

# APPENDIX K

APPENDIX K TYHEE HAZARDOUS MATERIAL SPILL CONTINGENCY PLAN





March 31, 2010

Via Canada Post only to MVLWB

Mr. Willard Hagen, Chair  
Mackenzie Valley Land and Water Board  
7<sup>th</sup> Floor – 4910 – 50<sup>th</sup> Avenue  
P.O. Box 2130  
Yellowknife, NT  
X1A 2P6

Re: Spill Contingency Plan – Water Licence MV2002L2-0017  
Tyhee NWT Corp - Yellowknife Gold Project  
Update to Approved Plan

Dear Mr. Hagen:

The above captioned Spill Contingency Plan (originally submitted as Hazardous Material Spill Contingency Plan) was approved by the Board under your letter dated May 7, 2009 in which it states "The Board has approved the SCP as submitted on the condition that Tyhee NWT Corp makes the six editorial changes and includes an executive summary, site map and an inventory of response equipment as requested by Environment Canada and the GNWT". This submission is in response to the board's request and includes:

- The various editorial changes,
- A brief executive summary which was included as part of the Introduction in the approved submission.
- Revised site maps that now show the approximate location of the various spill kits and
- An inventory of the various spill kits currently on site.

It should be noted that all other information submitted with the plan dated December 4, 2008 remains the same and the attached does not include the ARD Monitoring and Contingency Plan or the numerous MSDS Sheets. Tyhee NWT Corp respectfully refers the board and all reviewers to the original submission.

With the above in mind, Tyhee feels that this submission meets the requirements of the Board's letter dated May 7, 2009 and no external review is required. Tyhee NWT Corp looks forward to receiving the Board's full and final approval in due course

Should you have any concerns related to this matter, please do not hesitate to contact the undersigned.

Yours truly,

*Original signed by "H.R. Wilson*

Hugh R. Wilson  
Vice President, Environment and Community Affairs  
780-975-2550 (cell)

CC: Doug Levesque, Vice President, Operation,  
Dave Webb, President, Tyhee Development Corp  
Roger Sylvestre, Exec. VP, Tyhee Development Corp  
Carolyn Cornell, Tyhee Development Corp





# HAZARDOUS MATERIAL SPILL CONTINGENCY PLAN

December 2008

Revised March 2010 (see cover letter)

Prepared By  
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## Executive Summary

This Hazardous Material Spill Contingency Plan covers the actions that Tyhee NWT Corp personnel and contractors will follow in ensuring that any spills that occur as a result of the advanced exploration activities associated with the terms and conditions of our current water licence will be reported and appropriate remedial action taken to address the incident being reported. Through the spill reporting requirements coupled with follow up inspections by INAC Inspectors, Tyhee NWT Corp continues to be diligent in careful handling and storage procedures for all hazardous materials and will follow the Spill Contingency Plan as stated below.

## Introduction

The purpose of Tyhee NWT Corp.'s Hazardous Material Spill Contingency Plan is to provide a plan of action for foreseeable spill events that may occur at the Yellowknife Gold Project under the current advanced exploration water licence (MV2002L2-0017) expiring on October 30, 2013. It defines the responsibilities of key response personnel and outlines the procedures for responding to spills 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 possible spill.

The following pages contain maps showing the facilities operated by Tyhee NWT Corp in the Yellowknife Gold Project area. The current water licence applies to the Ormsby site only and this plan focuses on activities associated with the advanced exploration activities covered by water licence MV2002L2-0017. The Ormsby property is shown on Site Plans. Petroleum products being used to support the advanced exploration activities include diesel fuel, Jet B fuel, regular unleaded gas, assorted lubricants and propane.

This contingency plan is also designed to cover the transportation of petroleum products and chemicals from Yellowknife to the site. The major transportation route to the site is by winter road (Figure 2).

To meet the intent of Part F, Item 1 of water licence MV2002L2-0017, we attach as Appendix 3, the **Board approved** Acid Rock Drainage Monitoring and Contingency Plan.

Site Plans:

Dated July 2009

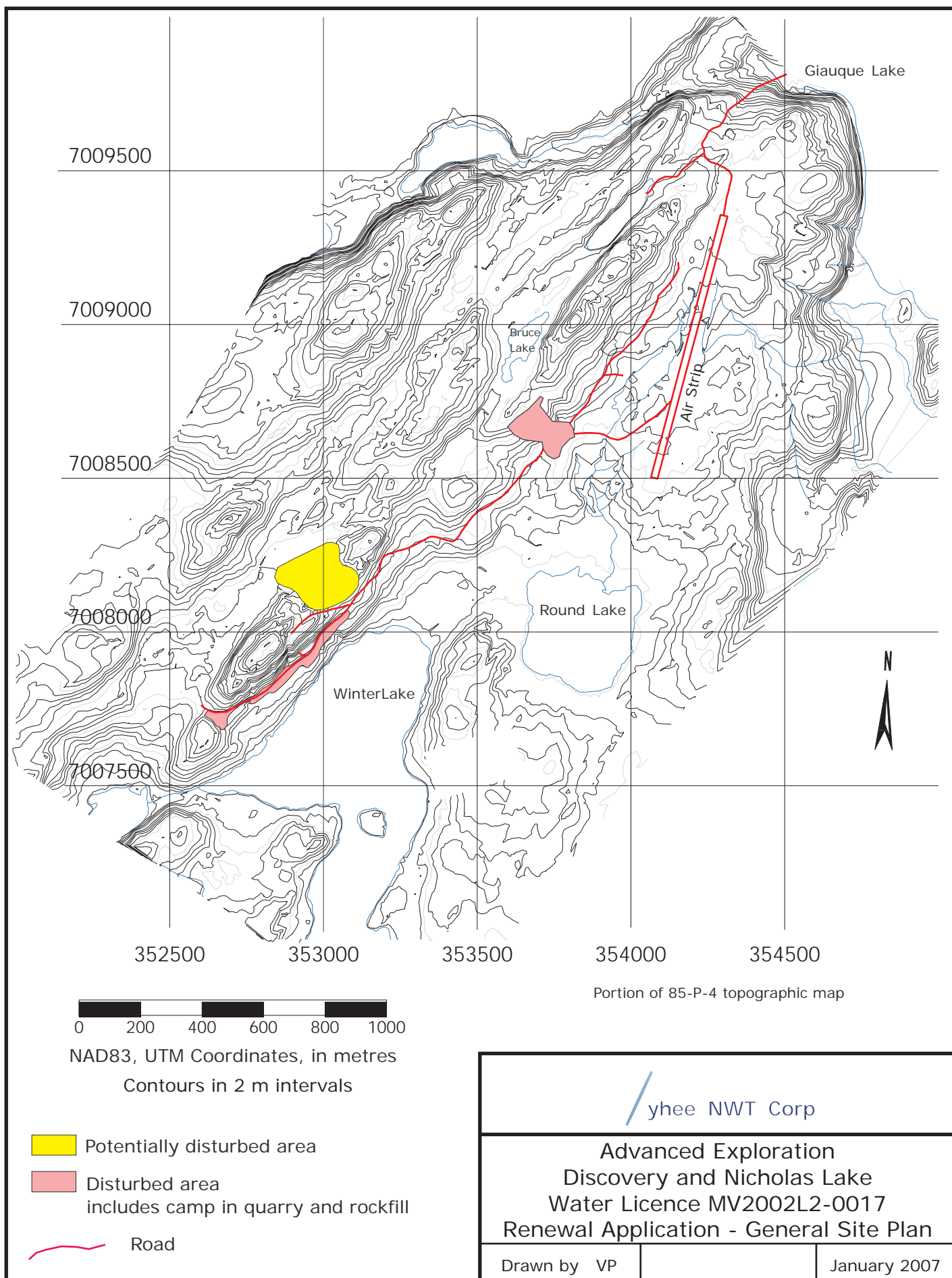
Ormsby Property, Yellowknife Gold Project

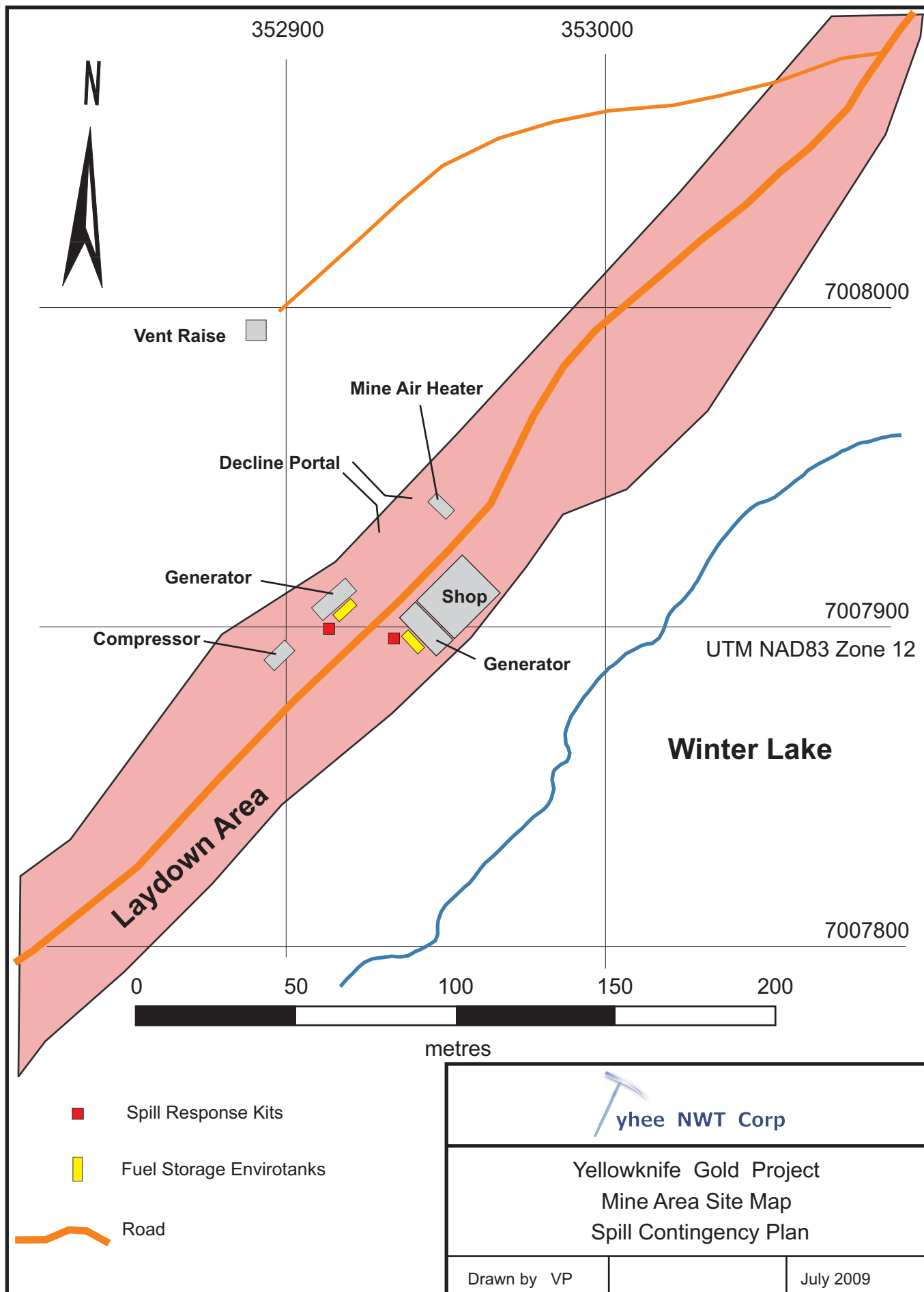
### **INVENTORY - SPILL RESPONSE KITS**

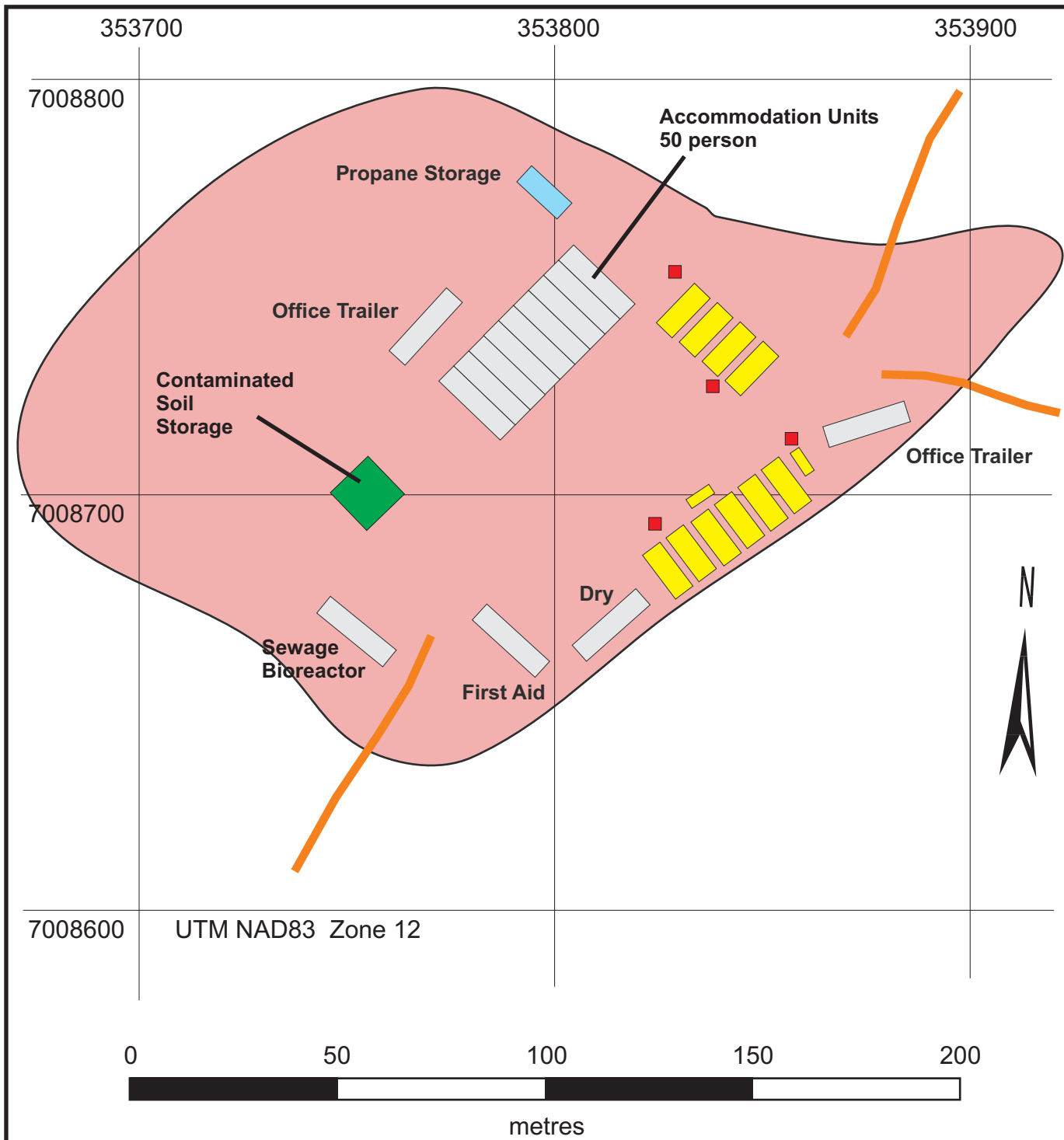
Spill Response Kits as shown on the Mine Site Area Map and the Camp Area Site Map in this submission contain the following:

- 6- 4'x3" absorbant booms,
- 21-1'x1'x 2" absorbant pads,
- 1- large bag of extra absorbant oil sponge,
- 36- absorbant large pads,
- 1- large 10'X6" absorbant oil boom,
- 3- pairs of disposable coveralls,
- 3- pairs of rubber gloves,
- 3- pairs of high impact eye protectors, and
- 2 large rubber mats 12'x12'.
- We also retain a quantity of oil absorbent pads in case of an emergency.









Spill Response Kits



Fuel Storage Envirotanks



Road



yhee NWT Corp

Yellowknife Gold Project  
Camp Area Site Map  
Spill Contingency Plan

Drawn by VP

July 2009

Photos of Camp area and Ormsby Portal Area



*Ormsby Camp Area*

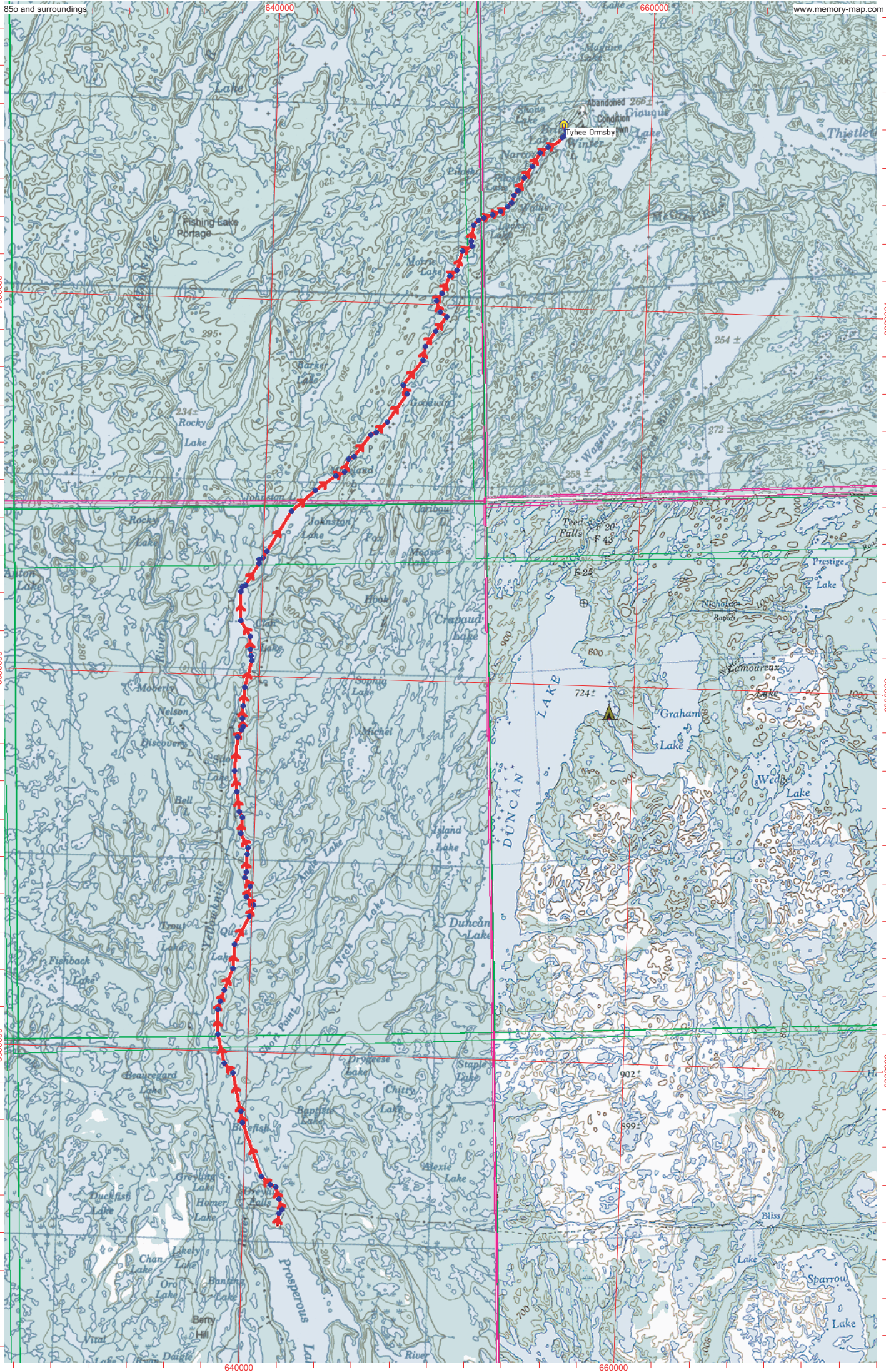




Ormsby Portal Area

Figure: Winter road route from Prosperous Lake to Yellowknife Gold Project site.





NOTES:

- Base mapping from Watts, Griffis and McOuat (drawing file TDC\_07\_Base\_Infrastructure.dwg)
- Background imagery from IKONOS (July 27 and August 2, 2004) and Landsat TM (August 11, 2001)
- Extra water features extracted from IKONOS imagery

YELLOWKNIFE GOLD PROJECT

Winter Road Route Prosperous Lake to Ormsby

PROJECTION UTM Zone 12	DATUM NAD83
Scale 1:250,000 NTS Sheets: 85o, 85p, 85i, 85j	
FILE NO.	



PROJECT NO.	DWN KWW	CKD	REV 0
OFFICE	DATE Nov 24, 2008		

Figure 2



## Organization and Responsibilities

The overall responsibility for the contingency plan lies with –

**David R. Webb, President and CEO**

**Tyhee Development Corp**

**Suite401 - 675 W. Hastings St.**

**Vancouver, B.C., Canada V6B 1N2**

**Fax number: (604) 681-2879**

**Telephone number: (604) 681-2877**

The direct responsibility for the plan lies with -

**Hugh R Wilson**

**Vice President - Environment and Community Affairs**

**(604) 681-2877**

**(780) 975-2550 (cell)**

The cleanup activities will be managed by the On Site Coordinator (OSC) who will be resident at the mine site. This responsibility presently falls to:

**Vice President – Operations (or his designate)**

Contractors, sub-contractors and suppliers, if applicable, will provide assistance in all phases of a clean up as directed by the OSC. In the event that a contractor, sub-contractor or supplier or their employees causes a spill, Tyhee NWT Corp will charge clean-up and disposal expenses to the responsible party. The OSC will:

- 1 Be familiar with fuel spill procedures, equipment and contact numbers.
- 2 Provide liaison with Territorial Government Emergency Programs, Department of Environment, Department of Fisheries and Oceans and Indian and Northern Affairs Canada personnel where applicable.
- 3 Direct the actions of personnel during clean-up operations.
- 4 Familiarize key personnel with fuel spill equipment and procedures by being responsible for training programs.
- 5 Prepare a report on all aspects of any spill.

**The contact phone number for the Tyhee NWT Corp, Yellowknife Gold Project at the project site is**

**(604) 759-2249**

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## **Response Action**

### ***Discovery of a spill***

Upon discovery of a spill personnel will immediately

- a) identify the product that is spilling, or has spilled;
- b) assess immediate hazards, and ensure all on-site persons are aware of them;
- c) stop/contain the spill and secure the site; and,
- d) commence initial notification of appropriate personnel and agencies.

### ***Identification/Assessment of spill***

This step is critical to ensure the safety of responders, and to minimize the impact to the environment. The assessment should include:

- a) re-assess the material spilled and quantity spilled;
- b) re-assess any immediate hazards;
- c) identify all the safety issues that need to be dealt with before taking action. These include ignition sources, protective clothing and public safety.
- d) Refer to Material Safety Data Sheets for product identification and handling.

### ***Notification***

The On Site Coordinator will take note of the following information from the discoverer of the spill:

- a) discoverer's name
- b) time and location of the spill;
- c) material spilled and approximates quantity;
- d) cause of spill if known;
- e) weather conditions;
- f) action taken so far',
- g) immediate serious threats (water courses, fire) The OSC will then make the following contacts as required and dependent on seriousness or threat:

- Immediately notify the Tyhee NWT Corp – Ormsby Site Office and Corporate Office.
- Notify the SPILL LINE and/or the DIAND 24 Hour Spill Line at:  
Tel. (867) 920-8130,  
Fax. (867)873-6924.
- Notify the DIAND Land /Water Use Inspector Tel. (867)-669-2760
- Complete Spill Report Form as soon possible after contacting the 24 Hour Spill Line.
- Notify other members of the response team as deemed necessary
- Other contacts for spill response/assistance as necessary

## **Critical Contact Numbers**

<b>DIAND – District Manager, South Mackenzie District</b>	<b>(867)-669-2760</b>
<b>DIAND – Water Resources Officer /Land Use Inspector</b>	<b>(867) 669-2764 / (867) 669-2794</b>
<b>24 Hour Spill Reporting Number NWT (phone)</b>	<b>(867) 920-8130</b>
<b>24 Hour Spill Reporting Number NWT (fax)</b>	<b>(867) 873-6924</b>
<b>Environment Canada</b>	<b>1-866-845-6037</b>
<b>RCMP, Yellowknife</b>	<b>(867) 669-1111</b>
<b>YKDFN, Yellowknife, NT</b>	<b>(867) 873-4307 Dettah (867) 873-8951 N'dilo</b>
<b>NSMA, Yellowknife, NT–</b>	<b>(867) 873-9176</b>
<b>Stanton Regional Hospital – Yellowknife, NT</b>	<b>(867) 920-4111</b>

## Reportable Incidents

Spill Volumes that must be reported to the NWT/NU 24-hour Spill Line are as follows:  
(generic list – not all applicable to the current advanced exploration activities under  
water licence MV2002L2-0017)

Transportation of Dangerous Goods Class	Description of Contaminant	Amount Spilled
1	explosives	any amount
2.1	compressed gas (flammable)	any amount of gas from containers with a capacity greater than 100 L
2.2	compressed gas (non-corrosive, non flammable)	any amount of gas from containers with a capacity greater than 100 L
2.3	compressed gas (toxic)	any amount
2.4	compressed gas (corrosive)	any amount
3.1, 3.2, 3.3	flammable liquid	≥100 L
4.1	flammable solid	≥25 kg
4.2	spontaneously combustible solids	≥25 kg
4.3	water reactant solids	≥25 kg
5.1	oxidizing substances	≥50 L or 50 kg
5.2	organic peroxides	≥1 L or 1 kg
6.1	poisonous substances	≥5 L or 5 kg
6.2	infectious substances	any amount
7	radioactive substances	any amount
8	corrosive substances	≥5 L or 5 kg
9.1 (in part)	miscellaneous product or substances, excluding PCB mixtures	≥50 L or 50 kg
9.2	environmentally hazardous	≥1 L or 1 kg
9.3	dangerous wastes	≥5 L or 5 kg
9.1 (in part)	PCB mixtures of 5 or more parts per million	≥0.5 L or 0.5 kg
None	other contaminants	≥100 L or 100 kg

Report releases/potential releases of any size that:

- are near or into an open water body;
- are near or into a designated sensitive environment or sensitive habitat;
- pose an imminent threat to human health or safety; or
- pose an imminent threat to a listed species at risk or its critical habitat

Note: L = litre; kg = kilogram; PCB = polychlorinated biphenyls.

## Site Information

The following table provides a summary of the products to be stored on site related to exploration activities under the current water licence (MV2002L2-0017).

Ormsby Property	
Product	Amount
Diesel	max 913,5000 l/ year
Gasoline (Unleaded)	Est. 5,000 l/year
Jet B	Est.10,000 l/year
Propane	Est. 75,000 l/ year

## Failure Prevention

### *Fuel Storage and Transfer System*

Fuel spills could occur from:

- leaks in storage;
- transfer between fuel storage and vehicles;
- transfer between tanks;
- broken pipes, leaking hoses or nozzles used at transfer facilities and pumping stations;
- fuel transfer vehicle or equipment accidents and roll-overs;
- helicopter fuel slinging; and operator error.

The following measures are in place to reduce the risks of spills and equipment failure:

- scheduled inspection and maintenance of all fuel related systems;
- double locking mechanisms on valves and transfer hoses and spring-loaded valves on loading nozzles;
- careful measurement of fuel levels in tanks (particularly when transferring fuel);
- training in fuel handling operations (manned at all times);
- spill response training;
- limited access to the fuel storage and handling areas;
- use of absorbent pads during all vehicle and all operating machinery maintenance activities;
- the decanting of snow or water from the tank bermed areas will proceed only when chemical analysis has determined the contents meet the requirements of the water licence or other federal regulations.

## ***Chemical and Explosives Storage and Transfer System***

There are no chemicals or explosives currently used or stored on site related to the advanced exploration activities under the current water licence MV2002L2-0017.

## ***Sewage Treatment System***

Sewage Treatment Bio-reactor (STB) currently operating at the advanced exploration site could malfunction as the result of human error, breakage of equipment, or unusual conditions in the raw sewage. At such times, raw or partially treated sewage may be discharged to an adjacent wetland. At the existing camp site, natural wetlands downstream of the STB provide tertiary treatment for treated sewage effluent. Monitoring the discharge from the STB is specified in Surveillance Network Program (SNP) of the current advanced exploration water licence MV2002L2-0017 and an approved Sewage Treatment Plan is on file with the MVLWB.

Visual inspections of the STB are carried out daily and any malfunctions or operating problems are immediately addressed .

## **Spill Action Plans**

### ***General Generic Response***

- Identify spilled material.
- Protect yourself and others (e.g., be alert and take all necessary precautions).
- Assess the hazards in the immediate vicinity of the spill or leak.
- Shut off ignition sources in the vicinity of the spill for flammable liquids,
  - NO SMOKING.
- Call for assistance IMMEDIATELY, if anyone is injured.
- Attend to injured, if possible.
- Assess the severity of the spill. Assess if the spill, leak or system failure can be readily stopped or brought under control.
- Contact the On-scene Coordinator.
- Mobilize the SRT (by On-Scene Coordinator)
- Keep people away from the spill site.
- Wear appropriate PPE equipment.
- Report spill to the 24 hour spill report line 867-920-8130.

## ***Fuel Storage and Transfer System***

**Assess safety hazard and proceed accordingly**

### **ON LAND:**

- ELIMINATE IGNITION SOURCES.
- Block entry into waterways. Do not flush into natural drainage paths.
- Contain spill by diking with earth, snow or other barrier.
- Remove minor spills with sorbent or explosion-proof pump.
- Cover pools with foam to prevent vapor evolution if product presents a fire hazard otherwise allow vapors to dissipate.

### **ON WATER:**

- ELIMINATE IGNITION SOURCES.
- Contain or remove spills **ONLY AFTER VAPOURS DISSIPATE**.
- Surround contaminated area with booming.
- Recover slicks using skimmer and sorbent, if volumes warrant.

### **STORAGE & TRANSFER OF CONTAMINATED SOIL OR PRODUCT**

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

### **DISPOSAL OF CONTAMINATED SOIL OR PRODUCT**

- Segregate waste types.
- Place contaminated materials into segregated, marked containers.
- Consult with environmental authorities during final disposal

## ***Chemical and Explosives Storage and Transfer System***

There are no Chemicals or Explosives currently stored or used on site related to the advanced exploration activities and none are expected to be used or stored on site during the term of the current advanced exploration water licence MV2002L2-0017.

## Training and Drills

The Spill Response Team (SRT) members are trained to respond to spills, be aware of the dangers the spill presents and how to respond in a safe manner. The use and availability of Personal Protective Equipment (PPE) by all SRT personnel is mandatory. Typical PPE includes work boots, hard hat, coveralls, neoprene gloves, goggles, face shield and chemical/dust respirators, as appropriate. The SRT training will commence at the start up of construction and refresher training is to be conducted annually.

All contractors are required to be trained under Workplace Hazardous Materials Information System (WHMIS), Transportation of Dangerous Goods (TDG), Hazardous Atmospheres and Confined Space Entry. Contractors will also provide support to Tyhee NWT Corp for major spill response activities, upon request. Any spills that are directly related to contractor activities, they are responsible for cleanup of their own spills. Compliance with our land use permits terms and conditions ensure that appropriate actions are taken to respond to and clean up any spills. Contractor spill handling and cleanup procedures can be made available to **the Inspector** if requested.

Fuel handling crews are to be trained in the safe operation of the facilities, spill prevention techniques and initial spill response. This is generally done through the sites staff orientation program.

Although there are no chemicals or other hazardous materials handled at site under the current advanced exploration activities, should this change during the current life of the existing water licence, appropriate training programs would include regular WHMIS and TDG training for all employees who use or are responsible for chemicals or hazardous materials on-site. Additional safe chemical handling training will be conducted for employees handling or working in the vicinity of dangerous chemicals. This includes Spill Response, Self-Contained Breathing Apparatus (SCBA) and Confined Space Entry.

As mentioned, the staff orientation program covers initial spill response and recorded on site including completion dates of all training taken is recorded and tracked, and re-training will occur annually or as required by the specific course. Any other training such as First Aid, Rescue, Fire Fighting, etc. is also tracked.

A list of courses for SRT members will include:

- On-scene Spill Commander Course
- Spill Responder (First Responder)



The SRT is familiar with:

- a review of the most current spill response plan;
- emergency contact lists;
- responsibilities of the team members;
- the nature, status, and location of fuel and chemical storage facilities;
- the on-site and off-site spill response equipment;
- response procedures for specific types of spills;
- the spill response procedures for 'on land', 'oil on water', 'boat handling' and 'winter spills';
- desktop exercises of "worst case" scenarios;
- the likely causes and possible effects of spills

All instructors will be qualified in spill response and prevention methods.

## **Emergency/Spill Exercise**

Tyhee NWT Corp, under the current water licence, does not conduct regular emergency/spill exercises, however; tool box meetings discuss these matters as necessary. The discussions would be geared to spills, system failures and other emergencies. Depending upon the material, spill exercises may be conducted up to four times per year (fuel storage areas). A report is made by the On-scene Coordinator noting the response time, personnel involved and any problems or deficiencies encountered. This report is used to evaluate the ability of personnel to respond to spills and to identify areas of improvement.

## **Appendix 1 NWT Spill Report Form**



**Appendix 2**  
**MSDS Forms (Applicable to current activities at Tyhee**  
**NWT Corp's advanced exploration site; Diesel, Unleaded**  
**Gasoline, Jet B and Propane)**

**Appendix 3  
Acid Rock Drainage Monitoring and Contingency Plan  
(Applicable to the current advanced exploration activities  
at Tyhee NWT Corp's Yellowknife Gold Project.)**

**This plan was approved by the MVLWB by letter dated July 10, 2008 and is on their files.**

