

# **North James River Project**

## **Cygnets Lake Property**

### **Spill Contingency Plan**

#### **Pure Gold Minerals Inc.**

**Prepared by  
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September 27, 2004  
Amended December 22, 2004**

**North James River Project  
Cygnet Lake Spill Contingency Plan  
Pure Gold Minerals Inc.**

### **1. Preamble**

The Spill Contingency Plan submitted in accordance with the terms and conditions of Water Licence NWB2CYG0406 issued on October 6, 2004 and expiring on October 31, 2006. It applies to the Cygnet Lake Property of the North James River Project operated by Pure Gold Minerals Inc. in the Kitikmeot Area of Nunavut, latitude 67° 36.6' and longitude 110° 45'. The property is held under an option agreement with Hunter Exploration Group. Land Use Permit Number N2004C0018 has been issued by the Department of Indian and Northern Affairs in Iqaluit for a two year period from September 23, 2004 to September 22, 2006.  
(See maps in Water Licence Application.)

The following formal distribution has been made of this plan:  
Nunavut Water Board  
Gordon Keevil, Pure Gold Minerals Inc.  
Geoff Goodall, Project Manager, Pure Gold Minerals Inc.

### **2. Introduction**

The purpose of this Spill Contingency Plan is to provide a plan of action for every foreseeable spill event at the Cygnet Lake Property of the North James River project. It defines the responsibilities of key response personnel and outlines the procedures for responding to spill in a way that will minimize potential health and safety hazards, environmental damage and clean up costs. The plan has been prepared to provide easy access to all the information needed in dealing with a spill.

It is Pure Gold policy to comply with all existing laws and regulations to help ensure the protection of the environment, to provide such protection of the environment as is technically feasible and economically practical, to cooperate with other groups working on protection of the environment and to keep employees, government officials and the public informed.

The personnel upon arrival at camp will be instructed on the plan, on how to properly manipulate and store fuel and other hazardous substances and on the location of emergency equipment. A more graphic version of this plan will be posted in common camp areas. The camp will be built in March 2005 so the final building layout could change. Updates will be made if necessary and copies sent to the distribution list.

### **3. Site Description**

The camp will be located on a flat point adjacent on the eastern shore of Cygnet Lake. The camp will be composed of 4 to 6 temporary tent shelters. Fuel will be transported to the project area by fixed-wing airplane or helicopter. All fuel or other hazardous materials will be kept at least 100 metres away from the normal high water mark of any water body.

- The main fuel cache will be located at the camp site
- A few fuel drums are expected to be present on the drill site

- Each of the tent shelters will have a drum of fuel supported on a wooden crib
- Other chemicals will be securely stored in the camp area.

Hazardous materials that will be present on the project site are:

<b>Fuels</b>	<b>Camp Fuel Cache</b>	<b>Drill Site Fuel Cache</b>	<b>Container Capacity</b>
P-50 Diesel	2 drums	10 drums	205 litres
Gasoline	1 drums	0 drums	205 litres
Jet B	10 drums	0 drums	205 litres
Stove oil	4 drums	2 drums	205 litres
Propane	4 cylinders	6 cylinders	45 kg
<b>Other</b>	<b>Location</b>	<b>Use</b>	<b>Container Capacity</b>
Dr-133 Polymer	Camp and drill site	Drill mud additive	20 litres
550-X Polymer	Camp and drill site	Drill mud additive	20 litres
Antifreeze	Camp and drill site	Antifreeze	2 litres
Lead acid batteries	Camp and drill site	Electricity	2 batteries

#### 4. Contacts

People and organizations that can be contacted:

<b>Contact</b>	<b>Name</b>	<b>Telephone Number</b>
Spill Response Team & Field Supervisor	To be announced	Satellite phone: 881-621-418-253
Project Manager	Geoffrey Goodall	Office: 604-687-2038 Cell: 604-312-2762
Cygnnet Lake Camp		Satellite phone: 881-621-418-254
Pure Gold Minerals Inc. Vancouver, B.C.	Gordon Keevil	Tel: 604-687-2038 Fax: 604-687-3141
Spill Report Line (24 hr)		Tel: 867-920-8130 Fax: 867-873-6924
DIAND: Water Resources Inspector		Tel: 867-979-4298
Environment Canada		Tel: 867 669-4700 Fax: 867 873-8185
Environment Canada: Iqaluit		Tel: 867-975-4644
RCMP: Cambridge Bay		Tel: 867-983-1111
RCMP: Kugluktuk		Tel: 867-982-1111
Health Centre: Cambridge Bay		Tel: 867-983-2531
Health Centre: Kugluktuk		Tel: 867-982-4531



CYGNET LAKE

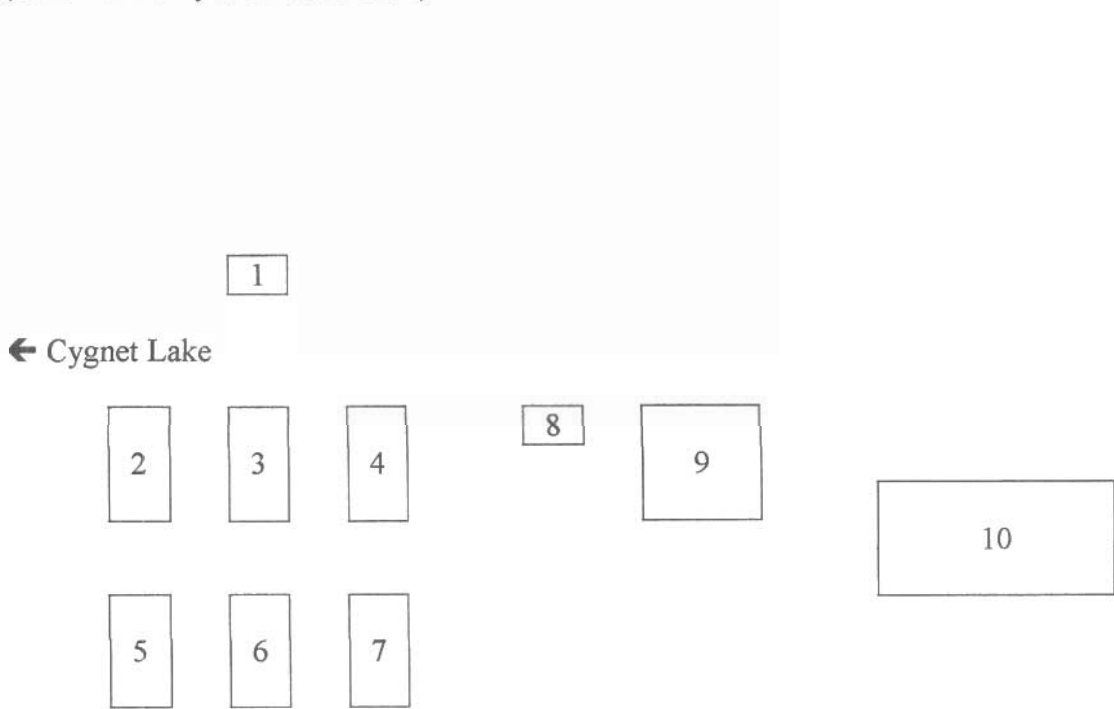
← CAMP AREA

7 497 000 N

510 000 E

**NORTH JAMES RIVER PROJECT**  
Nunavut Region  
**CYGNET LAKE CAMP LOCATION**  
Scale: 1:5 000    NTS: 76M/10  
December 2004

**PURE GOLD MINERALS INC.**  
**North James River Project: Cygnet Lake Camp Layout**  
(Schematic only and not to scale)

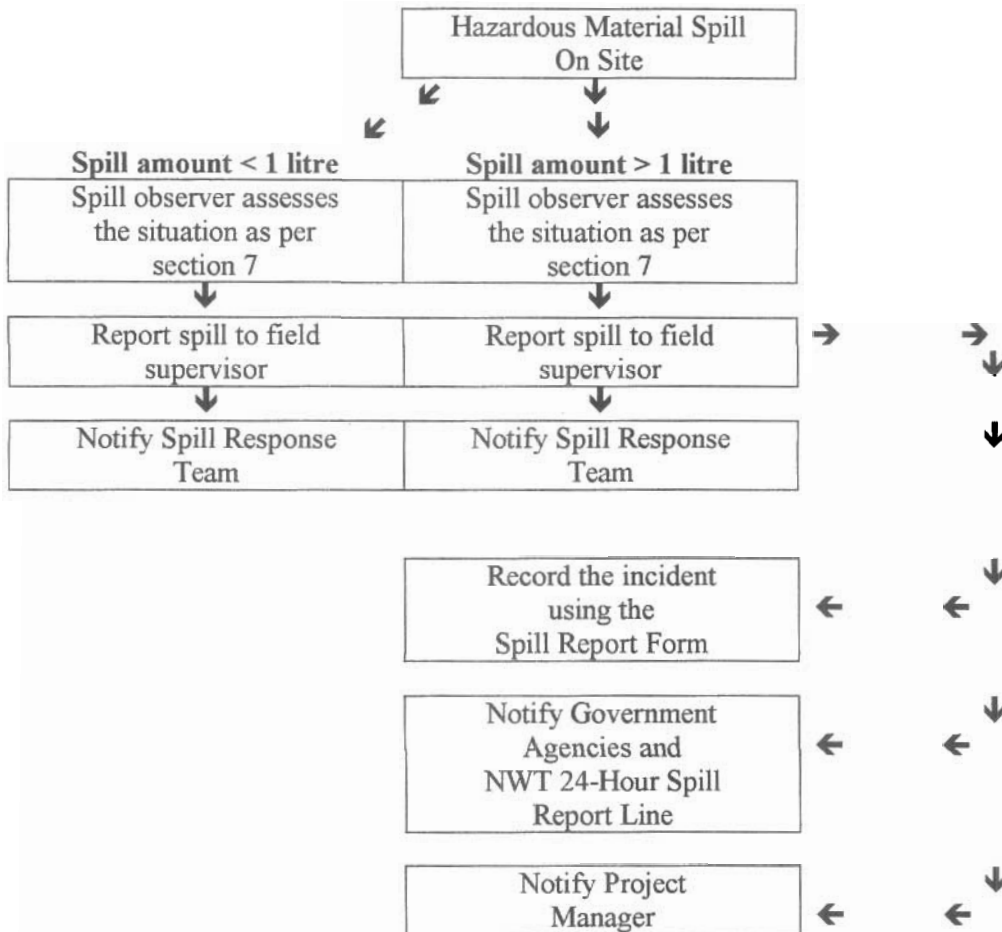


1	Generator
2	Kitchen
3	Dry
4	Cook / Sleeping
5	Geologist / Sleeping
6	Drillers / Sleeping
7	Storage
8	Pit Toilet
9	Fuel Spill Kit
10	Fuel Storage Area



## 5. Response Organization

The following is a flow chart to illustrate the sequence of events if a hazardous material spill occurs at the Cygnet Lake Property.



## 6. Spill Response Team

All personnel will be instructed on the Spill Contingency Plan and trained at using safely the equipment. The Field Supervisor will appoint and train two persons to be the Spill Response Team. They will also be responsible to carry the daily inspections of the fuel caches and equipment. Personnel on site will be limited, so for any large spill most people will likely be needed to help.

### Spill Response Team Responsibilities:

- Perform daily inspections at the Camp fuel cache, chemical storage areas and to fuel hoses.
- Report any spill to Field Supervisor
- Containment of the spill and site remediation.

### Field Supervisor responsibilities:

- Assume complete authority over the spill scene and coordinate all personnel involved.

- Evaluate spill situation and develop overall plan of action.
- Activate the spill contingency plan
- Immediately report the spill to the NWT 24-Hour Spill Report Line (867-920-8130) and regulatory agencies. (For spill greater than 1 litre)
- Fill out the Spill Report Form (for spill greater than 1 litre)
- Report the spill to Pure Gold Project Manager. (For spill greater than 1 litre)
- Obtain additional manpower, equipment, and material if not available on site for spill response.

Project Manager responsibilities:

- Provide regulatory agencies and Pure Gold management with information regarding the status of the clean up activities.
- Prepare and submit a report on the spill incident to the Water Resources Inspector in Iqaluit within 30 days of the event.

## 7. Initial Action

These instructions are to be followed by the first person on the spill scene

1. **Always be alert and consider your safety first.**
2. **Wear personal protective equipment**
3. **Do not smoke and eliminate all source of ignition**
4. Assess the hazard to people in the vicinity of the spill.
5. If possible control danger to human life
6. Do not touch, smell, taste or get close to unknown substance.
7. If substance has been identified and if possible and safe to do so, try to stop the flow of material.
  - If filling is in progress, stop at once
  - If seeping through a small hole, use a patch kit if practical to do so.
  - If necessary and practical, pump the fuel from the leaking container into a refuge container
8. Immediately report the spill to the Field Supervisor and Spill Response Team by radio, satellite phone or in person.
9. Resume any effective action to contain, mitigate, or terminate the flow of the spilled material.
10. If in doubt about cleaning procedures or for a very large spill, regulatory agencies can help.

## 8. Reporting

The person who notices the spill must immediately notify the Field Supervisor. As soon as possible the Field Supervisor will report the spill to

- The 24-Hour Spill Report Line Phone (867) 920-8130, Fax (867) 873-6924
- Fill out the NWT Spill Report Form *NWT1752/0202* (form included at the back of this document).
- Notify Pure Gold Project Manager for spill greater than 1 litre.
- Notify permitting authorities (Nunavut Water Board).
- Notify the Water Resources Inspector in Iqaluit within 30 days

## 9. Resource Inventory

A spill kit will be located at each fuel cache and drill site and will contain:

- 1 – 360 litre/79 gallon polyethylene drum
- 4 – oil absorbent booms (5" X 10')
- 100 – oil absorbent sheets (16.5" X 20" X 3/8")
- 1 – drain cover (36" X 36" X 1/16")
- 1 – Caution tape (3" X 500')
- 1 – 1 lb plugging compound
- 2 – pair Nitrile gloves
- 2 – pair Safety goggles
- 2 – pair Tyvek coveralls
- 1 – instruction booklet
- 10 – printed disposable bags (24" X 48")
- 1- shovel (in remote spill kit only)
- 1- plastic tarp

This spill kit capacity is 240 litres.

Shovels, water pump, plastic pails, garbage bags, extra absorbent pad, drip pans will be available in core shack and/or kitchen. Fire extinguishers will be available in all tents

## 10. Hazardous Material Information

This following section lists for each hazardous substance present on the project area, health hazards, spill procedure and disposal procedures. For more detailed information, refer to the MSDS sheets.

### DIESEL, JET-B, GASOLINE

**Diesel, Jet-B and Gasoline are highly flammable**

**Do not smoke**

**Will be easily ignited by heat, sparks or flames**

**Gasoline and Jet-B are more volatile than diesel**

**Explosion hazard indoors, in confined spaces and outdoors**

**Vapours may form explosive mixtures with air**

**Vapours may travel to source of ignition and flash back**

**Most vapours are heavier than air. They will spread along ground and collect in low or confined areas.**

**Keep pump or electrical equipment far away, be very careful with metallic tools that could sparks on rocks, wait for vapours to dissipate**

- **Inhalation may cause central nervous effects**
- **Aspiration into lungs may cause pneumonitis which can be fatal**
- **Eye and skin irritation**
- **Prolonged exposure has caused cancers in laboratory animals**

#### Spill on Land

- Build a containment berm, downslope, using, peat, moss, soil material, bags filled with



sand or rocks and place a plastic tarp at the foot of the berm to pool the spill. Spill can be pumped if in a large amount

- Soak up spilled substance by using absorbent pads
- Excavate the surface soil if necessary. If large excavation is needed, first contact regulatory agencies for approval.
- Remove spill substance splashed on vegetation by applying a thin dusting of Spag-zorb or other ultra-dry absorbent.
- Dispose hydrocarbons, absorbent pad, contaminated soil and cleaning material in an empty drum, seal it and label it.
- On marshy zones, don't destroy vegetal cover, limit personnel and equipment. Remove pooled oil with absorbent pads and/or skimmer.

### **Spill on Water**

- Contain spill as close to release point as possible
- On small spill, deploy hydrophobic absorbent pads
- On larger spill and weather conditions permitting, use containment boom to limit fuel dispersion. Use a skimmer, pump or hydrophobic absorbent pads to remove fuel inside the boom.
- Dispose hydrocarbons, absorbent pad, contaminated soil and cleaning material in an empty drum, seal it and label it.

### **Spill on Rivers and Streams**

Prevent entry into water, if possible, by building a berm or trench.

- Intercept moving slicks in quiet areas using (absorbent) booms.
- Do not use absorbent booms/pads in fast currents and turbulent water.

### **Spill on Ice and Snow**

Build a containment berm of compacted snow around spill.

- If hydrocarbons are pooling on ice, pump large amount or use hydrophobic absorbent pads.  
Don't delay removing the spill as hydrocarbons could seep through cracks into the water.  
Scrape ice, shovel all contaminated snow in plastic buckets with lids or in drums. Dispose absorbent pads and other contaminated equipment in separated containers. Label and seal the containers.

### **Spill Disposal**

- Contact Federal and Territorial regulatory agencies to identify appropriate disposal methods before disposing of contaminated material

## **PROPANE**

### **Extremely Flammable**

**Do not smoke**

**Cylinders may explode when heated**

**Cylinders may rocket if ruptured**

**Will be easily ignited by heat, sparks or flames**

- Explosion hazard indoors, in confined spaces and outdoors
- Vapours may form explosive mixtures with air
- Vapours may travel to source of ignition and flash back
- Vapours from liquefied gas are initially heavier than air and spread along ground.
- Contact with gas or liquefied gas may cause burns, severe injuries and/or frostbite
- Keep pump or electrical equipment far away, be very careful with metallic tools that could sparks on rocks, wait for vapours to dissipate
- Liquid may cause frostbites and blisters
- Blurred vision if goes in the eyes
- Narcotic asphyxiant
- Dizziness, disorientation, excitation, headache, vomiting, unconsciousness if inhaled

#### **Spill on Land, Water, Ice and Snow**

- Eliminate all source of ignition
- Do not attempt to contain the propane release if not absolutely sure on what to do
- Do not touch or walk through spilled material
- Stop leak if can be done without risk
- If possible, turn container so that gas escapes rather than liquid
- Water spray can be used to knock down vapours but don't direct water at spill or source of leak
- Prevent spreading of vapours in confined areas
- If or when possible, confine spill with confinement berm. Throw absorbent pads into spill, retrieved them with gaffs or pitchforks.
- Small fire can be extinguished with dry chemical or CO2.
- Dispose contaminated materials in a labelled drum

#### **Spill Disposal**

- Contact Federal and Territorial regulatory agencies to identify appropriate disposal methods for defective equipment that resulted in the release.

## **MOTOR OIL, HYDRAULIC OIL, TRANSMISSION FLUID**

- Avoid breathing mists, may cause lung irritation
- On skin may cause mild irritation

#### **Spill Action**

- Soak up with absorbent material
- Dispose contaminated soil and material in sealed and labelled container
- Small amount can be incinerated
- Large amount to be disposed as hazardous waste.

## **ANTIFREEZE**

- Respiratory irritation with prolonged exposure.
- Kidney, liver and bladder problems reported in animals

### **Spill on Land**

- Soak up by using absorbent pads
- Dispose antifreeze, absorbent pad, contaminated soil and cleaning material in an empty drum, seal it and label it.
- On marshy zones, don't destroy vegetal cover, limit personnel and equipment. If possible remove pooled antifreeze with absorbent pads.

### **Spill on Rivers and Streams**

- Prevent entry into water, if possible, by building a berm or trench.

### **Spill on Ice and Snow**

- Build a containment berm of compacted snow around spill.
- If pooling on ice, pump large amount or use absorbent pads
- Don't delay removing the spill as it can seep through cracks into the water.
- Scrape ice, shovel all contaminated snow in plastic buckets with lids or in drums. Dispose absorbent pads and other contaminated equipment in separated containers. Label and seal the containers

### **Spill Disposal**

- Contact Federal and Territorial regulatory agencies to identify appropriate disposal methods before disposing of contaminated material.

## **BATTERY ACID**

**Fire and explosion hazard**

**Can be extinguished with dry chemical fire extinguisher.**

**Ventilate area**

**Remove combustible materials**

**Mist inhalation hazard when being charged or spilled**

**Acid burns to skin and eyes irritation**

### **Spill Action**

- Neutralize with soda or lime
- Dispose battery and neutralized contaminated material in a sealed and labelled container.
- Dispose as an hazardous waste

## **POLY-DRILL DR-133**

- May cause skin and eye irritation

### **Spill Action**

- Soak up with absorbent pad
- Dispose residue, contaminated soil and material in labelled containers. Solidify with sand.
- Small amount can be incinerated, otherwise dispose as hazardous waste

### **550-X Polymer**

- \* Prolonged skin contact may cause irritation
- ~ Possible eye irritation
- ~ Ingestion may cause nausea, vomiting, cramps, diarrhea

#### **Spill Action**

- Clean up spill with gloves. Scrape soil or surface and dispose in labelled containers
- Dispose as hazardous waste