North Arrow
MINERALS INC.

SPILL CONTINGENCY PLAN

MEL PROJECT, NUNAVUT

Date: Dec. 14, 2016

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1. INTRODUCTION

This Spill Contingency Plan has been prepared specifically for the Mel Project ("Project") operated by North Arrow Minerals Inc. ("North Arrow"). The plan demonstrates that North Arrow will have appropriate response capabilities and measures in place to effectively address potential spills at its Mel Project site.

1.1 Corporate Details

North Arrow Minerals Inc.
Suite 960 - 789 West Pender Street
Vancouver, BC V6C 1H2

1.2 Term of Spill Contingency Plan

This version of the Spill Contingency Plan shall be in effect from date of acceptance of applicable land use permits. Any future changes and/or amendments will be submitted to Indigenous and Northern Affairs Canada (INAC) and the Nunavut Water Board (NWB).

1.3 Purpose and Scope

The purpose of this Spill Contingency Plan is to provide a plan of action for all spills of hazardous materials that may occur on the Mel Project, NU. This plan identifies key response personnel and their roles and responsibilities in the event of a spill, as well as the equipment and other resources available to respond to a spill. It details spill response procedures that will minimize potential health and safety hazards, environmental damage, and clean-up efforts. The plan has been prepared to ensure quick access to all information required in responding to a spill.

1.4 North Arrow Minerals Inc. Environmental Policy

It is the policy of North Arrow to comply with all existing laws and regulations to help ensure the protection of the environment. North Arrow cooperates with other groups committed to protecting the environment and ensures that employees, government, and the public is informed on the procedures followed to help protect the environment.

North Arrow endeavours to take every reasonable precaution toward ensuring the protection and conservation of the natural environment and the safety and health of all employees and contractors from any potential harmful effects of stored materials and operations.

The plan is presented to all staff during their on-site orientation sessions. All employees and contractors are aware of the locations of the plan on site at the Mel Project and in North Arrow's offices.

During the orientation meeting, training sessions are scheduled to ensure employees have an understanding of the steps to be undertaken in the event of a spill. All employees and contractors are shown where spill kits are stored, are aware of their contents and are trained in using spill equipment and responding to spills. The company is committed to keeping personnel up to date on the latest technologies and spill response methods.

2. PROJECT AND SITE DESCRIPTION

2.1 Project Description

This Project, located in the Qikiqtani Region of Nunavut, approximately 200 kilometres northeast of Naujaat, and 150 km south of Hall Beach. It consists of predominately Inuit-Owned and Crown Lands. Year-round access to the property is via plane, equipped with skis or floats, or helicopter. The property is bounded in a general sense by the following minimum and maximum latitudes/longitudes:

Min Lat (degree/minute)	67°25'49.00"	Min Long (degree/minute)	-82°33'58.70"
Max Lat (degree/minute)	67°40'53.76"	Max Long (degree/minute)	-82°2'10.30"

A map illustrating the regional context of the property and the project area is located in Appendix 2.

2.2 Current Permits/Licences

Permit/License No.	Regulatory Body	Type	Expiry
Pending	Nunavut Water Board	Water License Type B	Application Submitted
Pending	QIA	Access to IOL Level 3	Application Submitted

2.3 List of Hazardous Materials On-site

Fuel storage areas at the Mel Project will include the main storage site at the camp. In addition, small fuel caches (6-7 205L drums) will be located adjacent to active drill sites when drilling is underway. All containers of hazardous materials will be marked with North Arrow's name. Petroleum products and hazardous materials that will be considered in this Spill Contingency Plan include:

- Diesel fuel
- Hydraulic oil
- Lubricating oil
- Jet "A/B" fuel
- Propane
- Gasoline
- Antifreeze

Table 1 presents a list of hazardous materials anticipated to be located at the Mel Project site, the type of storage container, the maximum quantities stored, and the general location.

Table 1: List of hazardous materials stored on-site, type of storage container, the storage quantities, and storage locations where known

Material	Storage Container	Maximum on-site	Storage Location and Uses
Diesel fuel	205 litre drums	6 (1,230 litres)	Six drums at active drilling sites, remainder in town at fuel storage facility
Jet A/B fuel	205 litre drums	1 (205 litres)	One drum at each active drilling site for emergency purposes
Gasoline	20 litre Jerry Can	1 (20 litres)	Active drilling sites; used for snowmobiles and small generators
Propane	100 lbs tanks	1 (100 lbs tank)	Active drilling sites; used for thawing frozen drilling components
Oil (Engine and 2 stroke)	1 litre container	12 (12 litres)	Active drilling sites; used for engines
Hydraulic Oil	20 litre buckets	2 (20 litres)	Active drilling sites; used for hydraulic drilling machinery
Lubricating Oil	20 litre buckets	2 (20 litres)	Active drilling sites; used for drilling components
Antifreeze	5 litre containers	1 (5 litres)	Active drilling sites; used for cooling drill engine

2.4 Petroleum and Chemical Product Storage and Transport

All fuel will be stored no closer than the regulated distance from the normal high water mark of any water body (>31 metres).

Other petroleum-based materials found on-site in very small quantities will be located in the drill shack. These include lubricants/oils for the maintenance of the drilling equipment. The drill shack will be located over 31 metres from the normal high water mark of any water body when drilling land-based targets.

All fuel, oil and any chemicals are transported to camp and drill sites by plane and/or helicopter.

2.5 Petroleum Product Transfer

Manual and automatic pumps (and aviation fuel filters for jet fuel) are used for the transfer of all petroleum products. Smoking, sparks, or open flames are **prohibited** in fuel storage and fuelling areas at all times. Portable drip trays and appropriately sized fuel transfer hoses with pumps are used when refuelling aircraft or other equipment, to avoid any leaks/drips onto the land.

2.6 Spill Containment Equipment

Equipment available on site to assist in responding to a hazardous materials spill includes various hand held tools including shovels. In addition to these, one spill kit will be situated at each active

drill site with additional spill kits located in Camp and on the helicopter.

Spill kits are located wherever fuel is stored or used. The typical spill kit has a sorbent capacity of 240 litres and the contents include:

1 – 360 litre/79 gallon polyethylene over pack drum
4 – oil sorbent booms (5” X 10’)
100 – oil sorbent 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 Tyvel coveralls
1 – instruction booklet
10 – printed disposable bags (24” X 48”)
1 – empty fuel drum

2.7 Existing Preventative Measures

Planning for an emergency situation is imperative, due to the nature of the materials stored on site as well as the remoteness of the site. Along with the preventative measures outlined below, adequate training of staff and contractors is paramount.

All hazardous materials arrive by air as needed throughout periods of active exploration. They are unloaded by airplane and helicopter pilots and North Arrow staff and contractors and carefully placed in the fuel storage and hazardous materials storage areas.

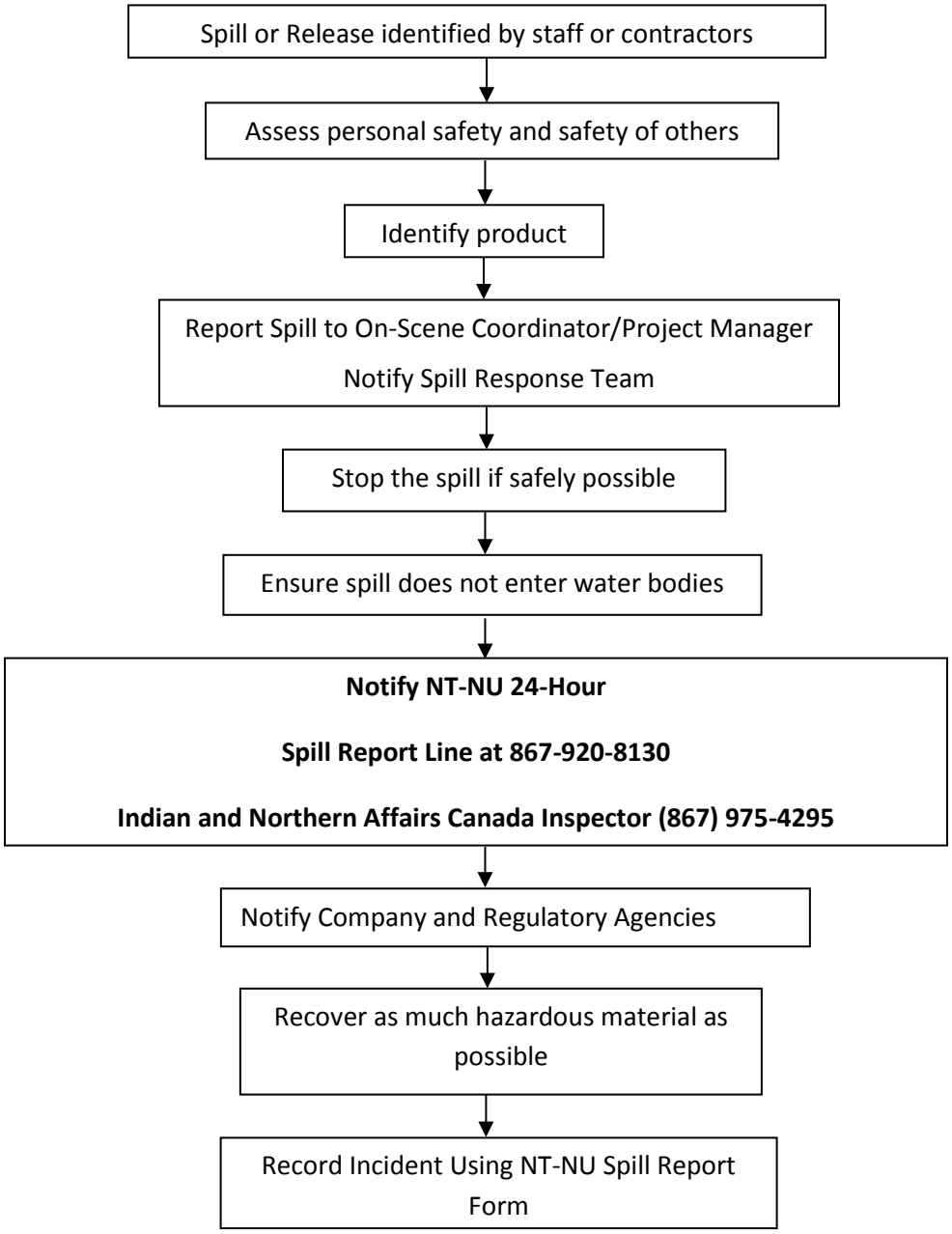
The designated fuel monitor conducts daily visual inspections to check for leaks or damage to the fuel storage containers, as well as for stained or discoloured soils/snow around the fuel storage areas and adjacent equipment. For example, lids/caps are checked for tight seals. A checklist is used to ensure no areas are missed.

2.8 Copies of Spill Contingency Plan

Several copies of the plan are will be kept on-site at the drill at all times, as well as in Camp with the crews. As well, copies will also be located at North Arrow offices.

3.RESPONSE ORGANIZATION

The following is a flow chart to illustrate the sequence of events in the event of a hazardous material spill occurring at the Mel Project.



3.1 Spill Response Team

North Arrow will appoint a qualified "On-Scene Coordinator" and appropriate personnel to make up the Mel Spill Response Team for the Mel Project. The key personnel that make up the Mel Spill Response Team are as follows:

In addition to the On-Scene Coordinator and the Project Manager, approximately 2-3 additional personnel will be available on site to assist in spill response and cleanup activities.

The responsibilities of the On-Scene Coordinator are as follows:

1. Assume complete authority over the spill scene and coordinate all personnel involved.
2. Evaluate spill situation and develop overall plan of action.
3. Activate the spill contingency plan
4. Immediately report the spill to:
   NT-NU 24-Hour Spill Report Line (867) 920-8130
   Indian and Northern Affairs Canada Field Operations Manager (867) 975-4295
   Other regulatory agencies and North Arrow management (see *Table 2 – Emergency Contacts*).
5. Obtain additional manpower, equipment, and material if not available on site for spill response.

The responsibilities of the Project Manager are as follows:

1. Provide regulatory agencies and North Arrow management with information regarding the status of the cleanup activities.
2. Act as a spokesperson on behalf of North Arrow with regulatory agencies as well as the public and media.
3. Prepare and submit a report on the spill incident to regulatory agencies (including the INAC Inspector) within 30 days of the event.

4. REPORTING PROCEDURE

The On-Scene Coordinator must be notified immediately of any spill either by phone, radio, or in person.

The following is the spill reporting procedure:

1. Report immediately to the NT-NU 24-Hour Spill Report Line
   (867) 920-8130
   Indian and Northern Affairs Canada Field Operations Manager (867) 975-4295
   And other regulatory agencies, and North Arrow management
   (see *Table 2 – Emergency Contacts*)
2. Complete the NT-NU Spill Report Form and fax the report to the NT-NU 24-Hour Spill Report Line fax (867) 873-6924.

Table 2 – Emergency Contacts

CONTACT	TELEPHONE NUMBER
INAC - Land Use Inspector	(867) 975-4295
North Arrow Minerals Inc.	(604) 668-8355 (Office); (604) 336-4813 (Fax)
Environment and Climate Change Canada 24 hour telephone line (NWT+NU)	(867) 920-8130 (contact first); (867) 766-3737 (contact second)
Environment and Climate Change Canada Environmental Enforcement	(867) 669-4730
National Environmental Emergencies Centre	1-866-283-2333
INAC – Water Resource Officers, Kugluktuk and Iqaluit, NU	Kugluktuk (867) 982-4308 Iqaluit (867) 975-4298
INAC/AANDC – Nunavut Regional Office	(867) 975-4275
Custom Helicopters	(204) 338-7953
Yellowknife Fire Department	(867) 873-2222
RCMP, Naujaat	(867) 462-0123
Stanton Regional Hospital – Yellowknife	(867) 920-4111
Health Centre – Naujaat	(867) 462-9916
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, hydraulic oil, lubricating oil, gasoline, aviation fuel (Jet "B"), antifreeze, and propane.

5.2 SPILL RESPONSE ACTIONS
DIESEL FUEL, HYDRAULIC OIL, AND LUBRICATING OIL

Take action only if safety permits – stop the source flow if safe to do so and eliminate all ignition sources.
Never smoke when dealing with these types of spills.

On Land
Build a containment berm using soil material or snow and place a plastic tarp at the foot of the berm for easy capture of the spill after all vapours have dissipated.
Remove the spill by using absorbent pads or excavating the soil, gravel or snow.
Remove spill splashed on vegetation using particulate absorbent material.

On Muskeg
Do not deploy personnel and equipment on marsh or vegetation.
Remove pooled oil with sorbent pads and/or skimmer.
Flush with low pressure water to herd oil 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 containment boom to capture spill for recovery after vapours have dissipated.
Use absorbent pads to capture small spills.
Use skimmer for larger spills.

On Ice and Snow
Build a containment berm around spill using snow.
Remove spill using absorbent pads or particulate sorbent material.
The contaminated ice and snow must be scraped and shovelled into plastic buckets with lids, 205 litre drums, and/or polypropylene bags.

Storage and Transfer
All contaminated water, ice, snow, soil, and clean up supplies will be stored in closed, labelled containers. All containers will be stored in a well-ventilated area away from incompatible materials.

Disposal
All contaminated material will be transported to an appropriate disposal facility.

5.3 SPILL RESPONSE ACTIONS
GASOLINE AND JET A AVIATION FUEL

Take action only if safety permits – stop the source flow if safe to do so and eliminate all ignition sources.
Never smoke when dealing with these types of spills.

On Land
Build a containment berm using soil material or snow and place a plastic tarp at the foot of the berm for easy capture of the spill after all vapours have dissipated.
Remove the spill by using absorbent pads or excavating the soil, gravel or snow.
Remove spill splashed on vegetation using particulate absorbent material.

On Muskeg
Do not deploy personnel and equipment on marsh or vegetation.
Remove pooled gasoline or Jet A with sorbent pads and/or skimmer.
Flush with low pressure water to herd oil to collection point.
On advice from regulatory agencies, 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 containment boom to capture spill for recovery after vapours have dissipated.
Use absorbent pads to capture small spills.
Use skimmer for larger spills.

On Ice and Snow
Build a containment berm around spill using snow.
Remove spill using absorbent pads or particulate sorbent material.
The contaminated ice and snow must be scraped and shovelled into plastic buckets with lids, 205 litre drums, and/or polypropylene bags.

Storage and Transfer
All contaminated water, ice, snow, soil, and clean up supplies will be stored in closed, labelled containers. All containers will be stored in a well-ventilated area away from incompatible materials.

Disposal
All contaminated material will be transported to an appropriate disposal facility.

5.4 SPILL RESPONSE ACTIONS
PROPANE

Take action only if safety permits. Gases stored in cylinders can explode when ignited.
Keep vehicles away from area.
Never smoke when dealing with these types of spills.

On Land
Do not attempt to contain the propane release.

On Water
Do not attempt to contain the propane release.

On Ice and Snow
Do not attempt to contain the propane release.

General
It is not possible to contain vapours 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 of CO_2.
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 recovery attempt should be made.
Personnel should avoid touching release point on containers since frost forms very rapidly.
Keep away from tank ends.

Storage and Transfer
It is not possible to contain vapours when released.

Disposal
All contaminated material will be transported to an appropriate disposal facility.

6.0 PROCEDURES FOR TRANSFERRING, STORING, AND MANAGING SPILL-RELATED WASTES

In most cases, spill cleanups are initiated at the far end of the spill and contained moving toward the centre of the spill. Sorbent socks and pads are generally used for small spill cleanup. A pump with attached fuel transfer hose can suction spills from leaking containers or large accumulations on land or ice, and direct these larger quantities into empty drums. Hand tools such as cans, shovels, and rakes are also very effective for small spills or hard to reach areas. Heavy equipment can be used if deemed necessary but may be constrained by transportation to site constraints.

Used sorbent materials are to be placed in plastic bags for future disposal at an approved disposal facility. All materials mentioned in this section are available in the spill kits located on at the drill shack and in Chesterfield Inlet at the crew houses. Following cleanup, any tools or equipment used will be properly washed and decontaminated, or replaced if this is not possible.

For most of the containment procedures outlined in Section 5, spilled petroleum products and materials used for containment will be placed into empty waste oil containers and sealed for proper disposal at an approved disposal facility.

7.0 PROCEDURES FOR RESTORING AFFECTED AREAS

Once a spill has been contained, North Arrow will consult with the INAC Inspector assigned to the property to determine the level of cleanup required. The Inspector may require a site-specific study to ensure appropriate cleanup levels are met. Criteria that may be considered include natural biodegradation of oil, replacement of soil and re-vegetation.

8.0 TRAINING

All employees working on the Project will be trained in the safe operation of all machinery and tools to help prevent hazardous material spills. All employees on site will also be required to participate in an orientation session, during which all locations of the spill plan and spill kits will be provided. An overview of the plan will be provided by the On-Scene Coordinator leading the orientation session. Specific training sessions are scheduled for individuals directly involved in handling hazardous materials to ensure they know all steps to be undertaken in handling these materials, as well as the steps involved in the event of a spill, including the proper use of spill kits.

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APPENDIX 1

NT/NU Spill Report Form and Instructions

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

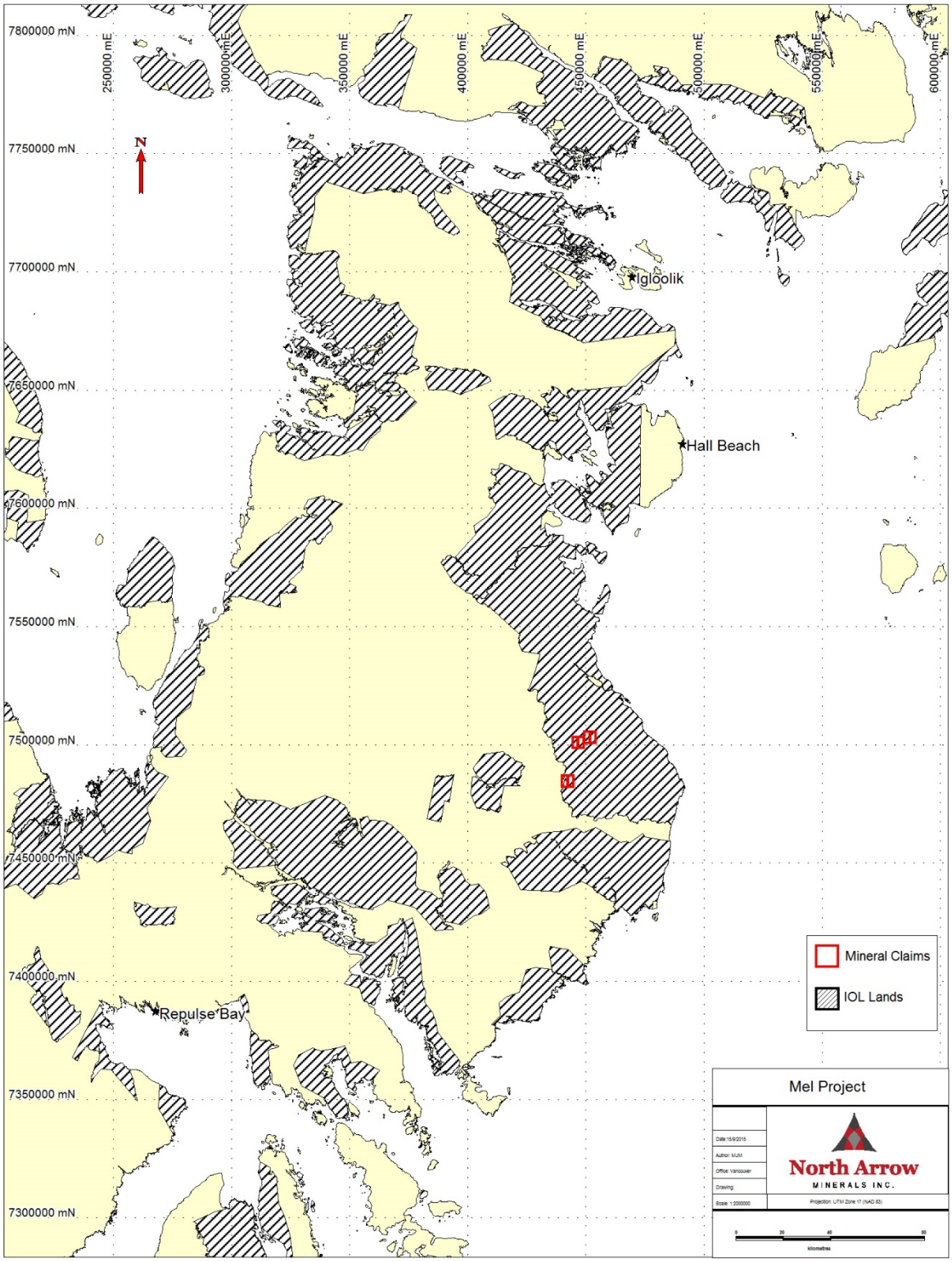
N	RECEIVED AT SPILL LINE BY	POSITION STATION OPERATOR	EMPLOYER	LOCATION CALLED YELLOWKNIFE, NT	REPORT LINE NUMBER (867) 920-8130

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			

APPENDIX 2

Property Location Maps



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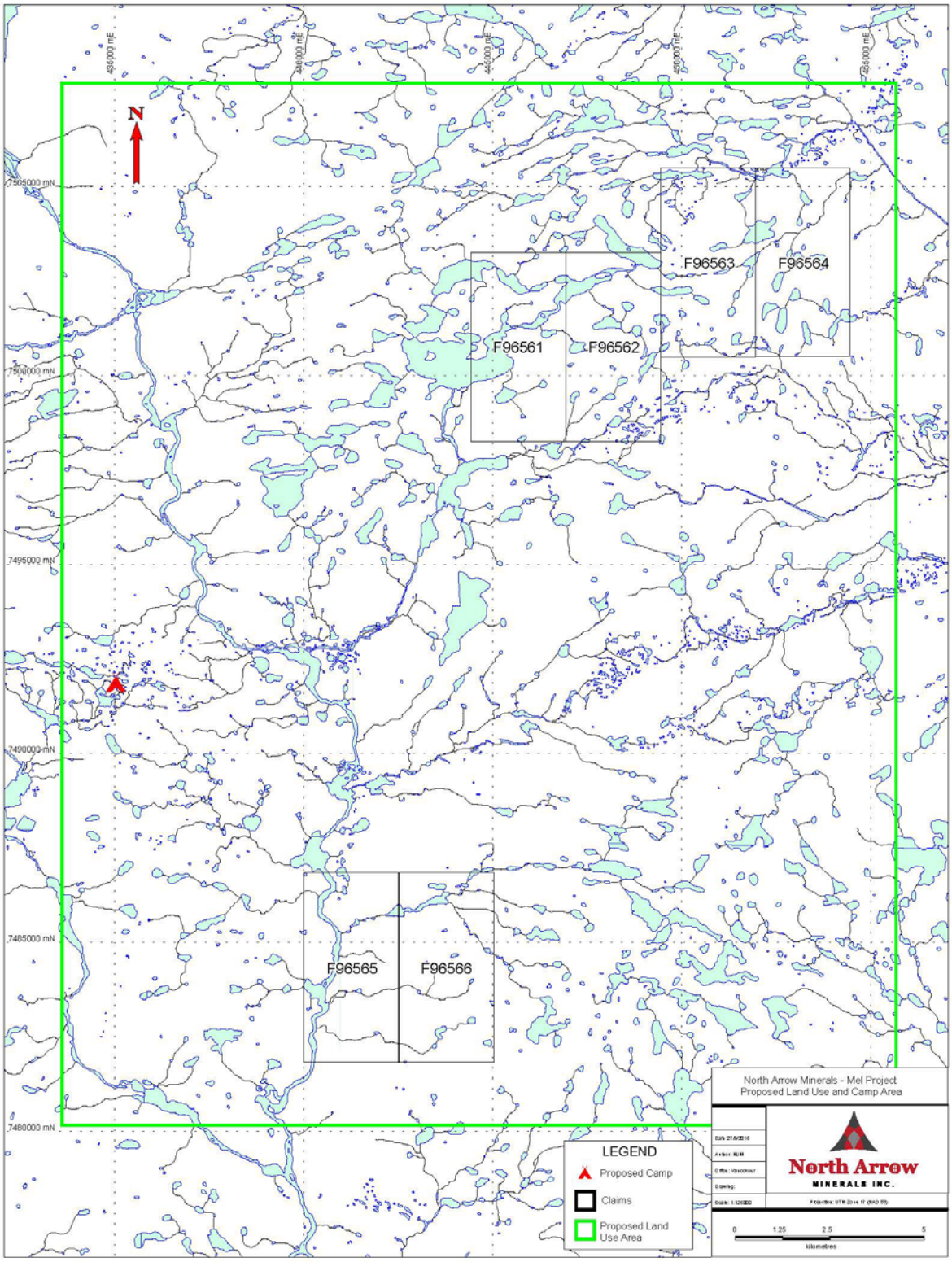

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