and employees on environmental issues.

- Development and adherence to management systems that adequately identify, monitor and control environmental risks associated with Cumberland's exploration activities.

- Assurance the employees are aware of their responsibilities and comply with Cumberland's environmental policy and field guide.