North Arrow
MINERALS INC.

# Hope Bay Oro Project, Nunavut

## 2011 Annual Report
## Lic. 2BE-HBP1116

**Mike MacMorran, P.Geol. (BC, #37473)**
**Nov. 4, 2013**

## Introduction

In July and August of 2011 North Arrow Minerals Inc., carried out a diamond drill program on its Oro Leases in the Hope Bay area of Nunavut (Fig. 1). Work was based out of North Arrow's Robert's Lake camp (Fig. 2). Personnel including diamond drill crew mobilized to the Robert's Lake camp on July 29th. Drilling was completed by August 25th and final personnel departed the camp on August 28th of 2011. This report is to supplement the standard requested water board spreadsheet format report.

## Water Use

Water was used for two purposes, domestic in camp use and for the diamond drilling program. Domestic use totaled 34.25 $m^3$ for an average of 1.10 $m^3$ per day. Drilling use totaled 834.76 $m^3$ for an average of 36.29 $m^3$ per day. Maximum daily consumptions and average consumptions for domestic and drilling use were both values are under permit limits.

## Waste Disposal

Food, combustibles and human waste were incinerated at site using a diesel powered incinerator. Any non-combustible garbage was back hauled to Yellowknife via Cambridge Bay by utilizing a Buffalo aircraft (private North Arrow charter).

## Unauthorized Discharges

No unauthorized discharges.

## Revisions to Spill Contingency Plan and Abandonment and Restoration Plan

Applicable Addendums are located in Appendix 1.

## Progress on Final Reclamation work

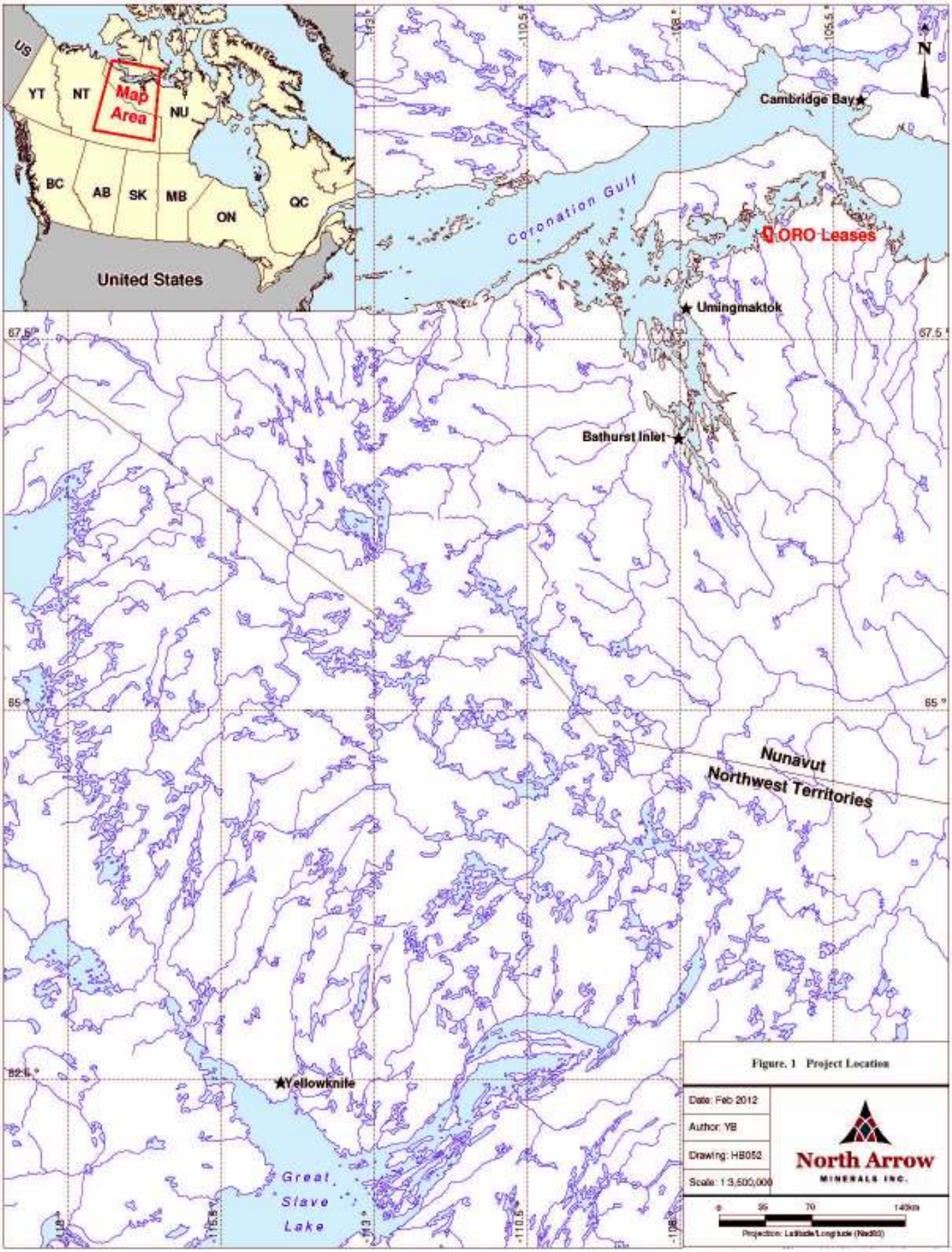
Project is ongoing. None undertaken to date.

## Monitoring Program

Water use information is located in Appendix 2.

## Sampling

Not requested.


US
YT
NT
Map Area
NU
BC
AB
SK
MB
ON
QC
United States
N
Cambridge Bay
Coronation Gulf
ORO Leases
Umingmaktok
Bathurst Inlet
Nunavut
Northwest Territories
Yellowknife
Great Slave Lake
67.5°
65°
Figure. 1 Project Location
Date: Feb 2012
Author: YB
Drawing: HB052
Scale: 1:3,500,000
North Arrow
MINERALS INC.
0 35 70 140km
Projection: Latitude/Longitude (Nad83)

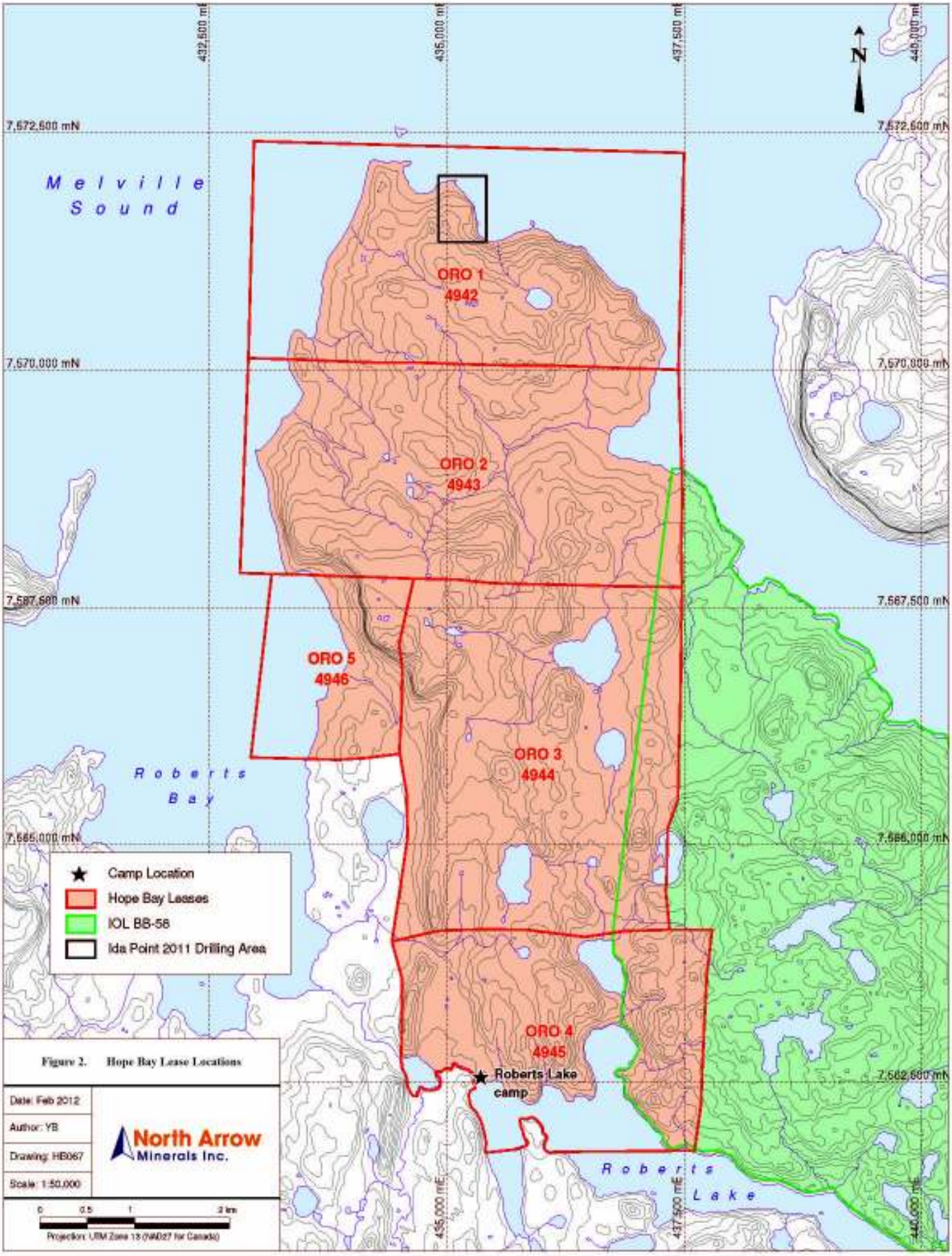



Figure 2. Hope Bay Lease Locations

| | |
|---|---|
| Date: Feb 2012 | North Arrow Minerals Inc. |
| Author: YB | |
| Drawing: HB067 | |
| Scale: 1:50,000 | |

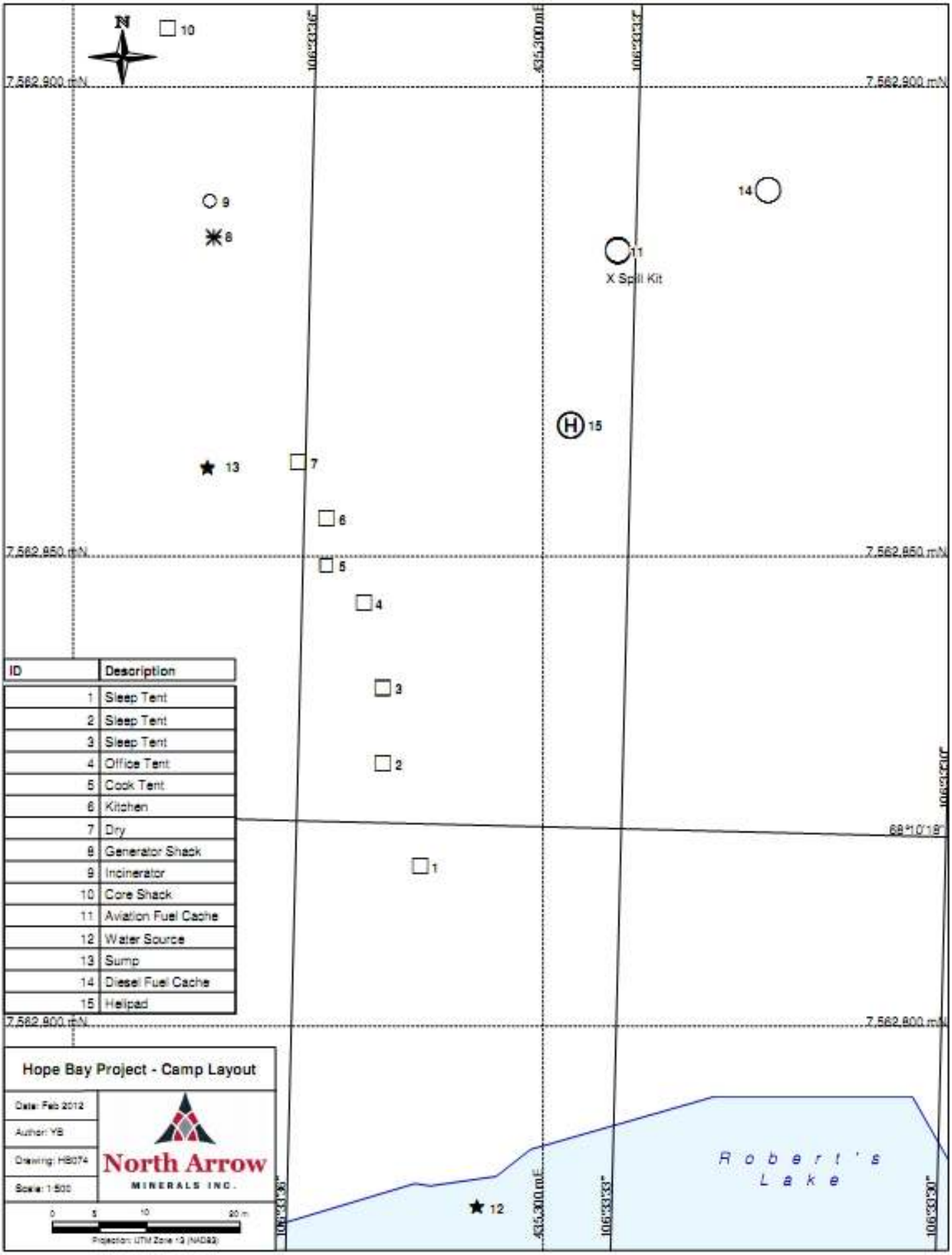
# Appendix 1

# Addendums

**Spill Contingency Plan Addendum**
**For**
**North Arrow Spill Contingency Plan: Re Permit 2BE-HBP1116 Type B**

Camp Location Map Requested – See attached

For the Spill Contingency Plan a 24 hour pager for Environment Canada is listed. Note this number is no longer in service. Replace page 8 of Spill Contingency Plan with following appended page 8. Additional information regarding procedures for contaminated soils resulting by large spills was requested as a recommendation by Environment Canada and is included in the "*Spill Contingency Plan* – Hope Bay Oro Project, Nunavut" dated February 2011.




| ID | Description |
|---|---|
| 1 | Sleep Tent |
| 2 | Sleep Tent |
| 3 | Sleep Tent |
| 4 | Office Tent |
| 5 | Cook Tent |
| 6 | Kitchen |
| 7 | Dry |
| 8 | Generator Shack |
| 9 | Incinerator |
| 10 | Core Shack |
| 11 | Aviation Fuel Cache |
| 12 | Water Source |
| 13 | Sump |
| 14 | Diesel Fuel Cache |
| 15 | Helipad |

***Table 2 – Emergency Contacts***

| CONTACT | TELEPHONE NUMBER |
|---|---|
| INAC - Land Use Inspector | (867) 975-4295 |
| North Arrow – Gordon Clarke, Vice-President | (778) 328-1060 (Office); (604) 558-0058 (Fax)<br>(778) 772-2212 (24 hour) |
| Environment Canada, Iqualuit | (867) 975-4644 |
| INAC – Water Resource Officers, Kugluktuk and Iqaluit, NU | Kugluktuk (867) 982-4308<br>Iqaluit (867) 975-4298 |
| Kitikmeot Inuit Association | (867) 983-2458 |
| Nunavut Tunngavik Inc., Cambridge Bay | (867) 983-2517 |
| Air Tindi | (867) 669-8212 |
| Great Slave Helicopters | (867) 873-2081 |
| Yellowknife Fire Department | (867) 873-2222 |
| RCMP, Kugluktuk | (867) 982-4111 |
| Stanton Regional Hospital – Yellowknife | (867) 920-4111 |
| Discovery Mining Services | (867) 920-4600 |
| On-Site Project Geologist | *Information to be supplied once phone system is established on the property* |
| Fisheries and Oceans | (867) 979-8007 |
| Nunavut Department of Environment | (867) 975-7700 |
| Robert Eno, Nunavut Department of Environment, Waste Manifests | (867) 975-7748 |
| Manager, Pollution Control and Air Quality, Environmental Protection, Govt of Nunavut | (867) 975-7748; (867) 975-7739 (Fax) |

## 5. ACTION PLANS

### 5.1 Initial Action

The instructions to be followed by the first person on the spill scene are as follows:

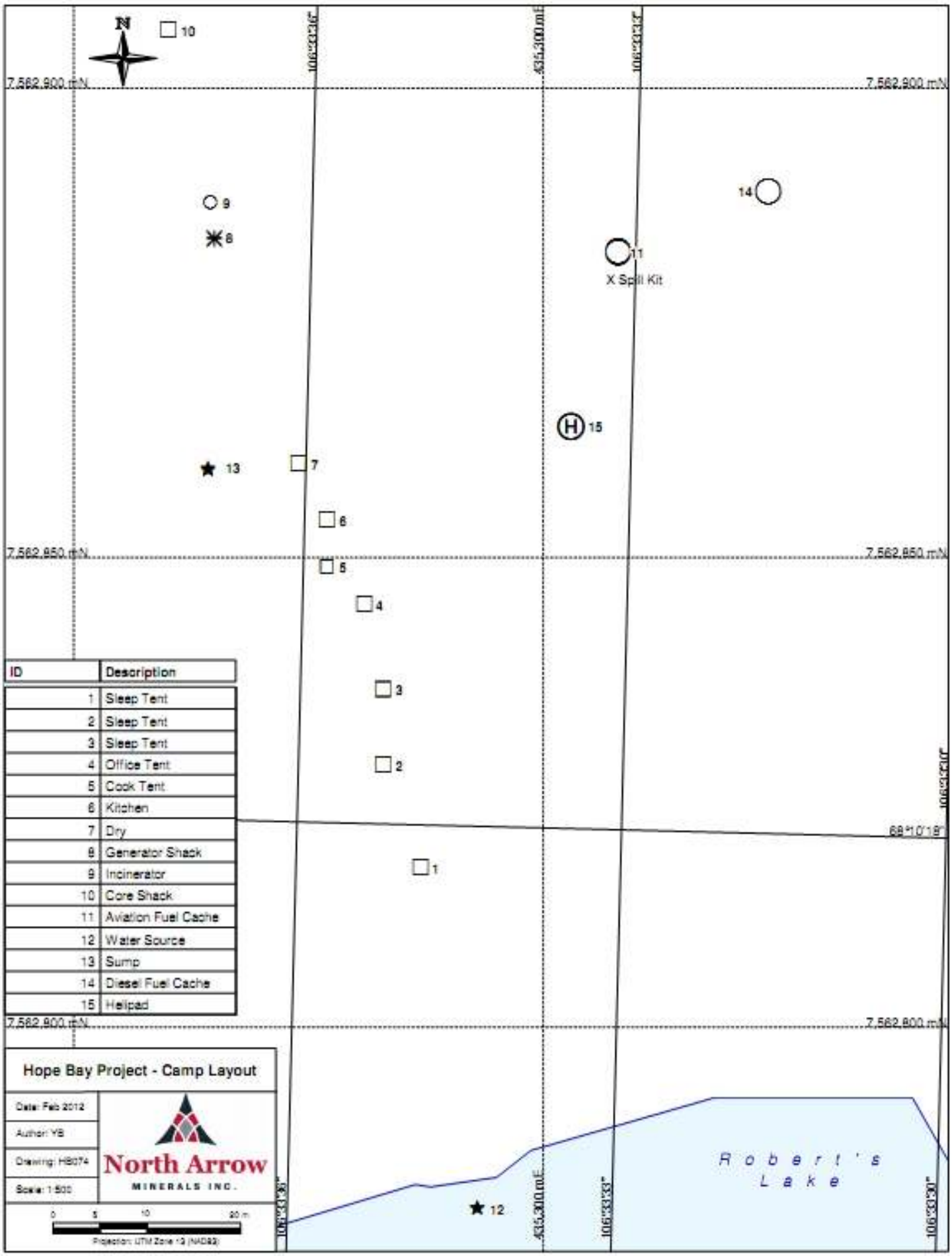
1. Always be alert and consider your safety first.
2. If possible, identify the material that has been spilled. If you are not sure of the material, use caution and consider your safety first.
3. Assess the hazard of people in the vicinity of the spill.
4. If possible, safely try to stop the flow of material to minimize potential for environmental impacts.
5. Immediately report the spill to the On Scene Coordinator.
6. Resume any effective action to contain, mitigate, or terminate the flow of the spilled material.

**The following pages include specific instructions to be followed in the response to various types of spills including diesel fuel, lubricating oil, gasoline, aviation fuel (Jet "B"), antifreeze, and propane.**

**Abandonment and Restoration Plan Addendum**
**For**
**North Arrow Spill Contingency Plan: Re Permit 2BE-HBP1116 Type B**

Camp Location Map Requested – See attached.

Contact information for various government agencies requested – See attached

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| 10 | Core Shack |
| 11 | Aviation Fuel Cache |
| 12 | Water Source |
| 13 | Sump |
| 14 | Diesel Fuel Cache |
| 15 | Helipad |

## Hope Bay Project - Camp Layout

Date: Feb 2012
Author: YB
Drawing: HB074
Scale: 1:500

North Arrow MINERALS INC.

0 5 10 20 m

Projection: UTM Zone 13 (NAD83)

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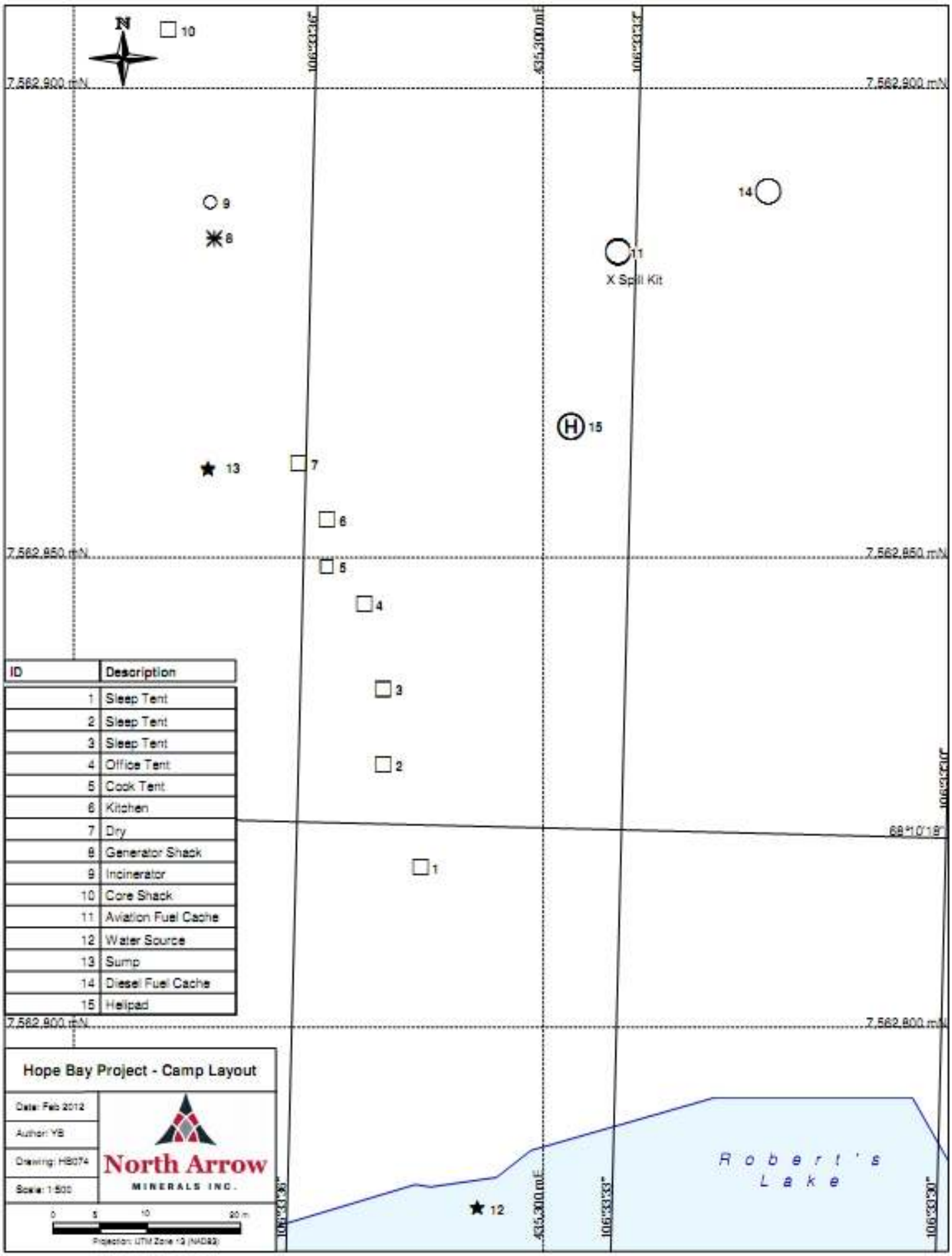
| | |

# Appendix 2

# Water Use
# Source Locations, Calculations, Diamond Drilling Locations

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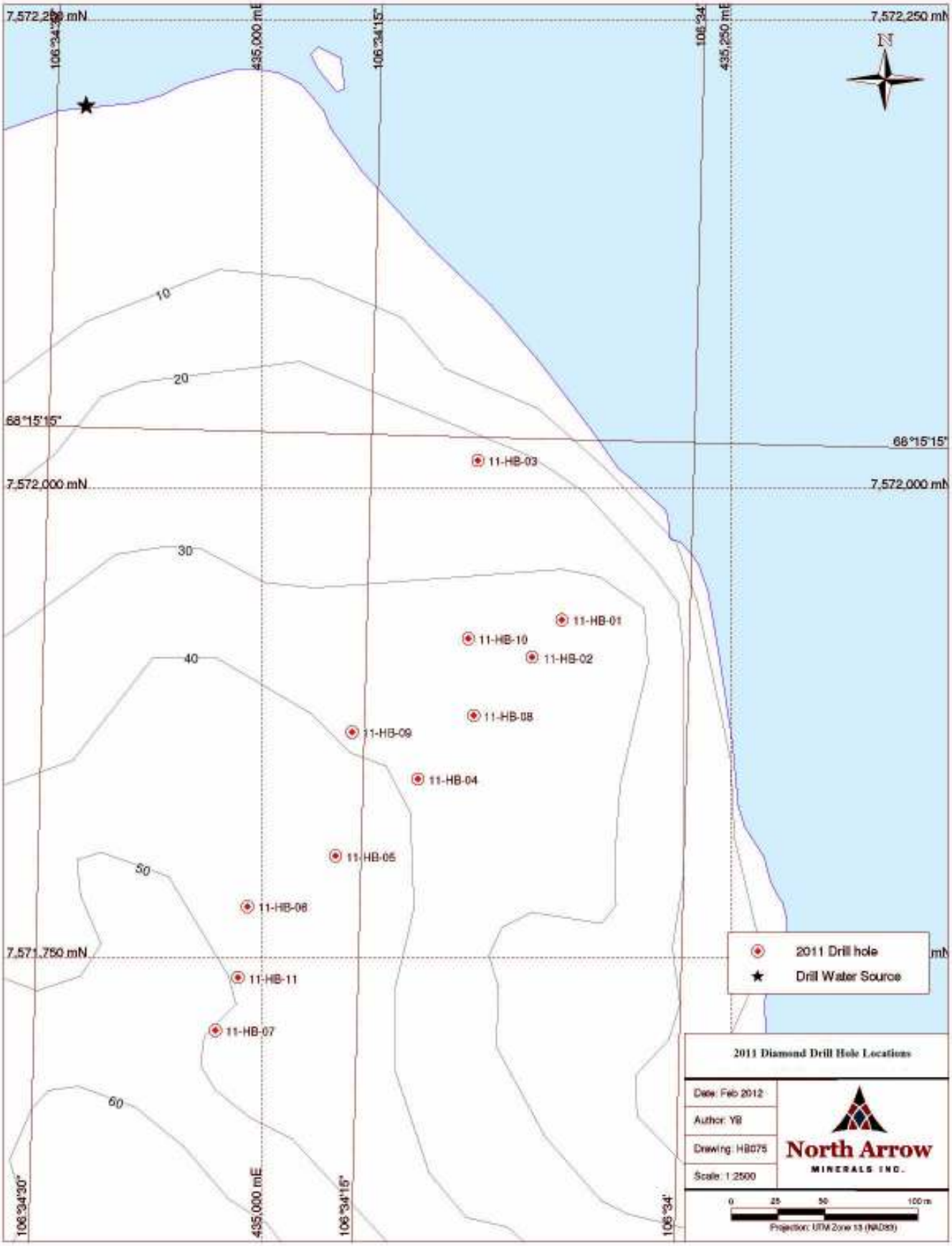
7,572,250 mN
106°34'30"
435,000 mE
106°34'15"
435,250 mE
106°34'
N
10
20
68°15'15"
11-HB-03
7,572,000 mN
30
11-HB-01
11-HB-10
11-HB-02
40
11-HB-08
11-HB-09
11-HB-04
11-HB-05
50
11-HB-06
7,571,750 mN
11-HB-11
11-HB-07
60
2011 Drill hole
Drill Water Source
2011 Diamond Drill Hole Locations
Date: Feb 2012
Author: YB
Drawing: HB075
Scale: 1:2500
North Arrow
MINERALS INC.
0 25 50 100 m
Projection: UTM Zone 13 (NAD83)

# Water Use Calculations

Only one flow metre could be sourced in Yellowknife during mobilization and it was installed in the drill water line but failed the first day of use. Therefore calculations for drill water use, are based on the known pump capacity (7.5 gallons per minute) multiplied by time in operation, note the pump was turned off during mechanical breakdowns and during drill setup moves (see Table 1). Camp use was tabulated by number of fills of a 250 gallon storage tank located in the camp "dry tent" (see Table 2).

Table 1 – Drill Water Use

| Date | Drill Hole | Shift | Hours Pump in Use | Volume ($m^3$) |
|---|---|---|---|---|
| Aug 2 | 1 | night | 12 | 24.55 |
| Aug 3 | 1 | day | 12 | 24.55 |
| Aug 3 | 1 | night | 6 | 12.26 |
| Aug 4 | 1 | day | 6 | 12.26 |
| Aug 4 | 1 | night | 12 | 24.55 |
| Aug 5 | 1 | day | 0 | 0 |
| Aug 5 | 1 | night | 8 | 16.40 |
| Aug 6 | 1 | day | 0 | 0 |
| Aug 6 | 1 | night | 0 | 0 |
| Aug 7 | 1 | day | 12 | 24.55 |
| Aug 7 | 2 | night | 12 | 24.55 |
| Aug 8 | 2 | day | 12 | 24.55 |
| Aug 8 | 2 | night | 12 | 24.55 |
| Aug 9 | 3 | day | 6 | 12.26 |
| Aug 9 | 3 | night | 12 | 24.55 |
| Aug 10 | 3 | day | 12 | 24.55 |
| Aug 10 | 3 | night | 4 | 8.18 |
| Aug 11 | 4 | day | 8 | 16.40 |
| Aug 11 | 4 | night | 12 | 24.55 |
| Aug 12 | 4 | day | 12 | 24.55 |
| Aug 12 | 4 | night | 4 | 8.18 |
| Aug 13 | 5 | day | 8 | 16.40 |
| Aug 13 | 5 | night | 12 | 24.55 |
| Aug 14 | 6 | day | 8 | 16.40 |
| Aug 14 | 6 | night | 12 | 24.55 |
| Aug 15 | 6 | day | 12 | 24.55 |
| Aug 15 | 6 | night | 12 | 24.55 |
| Aug 16 | 7 | day | 2 | 4.09 |
| Aug 16 | 7 | night | 12 | 24.55 |
| Aug 17 | 7 | day | 12 | 24.55 |
| Aug 17 | 7 | night | 12 | 24.55 |
| Aug 18 | 8 | day | 3 | 6.13 |
| Aug 18 | 8 | night | 12 | 24.55 |
| Aug 19 | 9 | day | 0 | 0 |
| Aug 19 | 9 | night | 12 | 24.55 |
| Aug 20 | 9 | day | 12 | 24.55 |
| Aug 20 | 9 | night | 12 | 24.55 |
| Aug 21 | 9 | day | 4 | 8.18 |

| Date | Drill Hole | Shift | Hours Pump in Use | Volume ($m^3$) |
|---|---|---|---|---|
| Aug 21 | 10 | night | 12 | 24.55 |
| Aug 22 | 10 | day | 12 | 24.55 |
| Aug 22 | 10 | night | 12 | 24.55 |
| Aug 23 | 11 | day | 2 | 4.09 |
| Aug 23 | 11 | night | 12 | 24.55 |
| Aug 24 | 11 | day | 12 | 24.55 |
| Aug 24 | 11 | night | 12 | 24.55 |
| Aug 25 | 11 | day | 3 | 6.13 |
| | | | Total ($m^3$) | 834.76 |
| | | | Average per day ($m^3$) | 36.29 |

Table 2 – Domestic Camp Use

| Date | Tank Fill Amount (%) | Volume ($m^3$) |
|---|---|---|
| July 29 | 100 | 1.14 |
| July 30 | 90 | 1.03 |
| July 31 | 80 | 0.91 |
| Aug 1 | 100 | 1.14 |
| Aug 2 | 150 | 1.71 |
| Aug 3 | 60 | 0.68 |
| Aug 4 | 90 | 1.03 |
| Aug 5 | 90 | 1.03 |
| Aug 6 | 80 | 0.91 |
| Aug 7 | 150 | 1.71 |
| Aug 8 | 80 | 0.91 |
| Aug 9 | 90 | 1.03 |
| Aug 10 | 120 | 1.37 |
| Aug 11 | 90 | 1.03 |
| Aug 12 | 90 | 1.03 |
| Aug 13 | 90 | 1.03 |
| Aug 14 | 150 | 1.71 |
| Aug 15 | 80 | 0.91 |
| Aug 16 | 90 | 1.03 |
| Aug 17 | 90 | 1.03 |
| Aug 18 | 90 | 1.03 |
| Aug 19 | 90 | 1.03 |
| Aug 20 | 150 | 1.71 |
| Aug 21 | 80 | 0.91 |
| Aug 22 | 90 | 1.03 |
| Aug 23 | 90 | 1.03 |
| Aug 24 | 150 | 1.71 |
| Aug 25 | 120 | 1.37 |
| Aug 26 | 90 | 1.03 |
| Aug 27 | 90 | 1.03 |
| Aug 28 | 0 | 0 |
| | Total ($m^3$) | 34.25 |
| | Average per day ($m^3$) | 1.10 |