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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

EXPLORATION/ REMOTE CAMP SUPPLEMENTARY QUESTIONNAIRE

Applicant: **Commander Resources Ltd.**
Licence No: **2BE-NAD0813**

(For NWB Use Only)

ADMINISTRATIVE INFORMATION

1. Environment Manager: **Robert Cameron** Tel: **604-685-5254** Fax: **604-685-2814**

   E-mail: **rcameron@commanderresources.com**

2. Project Manager **Robert Cameron** Tel: **604-685-5254** Fax: **604-685-2814**

   E-mail: **rcameron@commanderresources.com**

3. Does the applicant hold the necessary property rights? **Yes**

4. Is the applicant an 'operator' for another company (i.e., the holder of the property rights)? If so, please provide letter of authorization.

   Application completed by consultant on behalf of Commander Resources Ltd.
   See attached authorization letter

5. Duration of the Project

   ☐ One year or less Start and completion dates: **June, 2017 to June, 2027**
   X Multi Year:

   If Multi-Year indicate proposed schedule of on site activities
   Start: **June 1** Completion: **September 31**

CAMP CLASSIFICATION

6. Type of Camp

   ☐ Mobile (self-propelled)
   X Temporary
   ☐ Seasonally Occupied: _____
   ☐ Permanent
   ☐ Other:_____

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

The camp is designed to accommodate 40 people, but it is anticipated that a maximum of 20 people will use the camp.

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

The Dewar Lakes Camp (the "Camp") has been used by Commander Resources Ltd. ("Commander") since 2003 as a base location to conduct mineral exploration work on Baffin Island. Exploration programs and camp activities were most recently conducted under the authorization of Indigenous and Northern Affairs Canada ("INAC") Land Use Permit N2013C0014 (Expired Aug 14, 2016) and Nunavut Water Board ("NWB") Water Licence 2BE-NAD0813 (Expired September 1, 2013). With the accompanying documents, Commander is applying for a new Land Use Permit and renewing the Water Licence to authorize work activities at the existing Dewar Lakes Camp.

The 40 person Dewar Lakes Camp is located on Crown Land beside the Dewar Lakes River/Lakes system, adjacent to the North Warning System Fox-3 airstrip in the Qikiqtani Region of Nunavut (Figure 1). The approximate location of the camp is 68°37'59" N and 71°6'38" W (or 414199E/7614919N UTM Nad83 Zone 19) and is located within the 1:50,000 National Topographic System ("NTS") map sheet 27B12.

The camp consists of accommodations for up to 40 persons, a large cook tent, generator shack, incinerator, core shacks and a metal silo structure to be used for storage.

The camp was last utilized by Commander to support exploration activities in 2011. The site was last occupied in 2013 by Biogenie Ltd. ("Biogenie") personnel, contracted by Commander, to clean up and secure the site after an episode of vandalism damaged camp structures. The vandalism resulted in significant damage and exposure of building contents to outdoor conditions, wind dispersion and wildlife.

The Dewar Lakes Camp Site was inspected in the summer of 2016 by an INAC Water Resources Officer and found to be vandalized and damaged once again.

The 2017 program, under the authorization of a new Land Use Permit subject to this application, will facilitate a cleanup and rebuild of the vandalized Dewar Lakes Camp. Upon re-establishment of the camp facilities, the camp will then be used to support exploration activities. The cleanup program at Dewar Lakes is tentatively scheduled to commence in June 2017. Use of the camp for exploration purposes will begin shortly after the camp cleanup commences and will be completed by September 2017. Exploration activities for 2017 and beyond will be authorized under separate permits and licences to be held by Commander or an assignee. It is anticipated that the rebuilt Dewar Lakes Camp will support ongoing exploration activities for the next several years.

CAMP LOCATION

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

The Dewar Lakes Camp is located on Crown Land beside Dewar Lakes River/ Lakes system, adjacent to the North Warning System Fox-3 airstrip in the Qikiqtani Region of Nunavut. The approximate location of the camp is 68°37'59" N and 71°6'38" W (or 414199E/7614919N UTM Nad83 Zone 19) and is located within the 1:50,000 National Topographic System ("NTS") map sheet 27B12.

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 camp was previously used by Commander Resources and BHP.

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

X	Crown Lands	Permit Number (s)/Expiry Date: **New permit under application**
☐	Commissioners Lands	Permit Number (s)/Expiry Date: _____
☐	Inuit Owned Lands	Permit Number (s)/Expiry Date: _____

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

The camp is approximately 225 km southwest of Clyde River and 320 km northwest of Qikiqtarjuaq.

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

Commander has been consulting with local communities since 2004. As it has been a number of years since consultations have been completed, Commander Resources Ltd. or an assignee will plan community consultations likely for Clyde River and Qikiqtarjuaq.

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?

No

PURPOSE OF THE CAMP

15.
- **X** 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)
- **X** Other: **This application is to clean up and rebuild the camp so it may support exploration activities. Any Exploration activities for 2017 and beyond will be authorized under separate permits and licences to be held by Commander or an assignee.**

17. Type of deposit (exploration focus):

- ☐ Lead Zinc
- ☐ Diamond
- X Gold
- ☐ Uranium
- ☐ Other: _____

DRILLING INFORMATION

18. Drilling Activities N/A

- ☐ Land Based drilling
- ☐ Drilling on ice

19. Describe what will be done with drill cuttings? N/A

20. Describe what will be done with drill water? N/A

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. N/A

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

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.

See attached Dewar Lakes Camp Spill Prevention and Response Plan

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

There will be spill kits located strategically throughout camp, such as near the generator shack, the kitchen and at the fuel cache (3-4).

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

Material	Container	Maximum On Site
Diesel	205 L Drum	23 Drums
Jet Fuel (Jet A or Jet B)	205 L Drum	25 Drums
Gasoline	205 L Drum	2 Drums
Propane	100 lb Cylinder	2 Cylinders

Arctic Insta-Berms (or similar) will provide secondary containment. The camp fuel cache will be stored a minimum distance of 31 m from the normal high water mark of any water body. Spill kits and firefighting equipment will be strategically located near where any fuel is stored or transferred.

Fuel will be transferred by hand held pump or grounded electric pump directly from fuel drums to helicopter, ATV, etc. Spill kits and fire-fighting equipment will be available at each storage/refueling site. Smoking will be prohibited during fuel transfer and within the vicinity of any stored fuel.

No sumps will be created or fuel and/or hazardous chemicals stored within thirty one (31) metres of the normal high water mark of any water body. All hazardous materials will be placed in secondary containment. Appropriate spill kits and emergency equipment will be located proximal to any hazardous materials. Inspections of the hazardous waste storage area and other waste storage facilities will be conducted daily. All employees and contractors will receive training in emergency response and spill response, as outlined in the Dewar Lakes Camp Emergency Response and Spill Prevention Plan. For additional spill control measures, see Dewar Lakes Camp Spill Prevention and Response Plan.

Chemicals

Chemicals to be used on site may include household-strength cleaning supplies such as Javex, ammonia-based window/countertop sprays, wash soaps, degreasers, etc. In addition, limited miscellaneous items such as insect repellent and aerosols will be available. All items will be stored in their original containers in their respective storage/use areas, and removed off-site with routine garbage backhauls. All Hazardous materials will be transported two and from camp via chartered flight or helicopter as needed and hauled to Iqaluit or an authorized facility. All containers storing chemicals will be inspected for dents, punctures, etc. prior to transport. Extreme care will be taken in the process of transferring all chemicals/chemical solutions/fuels etc. Funnels will be utilized to direct small amounts of liquid to reduce the potential of spillage. Spill mats will be in place when transferring/refuelling.

Motor Oil

The products will be supplied in 1L or 20 L plastic containers stored in the generator enclosure. For the purpose of this project description submission, the inventory of lubricating oils will be approximately 1 case of twelve 1 L containers and/or 1 20L container. This inventory will be maintained during operations and resupplied as needed. These products will be used as crankcase oils in the diesel engines that power the electrical generator, gasoline engines such as the ATV and portable electrical generators, and turbine lubricants in helicopters and fixed wing aircraft. The containers will be stored on spill containment pallets.

Lead Acid Batteries

Lead acid batteries will be present on the diesel engines for the electrical generators. In addition a small number of batteries may be needed for other portable items. Spares will be maintained on site. For the purpose of this project description, we have assumed that two spare lead acid batteries will be kept in the generator enclosure. Secondary containment measures are not contemplated given the small number of batteries in storage. At no time will any batteries be put in the garbage; nor will they be incinerated.

For additional information and MSDS Sheets, see Dewar Lakes Camp Spill Prevention and Response Plan.

Secondary containment measures for chemicals and hazardous materials will be provided according to the nature of the material (liquid vs. solid), the quantity stored and the manner of

use. For liquid products such as lubricating oils, spill containment pallets will be provided underneath the product containers. For solids, tarps and/or polyethylene sheets will be placed under the pallets or the bags/pails of product where significant quantities are stored. The generator will be inside a wooden generator shack. Fueling and oil changes of the generator will be undertaken inside this structure. As at all re-fuelling stations, appropriate Spill Kits will be located at the generator shack. Other Hazardous materials in camp will also be stored in wooden floored structures such as the shop, core shack and kitchen. All other material (soaps, cleansers, degreasers, javex, etc. will be securely stored in the storage area/tent until required.

Chemicals will generally be transferred directly to the end use machinery from the containers that the products were provided in. Considering the nature of the operations, generally less than 20 L of product will be transferred at a time. Spill kits will be kept on hand to clean up any product spilled in the transfer process. For any solid products, the bags will be opened directly over the intended use tanks into which the product will be placed. Used chemical products will be returned to empty containers and stored for shipment off-site. Used motor oil will be accumulated in sealed, labeled 20 L pails for shipment off-site.

Small packages of chemicals will be placed in the storage sheds at the camp. Larger packages will either be stored in the camp's buildings or placed outdoors on pallets, wrapped in polyethylene sheeting and tarped over. Immediately prior to use, bags or containers of chemicals will be transported to their place of use by carrying by hand for movement to the camp site. For the drilling materials, the containers will be slung with a helicopter and deployed at the drill site. Appropriate spill kits, including empty containers for contaminated soil, will be kept on hand to clean up any product spilled. For additional information, see the Dewar Lakes Camp Spill Prevention and Response Plan.

WATER SUPPLY AND TREATMENT

26. Describe the location of water sources.

The water source for the Dewar Lakes Camp will be the Dewar Lakes River, adjacent to camp

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

- **X** Domestic Use: **Dewar Lakes Camp** Water Source: **Dewar Lakes River**
- ☐ Drilling: _____ 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:

The water intakes for the camp may use an electrically powered submersible pump with a fine screen (<1/4" openings) on the intake.

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

Drinking water quality will be monitored for various types of coliform bacteria, upon mobilization to the camp, periodically during the program and upon de-mobilization.

30. Will drinking water be treated? How?

Water will be lightly chlorinated and a UV filter used on the drinking water.

31. Will water be stored on site?

Water will be stored in temporary 500 L plastic tanks.

WASTE TREATMENT AND DISPOSAL

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

X Camp Sewage (blackwater)

A pacto toilet system will be utilized and the waste incinerated.

X Camp Greywater

Camp greywater will be stored and treated in an excavated sump, which will allow for slow infiltration into the soil and will be located at least 31 m away from a water body. If available, coarse gravel will be placed in the bottom of the sump to provide filtration, and supports will be built on the sides to prevent slumping. Filters will be installed on kitchen drains to ensure solid food wastes do not enter the sumps and have the potential to attract wildlife. The sumps will maintain a minimum 1 metre freeboard at all times. Sumps and pipes will be inspected at regular intervals for leaks or overflow. When full, greywater sumps will be covered with enough material to allow for future ground settlement.

X Solid Waste

Combustible solid waste will be incinerated with an Environment Canada approved batch waste, controlled air, dual chamber incinerator.

Non-combustible solid waste, including bulky items/scrap metal: All efforts will be taken to reuse or repurpose any materials before disposal is considered. Materials that cannot be reused, repurposed or incinerated such as: scrap metal, glass, electronics, tires, hoses and other rubber materials will be stored in appropriate containers until they can be removed from site for recycling, treatment and/or disposal at an accredited facility.

X Bulky Items/Scrap Metal

All efforts will be taken to reuse or repurpose any materials before disposal is considered. Materials that cannot be reused, repurposed or incinerated such as: scrap metal, glass, electronics, tires, hoses and other rubber materials will be stored in appropriate containers until they can be removed from site for recycling, treatment and/or disposal at an accredited facility.

X Waste Oil/Hazardous Waste

All opportunities will be taken to reuse or recycle hazardous waste materials. All hazardous wastes such as: lubricating oils, hydraulic fluids, petroleum based solvents, batteries, aerosol cans and fluorescent light bulbs will be placed in sealed containers and stored within "Arctic Insta-Berms", or similar, for secondary containment until they can be reused or backhauled for recycling or disposal. A hazardous waste storage area will be established adjacent to the camp fuel cache.

X Empty Barrels/Fuel Drums

Empty containers will be stored in a designated area and returned to the supplier. Drums may alternatively be drained, air dried and backhauled to a recycling facility.

X Other:

Waste management operations at the Camp will comprise a number of activities with the common goal of reducing the amount of waste generated on site and to ensure that any wastes created are reused, recycled, or disposed of in a responsible manner. Wastes will be separated at the source into a number of categories including: organics (food wastes) and other materials for incineration, inert recyclables, inert non-combustible materials, and various hazardous materials. Materials that cannot be incinerated will be stored in appropriate containers until they can be removed from site for treatment and/or disposal at an accredited facility.

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33. Please describe incineration system if used on site. What types of wastes will be incinerated?
Combustible solid waste will be incinerated with an Environment Canada approved batch waste, controlled air, dual chamber incinerator.

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

Materials that cannot be incinerated will be stored in appropriate containers until they can be removed from site for treatment and/or disposal at an accredited facility, likely in Iqaluit. All authorizations will be obtained prior to backhaul of any waste.

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

Camp greywater will be stored and treated in an excavated sump, which will allow for slow infiltration into the soil and will be located at least 31 m away from a water body. If available, coarse gravel will be placed in the bottom of the sump to provide filtration, and supports will be built on the sides to prevent slumping. Filters will be installed on kitchen drains to ensure solid food wastes do not enter the sumps and have the potential to attract wildlife. The sumps will maintain a minimum 1 metre freeboard at all times. Sumps and pipes will be inspected at regular intervals for leaks or overflow. When full, greywater sumps will be covered with enough material to allow for future ground settlement. Sump dimensions will be 2 metres by 2 metres by 3 metres deep.

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

Should not be necessary for a seasonal camp.

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?

The water supply and disposal methods have been employed in a multitude of exploration camps throughout Nunavut and are considered safe and common practice. No problems are anticipated.

ABANDONMENT AND RESTORATION

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

The 2017 program, under the authorization of a new Land Use Permit and amendment/renewal of the water licence (subject to this application), will facilitate a cleanup and rebuild of the vandalized Dewar Lakes Camp. The cleanup and rehabilitation of the Dewar Lakes Camp is anticipated to commence the beginning of June and is estimated to take approximately one week to complete. Upon re-establishment of the camp facilities, the camp is anticipated be used to support exploration activities. The exploration program, which will be managed by Commander or an assignee, is expected to run through to September. A seasonal shutdown will take place at the completion of exploration activities for the year in September 2017. Final abandonment and restoration will commence as soon as possible after it has been determined that the project does not warrant further exploration or following commercial production.

Prior to a seasonal shutdown of the Camp, a complete inspection of all areas will be conducted. Photographs will be taken to document the conditions and will be archived along with photos taken at the beginning of the season. Copies of these photos will be included as part of the Dewar Lakes Camp Annual Report. A full inventory of all structures, equipment, fuel, and other supplies will be taken at the beginning and end of each exploration season. All food, fuel, wastes, empty fuel drums, and valuable or sensitive equipment will be removed from site. Any salvageable items (i.e. food) may be donated to the communities if desired. A few wooden structures will be left at the camp. All structures to be left on site will be winterized, closed off, and secured. One structure will be designated to house any chemicals or other hazardous materials that are not suited to outdoor storage. All water tanks and pipes will be drained at the end of each season. Pumps and hoses will be drained and stored inside a secured structure. All mechanical equipment, including vehicles and generators will be winterized and stored in berms for secondary containment. When possible, the equipment and berms will be fully covered. All empty drums will be removed from site.

Any contaminated areas around the camp will be treated in accordance with the "Dewar Lakes Camp Spill Prevention and Response Plan." Any washed out areas will be filled and re-contoured to natural levels. Any areas of disturbed vegetation, including camp and fuel caches will be photographed and managed as per recommendation of the INAC inspector. Remediation procedures might include fertilization to encourage re-growth.

Prior to final abandonment, a thorough inspection of all areas will be conducted. Any contaminated areas around the Camp that have gone unnoticed will be treated as per the "Dewar Lakes Camp Spill Prevention and Response Plan." Photographs will be taken to include in the final reports submitted to the INAC Inspector and as part of the Annual Report submitted to the INAC, NWB and NIRB. All relevant regulatory agencies will be notified upon final abandonment of the Camp.

Prior to land use permit, water licence or claim termination, all structures, equipment, supplies, and fuel will be removed from the Camp. Any wooden floors will be burned in accordance with the Nunavut Environmental Guideline for the Burning and Incineration of Solid Waste, and tent sites may be fertilized, as per recommendation by the Inspector, to encourage re-vegetation. The open burning of structures will only occur after approval from INAC and NWB. A request letter will be submitted to the regulating authorities, which will include the characteristic and volume of material to be burned. Any materials of value on site will be salvaged. Local businesses and residents will have the opportunity to salvage any remaining materials that will otherwise be disposed of.
All remaining fuel and empty drums will be removed from site. The soil under and surrounding any area where fuel was stored will be thoroughly inspected for any contamination and photographs will be taken.

BASELINE DATA

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

- ☐ 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: _____

To date, no baseline studies have been initiated; however camp and field crews are required to report and log all wildlife sightings or archaeological or paleontological sites or artifacts.

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