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

The Qilalugaq Project
Stornoway Diamond Corporation
February 4, 2015

2. GENERAL PROJECT INFORMATION REQUIREMENTS

1. See enclosed CD. (Coordinates of area/sites of investigation, location of any infrastructure, mineral claim/lease boundaries where proposed activities will be undertaken)

2. See Appendix "A" (Map of the project site within a regional context indicating the closest communities)

3. No 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. The land use activity being proposed is a diamond and RC drilling program to further delineate and evaluate the Q1-4 Kimberlite Complex at the Qilalugaq Project. The Qilalugaq Property ("the Property") is located approximately 10 km outside of the Hamlet of Repulse Bay, and takes about 5 to 7 minutes to reach via helicopter.

   Stornoway Diamond Corp. ("Stornoway") began working towards acquiring an interest in the property in 2006 (Stornoway acquired 100% ownership in 2010) and since that time has conducted prospecting and sampling activities on the property. North Arrow Minerals Inc. ("North Arrow") is conducting work to complete a joint venture option agreement with Stornoway on the Project. Once the joint venture agreement has been finalized, North Arrow expects to transfer all mining leases and associated land use permits into the company's name. North Arrow will be the operator of the Project for the proposed work program. The purpose of this next phase of exploration is to further delineate the kimberlite body and refine models (Geology, Diamond Distribution) in relation to resource definition.

   The Property has undergone several phases of exploration since being acquired by its previous owner, BHP Billiton, in 2001 including activities such as airborne geophysics, till sampling, diamond drilling, large diameter RC drilling and bulk sampling.

   2003
   Exploration at the site in 2003 included 25 diamond drill holes (24 land-based setups, 1 lake-based on-ice setup, 5403 m of drilling), till sampling (851 samples), and two airborne geophysical surveys (MagEM and Falcon, 19875 line km's).

Permitting included DIAND LUP N2003C0006, NWB license NWB2REP0305 and NIRB screening and approval #03EN017.
See Appendix "F" – Past Work Programs and Screenings

2004

Exploration at the site in 2004 included 4399 m drilling (diamond drilling and RC), till sampling (3200 samples), geophysics (44326 line km's), establishment of a Base Camp ~10km NW of the Q1-4 kimberlite complex on Crown Land, and a second smaller camp at the Q1-4 kimberlite. An airstrip was also constructed to accommodate a Hercules aircraft on lake ice at the Base Camp. A D6 Cat Bulldozer, a 950 Cat Loader and a Snowcat with freight sleigh were stationed at the camp for support.

Permitting included DIAND LUP N2003C0006 (amended), NWB license NWB2REP0305, and NIRB screening and approval #04AN0007.

See Appendix "F" – Past Work Programs and Screenings

2005

Exploration at the site in 2005 included diamond drilling (10 drill holes, 950 m), till sampling and ground geophysics.

Permitting included DIAND N20030006, KivIA KVL305B02, NWB licenses NWB2RE0305/NWB2REP0507, NPC screening and approval of Keewatin LUP KVL305B02, NIRB screening and approval #05EN020, and Environment Canada screening and approval (with conditions) of NIRB application #05EN020.

See Appendix "F" – Past Work Programs and Screenings

The purpose of this next phase of exploration is to further delineate the size, shape and internal geology of the Q1-4 kimberlite. Additional drilling will also increase confidence in the geological and resource models.

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 - The decision to not construct a temporary camp facility near the work site and instead obtain accommodation for personnel in Repulse Bay was based on the factors of proximity and time as well as input from the Hamlet Council in Repulse Bay. As the work site is only 10 km from the Hamlet, accommodation can be obtained in town. The program is estimated to have a cumulative duration of 10 to 20 weeks' time and it was decided that flying personnel to and from the land use area at the beginning and end of each

shift would be a much more effective option than constructing a temporary camp facility for such a relatively short period of time. This would also allow local employees to live at home while working at the job site. A significant amount of savings were recognized as a result of hiring within the community last year during the collection of a bulk sample. The proponent intends on hiring more locally sourced workers to assist personnel during the drilling programs.

Timing of Land Use Operation – The proposed land use operation is being designed to take place in the summer months of 2015, and the winter/spring and summer of 2016. 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 on the lake at the Project site, a configuration that could be beneficial for delineating the ore body. A winter 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. During winter operations, the proponent is considering using land-based vehicles such as Snowcats or similar machines to reposition the drill. This scenario would bring cost savings to the project as it would reduce the need for helicopter support. Should this be implemented, drilling equipment would not have to be taken apart as it would otherwise if moved by helicopter. Given the Project's close proximity to town, this scenario would also be practical for crew changes as overland vehicles could also be utilized for this purpose. Drilling programs carried out on the property by BHP in 2003 and 2004 used equipment similar to that proposed above by the proponent. See Appendix "F" – Past Work Programs and Screenings.).

Should drilling take place during summer 2015, it will be conducted concurrently with archaeological surveying. The proponent recognizes the importance of identifying and protecting local heritage sites within the project area, which will be the focus of the survey.

Transportation of Drill Core from the Site – In this application it is proposed that the drill core will be logged either at the drill site or transported to Repulse Bay where it can be logged and prepared for shipment south.

Due to the proximity of the drilling site to town, transport of crews, drilling supplies and drill core may be possible by quad in the summer or snowmachine in the winter. Due to the nature of the terrain in the area, the amount of small waterways that would have to be crossed, and the fact that the area in between the work site and the Hamlet is frequented by traditional land users (there are many quad paths in the area due to the site's proximity to Repulse Bay) and the lengthy regulatory process that would be required to construct a roadway that would only be utilized for a short period of time, the option for a permanent/temporary roadway is not considered a viable one at this time.

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 10-20 week period during July and August of 2015, and March/April/May/July/August of 2016 (timing and execution are dependent upon 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:

   Permission to Use Commissioner's Land Permit – There are currently two Commissioner's Land Use permits issued in association with this project. The first (LUP06-607-015) relates to fuel storage and has an expiry date of Sept. 11, 2015. The second (LUP06-607-014), relates to bulk sampling that was carried out in July and August of 2014, and this permit has an expiry date of Feb. 11, 2015.

   Nunavut Water Board Type B License – There is currently a Type B Water License (2BE-QIL1217) issued in association with the Qilalugaq Project which authorizes waste disposal for bulk sampling only. This license has an expiry date of Nov. 30, 2017. An amendment application is being submitted to include water use associated with drilling activities.

   No Inuit Owned Land Parcels will be accessed during the course of this land use operation.

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 summer drilling. In winter, helicopter, snow machines, or other overland equipment would be considered.

    Drill core will be logged at a temporary facility at the drill site and then slung via helicopter to a yet to be determined site in Repulse Bay for preparation to be shipped south for processing.

13. N/A

14. As all equipment and personnel will be transported to and from the site via helicopter, no airstrip will be required.

15. The number of helicopter flights to and from the land use area will be no more than two or three 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.

Fuel for the drill will also be transported to the land use area 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 the mitigation measures. We would operate under the Wildlife Monitoring Protocol prepared for the 2014 bulk sampling program with input from the Hunters and Trappers Organization ("HTO") and Hamlet.

- 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 no camp site required in association with the proposed land use activity. All personnel will be housed in the nearby Hamlet of Repulse Bay. A temporary emergency safety structure will accompany the drill at all times should weather conditions deteriorate (restricting travel to/from the project site to town), at which point drilling activities would cease. A small, temporary facility will be built at the Project site for core logging and preparation. Following logging, drill core will be slung via helicopter to a yet to be determined site in Repulse Bay for preparation to be shipped south for processing. Core logging personnel will be transported to and from the land use area at the beginning and end of each shift.

17. N/A

18. N/A

Equipment

19. **Equipment**

Type and Number	Size	Proposed Use
1 Helicopter	Hughes 500D or Bell 206 LR or Bell 407	• Daily transport of personnel to and from drill site • Transport of drill and its components to the drill site once at the start of the program and once upon its completion • Transport of drill core boxes from the drill site to Repulse Bay (estimated at one flight per day for the duration of the program) • Transport of fuel drums to the drilling area and for the removal of the empty drums at the end of the program.
1 Snowcat	Snowcat or similar	• Repositioning the drill in the winter (may not be required if drill has a winch system for repositioning)
2 Drills (Diamond and RC)	Discovery 1 or similar (3-5 tonne)	• Rock coring/boring

20. See Appendix “C” for drill specifications and photos.

Water

21. Drilling is to be carried out at the Project site over an approximately 14 hectare area. One of two, large lakes within the proposed land use area will provide an adequate water source for the drilling program (see Appendix “A” – Qilalugaq Project 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 30-40 cubic metres per 24-hours of drilling.

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* – N/A (no camp facility will be established to support the land use operation).

    Camp Grey Water – N/A (no camp facility will be established to support the land use operation).

    Combustible Solid Waste – All domestic waste (food containers, paper, etc.) will be backhauled to Repulse Bay with personnel via helicopter at the end of each work day 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 Repulse Bay on a regular basis for proper disposal at an approved facility.

26. N/A

Fuel

27. The preferred fuel management plan would involve bringing in drummed fuel for the helicopter and diamond drill. Fuel will be purchased and stored at a pre-determined location in Repulse Bay with some form of secondary containment (i.e. temporary storage berm). The proponent has an active fuel storage permit (LUP06-607-015, expires Sept. 11, 2015) for storing fuel in the Hamlet, where the bulk of the fuel will be stored, and brought to the drill as needed. This scenario will require only a minimal amount of fuel on the land; several 205 liter drums of diesel to fuel the drill, and one 205 liter drum of Jet-A/B fuel (to serve as an emergency reserve for the helicopter). Spill kits and secondary containment will be located wherever fuel is stored or used.

Fuels	Number of Containers	Capacity of Containers
Diesel	100-200 drums	205 liters
Jet A/B	100-200 drums	205 liters

    No more than 1435 liters of fuel (six drums of diesel and one drum 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 Qilalugaq Project.

30. For a detailed description of the Spill Contingency Procedures that will be adopted for the Qilalugaq Project, please see Appendix "B".

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 acid batteries. Should the RC drill be used, additional drilling additives would include foams and alkamers.

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 5-20 liter, plastic, lidded storage containers, proximal to absorbent matting at all times. Salt will be stored in the Hamlet in 10-20lb bags and transported to the drill as needed. One lead acid battery will be used at the drill with spares stored in the Hamlet. Fuel drums will be stored in temporary secondary containment berms which will be removed, along with any remaining fuel 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. Stornoway and 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 Qilalugaq 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. The 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. Stornoway and North Arrow endeavor 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 10 km from the Hamlet of Repulse Bay and therefore local residents engaging in traditional land use activities and members of the Repulse Bay HTO are among the communities, groups and organizations most likely to be effected 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. Stornoway and North Arrow conducted a bulk sampling program in July and August 2014 and held meetings prior to, during and following completion of the program with local officials and community members as well as the HTO to notify them of their presence in the area and of the activities planned. It was during this time that conversations on future plans for the project were discussed, including the possibility of a 2015 drill program. See Appendix "G" – Community Meeting Logs.

40. See Appendix "G" – Community Meeting Logs

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. An Archaeological Survey is planned for this upcoming year. The survey will study the project area and demarcate historic sites. Copies of the archaeology report will be provided to the Nunavut Heritage Department, Department of Culture, Language, Elders and Youth (CLEY), and the Hamlet of Repulse Bay.

42. North Arrow conducted community meetings prior to, during and after the 2014 bulk sample program. See Appendix "G" – Community Meeting Logs. During the bulk sample collection, crews stayed in the Hamlet and had numerous meetings with council members and the SAO (these were not documented).

    A project summary outlining the details for the proposed drilling activity and full contact information for the Proponent will be sent to the SAO at the Repulse Bay Hamlet office and to the president of the Repulse Bay HTO. Stornoway will contact the SAO and propose that an introductory conference call be scheduled with representatives from the local government. This interactive approach to early contact will provide an opportunity for any initial questions and concerns regarding the proposed land use activity to be addressed and has proven to be a great first step in opening up the lines of communication with remote communities when used in the past.

Should the drill program take place in July and August of 2015, representatives from North Arrow will conduct a community information session upon their arrival in Repulse Bay and prior to the start of drilling. This will take place in addition to a meeting with the Hamlet Council and staff, as well as the HTO.

Should the drilling ***not*** take place in 2015 (with the projection that it may take place during 2016), representatives from Stornoway or North Arrow will inform the community in detailed correspondence or hold a community information meeting some time in 2015.

3. PROJECT SPECIFIC INFORMATION

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:

- Delineation drilling

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

- On land drilling (drill type proposed would be a helicopter portable diamond/RC drill)
- On ice drilling (drill type proposed would be either a helicopter-portable diamond/RC drill, or it would be transported on land or ice by machine – the latter case would not require having to dismantle the drill, saving time when relocating the drill between holes)

B-3. Geosciences

4. N/A

5. N/A

6. N/A

7. N/A

B-4. Drilling

8. At this point in time, it is unknown how many drill holes will be proposed. The proponent estimates there would be in the range of 20-30 drill holes with an average depth of between 300-500 metres (estimate). The purpose of the drilling will be to better define the outline of the Q1-4 kimberlite.

9. Diamond drill additives would include drilling mud and greases used to reduce friction between the drill rods and bedrock during coring, and salt which is mixed with water to avoid freezing any equipment while in the drill hole. During RC drilling, additional oil (contained within the drill), foams and alkamers are required for drilling activities.

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 the lake. Drilling conducted by BHP in winter 2003 and 2004 used this method to capture drill cuttings when drilling on lakes (See Appendix “F” – Past Work Programs and Screenings.

11. Water for drilling activities will be sourced from one of two lakes at the project site (see Qilalugaq Project Map 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 Repulse Bay by airplane or sealift, and then from town to the site via helicopter which should take approximately one day. Pending approval, North Arrow may decide to mobilize equipment over land in the winter. Moving equipment over land during the winter will save significant costs and will not disturb the land surface.

13. See Appendix “D” for the Abandonment and Restoration Plan for the Qilalugaq 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” – Qilalugaq Project Map and Proposed Land Use Area).

27. Waste drill core is anticipated to be minimal as the proposed drilling programs will drill mainly kimberlite ore. Country rock intersections will be limited and will be left at the drill site in organized core box stacks.

28. Kimberlite rock does not typically contain chemical properties that would generate acid rock drainage (ARD) or metal leachate (ML) in the way other mineral deposits would (i.e. copper, gold). As a result, testing for ARD and ML will not be conducted.

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. The Q1-4 complex is interpreted as multiple kimberlite pipes that coalesce into one complex pipe shape. The surface expression of the Q1-4 complex reflects a ‘U’ shape and covers approximately 14 hectares. The ‘U’ shape is approximately 700m by 500m on surface and has been modeled down to 300m below surface which is supported by drilling. The Q1-4

complex is steep sided and decreasing in size with depth. The Q1-4 complex is exposed at surface on the eastern lobe on the south side under minimal till cover.

38. The Q1-4 kimberlite complex is composed of rocks that have macrocrystic textures with two generations of olivine and fine grained groundmass dominated by phlogopite with lesser serpentine and carbonate and minor perovskite, spinel and apatite. Also included are mantle-derived xenocrysts of ilmenite, peridotitic and ecolgitic garnets, chromite, rare chrome diopside and diamonds. Local country rock granitoid gneiss dilution is variable and occurs in all units. The mineralogical classification is predominantly serpentine-carbonate-phlogopite-kimberlite to serpentine-phlogopite-kimberlite. The textural varieties of kimberlite present within the Q1-4 complex include volcaniclastic kimberlite (VK) to volcaniclastic kimberlite breccia (VKB) to hypabyssal kimberlite (HK) and possibly represent the deep-diatreme to root zone of a Class I kimberlite pipe.

39. The Q1-4 complex was emplaced into the Archean basement of the Rae domain. The country rock adjacent to the kimberlite body consists mainly of fine- to coarse-grained fresh pink to grey granitoid gneiss and biotite-rich granitoid gneiss. They range from more massive weakly banded granitoid gneiss to strongly banded biotite-rich granitoid gneiss with localized pegmatite veins. There are some zones of pink unfoliated fine-grained granite.

40. It is estimated that 10,000-15,000 metres of drill core will be collected over the 10-20 week period.

41. N/A

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 will require the use of water. 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 60-80 m^3/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 very thin (up to 5 m thick).

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 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 drilling fluids remain immobilized in the frozen ground.

12. N/A

13. See Appendix “D” – 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 “C” – 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.

Quad trails have been established by individuals conducting traditional land use activities in the area between town and the project site, and none have been found to cross directly over the identified land use area.

During previous exploration programs conducted by the proponent, which have included a great deal of prospecting and traversing over the land, no potential archaeological sites have been encountered.

A request was sent to the Nunavut Department of Culture and Heritage to obtain information regarding any known sites of archaeological significance in or around the land use area. A database search at the ministry indicated that there is no archaeological site recorded in the vicinity of the proposed drilling area. 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 each site should be provided as well. The proponent will follow these guidelines should suspected archaeological sites be found during the work program.

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 Qilalugaq Property is located approximately 10 km outside of the Hamlet of Repulse Bay, and takes about 5 to 7 minutes to reach via helicopter.

A request was sent to the Nunavut Department of Culture and Heritage to obtain information regarding any known sites of archaeological significance in or around the land use area. A database search at the ministry indicated that there is no archaeological site recorded in the vicinity of the proposed drilling area. 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 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 Qilalugaq Project is in an early, low impact stage, there have been no studies conducted regarding the socioeconomic environment of the Hamlet of Repulse Bay, which is the closest community 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-related activities.

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 and the fact that no camp facilities will be required in order to support it.

While the identified land use area is relatively small, the proponent holds a large block of mineral leases and claims surrounding the drilling location and therefore no competitor interests are present within the immediate vicinity.

It has been addressed throughout this application that the proponent recognizes that the land use area is located within a close distance to the Hamlet of Repulse Bay. The proponent has addressed the mitigation measures that will be implemented regarding any foreseeable concerns, notably, the potential for disturbance of wildlife by helicopter flights, and the fact that individuals engaging in traditional land use activities have established quad trails near the drilling location. 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 and Figures

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

Appendix “C” – Drill Specifications

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

Appendix “E” – Identification of Environmental Impacts Table

Appendix “F” – Past Work Programs and Screenings (**Separate Document**)

Appendix “G” – Community Meeting Logs (**Separate Document**)

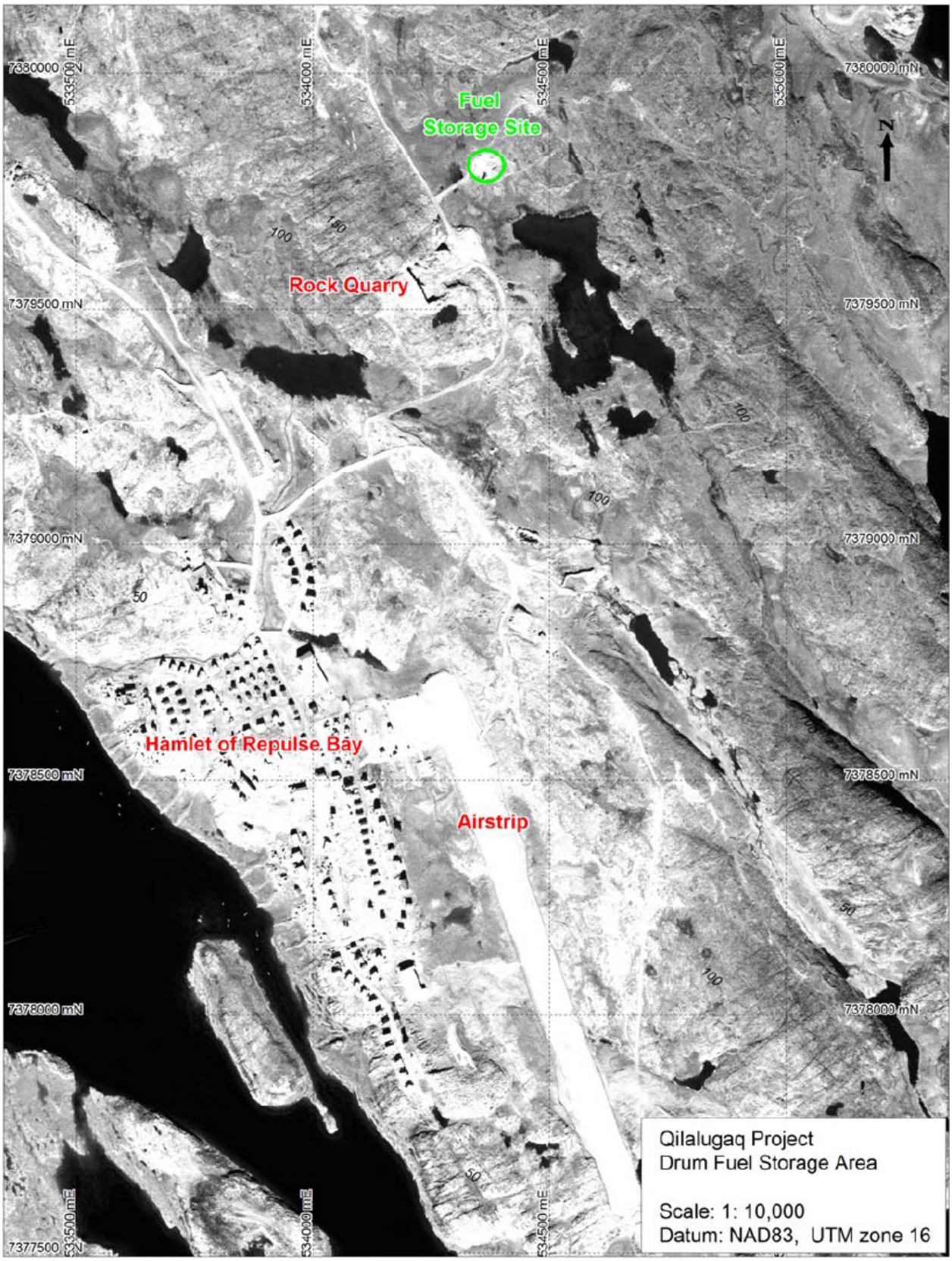
Appendix A

Project Location and Proposed Land Use Area Map

Qilalugaq Project – Repulse Bay, NU

(Map to follow)

Qilalugaq Project Map – Water for drilling activities will be drawn from one of two lakes within "Proposed Land Use Area"


Fuel
Storage Site
Rock Quarry
Hamlet of Repulse Bay
Airstrip
N
7380000 mN
7379500 mN
7379000 mN
7378500 mN
7378000 mN
7377500
533500 mE
534000 mE
534500 mE
535000 mE
100
150
50
Qilalugaq Project
Drum Fuel Storage Area
Scale: 1: 10,000
Datum: NAD83, UTM zone 16

Appendix C

Diamond Drill Specifications

DISCOVERY I
Diamond Core Drill

MULTI POWER


FEATURES
Lightweight Module Design
Designed for
Helicopter Transport
No Module Over 1100 lbs.
Available HWL Chuck
2 / 4

Discovery I – Diamond Core Drill

SPECIFICATIONS

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	L09188-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:	Sychronized chuck & footclamp w/ additional chuck control
System pressure:	3000 PSI
Filtration:	10 micron
Components:	Sauer Danfoss, Valvoil, 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

Appendix E

Identification of Environmental Impacts Tables

THE NUNAVUT IMPACT REVIEW BOARD

PROJECT SPECIFIC INFORMATION REQUIREMENT - PART 2 FORM

TABLE 1 - IDENTIFICATION OF ENVIRONMENTAL IMPACTS

PROJECT COMPONENTS/ACTIVITIES	ENVIRONMENTAL COMPONENTS	PHYSICAL	designated environmental areas (ie. Parks, Wildlife Protected areas)	ground stability	permafrost	hydrology/ limnology	water quality	climate conditions	eskers and other unique or fragile landscapes	surface and bedrock geology	sediment and soil quality	tidal processes and bathymetry	air quality	noise levels	other VEC:	other VEC:	other VEC:	BIOLOGICAL	vegetation	wildlife, including habitat and migration patterns	birds, including habitat and migration patterns	aquatic species, incl. habitat and migration/spawning	wildlife protected areas	other VEC:	other VEC:	other VEC:	SOCIO-ECONOMIC	archaeological and cultural historic sites	employment	community wellness	community infrastructure	human health	other VSEC
CONSTRUCTION																																
OPERATION	Drilling-related activities													U					M	U	U	U							P			
	Helicopter flights													U						U	U											
DECOMMISSIONING																																

Notes: Please indicate in the matrix cells whether the interaction causes an impact and whether the impact is:

P	*Positive*
N	*Negative and non-mitigatable*
M	*Negative and mitigatable*
U	*Unknown*

If no impact is expected then please leave the cell blank

THE NUNAVUT IMPACT REVIEW BOARD
SCREENING PART 2 FORMS

TABLE 2 - MITIGATION AND MONITORING

	PROPOSED MITIGATION MEASURE	IMPLEMENTATION SCHEDULE	RESIDUAL IMPACTS	PROPOSED MONITORING SCHEDULE	REPORTING SCHEDULE
IMPACTS (IDENTIFIED IN TABLE 1)					
Effects on vegetation by Drilling	Collect vegetation (shrubs, grasses) prior to drilling at each site	Re-plant vegetation once drilling has completed at each drill setup	n/a	n/a	Report at end of the program

Note: Residual impacts refers to those impacts that remain after mitigation has been implemented.