

**NUNAVUT IMPACT REVIEW BOARD  
SCREENING PART 2 FORM  
PROJECT SPECIFIC INFORMATION REQUIREMENTS (PSIR)**

*The Mel Project  
North Arrow Minerals Inc.  
Oct. 12, 2016*

**2. GENERAL PROJECT INFORMATION REQUIREMENTS**

1. N/A. All pertinent information related to the proposed land use activity is included in this document.
2. See Appendix "A" (Map of the project site within a regional context indicating the closest communities)
3. Camp facilities will be established to support the land use operation described herein.
4. See Appendix "A" (Map of project site indicating proximity to water bodies and proximity to wildlife and wildlife habitat)

**Project General Information**

5. North Arrow Minerals Inc.'s ("North Arrow") Mel Project (the "Project") is located approximately 200 km northeast of Naujaat and 150 km south of Hall Beach (Appendix A - Maps). The Mel Property (the "Property") is comprised of 6 mineral claims on Inuit Owned and Crown Land and fits within National Topographic System (NTS) map sheet **46O/08 and 46O/09**. The target commodity for the project is diamonds.

The proposed land use activity is planned for 2017/2018 and will involve a modest initial phase of drilling based out of an exploration camp located near to the Property. The drill program will be carried out over a three to six week period. Crews would be based in the camp and transported to and from the Property each day by helicopter or snowmobile in the winter. If results of this first phase of work are positive, additional phases of either drilling, till sampling, prospecting or ground geophysics may be conducted at a later date. North Arrow will effort to hire local employees, however, given the short duration, there are limited opportunities for local employment.

6. There is no alternative method for acquiring the data that will be obtained from conducting the drilling program described in this application; however there are alternatives for how the program can be carried out.

The execution of this land use operation is subject to a number of variables because certain logistics cannot be finalized until much closer to the actual commencement of the proposed program; therefore this application includes descriptions of each of the possible scenarios that could be utilized in regards to drilling methods, fuel storage, accommodation and staging. The alternatives for each of the variables are addressed in the applicable portion of this application.

*Accommodation of Personnel* – Given the substantial distance from the communities to the Project site, a temporary camp will be built to accommodate personnel. The program is estimated to have a cumulative duration of three to six weeks, thereby justifying the cost, time and expense of constructing a temporary exploration camp. The proponent may see a need to hire locally sourced workers to assist personnel during the exploration program(s).

*Timing of Land Use Operation* – The proposed land use operation is being designed to take place in the winter/spring and summer months of 2017 and 2018. These two work periods are presented as options in this application.

Should this land use operation be conducted in the winter, drilling equipment would be able to drill from the ice surface over any lake based targets at the Project site. A winter/spring program was considered a viable option due to the lower potential for ground disturbance, however, the high possibility of lost work days due to adverse weather conditions was also considered.

*Transportation of Drill Core from the Site* – In this application, it is proposed that the drill core will be logged, sampled and prepared for shipment south at the exploration camp.

The proponent recognizes that there are concerns across the North regarding low level helicopter flights and their potential to disturb wildlife, migratory birds, and individuals engaging in traditional land use activities. Detailed mitigation procedures are presented in the answer to question 12 in the “Transportation” portion of this application.

7. The proposed land use operation is scheduled to take place over a 3-6 week period during April/May/July/August/September 2017, and/or April/May/July/August/September of 2018 (timing and execution are dependent upon funding, weather, logistics and resources).
8. Regulations related to the Property include: *Territorial Lands Act, Nunavut Mining Regulations, Environmental Protection Act, Nunavut Waters and Nunavut Surface Rights Tribunal Acts and Regulations, Nunavut Land Claims Agreement.*
9. The approvals, permits and licenses required to conduct the project are, to the best of the proponent’s knowledge, as follows:

*AANDC Land Use Permit – Class “A” Permit*

*Nunavut Water Board – Type “B” Water License (applying for concurrently)*

*QIA Access to Inuit Owned Lands – License Level III (applying for concurrently)*

## **DFO Operational Statement (OS) Conformity**

10. N/A

11. N/A

## Transportation

12. All personnel and equipment will be brought to the site via helicopter during the winter and summer drilling. A fixed wing twin or turbo otter aircraft may be used to mobilize drilling equipment from Naujaat or Hall Beach.

Drill core will be slung via helicopter to a yet to be determined temporary camp site for preparation to be shipped south for processing.

13. N/A

14. Equipment and personnel will be transported to and from the site via fixed wing and/or helicopter, and supply flights using a twin or turbo otter may be done to a nearby staging area if a suitable landing strip near to the Property can be located.

15. The number of helicopter flights to and from the land use area will be approximately one or two each day following initial setup of the drill (which will require more to mobilize all of the drilling equipment to the site).

*Initial Mobilization:* During this time the equipment, including the drill and all of its components will be transported to the land use area via helicopter. Under optimal conditions it is estimated that this will take less than one day and be accomplished over approximately 10 flights. An alternative may be to mobilize the drill using a twin or turbo otter directly from Naujaat or Hall Beach.

Fuel for the drill will also be transported to the land use area on an as needed basis via helicopter. It is estimated that under optimal conditions this will take one or two flights every few days.

The proponent recognizes concerns that have been raised throughout the North in regards to the potential disturbance to wildlife that can be associated with frequent low level flights and is committed to mitigation measures listed below.

- All aircraft will maintain a flight altitude of 610 m, except during take-off and landing, times of low level ceiling, and during any unforeseen emergency situations
- The Licensee shall ensure that there is no damage to wildlife habitat in conducting this operation
- The Licensee shall not feed wildlife
- The Licensee shall cease activities that may interfere with migration or calving, until the caribou and their calves have vacated the area
- Should large concentrations of birds be observed, all aircraft will maintain a flight altitude of 1000 m vertical distance and 1500 m horizontal distance from the birds
- Except for in the cases of emergency circumstances, touch-down by helicopters in areas where concentrations of wildlife are present will be avoided, including raptor nesting sites and concentrations of nesting and molting waterfowl
- The proponent will advise contractors and the helicopter crews of these mitigation measures and enforce their application throughout the course of the land use operation

## Camp Site

16. There will be a temporary camp site required in association with the proposed land use activity. All personnel will be housed at the camp. A temporary emergency safety structure will accompany the drill at all times. Should weather conditions deteriorate (restricting travel to/from the Project site to camp), drilling activities would cease and the crew will take refuge in the safety structure.
17. Temporary/seasonal exploration camp. At the end of the proposed program, all materials, camp supplies, fuel drums and the drill (if required) will be removed from the site. All garbage will be collected and removed and any fuel caches will be inventoried and inspected for any leaks.
18. The proposed land use operation is being designed to take place in the winter/spring and summer months of 2017 and 2018. All personnel and equipment will occupy the camp during active programs in the winter and summer. Periods of camp occupation will be intermittent and will run for approximately three to six weeks at a time.

## Equipment

### 19. Equipment

Type and Number	Size	Proposed Use
1 Helicopter	Bell 206 Long Ranger (or similar)	<ul style="list-style-type: none"><li>• Daily transport of personnel to and from drill site</li><li>• Transport of drill and its components to the drill site once at the start of the program and once upon its completion</li><li>• Transport of drill core boxes from the drill site to Chesterfield Inlet (estimated at one flight per day for the duration of the program)</li><li>• Transport of fuel drums to the drilling area and for the removal of the empty drums at the end of the program</li></ul>
1 Drill (Diamond or RC)	Discovery 1 Diamond Drill or Hornet Reverse Circulation "RC" Drill or similar (3-5 tonne)	<ul style="list-style-type: none"><li>• Rock coring/boring and sampling</li></ul>

20. See Appendix "D" – Drill Specifications

## **Water**

21. Only suitable waterbodies within the proposed land use area will be used as a source for the drilling program (see Appendix “A” – Mel Project Land Use Area Map). As most lakes in the area are fish-bearing, water intake will have suitable screens to prevent the impingement or entrainment of fish during pumping activities.
22. The rate of water consumption will range from approximately 0-50 cubic metres per 24-hours of drilling. If Reverse Circulation (RC) drilling is selected over conventional diamond drilling, no water will be used as this method of drilling does not require water.
23. Returned water from drilling activities will be pumped into a nearby natural depression, and if none exist, a hand-dug sump will be created to allow for settling of drill cuttings. All sumps will be at the requisite distance away from any waterbodies, no less than 31 meters from the high-water mark of any waterbody and of suitable capacity for the amount of material that will be produced as the result of drilling.
24. Returned water will be pumped to a site where direct flow into a waterbody is not possible and no additional impacts are created. If artesian flow is encountered, drill holes shall be immediately sealed and permanently capped to prevent contamination of groundwater or salinization of surface waters. A record will be kept of all occurrences of artesian flow during drilling activities and results will be reported in the Annual Report.

## **Waste Water (Grey Water, Sewage, Other)**

25. *Sewage* – a temporary work camp facility will be established to support the land use operation. Sewage will be contained in hand-dug pits with outhouses. Once full, pits will be backfilled after applying lime to neutralize the sewage and help promote further decomposition.

*Camp Grey Water* – hand dug sumps will be located behind kitchen and washing facilities to capture and filter grey water. Sumps will be constructed no closer than 31 m of the normal high water mark of all nearby waterbodies.

*Combustible Solid Waste* – All domestic waste (food containers, paper, etc.) will be backhauled on supply flights from either Hall Beach or Naujaat for proper disposal.

*Non-combustible Solid Waste (bulk items/scrap metal)* – Any and all equipment will be removed from the land use area at the end of the program as per the *Abandonment and Restoration Plan* for the Project.

*Contaminated Soils/Snow* – All efforts will be made to mitigate situations where the contamination of soil or snow could occur. Please see the *Spill Contingency Plan* for the Project for further information on spill protocol and the handling of contaminated soil and/or snow.

*Empty Barrels/Fuel Drums-* All empty barrels at the land use area will be backhauled to either Hall Beach or Naujaat on a regular basis (or at the end of the program) for proper disposal at an approved facility.

26. N/A

**Fuel**

27. Drummed fuel would be brought in for the helicopter and drill. Fuel will be purchased and stored at the camp with some form of secondary containment (i.e. temporary storage berm). Several 205 litre drums of diesel to fuel the drill, and one or two 205 litre drums of Jet-A/B fuel (to serve as an emergency reserve for the helicopter) will be positioned at the drill. Spill kits and secondary containment will be located wherever fuel is stored or used.

<b>Fuels</b>	<b>Number of Containers</b>	<b>Capacity of Containers</b>
Diesel	25-50 drums	205 litres
Jet A/B	25-50 drums	205 litres
Gasoline	2-3	20 litres
Propane	5 x 100 lb tanks	100 lbs

No more than 1640 litres of fuel (six drums of diesel and two drums of Jet A/B) will be stored at the drill site at any given time.

28. A temporary berm will be constructed at a suitable location close to each drill site, contain an impervious liner, and will include a “rain drain” type filtration device with sufficient capacity to service the size of the secondary containment area.

At the end of the land use operation all fuel drums will be removed from the site and the temporary fuel storage berms dismantled. No fuel will be left on the land and all empty drums will be backhauled for proper disposal.

29. For a detailed description of the fuel handling and storage procedures associated with the land use plan, including the refueling of equipment, please see Appendix “B” for the *Spill Contingency Plan* for the Mel Project.

30. For a detailed description of the spill contingency procedures that will be adopted for the Mel Project, please see Appendix “B” – *Spill Contingency Plan*.

**Chemicals and Hazardous Materials**

31. Chemicals that will be on the land use area during the drilling activities are all associated with the operation of the drill and include engine oil, hydraulic oil, antifreeze, drilling muds/greases, salt (NaCl) and lead batteries.

32. The small supply of engine oil, hydraulic oil, antifreeze and drilling muds/greases that will be kept at the drill site will be stored in 1-5 litre, plastic, lidded storage containers, proximal to absorbent matting at all times. Salt will be stored at the camp in 10-20lb bags and transported to the drill as needed. One lead battery will be used at the drill with spares

stored at the camp. Fuel drums will be stored in temporary secondary containment berms which will be removed, along with any remaining full or empty drums, following the completion of the land use program.

33. Any transfer of oil, antifreeze, drilling muds/greases and salt will take place in the designated fueling areas both in town and at the drill site. North Arrow personnel and contractors will be trained in safe and proper handling procedures for these materials.
34. Please see Appendix "B" for the *Spill Contingency Plan* for the Mel Project for information regarding spill control measures.

### **Workforce and Human Resources/Socio-Economic Impacts**

35. It is anticipated that there will be a need to hire local workers on short term employment contracts for the duration of the program.
36. If needed, local hires will be working either at the drilling site and/or where the drill core will be logged and prepared for shipping. Workers assigned to tasks at the drilling/core-logging sites will be transported via helicopter at the beginning and end of each shift. Shifts and the duration of employment for each of the local workers will be determined at the time of hiring.
37. North Arrow endeavors to provide employment and training opportunities to local Inuit beneficiaries whenever possible and have a track record of doing so throughout its decade-long history of operating exploration projects throughout Nunavut. As employment opportunities associated with grassroots and advanced stage exploration projects in the region are typically seasonal and job specific, the hiring of local workers is done on an as needed, short term employment contract basis.

### **Public Involvement/Traditional Knowledge**

38. The land use area is located approximately 150-200 km from the Hamlets of Naujaat and Hall Beach, and therefore local residents engaging in traditional land use activities and members of the Hunters and Trappers Organizations (HTO) are among the communities, groups and organizations most likely to be affected by this Project proposal.
39. As of the date of submission of this application there has been limited consultation done in regards to the land use activity proposed herein. North Arrow conducted community meetings in Naujaat to notify them of our presence in the area in May and November 2014, and met with Mayor and Council and the HTO in November 2014 and May 2015. It was during this time that conversations on future plans for the project were discussed. No in-person meetings have been held in the community of Hall Beach; however, annual update letters and phone conversations have been held with members of the Hamlet (including Mayor Peter Siakuluk) and QIA (Land Administrator Salamonie Shoo) to update stakeholders on the status of the project.

40. It is projected that local Inuit beneficiaries will be hired on short term employment contracts in association with drilling- and camp-related activities. As it is proposed that crews will mobilize through either Naujaat or Hall Beach, local businesses will benefit from goods and services purchased to support operations.
41. Due to the fact that this project is still in its early stages and the land use activities conducted by the proponent since it acquired an interest in the Property have been short term and relatively low impact in nature, there have been no traditional knowledge studies done in association with this project to date.
42. North Arrow has scheduled a meeting with Naujaat Hamlet council and mayor Oct. 25<sup>th</sup> and 26<sup>th</sup>, 2016. Future work and consultation plans will be addressed at this time.

A project summary outlining the details for the proposed drilling activity and full contact information for the Proponent will be sent to the Settlement Administrative Officer (SAO) at the Naujaat and Hall Beach Hamlet offices and to HTO representatives. North Arrow has contacted the SAO of Hall Beach and proposed a meeting be scheduled with representatives from the local government in Spring 2017 to review the Project and proposed work program. This interactive approach will provide an opportunity for any questions and concerns regarding the proposed land use activity to be addressed and has proven to be a great way to open up the lines of communication with remote communities when used in the past. It is important for the company to hear any local concerns to proposed activities, and to have open and collaborative discussions.

Should the drilling not take place in 2017 (with the projection that it may take place during 2018), representatives from North Arrow will inform the community in detailed correspondence. Should drilling take place and additional phases of the program be warranted, North Arrow will provide updates on the status of the project and the next phase(s) of work.

### **3. PROJECT SPECIFIC INFORMATION**

#### **SECTION A: Roads/Trails**

There will be no roads or trails established for the proposed land use activities.

#### **SECTION B: Mineral Exploration/Advanced Exploration/Development**

##### **B-1. Project Information**

1. Diamonds.

## **B-2. Exploration Activity**

2. The type of exploration activities that may be conducted are:

- Exploration drilling
- Delineation drilling
- Till Sampling
- Geophysical Surveying
- Prospecting
- Mapping

3. The primary land use activity being proposed in association with this application is:

- On land and/or ice drilling (drill type proposed would be a helicopter portable diamond or RC drill)

## **B-3. Geosciences**

4. Ground magnetometer and/or electromagnetic surveys may be conducted in connection with the land use operation.

5. Geological mapping may be conducted in connections with the land use operation.

6. The “Mel Project – Proposed Land Use Area Map”, included at the bottom of this document, is the boundary in which ground geophysical surveying may be conducted.

7. Locations where flight altitudes will be below 610 m include the camp and active drilling sites.

## **B-4. Drilling**

8. At this point in time, it is unknown how many drill holes will be proposed. The proponent estimates that an initial phase of drilling would be in the range of 4-8 targets tested by 8-12 drill holes with an average depth of between 50-150 metres (estimate). The purpose of the drilling will be to test targets identified by work conducted from 2013 to 2016.

9. Diamond drill additives would include drilling mud and greases used to reduce friction between the drill rods and bedrock during coring. Salt, which is mixed with water at the drill, may be used to avoid freezing any equipment in the drill hole.

10. Drill cuttings are pumped out of the drill hole and into an appropriate natural depression or hand-dug sump >31 m above the normal high water mark of nearby waterbodies to allow the settlings of fine material. If drilling on ice, cuttings will be pumped into a natural depression or hand-dug sump on land, or a cuttings-capture system such as a “Polydrill Filter” will be employed at the drill to contain all of the cuttings so as to avoid releasing material into lakes. Cuttings will then be transported to a location >31 m above the normal high water mark of nearby waterbodies and deposited into a natural depression or hand-dug sump.

11. Water for drilling activities will be sourced from nearby lakes with adequate capacity (see Mel Project Maps in Appendix “A”). Returned water from drilling activities will be pumped into a nearby natural depression or hand-dug sump to allow the settling of fine material. Should there be any cuttings produced they will be allowed to settle in a suitable sump the requisite distance away from any water bodies. Any and all drilling muds/greases used will be biodegradable and any additives used will be non-toxic.
12. Drilling equipment will be mobilized to the camp by airplane or helicopter, and then from camp to the site via helicopter which should take approximately one day.
13. See Appendix “D” for the *Abandonment and Restoration Plan for the Mel Project* for information regarding drill hole abandonment procedures.

14. N/A

#### **B-5. Stripping/Trenching/Pit Excavation**

15. N/A

16. N/A

17. N/A

18. N/A

19. N/A

#### **B-6. Underground Activities**

20. N/A

21. N/A

22. N/A

23. N/A

24. N/A

25. N/A

#### **B-7. Waste Rock Storage and Tailings Disposal**

26. Waste rock will consist of drill core stored within wooden drill core boxes. Drill core not slung to town will be stored at the proposed land use area (see Appendix “A” – Mel Project Map and Proposed Land Use Area).
27. It is unknown at this time how much of the drill core will be waste. There will be only waste rock (aka Country Rock) if no kimberlite rock is intersected. Country rock intersections will

be left at the dill site in organized core box stacks. Based on the estimates in section B-4 above, there could be up to approximately 1,800 m of waste drill core. Should kimberlite be intersected, there will be less waste drill core as kimberlite intervals will be sampled for laboratory testing.

28. Kimberlite rock does not typically contain chemical properties that would generate acid rock drainage (ARD) or metal leachate (ML). As a result, testing for ARD and ML will not be conducted as part of the proposed program.

#### **B-8. Stockpiles**

29. N/A

30. N/A

31. N/A

32. N/A

33. N/A

#### **B-9. Mine Development Activities**

34. N/A

35. N/A

36. N/A

#### **B-10. Geology and Mineralogy**

37. N/A

38. The vast majority of the world's economic diamond mines discovered to date are hosted in kimberlite pipes (ancient small volcanoes) which are the exploration target on the Mel Property. Diamonds form in the mantle and are captured and transported to surface by rapidly ascending kimberlite magmas. These magmas, which originate at depths of 150 km or more below the Earth's surface, generally rise to the surface along structural weaknesses in the crust and may form pipes, dykes or sills, or combination of all three.

39. Most of the Property is underlain by Archean gneiss, migmatite, and schist.

40. It is estimated that 400-1,800 metres of drill core and/or rock chips will be collected over the 3-6 week period.

41. Kimberlite rock does not typically contain chemical properties that would generate acid rock drainage (ARD) or metal leachate (ML). As a result, testing for ARD and ML will not be conducted as part of the proposed program.

**B-11. Mine**

42. N/A

43. N/A

44. N/A

45. N/A

46. N/A

**B-12. Mill**

47. N/A

48. N/A

49. N/A

50. N/A

**SECTION C: Pits and Quarries**

1. N/A

2. N/A

3. N/A

4. N/A

5. N/A

6. N/A

7. N/A

8. N/A

9. N/A

10. N/A

11. N/A

12. N/A

13. N/A

14. N/A

15. N/A

16. N/A

17. N/A

## **SECTION D: Offshore Infrastructure**

### **D-1. Facility**

1. N/A

2. N/A

3. N/A

4. N/A

5. N/A

6. N/A

### **D-2. Facility Construction**

7. N/A

8. N/A

9. N/A

10. N/A

11. N/A

12. N/A

13. N/A

### **D-3. Facility Operation**

14. N/A

15. N/A

16. N/A

17. N/A

18. N/A

## **SECTION E: Seismic Survey**

### **E-1. Offshore Seismic Survey**

1. N/A

2. N/A

3. N/A

4. N/A

5. N/A

6. N/A

7. N/A

8. N/A

9. N/A

### **E-2. Nearshore/Onshore Seismic Survey**

10. N/A

11. N/A

12. N/A

13. N/A

14. N/A

15. N/A

### **E-3. Vessel Use in Seismic Survey**

16. N/A

**SECTION F: Site Cleanup/Remediation – See Appendix “D” *Abandonment and Restoration Plan***

1. N/A

2. N/A

3. N/A

4. N/A

5. N/A

6. N/A

7. N/A

8. N/A

9. N/A

10. N/A

11. N/A

**SECTION G: Oil and Natural Gas Exploration/Activities**

**G-1. Well Authorization**

1. N/A

2. N/A

3. N/A

**G-2. On-Land Exploration**

4. N/A

5. N/A

6. The proposed drilling activities may require the use of water. If RC drilling is the chosen method, water will not be needed for drilling. If conventional diamond drilling is chosen,

water will be needed to support drilling activity. The quantity of water required will be roughly the same at each drilling location. The required amount of water for drilling purposes is estimated to be 0-50 m<sup>3</sup>/day. This amount of water is not expected to affect lake levels as drawdown during drilling will be negligible. Drill cuttings will be pumped to a natural depression or hand-dug sump, allowing finer material to settle out of the water, and further filtration by surface moss and overburden. This method of water use will allow for constant recharge of lake water levels during drilling activities.

7. Permafrost is likely to be encountered under hand-dug sumps.
8. Artesian aquifers are not likely to exist in the overburden at the proposed land use area as it is thin.
9. During winter drilling, salt may be added to drilling water during extreme cold weather to reduce the chance of drilling equipment freezing in the borehole. The amount of salt, if used, is anticipated to be small and may not be required if drilling conditions and weather/temperature permits. It is the proponents preference that little to no salt be used during drilling and only when it is absolutely necessary. When salt is used, drilling water will be naturally filtered by natural depressions or sumps on land.
10. Drill cuttings will be pumped to a natural depression or hand-dug sump to allow fine material to settle out of the water. Drilling water will be filtered by surface moss and overburden. This method of water treatment will allow for constant recharge of lake water levels during drilling activities.
11. Drilling fluid sumps will be located a minimum of 31 m from the ordinary high water mark of any permanent water body or stream. Sumps will not be constructed close to ephemeral drainage, or locations with high water tables, springs and groundwater seepage. Suitable terrain is flat or gently sloping and topographic highs which promote surface drainage will be sought out. Proper site selection requires pre-inspection of the proposed site during the snow-free period. Sump site selections will be carried out by staff of the proponent and drilling crews to ensure that the sump will contain the estimated volume of material produced as a result of drilling.

Sump reclamation will involve capping the sump with backfilled material, aggradation of permafrost into the deposited materials and containment of the active layer within the sump cap so that the drill cuttings remain immobilized in the frozen ground.

12. See Appendix "B" – *Spill Contingency Plan*
13. See Appendix "C" – *Abandonment and Restoration Plan*

### **G-3. Off-Shore Exploration**

14. N/A
15. N/A

16. N/A

17. N/A

#### **G-4. Rig**

18. See Appendix "D" – *Drill Specifications*

19. N/A

20. N/A

### **SECTION H: Marine Based Activities**

#### **H-1. Vessel Use**

1. N/A

2. N/A

3. N/A

4. N/A

5. N/A

6. N/A

7. N/A

8. N/A

9. N/A

10. N/A

11. N/A

12. N/A

13. N/A

14. N/A

15. N/A

16. N/A

## **H-2. Disposal at Sea**

17. N/A

18. N/A

19. N/A

20. N/A

21. N/A

22. N/A

23. N/A

24. N/A

25. N/A

26. N/A

## **SECTION I: Municipal and Industrial Development**

1. N/A

2. N/A

3. N/A

4. N/A

5. N/A

6. N/A

7. N/A

8. N/A

9. N/A

10. N/A

11. N/A

12. N/A

13. N/A

14. N/A

#### **4. DESCRIPTION OF THE EXISTING ENVIRONMENT**

##### **Physical Environment**

There are no known protected environmental areas or parks in the vicinity of the proposed land use activity.

During previous exploration programs conducted by the proponent, no potential archaeological sites have been encountered.

Topography in the region consists of low to moderate relief, with common bedrock exposures consisting of mostly granites and gneisses. Sediments consisting primarily of unconsolidated glacial deposits are abundant at the Project.

##### **Biological Environment**

Vegetation at the project site is scarce and is comprised of a mix of small shrubs, sedges and grasses, mosses, and lichens.

Wildlife is also rare in and around the project area. During previous exploration programs carried out in the summer months, field crews have encountered sik-siks, small birds and caribou.

##### **Socioeconomic Environment**

The Mel Property is located approximately 200 km northeast of the Hamlet of Naujaat, and approximately 150 km south of the Hamlet of Hall Beach. The Project takes about 120 minutes to reach via helicopter from either community.

The Department of Culture and Heritage recommends that if archaeological sites or features are encountered during the exploration program, activities should immediately be interrupted and moved away from this location. Each site encountered needs to be recorded and reported to their office using a Site Reporting Form (to be obtained from their website). Photographs and a map indicating location of site(s) should be provided as well. The proponent will follow these guidelines should suspected archaeological sites be found during the work program.

Due to the fact that the Mel Project is in an early, low impact stage, there have been no studies conducted regarding the socioeconomic environment of the Hamlets of Naujaat and Hall Beach, which are the closest communities to the land use area.

## **5. IDENTIFICATION OF IMPACTS AND PROPOSED MITIGATION MEASURES**

1. See Appendix “E” for Identification of Impacts, Table 1
2. Please see the answer for question 15 under Section 2 for the mitigation measures to be implemented regarding potential disturbance by helicopter flights.
3. As described above, it is projected that local Inuit beneficiaries will be hired on short term employment contracts in association with drilling- and camp-related activities. As it is proposed that crews will mobilize through either Naujaat or Hall Beach, local businesses will benefit from goods and services purchased to support operations.
4. N/A
5. Please see the answer for question 15 under Section 2 for the mitigation measures to be implemented regarding potential disturbance by helicopter flights.
6. Please see the answer for question 15 under Section 2 for the mitigation measures to be implemented regarding potential disturbance by helicopter flights.

Drilling setups are likely to disturb small patches of vegetation (i.e. grass, shrubs) over the course of the program. Staff of the proponent will consider less vegetated locations when selecting drill setup locations. In addition, staff will remove vegetation prior to setting up the drill, and will re-plant the vegetation following the completion of each drill hole.

## **6. CUMULATIVE EFFECTS**

The effects from the land use activities described herein are expected to be minimal due to the relatively short time frame within which it will be conducted.

The identified land use area is relatively small and there are presently no competitor interests adjacent to or within the immediate vicinity of the project area.

As addressed throughout this application, the proponent recognizes that there are concerns across the North regarding low level helicopter flights and their potential to disturb wildlife, migratory birds, and individuals engaging in traditional land use activities. The proponent has addressed the mitigation measures that will be implemented regarding any foreseeable concerns, notably, the potential for disturbance of wildlife and traditional land use. The proponent believes that the mitigation measures described are sufficient to address any potential concerns and welcomes further recommendations from the NIRB and other government organizations.

## **7. SUPPORTING DOCUMENTS**

Appendix “A” – Maps

Appendix “B” – Spill Contingency Plan (**Separate Document**)

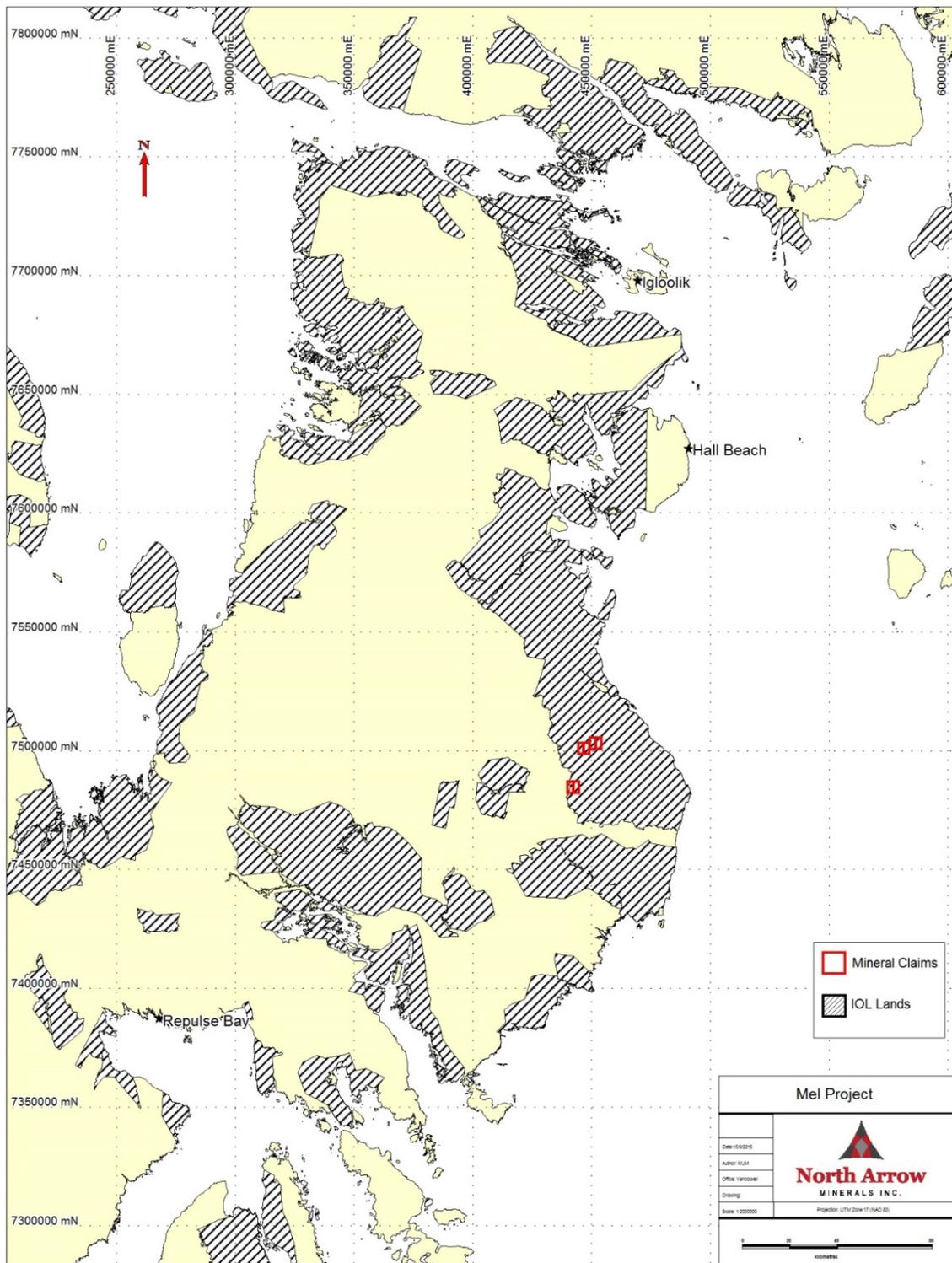
Appendix “C” – Abandonment and Restoration Plan (**Separate Document**)

Appendix “D” – Drill Specifications

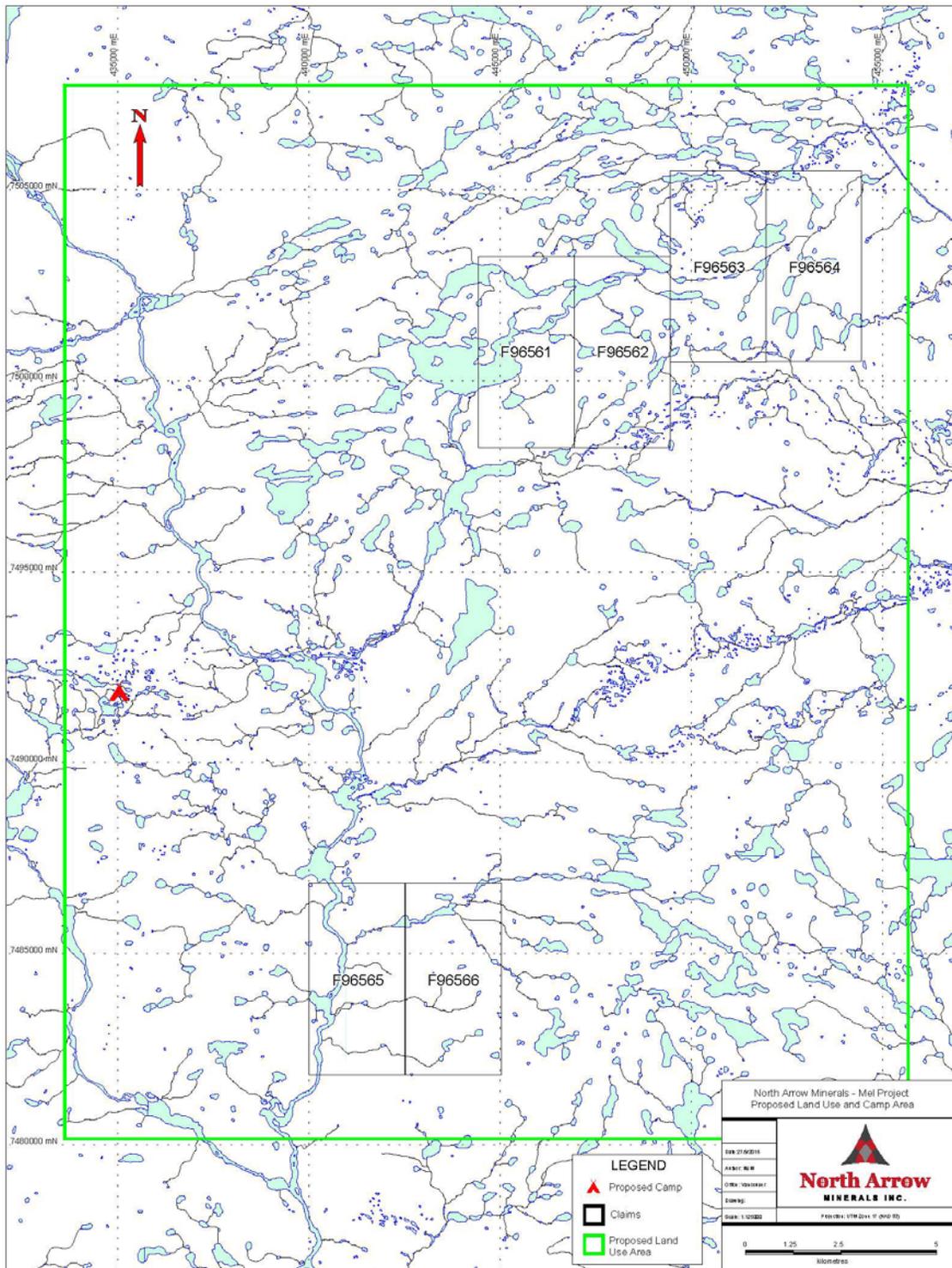
Appendix “E” – Identification of Environmental Impacts Table

## **Appendix A**

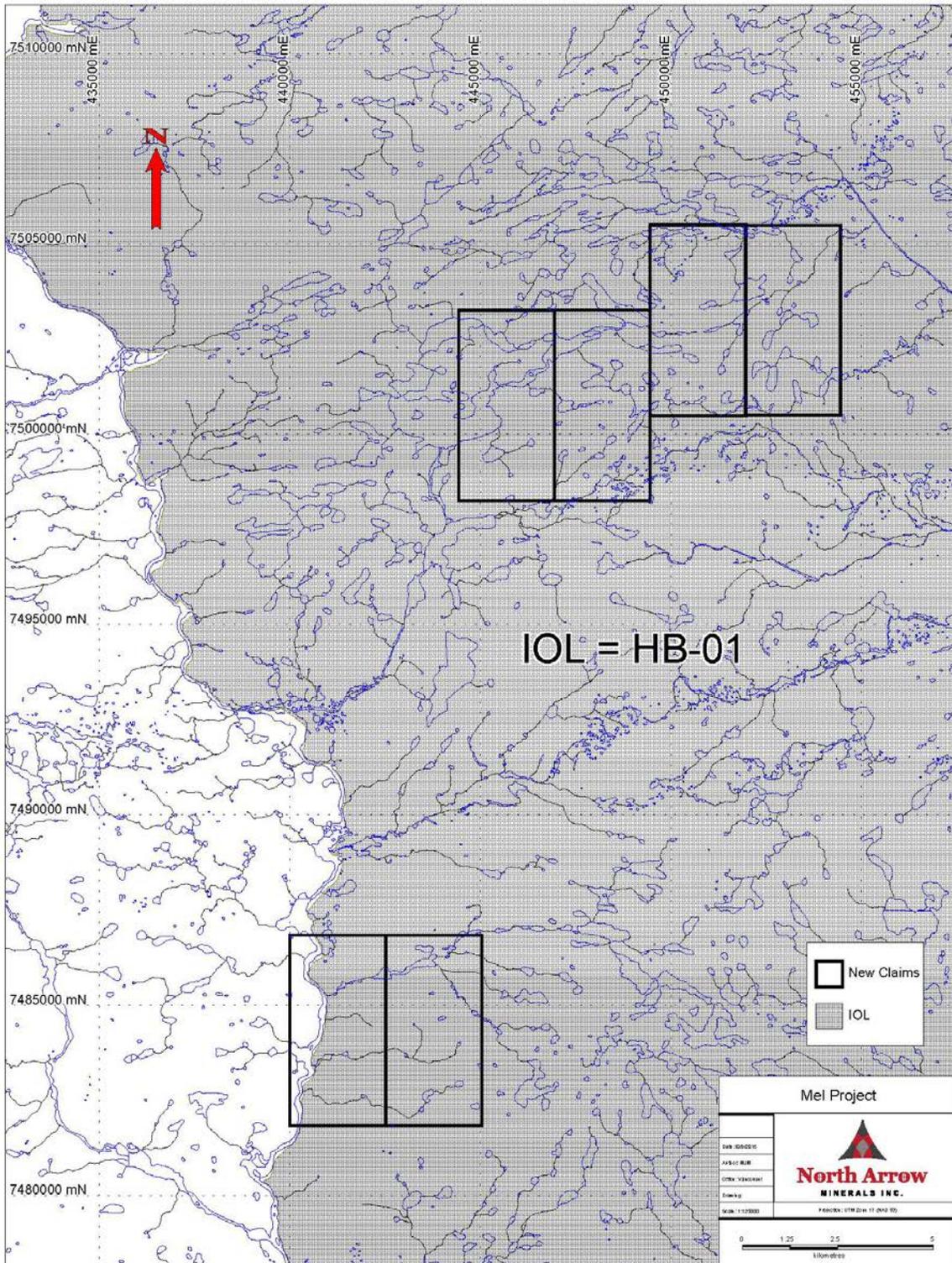
### **Project Location and Proposed Land Use Area Maps**



Mel Project Location Map



Mel Project Map – Water for drilling activities will be drawn from lakes within mineral claims (exact locations yet to be determined).



Mel Project Map – Mineral claims and IOL boundary

## **Appendix B**

### **Spill Contingency Plan**

**(Included as a separate document)**

## **Appendix C**

### **Abandonment and Restoration Plan (Included as a separate document)**

## **Appendix D**

### **Diamond Drill Specifications**



**DISCOVERY I**  
Diamond Core Drill

**MULTIPOWER**



## Discovery I – Diamond Core Drill

### DEPTH CAPACITIES: Based on max pullback & a 25% safety factor

B	2630 ft / 800 m
N	2000 ft / 605 m

### PRIME MOVER

Standard unit	Kubota V3800T, 4 cylinder, turbo charged diesel engine
Power:	99 HP @ 2600 RPM
Optional unit	Isuzu 4JJ1X, 4 cylinder, turbo charged diesel engine
Power:	131 HP @ 2500 RPM

### ROTATION UNIT

Standard unit	300 drill head & chuck
Maximum opening:	2-3/16" (B size)
RPM:	1400 RPM
Torque:	1000 ft lbs
Chuck:	12,000 lbs capacity
Hydraulic motor:	Commercial gear - Bushing style
Gear ratios:	1 to 1
Optional unit	Boyles B15
Maximum opening:	3-1/2" (H size)
RPM:	1400 RPM
Torque:	1800 ft lbs
Chuck:	26,000 lbs capacity
Gear ratios:	3.1:1 & 4.4:1

### FOOTCLAMP

Standard unit	2 cylinder hydraulic open/close
Maximum opening:	3-1/2" (H size)
Optional unit	12HH 3-1/2" (H size)

### MAST AND FEED

Feed stroke:	72"
Pullback:	14,000 lbs
Pulldown:	7510 lbs
Drill angle:	45 to 90 degree
Tower:	10 ft or 20 ft rod pull capacity

### WATER PUMP

Standard unit	L0918B-CD (420) piston pump
Capacity:	24 GPM @ 700 PSI

### WINCHES

Wireline winch	Hydraulic motor direct drive
Capacity:	1000 ft of 3/16" cable

### HYDRAULIC SYSTEM

Controls:	Fully hydraulic, no electronics
Rod handling:	Synchronized chuck & footclamp w/ additional chuck control
System pressure:	3000 PSI
Filtration:	10 micron
Components:	Sauer Danfoss, Valvolil, Rexroth & Parker
Heat exchanger:	Water:oil

### INCLUDED COMPONENTS

Mud mixer c/w whip lines
1000 ft of W/L cable
1 set of rod and casing jaws/bushings
55 gallon fuel tank

### WEIGHT 4799 LBS

### OPTIONS

Tracked carrier
Skid w/ stabilizer cylinders
Level wind winch
Diesel driven supply pump
Enclosed drill shack
Mud tank
French/Spanish labels & manual



**HORNET**  
Helicopter Portable RC Drill

**MULTIPOWER**

# SPECIFICATIONS

## Hornet – Helicopter Portable RC Drill

DEPTH CAPACITIES: Based on 1150 CFM / 500 PSI compressor	
3-1/2" (89mm)	330 ft / 100 m* <i>*Depending on ground conditions</i>

PRIME MOVER	
Model:	Kubota V1505T, 4 cylinder, turbo charged diesel engine
Power:	44.2 HP @ 3000 RPM

TOP DRIVE ROTATION UNIT:	
Max torque:	1500 lbs /ft
RPM:	0-120 RPM
Spindle:	Floating w/ NSE2-7/8" Reconn thread
Rotation motor:	Char-Lynn GK series

MAST AND FEED	
Design:	Cylinder feed
Pullback:	16,200 lbs.
Pulldown:	8250 lbs.
Feed stroke:	84"
Working angle:	45 to 90 degree

SWIVEL	
Design:	Combination air inlet/sample discharge
Spindle:	Floating
Discharge:	HD 2" Gooseneck assy.

HYDRAULIC SYSTEM	
Design:	Fully hydraulic, no electronics, open loop
Capacity:	20 GPM
System pressure:	3000 PSI
Filtration:	10 micron
Components:	Sauer Danfoss, Char-Lynn & Parker
Heat exchanger:	Aircoil

CONTROL PANEL	
Panel:	Feed, rotate, setup functions, & E-stop
Gauges:	Rotation, holdback & air pressure

WATER INJECTION PUMP	
Max flow:	9 GPM
Max pressure:	550 PSI

DRILL TABLE/BOP	
Opening:	4-1/2"

WEIGHTS	
Drill/Feed frame:	1250 lbs.
Power unit:	950 lbs.

INCLUDED ACCESSORIES	
Sample cyclone, air needle, saver sub, discharge/pressure hose	

OPTIONS	
Compressor package	
Booster package	
RAB package	
Track mounted	
Sample splitting equipment	

## **Appendix E**

### **Identification of Environmental Impacts Tables**



