



EXPLORATION/ REMOTE CAMP SUPPLEMENTARY QUESTIONNAIRE

Applicant: North Arrow Minerals Inc. Licence No: _____
(For NWB Use Only)

ADMINISTRATIVE INFORMATION

1. Environment Manager: N/A Tel: _____ Fax: _____ E-mail: _____
2. **Project Manager: Gordon Clarke Tel: 604 668 8355 Fax: 604 668 8366 E-mail: gord@northarrowminerals.com**
3. Does the applicant hold the necessary property rights? *Yes. Canada mining leases.*
4. Is the applicant an 'operator' for another company (i.e., the holder of the property rights)? If so, please provide letter of authorization.

No. North Arrow is the holder of the mineral leases.

5. Duration of the Project

☐ One year or less Start and completion dates: Start- Date of issuance
Completion (Results Driven) permit requested for 5 years (see original lic application)

☒ Multi Year:

If Multi-Year indicate proposed schedule of on site activities

Start: spring 2011 Completion: fall 2016

CAMP CLASSIFICATION

6. Type of Camp

- ☐ Mobile (self-propelled)
- ☒ Temporary (Tent camp for duration of project)
- ☐ Seasonally Occupied: _____
- ☐ Permanent
- ☐ Other: _____

7. What is the design, maximum and expected average population of the camp?

If required it would consists of an exploration tent camp suitable for up to 20 personnel at approximately, 68° 10' 18" N 106° 33' 36" W on Crown land (see lease location map). Exact location will depend upon float plane access along shoreline. The camp would include 7 sleeping tents; combination cooks tent/first aid station, kitchen, dry, office, core shack, outhouse, generator shack, and a fuel cache. Specifics of the final layout will be dependant upon the topographic conditions encountered during camp construction.

8. Provide history of the site if it has been used in the past.

There was a previous tent camp at the same location operated by Navigator Exploration Corp. in the 1990's.

CAMP LOCATION

9. Please describe proposed camp location in relation to biogeographical and geomorphological features, and water bodies.

Camp will be located along the shore at the northwest corner of Roberts Lake. See appended detailed location map.

10. How was the location of the camp selected? Was the site previously used? Was assistance from the Regional Inuit Association Land Manager sought? Include maps and/or aerial photographs.

The location was selected since Roberts Lake is the only water body proximal to the work area that is large enough for float or ski plane access. The site has been used in the past so it is known that shore access is possible for a float plane. Assistance from the Regional Inuit Association Land Manager was not sought. Proposed location is shown in appended detailed location map.

11. Is the camp or any aspect of the project located on:

<input checked="" type="checkbox"/> Crown Lands	Permit Number (s)/Expiry Date: Application submitted and review in progress
<input type="checkbox"/> Commissioners Lands	Permit Number (s)/Expiry Date: _____
<input checked="" type="checkbox"/> Inuit Owned Lands	Permit Number (s)/Expiry Date: Application submitted and review in progress

Note. Camp is not on IOL. A small portion of the eastern side of the mining leases are covered by IOL BB-58 (see appended map).

12. Closest Communities (direction and distance in km):

120 km west southwest of Cambridge Bay

13. Has the proponent notified and consulted the nearby communities and potentially interested parties about the proposed work?

Due to the remote location of the land use area and the early stage of intermittent exploration that is proposed for this project and the fact that the various permits required are a transparent

and public process, community consultation is not proposed at this time. Nunavut is currently experiencing the benefits that can result if grass roots projects are allowed to develop and are successful. Examples included the Doris mine, Meadowbank mine, Kiggavik project, Meliadine project and Mary River project. If the initial exploration program is successful then there will be potential for economic opportunities and North Arrow will consult with local communities.

14. Will the project have impacts on traditional water use areas used by the nearby communities?
Will the project have impacts on local fish and wildlife habitats?

The project will not have any known impacts on traditional water use or on local fish and wildlife habitats.

PURPOSE OF THE CAMP

15. ☒ Mining (includes exploration drilling)
☐ Tourism (hunting, fishing, wildlife observation, adventure/expedition, etc.)
(Omit questions # 16 to 21)
☐ Other _____

16. Activities (check all applicable)

- ☒ Preliminary site visit
☒ Prospecting
☒ Geological mapping
☒ Geophysical survey
☒ Diamond drilling
Reverse circulation drilling
Evaluation Drilling/Bulk Sampling (also complete separate questionnaire)
☐ Other: _____

17. Type of deposit (exploration focus):

- ☐ Lead Zinc
☐ Diamond
☒ Gold
☐ Uranium
☒ Other: _____ silver _____

DRILLING INFORMATION

18. Drilling Activities

- ☒ Land Based drilling
☐ Drilling on ice

19. Describe what will be done with drill cuttings?

All land based drill cuttings will be located in a natural sump that will be located a minimum of 31 meters from the normal high water mark of any water body.

20. Describe what will be done with drill water?

Any surface runoff during or after drilling will be contained or channeled so it will be filtrated and not directly enter any watercourse.

21. List the brand names and constituents of the drill additives to be used? Includes MSDS sheets and provide confirmation that the additives are non-toxic and biodegradable.

Drill additives might include calcium chloride to prevent drill rods from freezing in the hole and poly drill to help keep rods from sticking. MSDS sheets are appended.

22. Will any core testing be done on site? Describe.

No.

SPILL CONTINGENCY PLANNING

23. The proponent is required to have a site specific Spill Contingency Plan prepared and submitted with the application This Plan should be prepared in accordance with the *NWT Environmental Protection Act, Spill Contingency Planning and Reporting Regulations, July 22, 1998* and *A Guide to the Spill Contingency Planning and Reporting Regulations, June 2002*. Please include for review.

Please see appended spill plan.

24. How many spill kits will be on site and where will they be located?

Three. One at camp, one at helipad and one at drill.

25. Please describe the types, quantities, and method of storage of fuel and chemicals on site, and provide MSDS sheets.

Please see appended spill plan. Note previously it has been requested to just provide list of and location of MSDS sheets.

WATER SUPPLY AND TREATMENT

26. Describe the location of water sources.

Roberts Lake for camp. Roberts Lake for camp. Ponds on property may be used for drill water but location(s) will not be known until further exploration is carried out to define drill targets.

27. Estimated water use (in cubic metres/day):

X Domestic Use: 2 m³ Water Source: Roberts Lake

X Drilling: 50 m³ Water Source: _____
☐ Other: _____ Water Source: _____

28. Describe water intake for camp operations? Is the water intake equipped with a mesh screen to prevent entrapment of fish? (see *DFO 1995, Freshwater Intake End-of-Pipe Fish Screen Guideline*) Describe:

Yes, the end of the hose will be fitted with a screen, and water flow will be adjusted so that fish are not trapped against the screen.

29. Will drinking water quality be monitored? What parameters will be analyzed and at what frequency?

No.

30. Will drinking water be treated? How?

Water will not be treated. It will be pumped fresh daily from Roberts Lake.

31. Will water be stored on site?

Water will not be stored as it will be replenished daily.

WASTE TREATMENT AND DISPOSAL

32. Describe the characteristics, quantities, treatment and disposal methods for:

From Original Application:

Type of Waste	Composition	Quantity Generated	Treatment Method	Disposal Method
Sewage	Human waste	Unknown	Latrine pits will be treated with lime and covered with native material to achieve the pre-existing contours of the land prior to abandonment.	Stored in a sump located at least thirty (30) metres above the ordinary high water mark of any water body, that will be backfilled upon completion of program or backhauled to Yellowknife for proper disposal.
Grey water	Kitchen and personal use water (bathing)	Unknown		Stored in a natural sump located at least thirty

				(30) meters above the ordinary high water mark of any water body.
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X *Solid Waste. Combustible waste (approx. 1 bag per day) will be incinerated daily in a burn barrel or backhauled to Yellowknife for proper disposal. The resulting ash will be bagged and backhauled to Yellowknife.*

X **Bulky Items/Scrap Metal**

Scrap metal and any other non-combustible refuse will be collected then transported for disposal at an approved site.

X **Waste Oil/Hazardous Waste**

Waste oil will be collected and sealed in clearly marked steel drums and transported to an approved disposal site. Lead-acid batteries will also be contained in appropriate sealed containers, clearly marked, and transported to an approved disposal site.

X **Empty Barrels/Fuel Drums**

Empty drums will be collected and transported to Yellowknife either for refilling or disposal.

☐ **Other:**

33. Please describe incineration system if used on site. What types of wastes will be incinerated?

Burn barrel. Combustible waste.

34. Where and how will non-combustible waste be disposed of? If in a municipality in Nunavut, has authorization been granted?

It is planned that non-combustible waste will be backhauled to Yellowknife for disposal in an approved facility. If the use of a Nunavut municipality facility was required then it would not be used until authorization granted.

35. Describe location (relative to water bodies and camp facilities) dimensions and volume, and freeboard for all sumps (if applicable).

Sumps or sump will be located behind kitchen and dry tents. Typically these tents are placed side by side and one sump may be adequate. The sumps will be natural depressions and the exact location and size will not be known until the exact layout of tent locations can be ascertained which cannot be done until the time of camp construction.

36. Will leachate monitoring be done? What parameters will be sampled and analyzed, and at what frequency?

Leachate monitoring is not planned.

OPERATION AND MAINTENANCE

37. Have the water supply and waste treatment and disposal methods been used and proven in cold climate? What known O&M problems may occur? What contingency plans are in place?

Methods proven in cold climate. No known problems. Contingency plan not required..

ABANDONMENT AND RESTORATION

38. Provide a detailed description of progressive and final abandonment and restoration activities at the site.

Please see attached A&R plan.

BASELINE DATA

39. Has or will any baseline information be collected as part of this project? Provide bibliography.

No collection of baseline data planned.

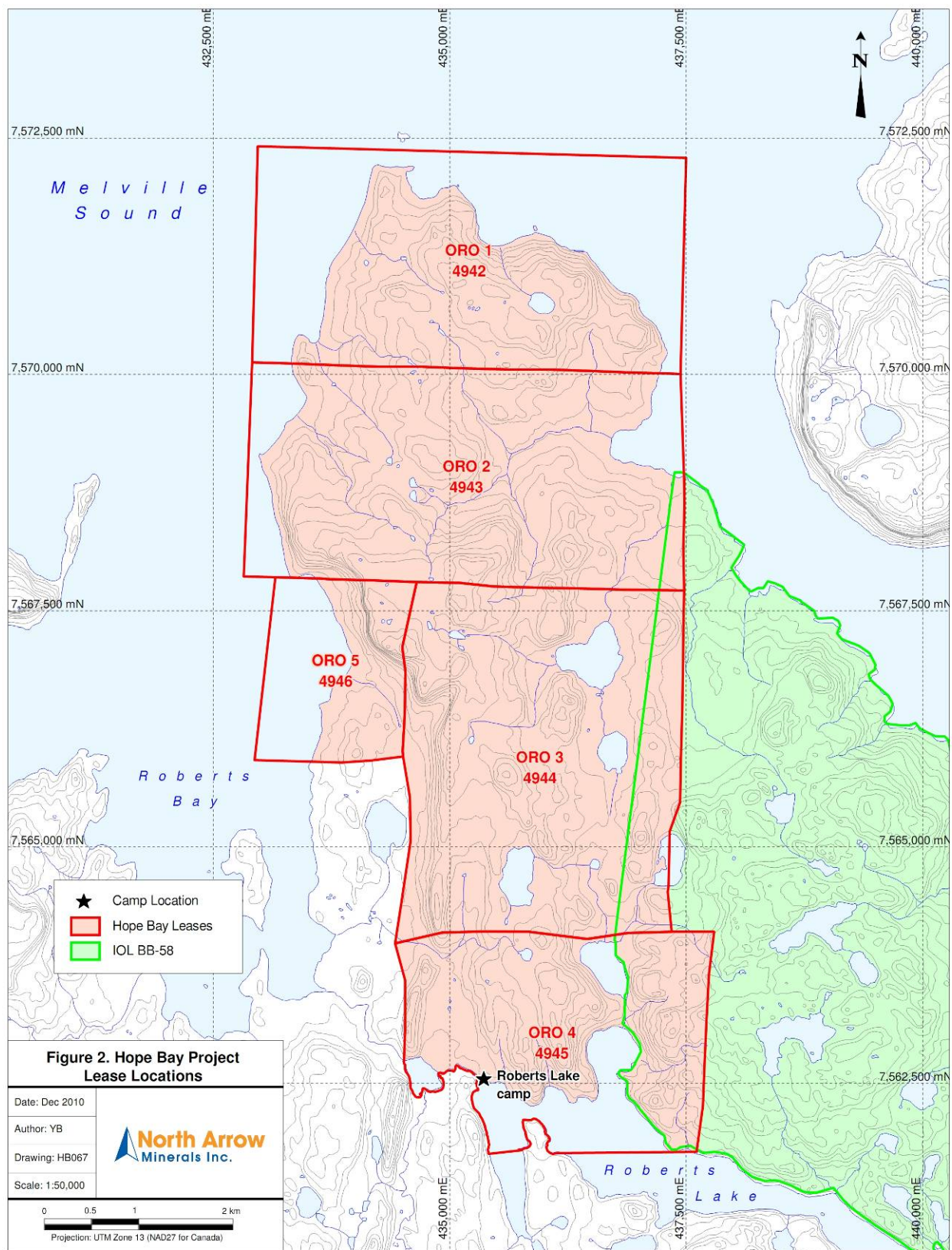
- ☐ Physical Environment (Landscape and Terrain, Air, Water, etc.)
- ☐ Biological Environment (Vegetation, Wildlife, Birds, Fish and Other Aquatic Organisms, etc.)
- ☐ Socio-Economic Environment (Archaeology, Land and Resources Use, Demographics, Social and Culture Patterns, etc.)
- ☐ Other: _____

REGULATORY INFORMATION

40. At a minimum, you should ensure you have a copy of and consult the documents below for compliance with existing regulatory requirements:

- ✓ ARTICLE 13 – *NCLA -Nunavut Land Claims Agreement*
- ✓ NWNSRTA – *The Nunavut Waters and Nunavut Surface Rights Tribunal Act, 2002*
- ✓ *Northwest Territories Waters Regulations, 1993*
- ✓ NWB - Water Licensing in Nunavut - Interim Procedures and Information Guide for Applicants
- ✓ NWB - Interim Rules of Practice and Procedure for Public Hearings
- ✓ RWED – *Environmental Protection Act, R-068-93- Spill Contingency Planning and Reporting Regulations, 1993*
- ✓ RWED A Guide to the Spill Contingency Planning and Reporting Regulations, 2002
- ✓ NWTWB - Guidelines for Contingency Planning
- ✓ *Canadian Environmental Protection Act, 1999 (CEPA)*
- ✓ *Fisheries Act, RS 1985 - s.34, 35, 36 and 37*
- ✓ DFO - Freshwater Intake End of Pipe Fish Screen Guideline
- ✓ NWTWB - Guidelines for the Discharge of Treated Municipal Wastewater in the NWT
- ✓ Canadian Council for Ministers of the Environment (CCME); Canadian Drinking Water Quality Guidelines, 1987
- ✓ Public Health Act - Camp Sanitation Regulations
- ✓ Public Health Act - Water Supply Regulations
- ✓ *Territorial Lands Act and Territorial Land Use Regulations; Updated 2000*

Detailed Project Location Map



MSDS Sheets

Calcium Chloride
And
Polydrill



Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name Calcium Chloride, Dihydrate
Manufacturer EMD Chemicals Inc.
P.O. Box 70
480 Democrat Road
Gibbstown, NJ 08027
Prior to January 1, 2003 EMD Chemicals Inc. was EM
Industries, Inc. or EM Science, Division of EM Industries,
Inc.

Product Code CX0134
Effective Date 8/20/2004

For More Information Call
856-423-6300 Technical Service
Monday-Friday: 8:00 AM - 5:00 PM

In Case of Emergency Call
800-424-9300 CHEMTREC (USA)
613-996-6666 CANUTEC (Canada)
24 Hours/Day: 7 Days/Week

Synonym CALCIUM CHLORIDE
Material Uses Analytical reagent.
Chemical Family Inorganic salt.

Section 2. Composition and Information on Ingredients

Component	CAS #	% by Weight
CALCIUM CHLORIDE, DIHYDRATE	10035-04-8	100

Section 3. Hazards Identification

Physical State and Appearance Solid. (Powder or flakes solid. Granular solid.)

Emergency Overview CAUTION!
CAUSES EYE IRRITATION.
MAY CAUSE SKIN IRRITATION.

Routes of Entry Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Potential Acute Health Effects

Eyes Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching.

Skin May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Inhalation No known acute effects of this product resulting from inhalation.

Ingestion Irritating to mouth, throat and stomach. Ingestion can cause nausea and vomiting.

Potential Chronic Health Effects

Carcinogenic Effects This material is not known to cause cancer in animals or humans.

Additional information See Toxicological Information (section 11)

Medical Conditions Aggravated by Overexposure: Repeated or prolonged exposure is not known to aggravate medical condition.

Section 4. First Aid Measures

Eye Contact Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 5. Fire Fighting Measures

Flammability of the Product May be combustible at high temperature.

Auto-ignition Temperature Not available.

Flash Points	Not available.
Flammable Limits	Not available.
Products of Combustion	These products are carbon oxides (CO, CO ₂), halogenated compounds. Some metallic oxides.
Fire Hazards in Presence of Various Substances	Not available.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of static discharge: No.
Fire Fighting Media and Instructions	Risks of explosion of the product in presence of mechanical impact: No. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Protective Clothing (Fire)	Be sure to use an approved/certified respirator or equivalent.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

Section 6. Accidental Release Measures

Small Spill and Leak	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill and Leak	Use a shovel to put the material into a convenient waste disposal container.
Spill Kit Information	No specific spill kit required for this product.

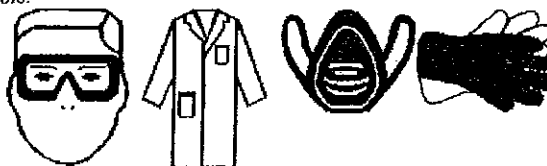
Section 7. Handling and Storage

Handling	Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Do not ingest. Do not breathe dust.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	<p>Eyes Splash goggles.</p> <p>Body Lab coat.</p> <p>Respiratory Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.</p> <p>Hands Gloves.</p> <p>Feet Not applicable.</p>

Protective
Clothing
(Pictograms)



Personal Protection in Case of a Large Spill Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name	Exposure Limits
CALCIUM CHLORIDE, DIHYDRATE	Not available.

Section 9. Physical and Chemical Properties

Odor	Not available.
Color	White.
Physical State and Appearance	Solid. (Powder or flakes solid. Granular solid.)
Molecular Weight	147.02 g/mole
Molecular Formula	CaCl ₂ · 2H ₂ O
pH	Not available.
Boiling/Condensation Point	Not available.
Melting/Freezing Point	Not available.
Specific Gravity	Not available.
Vapor Pressure	Not available.
Vapor Density	Not available.
Odor Threshold	Not available.
Evaporation Rate	Not available.
LogKow	Not available.
Solubility	Soluble in water.

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Conditions of Instability	Not available.
Incompatibility with Various Substances	Reactive with metals, moisture.
Rem/Incompatibility	Not available.
Hazardous Decomposition Products	These products are halogenated compounds.
Hazardous Polymerization	Will not occur.

Section 11. Toxicological Information

RTECS Number:	Calcium Chloride, Dihydrate	EV9810000
Toxicity	LD50: Not available. LC50: Not available.	
Chronic Effects on Humans	Not available.	
Acute Effects on Humans	Hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching. May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.	
Synergetic Products (Toxicologically)	Not available.	
Irritancy	Draize Test: Not available.	
Sensitization	Not available.	
Carcinogenic Effects	This material is not known to cause cancer in animals or humans.	
Toxicity to Reproductive System	Not available.	
Teratogenic Effects	Not available.	
Mutagenic Effects	Tests on laboratory animals for mutagenic effects are cited in Registry of Toxic Effects of Chemical Substances (RTECS).	

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Toxicity of the Products of Biodegradation	The products of degradation are more toxic than the product itself.

Section 13. Disposal Considerations

EPA Waste Number	Not available.
Treatment	Material does not have an EPA Waste Number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished. Always contact a permitted waste disposal (TSD) to assure compliance with all current local, state, and Federal Regulations.

Section 14. Transport Information

DOT Classification	Proper Shipping Name: CHEMICALS, N.O.S. RQ: Not applicable.
TDG Classification	Not available.
IMO/IMDG Classification	Proper Shipping Name: CHEMICALS, N.O.S. RQ: Not applicable.
ICAO/IATA Classification	Not available.

+ Section 15. Regulatory Information

U.S. Federal Regulations	TSCA 8(b) inventory: Calcium Chloride, Dihydrate SARA 302/304/311/312 extremely hazardous substances: No products were found. SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: Calcium Chloride, Dihydrate SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Calcium Chloride, Dihydrate: Immediate (Acute) Health Hazard SARA 313 toxic chemical notification and release reporting: No products were found. Clean Water Act (CWA) 307: No products were found. Clean Water Act (CWA) 311: No products were found. Clean air act (CAA) 112 accidental release prevention: No products were found. Clean air act (CAA) 112 regulated flammable substances: No products were found.
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WHMIS (Canada)	Clean air act (CAA) 112 regulated toxic substances: No products were found.
	Class D-2B: Material causing other toxic effects (TOXIC).
	CEPA DSL: CALCIUM CHLORIDE
	This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.
International Regulations	
EINECS	Not available.
DSCL (EEC)	R38- Irritating to skin.
	R41- Risk of serious damage to eyes.
International Lists	Australia (NICNAS): Calcium Chloride, Dihydrate
	Japan (MITI): Calcium Chloride, Dihydrate
	Philippines (RA 6969): Calcium Chloride, Dihydrate
State Regulations	China: No products were found.
	No products were found.
	California prop. 65: No products were found.

Section 16. Other Information

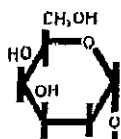
National Fire
Protection
Association
(U.S.A.)

	0	Fire Hazard
Health	0 0	Reactivity
		Specific Hazard

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**Poly-Drill Drilling Systems**

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Calgary, Alberta, Canada T2W-0A8
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email: polydrill@telus.net
www.poly-drill.com

poly-drill.com**MATERIAL SAFETY DATA SHEET/FICHE SIGNALÉTIQUE****1. PRODUCT IDENTIFICATION**

PRODUCT TRADE NAME: Poly-Drill 133-X
PRODUCT DESCRIPTION: LIQUID ANIONIC POLYMER
CHEMICAL DESCRIPTION: Polymer, Surfactant(s), Water, Hydrocarbon solvent
UPDATED: March 15, 2004

NFPA704M/HMIS RATING

HEALTH: 0/1	FLAMMABILITY: 1/1	REACTIVITY: 0/0	OTHER:
0=Insignificant	1=Slight 2=Moderate	3=High	4=Extreme

2. COMPOSITION

A liquid polymer: Evaluation of the ingredient(s) has found no ingredient(s) hazardous as per WHMIS regulations. None of the substances in this product are hazardous.

3. PHYSICAL DATA

Flash Point: >100°C (PMCC)
Specific Gravity (@ 25°C.): 1.08
Solubility in Water: Emulsifiable
pH: 8.1 (1.0% solution)
Freeze Point: -10 °C (14 Degrees F)
Density (g/ml): 1.08 at 25 °C
Physical State: Liquid
Appearance: Blue liquid
Odor: Hydrocarbon

Note: These physical properties are typical values for this product.

4. FIRE AND EXPLOSION DATA

INCOMPATIBILITY: Avoid contact with strong oxidizers (eg. Chlorine, peroxides, chromates, nitric acid, perchlorates, concentrated oxygen, permanganates) which can generate heat, fires, explosions and the release of toxic fumes.

THERMAL DECOMPOSITION PRODUCTS: In the event of combustion CO, oxides of carbon (COx), oxides of nitrogen (NOx) may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

5. FIRE FIGHTING MEASURES

FLASH POINT: >100°C (PMCC)

EXTINGUISHING MEDIA: Based on the NFPA guide, use dry chemical, foam, carbon dioxide or other extinguishing agent suitable for Class B fires. Use water to cool containers exposed to fire. For larger fires, use water spray or fog, thoroughly drenching the burning material.

UNSUITABLE EXTINGUISHING MEDIA:

Do not use water unless flooding amounts are available.

UNUSUAL FIRE AND EXPLOSION HAZARD: May evolve oxides of nitrogen (NOx) under fire conditions.

6. HEALTH HAZARD DATA

EMERGENCY OVERVIEW:

CAUTION: May cause irritation to skin and eyes. Avoid contact with skin, eyes and clothing. Do not take internally.

Empty containers may contain residual product. Do not reuse container unless properly reconditioned.

PRIMARY ROUTE(S) OF EXPOSURE: Eye & Skin

EYE CONTACT: Can cause mild to moderate irritation

SKIN CONTACT: Can cause mild, short-lasting irritation

SYMPTOMS OF EXPOSURE: A review of available data does not identify any symptoms from exposure not previously mentioned.

AGGRAVATION OF EXISTING CONDITIONS: A review of available data does not identify any worsening of existing conditions.

7. EMERGENCY AND FIRST AID PROCEDURES

SKIN: Wash exposed area with soap and water. If irritation or abnormalities persist, call a physician.

EYE: Immediately flush eyes with water for 15 minutes, if irritation or abnormalities persist, call a physician.

INHALATION: Remove to fresh air. If breathing becomes difficult, give oxygen and call a physician.

INGESTION: Do not induce vomiting: Call a physician immediately.

CAUTION: If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water. Call for medical assistance immediately.

8. HANDLING, ACCIDENTAL RELEASE MEASURES & DISPOSAL CONSIDERATIONS

Storage: Keep container tightly closed when not in use.

DISPOSAL:

In Ontario, the waste class under Regulation 347 is: 233L

SMALL SPILLS:

Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area.

LARGE SPILLS:

Contain liquid using absorbent material, by digging trenches or by dyking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Contact approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated.

Dispose of wastes in an approved incinerator or waste treatment/disposal site, in accordance with all applicable regulations. Do not dispose of wastes in local sewer or with normal garbage.

ENVIRONMENTAL PRECAUTIONS

This product should NOT be directly discharged into lakes, ponds, streams, waterways or public water supplies.

As a non-hazardous liquid waste, it should be solidified with stabilizing agents (such as sand, fly ash, or cement) so that no free liquid remains before disposal to an industrial waste landfill. A non-hazardous liquid waste can also be incinerated in accordance with local, state, provincial and federal regulations.

9. INDUSTRIAL HYGIENE CONTROL MEASURES**OCCUPATIONAL EXPOSURE LIMITS:**

This product does not contain any substance that has an established exposure limit.

Respiratory Protection: None normally required.

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a positive pressure, self-contained breathing apparatus is recommended.

Ventilation: General ventilation is recommended.

Eye Protection: Safety glasses, if personally preferred

Gloves: Generally not necessary. Personal preference. Examples of impermeable gloves available on the market are neoprene, nitrile, PVC, natural rubber, viton, and butyl (compatibility studies have not been performed).

If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

10. TOXICOLOGICAL PROPERTIES**SENSITIZATION:**

This product is not expected to be a sensitizer.

A "LC50-96" Pass/Fail Bioassay test. This test determines the lethality of a fluid on young aquatic organisms. The fluid fails if 50% or more of the animals are dead after 96 hours in the fluid.

96 hour static acute LC50 to Rainbow Trout = Greater than 1,000 mg/L

96 hour no observed effect concentration = 125 mg/L based on no mortality or abnormal effects

96 hour static acute LC50 to Sheepshead Minnow = Greater than 1,000 mg/L

96 hour no observed effect concentration = 1,000 mg/L (highest concentration tested) based on no mortality or abnormal effects.

96 hour static acute LC50 to Mysid Shrimp = 400 mg/L

96 hour no observed effect concentration = 180 mg/L based on no mortality or abnormal effects.

96 hour static acute LC50 to Daphnia Magna = 400 mg/L

96 hour no observed effect concentration = 56 mg/L (lowest concentration tested) based on no mortality or abnormal effects.

Microtoxicity

The Microtox bioassay has been established as the reference test for mud additive toxicity testing.

Test Method: Luminescent Bacteria, IC50@ 15 min

Reference: Appendix 1: Microtox Bioassay Procedure, Drilling Waste Management, Guide G50, 1993, Alberta Energy and Utilities Board, Calgary, AB, Canada.

Sample: Poly Drill 1330, sample #97324-1 for test #970723, 97/05/09 by D. Lintott

Preparation: Sample was diluted to 2 g/L, which formed thick, slightly cloudy liquid. The sample was then centrifuged for 1 hour.

Test Results:

SAMPLE	TREATMENT	%CTL	IC20%	IC50	RESULT
97324-1	None	N/A	14 (9-22)	>91	PASS

The following results are for a 1% aqueous solution of product.

CARCINOGENICITY:

None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Government Industrial Hygienists (ACGIH).

HUMAN HAZARD CHARACTERIZATION:

Based on our Hazard Characterization, the potential human hazard is: LOW

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION:

Based on our Hazard Characterization, the potential environmental hazard is: LOW.

11. DEPARTMENT OF TRANSPORTATION INFORMATION

PROPER SHIPPING NAME/HAZARD CLASS MAY VARY BY PACKAGING, PROPERTIES, AND MODE OF TRANSPORTATION. TYPICAL PROPER SHIPPING NAMES FOR THIS PRODUCT ARE:

ALL TRANSPORTATION MODES: PRODUCT IS NOT REGULATED DURING TRANSPORTATION

Shipping Name: Liquid Drilling Additive

Hazard Class: Not hazardous

Cautionary Labeling: None required

14. OTHER INFORMATION

This information contained herein is given in good faith, but no warranty, expressed or implied is made

Spill Plan



SPILL CONTINGENCY PLAN

HOPE BAY ORO PROJECT, NUNAVUT

Date: February 2011

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1. INTRODUCTION

This Spill Contingency Plan has been prepared specifically for the Hope Bay Oro Project (NTS 77A/3,6) 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 Hope Bay Oro Project site.

1.1 Corporate Details

North Arrow Minerals Inc.
Suite 860, 625 Howe Street
Vancouver, BC, V6C 2T6

Attention: Gordon Clarke, Vice-President Exploration

1.2 Term of Spill Contingency Plan

This version of the North Arrow's 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 the Nunavut Water Board, DIAND and the Kitikmeot Inuit Association.

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 Hope Bay Oro 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's 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 Hope Bay Oro 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 West Kitikmeot Region of Nunavut, approximately 120 kilometres west southwest of Cambridge Bay, consists of predominately Crown lands (mineral leases) and some Inuit-Owned Lands BB-58 (surface rights). 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)	<u>68°09'48"</u>	Min Long (degree/minute)	<u>-106°30'00"</u>
Max Lat (degree/minute)	<u>68°15'48"</u>	Max Long (degree/minute)	<u>-106°37'30"</u>

If initial program results a camp may be required. If required it would consist of an exploration tent camp suitable for up to 20 personnel at approximately, 68° 09' 48" N 106° 37' 30" W on Crown land. Exact location will depend upon float plane access along shoreline. The camp would include 7 sleeping tents, combination cooks tent/first aid station, kitchen, dry, office, core shack, outhouse, generator shack, and a fuel cache. Specifics of the final layout will be dependant upon the topographic conditions encountered during camp construction. A layout plan would be forwarded after camp construction.

Maps illustrating the regional context of the property and the detailed project area are located in Appendix 2.

2.2 **Current Permits/Licences**

Permit/License No.	Regulatory Body	Type	Expiry
	Nunavut Water Board	Water License Type B	Application Review in Progress
	Kitikmeot Inuit Association	Land Use-Staking and prospecting, geophysics-ground/air, diamond drilling	Application Review in Progress
	NIRB		Application Review in Progress

2.3 **List of Hazardous Materials On-site**

Fuel storage areas at the Hope Bay Oro project will include the main storage site adjacent to the camp helicopter landing pad; in addition small fuel caches 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
- Lubricating oil
- Gasoline
- Jet “B” fuel
- Antifreeze
- Propane

MSDS information is included in Appendix 3.

Table 1 presents a list of hazardous materials anticipated to be associated with the Hope Bay Oro project, 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	80 (16,400 litres)	One drum to be located at each tent for heating, one at the generator, two drums at active drilling sites, remainder at camp fuel cache
Jet B fuel	205 litre drums	60 (12,300 litres)	Two drums at each active drilling site, remainder at camp fuel cache
Propane	45 kg cylinders	20 (900 kg)	Two cylinders each to be located at kitchen (heating/cooking) and dry (heating); remainder at camp fuel cache
Gasoline	205 litre drums	4 (820 litres)	Camp fuel cache
Oil (Engine and 2 stroke)	1 litre container	Several cases (24 litres/case)	Generator shed, active drilling sites

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 (>30 metres). The main fuel cache will be located at the Hope Bay Lake camp.

Other petroleum-based materials found on-site in very small quantities will be located in the drill shack. These include lubricants/oil/grease for the maintenance of the drilling equipment. The drill shack will be located over 30 metres from the normal high water mark of any water body.

All fuel, oil and any chemicals are transported to site by plane and/or helicopter and to any drill sites by 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 Camp/Exploration Equipment Maintenance

All maintenance work required for camp or exploration equipment will utilize special procedures including the use of portable drip pans to manage motor fluids and other waste in an effort to contain potential spills.

2.7 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 at the Roberts Lake camp fuel cache 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

2.8 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.

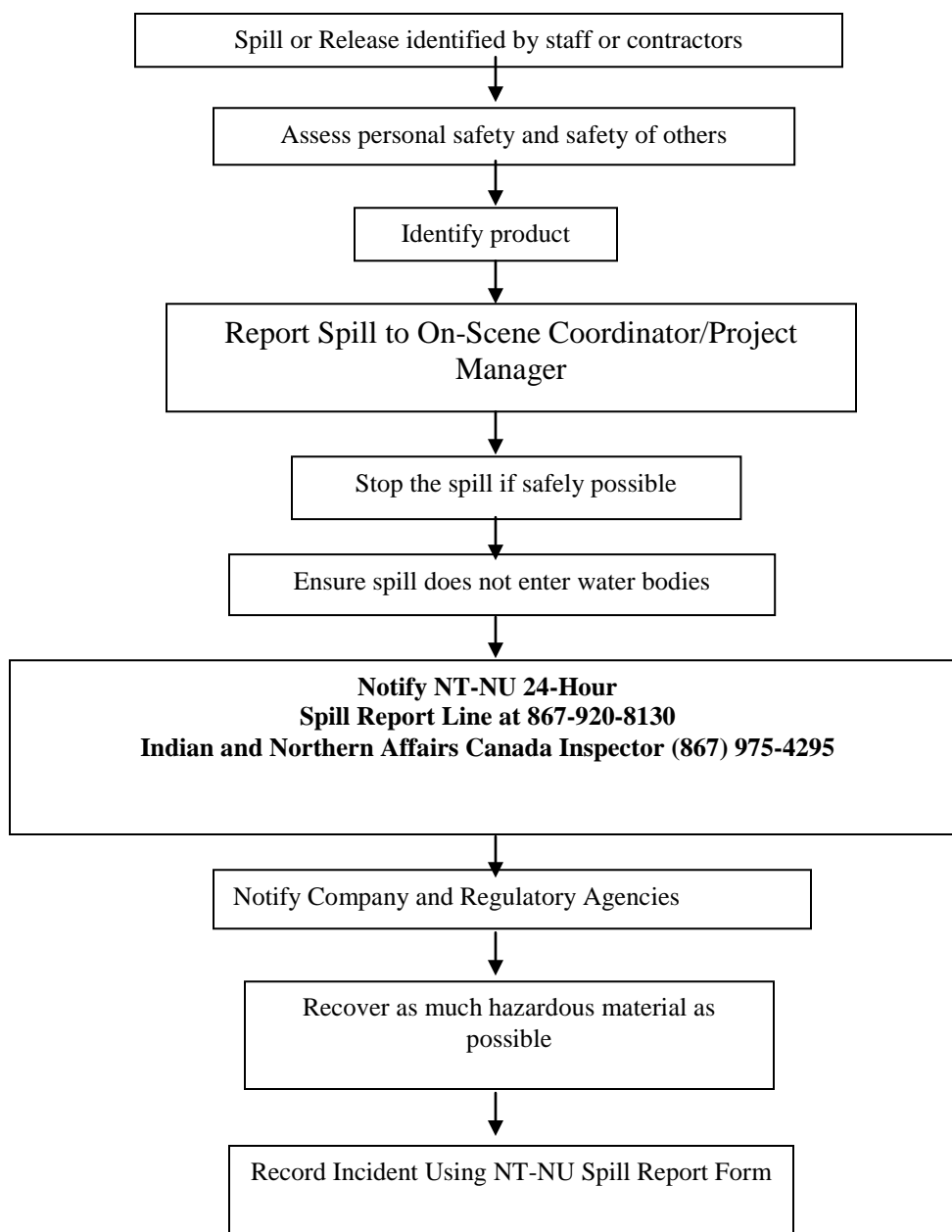
The designated fuel monitor conducts daily visual inspections to check for leaks or damage to the fuel storage containers, as well as for stained or discoloured soils/snow around the fuel storage areas and adjacent equipment. For example, lids/caps are checked for tight seals. A checklist is used to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

2.9 Copies of Spill Contingency Plan

Several copies of the plan will be kept on-site at all times at the Roberts Lake camp, and at any drill shacks during active drilling periods. 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 Hope Bay Oro Project.



3.1 Spill Response Team

Gordon Clarke will be the On-Scene Coordinator for the Hope Bay Project or will appoint a qualified On-Scene Coordinator and appropriate personnel to make up the Hope Bay Spill Response Team for the Hope Bay Project. The key personnel that make up the Hope Bay Spill Response Team are as follows:

On-Scene Coordinator: Gordon Clarke, Vice-President, North Arrow Minerals Inc. or designate.

Project Manager Gordon Clarke, Vice-President, North Arrow Minerals Inc.

In addition to the On-Scene Coordinator and the Project Manager, approximately 4 to 16 personnel are available on site to assist in spill response and cleanup activities. The number of personnel on site varies based on the specific exploration activities being conducted at any one time throughout the year.

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 Inspector (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
INAC, Manager of Field Operations Ph (867) 975-4295 Fax (867) 975-6445
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 – Gordon Clarke, Vice-President	(867) 873-8483 (Office); (867) 873-8493 (Fax) (867) 445-6527 (24 hour)
Environment Canada 24 hour Duty Officer	(867) 669-4730, (867) 873-8185 (Fax)
INAC – Water Resource Officers, Kugluktuk and Iqaluit, NU	Kugluktuk (867) 982-4308 Iqaluit (867) 975-4644
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	<i>Information to be supplied once phone system is established on the property</i>
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.

5.2 SPILL RESPONSE ACTIONS

DIESEL FUEL 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 B 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 B 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 or CO₂.

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 the Hope Bay Oro Property. 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 Indian and Northern Affairs Canada 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 revegetation.

8.0 TRAINING

All employees working on the Hope Bay Oro 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.

APPENDIX 1

NT/NU Spill Report Instructions and Form

Instructions for Completing the NT-NU Spill Report Form

This form can be filled out electronically and e-mailed as an attachment to spills@gov.nt.ca. Until further notice, please verify receipt of e-mail transmissions with a follow-up telephone call to the spill line. Forms can also be printed and faxed to the spill line at 867-873-6924. Spills can still be phoned in by calling collect at 867-920-8130.

A. Report Date/Time	The actual date and time that the spill was reported to the spill line. If the spill is phoned in, the Spill Line will fill this out. Please do not fill in the Report Number; the spill line will assign a number after the spill is reported.
B. Occurrence Date/Time	Indicate, to the best of your knowledge, the exact date and time that the spill occurred. Not to be confused with the report date and time (see above).
C. Land Use Permit Number /Water Licence Number	This only needs to be filled in if the activity has been licenced by the Nunavut Water Board and/or if a Land Use Permit has been issued. Applies primarily to mines and mineral exploration sites.
D. Geographic Place Name	In most cases, this will be the name of the city or town in which the spill occurred. For remote locations – outside of human habitations – identify the most prominent geographic feature, such as a lake or mountain and/or the distance and direction from the nearest population center. You must include the geographic coordinates (Refer to Section E).
E. Geographic Coordinates	This only needs to be filled out if the spill occurred outside of an established community such as a mine site. Please note that the location should be stated in degrees, minutes and seconds of Latitude and Longitude.
F. Responsible Party Or Vessel Name	This is the person who was in management/control/ownership of the substance at the time that it was spilled. In the case of a spill from a ship/vessel, include the name of the ship/vessel. Please include full address, telephone number and e-mail. Use box K if there is insufficient space. Please note that, the owner of the spilled substance is ultimately responsible for any spills of that substance, regardless of who may have actually caused the spill.
G. Contractor involved?	Were there any other parties/contractors involved? An example would be a construction company who is undertaking work on behalf of the owner of the spilled substance and who may have contributed to, or directly caused the spill and/or is responding to the spill.
H. Product Spilled	Identify the product spilled; most commonly, it is gasoline, diesel fuel or sewage. For other substances, avoid trade names. Wherever possible, use the chemical name of the substance and further, identify the product using the four digit UN number (eg: UN1203 for gasoline; UN1202 for diesel fuel; UN1863 for Jet A & B)
I. Spill Source	Identify the source of the spill: truck, ship, home heating fuel tank and, if known, the cause (eg: fuel tank overflow, leaking tank; ship ran aground; traffic accident, vandalism, storm, etc.). Provide an estimate of the extent of the contaminated/impacted area (eg: 10 m ²)
J. Factors Affecting Spill	Any factors which might make it difficult to clean up the spill: rough terrain, bad weather, remote location, lack of equipment. Do you require advice and/or assistance with the cleanup operation? Identify any hazards to persons, property or environment: for example, a gasoline spill beside a daycare centre would pose a safety hazard to children. Use box K if there is insufficient space.
K. Additional Information	Provide any additional, pertinent details about the spill, such as any peculiar/unique hazards associated with the spilled material. State what action is being taken towards cleaning up the spill; disposal of spilled material; notification of affected parties. If necessary, append additional sheets to the spill report. Number the pages in the same format found in the lower right hand corner of the spill form: eg. "Page 1 of 2", "Page 2 of 2" etc. Please number the pages to ensure that recipients can be certain that they received all pertinent documents. If only the spill report form was filled out, number the form as "Page 1 of 1".
L. Reported to Spill Line by	Include your full name, employer, contact number and the location from which you are reporting the spill. Use box K if there is insufficient space.
M. Alternate Contact	Identify any alternate contacts. This information assists regulatory agencies to obtain additional information if they cannot reach the individual who reported the spill.
N. Report Line Use Only	Leave Blank. This box is for the Spill Line's use only.



Canada

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

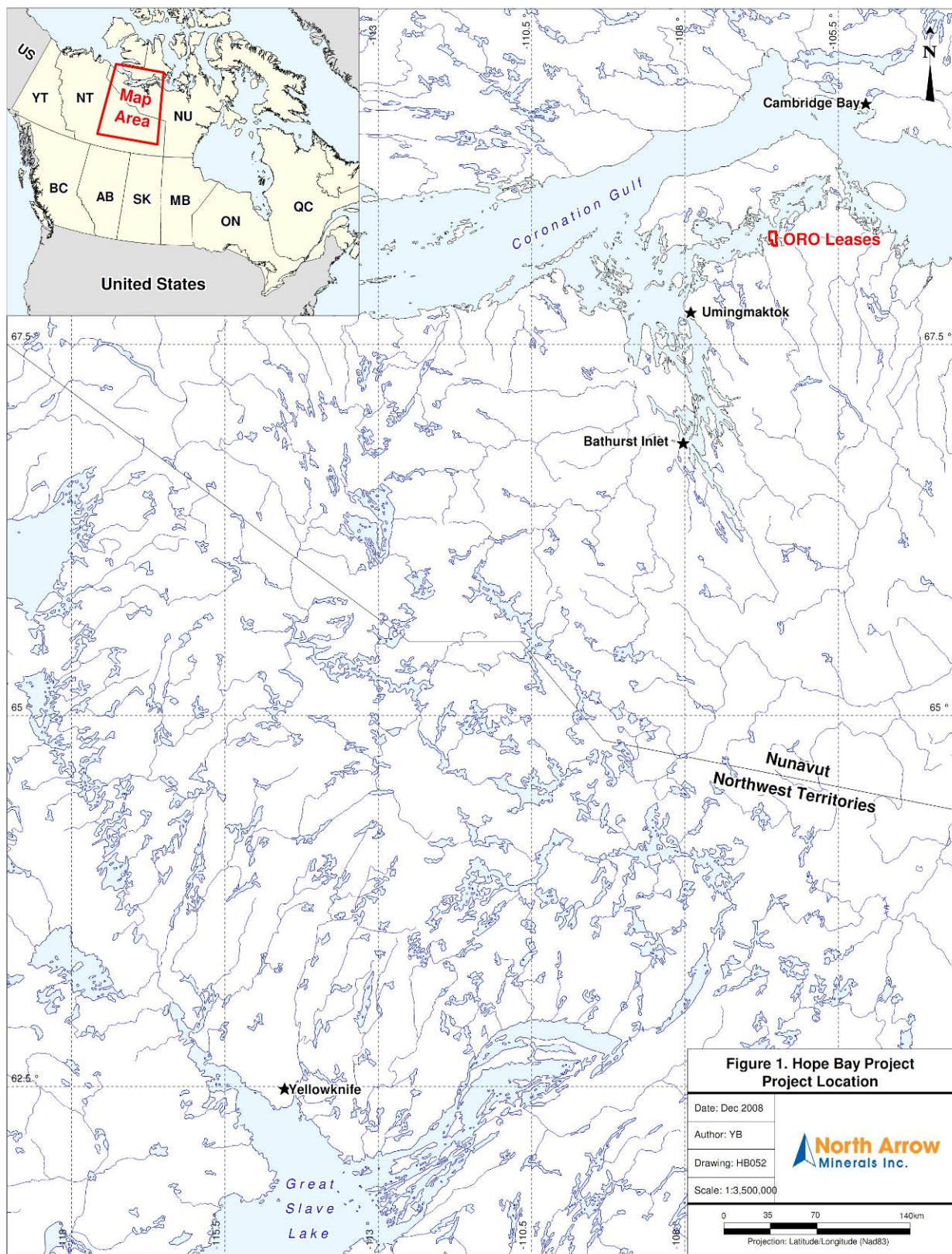
EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

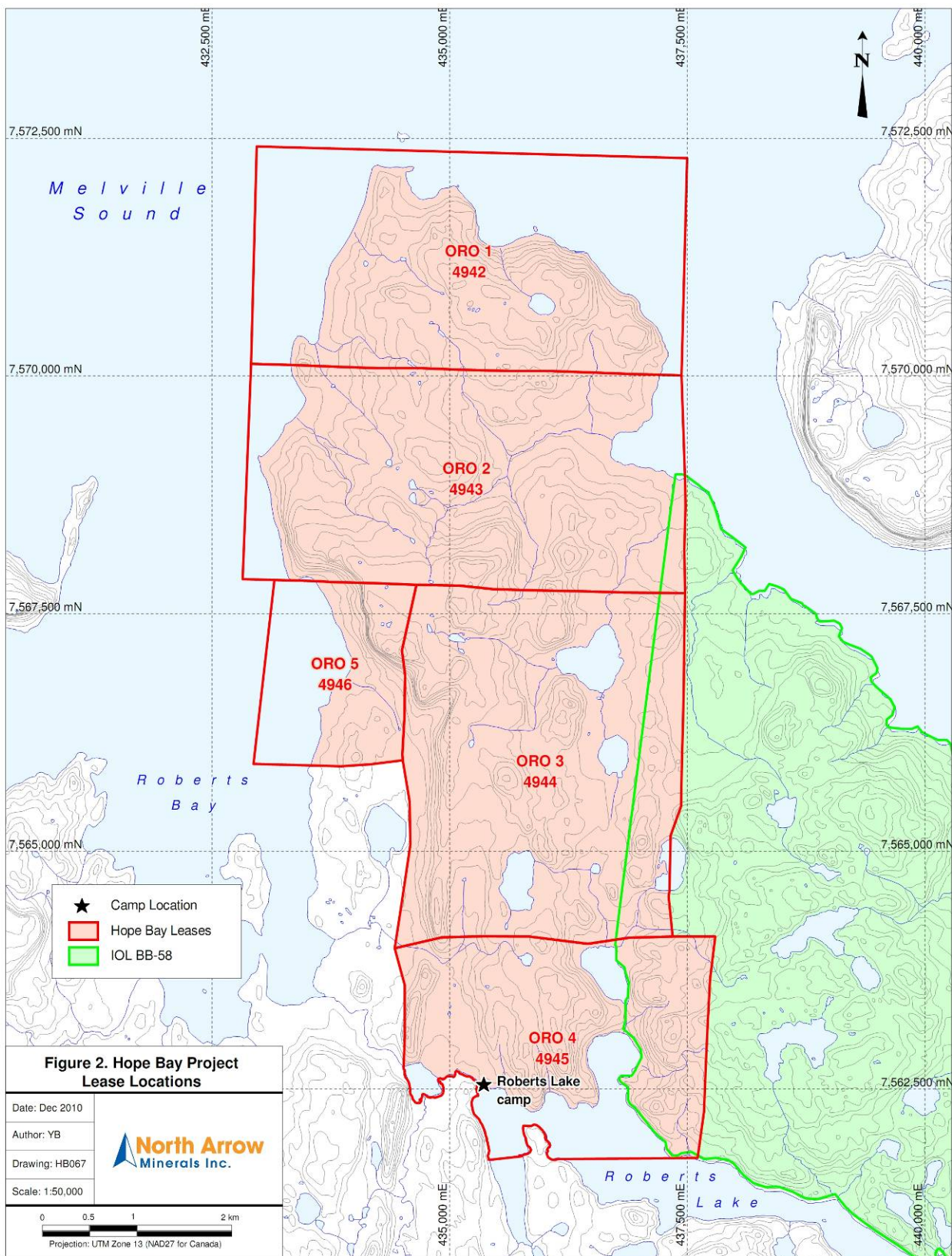
A	REPORT DATE: MONTH - DAY - YEAR		REPORT TIME		<input type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	REPORT NUMBER _____
	OCCURRENCE DATE: MONTH - DAY - YEAR		OCCURRENCE TIME			
B	LAND USE PERMIT NUMBER (IF APPLICABLE)		WATER LICENCE NUMBER (IF APPLICABLE)			
C	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION					REGION <input type="checkbox"/> NWT <input type="checkbox"/> NUNAVUT <input type="checkbox"/> ADJACENT JURISDICTION OR OCEAN
D	LATITUDE DEGREES MINUTES SECONDS		LONGITUDE DEGREES MINUTES SECONDS			
E	RESPONSIBLE PARTY OR VESSEL NAME		RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION			
F	ANY CONTRACTOR INVOLVED		CONTRACTOR ADDRESS OR OFFICE LOCATION			
G	PRODUCT SPILLED		QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES		U.N. NUMBER	
H	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 <input type="checkbox"/> EC <input type="checkbox"/> CCG <input type="checkbox"/> GNWT <input type="checkbox"/> GN <input type="checkbox"/> ILA <input type="checkbox"/> INAC <input type="checkbox"/> NEB <input type="checkbox"/> TC			SIGNIFICANCE <input type="checkbox"/> MINOR <input type="checkbox"/> MAJOR <input type="checkbox"/> UNKNOWN		FILE STATUS <input type="checkbox"/> OPEN <input type="checkbox"/> CLOSED	
AGENCY		CONTACT NAME	CONTACT TIME	REMARKS		
LEAD AGENCY						
FIRST SUPPORT AGENCY						
SECOND SUPPORT AGENCY						
THIRD SUPPORT AGENCY						

APPENDIX 2

Regional and Detailed Property Location Maps



Hope Bay Oro Project Regional Location



Hope Bay Oro Project Detailed Location

APPENDIX 3

List of MSDS Sheets

To be located with Spill Plan in Office Tent

- Diesel Fuel
- Lubricating Oil
- Gasoline
- Jet B Fuel
- Antifreeze
- Propane

A&R Plan



Suite 860 – 625 Howe Street
Vancouver, BC, Canada V6C 2T6
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ABANDONMENT & RESTORATION PLAN

Hope Bay Oro Project, NU

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1.0 INTRODUCTION

The following plan applies to the Hope Bay Oro Project operated by North Arrow Minerals Inc. ("North Arrow"). This project is centered at approximately 68° 13' 44" N 106° 34' 02" W predominately on Crown land. A portion along the eastern side is located on IOL BB-58. Regional location is illustrated in Figure 1. Detailed location is illustrated in Figure 2.

North Arrow intends to carry out exploration work including prospecting, mapping, ground geophysics, sampling and diamond drilling. Work will be confined to the current lease area. Individuals working on the property could reach 20.

1.1 DESCRIPTION OF FACILITY

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Facility – If required it would consist of an exploration tent camp suitable for up to 20 personnel at approximately 68° 10' 18" N 106° 33' 36" W on Crown land, (see Figure 2). Exact location will depend upon float plane access along shoreline. The camp would include 7 sleeping tents, combination cooks tent/first aid station, kitchen, dry, office, core shack, outhouse, generator shack, and a fuel cache. Specifics of the final layout will be dependent upon the topographic conditions encountered during camp construction. A layout plan would be forwarded after camp construction.

If drilling is carried out the following drill specific conditions will apply.

Locations – Fuel will be stored in an appropriate facility or containers a safe distance from the accommodations and away (>31m) from water bodies.

Size - Fuel stored at facility in 205 litre (45 gal.) steel drums.

Storage Capacity – Maximum fuel stored at camp will typically be 60 drums (12,300 litres) of Jet-B, 80 drums of diesel (16,400 litres), 4 drums reg gasoline (820 litres) plus 20, 45 kg propane cylinders and several cases of 4 cycle engine oil and 2 stroke oil (1 litre each x 24/case)

A minor amount of fuel will be stored at drill sites (4 to 6 drums diesel, 2 drums Jet B, 2 cylinders propane), and removed promptly upon completion of each drill hole.

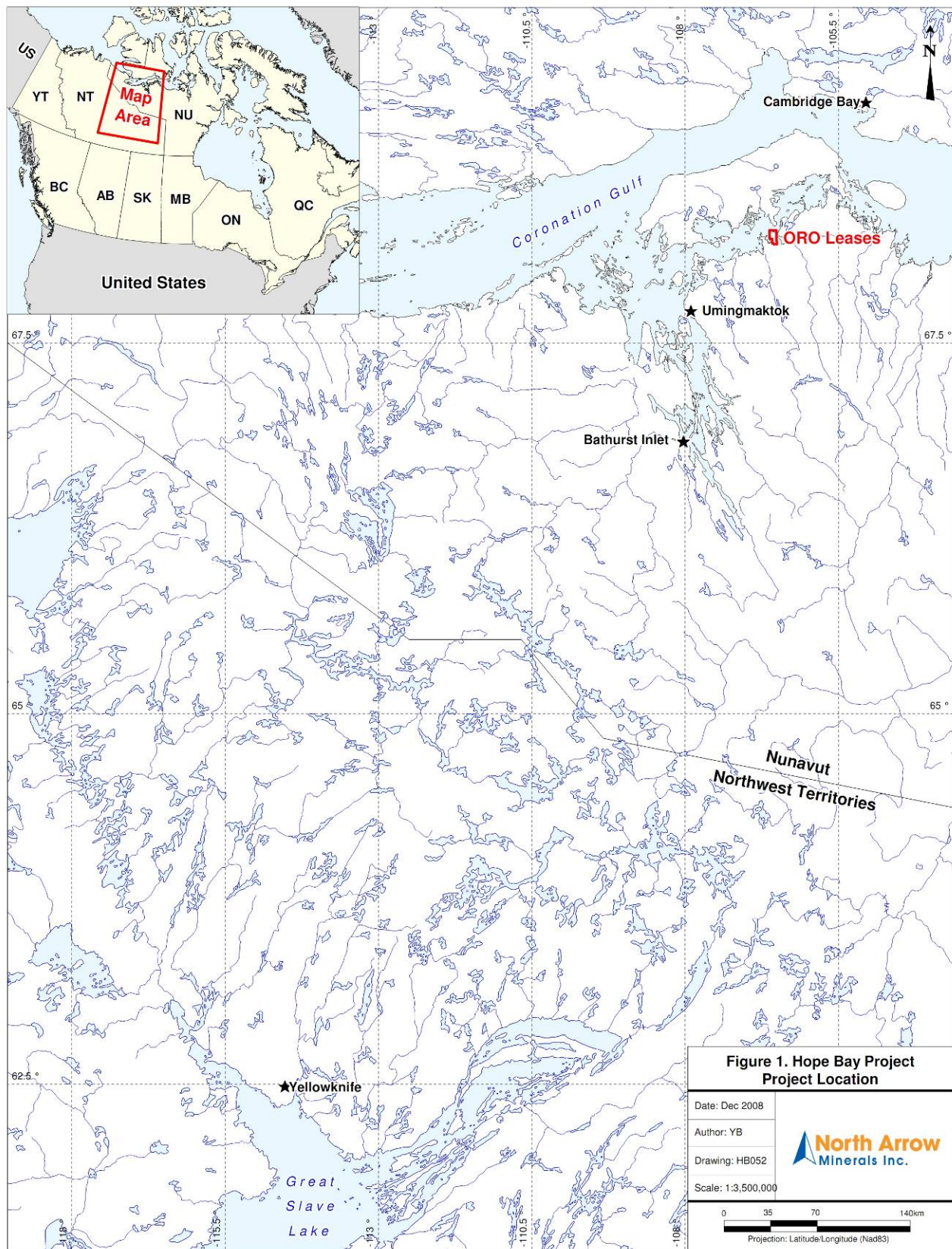


Figure 1. Regional Location Map

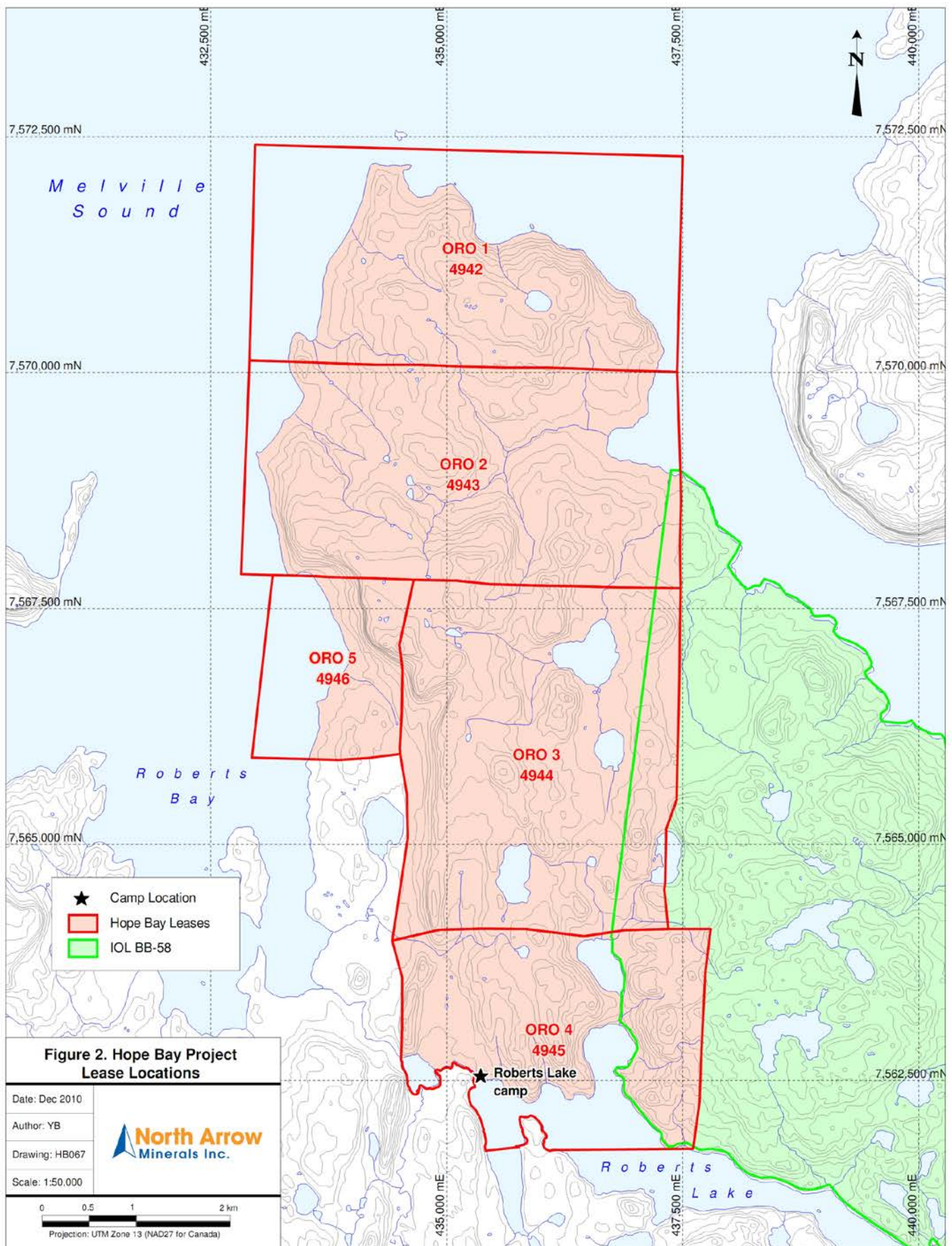


Figure 2. Detailed Location Map

Description of the type and amount of potential contaminants normally stored at the camp during occupation (estimated maximums):

JET B fuel for the helicopter – 12,300 litres (60 drums)
Propane for cooking, heating, etc. - 20, 45 kg cylinders
Diesel – 16,400 litres (80 drums)
Oil – 2 cases 1 litre bottles (24 per) of four-cycle Engine Oil
2 stroke oil – 1 case 1 litre bottles (24 per)
Gasoline – 820 litres (4 drums)

Description of the type and amount of potential contaminants normally stored at drill site:

JET B fuel for the helicopter – 410 litres (2 drums)
Diesel for the drill - 1,230 litres (6 drums)
Propane for heating, etc. - Two (2) 45 kg cylinders

Storage Location - Drums will be stored on flat stable terrain during the summer to reduce chances of a leak and bungs will be placed in a horizontal alignment position. If possible a site will be chosen such that drainage would not be toward natural water bodies.

2.0 ONGOING OPERATIONS, SEASONAL ABANDONMENT, FINAL ABANDONMENT AND RESTORATION PLANS

2.1 ONGOING OPERATIONS

The exploration season for the Hope Bay Oro Project will typically run from early July to the middle of September of each year, weather permitting. Winter drilling and geophysical surveys may also be carried out, typically from March until June. Restoration during operations for drilling, fuel storage, contamination clean up and camp operations are described below.

2.1.1 Drill Hole Locations

- Each drill hole will be restored to as close as possible, previous conditions after completion of the hole.
- If hole is drilled on-ice the drill cuttings will be scraped clean and removed to an on-land sump.
- All fuel drums and drilling equipment will be removed from the site immediately upon completion of each hole.
- Each drill site will be inspected to ensure that all garbage (combustible and non-combustible) has been collected and removed from the area.
- A final inspection of the site will ensure that there is no remaining material at the site upon completion of the drill hole.

2.1.2 Core Storage

- Core will be stored at the camp site or a centralized location on Crown land. This would be dependent upon the location of drill targets. The location of any core will be indicated in yearly land use reports.

2.1.3 Fuel Storage

- All fuel storage and handling is to be guided by the procedures set out in the Spill Contingency Plan for the Hope Bay Oro Project.
- Empty fuel drums are to be regularly backhauled to Yellowknife, NWT for proper disposal.

2.1.4 Contamination Clean Up

- Any soil around fuel caches or drill sites that has become contaminated will be treated as per North Arrow's Spill Contingency Plan. Before and after photos will be taken to document the contamination and the clean up.

2.1.5 Camp

- Garbage is to be regularly transported to Yellowknife for proper disposal.
- If sewage pits are utilized they will be back filled.

2.2 SEASONAL ABANDONMENT

Existing camp infrastructure will be left intact. Tents may or may not be returned to Yellowknife (depends upon agreement with expeditor). The camp generator may be removed from site for servicing and storage. All food and garbage will be backhauled to Yellowknife. All stove fuel lines will be shut off and stove barrels will have bungs tightened. Fuel caches will be inventoried and inspected for any leaks.

2.3 FINAL ABANDONMENT & RECLAMATION

As work on the properties comprising the Hope Bay Project is currently still in the grass roots stage of exploration activities, it is not practicable at this time to subscribe to a definitive schedule for the conclusion of this land use operation, however upon its completion the following procedures will be followed to allow for proper abandonment and reclamation of the area:

2.3.1 Drill Hole Locations

- As per the ongoing restoration procedures all drill holes are to be restored to as close as possible, previous conditions immediately upon completion of the hole.

2.3.2 Fuel Storage

- All fuel storage and handling is to be guided by the framework set out in the Spill Contingency Plan for the Hope Bay Project.
- Upon completion of the land use operation all empty fuel drums will be removed from the area for proper disposal and any remaining fuel caches will be moved to an approved/permitted storage location.

2.3.3 Camp

- At the end of the project all camp materials and equipment, fuel drums, and drilling equipment (if applicable) will be removed from the site.
- All remaining garbage will be incinerated or backhauled to Yellowknife.
- At the end of the program all wood (tent floors, frames etc.) will be burned. The coals and ash will be raked for non-combustible items (i.e. nails etc) which will be collected and removed from the site.
- A last inspection will ensure that there is no remaining material at the site and that there is little/no evidence of North Arrow's land use activity upon completion of the operation.